Region 1, New England

Superfund Program **July, 2007**

EPA Announces Proposed Plan to Amend 1987 Cleanup Plan

Ottati & Goss/Kingston Steel Drum Superfund Site Kingston, NH

The Proposed Change

In January 1987, the United States Environmental Protection Agency (EPA) issued a Record of Decision (ROD) for the Ottati &Goss/Kingston Steel Drum Superfund Site (the Site). The ROD, and subsequent decision documents, selected a cleanup plan for the Site which required the following activities: excavating approximately 19,000 cubic yards of contaminated soils to be treated on-site using incineration and thermal aeration; extraction and treatment of contaminated groundwater with re-injection of the treated groundwater back into the ground or to surface water; demolition and disposal of above-ground and below ground structures including buildings, utilities, and underground storage tanks; a soil cover; and a long-term monitoring program.

All of the cleanup activities required by the 1987 ROD and subsequent decision documents have been completed with the exception of the extraction and treatment of contaminated groundwater. Based on information and data generated since the issuance of the 1987 ROD and after the careful study of alternative groundwater cleanup technologies, the EPA believes there is a better approach to cleaning up the contaminated groundwater at the Site and proposes the following change:

Injecting an oxidizing agent directly into the groundwater to destroy or reduce the organic contaminants to safe levels.

Installing monitoring wells at the Site and on portions of abutting properties to evaluate the progress of the groundwater cleanup.

Placing restrictions on land and groundwater use at the Site and on portions of abutting properties until the contaminants in the groundwater have been destroyed or reduced to safe levels. (*see page 6 for more details*)

You are Invited to Attend:

A Public Information Meeting to learn more about the Proposed Plan and how it compares with other options for the Site. At the meeting, EPA will respond to your questions and concerns about the proposed cleanup and how it may affect you.

7:00 p.m.
Thursday, August 2, 2007
Sanborn Reg. H.S. (Science Bldg), 13 Church Street
Kingston, NH

Public Hearing

Formal Comment Session to give citizens the opportunity to enter official comments for the public record about this proposed plan will be held on:

7.00 p.m.
Thursday, August 23, 2007
Sanborn Reg. H.S. (Science Bldg), 13 Church Street
Kingston, NH

EPA is accepting public comment on this cleanup proposal from August 3 through September 1, 2007. You do not have to be a technical expert to comment. If you have a concern or preference regarding EPA's proposal, EPA wants to hear from you before making a final decision on how to protect your community.

Offer oral comments during the formal comment session of the Public Hearing on August 23, 2007
OR
Send written comments postmarked no later than August 31, 2007 to:

Jim Brown, RPM
U.S. EPA Region 1
1 Congress Street, Suite 1100 (HBO)
Boston, MA. 02114-2023
OR
E-mail comments by August 31, 2007 to:
brown.jim@epa.gov

For further information about these meetings, call EPA Community Involvement Coordinator
Pam Harting-Barrat at 617-918-1318 or toll free at 800-252-3402 ext 81318

Site History

The 35-acre Site contains a 1-acre parcel in the southwestern portion known as the Ottati & Goss (O&G) area and another parcel of approximately 6-acres known as the Great Lakes Container Corporation/Kingston Steel Drum (GLCC/KSD) area (see Figure 1). A summary of the Site history is as follows:

- From 1959 to 1980, steel drum reconditioning operations were conducted on the GLCC/KSD portion of the Site.

- From 1978 to 1979, a hazardous materials processing and storage facility was operated on the O&G portion of the Site.

- From December 1980 through July 1982, EPA conducted emergency removal actions on the O&G portion of the Site, including the removal of approximately 4,000 steel drums.

- September 1983, the Site was listed on EPA's National Priorities List, known as the Superfund list.

- July 1984 through June 1985, International Minerals & Chemical Corp. (IMC) conducted removal operations on the GLCC/KSD portion of the Site including the removal of approximately 12,800 tons of soil, steel drums, and metals; approximately 101,700 tons of flammable sludge; and 6,000 gallons of flammable liquid.

- August 1986, EPA completed the Remedial Investigation/Feasibility Study for the Site.

- January 1987, a Record of Decision was issued for the entire Site.

- November 1988, several potentially responsible parties (PRPs) entered into a Consent Decree with the EPA to address the cleanup of soil on the O&G portion of the Site and the groundwater design and remediation.

- From 1988 through 1989, a PRP lead cleanup of 4,700 cubic yards of contaminated soil on the O&G portion of the Site was completed.

- December 1993, the EPA, New Hampshire Department of Environmental Services (NHDES) and several Potentially Responsible Parties (PRPs) entered into a settlement which resulted in a Consent Decree that funded continued EPA and NHDES work at the Site.

- December 1993, EPA completed the first Five-Year Review for the Site.

- September 1993 through February 1994, the large building which housed the drum reconditioning operations on the GLCC/KSD portion of the Site was demolished. Hazardous materials were removed from the building and disposed of off-site. Several underground storage tanks were also removed.

- September 1996, a preliminary design for the groundwater extraction and treatment system was completed.

- December 1998, EPA completed the second Five-Year Review for the Site.

- September 1999, an Explanation of Significant Difference (ESD) to the 1987 ROD was issued. The ESD addressed a change in the treatment technology to be used to remediate contaminated soils and sediments. The ESD also restricted future use of the former GLCC/KSD property to commercial use (without day care) and addressed an increase in the amount of soil to be excavated and treated.

- Fall 2000, the NHDES acquired the former GLCC/KSD property.

- February 2001 through October 2002, remediation of contaminated soils and sediments and site restoration was completed on the GLCC/KSD and Country Pond Marsh portions of the Site.

- February 2002, an ESD was issued addressing a modification to the handling of residual materials.

- March 2003, the Final Remedial Action Report for soil and sediment remediation on the GLCC/KSD and Country Pond Marsh portions of the Site was issued.

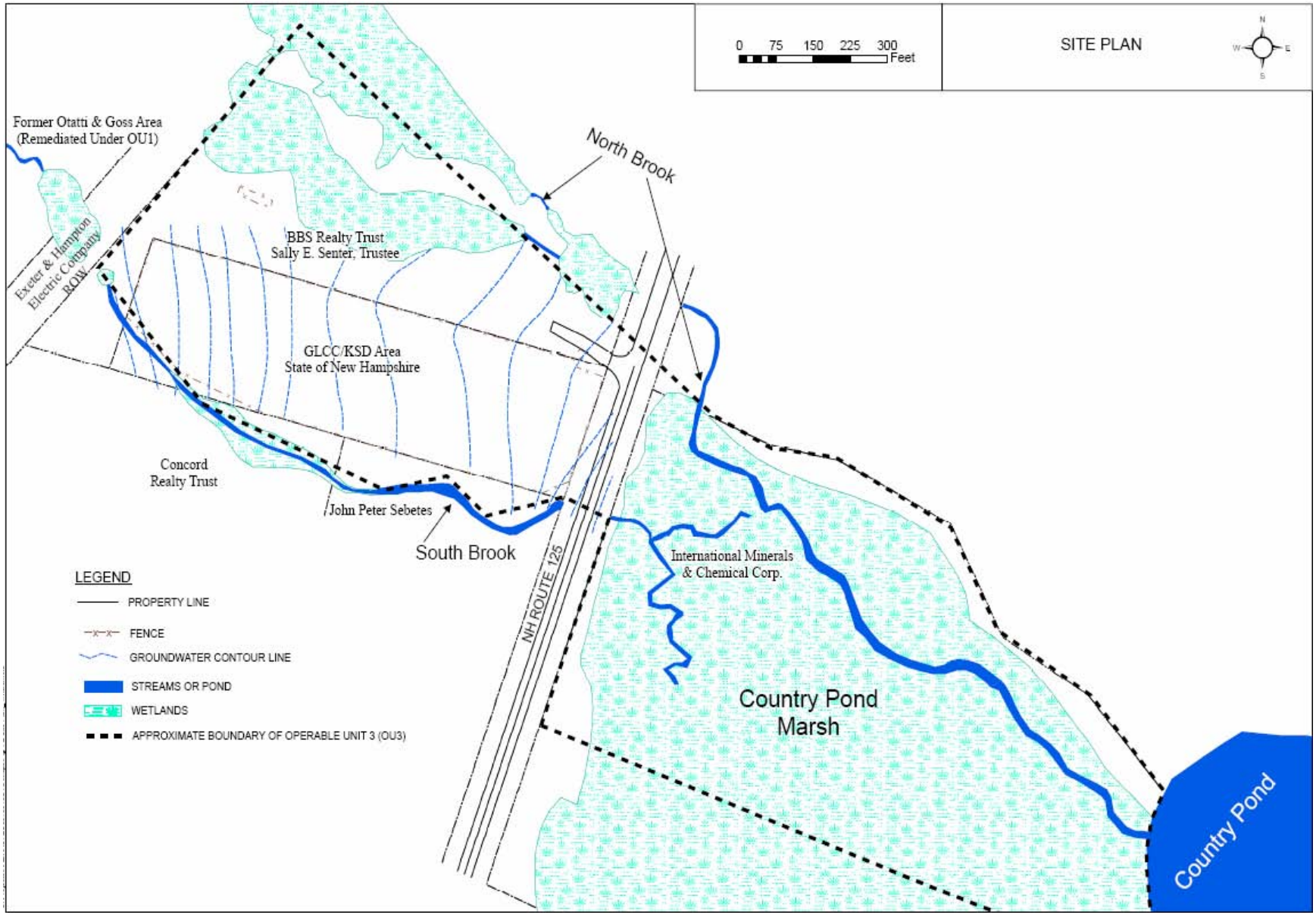
0 75 150 225 300
Feet
SITE PLAN
N
W
E
S
Former Otatti & Goss Area
(Remediated Under OU1)
North Brook
Exeter & Hampton
Electric Company
ROW
BBS Realty Trust
Sally E. Senter, Trustee
GLCC/KSD Area
State of New Hampshire
Concord
Realty Trust
John Peter Sebetes
South Brook
NH ROUTE 125
International Minerals
& Chemical Corp.
Country Pond
Marsh
Country Pond
LEGEND
PROPERTY LINE
FENCE
GROUNDWATER CONTOUR LINE
STREAMS OR POND
WETLANDS
APPROXIMATE BOUNDARY OF OPERABLE UNIT 3 (OU3)

Figure 1

• December 2003, EPA completed the third Five-Year Review for the Site.

• November 2004 through February 2005, EPA completed groundwater pump test, pilot scale groundwater treatability study and prepared a groundwater treatability study report.

• October 2006 through June 2007, EPA conducted additional field investigations and evaluated alternatives to groundwater extraction and treatment.

What Cleanup Has Occurred at this Site

In January 1987, EPA issued a Record of Decision for the Site which summarized the evaluation of remedial alternatives presented in the 1986 Feasibility Study (FS). The cleanup alternative selected in the ROD consisted of: excavating approximately 19,000 cubic yards of soil to be treated on Site using incineration and thermal aeration; mitigation of groundwater contamination by extraction, treatment, and re-injection of the treated groundwater; demolition and disposal of above-ground and below-ground structures including a building, utilities, and underground storage tanks; a soil cover; and long-term monitoring of the Site.

In 1988 and 1989, several PRPs (Potentially Responsible Parties) excavated and treated approximately 4,700 cubic yards of VOC-contaminated soil at the former O&G area of the Site. The treatment method used was thermal desorption (thermal aeration in the ROD).

In 1993, EPA, the NHDES (New Hampshire Department of Environmental Services) and several PRPs entered into a Consent Decree. This agreement resulted in most parties contributing to a cash-out settlement with the government Agencies.

In 2000, EPA contracted the U.S. Army Corps of Engineers – New England District (USACE) to perform soil and sediment excavation on the GLCC/KSD and Country Pond Marsh portions of the Site. Environmental Chemical Corporation (ECC) was contracted by USACE to complete the soil and sediment excavation, low temperature thermal desorption (LTTD) treatment, and restoration activities. Between August 2001 and June 2002, approximately 72,347 tons of PCB- and VOC-contaminated soil (not including oversized material > 2-inches) was excavated from the GLCC/KSD area of the Site and treated in an on-site LTTD plant.

Small portions of soil contamination with total VOC and PCB concentrations greater than the cleanup goals could not be excavated because it was not possible to dewater the excavation to reach all contaminated soil in the saturated zone. Also, some soil contamination was located very close to Route 125 and further excavation was not possible because of concerns with respect to undermining the road.

Between October 2001 and February 2002, approximately 9,143 tons of sediment from Country Pond Marsh were excavated, transported, and disposed of at a non-hazardous waste disposal facility. Approximately 492 tons of sediment were transported and disposed of as hazardous waste at a licensed hazardous waste landfill facility. The Country Pond Marsh remediation was divided into two areas, a thirty-inch deep excavation area, and a six-inch deep excavation area. Remediation and restoration of six acres of wetland in Country Pond Marsh was completed in September 2002.

In March of 2007 the EPA conducted additional groundwater and soil sampling on the GLCC/KSD portion of the Site to gain a better understanding of the horizontal and vertical extent of the primary sources of VOC contamination remaining at the Site and which continue to be on-going sources of groundwater contamination.

In July 2007 the State of New Hampshire recorded a notice to the chain of title for the GLCC/KSD property to document the land use restrictions required to maintain the protectiveness of the remedy and to establish institutional controls over part of the Site.

All of the cleanup activities required by the 1987 ROD and the two subsequent ESDs have been completed with the exception of the extraction and treatment of contaminated groundwater.

Site Characteristics and Summary of Risks

The conclusions reached in the 1986 Remedial Investigation/Feasibility Study include the following:

- Soil throughout the Site was contaminated with volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), acid/base/neutral compounds (ABNs), metals, and cyanide at high concentrations at numerous locations.
- Surface water in North Brook, South Brook, and Country Pond contained dissolved VOCs.
- Sediments in North Brook, South Brook, and the marsh contained VOCs and PCBs.
- Groundwater contaminated with VOCs, arsenic, nickel, iron and manganese was evident in several plumes. The plumes appeared to merge into one plume which migrated under Route 125 and Country Pond Marsh, eventually discharging into Country Pond.
- There were no significant airborne contaminants.

The risks posed by the contaminated soils and sediments have been remediated by the cleanup activities discussed on page four of this Proposed Plan. However, the contaminated groundwater still poses a future threat to public health if nothing is done to remediate the problem. Residential water supply wells in the vicinity of the Site currently show no contamination.

Scope and Role of Response Action and Remedial Action Objectives

As stated previously, all the cleanup activities required by the 1987 ROD and subsequent decision documents have been completed with the exception of the extraction and treatment of contaminated groundwater. Therefore, cleaning up the contaminated groundwater is the last response action required at the Site. However, based on information and data generated since the issuance of the 1987 ROD and after careful study of groundwater cleanup technologies, the EPA believes there is a better approach to cleaning up the contaminated groundwater at the Site than groundwater extraction and treatment and proposes the following changes:

- Injecting an oxidizing agent directly into the groundwater to destroy or reduce the organic contaminants to safe levels.
- Installing monitoring wells at the Site and on portions of abutting properties to evaluate the progress of the groundwater cleanup.
- Placing restrictions on land and groundwater use at the Site and on portions of abutting properties until the contaminants in the groundwater have been destroyed or reduced to safe levels.

The remedial action objectives for the revised groundwater cleanup plan are as follows:

- Prevent ingestion exposures to groundwater in exceedance of federal and state standards or outside of EPA's acceptable risk range for future residential use as tap water.
- Limit migration of contaminants from the residual source areas west of route 125 at concentrations in excess of federal and state standards or outside of EPA's acceptable risk range for future residential use as tap water.
- Protect the remediated and restored wetlands east of route 125 (Country Pond Marsh), and the wetlands north of the state-owned property, from potential damage from actions to remediate groundwater.

The previous cleanup activities addressed the principal threats posed by the contaminated soils and sediments. No principal threats remain at the Site.

A Close Look at EPA's Proposed Changes

The major components of this proposed cleanup plan include: in-situ chemical oxidation (ISCO); environmental monitoring and institutional controls. Each component of the proposed cleanup plan is discussed below.

In-Situ Chemical Oxidation

ISCO involves the injection of an oxidant directly into the groundwater to break down contaminants into non-hazardous by-products such as water, salt, and carbon dioxide. The goal for in-situ chemical oxidation is to achieve significant mass removal of contaminants, with the intent of eventually achieving federal and state drinking water standards in the groundwater. ISCO would be used in the three areas (A, B, and North Plume) of the Site shown in Figure 2.

Several chemical oxidants are available for contaminant remediation, including: permanganate; persulfate; percarbonate; Fenton's reagent and ozone. For this Site, an oxidant capable of oxidizing VOCs (including benzene, toluene, ethylbenzene, xylene and chlorinated ethenes), and 1,4-dioxane is required. Oxidants which have been demonstrated to oxidize these contaminants include ozone, Fenton's Reagent, and activated persulfate.

Oxidant delivery can be performed through semi-permanent wells, direct-push rods, or screened injection wells installed using a standard drill rig. Addition of an oxidant can also be conducted via soil blending using augers or excavator-mounted mixing equipment. Injection into permanent wells similar to standard groundwater monitoring wells is a readily implementable and commonly applied method. This method would allow for additional future injections with less drilling activity and allow additional data collection points. Soil blending may be considered for a portion of Area B (see Figure 2) to provide better contact in the dense, low-permeable soil. However, caution would be required due to the proximity of the Route 125 embankment. A geotechnical analysis and consultation and coordination with the New Hampshire Department of Transportation would be required if this method of oxidant delivery is implemented in Area B. The oxidant delivery strategy will be finalized during remedial design.

Environmental Monitoring

Environmental monitoring would be performed from numerous existing and newly installed wells in order to evaluate the progress/success of the remedy. Monitoring of VOCs and 1,4-dioxane, as well as metals would be performed to assess contaminant destruction, determine progress towards attainment of remedial action objectives, and evaluate potential metals mobilization. Groundwater geochemical parameters, including: dissolved oxygen; pH; oxidation reduction potential; and conductivity, would also be monitored.

Surface water and sediment samples would also be collected from Country Pond to monitor potential contaminant migration into the pond.

This alternative also includes monitoring of select residential wells on an annual basis, consistent with the annual residential well monitoring program that NHDES has been performing since 1992.

Institutional Controls

Institutional controls are administrative actions that minimize the potential for human exposure by restricting resource usage. Institutional controls would be implemented in the form of the establishment of deed restrictions and/or notices which would then be integrated into a Groundwater Management Zone (GMZ) and a land-use restriction to prevent digging into contaminated substrates or disturbance of remedial components (including monitoring and injection wells) on the Site and on areas of abutting properties. Institutional controls would also include a requirement to evaluate the vapor intrusion pathway should any structures be contemplated within the GMZ. The GMZ would also include areas to the east of Route 125 and to the properties adjacent to the State-owned property to the north and south, as shown on Figure 3. The GMZ would be retained until the groundwater Preliminary Remediation Goals (PRGs) shown in Table 1 are met. Table 1 also provides the maximum concentrations of contaminants detected during the latest 2004, 2005 and 2007 sampling rounds and their locations.

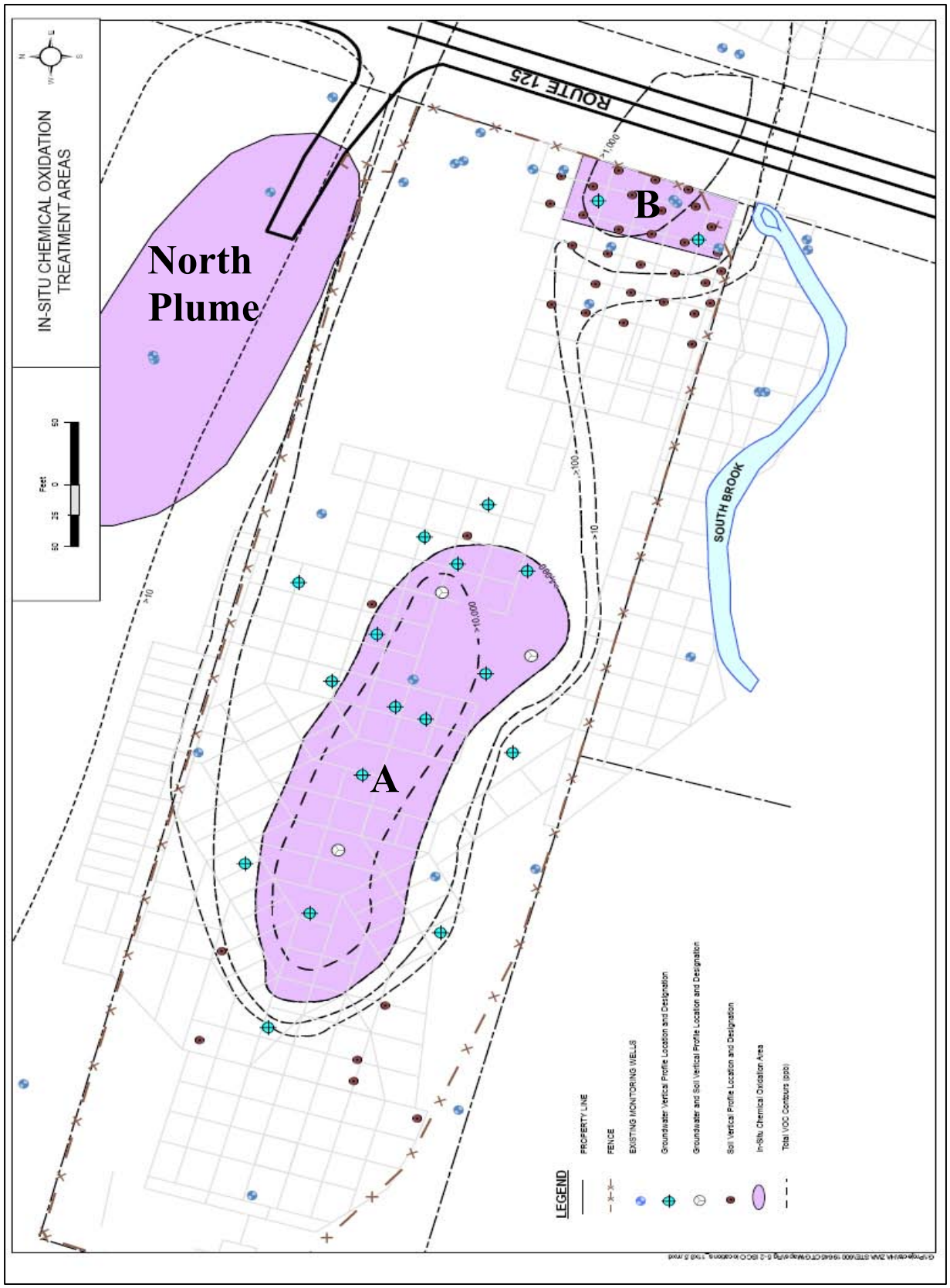
IN-SITU CHEMICAL OXIDATION TREATMENT AREAS
North Plume
ROUTE 125
SOUTH BROOK
A
B
>10,000
>1,000
>100
>10
>10
Feet
50
0
25
50
LEGEND
PROPERTY LINE
FENCE
EXISTING MONITORING WELLS
Groundwater Vertical Profile Location and Designation
Groundwater and Soil Vertical Profile Location and Designation
Soil Vertical Profile Location and Designation
In-Situ Chemical Oxidation Area
Total VOC Contours (ppb)

Figure 2

Table 1: Preliminary Remediation Goals (PRG) For Groundwater

Contaminants of Concern in Groundwater	PRG (parts per billion)	Basis for Cleanup Level	Maximum Concentrations (ppb) and their locations[1]
Volatile Organics			
Benzene	5	MCL[1]	43 at GZ-4B
1,2-Dichloroethane	5	MCL	Not detected above PRG in 2004,2005 or 2007
Cis-1,2-Dichloroethene	70	MCL	790 at GZ-11A
1,4-Dichlorobenzene	75	MCL	100 at ME-4A
Ethylbenzene	700	MCL	1300 at GZ-11A
Hexachlorobutadiene	0.5	AGQS[2]	0.6 at MEOW-2
Methyl-t-butyl ether	13	AGQS	63 at W-3
Naphthalene	20	AGQS	87 at GZ-11A
Styrene	100	MCL	150 at GZ-11A
Tetrachloroethene	5	MCL	560 at GZ-11A
Tetrahydrofuran	154	AGQS	420 at GZ-4B
Toluene	1,000	MCL	1900 at ME-4A
Trichloroethene	5	MCL	460 at GZ-11A
Vinyl Chloride	2	MCL	72 at ME-4A
Total Xylene	10,000	MCL	14,500 at Area A, 5F
1,4-Dioxane	3	AGQS	260 at MEOW-3
Metals			
Arsenic	10	MCL	160 at GZ-4B
Lead	15	AGQS	41.6 at GZ-11C
Manganese	300	EPA Health Advisory	3410 at MEOW-5
Nickel	100	AGQS	Not detected above PRG in 2004, 2005 or 2007
Total PCBs	0.5	MCL	1.2 at GZ-11A

(1) Federal Maximum Contaminant Levels for drinking water.
(2) NH Ambient Groundwater Quality Standard

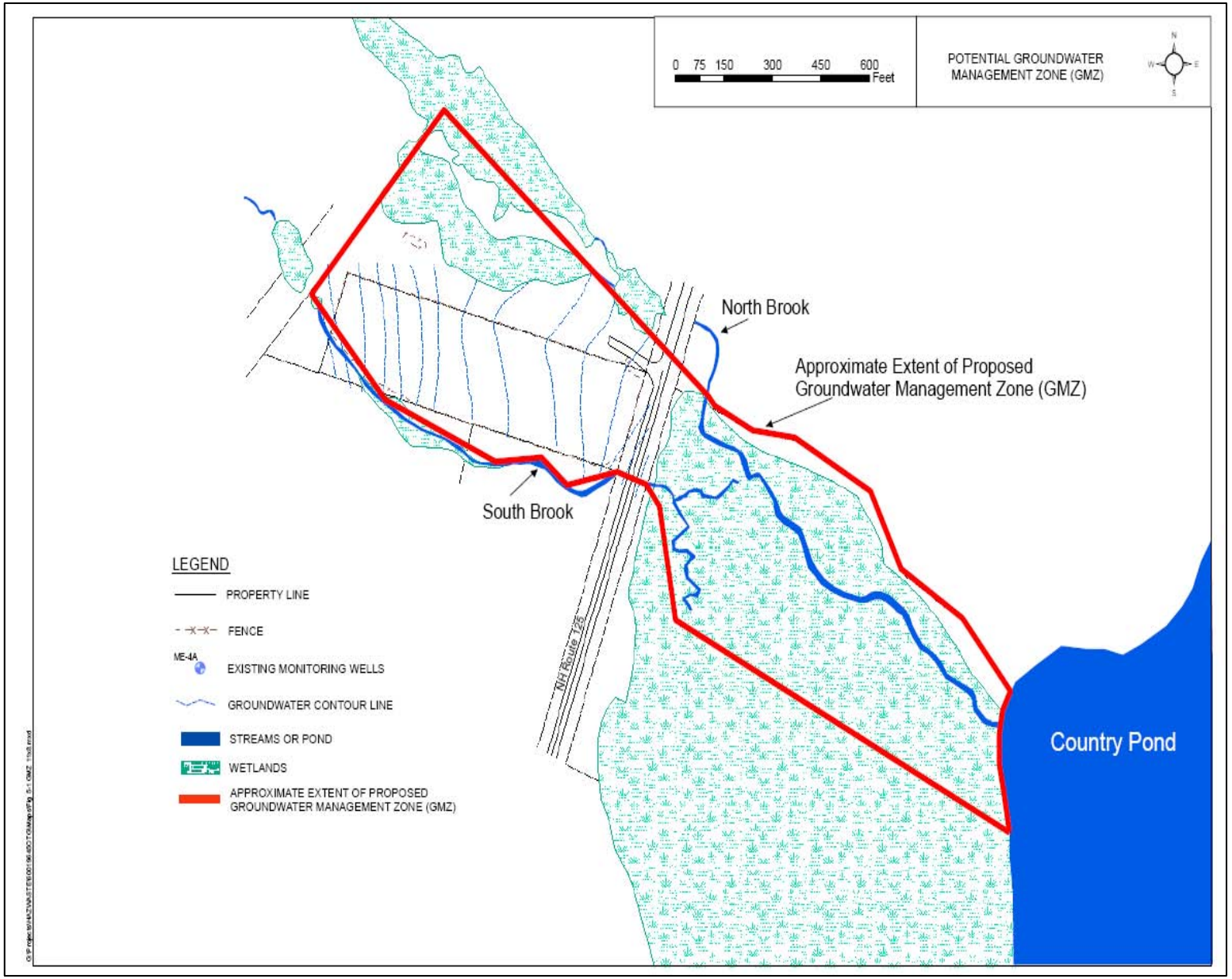
0 75 150 300 450 600
Feet
POTENTIAL GROUNDWATER MANAGEMENT ZONE (GMZ)
N
W
E
S
North Brook
Approximate Extent of Proposed Groundwater Management Zone (GMZ)
South Brook
NH Route 125
Country Pond
LEGEND
PROPERTY LINE
FENCE
ME-4A
EXISTING MONITORING WELLS
GROUNDWATER CONTOUR LINE
STREAMS OR POND
WETLANDS
APPROXIMATE EXTENT OF PROPOSED GROUNDWATER MANAGEMENT ZONE (GMZ)

Figure 3

Groundwater Cleanup Alternatives Evaluated

Alternative 1 (GW-1): *No Further Action*

This alternative would not include any additional cleanup actions to address the groundwater contamination at the Site.

Long-term environmental monitoring would be performed to support the Five-Year Reviews for this alternative. Five-Year Reviews would be performed as they are mandated by the Superfund law and would be performed to assess the Site conditions and determine if this approach is protective of human health and the environment.

Capital Costs: None
Present Worth: $1,975,000

Alternative 2 (GW-2): *In-Situ Chemical Oxidation*

EPA's preferred alternative as described on page six

In-situ chemical oxidation involves the injection of an oxidant directly into the groundwater to break down hazardous contaminants into non-hazardous by-products such as water, salt, and carbon dioxide. Oxidant delivery is usually conducted via injection wells or temporary injection points. In some cases, an oxidant has been delivered via soil blending, using large augers or excavator-mounted mixing equipment. It is anticipated that multiple injections or applications would be conducted over a period of three years. Environmental monitoring would be required to assess the progress and success of the remedy. Five-year site reviews would be conducted to evaluate the remedy per EPA guidance. Institutional controls would also be implemented to prevent the use of contaminated groundwater, to prevent contact with contaminated soil below the water table, and to protect components of the remedy until EPA has determined that the cleanup objectives have been met. There will also be monitoring to verify compliance with the institutional controls.

Capital Costs: $945,000
Present Worth: $6,267,000

Alternative 3 (GW-3): *Groundwater Pump and Treat*

The groundwater cleanup plan selected by the EPA in the 1987 Record of Decision

This alternative consists of extracting groundwater from the source zones (high concentration areas of VOCs) using new and existing extraction wells. Such action will limit the migration of contaminated overburden groundwater. Extracted groundwater would be piped to a centralized treatment system (see Figure 4). Groundwater contaminant levels would be reduced to the PRGs shown in Table 1 and treated groundwater would be allowed to either infiltrate into groundwater through an infiltration basin or discharged to surface water. Environmental monitoring would be implemented to assess the success of the remedy. It is assumed that the groundwater extraction and treatment system would operate for a period of approximately 30 years. Five-year site reviews would be conducted to evaluate the remedy per EPA guidance. Institutional controls would also be implemented to prevent the use of contaminated groundwater, restrict land uses and protect components of the remedy until EPA has determined that the cleanup objectives have been met. There will also be monitoring to verify compliance with the institutional controls.

Capital Costs: $4,333,000
Present Worth: $11,825,000

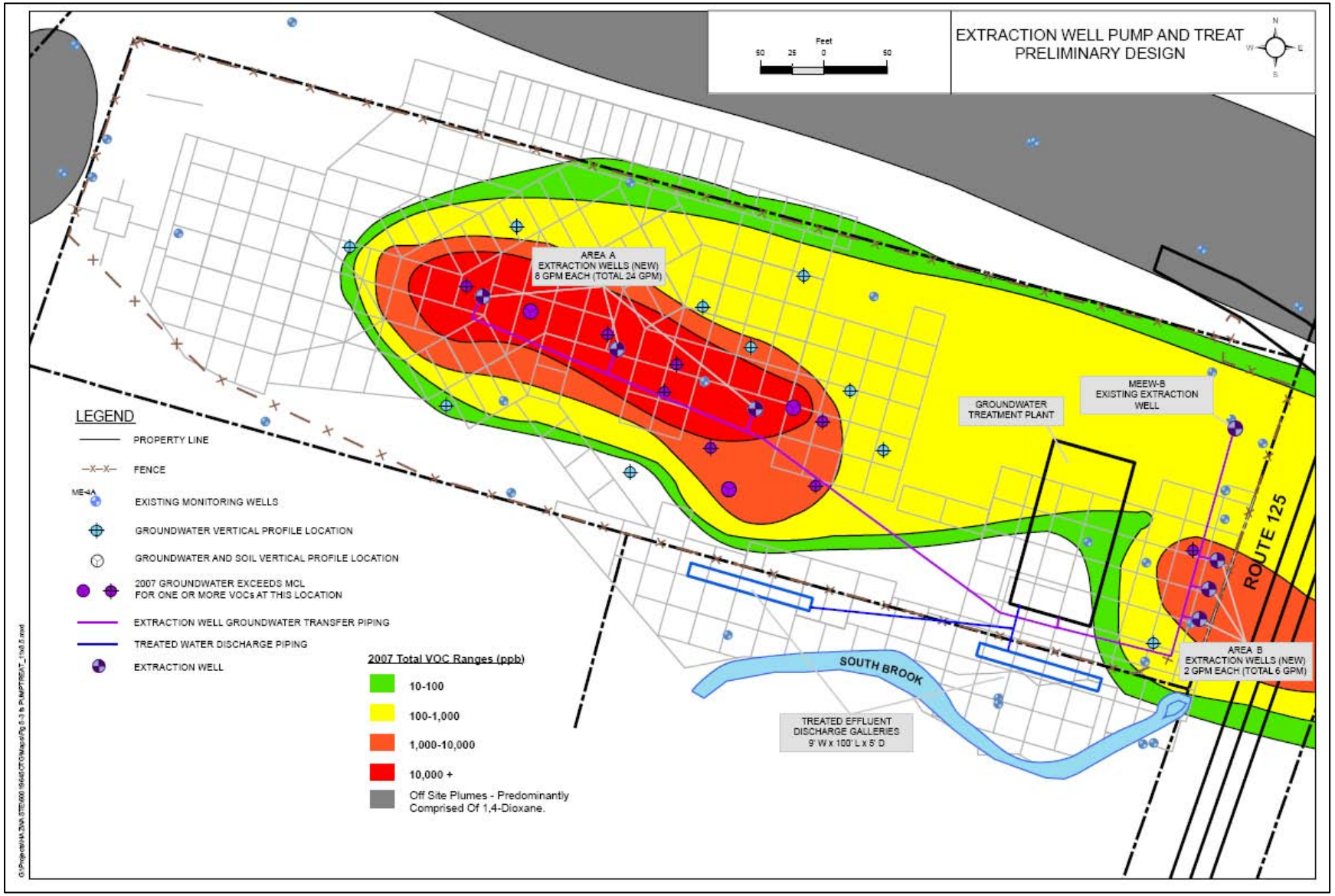
EXTRACTION WELL PUMP AND TREAT
PRELIMINARY DESIGN
Feet
50 25 0 50
N
W E
S
AREA A
EXTRACTION WELLS (NEW)
8 GPM EACH (TOTAL 24 GPM)
GROUNDWATER
TREATMENT PLANT
MEEW-8
EXISTING EXTRACTION
WELL
ROUTE 125
AREA B
EXTRACTION WELLS (NEW)
2 GPM EACH (TOTAL 6 GPM)
SOUTH BROOK
TREATED EFFLUENT
DISCHARGE GALLERIES
9' W x 100' L x 5' D
LEGEND
PROPERTY LINE
FENCE
ME-4A
EXISTING MONITORING WELLS
GROUNDWATER VERTICAL PROFILE LOCATION
GROUNDWATER AND SOIL VERTICAL PROFILE LOCATION
2007 GROUNDWATER EXCEEDS MCL
FOR ONE OR MORE VOCs AT THIS LOCATION
EXTRACTION WELL GROUNDWATER TRANSFER PIPING
TREATED WATER DISCHARGE PIPING
EXTRACTION WELL
2007 Total VOC Ranges (ppb)
10-100
100-1,000
1,000-10,000
10,000 +
Off Site Plumes - Predominantly
Comprised Of 1,4-Dioxane.

Figure 4

The Nine Criteria for Selecting a Cleanup Plan

The Superfund law provides nine criteria that are used to compare alternatives. EPA uses these nine criteria to balance the pros and cons of each alternative and select a cleanup plan. Once comments from the state and the community are received, EPA will select a final approach for groundwater at the O&G/KSD site.

Overall Protection of Human Health and the Environment: Will it protect you and the plant and animal life on and near the site?

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs): Does the alternative meet all federal and state environmental statutes, regulations and requirements on-site?

Long-term Effectiveness and Permanence: Will the effects of the remedy last or could contamination cause future risk?

Reduction of Toxicity, Mobility or Volume through Treatment: Does the alternative reduce the harmful effects of the contaminants, the spread of contaminants, and the amount of contaminated material using active treatment?

Short-term Effectiveness: How soon will site risks be adequately reduced? Could the remedy activities cause short-term hazards to workers, residents or the environment?

Implementability: Is the alternative technically and administratively feasible? Are the right goods and services (i.e. treatment machinery; space at an approved disposal facility) available for the plan?

Cost: What is the total cost of an alternative over time? EPA must find a plan that gives necessary protection for a reasonable cost.

State Input: EPA strongly considers NHDES input prior to finalizing the selection of the remedy alternative.

Community Input: EPA strongly considers community input prior to finalizing the selection of the cleanup plan.

How Do the Alternatives Meet the Nine Criteria?

The nine criteria and EPA's evaluation of each alternative are as follows:

1. Overall protection of human health and the environment

Alternative GW-1, no further action, provides no protection for human health and the environment. Risks from exposure to contaminated groundwater would remain. Chemical concentrations in groundwater would remain in excess of federal and state drinking water standards, and high levels of contamination within source area groundwater would act as a continuing source of contamination to groundwater over hundreds of years. Under this alternative, there would be no restrictions on groundwater use and therefore nothing would prevent the use of contaminated groundwater in the future.

The preferred alternative, GW-2, and the pump and treat alternative, GW-3, would be protective of human health and the environment as long as the institutional controls are in place.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Alternative GW-1 does not meet chemical-specific federal or state requirements for drinking water in groundwater at the Site. There are no locations or action specific ARARs associated with GW-1.

The preferred alternative GW-2 and the pump and treat alternative GW-3 will meet all the chemical, location and action specific ARARs.

Both GW-2 and GW-3 may result in the alteration of wetlands during the process of well installation and monitoring. EPA has determined that in balancing the potential negative effects of the alternatives versus the environmental benefits to wetlands from cleaning up site contamination, that GW-2 is the least damaging practicable alternative. Although implementation of GW-2 may result in damage to wetland resources, it provides faster and better treatment of the Site's contaminated groundwater, which poses an ongoing risk to the area's wetlands.

Under federal standards, EPA is required to specifically solicit your opinion as whether you support the Agency's finding that GW-2 is the least damaging practicable alternative that will protect wetland resources at the Site.

3. Long-term effectiveness and permanence

Alternative GW-1 does not provide long-term effectiveness because no actions would be taken to reduce the concentrations of contaminants in the groundwater.

Alternatives GW-2 and GW-3 will reduce the concentrations of contaminants in the groundwater to safe levels. In the interim, institutional controls will prevent contact with contaminated media until cleanup standards are achieved.

4. Reduction of toxicity, mobility or volume through treatment

Alternative GW-1 does not include treatment; therefore, there would be no reduction in the toxicity, mobility or volume of groundwater contaminants.

Alternatives GW-2 and GW-3 would reduce the toxicity of most of the groundwater contaminants. Alternative GW-2, ISCO, the process of chemically treating contaminants underground may, in the short-term, produce by-products which are themselves toxic. However, these by-products are expected to degrade over time and will be monitored throughout the process to make sure they don't pose a risk to human health or the environment.

Treatment residuals for the Pump and Treat alternative, GW-3, contain many of the groundwater contaminants that will be disposed of in an off-site landfill without any treatment. Therefore, alternative GW-3 results in less contaminant destruction than alternative GW-2.

5. Short-term effectiveness

There will be no additional short-term risks to workers or the general public from exposures under the No Action alternative.

Alternatives GW-2 and GW-3 will have nominal increases of short-term impacts to the community and workers due to remedy construction, operation and monitoring. Air sampling and monitoring will be used to evaluate any potential risks to the community from inhalation exposures. Concentrations of contaminants of concern (COCs) are expected to be limited, but greatest on-site. Therefore, workers at the Site will use appropriate personal protective equipment (PPE) to mitigate any potential risks from exposures to COCs.

The ISCO alternative, GW-2, would not have any short-term environmental impacts, except potentially in the Northern Plume area where there would likely be a disturbance of the wetlands during installation of injection wells, monitoring wells and oxidant injection. The Pump and Treat alternative, GW-3, may alter site hydrology, likely impacting the wetlands north of the Site and potentially impacting wetlands east of Route 125. These potential impacts would be further evaluated during the remedial design and avoided and/or mitigated as needed

Of the active alternatives evaluated for groundwater, the ISCO alternative is expected to achieve RAOs quickly (approximately 5 years). The Pump and Treat alternative is expected to achieve RAOs within 30 years. The Pump and Treat alternative is anticipated to take longer primarily because of the low permeability of the Area B soils.

6. Implementability

Alternative GW-1 involves only environmental monitoring and Five-Year Reviews, therefore, there are no implementability concerns with this alternative.

Maintaining a pump and treat system, GW-3, for approximately 30 years will require a higher degree of effort than the estimated three years of oxidant injections required for the ISCO alternative, GW-2. Therefore, from the point-of-view of maintaining day-to-day operation, the ISCO alternative would be easiest to implement, and the Pump and Treat alternative would be more difficult to implement. Both alternatives would involve long-term groundwater monitoring, which is easily implemented. Both alternatives would also require the establishment of institutional controls, which although they potentially may take time to establish, are readily implementable.

GW-2 and GW-3 both provide a high level of reliability that the cleanup objectives can be achieved. It should be noted that there is some degree of uncertainty related to the reliability of ISCO alternative, GW-2, due to the nature of in-situ work within the subsurface. There are similar concerns regarding the ability of a Pump and Treat system, GW-3, to capture inorganic contaminants (metals) due to their propensity to adsorb to soils. Regardless of these concerns, both the ISCO and Pump and Treat alternatives are considered reliable.

7. Cost

The No Action Alternative, GW-1, would only incur costs for environmental monitoring and conducting five-year reviews. The total net present worth cost for alternative GW-1 is $1,975,000. The total net present worth costs (capital plus O&M and periodic costs over the duration of the remedial action) for the ISCO alternative, GW-2, is $6,267,000, while the total net present worth is estimated at $11,825,000 for GW-3, the Pump and Treat alternative.

8. State Input

EPA will evaluate comments received from the State regarding this Proposed Plan in its evaluation of these criteria in the Record of Decision.

9. Community input

EPA will evaluate comments received from the community regarding this Proposed Plan in its evaluation of these criteria in the Record of Decision.

Update of Federal and State Standards that Apply to the Remedy

The proposed amended ROD will also expand and update the Applicable and Relevant and Appropriate (ARARS), and To Be Considered (TBC) federal and state standards that apply to the proposed remedy. The 1987 ROD did not identify all of the chemical-, location-, and action-specific standards that would apply to the remedy at that time. The amended ROD will identify these standards for the revised remedy.

Public Notice of Unavoidable Impacts to Wetlands

EPA is seeking public comment on the following:

EPA has determined that there may be unavoidable adverse impacts to wetlands. Alternative GW-2 may result in the alteration of wetlands during the process of injection and monitoring well installation and operation. EPA has determined that in balancing the potential negative effects of the alternative versus the environmental benefits to wetlands from cleaning up site contamination, that Alternative GW-2 is the least damaging practicable alternative. Although implementation of GW-2 may result in short-term damage to wetland resources, it provides faster and better treatment of the Site's contaminated groundwater, which poses an ongoing risk to the areas wetlands. EPA has evaluated the requirements of the applicable regulations, including Section 404 of the federal Clean Water Act and identified the proposed alternatives as the least damaging practicable alternatives to protect federally regulated wetlands both on-site and downstream.

Why Does EPA Recommend Alternative GW-2 (In-Situ Chemical Oxidation) described in this Proposed Plan?

EPA recommends Alternative GW-2 (In-Situ Chemical Oxidation) because this cleanup approach will: protect human health and the environment; comply with all state and federal regulatory requirements; will take less time to achieve the groundwater cleanup goals than the current pump and treat approach (GW-3); will not generate the large volume of treatment residuals to be disposed of with the current pump and treat approach; and will cost significantly less than the current pump and treat approach. Furthermore the establishment of institutional controls will prevent exposure to contaminated groundwater until EPA's groundwater cleanup goals have been achieved.

Comparison of Cleanup Alternatives

Nine Criteria	GW-1 No Action	GW-2 * In-Situ Chemical Oxidation	GW-3 Groundwater Extraction and Treatment
Comparison Of Cleanup Alternatives			
Protects human health and environment	✗	✔	✔
Meets federal and State requirements	✗	✔	✔
Provides long-term protection	✗	✔	✔
Reduces mobility, toxicity and volume through treatment	✗	✔	✓
Provides short-term protection	✗	✔	✔
Implementable (Can it be done?)	✔	✔	✔
Present Worth Cost	$ 1,975,000	$ 6,267,000	$ 11,825,000
Time to reach cleanup goal	100s years	5 years for the source areas and < 30 years for the residual plume	30 years
State agency acceptance	To be determined after the public comment period		
Community acceptance	To be determined after the public comment period		

❋ EPA's preferred alternative
✔ Meets or exceeds criterion
✓ Partially meets criterion
✗ Does NOT meet criterion

Next Steps

Later this summer, EPA expects to have reviewed all comments and sign an amendment to the 1987 Record of Decision (ROD) describing the chosen plan for groundwater cleanup. The ROD amendment and a summary of responses to public comments will then be made available to the public at the Nichols Memorial Library, 169 Main Street, Kingston**,** New Hampshire and at the EPA Records Center in Boston. EPA will announce the decision to the community through the local news media and a general mailing.

How You Can Comment On EPA's Proposal?

During the 30-day public comment period from August 2 through September 1, 2007, EPA will accept formal written comments and hold a public hearing on August 23. The EPA uses this public input to improve the proposal if necessary. Your formal input and ideas will become part of the official public record. The transcript of comments and EPA's written responses will be issued in a document called a Responsiveness Summary when EPA releases the ROD Amendment for the Site. Once complete, the Responsiveness Summary will be available at the **Nichols Memorial Library, 169 Main Street, Kingston, New Hampshire** and at the **EPA Records Center in Boston** for review.

There are three different ways in which individuals can provide EPA with their comments on this Proposed Plan during the public comment period:

1. Comments can be submitted in a letter to the EPA Remedial Project Manager.
2. Comments can be sent to the EPA Remedial Project Manager by email at: brown.jim@epa.gov.
3. Comments can be spoken into the official public record during the public hearing.

EPA encourages anyone with a concern or comment regarding the proposed approach to express her or his opinion during the comment period. All comments are welcome. Any of the three mechanisms above are acceptable for providing comments and all of the comments are given equal weight.

Two types of public meetings will occur with respect to the Proposed Plan. The first will be an informational meeting to explain the proposed cleanup plan and answer any questions that may arise. Comments that are made during this meeting will not be part of the "official record".

The second type of meeting, a public hearing, will occur during the official comment period. At this meeting, EPA will provide a brief summary of the proposal and then the floor will be open for formal comments. A stenographer will be present to record all of the comments offered during this comment session. EPA does not respond to any of the comments made at the meeting other than to request clarification of a formal comment. At the close of the formal comment session, if time permits, EPA will be available to answer questions.
The comment period will last for thirty days unless an extension is requested. At the end of the comment period, EPA will assemble and evaluate all of the comments submitted. Appropriate revisions to the Proposed Plan will be made based on these comments. EPA will then sign the amendment to the Record of Decision describing the chosen plan. The ROD Amendment and a summary of responses to public comments will be made available to the public at the Nichols Memorial Library and through the EPA Records Center in Boston.

For More Information about the Cleanup Proposal

For more information about the proposed plan, all of the technical and public information publications prepared to date for the Site are available for public review at the following locations:

EPA Records Center
1 Congress Street,
Suite 1100
Boston, MA 02114-2023
(617) 918-1453

Hours: Monday – Friday, 10:00 a.m.-noon
and 2:00 p.m.-5:00 p.m.

Nichols Memorial Library
169 Main Street
Kingston, N.H. 03848
(603) 642-3521

Use this Space to Write Your Comments
or to be added to the mailing list

EPA encourages you to provide written comments and ideas about the cleanup options under consideration for dealing with the contamination at the Site. You can use the form below to send written comments. If you have questions about how to comment, please call **EPA Community Involvement Coordinator, Pam Harting-Barrat at 617-918-1318.** Please mail this form or additional sheets of written comments, postmarked no later than September 1, 2007 to:

Jim Brown
Remedial Project Manager
U.S. Environmental Protection Agency
Region I, (HBO)
1 Congress Street, Suite 1100
Boston, MA 02114 - 2023
or E-Mail to : brown.jim@epa.gov

(Attach sheets as needed)
Comments Submitted by:

Mailing list additions, deletions or changes:

If you did not receive this through the mail and would like to:

- ❑ Be added to the site mailing list
- ❑ Note a change of address
- ❑ Be deleted from the mailing list

Name:_____

Address: _____

_____

Please check the appropriate box and fill in the correct information above.

Ottati & Goss/Kingston Steel Drum Superfund Site
Public Comment Sheet (cont…)

Fold, staple, stamp and mail----------

Jim Brown
Remedial Project Manager
U.S. Environmental Protection Agency
Region 1 (HBO)
1 Congress Street, Suite 1100
Boston MA 02114-2023