Superfund Program
Proposed Response Action

Newstead Site

Town of Newstead, Erie County, New York

April 2006

EPA
Region 2

MARK YOUR CALENDAR

April 17, 2006 through May 17, 2006: Public comment period on the Proposed Response Action Document.

April 25, 2006 at 6:30 PM: Public meeting at the Newstead Town Hall at 5 Clarence Center Road, Akron, NY 14001

COMMUNITY ROLE IN SELECTION PROCESS

EPA and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective response action for each Superfund site. To this end, the Engineering Evaluation/Cost Analysis Report (EE/CA) for the Newstead Site and other investigative reports along with this Proposed Remedial Action Document (PRAD) have been made available to the public for a public comment period which begins on **April 17, 2006** and concludes on **May 17, 2006.**

A public meeting will be held during the public comment period at the Newstead Town Hall located at 5 Clarence Center Road, Akron, NY on **Tuesday, April 25, 2006 at 6:30 P.M. to 8:30 P.M.** to present the conclusions of the EE/CA, to discuss the preferred response action, and to receive public comments on the preferred response action.

Comments received at the public meeting, as well as written comments, will be documented as part of the decision document (called an Action Memorandum) which formalizes the selection of the response action.

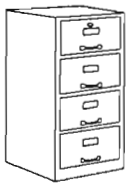
PURPOSE OF THIS DOCUMENT

This Proposed Response Action Document (PRAD) describes the response alternatives considered for the Newstead Site (Site) during the performance of the Engineering Evaluation/Cost Analysis Report (EE/CA), and identifies the preferred response action alternative along with the rationale for this preference. The PRAD was developed by the U.S. Environmental Protection Agency (EPA) in consultation with the New York State Department of Environmental Conservation (NYSDEC).

This PRAD is being provided as a supplement to the EE/CA, to inform the public of EPA and NYSDEC's preferred response action and to solicit public comments pertaining to all the response action alternatives evaluated, including the preferred response action. Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, and Section 300.430(f) (ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) require EPA to solicit public comments on proposed response actions. The alternatives summarized here are more fully described in the EE/CA contained in the Administrative Record file for the Site.

EPA's preferred response action, which is formally referred to as a "non-time critical removal action," consists of excavation and removal of wastes, contaminated soils and sediments, and groundwater monitoring. Changes to the preferred response action or a change from the preferred action to another response action may be made if public comments or additional data indicate that such a change will result in a more appropriate response action. The final decision regarding the selected response action will be made after EPA has taken into consideration all public comments. EPA is soliciting public comment on all of the alternatives considered in the EE/CA report because EPA and NYSDEC may select a response action other than the preferred response action.

The administrative record file, which contains the information upon which the selection of the response action will be based, is available at the following locations:



Newstead Public Library
33 Main Street
Akron, NY 14001
(716) 542-2327
Contact: Reference Desk

Hours: Monday and Wednesday 10AM - 8 PM
Tuesday 10 AM - 6 PM
Friday 10 AM - 5 PM
Thursday Closed

USEPA-Region II
Superfund Records Center
290 Broadway, 18th Floor
New York, NY 10007-1866
(212) 637-4308

Hours: Monday-Friday, 9:00 AM - 5:00 PM

Written comments on this document should be addressed to:

Michael A. Walters
Remedial Project Manager
New York Remediation Branch
Emergency and Remedial Response Division
United States Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

Telephone: (212) 637-4279

SITE BACKGROUND

Site Description

The Site is located on Fletcher Road, Newstead, Erie County, New York. It includes a 6.6-acre parcel of land (**see Figure 1**). The Site is situated in a rural residential community in the Town of Newstead, south of the Tonawanda Creek. The Site is surrounded by woods to the east and south, and by wetlands to the north. The west side is bounded by Fletcher Road, and cultivated agricultural lands are located directly across the street. There is a drainage ditch located between the property boundary and Fletcher Road which runs along the length of Fletcher Road. From approximately May 1980 until 1989, the Site was used for residential purposes. In August 1992, the Pratt & Lambert Corporation, Inc. (Pratt & Lambert) purchased the property and since then, it has been unoccupied.

According to the New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), and the Erie County Department of Environment and Planning (ECDEP), as well as statements by a previous resident, at various times in the late 1980's soil erosion uncovered previously buried waste materials, drums, cans, and containers along the ground surface of the Site.

A former resident of the Site stated that during the late 1940's and early 1950's, industrial waste, including drums and cans of various sizes containing paints and other solvents, was taken from a Pratt & Lambert facility in Buffalo, New York, and brought to the Site where it was burned, and/or otherwise disposed of. Drums and cans, some containing paints and solvents, and paper wastes with Pratt & Lambert's name have been excavated from the Site.

Samples of waste from the Site collected by NYSDEC in 1987 contained volatile organic compounds (VOCs), including benzene, and metals including lead and chromium. NYSDEC also found that samples of groundwater from a shallow well on the Site contained elevated levels of VOCs and inorganic chemicals, while a deeper well that was used for drinking water was not impacted. Additional sampling by NYSDOH and ECDEP in 1988 identified elevated levels of organic compounds and metals in shallow soil samples (0 to 6 inches), including chromium, cadmium, lead and barium.

In June 1989, NYSDEC referred the Site to EPA for an appropriate response action. EPA conducted a preliminary assessment of the Site in July 1989. In August 1989, EPA received verbal notification from the Agency for Toxic Substances and Disease Registry (ATSDR) that the Site presented a significant and imminent health threat. ATSDR issued a Health Advisory that recommended disassociation of human contact with the contaminated area and biological testing of the Site residents. The residents were relocated to a temporary residence and EPA initiated a removal assessment to define the nature and extent of Site contamination.

On August 29, 1989, EPA performed an exploratory excavation to obtain information regarding the types of waste buried at the Site. This excavation revealed buried waste containers, including drums and paint cans some of which contained paints and solvents, in a variety of sizes and in various stages of deterioration. Other wastes discovered at the Site include paper waste and solidified paint in the shape of cans (the center of the solidified paint was still liquid, but the containers had deteriorated away over time).

Later in 1989 and 1990, the NUS Corporation, under contract to EPA, conducted additional investigations. Results of these investigations indicated elevated levels of VOCs, including ethylbenzene and xylenes, in soil gas. Lead, zinc and chromium were also found in Site soils; the highest concentrations found were 9,600 parts per million (ppm), 7,900 ppm and 1,800 ppm, respectively.

On September 27, 1989, EPA issued an Administrative Order to Pratt & Lambert requiring it to relocate the family that had been residing at the Site to a comparable replacement dwelling and to pay interim housing costs until the relocation has occurred.

On September 26, 1990, EPA issued another Administrative Order to Pratt & Lambert requiring it to conduct an investigation of the release and threatened release of hazardous substances at the Site, and to evaluate potential cleanup alternatives.

In 1992, Sherwin-Williams purchased the property, stabilized the wastes, demolished and removed the remains of the house, and installed a chainlink fence to restrict access into the contaminated area.

Studies performed from 1993 to 1996 by Connestoga-Rovers & Associates (CRA), under contract to Pratt and Lambert (and then Sherwin-Williams, which acquired Pratt and Lambert in 1996), revealed waste disposal areas at the Site (**see Figure 2**) with releases of hazardous substances including heavy metals to the soils, sediment in the drainage ditch and shallow groundwater. (The resulting CRA Site Investigation Report dated February 7, 1997, was never approved by EPA. However, the data compiled in the referenced report is consistent with prior studies conducted by NYSDEC, ECDH and EPA.) The data has indicated that the release of hazardous substances to the groundwater is limited to the waste disposal area in the northwest corner of the Site. Only well number **MW2A-93** (see Figures 3 and 4), located in the shallow groundwater zone, contained hazardous substances. The deep or lower groundwater zone has not been impacted.

Hazardous substances with the highest concentrations in the soils and sediment, in excess of the NYSDEC Soil Cleanup Objectives in the Technical and Administrative Guidance Memorandum #4046 (TAGM) and the EPA Region 9 Risk-based Concentrations (RBCs) are listed below:

Metals/ Compound	Soil Conc. (ppm)	NYSDEC TAGMS (ppm)	EPA Regions 9 RBCs (ppm)
Barium	**7,240**	**300 or SB**	**300**
Cadmium	**75**	**1**	**1.4**
Chromium	**2,680**	**10**	**2.1**
Lead	**15,900**	**400**	**400**
Zinc	**8,350**	**20 or SB**	**680**
Cyanide	**76**	**0.1**	**7.4**
Ethylbenzene	**94**	**5.5**	**0.75**
PCBs*	**1.3**	**1**	**0.02**
Xylene	**620**	**1**	**0.15**

***Polychlorinated Biphenyls**
SB = Site Background

SUMMARY OF SITE RISKS (See Box on Page 5)

A baseline risk assessment was conducted to estimate the risks and hazards associated with the current and future Site conditions in the absence of any actions. Based on previous land use, the risk assessment evaluated risks and hazards to adolescent and adult trespassers (current) and residential children and adults (future) as a result of exposure to contaminants via incidental ingestion, dermal contact and inhalation of suspended soil particulates.

The risk assessment was based upon data obtained by the NUS Corporation during Phase I field activities at the Site. Surface soil samples were collected and were analyzed for chromium, lead and zinc. The risk assessment determined that lead was the only contaminant that posed a significant health risk to human health.

Lead is evaluated differently than other chemicals since a reference dose is currently not available. The average lead concentration across the Site is compared to the health based residential screening level of 400 ppm for lead. Exceedence of this screening criteria requires further evaluation utilizing the Integrated Exposure Uptake Biokinetic Model (IEUBK Model) for lead in children.

Human Health Risk - Lead

The hazardous substance with the highest reported concentration was lead at 15,900 ppm. The average lead concentration in soils across the Site was compared to EPA's residential screening criterion for lead and a hotspot was identified. This hotspot is defined as an area where concentrations of lead in the soil exceeded the 400 ppm criterion and were significantly elevated compared to the concentrations of lead detected on the remainder of the Site. This area is also consistent with the area designated as the surface contaminated area in the CRA Site Investigation Report (1997).

The lead concentrations detected in the surface soils of the hot spot area during the 1990 soil sampling investigation performed by EPA ranged from 410 ppm to 7,000 ppm. The average soil lead concentration in this area is 1645 ppm. The average, which exceeds the 400 ppm screening level, was then evaluated using the IEUBK Model.

Based on the residential/rural land use of the Site, the IEUBK Model evaluated risks and hazards to residential children (current and future) as a result to exposure to contaminants via incidental ingestion, dermal contact and inhalation of suspended Site soil particulates.

The IEUBK Model predicts the probability that a child exposed to lead from the Site will have a blood lead concentration greater than the Centers for Disease Control and Prevention (CDC) level of concern at 10 micrograms per deciliter (ug/dL). EPA and the CDC have determined that childhood blood lead concentrations at or above 10 ug/dL pose a significant risk to children's health (*e.g.* neurological effects). EPA's risk reduction goal is to limit the risk of the Site so that no more than 5% of the exposed population would exceed the blood lead level of concern (10 ug/dL).

The IEUBK Model estimated that 73% of the potentially exposed populations for this Site would have an estimated blood lead level of 13.3 ug/dL, above the CDC guideline of 10 ug/dL. During a sampling event conducted in September 1993, CRA collected three soil samples from the hotspot area. The data collected from this investigation showed a maximum detected lead concentration of 15,900 ppm in the shallow soils in the hot spot area, which exceeds the screening criteria of 400 ppm.

The concentrations of lead in the hot spot area indicate that there is a significant potential risk to future populations as a result of direct exposure to contaminated soil. The above risk estimates are based on reasonable maximum exposure scenarios and were developed by taking into account various conservative assumptions about the frequency and duration of an individual's exposure to the soil, as well as the toxicity of the contaminants.

REMOVAL ACTION OBJECTIVES

The following removal action objectives have been established for this response action:

- Prevent a direct contact threat; and
- Minimize the further migration of contaminants.

The proposed response action is considered non-time critical because, although there is a threat to public health, welfare and the environment, there is sufficient planning time available before the removal action is to be initiated. The former residents of the property were relocated in 1989. The Site is secured from public access by a perimeter fence and locked gate.

Soil Cleanup Objectives

There are currently no promulgated standards for contaminant levels in soils, only cleanup objectives. EPA in consultation with NYSDEC has set the following soil cleanup objectives for the contaminants of concern (COC) at the Site. These objectives were used to estimate the volume of contaminated soils and waste materials at the Site.

barium	**300 ppm**
cadmium	**1 ppm**
chromium	**33ppm**
lead	**400 ppm**
mercury	**1ppm**
zinc	**135 ppm**
PCBs	**1 ppm**
benzene	**0.06 ppm**
ethylbenzene	**5.5 ppm**
xylene	**1.2 ppm**

SUMMARY OF POTENTIAL RESPONSE ACTIONS

Three potential response alternatives were developed in the EE/CA as summarized below:

Alternative 1: No Action

The Superfund program requires that the "no-action" alternative be considered as a baseline for comparison with the other alternatives. Alternative 1 does not include any measures to address the contaminated media. This alternative would, however, include the implementation of a public awareness program so that nearby residents are advised about the threats posed by the contamination located on the Site.

Capital Costs:	**$5,000**
Annual Monitoring Cost:	**N/A**
Construction Time:	**N/A**
Present Worth:	**$5,000**

Alternative 2: Soil Excavation, Off-Site Treatment/Disposal

Under this alternative, approximately 4,000 cubic yards of hazardous wastes and contaminated soils would be excavated and transported off-Site for treatment/disposal. Site preparation activities would include the construction of a vehicle decontamination pad and material stockpile and staging areas, clearing and grubbing, removal of on-Site debris, such as appliances and tires, and installing erosion control measures. Contaminated soils from the hot spot area, designated waste layers and surface contaminated area

WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance exposure from a site in the absence of any actions to control or mitigate these under current and future land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the contaminants of concern (COC) at the site in various media (*i.e.*, soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, and fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a "one-in-ten-thousand excess cancer risk"; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk) with 10^{-6} being the point of departure. For non-cancer health effects, a "hazard index" (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a non-cancer HI is that a "threshold level" (measured as an HI of less than 1) exists below which non-cancer health effects are not expected to occur.

on **Figure 2**, would be excavated. Samples would be collected from the walls and base of the excavation and analyzed for metals, VOCs and PCBs. If analytical results of the post-excavation samples indicate residual concentrations exceed the minimum Action Level, additional soil would be excavated, followed by additional confirmatory sampling. The process would be repeated until analytical results reveal that all the soils containing metals, VOCs and PCB concentrations greater than the Action Levels have been removed. The excavated areas would be backfilled with clean fill and revegetated. Alternative 2 also includes provisions for groundwater monitoring.

Capital Cost:	**$330,570**
Annual Monitoring Costs:	**$4,340**
Construction Time:	**6 months**
Present Worth (for 5 years at a 7% discount factor):	**$348,359**

Alternative 3: Capping

This alternative involves the placement of a multi-layered cap over the contaminated area of the Site. Site preparation activities would include the construction of a vehicle decontamination pad and material stockpile and staging areas, clearing and grubbing, removal of on-Site debris, and installing erosion control measures. The multi-layered soil cap, from bottom to top, would consist of the following:

Grading: Common fill would be placed to create positive surface water run-off. Some on-site materials would be used for common fill.

Geosynthetic Drainage Layer: The drainage layer would be used to remove surface water that infiltrates through the upper layers of the cap. The drainage layer would tie into a drainage system located within an anchor trench around the perimeter of the cap.

Barrier Protection Layer: The layer would consist of a 40-mil (0.040-inch) thick flexible membrane liner (FML) manufactured from high-density polyethylene (HDPE). The HDPE liner would provide a low-permeability layer that would act as the primary liner in retarding infiltration. A common fill layer would be placed at a thickness of 20 inches to provide protection for the HDPE and drainage liners.

Vegetative Soil Layer: A vegetative soil layer would be place at a thickness of 4 inches to accommodate the root system of the vegetation selected for the cap.

After capping, the Site would be landscaped, fenced, and posted. This alternative would also include long-term groundwater monitoring and institutional controls to restrict the future land use.

Capital Costs:	**$325,198**
Annual Operation, Maintenance and Monitoring Cost:	**$6,340**
Construction Time:	**6 months**
Present Worth (for 30 years at a 7% discount factor):	**$403,877**

COMPARATIVE ANALYSIS OF POTENTIAL RESPONSE ACTIONS

This Section presents the comparative analysis of the three response action alternatives identified in the preceding Section. The detailed analysis of alternatives was developed in accordance with the EPA Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA (EPA/540-R-93057, August 1993) and the NCP. The detailed analysis consists of an assessment of the individual response actions against each of three evaluation criteria: 1) effectiveness, 2) implementability and 3) cost, as well as a comparative analysis focusing upon the relative performance of each response action against those criteria.

Effectiveness

Overall Protection of Public Health and the Environment

Alternative 1 (no action) would not be protective of human health and the environment since it does not

actively address the potential human health and ecological risks posed by the contaminated soils.

Alternative 2 (excavation and off-site treatment/disposal) would be the most protective alternative, since the risk of contact with waste by humans and ecological receptors and the potential for contaminant migration from the Site would be eliminated by permanently removing the contaminated soils.

Alternative 3 (capping) would be protective of human health and the environment. This alternative reduces the risk of incidental contact with waste by humans and ecological receptors by containing the contaminated soil. Capping would also prevent surface contaminant migration from the Site and reduce migration to the groundwater.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

There are currently no federal or state promulgated standards for contaminant levels in soils. However, EPA is utilizing New York State soil cleanup objectives as specified in the soil TAGM.

Since the contaminated soils would not be addressed under Alternative 1 (no action), this alternative would not meet the soil cleanup objectives.

Alternative 2 (excavation and off-Site treatment/disposal) would achieve the soil cleanup objectives for COCs detected at the Site.

Since Alternative 2 would involve the excavation and disposal of PCB-contaminated and potentially Resource Conservation and Recovery Act (RCRA) characteristic hazardous materials, their disposition would be governed by the requirements of Toxic Substances Control Act (TSCA) and RCRA land disposal restrictions, respectively. All excavated soils would be subjected to RCRA hazardous waste characteristic testing. Those soils that pass the RCRA characteristic testing and have PCB concentrations less than 50 mg/kg would be sent off-Site for disposal at a RCRA Subtitle D facility. Those soils that do not pass the RCRA characteristic testing would be sent off-Site for treatment/disposal at a RCRA subtitle C facility (or a TSCA-compliant facility, if applicable). Alternative 2 would be subject to State and federal regulations regarding transportation and off-site treatment/disposal of wastes.

Alternative 3 (capping) also would comply with soil cleanup objectives by requiring the containment/capping of all the soils and waste material that exceed soil cleanup objectives. This alternative also would require compliance with federal fugitive dust emission control regulations.

If excavated soils or wastes are transported off-Site under this alternative, they would be subject to New York State and federal regulations regarding transportation and off-site treatment/disposal of wastes. If the wastes are transported and disposed outside of the State, other State regulations could apply.

Long-Term Effectiveness and Permanence

Alternative 1 (no action) would involve no controls and, therefore, would not be effective in preventing exposure to contaminants on-Site or the migration of contaminants off-Site. Both Alternative 2 (excavation and off-Site treatment/disposal) and Alternative 3 (capping) would provide a high degree of long-term protection of human health and the environment in that they would both eliminate the possibility of exposure to contaminants on-Site and the potential for contaminants migrating off-Site. The vegetated soil cover under Alternative 3 would help protect the cap against erosion and the fencing, signs, and land-use restrictions would protect the integrity of the containment system. While the removal of the contaminated soils under Alternative 2 would be effective and permanent, the effectiveness and permanence of Alternative 3 would be dependent upon the effective maintenance of the multilayer cap and access controls and the proper enforcement of the land-use controls.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 1 (no action) would provide no reduction in toxicity, mobility or volume.

Under Alternative 2 (excavation and off-Site treatment/disposal), contaminants would be removed from the Site for treatment/disposal, thereby reducing their toxicity, mobility, and volume. It is not known, however, to what extent the excavated soils would require treatment prior to disposal under this alternative.

Under Alternative 3 (capping) any reduction of toxicity, mobility, or volume would not be through treatment. This Alternative would reduce the migration of and potential exposure to contaminated soils and waste materials.

Short-Term Effectiveness

Since Alternative 1 (no action) does not include any physical construction measures, it would not present any adverse impact to the community as a result of its implementation.

Alternative 2 (excavation and off-Site treatment/disposal) and Alternative 3 (capping) would involve excavating, moving, placing, and, in the case of Alternative 3, regrading waste. While all of the action alternatives present some risk to on-Site workers through dermal contact and inhalation, these exposures can be minimized by utilizing proper protective equipment and engineering controls. The vehicle traffic associated with cap construction and the off-Site transport of contaminated soils could impact the local roadway system and nearby residents through increased noise level. Alternative 2 would require the off-Site transport of a considerable amount (4,000 cubic yards) of contaminated soil. Alternative 3 would require the delivery of cap construction materials. Under all of the action alternatives, disturbance of the land during excavation and/or construction activities could affect the surface water hydrology of the Site. There is a potential for increased stormwater runoff and erosion during excavation and construction activities that would have to be properly managed. For Alternatives 2 and 3, appropriate measures would have to be taken during excavation activities to prevent transport of fugitive dust and exposure of workers and downgradient receptors to contaminants.

Alternative 1 would require no implementation time. It is estimated that Alternatives 2 and 3 would require four to six months to implement.

Implementability

Technical and Administrative Feasibility

Alternative 2 (excavation and off-Site treatment/disposal) would use proven earthmoving equipment and techniques, and established administrative procedures. Sufficient facilities are available for treatment and disposal of the excavated soils. Therefore, this alternative would be easily implemented.

Alternative 3 (capping) can be accomplished using technologies known to be reliable and can be readily implemented. Equipment, services and materials for this work are readily available. The actions under this alternative would also be administratively feasible.

State Acceptance

The State of New York has provided input on the EE/CA during its preparation and agrees with the recommended response action.

Community Acceptance

Community acceptance will be assessed following review of the public comments received on the EE/CA and the PRAD.

Cost

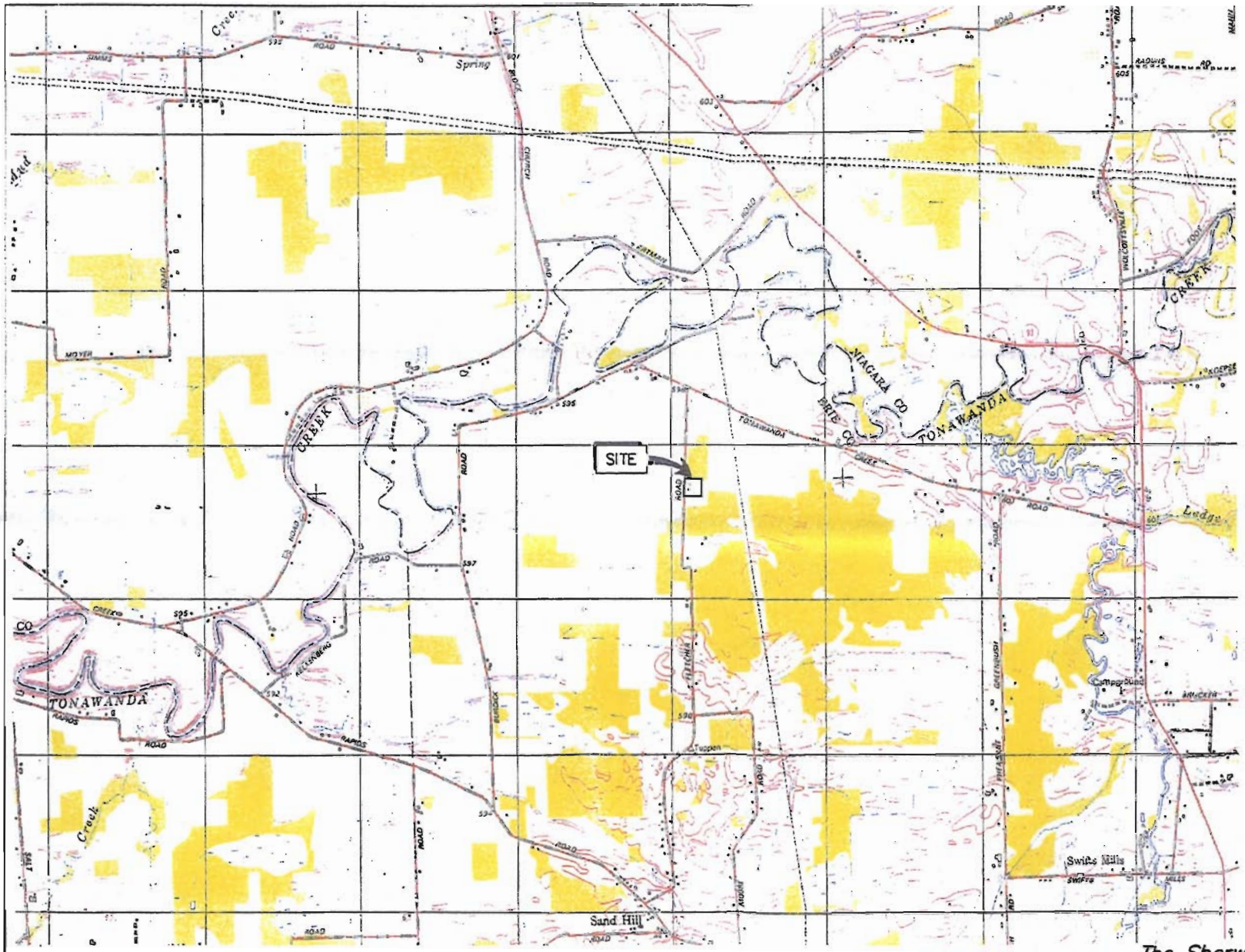
Alternative 3 has the highest present worth cost ($403,877) of the alternatives considered. Alternative 2 has a higher capital cost but is a more permanent solution with lower operation and maintenance costs.

Alternative	Capital Cost	Annual O&M Cost	Present-Worth Cost
Alternative 1	$5,000	$0	$5,000
Alternative 2	$330,570	$4,340	$348,359
Alternative 3	$325,198	$6,340	$403,877

RECOMMENDED RESPONSE ACTION

EPA has identified Alternative 2, excavation and off-Site disposal, as the action that best satisfies the evaluation criteria based on the comparative analysis. This determination is based on the proven effectiveness of the action, the ease of implementation, and the relative cost. Excavation and off-Site disposal would eliminate the risk of contact with hazardous substances and minimize further migration of contaminants. The proposed removal action would remove the source of contamination and the groundwater contamination is expected to decrease. As part of the proposed removal action, the groundwater would be monitored to verify

the effectiveness of the remedy. The proposed response action is the preferred removal action for the Site. Changes to the preferred removal action or a change from the preferred removal action to another removal action may be made if public comments or additional data indicate that such a change will result in a more appropriate action. The final decision regarding the removal action will be made after EPA has taken into consideration all public comments. The decision will be documented in an Action Memorandum. The Administrative Record will include a responsiveness summary which will address all public comments.



SOURCE:

U.S.G.S. QUADRANGLE MAP
WOLCOTTSVILLE, N.Y.
(SCALE 1:25,000)

Figure 1

SITE LOCATION
NEWSTEAD SITE
The Sherwin–Williams Company

CRA

3157 (12) FEB 06/97(W) REV.0

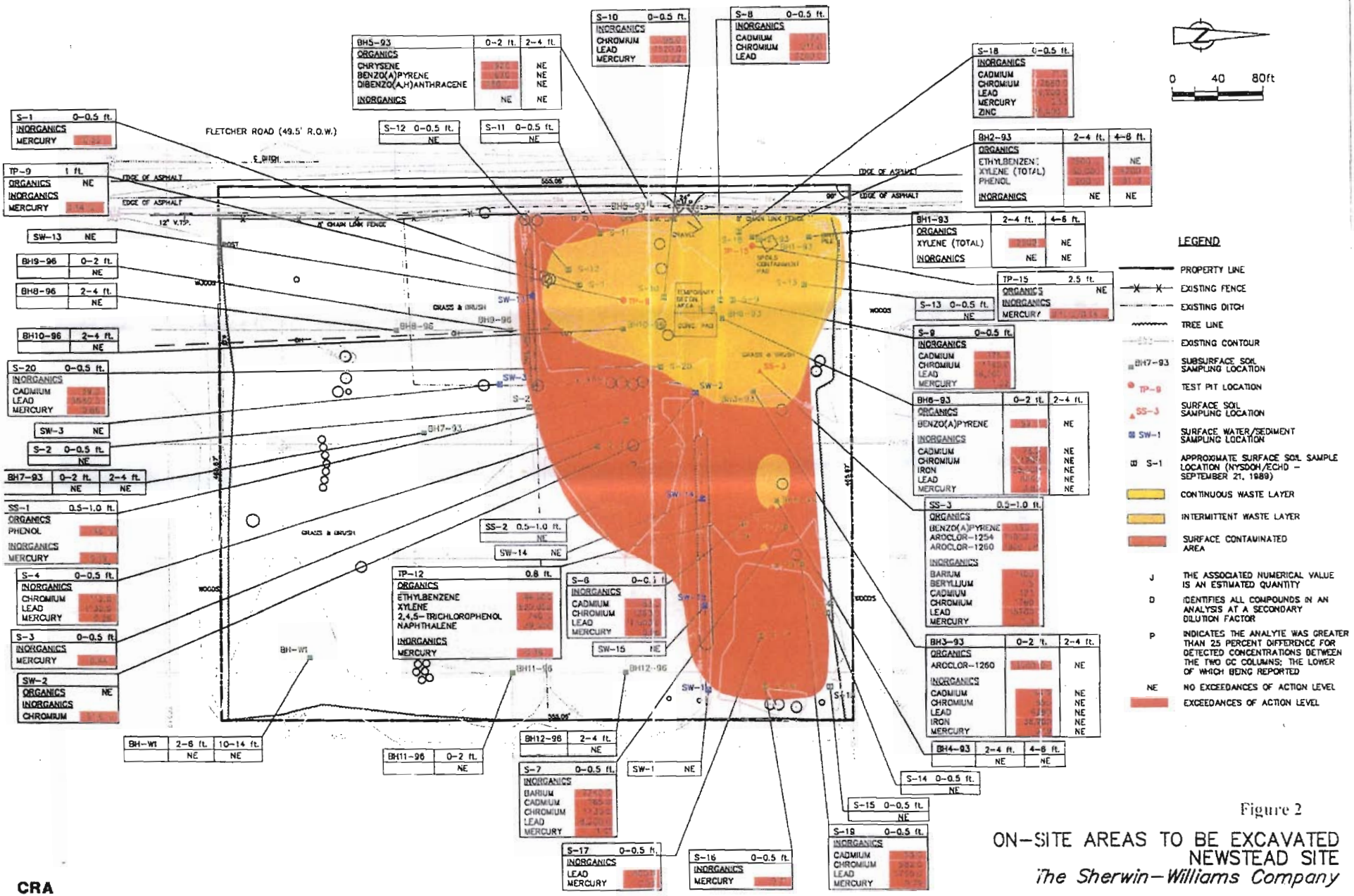


Figure 2

ON-SITE AREAS TO BE EXCAVATED
NEWSTEAD SITE
The Sherwin-Williams Company

CRA

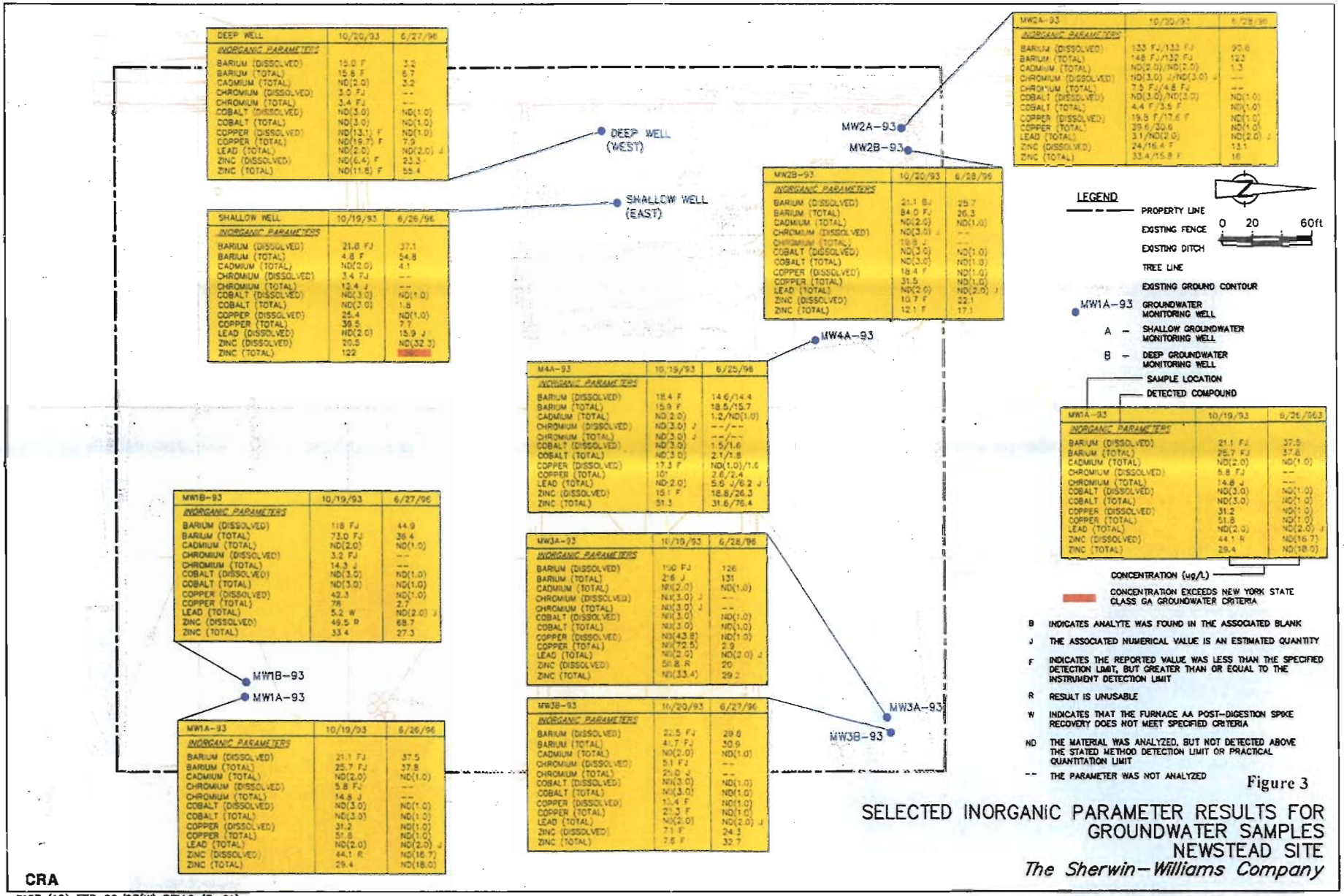


Figure 3

SELECTED INORGANIC PARAMETER RESULTS FOR GROUNDWATER SAMPLES
NEWSTEAD SITE
The Sherwin–Williams Company

CRA

3:57 (12) FEB 06/97(W) REV.0 (P-61)

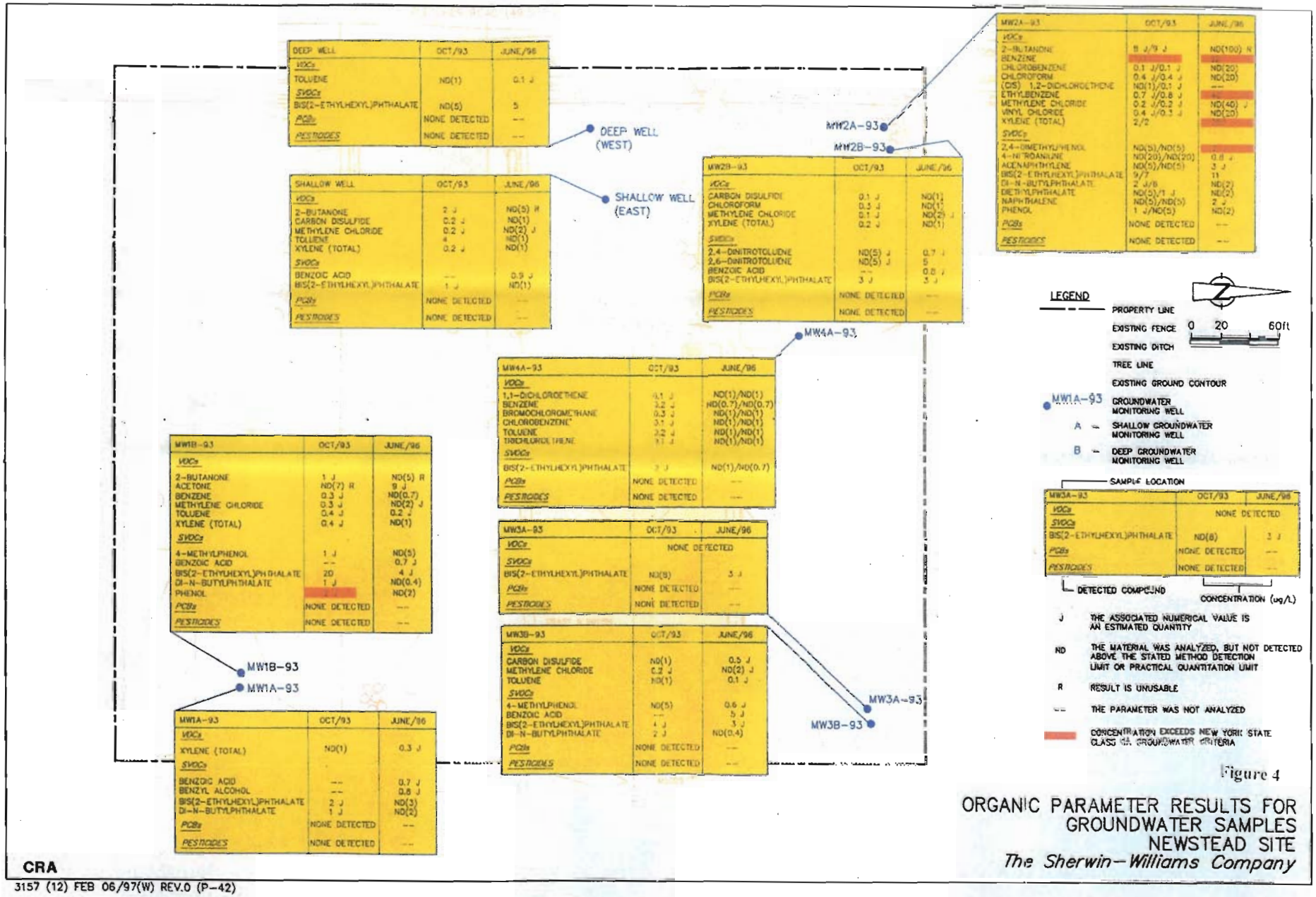


Figure 4

ORGANIC PARAMETER RESULTS FOR GROUNDWATER SAMPLES
NEWSTEAD SITE
The Sherwin-Williams Company

CRA

APPENDIX B

Engineering Evaluation/Cost Analysis
Newstead Site