



**DECLARATION FOR THE  
EXPLANATION OF SIGNIFICANT DIFFERENCES  
WEST SITE/HOWS CORNER SUPERFUND SITE  
PLYMOUTH, MAINE**

March 2010

Superfund Records Center

SITE: West Site/Hows Corner

BREAK: 54 REL

OTHER: 460438

**Site Name and Location**

The West Site/Hows Corner Superfund Site is located in Plymouth, Maine.

**Lead Agency**

United States Environmental Protection Agency

**Support Agency**

Maine Department of Environmental Protection

**Statement of Purpose**

This decision document sets forth the basis for the determination to issue the attached Explanation of Significant Differences (ESD) for the West Site/Hows Corner Superfund Site (Site). The U.S. Environmental Protection Agency (EPA) developed this decision document after consulting with the Maine Department of Environmental Protection (MEDEP), and MEDEP's letter of concurrence is provided as Attachment A to this ESD.

**Statutory Basis for Issuance of the ESD**

Pursuant to Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9617(c), and the rule at 40 C.F.R. § 300.435(c)(2)(i), if EPA determines that the remedial action being undertaken at a site differs significantly from the Record of Decision (ROD) for that site, EPA shall publish an explanation of the significant differences and the reasons such changes are being made. According to 40 C.F.R. § 300.435(c)(2)(i), and EPA guidance (Office of Solid Waste and Emergency Response (OSWER) Directive 9200.1-23-P, July 1999), an Explanation of Significant Differences, rather than a ROD amendment, is appropriate where the adjustments being made to the ROD are significant but do not fundamentally alter the remedy with respect to scope, performance or cost. EPA has determined that the adjustments to the ROD provided in this ESD are significant but do not fundamentally alter the overall remedy for the West Site/Hows Corner Superfund Site with respect to scope, performance, or cost. Therefore, this ESD is being properly issued.

In accordance with Section 117(d) of CERCLA, 42 U.S.C. § 9617(d), and the rules at 40 C.F.R. §§ 300.435(c)(2)(i)(A) and 300.825(a)(2), this ESD will be available for public review at the EPA Records Center in Boston, Massachusetts and the public information repository

located at the Plymouth Town Hall office. The ESD will also be available at MEDEP's offices in Augusta, Maine.

## **Background**

The Site is located on Sawyer Road in Plymouth, Maine. It is defined as a 17-acre parcel of land that was owned by George West Jr., the groundwater beneath this parcel, and the surrounding areas where contamination has come to be located. In 1995, EPA placed the Site on the National Priorities List because of the discovery of contaminated soil and contaminated groundwater at the Site. Currently, the Site includes an area of approximately 100 acres.

In the 2002 Interim Record of Decision (2002 ROD) for this Site, EPA selected a remedy that included hydraulic containment of Source Area Groundwater that is contaminated predominantly with volatile organic compounds (VOCs) so that Non-Source Area Groundwater could be restored to federal and state water quality standards through monitored natural attenuation. The 2002 ROD determined that a number of contaminants including arsenic were present in Non-Source Area Groundwater at unacceptable levels. In 2006, EPA issued a Final ROD (2006 ROD) that also determined that these contaminants were present in Non-Source Area Groundwater at unacceptable levels. As a result, performance standards were set for these contaminants in the 2002 and 2006 RODs.

Following the issuance of the 2006 ROD, the agencies reviewed the entire data set for arsenic for the Site. This included all data, both pre- and post-ROD, from the monitoring wells as well as from residential wells both inside and outside the Site. This review found that the exceedances of the arsenic performance standard were isolated and were not connected either to the operation of the facility or to the VOC plume. Based upon this review, EPA has determined that arsenic found in Non-Source Area Groundwater is not related to the Site.

## **Overview of the ESD**

This determination has been based on the following lines of evidence:

- there are no records to indicate that arsenic was sent to the waste oil facility;
- there is no correlation between the VOC plume and the isolated locations where arsenic exceeds its performance standard, and in fact, within the highly VOC-contaminated Source Area Groundwater, arsenic is at acceptable levels;
- the facility's operations ceased in 1980 and the data does not show that arsenic has been mobilized by the facility's operations. Sampling performed during the Remedial Investigation, twenty years after operation ceased, indicates that arsenic was not mobilized. This contrasts with increased manganese concentrations in the Source Area Groundwater indicating mobilization of manganese by other site-related contamination; and

- mobilization of arsenic can occur under reducing or anaerobic conditions. The groundwater within the Source Area is relatively oxidized (aerobic) because the Source Area is in a recharge location within the aquifer. This geochemistry is not expected to change with the operation of the groundwater hydraulic containment system and thus no mobilization of the arsenic is anticipated.

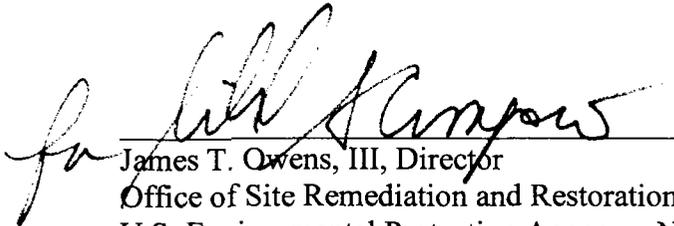
Consequently, because arsenic is not site-related, the remedy for the Site does not need to achieve the arsenic performance standard for groundwater. To assure that arsenic has not been mobilized, there will be confirmatory sampling to verify this. The confirmatory sampling will occur after the determination by EPA that the groundwater hydraulic containment system is operating as it was designed.

In addition to this determination, EPA is also using this ESD to clarify the following:

- that 1,1-DCE is a non-carcinogen but was incorrectly included in some tables of the 2002 ROD and 2006 ROD as a carcinogen; and
- a performance standard for arsenic was not identified for site surface water or sediment in either the 2002 ROD or the 2006 ROD.

#### **Declaration**

For the foregoing reasons and as explained herein, by my signature below, I approve the issuance of an Explanation of Significant Differences for the West Site/Hows Corner Superfund Site in Plymouth, Maine, and the changes stated therein.

  
James T. Owens, III, Director  
Office of Site Remediation and Restoration

U.S. Environmental Protection Agency – New England

3-10-2010  
Date

**EXPLANATION OF SIGNIFICANT DIFFERENCES  
WEST SITE/HOWS CORNER SUPERFUND SITE  
PLYMOUTH, MAINE  
March 2010**

**Site Name:** West Site/Hows Corner Superfund Site

**Site Location:** Plymouth, Maine

**Lead Agency:** United States Environmental Protection Agency (EPA)

**Support Agency:** Maine Department of Environmental Protection (MEDEP)

**I. INTRODUCTION**

This Explanation of Significant Differences (ESD) is being issued for the West Site/Hows Corner Superfund Site (Site) to address differences between the remedial action to be implemented there and the remedy that was set forth in the Record of Decisions (RODs) for the Site issued by EPA on September 24, 2002 and September 28, 2006. EPA is required to publish this ESD by Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9617(c), and the rule at 40 C.F.R. § 300.435(c)(2)(i).

The remedy selected in the 2002 ROD included a groundwater hydraulic containment system to prevent the continued migration of highly-contaminated groundwater from the Source Area into the Non-Source Area. The 2006 ROD affirmed that with the implementation of the groundwater hydraulic containment system the performance standards for a number of contaminants in Non-Source Area Groundwater could be met through natural attenuation. Both RODs identified arsenic as a contaminant that should be addressed as part of the cleanup of Non-Source Area Groundwater.

Following the 2002 ROD, a PRP group conducted an evaluation of the technical practicability of successfully restoring Source Area Groundwater to drinking water quality within a reasonable timeframe. As part of this evaluation, additional sampling was performed both within and beyond the groundwater plume. In the 2006 ROD, EPA determined that it was technically impracticable to restore the Source Area Groundwater, and EPA waived attainment of federal and state water quality standards within an area designated the Technical Impracticability Zone. EPA waived performance standards for eight VOCs, PCBs, dieldrin, and manganese. EPA did not waive the performance standard for arsenic because the data indicated that its standard was being met within the Source Area.

With this ESD, EPA has determined that the isolated detections of arsenic above its performance standard are not site-related. Consequently, because arsenic is not site-related, the remedy for the Site does not need to achieve the arsenic performance standard for groundwater.

In addition to this determination, EPA is also using this ESD to clarify that 1,1-DCE remains a non-carcinogen but was incorrectly included in some tables of the 2002 ROD and 2006 ROD as a carcinogen. Further, this ESD clarifies that a performance standard for arsenic was not identified for the site surface water and sediments. Finally, this ESD establishes that confirmatory sampling will be performed to verify that operation of the groundwater hydraulic containment system does not mobilize arsenic.

In accordance with CERCLA §117(d), 42 U.S.C. § 9617(d), and the rules at 40 C.F.R. §§ 300.435(c)(2)(i)(A) and 300.825(a)(2), this ESD and its supporting documents have been added to the Administrative Record for the Site and are available for public inspection at the following locations:

EPA New England Records Center  
5 Post Office Square, Suite 100  
Boston, Massachusetts 02109  
By appointment only: 617-918-1440

Plymouth Town Hall  
1947 Moosehead Trail  
Plymouth, Maine 04969  
207-257-4646  
Hours: Mon 11 am to 6:30 pm; Tues-Fri 11 am to 4 pm

The ESD is also available at MEDEP's offices in Augusta, Maine.

EPA issued this ESD in draft form to allow for public review and comment. A public meeting was held on December 15, 2009 in Plymouth to present the changes to the selected remedy. EPA announced that comments would be accepted between December 15, 2009 and January 15, 2010. Beyond comments offered during the public meeting, no other comments were submitted to EPA. A responsiveness summary for the December 15, 2009 meeting is included as Attachment B.

## **II. SITE HISTORY, CONTAMINATION, AND THE SELECTED REMEDY**

The Site is located on Sawyer Road in Plymouth, Maine. The Site is defined as a 17-acre parcel of land that was formerly owned by George West Jr. (George West property), the groundwater beneath this property, and the surrounding area where contamination has come to be located. The area surrounding the George West property is rural residential with mixed woods and open fields. Topographically, the George West property occupies a local high spot. Although the regional groundwater flow is to the north toward Plymouth Pond, contaminated groundwater was pulled in all directions by the pumping of residential drinking water wells prior to the installation of the public water system.

Bedrock is exposed at the surface for much of the Source Area. The immediate surface elevation surrounding the Source Area decreases in all directions, with a steeper drop to the north and west. A small, unnamed pond and associated wetlands abut the eastern side of the Source Area. Plymouth Pond is located approximately one-half mile to the north of the Source Area, and Martins Stream, which drains into Plymouth Pond, is located to the east. The closest residence is located approximately 100 feet to the south.

From 1965 to 1980, Mr. West operated a waste oil storage and transfer facility within a two-acre portion of his property. Waste oils were stored in eight aboveground storage tanks ranging in volume from 1,000 to 20,000 gallons. According to documents obtained from Mr. West and other sources, in excess of 235,000 gallons of waste oil and other liquids were received at the facility for storage and transfer during operations. After separating the waste oils based on density, lighter oils were sold to greenhouses, paper companies, and others as fuels, and heavier oils were spread on dirt roads for dust control. Operations ceased in 1980, and the tanks were disassembled and sold as scrap.

In 1987, following the discovery of contaminated groundwater in a residential well, MEDEP provided bottled water to and installed filters in all homes found to have contaminated water. In 1990 and 1991, EPA performed a removal action that included excavation of 847 tons of contaminated soil and construction of a fence around the Source Area.

In August 1994, EPA and MEDEP completed the construction of a public water supply system as an alternative to private residential wells near the Site. The public water supply is located approximately 1.25 miles west of the Site, and consists of extraction wells, a pump station and a water distribution network. The water supply wells extract groundwater from bedrock fractures outside the area of contaminated groundwater. The system was designed to serve residences in the vicinity of the Site and provide water to 35 residential dwellings. The system was later expanded by the PRP group to increase its storage capacity and the number of residences that can be served by the system.

In September 1995, EPA placed the Site on the National Priorities List (NPL) and a Remedial Investigation/Feasibility Study (RI/FS) was conducted from 1999 to 2002. The RI included groundwater, surface water, sediment, surface soil, air and residential well sampling; installation of bedrock monitoring wells; packer testing of bedrock wells; geophysical surveys and bedrock mapping; and computer modeling of groundwater and contaminant movement through the bedrock aquifer. Additional fieldwork was conducted in spring 2000 to supplement the fall 1999 sampling program.

Following issuance of a Proposed Plan in June 2002 describing a remedy for the Non-Source Area Groundwater, EPA signed an Interim ROD on September 24, 2002. This remedy focused on the Non-Source Area Groundwater as there was insufficient data pertaining to the Source Area Groundwater to select a remedy for that portion of the Site. In addition, the 2002 ROD stated that additional characterization of the groundwater needed to be conducted in order to answer two questions that the 2002 ROD was unable to address. These two questions were:

1) whether the Non-Source Area Groundwater could attain applicable or relevant and appropriate requirements (ARARs) through monitored natural attenuation within a reasonable timeframe; and 2) whether it was technically practicable to restore the Source Area Groundwater to drinking water quality within a reasonable timeframe. As a result, additional fieldwork was performed beginning with groundwater sampling in spring 2003 and concluding with a pump test and sampling in fall 2004. This post-ROD characterization led EPA to determine in the 2006 ROD that the Non-Source Area Groundwater could attain ARARs within a reasonable timeframe but that it was not practicable to restore the Source Area Groundwater to drinking water quality within a reasonable timeframe.

The remedy set forth in the 2002 and 2006 RODs for the Site included the following:

- installation and operation of a groundwater hydraulic containment system to prevent migration of the Source Area Groundwater;
- implementation of institutional controls to prevent exposure to contaminated groundwater;
- access to public water;
- long-term monitoring of groundwater, sediment and surface water;
- a determination that federal and state drinking water quality standards will be met in the Non-Source Area Groundwater through monitored natural attenuation;
- a technical impracticability waiver for the Source Area Groundwater;
- investigation of and appropriate response to the potential vapor intrusion pathway from contaminated groundwater to indoor air; and
- five-year reviews.

On November 12, 2009, a Consent Decree for the performance of the remedial design and remedial action at the Site was lodged in the US District Court for the District of Maine by the US Department of Justice. On January 25, 2010, the Consent Decree was entered by the Court.

### **III. BASIS FOR THIS ESD**

#### Arsenic in Groundwater

Arsenic occurs naturally in rocks and soil and is found widely in the environment; it also can come from man-made products. Naturally occurring arsenic is common in Maine, where there are extensive deposits of arsenopyritic materials. Arsenic can be mobilized from these deposits in dissolved form through natural processes such as weathering or as the result of anthropogenic changes in pH or oxidation-reduction conditions. In particular, if an aquifer becomes anaerobic/reducing, arsenic that was previously held to soil particles and to the bedrock in the aquifer will be released into the surrounding groundwater.

The 2002 ROD included arsenic as a contaminant at the Site based on the elevated concentrations detected in monitoring well MW-111D and the concern that operation of the groundwater hydraulic containment system could mobilize the naturally-occurring arsenic. As

MW-111D, which is located upgradient in the regional groundwater flow, had low levels of VOCs, this suggested that VOC and possibly arsenic contamination had been pulled to this well from the George West property by the pumping of residential wells. Thus, while noting that “[i]norganic elements [such as arsenic] were not detected at significant concentrations when compared to background locations or federal maximum contaminant levels or state maximum exposure guidelines” arsenic was included as a contaminant primarily due to concerns that it could be mobilized.

A summary of the 2002 ROD data is presented in Table 6 of the 2002 ROD. It states that arsenic was detected in 6 of 44 samples from site-wide monitoring wells. The performance standard for arsenic is 10 ppb, and in these six samples the arsenic level ranged from 2.2 to 42.5 ppb. Of the thirteen monitoring wells in the Source Area Groundwater, arsenic was detected in only one of them at 2.5 ppb. In the Non-Source Area Groundwater, however, arsenic was detected above its performance standard in four wells: MW-5B, MW-17SO, MW-111D (twice) and MW-4O. These wells are located approximately 300 and 2,200 feet to the north, 1,300 feet to the southeast, and 500 feet to the west, respectively, from the Source Area. Further, for each of these geographically-separate wells, there are wells between these four locations and the Source Area that do not have elevated arsenic, and wells beyond these monitoring locations that do not have elevated arsenic. Consequently, the data from these four monitoring wells are regarded as isolated occurrences of arsenic and do not represent an arsenic plume.

Subsequent to the 2006 ROD, EPA further examined the arsenic data for the Site. Prior to the 2002 ROD, 117 samples (rather than 44) were collected from site monitoring wells and 20 more were collected after the 2002 ROD from monitoring wells within and outside the Source Area Groundwater. None of the post-2002 ROD samples detected arsenic above the performance standard and only two had detected concentrations of arsenic above the analytical detection limit. At 2.6 and 3.2 ppb, these detections were below the 10 ppb performance standard. See Figure 1 for the monitoring well data.

The results from the residential drinking water wells were also examined to better understand the distribution of arsenic in the area of the Site. These results included samples collected from all phases of the investigation of the Site beginning in 1989 through 2003. A total of 36 samples were collected from 27 residential wells that were located within the Site area. Whereas VOCs were detected in several of these residential wells, arsenic was detected in only one sample from a residential well within the groundwater plume and the arsenic concentration was below the performance standard. This residential data indicated that there had been no mobilization of arsenic by the pumping of the residential wells. See Figure 3 for the residential well data.

In addition to these residential wells within the groundwater plume, eleven samples were collected from nine wells outside the plume that are not hydraulically connected with the Site. These samples provide a regional perspective of groundwater quality. These samples were collected during the same timeframe as the samples collected within the plume. Arsenic was detected above the analytical detection limit in three of these samples, located 2000, 4000, and 2500 feet west, north, and east respectively from the George West property. The only detection above the arsenic performance standard was from the well east of the George West property at

21.9 ppb. The range of these data is consistent with that from other locations in Maine. See Figure 2 for the locations of these wells.

In summary, 184 samples have been analyzed for arsenic in connection with monitoring for the Hows Corner Site. Arsenic was detected seventeen times with six samples above the performance standard. The concentrations detected in these seventeen samples, from 2.2 to 42.5 ppb, demonstrate the variability of arsenic. When these results are overlain on the groundwater contamination plume map, it can be readily seen that there is no correlation between VOC concentrations and arsenic concentrations. Further, the presence of arsenic in all four directions from the facility demonstrates the widespread presence of arsenic. This widespread presence of arsenic is consistent with data collected from other Maine sites. Figure 4 summarizes the arsenic data and Table 1 presents the data in its entirety.

In addition to this analytical data, three other lines of evidence were recognized during the re-evaluation that support the determination that arsenic is not site-related:

- there are no records to indicate that arsenic was sent to the waste oil facility;
- the facility's operations ceased in 1980 and the data does not show that arsenic has been mobilized by the facility's operations. Sampling performed during the Remedial Investigation, twenty years after operation ceased, indicates that arsenic has not been mobilized. This contrasts with increased manganese concentrations in the Source Area indicating mobilization of manganese by other site-related contamination; and
- mobilization of arsenic can occur under reducing or anaerobic conditions. The groundwater within the Source Area is relatively oxidized because the Source Area is in a recharge location within the aquifer. This geochemistry is not expected to change with the operation of the groundwater hydraulic containment system and thus no mobilization of arsenic is anticipated.

#### Arsenic in Surface Water and Sediments

In the re-evaluation of the arsenic data in groundwater, questions arose about the selected remedy for surface water and sediment relative to arsenic. The following discussion clarifies the findings of the 2002 ROD and affirms that there are no changes in the remedy relative to surface water and sediment.

The 2002 ROD identified arsenic as a Chemical of Potential Concern for surface water and sediment (pages 17-18) and included arsenic in Table 10 and Table 11, Comparison of Surface Water Compounds to Selected Benchmarks and Comparison of Sediment Concentrations to Selected Benchmarks, respectively. Arsenic was detected in 2 of 28 surface water samples collected from twelve site-wide water bodies, with concentrations of 2.4 and 2.6 ppb (benchmarks ranged from 8.1 to 190 ppb). In sediment, arsenic was detected in all 28 samples

collected adjacent to the surface water samples from the site-wide water bodies, with concentrations ranging from 1.9 to 32.7 ppm (benchmarks ranged from 6 to 50 ppm).

The 2002 ROD, proceeding with the understanding that the three ponds closest to the Source Area would be the most likely affected by the mobilization and discharge of site-related contaminants, concluded that surface water was not considered to be an exposure medium of concern because the contaminant concentrations in these three ponds were below benchmark values. Therefore the 2002 ROD did not identify any performance standards for surface water.

Similarly, inorganic metals in sediment samples were later determined to be unrelated to the Site because a comparison of Hazard Quotients from these three ponds to background locations unaffected by the Site showed similar values. Therefore the 2002 ROD did not identify any inorganic metals performance standards for sediments.

These observations did, however, lead to the conclusion that any ecological risk would be primarily related to VOC concentrations, which have a clear source at the Site, and which are not naturally present in aquatic systems. As a result, the 2002 ROD concluded that “while the risk to benthic organisms is expected to be minimal, the continued discharge of contaminated groundwater to the Site and Road Ponds could result in additional risks at some point in the future” and therefore surface water and sediment sampling were included in the long-term monitoring. The approved Long Term Monitoring Plan will collect and analyze surface water and sediment samples for VOCs and manganese (surface water only).

#### 1,1-DCE

The 2002 ROD identified 1,1-DCE as both a carcinogen and a non-carcinogen in Table 17. The 2006 ROD carried forward the same list of contaminants in Table 21. However, as correctly noted in Table 11 of the 2006 ROD, there is neither an oral cancer slope factor or a dermal cancer slope factor for 1,1-DCE. As reported in EPA’s Integrated Risk Information System, in its most recent review (August 2002) EPA does not believe there is sufficient weight of evidence to derive an oral slope factor or an inhalation unit risk. Therefore 1,1 DCE is not considered a carcinogen by EPA. Consequently, this ESD clarifies that 1,1-DCE is not considered a carcinogen by EPA. Its performance standard of 7 ppb remains unchanged and there is no change to the remedy.

#### **IV. DESCRIPTION OF SIGNIFICANT DIFFERENCES**

This ESD changes the selected remedy in regard to how arsenic is addressed in groundwater, clarifies requirements for the surface water and sediment components of the remedy, and also clarifies the classification of 1,1-DCE. This ESD includes:

- a determination that arsenic is not site-related, based on the total data set including post-ROD monitoring well sampling, residential wells sampling, the facility’s history, and an understanding of the site geochemistry;

- a requirement that there will be confirmatory sampling to verify that arsenic has not been mobilized. The confirmatory sampling will occur after the determination by EPA that the groundwater hydraulic containment system is operating as it was designed. This confirmatory sampling is in addition to testing of the effluent from the groundwater hydraulic containment system to verify that the treated water meets ARARs. Upon verification through this confirmatory sampling that the groundwater hydraulic containment system has not mobilized arsenic, no further site-wide sampling for arsenic is required until the compliance demonstration for the Site;
- a clarification that a performance standard for arsenic for site surface water or sediments was not identified in either the 2002 ROD or the 2006 ROD; and
- a correction of the 2002 and 2006 RODs that incorrectly listed 1,1-DCE as a carcinogen. This ESD clarifies that EPA has identified 1,1-DCE as a non-carcinogen; its performance standard of 7 ppb remains unchanged.

All remaining components of the remedy remain unchanged.

#### Change in Expected Outcomes

The 2006 ROD affirmed the expectation that the Non-Source Area Groundwater would be restored to drinking water quality within a reasonable timeframe provided the groundwater hydraulic containment system was installed and operated. The result of this ESD's determination that arsenic is not site-related is that the remedy for the Site is no longer required to address arsenic present in groundwater at the Site unless it is mobilized in the future. Confirmatory sampling will be performed to verify that arsenic has not been mobilized by operation of the groundwater hydraulic containment system. Arsenic will also be sampled and evaluated as part of the future determination regarding the overall protectiveness of the remedy for the Non-Source Area Groundwater.

All other expected outcomes of the remedy remain unchanged.

## **V. SUPPORT AGENCY COMMENTS**

ME DEP participated with EPA in developing the changes to the selected remedy described herein and concurs with these changes as provided in Attachment A.

## **VI. STATUTORY DETERMINATIONS**

EPA believes that the remedy as adjusted herein remains protective of human health and the environment and satisfies the requirements in Section 121 of CERCLA. The changes made in this ESD have not changed the remedial action objectives for the Site. Rather, the modifications

to the remedy described herein will allow the remedy to continue to perform in the most cost-effective manner practicable while meeting all of the statutory requirements of CERCLA.

## VII. PUBLIC PARTICIPATION COMPLIANCE

In accordance with Section 117(d) with CERCLA and Section 300.825(a) of the NCP, this ESD will become part of the Administrative Record for the Site that is available for public review at the locations identified in the introduction to this document.

Although a formal comment period is not required when issuing an ESD, EPA decided to have a public meeting and comment period in order to explain the ESD to the Plymouth community. EPA mailed "Save the Date" postcards on December 9, 2009 to the Plymouth community. The postcard notified the community of a public meeting on December 15, 2009 to discuss the ESD, and that EPA would collect public comments from December 15, 2009 to January 15, 2010. A draft of the ESD was made available at the meeting and at the Town Hall. A responsiveness summary for the comments received during the December 15, 2009 meeting is included as Attachment B.

The public meeting was in accordance with EPA's guidance document, *Role of Background in the CERCLA Cleanup Program*, so that EPA could explain the ramifications of the ESD to the Plymouth community.

As required by NCP section 300.435(c)(2)(i)(B), EPA will publish a notice of availability and a brief description of this ESD in the Bangor Daily News, the major local newspaper of general circulation following the signing of this ESD.

## REFERENCES

US EPA 2002, Role of Background in the CERCLA Cleanup Program, Office of Solid Waste and Emergency Response, April 26, 2002, OSWER 9285.6-07P

2002, Interim Record of Decision Summary Operable Unit One: Non-Source Area Groundwater, West Site/Hows Corner Superfund Site, Plymouth, Maine, September 24, 2002

2006, Record of Decision Summary for West Site/Hows Corner Superfund Site, Plymouth, Maine, September 28, 2006

US Geological Survey, 1999, Relation of Arsenic, Iron, and Manganese in Groundwater to Aquifer Type, Bedrock Lithochemistry, and Land Use in the New England Coastal Basins, US GS Water Resources Investigation Report 99-4162, 1999

2003, Arsenic in Groundwater in Eastern New England: Occurrence, Controls, and Human Health Implications, *Environmental Science & Technology*, 2003, Volume 37, Number 10, pp 2075-2083

Woodard & Curran, Inc 2004, Hows Corner Superfund Site, Plymouth Maine, 2003 Sampling Report, January 14, 2010

2006, Technical Impracticability Evaluation Report, April 2006

**TABLE 1  
GROUNDWATER ARSENIC DATA  
WEST SITE/HOWS CORNER**

Statistics based on Total Arsenic

	Concentration	Location	Date Sampled
<b>Minimum Detected Concentration</b>	2.2J ug/l	MW-106S	5/23/2000
<b>Maximum Detected Concentration</b>	42.5 ug/l	MW-5B	1/6/2000

<b>Frequency of Detection (#detections / #analyses)</b>	16/181
<b>Frequency Exceeds MCL (#exceeds / #analyses)</b>	6/181

			Arsenic Total (ug/l)	Arsenic Dissolved (ug/l)
SITE ID	DATE SAMPLED	RESULT TYPE		
<b>BACKGROUND LOCATIONS</b>				
532LOUDRDBG	4/16/2003	Primary	3.5J	---
DIXMONTSTOREBG	4/15/2003	Primary	<1.8J	---
MARTINBG	4/17/2003	Primary	<1.8J	---
NDIXMONTBG	4/17/2003	Primary	<1.8J	---
PLYMOUTHSTOREBG	4/17/2003	Primary	<1.8J	---
WATERSUPPLYBG	4/15/2003	Primary	<1.8J	---
YOUNGBG	4/17/2003	Primary	<1.8J	---
LOT11-4	12/20/1999	Primary	21.9	---
LOT41	12/17/1999	Primary	2.7	---
LOT80-1	12/17/1999	Primary	<8.0	---
LOT80-1	12/17/1999	Duplicate 1	<8.0	---
<b>RESIDENTIAL LOTS</b>				
LOT15	12/14/1999	Primary	<8.0	---
LOT15-1	12/20/1999	Primary	<8.0	---
LOT15-1	12/20/1999	Duplicate 1	<8.0	---
LOT16	8/1/1989	Primary	<10.0	---
LOT16	12/14/1999	Primary	<8.0	---
LOT16-1	8/1/1989	Primary	<10.0	---
LOT17	8/1/1989	Primary	<10.0	---
LOT17	12/16/1999	Primary	<8.0	---
LOT18	8/1/1989	Primary	<10.0	---
LOT18	12/16/1999	Primary	<8.0	---

LOT19	12/22/1999	Primary	<8.0	---
LOT2	12/20/1999	Primary	<8.0	---
LOT20	12/22/1999	Primary	<8.0	---
LOT21-11	12/16/1999	Primary	<8.0	---
LOT21-12	4/17/2003	Primary	<1.8J	---
LOT21-14	12/21/1999	Primary	---	<8.0
LOT21-7	12/20/1999	Primary	---	<8.0
LOT21-8	12/17/1999	Primary	<8.0	---
LOT23	12/16/1999	Primary	<8.0	---
LOT23	4/15/2003	Primary	<1.8J	---
LOT28-1	12/15/1999	Primary	<8.0	---
LOT28-1	4/16/2003	Primary	<1.8J	---
LOT28-2	8/1/1989	Primary	<10.0	---
LOT28-2	12/15/1999	Primary	<8.0	---
LOT28-3	8/1/1989	Primary	<10.0	---
LOT28-3	12/17/1999	Primary	<8.0	---
LOT28-4	8/1/1989	Primary	<10.0	---
LOT28W	8/1/1989	Primary	<10.0	---
LOT28W	12/15/1999	Primary	<8.0	---
LOT30	8/1/1989	Primary	<10.0	---
LOT30-2	12/13/1999	Primary	<8.0	---
LOT30-3	12/13/1999	Primary	2.9	---
LOT30-5	12/15/1999	Primary	<8.0	---
LOT31	12/16/1999	Primary	<8.0	---
LOT31R-HOPKINS	4/16/2003	Primary	<1.8J	---
LOT35	12/15/1999	Primary	<8.0	---
<b>MONITORING WELL LOCATIONS</b>				
MW-101D	1/4/2000	Primary	<8.0	---
MW-101D	5/24/2000	Primary	<8.0	---
MW-101I	1/4/2000	Primary	<8.0	---
MW-101I	1/4/2000	Duplicate 1	<8.0	---
MW-101I	5/24/2000	Primary	<8.0	---
MW-101S	1/4/2000	Primary	<8.0	---
MW-101S	5/24/2000	Primary	<8.0	---
MW-102D	1/5/2000	Primary	<8.0	---
MW-102D	5/23/2000	Primary	<8.0	---
MW-102S	1/4/2000	Primary	<8.0	---
MW-102S	5/23/2000	Primary	<8.0	---
MW-103D	1/5/2000	Primary	<8.0	---
MW-103D	5/24/2000	Primary	<8.0	---
MW-103S	1/5/2000	Primary	<8.0	---
MW-103S	5/24/2000	Primary	<8.0	---
MW-103S	5/24/2000	Duplicate 1	<8.0	---
MW-104D	1/4/2000	Primary	<8.0	---
MW-104D	5/24/2000	Primary	<8.0	---
MW-104I	1/4/2000	Primary	<8.0	---

MW-104I	5/24/2000	Primary	<8.0	---
MW-104S	1/4/2000	Primary	<8.0	---
MW-104S	5/24/2000	Primary	<8.0	---
MW-105D	12/17/1999	Primary	<8.0	---
MW-105D	5/22/2000	Primary	<8.0	---
MW-106D	12/17/1999	Primary	<8.0	---
MW-106D	5/23/2000	Primary	<8.0	---
MW-106D	4/15/2003	Primary	<1.8J	---
MW-106S	12/17/1999	Primary	<8.0	---
MW-106S	5/23/2000	Primary	2.2J	---
MW-106S	4/15/2003	Primary	2.6J	---
MW-107D	12/20/1999	Primary	<8.0	---
MW-107D	12/20/1999	Duplicate 1	<8.0	---
MW-107D	5/22/2000	Primary	<8.0	---
MW-108D	4/15/2003	Primary	3.2J	---
MW-108S	12/20/1999	Primary	<8.0	---
MW-108S	5/25/2000	Primary	<8.0	---
MW-108S	4/15/2003	Primary	<1.8J	---
MW-110D	12/20/1999	Primary	<8.0	---
MW-110D	5/24/2000	Primary	<8.0	---
MW-111D	12/17/1999	Primary	40.7	---
MW-111D	5/22/2000	Primary	37.3	---
MW-112D	12/20/1999	Primary	<8.0	---
MW-112D	5/24/2000	Primary	<8.0	---
MW-112D	4/16/2003	Primary	<1.8J	---
MW-112S	12/20/1999	Primary	<8.0	---
MW-112S	5/24/2000	Primary	<8.0	---
MW-112S	4/16/2003	Primary	<1.8J	---
MW-114D	12/21/1999	Primary	<8.0	---
MW-114D	5/23/2000	Primary	<8.0	---
MW-114D	5/23/2000	Duplicate 1	<8.0	---
MW-114D	4/17/2003	Primary	<1.8J	---
MW-114S	1/5/2000	Primary	<8.0	---
MW-114S	5/25/2000	Primary	<8.0	---
MW-114S	4/17/2003	Primary	<1.8J	---
MW-115D	12/21/1999	Primary	<8.0	---
MW-115D	5/24/2000	Primary	2.6J	---
MW-115D	4/15/2003	Primary	<1.8J	---
MW-12DB	7/26/1989	Primary	<10.0	---
MW-12DB	12/21/1999	Primary	<8.0	---
MW-12DB	5/22/2000	Primary	<8.0	---
MW-12SB	7/26/1989	Primary	<10.0	---
MW-12SB	12/21/1999	Primary	<8.0	---
MW-12SB	5/22/2000	Primary	<8.0	---
MW-13DB	7/27/1989	Primary	<10.0	---
MW-13DB	12/21/1999	Primary	<8.0	---
MW-13DB	12/21/1999	Duplicate 1	<8.0	---

MW-13DB	5/23/2000	Primary	<8.0	---
MW-13DB	4/15/2003	Primary	<1.8J	---
MW-13SB	7/27/1989	Primary	<10.0	---
MW-13SB	12/21/1999	Primary	<8.0	---
MW-13SB	5/23/2000	Primary	<8.0	---
MW-14DB	7/26/1989	Primary	<10.0	---
MW-14SO	7/26/1989	Primary	<10.0	---
MW-14SO	12/21/1999	Primary	<8.0	---
MW-15DB	7/28/1989	Primary	<10.0	---
MW-15DB	12/22/1999	Primary	<8.0	---
MW-15DB	5/22/2000	Primary	<8.0	---
MW-15DB	5/22/2000	Duplicate 1	<8.0	---
MW-15SB	7/28/1989	Primary	<10.0	---
MW-15SB	12/22/1999	Primary	<8.0	---
MW-15SB	5/22/2000	Primary	<8.0	---
MW-16DB	7/27/1989	Primary	<10.0	---
MW-16DB	12/20/1999	Primary	<8.0	---
MW-16DB	5/25/2000	Primary	<8.0	---
MW-16DB	5/25/2000	Duplicate 1	<8.0	---
MW-16DB	4/16/2003	Primary	<1.8J	---
MW-16IB	12/20/1999	Primary	<8.0	---
MW-16IB	5/25/2000	Primary	<8.0	---
MW-16IB	4/16/2003	Primary	<1.8J	---
MW-16SO	12/20/1999	Primary	<8.0	---
MW-17DO	7/27/1989	Primary	<10.0	---
MW-17DO	1/5/2000	Primary	<8.0	---
MW-17DO	5/22/2000	Primary	<8.0	---
MW-17SO	7/27/1989	Primary	<10.0	---
MW-17SO	1/5/2000	Primary	<8.0	---
MW-17SO	5/22/2000	Primary	13.2	---
MW-17SO	5/25/2000	Primary	---	2.1J
MW-1B	7/31/1989	Primary	<10.0	---
MW-1B	1/6/2000	Primary	<8.0	---
MW-1B	1/6/2000	Duplicate 1	<8.0	---
MW-1B	5/23/2000	Primary	<8.0	---
MW-1B	4/17/2003	Primary	<1.8J	---
MW-2DB	7/31/1989	Primary	<10.0	---
MW-2DB	1/4/2000	Primary	<8.0	---
MW-2DDB	7/31/1989	Primary	<10.0	---
MW-2IB	7/31/1989	Primary	<10.0	---
MW-2IB	1/4/2000	Primary	<8.0	---
MW-2IB	5/25/2000	Primary	<8.0	---
MW-2IB	6/10/2001	Primary	2.53	---
MW-2IB	4/17/2003	Primary	<1.8J	---
MW-2IB	4/17/2003	Duplicate 1	<1.8J	---
MW-3B	7/28/1989	Primary	<10.0	---
MW-3B	1/5/2000	Primary	<8.0	---

MW-3B	1/5/2000	Duplicate 1	<8.0	---
MW-3B	5/23/2000	Primary	6.7J	---
MW-3B	5/23/2000	Duplicate 1	6.5J	---
MW-3B	4/15/2003	Primary	<1.8J	---
MW-4O	7/27/1989	Primary	30	---
MW-4O	12/17/1999	Primary	<8.0	---
MW-5B	1/6/2000	Primary	42.5	---

**FIGURES**  
**WEST SITE/HOWS CORNER**

Figure 1: Distribution of Arsenic in Groundwater – Monitoring Wells

Figure 2: Background Metals Locations

Figure 3: Distribution of Arsenic in Groundwater – Residential Lots

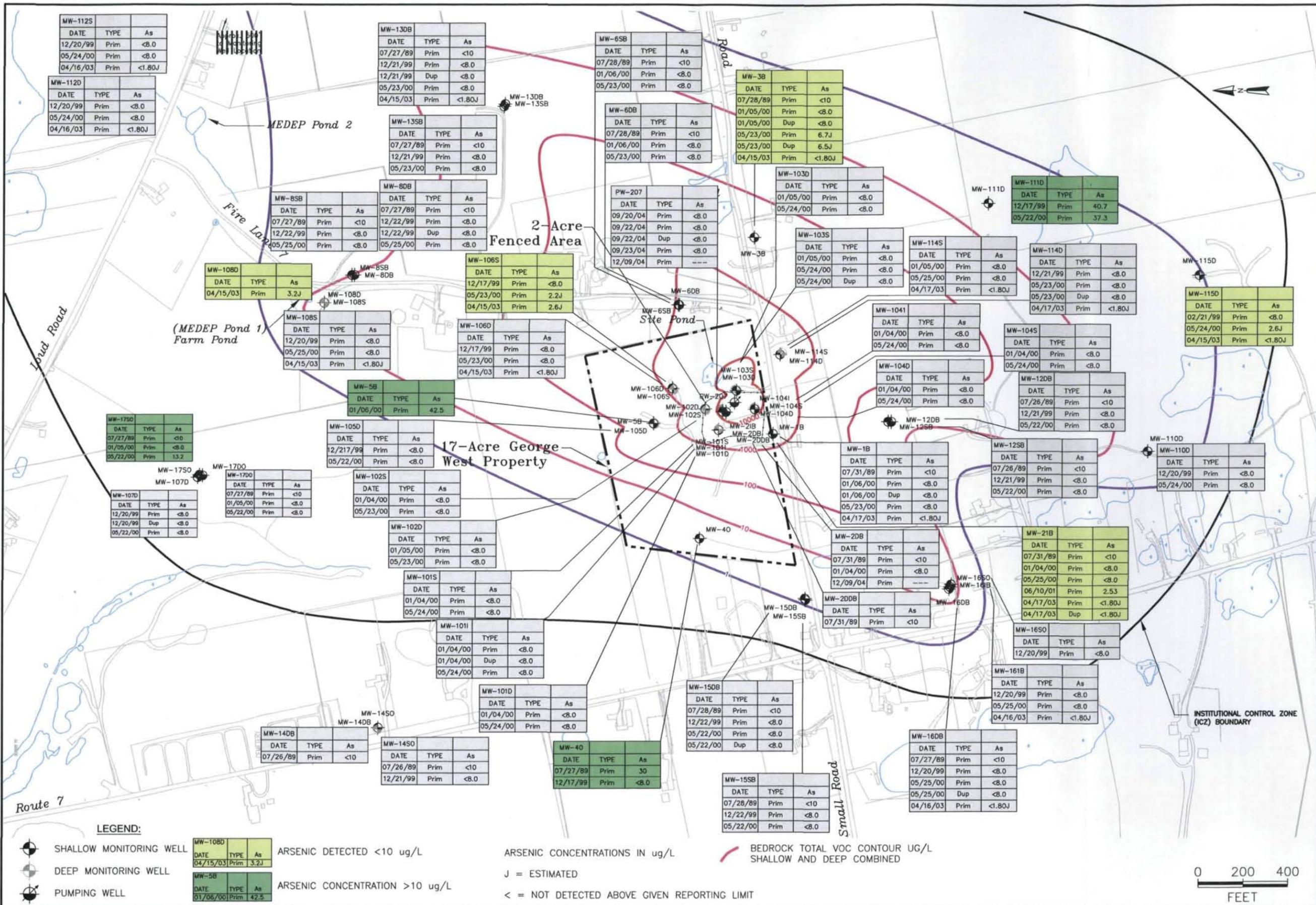
Figure 4: Distribution of Arsenic in Groundwater Monitoring Wells and Residential Lots

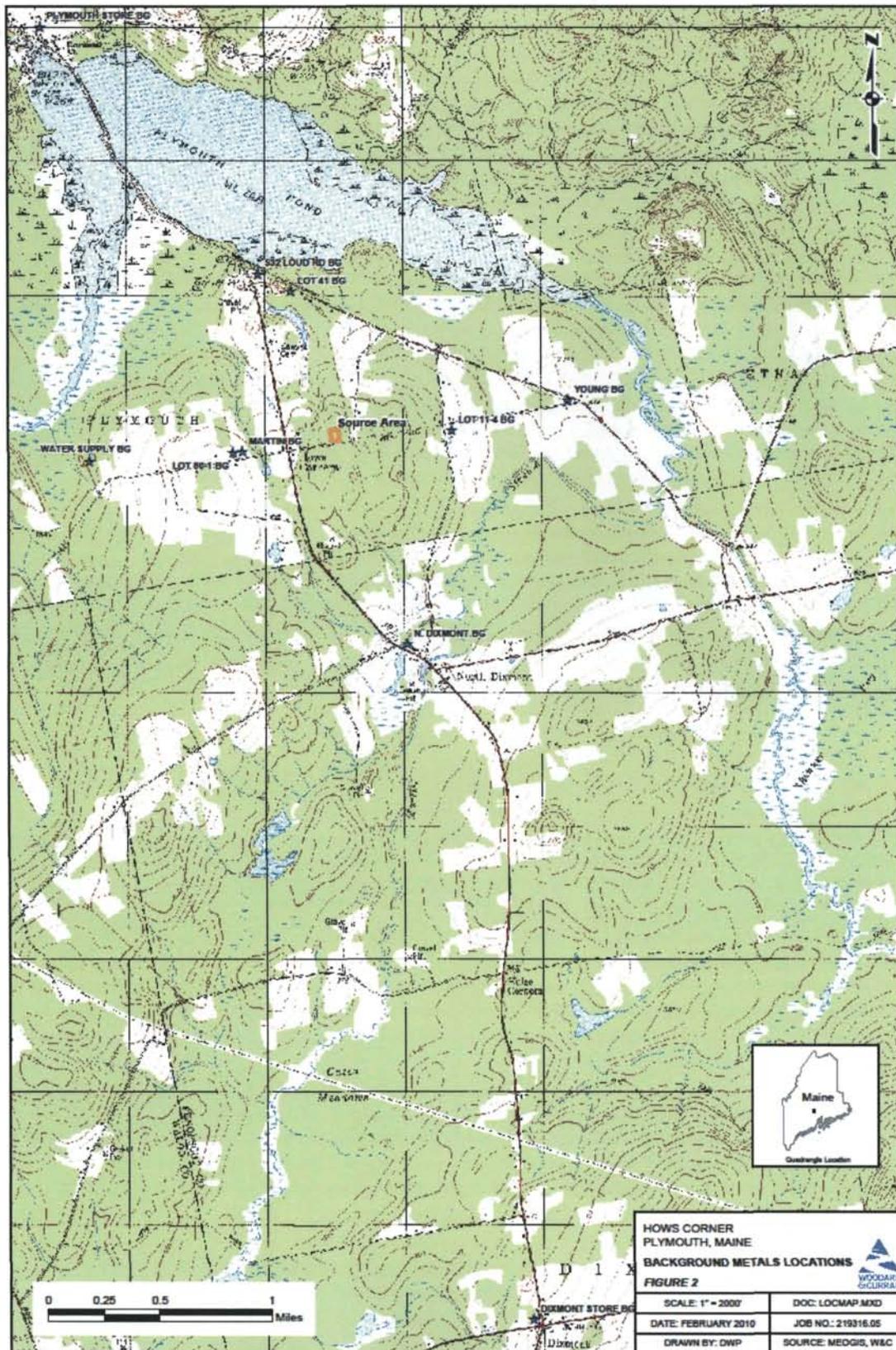
**DISTRIBUTION OF ARSENIC IN  
 GROUNDWATER—MONITORING WELLS**

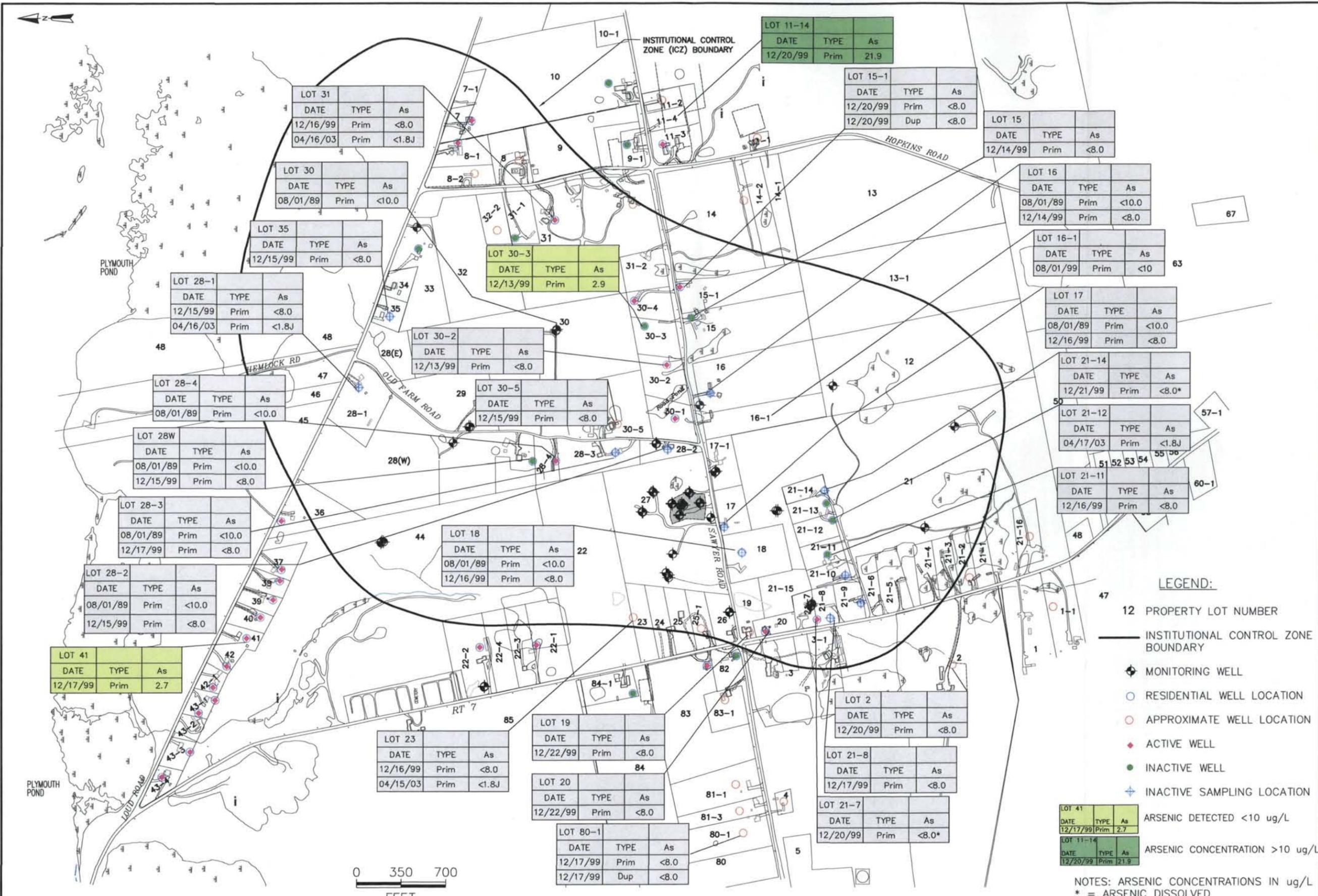
HOWS CORNER  
 PLYMOUTH, MAINE  
 SUPERFUND SITE

JOB NO: 219316.01  
 DATE: AUGUST 2009  
 SCALE: AS NOTED

DESIGNED BY: ECF PFF  
 CHECKED BY: TE  
 DRAWN BY: PFF  
 211941-GW MW.DWG







**LEGEND:**

- 12 PROPERTY LOT NUMBER
- INSTITUTIONAL CONTROL ZONE BOUNDARY
- ◆ MONITORING WELL
- RESIDENTIAL WELL LOCATION
- APPROXIMATE WELL LOCATION
- ◆ ACTIVE WELL
- INACTIVE WELL
- ◆ INACTIVE SAMPLING LOCATION

LOT 41	DATE	TYPE	As	ARSENIC DETECTED <10 ug/L
	12/17/99	Prim	2.7	
LOT 11-14	DATE	TYPE	As	ARSENIC CONCENTRATION >10 ug/L
	12/20/99	Prim	21.9	

NOTES: ARSENIC CONCENTRATIONS IN ug/L  
 \* = ARSENIC DISSOLVED

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**DISTRIBUTION OF ARSENIC IN GROUNDWATER—RESIDENTIAL LOTS**

DESIGNED BY: ECF  
 CHECKED BY: TE  
 DRAWN BY: PFF  
 211941-GW-Residential\_Lots.dwg

HOWS CORNER  
 PLYMOUTH, MAINE

SUPERFUND SITE

JOB NO: 219316.01  
 DATE: AUGUST 2009  
 SCALE: AS NOTED



**ATTACHMENT A**  
**MAINE DEP CONCURRENCE LETTER**



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI  
GOVERNOR

DAVID P. LITTELL  
COMMISSIONER

February 26, 2010

Mr. James T. Owens  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Mailcode: OSRR07-5  
Boston, MA 02109-3912

Re: Explanation of Significant Differences, West Site/Hows Corner Superfund Site, Plymouth, Maine,  
February 2010

Dear Mr. Owens:

The Maine Department of Environmental Protection (MEDEP) has reviewed the February 2010 Explanation of Significant Differences (ESD) for the West Site/Hows Corner Superfund Site located in Plymouth, Maine that was submitted to MEDEP on February 22, 2010. Additionally, the MEDEP has worked closely with EPA throughout the selection of the remedy set forth in the September 2002 and September 2006 Record of Decisions (RODs) and most recently the negotiations for the Remedial Action Consent Decree, effective date January 25, 2010.

Based on our review of the ESD, the MEDEP concurs with the following:

- 1) EPA's determination "that arsenic found in Non-Source Area Groundwater is not related to the Site."
- 2) Following EPA's determination that the groundwater hydraulic containment system is operating as designed, confirmatory sampling of arsenic to assure that arsenic has not been mobilized. Upon verification that system has not mobilized arsenic, no further site-wide sampling for arsenic will be performed until the compliance demonstration for the Site.
- 3) Clarifying that a performance standard for arsenic was not identified for surface water or sediment in either the 2002 ROD or the 2006 ROD.
- 4) Clarifying that 1,1-DCE is a non-carcinogen but was incorrectly included in the 2002 and 2006 RODs as a carcinogen.

As has been the case on other sites, the MEDEP looks forward to a continuation of our collaborative working relationship with EPA. If you have any questions do not hesitate to call me at (207) 287-2651.

Sincerely,

David Wright, Director  
Division of Remediation  
Bureau of Remediation and Waste Management

cc: Mary Jane O'Donnell, EPA  
Terry Connelly, EPA  
Rebecca Hewett, MEDEP  
Theodore Wolfe, MEDEP

Plymouth ESD 2010 concurrence ltr Rebecca Hewett, MEDEP.doc

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web site: [www.maine.gov/dep](http://www.maine.gov/dep)

## **ATTACHMENT B**

### **EXPLANATION OF SIGNIFICANT DIFFERENCES RESPONSIVENESS SUMMARY**

#### **PREFACE:**

On December 15, 2009, EPA presented a draft Explanation of Significant Differences (ESD) for the West Site/ Hows Corner Superfund Site in Plymouth, Maine. The ESD deals primarily with the scattered presence of arsenic in the groundwater both within and outside the Site. All documents that were relied upon in preparing the ESD were placed in the Administrative Record, which is available for public review at the EPA Records Center at 5 Post Office Square in Boston, Massachusetts and the Town Hall in Plymouth, Maine.

A 30-day comment period for the ESD began with a public meeting in Plymouth on December 15, 2009. The comment period for the ESD ended on January 15, 2010.

The purpose of this Responsiveness Summary is to document EPA's responses to the questions and comments raised during the public comment period. EPA considered all of the comments summarized in this document before finalizing the ESD.

#### **SUMMARY OF COMMENTS:**

This Responsiveness Summary addresses comments pertaining to the ESD that were received by EPA during the December 15, 2009 public meeting. No other comments were received during the public comment period that ended January 15, 2010.

At the public meeting, general support was expressed for the findings in the ESD. As a result, EPA has not changed the objectives and proposed approach presented in the ESD.

There were some questions raised at the public meeting that were outside the scope of the ESD and EPA responded to those questions during the public meeting.