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Rev. 07/10/02

SOLUTIA

Solutions for a better life.

Solutia Inc.
W.G. Krummrich Plant
500 Monsanto Avenue
Sauget, Illinois 62206-1198
Tel 618-271-5835

August 14, 2003

Mr. Ken Bardo
RCRA Division
U. S. Environmental Protection Agency, Region 5
77 West Jackson Blvd.
Chicago, IL 60604

Re: CA 725 Current human Exposures Environmental Indicator
Solutia W. G. Krummrich Plant
Sauget, Illinois

Dear Mr. Bardo:

Attached are three copies of a report containing an evaluation of the current human exposures at the Solutia W. G. Krummrich Plant in Sauget, Illinois. This report is intended to establish that such exposures are under control and that the CA 725 Environmental Indicators are satisfied.

Please review the attached report and contact us with any comments you may have.

Sincerely,
Solutia Inc.

Robert J. Hiller for Richard Miller

Robert J. Hiller
Project Coordinator

cc: Nabil Fayoumi, USEPA
Jim Moore, IEPA
Gina Search, IEPA
Sandra Bron, IEPA
Linda Tape, Husch & Eppenberger
John Belin, Booz Allen & Hamilton
Richard Williams, Solutia
Gary Vandiver, Solutia
Bruce Yare, Solutia

ENVIRONMENTAL INDICATOR REPORT

CA 725 CURRENT HUMAN EXPOSURES UNDER CONTROL

W.G. KRUMMRICH PLANT
SAUGET, IL

VOLUME I

Prepared for
W.G. Krummrich Plant
500 Monsanto Avenue
Sauget, Illinois 62206

SOLUTIA

August 2003

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Documentation of Environmental Indicator Determination in accordance with EPA Interim Final Guidance 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRA Info code (CA725)

Current Human Exposures Under Control

Introductory Note:
Information in yellow highlighting represents Solutia information that has been added to the CA-725 form. Supporting information includes 9 tables, 10 figures, and 4 attachments.

Facility Name: Solutia W.G. Krummrich Plant
Facility Address: 500 Monsanto Avenue, Sauget, IL 62206-1198
Facility EPA ID #: ILD000802702

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   __✓__ If yes - check here and continue with #2 below.

   _____ If no - re-evaluate existing data, or

   _____ If data are not available skip to #6 and enter "IN" (more information needed) status code.

The W.G. Krummrich (WGK) Plant and surrounding features are shown on the aerial photograph included as **Figure 1**. The Hazardous Waste Management Units (HWMUs) are identified in **Figure 2** and the Solid Waste Management Units (SWMUs) are identified in **Figure 3.** Possible Areas of Concern (AOCs) that were identified by USEPA are shown on **Figure 4**.

Information on the SWMUs and HWMUs is presented in the attached **Table 1.**

The SWMUs, HWMUs and possible AOCs are located on the Main Plant or on Lot F. There are no SWMUs, AOCs, or HWMUs on the River Terminal property. As such, and for the purposes of this EI, the facility is considered to be the Main Plant and Lot F. However, it is noted that the former River Terminal facilities will all be located behind the barrier wall that is being constructed at Site R (refer to Figure 1). In consequence, any potential groundwater impacts from these facilities will be controlled by the Groundwater Migration Control System. The other routes of human exposure at the River Terminal facilities are controlled by the fact that the present site grade is one or more feet higher than the grade that existed when the terminal operated. During the decommissioning, the facilities were all dismantled below grade and the ground surface was covered with gravel. Further, access to the site is controlled and the entire site is fenced, including the portion along the river bank.

The primary sources of information concerning these SWMUs, HWMUs, and sitewide groundwater are the *Description of Current Conditions* Report (DOCC) dated September 2000, and the *Status Report, Hazardous Waste Management Unit Closures*, October 29, 1998.

BACKGROUND

Definition of Environmental Indicators (for RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EIs developed to date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI is for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in the RCRA Info national database ONLY as long as they remain true (i.e., RCRA Info status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments or air **media** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria [e.g., Maximum Contaminant Levels (MCLs), the maximum permissible level of a contaminant in water delivered to any user of a public water system under the Safe Drinking Water Act]) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

Media	Yes	No	?	Rationale/Key Contaminants
Groundwater	✓			See Rationale and References section below, Tables 2 and 3.
Surface Soil (e.g., <2 ft)	✓			See Rationale and References section below, Tables 4 and 5
Subsurf. Soil (e.g., >2 ft)	✓			See Rationale and References section below, Tables 4 and 5
Air (indoors)		✓		See Rationale and References section below, Tables 6 – 9
Air (outdoors)		✓		See Rationale and References section below, Tables 6 - 9
Surface Water		NA		No surface water bodies present on site.
Sediment		NA		No sediment present on site.

_____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

__✓___If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Groundwater

The primary source of data for use in this EI is groundwater sampling events conducted in 1999 and 2000 (DOCC report, 2000). Groundwater sample locations are shown on **Figure 5**.

The attached **Tables 2 and 3** identify analytes in groundwater samples from onsite and offsite wells collected in events between 1999 and 2002 that exceeded human health-based screening criteria (e.g., Illinois *Tiered Approach to Corrective Action Objectives* (TACO) groundwater remediation objectives for Class I groundwater). The tables are organized into the three hydrostratigraphic zones that underlie the area: 1) the shallow zone that extends from the water table, at approximately El 395 ft, MSL, down to approximately El 380; 2) the intermediate zone between approximately El 380 and El 350; and 3) the deep zone that extends from approximately El 350 to bedrock (± El 300). Key analytes in one or more of these zones include VOCs, e.g. benzene, chlorobenzene, and SVOCs, e.g.,phenols, dichlorobenzenes, chloroanilines.

Soil

Surface and subsurface soil samples were collected between 1998 and 2000 as part of the RCRA closure assessments at the HWMUs (**Figure 6**). In addition, sampling was conducted in the Spring of 2003 for Phase I of the Corrective Measures Study (CMS). Samples were collected from locations in the AOCs defined by USEPA and in other areas to provide representative coverage over the site (**Figure 7**). **Tables 4** and **5** present the results of samples that exceeded screening criteria for HWMUs and CMS locations, respectively. Screening criteria were primarily TACO Tier 1 values for the ingestion and inhalation pathways for commercial/industrial properties. For PCBs, the individual Aroclor results were summed, and the total PCB value was compared to 25 mg/kg, based on guidelines for low occupancy areas contained in the Toxic Substances Control Act (TSCA) regulations. For certain other constituents (chlorobenzene, xylenes, naphthalene, pentachlorophenol and lead), Tier 2 values were developed using TACO methodology. Documentation for Tier 2 values is presented in **Attachment A**.

Indoor and Outdoor Air

Sampling was conducted in the Spring of 2003 to evaluate the potential impact associated with volatilization of vapors from groundwater into indoor and outdoor air. Sample locations are shown on **Figure 8**.

?? The majority of the enclosed buildings on the site are plant control room structures. The buildings have all been replaced over the past several years and the new structures are designed such that the floor slabs are elevated above the surrounding grade by approximately two feet. In addition, the buildings are all equipped with high volume filtered air exchange systems such that a small positive pressure is maintained within the building. Details of the foundation and HVAC systems for the various control structures are shown on the drawings included in **Attachment B**. Because of this design, it is considered highly unlikely that the indoor air quality in these buildings would be affected by intrusion of organic vapors from subsurface sources. Accordingly, none of these buildings were selected for sampling. Rather, indoor air samples were collected from four older plant buildings that do not have the high volume air exchange present in newer buildings, and that are routinely occupied by workers. Two of these buildings, the BBZ and BBG structures, also happen to be located in areas of heavily impacted groundwater, while a third building, the BK office structure, is the only one at the facility with a basement. Indoor air samples were analyzed for VOCs and SVOCs. The results, summarized in **Table 6**, indicated no concentrations above the most relevant criteria, Occupational Health and Safety Administration (OSHA) Permissible Exposure Limits (PELs). Table 6 also compares the measured indoor air concentrations to target levels defined in a recently issued USEPA draft guidance document titled "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)" (67 FR 71169). Samples from two buildings exceeded the target concentrations identified in this guidance. However, the comparison to the target indoor air concentrations is not considered to be the appropriate measure of risk evaluation in this case. The guidance document notes that "...EPA does not expect this guidance to be used in settings that are primarily occupational." It further notes that, "OSHA and EPA have agreed that OSHA generally will take the lead role in addressing occupational exposures." Consequently, the OSHA PELs are considered to be more appropriate for evaluating worker risks arising from exposure to indoor air. Moreover, the target indoor air concentrations listed in Table 2 of the guidance document are based on application of a model in which the receptors at the surface are residents in homes. Thus, the target concentrations in Table 2 are more applicable to a residential exposure than to an occupational scenario. Further, the constituents detected in the buildings were either not detected or were present at very low concentrations in nearby soil vapor samples. In fact, benzene, chlorobenzene, or isomers of dichlorobenzene (the largest components of the plumes in groundwater below

the site) were not found in significant amounts in any of the buildings. The amounts found were slightly above the detection limits and were probably from the ambient air. As such, the source of these detections was concluded to be ambient (outdoor) air or a source within the buildings themselves.

?? Soil vapor samples were collected from 15 locations distributed throughout the plant, as shown on **Figure 8**. The results are summarized in **Table 7**. The results identified five locations where results exceeded the target concentrations included in EPA's subsurface vapor intrusion guidance. These target concentrations are considered to be screening levels for the potential for intrusion of the specific compounds into overlying or immediately adjacent buildings. However, it is emphasized that the screening is only relevant as an indicator of the possible intrusion into adjacent buildings. If no buildings are in the immediate vicinity of the sample location, or if sampling in an adjacent building does not result in the detection of the screened compound, then the screening exercise is not an appropriate indicator of possible human health risk.

Of the five locations where soil vapor samples contained chemical constituents above the relevant screening level, only one location was in immediate proximity to a building. This location, SVP-6, is immediately across the street from the BK office building and the sample at this location contained tetrachloroethene (PCE) above the screening level. However, PCE was not detected in indoor air samples in the BK building, indicating that soil vapor intruding into the building is not transporting organic vapors at measurable concentrations.

In summary, therefore, the constituents detected in the soil vapor samples were either not detected in ambient air samples, or were detected at concentrations below any level of concern. In addition, they were not detected in indoor air samples above screening levels. Consequently, these detections are not judged to pose a concern to receptors at the site

Soil vapor sampling was also conducted along the benzene pipeline that traverses Lot F. The results showed no detections of benzene, and only very low concentrations of other analytes (**Table 8**).

?? Outdoor air samples were collected from four locations throughout the plant. The results, shown in **Table 9**, were all well below applicable criteria.

The results of these investigations clearly indicate that indoor and outdoor air are not "contaminated" as defined for the EI. A copy of the air sampling report is included as **Attachment C.**

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in

concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggests that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

	Residents	Workers	Day-Care	Excavation/ Construction	Trespassers	Recreation	Food
Groundwater	No	No	No	No	No	No	No
~~Air (Indoors)~~	---	---	---	---	---	---	---
Soil (surface, e.g., <2 ft)	No	No	No	No	No	No	No
~~Surface Water~~	---	---	---	---	---	---	---
~~Sediment~~	---	---	---	---	---	---	---
Soil (subsurface e.g., >2 ft)	No	No	No	No	No	No	No
~~Air (Outdoors)~~	---	---	---	---	---	---	---

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.

2. Enter "yes" or "no" for potential "completeness" under each "Contaminated" Media - Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

__✓__ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

_____ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

Currently, and for the foreseeable future, there are no complete exposure pathways for a number of receptors of concern. Specifically, the following exposure pathways and receptors can be eliminated from further consideration:

?? **Groundwater Use**: The consumptive use of groundwater in the Village of Sauget is forbidden by Ordinance.

?? **Residents**: The facility is located within a heavily industrialized and commercialized area. The closest residential areas are at least 1/2 mile from the facility boundaries and none of these residences is located downgradient of the facility.

?? **Day-Care**: The nearest day-care facilities are over 1.5 miles from the facility.

?? **Recreation**: The nearest recreational park is over 1/4 mile from the facility and is upgradient of the facility.

?? **Food**: Food crops (commercial scale) are not grown in this area.

?? **Trespassers**: Trespassing at this facility has never been a problem in the past. The site is completely fenced and there is 24 hr/day security, including continuous video surveillance. Also, there are no special land features, water bodies or wildlife that would cause the facility to be attractive to trespassers.

Thus, the only receptors and pathways that remain to be considered are worker exposure to groundwater, surface soils, and subsurface soils. Each of these is evaluated below.

?? **Worker Exposure to Groundwater:** Since the consumptive use of groundwater is prohibited by ordinance in the Village of Sauget, the only remaining potential pathways for worker exposure to groundwater are direct contact and inhalation. Neither of these presents a completed pathway because of Solutia's excavation permit process. This process requires that Solutia's Environmental, Safety and Health (ESH) department issue a written permit for any intrusive work at the

plant. As part of this process, Solutia reviews the planned scope of work considering all available subsurface information. Sampling and analyses may be conducted if available information is not sufficient to assess the potential hazards. The work is then authorized with necessary health and safety conditions and requirements. For example, the permit might require that the worker/contractor must conduct appropriate monitoring (almost always required), wear certain personal protective equipment (PPE), etc. As well, all workers on the facility are required to have appropriate health and safety training and are familiar with hazard recognition and response measures. A copy of the plant procedure is included in **Attachment D**.

A completed groundwater pathway does exist for offsite workers (i.e., downgradient of WGK) since non-Solutia owned properties exist downgradient of the plant and Lot F. The exposure mechanisms associated with this pathway are direct contact and inhalation. However, because of the depth to groundwater, these risks are considered to be minimal. Groundwater is typically 18 feet or more below the surface downgradient of the facility. This is deeper than known underground utilities in the area. In consequence, it is unlikely that intrusive construction activity, such as utility trenches, will encounter groundwater. Further, soil vapor sampling carried out in this area along the benzene pipeline route did not disclose the presence of unacceptable levels of any organic constituents in the shallow soils. Consequently, groundwater will not present unacceptable risks to the vast majority of offsite workers. In order to eliminate any small remaining risks associated with this pathway, institutional controls will be implemented to minimize the risk to workers involved in deep subsurface construction. At a minimum, these controls will include letters by certified mail notifying the property owners downgradient of the plant about the risks associated with deep excavations on their properties and the potential need for personnel protection for workers involved in such excavation activities.

?? **Worker Exposure to Soils:** Exposure to impacted soils at the Main Plant is not a complete pathway for site workers. For surface soils (<2 ft), ground cover materials prevent the potential for incidental contact and excavation is controlled by the excavation permit policy. **Figure 9** shows the various types of surface cover on the facility, excluding Lot F (which is grass covered). A significant portion of the plant is covered by relatively impermeable materials (e.g., asphalt, concrete, structures, etc). The balance of the area is covered by gravel at the surface. A survey was conducted to assess the thickness of gravel present across the site. A report of this work is included in **Attachment E** and the results are shown in **Figure 10**. These results indicate a minimum thickness of 12 inches in most areas, with over 24 inches in places. It is considered that 12 inches of cover material is sufficient to preclude incidental exposure to underlying materials under current site conditions and uses. Such a thickness is sufficient to prevent accidental exposure of impacted soils as a result of routine activities such as rutting caused by heavy vehicles. The TSCA regulations provide some relevant guidance in that a soil cap 10 inches thick is adequate to

prevent exposure to PCB wastes (40 CFR §761.61(a)(7)). Solutia is currently working to increase gravel thickness in certain areas based on the survey results, such that there will be a minimum of 12 inches of gravel in all gravel covered areas.

Surface soils are also not of concern in those areas with grass cover (Lot F), and SWMU 19 in the northwest corner of the plant site. Shallow soil sampling in these areas did not detect any chemical constituents of concern. Four sample in lot F contained PCBs at concentrations between 110 and 2,500 ug/kg. While these are above the TACO Tier 1 screening value, they are all well below the TSCA cleanup level of 25,000 ug/kg for unrestricted low-occupancy (industrial) use. One other surface sample in Lot F contained benzo(a)pyrene at a concentration of 1 mg/kg, while another contained barium and nickel at concentrations of 15,000 and 38,000 mg/kg respectively. While these concentrations exceed their respective TACO Tier 1 screening levels for industrial use, the fact is that employees are virtually never present in Lot f since there are no ongoing operations in this portion of the property. Consequently, the actual exposure frequency is well below that assumed for the typical industrial exposure scenario. Given that the concentration of benzo(a)pyrene and barium are only marginally in excess of the screening standards (1,000 vs. 800 ug/kg and 15,000 vs. 14,000 mg/kg, respectively), the shallow soils at these sampling locations do not pose unacceptable risks from these constituents. The concentration of nickel in the one sample is significantly in excess of its TACO 1 screening level, however (38,000 vs. 4,100 mg/kg). The risks associated with this location are being evaluated and, if necessary, the soils at this location will be excavated to reduce the risk to an acceptable level.

Risks posed by exposure to subsurface soils (>2 feet deep) do not pose unacceptable risks to human health because of the excavation permit program. As is the case with the on-site groundwater exposure pathway, the need for excavation permits results in the requirement for worker protection and monitoring before any excavation is authorized.

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

_____ If no (exposures cannot be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):_____
_____
_____
_____
_____

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable") - continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s

6. Check the appropriate RCRA Info status codes for the Current Human Exposures

Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

_✓___ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Solutia W.G. Krummrich Plant , EPA ID #_LD000802702, located at 500 Monsanto Avenue, Sauget, IL 62206 under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

____ NO - "Current Human Exposures" are NOT "Under Control."

____ IN - More information is needed to make a determination.

Completed by: (Signature)_____ Date _____
(Print)
(Title)

Supervisor: (Signature)_____ Date _____
(Print)
(Title)
(EPA Region or State)

Locations where References may be found:

Description of Current Conditions Report, Solutia W.G. Krummrich Plant, Sauget, Illinois, Draft September 1, 2000

Contact telephone and e-mail numbers

(Name)_____
(Phone #)_____
(E-mail)_____

Final Note: The Human Exposures EI is a Qualitative Screening of exposures and the determinations within this document should not be used as the sole basis for restricting the scope of more detailed (e.g., site-specific) assessments of risk.

ref: ***ca725epa.doc***

Tables

TABLE 1
HWMU and SWMU SUMMARY

SWMU NO.	HWMU OR SWMU NAME	TYPE OF UNIT	SIZE (EST.)	DATES OF OPERATION	DESCRIPTION OF WASTES	WASTE VOLUME (EST.)
	Benzyl Chloride Tank	Fiberglass reinforced plastic tank	14,000 gallon	Unknown - 1982	Benzal chloride, benzyl chloride and high boiling hydrocarbon compounds	Unknown
	Steamer Overhead Tank	Fiberglass reinforced plastic tank	15,000 gallon	Unknown - 1982	Butyl alcohol, benzyl chloride, and triethylamine	Unknown
	Old PCB Warehouse	Curbed concrete pad	Unknown	1979 - 1982	PCB-containing wastes	Unknown
	BBU Warehouse	Enclosed Storage Pad	10,000 square feet	1980s – present Currently < 90-day Storage Unit	Temporary storage of hazardous waste drums	Unknown
	Ketone Residue Tank	Storage steel tank	12,000 gallon	Currently < 90-day Storage Unit	Ketone residue	Unknown
	Spent Carbon Tank	Storage tank	7,900 gallon	1991 - present	Spent carbon, water, hydrochloric acid and trace amounts of benzene and monochlorobenzene	Unknown
1A	Former Chlorine Department	5 tanks and a storage pad	500,000 gallons	1978 - 1988	Liquid phenolics, mercury, sulfides	Unknown
7	Dept. 224/233 Drum Storage Area	Storage Pad	2,500 square feet	Unknown	Unknown	Unknown
9	Dept. 245 Drum Storage Area	Storage Pad	3,600 square feet	Late 1950s - present	Phosphorous pentasulfide	Unknown
19	Facility Landfill (NW corner of Monsanto Ave. & Route 3)	Landfill	5 acres	Unknown	Unknown	Unknown
20	Facility Landfill (central part of plant)	Landfill	1 acre	Unknown	Unknown	Unknown
24	Facility Landfill (Dept. 221 Toxic Dump)	Landfill	0.6 acres	1930s - 1942	Nitrochlorobenzene and nitrobiphenyl	Unknown

TABLE 1
HWMU and SWMU SUMMARY

SWMU NO.	HWMU OR SWMU NAME	TYPE OF UNIT	SIZE (EST.)	DATES OF OPERATION	DESCRIPTION OF WASTES	WASTE VOLUME (EST.)
25	Facility Landfill (New Dump)	Landfill	7,500 square feet	1942 - 1951	Unknown	Unknown
26	Facility Landfill (Phenol Residue Dump)	Landfill	7,500 square feet	1940s - 1951	Phenolics	Unknown
27	Route 3 Drum Site	Landfill	1,250 square feet	mid-1950s	Nitrochlorobenzenes and nitrophenols	830 cubic yards
28	Landfill or UST near BBU Warehouse	Landfill or former UST	900 square feet	Unknown – USTs removed in 1980s	Chlorophenols	Unknown
29	Surface Impoundment (Old Discharge Pond)	Surface impoundment	15,000 square feet	1942 – 1951	Unknown	Unknown
30	Surface Impoundment (Pond)	Surface impoundment	0.5 acres	1942 - 1951	Sodium sulfate	Unknown
31	Surface Impoundment (Old Pond)	Surface impoundment	0.6 acres	1930s - 1942	Unknown	Unknown
32	Incinerator	Incinerator	250 square feet	1971 - 1977	Halogenated aromatics, PCBs, plasticizers, and polar solvents	151,000 tons
37	High Boiler Purge Tank	Tank	6,000 gallons	1980s - present	Chlorobenzene	Unknown
44	Dept. 243 Container Storage Area	Storage Pad	2,500 square feet	Unknown – dismantled in early 1990s	Phosphorous trichloride wastes	Unknown
45	Facility Landfill (Lot D)	Landfill	15,000 square feet	Unknown	Unknown	Unknown
46	Facility Landfill (North Lot F)	Landfill	0.9 acres	Unknown	Unknown	Unknown
50	Sulfate Pile	Waste Pile	5,000 square feet	1930s - 1942	Sulfate wastes	Unknown
53	South Lot Drum Site	Drum disposal landfill	10,000 square feet	Unknown	Unknown	Unknown

TABLE 1
HWMU and SWMU SUMMARY

SWMU NO.	HWMU OR SWMU NAME	TYPE OF UNIT	SIZE (EST.)	DATES OF OPERATION	DESCRIPTION OF WASTES	WASTE VOLUME (EST.)
55	Truck and Trailer Unloading Area	Loading dock	1,500 square feet	Unknown but still active	Unknown	Unknown
57	BBZ Warehouse	Waste discharge	100 square feet	One-time release circa 1992	Santoflex wastes	Unknown
59	Benzene Storage Tank	Tank	2.3 million gallons	Unknown - 1995	Benzene	Unknown
61	Suspected Sanitary Landfill	Landfill	10,000 square feet	Unknown	Unknown	Unknown
64	Tank Car Wash Area	Railroad tank car wash area	2,000 square feet	Unknown - present	Various	Unknown
66	Facility Sewer System	Process sewers	Several miles total	Various/ start of operation	Various	Unknown
68	Santoflex Wastewater/Oil Pretreatment Separator	Sump	2,000 gallons	Unknown - present	Methyl ethyl ketone and methyl isobutyl ketone	Unknown
70	Dead Creek	Former creek – possible landfill	2,300 linear feet across the plant	Unknown	Unknown	Unknown
71	Truck and Railcar Loading & Unloading Areas	Loading & unloading areas (multiple)	Approx. 60 areas at 1,000 square feet each	Unknown - present	Various	Unknown

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
BBU-B52	Shallow	01/00	8260	Chlorobenzene	8700	ug/l	100	ug/l	TACO Groundwater Objective
BBU-B52	Shallow	01/00	8260	Benzene	220,000	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B52	Shallow	01/01/2000	8270	Phenol	170	ug/l	100	ug/l	TACO Groundwater Objective
BBU-B52	Shallow	01/01/2000	8270	Pentachlorophenol	380	ug/l	1	ug/l	TACO Groundwater Objective
BBU-B52	Shallow	01/01/2000	8270	4-Chloroaniline	80	ug/l	28	ug/l	TACO Groundwater Objective
BBU-B52	Shallow	01/01/2000	8270	2,4,6-Trichlorophenol	91	ug/l	10	ug/l	TACO Groundwater Objective
BBU-B52	Shallow	01/01/2000	8270	1,3-Dichlorobenzene	17	ug/l	6.3	ug/l	IEPA Correspondance
BBU-B53	Shallow	01/00	8260	Benzene	130	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B54	Shallow	01/00	8260	Benzene	32	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B54	Shallow	01/01/2000	8270	Pentachlorophenol	52	ug/l	1	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/00	8260	Benzene	3800	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/01/2000	8270	Pentachlorophenol	2500	ug/l	1	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/01/2000	8270	N-Nitrosodiphenylamine	7.7	ug/l	3.2	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/01/2000	8270	Nitrobenzene	11	ug/l	3.5	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/01/2000	8270	4-Chloroaniline	240	ug/l	28	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/01/2000	8270	2,4-Dichlorophenol	22	ug/l	21	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/01/2000	8270	2,4,6-Trichlorophenol	48	ug/l	10	ug/l	TACO Groundwater Objective
BBU-B55	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	350	ug/l	75	ug/l	TACO Groundwater Objective
BBU-B56	Shallow	01/00	8260	Benzene	13000	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B56	Shallow	01/01/2000	8270	Phenol	150	ug/l	100	ug/l	TACO Groundwater Objective
BBU-B56	Shallow	01/01/2000	8270	Pentachlorophenol	1200	ug/l	1	ug/l	TACO Groundwater Objective
BBU-B56	Shallow	01/01/2000	8270	4-Chloroaniline	530	ug/l	28	ug/l	TACO Groundwater Objective
BBU-B56	Shallow	01/01/2000	8270	2,4-Dichlorophenol	26	ug/l	21	ug/l	TACO Groundwater Objective
BBU-B56	Shallow	01/01/2000	8270	2,4,6-Trichlorophenol	74	ug/l	10	ug/l	TACO Groundwater Objective
BBU-B56	Shallow	01/01/2000	8270	1,3-Dichlorobenzene	13	ug/l	6.3	ug/l	IEPA Correspondance
BBU-B56	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	160	ug/l	75	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/00	8260	Chlorobenzene	1800	ug/l	100	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/00	8260	Benzene	86000	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/01/2000	8270	Phenol	350	ug/l	100	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/01/2000	8270	Pentachlorophenol	44	ug/l	1	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/01/2000	8270	4-Chloroaniline	870	ug/l	28	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/01/2000	8270	2,4-Dichlorophenol	34	ug/l	21	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	3100	ug/l	75	ug/l	TACO Groundwater Objective
BBU-B57	Shallow	01/01/2000	8270	1,3-Dichlorobenzene	36	ug/l	6.3	ug/l	IEPA Correspondance

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
BBU-B57	Shallow	01/01/2000	8270	1,2-Dichlorobenzene	1600	ug/l	600	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/00	8260	Benzene	1100000	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	Phenol	350	ug/l	100	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	Pentachlorophenol	1400	ug/l	1	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	Chrysene	8.2	ug/l	1.5	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	Benzo(a)anthracene	5.6	ug/l	0.13	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	4-Chloroaniline	860	ug/l	28	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	2,4-Dichlorophenol	50	ug/l	21	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	2,4,6-Trichlorophenol	80	ug/l	10	ug/l	TACO Groundwater Objective
BBU-B58	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	250	ug/l	75	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/00	8260	Benzene	120000	ug/l	5	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/01/2000	8270	Phenol	370	ug/l	100	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/01/2000	8270	Pentachlorophenol	240	ug/l	1	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/01/2000	8270	4-Chloroaniline	370	ug/l	28	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/01/2000	8270	2,4-Dichlorophenol	40	ug/l	21	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/01/2000	8270	2,4,6-Trichlorophenol	26	ug/l	10	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	320	ug/l	75	ug/l	TACO Groundwater Objective
BBU-B59	Shallow	01/01/2000	8270	1,3-Dichlorobenzene	15	ug/l	6.3	ug/l	IEPA Correspondance
BBU-B59	Shallow	01/01/2000	8270	1,2,4-Trichlorbenzene	230	ug/l	70	ug/l	TACO Groundwater Objective
CA-1	Shallow	02/02/00	8260	Chlorobenzene	2400	ug/l	100	ug/l	TACO Groundwater Objective
CA-1	Shallow	02/02/00	8260	Benzene	870	ug/l	5	ug/l	TACO Groundwater Objective
CA-1	Shallow	02/02/2000	8270	2-Chloroaniline	6100	ug/l	NA	ug/l	None Available
CA-2	Shallow	02/02/00	8260	Chlorobenzene	610	ug/l	100	ug/l	TACO Groundwater Objective
CA-2	Shallow	02/02/00	8260	Benzene	2500	ug/l	5	ug/l	TACO Groundwater Objective
CA-2	Shallow	02/02/2000	8270	1,2-Dichlorobenzene	1000	ug/l	600	ug/l	TACO Groundwater Objective
CA-3	Shallow	02/02/00	8260	Chlorobenzene	550	ug/l	100	ug/l	TACO Groundwater Objective
CA-3	Shallow	02/02/00	8260	Benzene	120	ug/l	5	ug/l	TACO Groundwater Objective
CA-3	Shallow	02/02/2000	8270	2-Nitrophenol	1800	ug/l	600	ug/l	TACO Groundwater Objective
CA-3	Shallow	02/02/2000	8270	1,2-Dichlorobenzene	2300	ug/l	600	ug/l	TACO Groundwater Objective
CA-3 DUP	Shallow	02/02/00	8260	Chlorobenzene	430	ug/l	100	ug/l	TACO Groundwater Objective
CA-3 DUP	Shallow	02/02/00	8260	Benzene	91	ug/l	5	ug/l	TACO Groundwater Objective
CA-3 DUP	Shallow	02/02/2000	8270	2-Nitrophenol	1300	ug/l	NA	ug/l	None Available
CA-3 DUP	Shallow	02/02/2000	8270	2-Chloroaniline	2900	ug/l	NA	ug/l	None Available
CA-3 DUP	Shallow	02/02/2000	8270	1,2-Dichlorobenzene	1900	ug/l	600	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
CA-4	Shallow	02/02/00	8260	Chlorobenzene	2100	ug/l	100	ug/l	TACO Groundwater Objective
CA-4	Shallow	02/02/00	8260	Benzene	120	ug/l	5	ug/l	TACO Groundwater Objective
CA-4	Shallow	02/02/2000	8270	2-Chloroaniline	230	ug/l	NA	ug/l	None Available
DW-34	Shallow	01/26/00	8260	Benzene	840000	ug/l	5	ug/l	TACO Groundwater Objective
DW-34	Shallow	01/26/2000	8270	Phenol	910	ug/l	100	ug/l	TACO Groundwater Objective
G101	Shallow	05/10/1999	8270	2-Nitrophenol	17	ug/l	NA	ug/l	None Available
G102	Shallow	05/10/1999	8260	Benzene	420	ug/l	5	ug/l	TACO Groundwater Objective
G102	Shallow	05/10/1999	8260	Chlorobenzene	1600	ug/l	100	ug/l	TACO Groundwater Objective
G102	Shallow	05/10/1999	8260	Chloroform	19	ug/l	0.2	ug/l	TACO Groundwater Objective
G102	Shallow	05/10/1999	8270	2-Chlorophenol	280	ug/l	35	ug/l	TACO Groundwater Objective
G102	Shallow	05/10/1999	8270	1,2-Dichlorobenzene	11000	ug/l	600	ug/l	TACO Groundwater Objective
G102	Shallow	05/10/1999	8270	1,3-Dichlorobenzene	10	ug/l	6.3	ug/l	IEPA Correspondance
G102	Shallow	05/10/1999	8270	2-Nitroaniline	110	ug/l	NA	ug/l	None Available
G102	Shallow	05/10/1999	8270	2-Nitrophenol	23000	ug/l	NA	ug/l	None Available
G102	Shallow	05/10/1999	8270	4-Nitrophenol	510	ug/l	NA	ug/l	None Available
G102	Shallow	05/10/1999	8270	Nitrobenzene	43	ug/l	3.5	ug/l	TACO Groundwater Objective
G102	Shallow	05/10/1999	8270	Phenol	270	ug/l	100	ug/l	TACO Groundwater Objective
G102	Shallow	05/10/1999	8270	1,2,4-Trichlorobenzene	260	ug/l	70	ug/l	TACO Groundwater Objective
G103	Shallow	05/10/1999	8270	Pentachlorophenol	12	ug/l	1	ug/l	TACO Groundwater Objective
G103	Shallow	05/10/1999	8270	1,4-Dichlorobenzene	180	ug/l	75	ug/l	TACO Groundwater Objective
G103	Shallow	05/10/1999	8270	1,3-Dichlorobenzene	12	ug/l	6.3	ug/l	IEPA Correspondance
G104	Shallow	05/11/1999	8260	Methylene chloride	64	ug/l	5	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8260	Chlorobenzene	2500	ug/l	100	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	Nitrobenzene	24	ug/l	3.5	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	4-Chloroaniline	86	ug/l	28	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	2-Chlorophenol	59	ug/l	10	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	2,4-Dichlorophenol	270	ug/l	21	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	4-Nitrophenol	16	ug/l	NA	ug/l	None Available
G104	Shallow	05/11/1999	8270	2,4,6-Trichlorophenol	200	ug/l	10	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	1,4-Dichlorobenzene	1600	ug/l	75	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	1,2-Dichlorobenzene	3300	ug/l	600	ug/l	TACO Groundwater Objective
G104	Shallow	05/11/1999	8270	1,3-Dichlorobenzene	150	ug/l	6.3	ug/l	IEPA Correspondance
G104	Shallow	05/11/1999	8270	1,2,4-Trichlorobenzene	1400	ug/l	70	ug/l	TACO Groundwater Objective
G106	Shallow	05/11/1999	8260	Methylene chloride	71	ug/l	5	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
G106	Shallow	05/11/1999	8260	Chlorobenzene	2300	ug/l	100	ug/l	TACO Groundwater Objective
G106	Shallow	05/11/1999	8270	Nitrobenzene	22	ug/l	3.5	ug/l	TACO Groundwater Objective
G107	Shallow	05/12/1999	8260	Methylene chloride	30	ug/l	5	ug/l	TACO Groundwater Objective
G108	Shallow	05/11/1999	8260	Benzene	16	ug/l	5	ug/l	TACO Groundwater Objective
G108	Shallow	05/11/2001	8270	4-Chloroaniline	150	ug/l	28	ug/l	TACO Groundwater Objective
G109	Shallow	05/12/1999	8260	Methylene chloride	160	ug/l	5	ug/l	TACO Groundwater Objective
G109	Shallow	05/12/1999	8260	Chlorobenzene	590	ug/l	100	ug/l	TACO Groundwater Objective
G109	Shallow	05/12/1999	8260	Benzene	6	ug/l	5	ug/l	TACO Groundwater Objective
G109	Shallow	05/12/1999	8270	Pentachlorophenol	11000	ug/l	1	ug/l	TACO Groundwater Objective
G109	Shallow	05/12/1999	8270	4-Chloroaniline	250	ug/l	28	ug/l	TACO Groundwater Objective
G109	Shallow	05/12/1999	8270	2,4-Dichlorophenol	190	ug/l	21	ug/l	TACO Groundwater Objective
G109	Shallow	05/12/1999	8270	2,4,6-Trichlorophenol	2700	ug/l	10	ug/l	TACO Groundwater Objective
G110	Shallow	05/13/1999	8260	Chlorobenzene	400	ug/l	100	ug/l	TACO Groundwater Objective
G110	Shallow	05/13/1999	8260	Benzene	26000	ug/l	5	ug/l	TACO Groundwater Objective
G110	Shallow	05/13/1999	8270	Phenol	200	ug/l	100	ug/l	TACO Groundwater Objective
G110	Shallow	05/13/1999	8270	Pentachlorophenol	15	ug/l	1	ug/l	TACO Groundwater Objective
G110	Shallow	05/13/1999	8270	1,4-Dichlorobenzene	260	ug/l	75	ug/l	TACO Groundwater Objective
G111	Shallow	05/12/1999	8260	Methylene chloride	32	ug/l	5	ug/l	TACO Groundwater Objective
G112	Shallow	05/13/1999	8260	Benzene	14	ug/l	5	ug/l	TACO Groundwater Objective
G113	Shallow	05/13/1999	8260	Vinyl Chloride	3	ug/l	2	ug/l	TACO Groundwater Objective
G113	Shallow	05/13/1999	8270	Pentachlorophenol	2	ug/l	1	ug/l	TACO Groundwater Objective
G114	Shallow	05/12/1999	8260	Chlorobenzene	110000	ug/l	100	ug/l	TACO Groundwater Objective
G114	Shallow	05/12/1999	8260	Benzene	2800	ug/l	5	ug/l	TACO Groundwater Objective
G114	Shallow	05/12/1999	8270	Pentachlorophenol	5	ug/l	1	ug/l	TACO Groundwater Objective
G114	Shallow	05/12/1999	8270	1,4-Dichlorobenzene	280	ug/l	75	ug/l	TACO Groundwater Objective
G115	Shallow	05/12/1999	8270	Pentachlorophenol	2	ug/l	1	ug/l	TACO Groundwater Objective
G116	Shallow	05/11/1999	8260	Methylene chloride	680	ug/l	5	ug/l	TACO Groundwater Objective
G116	Shallow	05/11/1999	8260	Chlorobenzene	1800	ug/l	100	ug/l	TACO Groundwater Objective
G116	Shallow	05/11/1999	8270	Nitrobenzene	31	ug/l	3.5	ug/l	TACO Groundwater Objective
GM-2	Shallow	02/03/00	8260	Benzene	26	ug/l	5	ug/l	TACO Groundwater Objective
GM-4AR	Shallow	01/26/00	8260	Chlorobenzene	200	ug/l	100	ug/l	TACO Groundwater Objective
GM-6A	Shallow	01/26/00	8260	Chlorobenzene	56000	ug/l	100	ug/l	TACO Groundwater Objective
GM-6A	Shallow	01/26/2000	8270	bis(2-Ethylhexyl)phthalate	19	ug/l	6	ug/l	TACO Groundwater Objective
GM-6A	Shallow	01/26/2000	8270	4-Chlorophenol	96	ug/l	NA	ug/l	None Available

TABLE 2
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ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
GM-6A	Shallow	01/26/2000	8270	2-Chlorophenol	57	ug/l	35	ug/l	TACO Groundwater Objective
GM-13	Shallow	02/01/00	8260	Xylenes, Total	150000	ug/l	10,000	ug/l	TACO Groundwater Objective
GM-13	Shallow	02/01/00	8260	Ethylbenzene	29000	ug/l	700	ug/l	TACO Groundwater Objective
GM-13	Shallow	02/01/2000	8270	1,4-Dichlorobenzene	17000000	ug/l	75	ug/l	TACO Groundwater Objective
GM-13	Shallow	02/01/2000	8270	1,2-Dichlorobenzene	23000000	ug/l	600	ug/l	TACO Groundwater Objective
GM-14	Shallow	02/03/00	8260	Chlorobenzene	350000	ug/l	100	ug/l	TACO Groundwater Objective
GM-14	Shallow	02/03/2000	8270	Pentachlorophenol	18000	ug/l	1	ug/l	TACO Groundwater Objective
GM-14	Shallow	02/03/2000	8270	4-Chloroaniline	21000	ug/l	28	ug/l	TACO Groundwater Objective
GM-14	Shallow	02/03/2000	8270	2-Chloroaniline	1900	ug/l	NA	ug/l	None Available
GM-14	Shallow	02/03/2000	8270	1,4-Dichlorobenzene	2700	ug/l	75	ug/l	TACO Groundwater Objective
GM-14	Shallow	02/03/2000	8270	1,2-Dichlorobenzene	11000	ug/l	600	ug/l	TACO Groundwater Objective
GM-15	Shallow	02/02/00	8260	Chloroform	6.4	ug/l	0.2	ug/l	TACO Groundwater Objective
GM-15	Shallow	02/02/00	8260	Chlorobenzene	130	ug/l	100	ug/l	TACO Groundwater Objective
GM-15	Shallow	02/02/00	8260	Benzene	34	ug/l	5	ug/l	TACO Groundwater Objective
GM-15	Shallow	02/02/2000	8270	2-Chloroaniline	700	ug/l	NA	ug/l	None Available
GM-15	Shallow	02/02/2000	8270	2-Nitroaniline	1100	ug/l	6.3	ug/l	IEPA Correspondance
GM-17A	Shallow	01/31/00	8260	Chlorobenzene	230000	ug/l	100	ug/l	TACO Groundwater Objective
GM-17A	Shallow	01/31/00	8260	Benzene	540000	ug/l	5	ug/l	TACO Groundwater Objective
GM-17A	Shallow	01/31/2000	8270	Phenol	160	ug/l	100	ug/l	TACO Groundwater Objective
GM-17A	Shallow	01/31/2000	8270	bis(2-Ethylhexyl)phthalate	22	ug/l	6	ug/l	TACO Groundwater Objective
GM-17A	Shallow	01/31/2000	8270	4-Chlorophenol	31	ug/l	NA	ug/l	None Available
GM-18A	Shallow	01/28/00	8260	Chlorobenzene	130	ug/l	100	ug/l	TACO Groundwater Objective
GM-18A	Shallow	01/28/00	8260	Benzene	660	ug/l	5	ug/l	TACO Groundwater Objective
GM-18A	Shallow	01/28/2000	8270	bis(2-Ethylhexyl)phthalate	20	ug/l	6	ug/l	TACO Groundwater Objective
GM-29	Shallow	02/03/00	8260	Benzene	260	ug/l	5	ug/l	TACO Groundwater Objective
GM-31A	Shallow	01/28/00	8260	Benzene	14	ug/l	5	ug/l	TACO Groundwater Objective
GM-31A	Shallow	01/28/2000	8270	Pentachlorophenol	52	ug/l	1	ug/l	TACO Groundwater Objective
GM-31A	Shallow	01/28/2000	8270	Nitrobenzene	43	ug/l	3.5	ug/l	TACO Groundwater Objective
GM-31A	Shallow	01/28/2000	8270	bis(2-Ethylhexyl)phthalate	120	ug/l	6	ug/l	TACO Groundwater Objective
GM-31A	Shallow	01/28/2000	8270	2-Nitrobiphenyl	210	ug/l	NA	ug/l	None Available
GM-31A	Shallow	01/28/2000	8270	2,4,6-Trichlorophenol	320	ug/l	10	ug/l	TACO Groundwater Objective
GM-32	Shallow	02/02/00	8260	Chlorobenzene	26000	ug/l	100	ug/l	TACO Groundwater Objective
GM-32	Shallow	02/02/00	8260	Benzene	300000	ug/l	5	ug/l	TACO Groundwater Objective
GM-32	Shallow	02/02/2000	8270	Phenol	790	ug/l	100	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
GM-32	Shallow	02/02/2000	8270	4-Chlorophenol	120	ug/l	NA	ug/l	None Available
GM-32	Shallow	02/02/2000	8270	2-Chlorophenol	79	ug/l	35	ug/l	TACO Groundwater Objective
GM-33	Shallow	02/01/00	8260	Benzene	1600000	ug/l	5	ug/l	TACO Groundwater Objective
GM-33	Shallow	02/01/2000	8270	Phenol	240	ug/l	100	ug/l	TACO Groundwater Objective
GM-33	Shallow	02/01/2000	8270	4-Chlorophenol	12	ug/l	NA	ug/l	None Available
GM-33	Shallow	02/01/2000	8270	4-Chloroaniline	63	ug/l	28	ug/l	TACO Groundwater Objective
GM-33	Shallow	02/01/2000	8270	2-Chloroaniline	33	ug/l	NA	ug/l	None Available
GM-34	Shallow	02/01/00	8260	Benzene	1200000	ug/l	5	ug/l	TACO Groundwater Objective
GM-34	Shallow	02/01/2000	8270	Phenol	1800	ug/l	100	ug/l	TACO Groundwater Objective
GM-35	Shallow	02/01/00	8260	Benzene	5500	ug/l	5	ug/l	TACO Groundwater Objective
GM-35	Shallow	02/01/2000	8270	Phenol	260	ug/l	100	ug/l	TACO Groundwater Objective
GM-35	Shallow	02/01/2000	8270	4-Chloroaniline	320	ug/l	28	ug/l	TACO Groundwater Objective
GM-36	Shallow	02/01/00	8260	Benzene	270000	ug/l	5	ug/l	TACO Groundwater Objective
GM-36	Shallow	02/01/2000	8270	Phenol	290	ug/l	100	ug/l	TACO Groundwater Objective
GM-38	Shallow	01/25/00	8260	Chlorobenzene	1800	ug/l	100	ug/l	TACO Groundwater Objective
GM-38	Shallow	01/25/00	8260	Benzene	2200	ug/l	5	ug/l	TACO Groundwater Objective
GM-54A	Shallow	02/01/00	8260	Benzene	130	ug/l	5	ug/l	TACO Groundwater Objective
GM-59A	Shallow	01/31/00	8260	Benzene	5.7	ug/l	5	ug/l	TACO Groundwater Objective
GM-59A	Shallow	01/31/2000	8270	bis(2-Ethylhexyl)phthalate	26	ug/l	6	ug/l	TACO Groundwater Objective
GP-1A	Shallow	01/25/00	8260	Chlorobenzene	140	ug/l	100	ug/l	TACO Groundwater Objective
GP-2A	Shallow	01/25/00	8260	Chlorobenzene	1700	ug/l	100	ug/l	TACO Groundwater Objective
GP-2A	Shallow	01/25/00	8260	Benzene	4100	ug/l	5	ug/l	TACO Groundwater Objective
GP-2A	Shallow	01/25/00	8260	1,1,1-Trichloroethane	560	ug/l	200	ug/l	TACO Groundwater Objective
GP-4A	Shallow	01/26/00	8260	Chlorobenzene	220000	ug/l	100	ug/l	TACO Groundwater Objective
GP-4A	Shallow	01/26/00	8260	Benzene	760000	ug/l	5	ug/l	TACO Groundwater Objective
GP-4A	Shallow	01/26/2000	8270	Phenol	240	ug/l	100	ug/l	TACO Groundwater Objective
GP-4A	Shallow	01/26/2000	8270	4-Chlorophenol	43	ug/l	NA	ug/l	None Available
GP-5A	Shallow	01/26/00	8260	Chlorobenzene	390	ug/l	100	ug/l	TACO Groundwater Objective
GP-5A	Shallow	01/26/00	8260	Benzene	120	ug/l	5	ug/l	TACO Groundwater Objective
GP-5A	Shallow	01/26/2000	8270	4-Chlorophenol	12	ug/l	NA	ug/l	None Available
GP-6A	Shallow	01/27/00	8260	Benzene	18	ug/l	5	ug/l	TACO Groundwater Objective
GP-9A	Shallow	01/28/00	8260	Chlorobenzene	5300	ug/l	100	ug/l	TACO Groundwater Objective
GP-9A	Shallow	01/28/2000	8270	4-Chlorophenol	100	ug/l	NA	ug/l	None Available
GP-9A	Shallow	01/28/2000	8270	2-Chlorophenol	57	ug/l	35	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
GP-11A	Shallow	01/28/00	8260	Chlorobenzene	2300	ug/l	100	ug/l	TACO Groundwater Objective
GP-11A	Shallow	01/28/00	8260	Benzene	1800	ug/l	5	ug/l	TACO Groundwater Objective
GP-11A	Shallow	01/28/2000	8270	Phenol	940	ug/l	100	ug/l	TACO Groundwater Objective
GP-11A	Shallow	01/28/2000	8270	4-Chlorophenol	590	ug/l	NA	ug/l	None Available
GP-11A	Shallow	01/28/2000	8270	2-Chlorophenol	140	ug/l	35	ug/l	TACO Groundwater Objective
GP-12A	Shallow	01/31/00	8260	Chlorobenzene	40000	ug/l	100	ug/l	TACO Groundwater Objective
GP-12A	Shallow	01/31/2000	8270	1,4-Dichlorobenzene	590	ug/l	75	ug/l	TACO Groundwater Objective
GP-12A	Shallow	01/31/2000	8270	1,2-Dichlorobenzene	7300	ug/l	600	ug/l	TACO Groundwater Objective
GP-13A	Shallow	01/31/00	8260	Chlorobenzene	220	ug/l	100	ug/l	TACO Groundwater Objective
GP-13A	Shallow	01/31/00	8260	Benzene	1400	ug/l	5	ug/l	TACO Groundwater Objective
GP-14A	Shallow	02/01/00	8260	Chlorobenzene	2500	ug/l	100	ug/l	TACO Groundwater Objective
GP-14A	Shallow	02/01/00	8260	Benzene	440	ug/l	5	ug/l	TACO Groundwater Objective
GP-14A	Shallow	02/01/2000	8270	4-Chlorophenol	63	ug/l	NA	ug/l	None Available
GP-14A	Shallow	02/01/2000	8270	3-Chloroaniline	32	ug/l	NA	ug/l	None Available
GP-14A	Shallow	02/01/2000	8270	2-Chloroaniline	35	ug/l	NA	ug/l	None Available
GP-15A	Shallow	02/01/00	8260	Chlorobenzene	7300	ug/l	100	ug/l	TACO Groundwater Objective
GP-15A	Shallow	02/01/2000	8270	Nitrobenzene	290	ug/l	3.5	ug/l	TACO Groundwater Objective
GP-15A	Shallow	02/01/2000	8270	4-Chloroaniline	2600	ug/l	28	ug/l	TACO Groundwater Objective
GP-15A	Shallow	02/01/2000	8270	2-Chloroaniline	6400	ug/l	NA	ug/l	None Available
GP-16A	Shallow	02/01/2000	8270	4-Chloroaniline	1600	ug/l	28	ug/l	TACO Groundwater Objective
GP-16A	Shallow	02/01/2000	8270	2-Chloroaniline	3200	ug/l	NA	ug/l	None Available
GP-17A	Shallow	02/02/00	8260	Benzene	41	ug/l	5	ug/l	TACO Groundwater Objective
GP-17A	Shallow	02/02/2000	8270	2-Chloroaniline	70	ug/l	NA	ug/l	None Available
GP-18A	Shallow	02/03/00	8260	Benzene	330	ug/l	5	ug/l	TACO Groundwater Objective
GP-18A	Shallow	02/03/2000	8270	2-Chloroaniline	30	ug/l	NA	ug/l	None Available
GP-18A	Shallow	02/03/2000	8270	1,4-Dichlorobenzene	140	ug/l	75	ug/l	TACO Groundwater Objective
GP-19A	Shallow	02/03/00	8260	Toluene	71000	ug/l	100	ug/l	TACO Groundwater Objective
GP-19A	Shallow	02/03/2000	8270	1,4-Dichlorobenzene	36000	ug/l	75	ug/l	TACO Groundwater Objective
GP-19A	Shallow	02/03/2000	8270	1,2-Dichlorobenzene	76000	ug/l	600	ug/l	TACO Groundwater Objective
GP-19A	Shallow	02/03/2000	8270	1,2,4-Trichlorobenzene	7800	ug/l	70	ug/l	TACO Groundwater Objective
GP-20A	Shallow	02/03/00	8260	Chlorobenzene	26000	ug/l	100	ug/l	TACO Groundwater Objective
GP-20A	Shallow	02/03/00	8260	Benzene	1100	ug/l	5	ug/l	TACO Groundwater Objective
GP-20A	Shallow	02/03/2000	8270	1,4-Dichlorobenzene	100	ug/l	75	ug/l	TACO Groundwater Objective
NTF-B72	Shallow	01/00	8260	Chlorobenzene	230	ug/l	100	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
NTF-B72	Shallow	01/00	8260	Benzene	22	ug/l	5	ug/l	TACO Groundwater Objective
NTF-B72	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	160	ug/l	75	ug/l	TACO Groundwater Objective
NTF-B74	Shallow	01/00	8260	Chlorobenzene	13000	ug/l	100	ug/l	TACO Groundwater Objective
NTF-B74	Shallow	01/01/2000	8270	bis(2-Ethylhexyl)phthalate	7.5	ug/l	6	ug/l	TACO Groundwater Objective
NTF-B75	Shallow	01/01/2000	8270	Benzo(k)fluoranthene	12	ug/l	0.17	ug/l	TACO Groundwater Objective
NTF-B75	Shallow	01/01/2000	8270	4-Chloroaniline	72	ug/l	28	ug/l	TACO Groundwater Objective
NTF-B76	Shallow	01/00	8260	Benzene	130000	ug/l	5	ug/l	TACO Groundwater Objective
NTF-B76	Shallow	01/00	8270	2-Methylnaphthalene	320	ug/l	210	ug/l	TACO Groundwater Objective
NTF-B76	Shallow	01/01/2000	8270	Naphthalene	520	ug/l	140	ug/l	TACO Groundwater Objective
NTF-B76	Shallow	01/01/2000	8270	Phenol	1600	ug/l	100	ug/l	TACO Groundwater Objective
NTF-B78	Shallow	01/00	8260	Chlorobenzene	360	ug/l	100	ug/l	TACO Groundwater Objective
SCT-B67	Shallow	01/00	8260	Chloroform	12	ug/l	0.2	ug/l	TACO Groundwater Objective
SCT-B67	Shallow	01/00	8260	Bromodichloromethane	4	ug/l	0.2	ug/l	TACO Groundwater Objective
SCT-B67	Shallow	01/00	8260	Benzene	51	ug/l	5	ug/l	TACO Groundwater Objective
SCT-B68	Shallow	01/00	8260	Chlorobenzene	150000	ug/l	100	ug/l	TACO Groundwater Objective
SCT-B68	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	5700	ug/l	75	ug/l	TACO Groundwater Objective
SCT-B68	Shallow	01/01/2000	8270	1,2-Dichlorobenzene	4700	ug/l	600	ug/l	TACO Groundwater Objective
SCT-B68	Shallow	01/01/2000	8270	1,3-Dichlorobenzene	180	ug/l	6.3	ug/l	IEPA Correspondance
SCT-B68	Shallow	01/01/2000	8270	1,2,4-Trichlorbenzene	670	ug/l	70	ug/l	TACO Groundwater Objective
SCT-B69	Shallow	01/00	8260	Chlorobenzene	310000	ug/l	100	ug/l	TACO Groundwater Objective
SCT-B69	Shallow	01/00	8260	Benzene	32000	ug/l	5	ug/l	TACO Groundwater Objective
SCT-B69	Shallow	01/01/2000	8270	2-Chlorophenol	260	ug/l	35	ug/l	TACO Groundwater Objective
SCT-B69	Shallow	01/01/2000	8270	2,4-Dichlorophenol	37	ug/l	21	ug/l	TACO Groundwater Objective
SCT-B69	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	8300	ug/l	75	ug/l	TACO Groundwater Objective
SCT-B69	Shallow	01/01/2000	8270	1,2-Dichlorobenzene	5400	ug/l	600	ug/l	TACO Groundwater Objective
SCT-B69	Shallow	01/01/2000	8270	1,3-Dichlorobenzene	220	ug/l	6.3	ug/l	IEPA Correspondance
SCT-B69	Shallow	01/01/2000	8270	1,2,4-Trichlorbenzene	400	ug/l	70	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/00	8260	Chlorobenzene	170000	ug/l	100	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/00	8260	Benzene	45000	ug/l	5	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/01/2000	8270	Phenol	260	ug/l	100	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/01/2000	8270	4-Chloroaniline	60	ug/l	28	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/01/2000	8270	2-Chlorophenol	590	ug/l	35	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/01/2000	8270	2,4-Dichlorophenol	380	ug/l	21	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/01/2000	8270	2,4,6-Trichlorophenol	99	ug/l	10	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
SCT-B71	Shallow	01/01/2000	8270	1,4-Dichlorobenzene	28000	ug/l	75	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/01/2000	8270	1,3-Dichlorobenzene	700	ug/l	6.3	ug/l	IEPA Correspondance
SCT-B71	Shallow	01/01/2000	8270	1,2-Dichlorobenzene	19000	ug/l	600	ug/l	TACO Groundwater Objective
SCT-B71	Shallow	01/01/2000	8270	1,2,4-Trichlorbenzene	170	ug/l	70	ug/l	TACO Groundwater Objective
SOT-B64	Shallow	01/00	8260	Benzene	1700	ug/l	5	ug/l	TACO Groundwater Objective
SOT-B65	Shallow	01/00	8260	Benzene	1300	ug/l	5	ug/l	TACO Groundwater Objective
SOT-B65	Shallow	01/00	8260	4-Methyl-2-pentanone	660	ug/l	560	ug/l	TACO Groundwater Objective
SOT-B66	Shallow	01/00	8260	Benzene	100	ug/l	5	ug/l	TACO Groundwater Objective
GM-4B	Intermediate	01/26/00	8260	Chlorobenzene	430	ug/l	100	ug/l	TACO Groundwater Objective
GM-4B	Intermediate	01/26/2000	8270	4-Chlorophenol	18	ug/l	NA	ug/l	None Available
GM-4B	Intermediate	01/26/2000	8270	4-Chloroaniline	53	ug/l	28	ug/l	TACO Groundwater Objective
GM-4B	Intermediate	01/26/2000	8270	2-Chloroaniline	26	ug/l	NA	ug/l	None Available
GM-6B	Intermediate	01/26/00	8260	Chlorobenzene	41000	ug/l	100	ug/l	TACO Groundwater Objective
GM-6B	Intermediate	01/26/00	8260	Benzene	4800	ug/l	5	ug/l	TACO Groundwater Objective
GM-6B	Intermediate	01/26/2000	8270	4-Chlorophenol	120	ug/l	NA	ug/l	None Available
GM-6B	Intermediate	01/26/2000	8270	4-Chloroaniline	290	ug/l	28	ug/l	TACO Groundwater Objective
GM-6B	Intermediate	01/26/2000	8270	2-Chlorophenol	56	ug/l	35	ug/l	TACO Groundwater Objective
GM-6B	Intermediate	01/26/2000	8270	2-Chloroaniline	550	ug/l	NA	ug/l	None Available
GM-6B	Intermediate	01/26/2000	8270	1,4-Dichlorobenzene	320	ug/l	75	ug/l	TACO Groundwater Objective
GM-6B DUP	Intermediate	01/26/00	8260	Chlorobenzene	47000	ug/l	100	ug/l	TACO Groundwater Objective
GM-6B DUP	Intermediate	01/26/00	8260	Benzene	4800	ug/l	5	ug/l	TACO Groundwater Objective
GM-6B DUP	Intermediate	01/26/2000	8270	bis(2-Ethylhexyl)phthalate	32	ug/l	6	ug/l	TACO Groundwater Objective
GM-6B DUP	Intermediate	01/26/2000	8270	4-Chlorophenol	74	ug/l	NA	ug/l	None Available
GM-6B DUP	Intermediate	01/26/2000	8270	4-Chloroaniline	190	ug/l	28	ug/l	TACO Groundwater Objective
GM-6B DUP	Intermediate	01/26/2000	8270	2-Chlorophenol	36	ug/l	35	ug/l	TACO Groundwater Objective
GM-6B DUP	Intermediate	01/26/2000	8270	2-Chloroaniline	340	ug/l	NA	ug/l	None Available
GM-6B DUP	Intermediate	01/26/2000	8270	1,4-Dichlorobenzene	240	ug/l	75	ug/l	TACO Groundwater Objective
GM-9B	Intermediate	02/01/00	8260	Benzene	54	ug/l	5	ug/l	TACO Groundwater Objective
GM-9B	Intermediate	02/01/2000	8270	bis(2-Ethylhexyl)phthalate	31	ug/l	6	ug/l	TACO Groundwater Objective
GM-9B	Intermediate	02/01/2000	8270	2-Chloroaniline	33	ug/l	NA	ug/l	None Available
GM-10B	Intermediate	02/02/00	8260	Chlorobenzene	2200	ug/l	100	ug/l	TACO Groundwater Objective
GM-10B	Intermediate	02/02/00	8260	Benzene	280	ug/l	5	ug/l	TACO Groundwater Objective
GM-10B	Intermediate	02/02/2000	8270	2-Chloroaniline	1500	ug/l	NA	ug/l	None Available
GM-10B	Intermediate	02/02/2000	8270	1,4-Dichlorobenzene	470	ug/l	75	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
GM-12B	Intermediate	02/02/00	8260	Benzene	7200	ug/l	5	ug/l	TACO Groundwater Objective
GM-12B	Intermediate	02/02/2000	8270	Phenol	230	ug/l	100	ug/l	TACO Groundwater Objective
GM-12B	Intermediate	02/02/2000	8270	2-Chloroaniline	25	ug/l	NA	ug/l	None Available
GM-17B	Intermediate	01/31/00	8260	Chlorobenzene	390	ug/l	100	ug/l	TACO Groundwater Objective
GM-17B	Intermediate	01/31/00	8260	Benzene	38	ug/l	5	ug/l	TACO Groundwater Objective
GM-17B	Intermediate	01/31/2000	8270	bis(2-Ethylhexyl)phthalate	38	ug/l	6	ug/l	TACO Groundwater Objective
GM-17B	Intermediate	01/31/2000	8270	4-Chlorophenol	190	ug/l	NA	ug/l	None Available
GM-17B	Intermediate	01/31/2000	8270	2-Chloroaniline	75	ug/l	NA	ug/l	None Available
GM-17B	Intermediate	01/31/2000	8270	1,4-Dichlorobenzene	130	ug/l	75	ug/l	TACO Groundwater Objective
GM-18B	Intermediate	01/28/00	8260	Chlorobenzene	440	ug/l	100	ug/l	TACO Groundwater Objective
GM-18B	Intermediate	01/28/00	8260	Benzene	330	ug/l	5	ug/l	TACO Groundwater Objective
GM-18B	Intermediate	01/28/2000	8270	bis(2-Ethylhexyl)phthalate	34	ug/l	6	ug/l	TACO Groundwater Objective
GM-18B	Intermediate	05/08/2000	8260	Chlorobenzene	310	ug/l	100	ug/l	TACO Groundwater Objective
GM-18B	Intermediate	05/08/2000	8260	Benzene	39	ug/l	5	ug/l	TACO Groundwater Objective
GM-18B	Intermediate	05/08/2000	8270	4-Chlorophenol	18	ug/l	NA	ug/l	None Available
GM-18B	Intermediate	05/08/2000	8270	3-Chloroaniline	10	ug/l	NA	ug/l	None Available
GM-18B	Intermediate	05/08/2000	8270	2-Chloroaniline	54	ug/l	NA	ug/l	None Available
GM-31B	Intermediate	01/28/00	8260	Benzene	11	ug/l	5	ug/l	TACO Groundwater Objective
GP-1B	Intermediate	01/25/00	8260	Chlorobenzene	18000	ug/l	100	ug/l	TACO Groundwater Objective
GP-1B	Intermediate	01/25/2000	8270	4-Chloroaniline	63	ug/l	28	ug/l	TACO Groundwater Objective
GP-1B	Intermediate	01/25/2000	8270	2-Chlorophenol	64	ug/l	35	ug/l	TACO Groundwater Objective
GP-2B	Intermediate	01/25/00	8260	Chlorobenzene	17000	ug/l	100	ug/l	TACO Groundwater Objective
GP-2B	Intermediate	01/25/00	8260	Benzene	390000	ug/l	5	ug/l	TACO Groundwater Objective
GP-2B	Intermediate	01/25/2000	8270	Phenol	440	ug/l	100	ug/l	TACO Groundwater Objective
GP-2B	Intermediate	01/25/2000	8270	4-Chloroaniline	93	ug/l	28	ug/l	TACO Groundwater Objective
GP-2B	Intermediate	01/25/2000	8270	1,4-Dichlorobenzene	130	ug/l	75	ug/l	TACO Groundwater Objective
GP-3B	Intermediate	01/26/00	8260	Chlorobenzene	170000	ug/l	100	ug/l	TACO Groundwater Objective
GP-3B	Intermediate	01/26/00	8260	Benzene	510000	ug/l	5	ug/l	TACO Groundwater Objective
GP-3B	Intermediate	01/26/2000	8270	Phenol	310	ug/l	100	ug/l	TACO Groundwater Objective
GP-3B	Intermediate	01/26/2000	8270	4-Chlorophenol	70	ug/l	NA	ug/l	None Available
GP-4B	Intermediate	01/26/00	8260	Chlorobenzene	290000	ug/l	100	ug/l	TACO Groundwater Objective
GP-4B	Intermediate	01/26/00	8260	Benzene	180000	ug/l	5	ug/l	TACO Groundwater Objective
GP-4B	Intermediate	01/26/2000	8270	Phenol	260	ug/l	100	ug/l	TACO Groundwater Objective
GP-4B	Intermediate	01/26/2000	8270	4-Chlorophenol	250	ug/l	NA	ug/l	None Available

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
GP-4B	Intermediate	01/26/2000	8270	2-Chlorophenol	120	ug/l	35	ug/l	TACO Groundwater Objective
GP-6B	Intermediate	01/27/00	8260	Chlorobenzene	570	ug/l	100	ug/l	TACO Groundwater Objective
GP-6B	Intermediate	01/27/00	8260	Benzene	54	ug/l	5	ug/l	TACO Groundwater Objective
GP-6B	Intermediate	01/27/2000	8270	4-Chlorophenol	24	ug/l	NA	ug/l	None Available
GP-7B	Intermediate	01/27/00	8260	Chlorobenzene	150	ug/l	100	ug/l	TACO Groundwater Objective
GP-7B	Intermediate	01/27/00	8260	Benzene	42	ug/l	5	ug/l	TACO Groundwater Objective
GP-8B	Intermediate	01/27/00	8260	Chlorobenzene	8900	ug/l	100	ug/l	TACO Groundwater Objective
GP-8B	Intermediate	01/27/00	8260	Benzene	79000	ug/l	5	ug/l	TACO Groundwater Objective
GP-8B	Intermediate	01/27/2000	8270	Phenol	2100	ug/l	100	ug/l	TACO Groundwater Objective
GP-9B	Intermediate	01/28/00	8260	Chlorobenzene	2600	ug/l	100	ug/l	TACO Groundwater Objective
GP-9B	Intermediate	01/28/00	8260	Benzene	4900	ug/l	5	ug/l	TACO Groundwater Objective
GP-9B	Intermediate	01/28/2000	8270	Phenol	280	ug/l	100	ug/l	TACO Groundwater Objective
GP-9B	Intermediate	01/28/2000	8270	4-Chlorophenol	75	ug/l	NA	ug/l	None Available
GP-9B	Intermediate	01/28/2000	8270	4-Chloroaniline	500	ug/l	28	ug/l	TACO Groundwater Objective
GP-10B	Intermediate	01/28/00	8260	Chlorobenzene	200	ug/l	100	ug/l	TACO Groundwater Objective
GP-10B	Intermediate	01/28/00	8260	Benzene	130	ug/l	5	ug/l	TACO Groundwater Objective
GP-11B	Intermediate	01/28/00	8260	Chlorobenzene	6400	ug/l	100	ug/l	TACO Groundwater Objective
GP-11B	Intermediate	01/28/00	8260	Benzene	6200	ug/l	5	ug/l	TACO Groundwater Objective
GP-11B	Intermediate	01/28/2000	8270	Phenol	550	ug/l	100	ug/l	TACO Groundwater Objective
GP-11B	Intermediate	01/28/2000	8270	4-Chlorophenol	200	ug/l	NA	ug/l	None Available
GP-11B	Intermediate	01/28/2000	8270	4-Chloroaniline	110	ug/l	28	ug/l	TACO Groundwater Objective
GP-11B	Intermediate	01/28/2000	8270	2-Chlorophenol	98	ug/l	35	ug/l	TACO Groundwater Objective
GP-12B	Intermediate	01/31/00	8260	Vinyl chloride	350	ug/l	2	ug/l	TACO Groundwater Objective
GP-12B	Intermediate	01/31/00	8260	Cis/Trans-1,2-Dichloroethene	110	ug/l	70	ug/l	TACO Groundwater Objective
GP-12B	Intermediate	01/31/00	8260	Chlorobenzene	1200	ug/l	100	ug/l	TACO Groundwater Objective
GP-12B	Intermediate	01/31/2000	8270	2-Chlorophenol	54	ug/l	35	ug/l	TACO Groundwater Objective
GP-12B	Intermediate	01/31/2000	8270	1,4-Dichlorobenzene	82	ug/l	75	ug/l	TACO Groundwater Objective
GP-12B	Intermediate	01/31/2000	8270	1,2-Dichlorobenzene	880	ug/l	600	ug/l	TACO Groundwater Objective
GP-13B	Intermediate	01/31/00	8260	Vinyl chloride	44	ug/l	2	ug/l	TACO Groundwater Objective
GP-13B	Intermediate	01/31/00	8260	Chlorobenzene	110	ug/l	100	ug/l	TACO Groundwater Objective
GP-13B	Intermediate	01/31/00	8260	Benzene	110	ug/l	5	ug/l	TACO Groundwater Objective
GP-14B	Intermediate	02/01/00	8260	Chlorobenzene	510	ug/l	100	ug/l	TACO Groundwater Objective
GP-14B	Intermediate	02/01/00	8260	Benzene	130	ug/l	5	ug/l	TACO Groundwater Objective
GP-14B	Intermediate	02/02/2000	8270	4-Chlorophenol	16	ug/l	NA	ug/l	None Available

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
GP-14B	Intermediate	02/02/2000	8270	4-Chloroaniline	110	ug/l	28	ug/l	TACO Groundwater Objective
GP-14B	Intermediate	02/02/2000	8270	2-Chloroaniline	30	ug/l	NA	ug/l	None Available
GP-15B	Intermediate	02/01/00	8260	Chlorobenzene	36000	ug/l	100	ug/l	TACO Groundwater Objective
GP-15B	Intermediate	02/01/00	8260	Benzene	21000	ug/l	5	ug/l	TACO Groundwater Objective
GP-15B	Intermediate	02/01/2000	8270	4-Chlorophenol	8500	ug/l	NA	ug/l	None Available
GP-15B	Intermediate	02/01/2000	8270	4-Chloroaniline	92000	ug/l	28	ug/l	TACO Groundwater Objective
GP-15B	Intermediate	02/01/2000	8270	2-Chloroaniline	25000	ug/l	NA	ug/l	None Available
GP-15B	Intermediate	02/01/2000	8270	2,4-Dichlorophenol	9100	ug/l	21	ug/l	TACO Groundwater Objective
GP-16B	Intermediate	02/01/2000	8260	Chlorobenzene	180	ug/l	100	ug/l	TACO Groundwater Objective
GP-16B	Intermediate	02/01/2000	8260	Benzene	76	ug/l	5	ug/l	TACO Groundwater Objective
GP-16B	Intermediate	02/01/2000	8270	4-Chloroaniline	1500	ug/l	28	ug/l	TACO Groundwater Objective
GP-16B	Intermediate	02/01/2000	8270	2-Chloroaniline	990	ug/l	NA	ug/l	None Available
GP-17B	Intermediate	02/02/2000	8260	Benzene	11000	ug/l	5	ug/l	TACO Groundwater Objective
GP-17B	Intermediate	02/02/2000	8270	Phenol	330	ug/l	100	ug/l	TACO Groundwater Objective
GP-18B	Intermediate	02/03/2000	8260	Benzene	7300	ug/l	5	ug/l	TACO Groundwater Objective
GP-18B	Intermediate	02/03/2000	8270	Phenol	450	ug/l	100	ug/l	TACO Groundwater Objective
GP-19B	Intermediate	02/03/2000	8260	Toluene	63000	ug/l	100	ug/l	TACO Groundwater Objective
GP-19B	Intermediate	02/03/2000	8260	Chlorobenzene	12000	ug/l	100	ug/l	TACO Groundwater Objective
GP-19B	Intermediate	02/03/2000	8270	1,4-Dichlorobenzene	50000	ug/l	75	ug/l	TACO Groundwater Objective
GP-19B	Intermediate	02/03/2000	8270	1,2-Dichlorobenzene	150000	ug/l	600	ug/l	TACO Groundwater Objective
GP-20B	Intermediate	02/03/2000	8260	Toluene	920	ug/l	100	ug/l	TACO Groundwater Objective
GP-20B	Intermediate	02/03/2000	8260	Chlorobenzene	1900	ug/l	100	ug/l	TACO Groundwater Objective
GP-20B	Intermediate	02/03/2000	8270	2-Chlorophenol	55	ug/l	35	ug/l	TACO Groundwater Objective
GP-20B	Intermediate	02/03/2000	8270	2-Chloroaniline	110	ug/l	NA	ug/l	None Available
MW-3B	Intermediate	01/27/00	8260	Chlorobenzene	5500	ug/l	100	ug/l	TACO Groundwater Objective
MW-3B	Intermediate	01/27/00	8260	Benzene	32000	ug/l	5	ug/l	TACO Groundwater Objective
MW-3B	Intermediate	01/27/2000	8270	bis(2-Ethylhexyl)phthalate	12	ug/l	6	ug/l	TACO Groundwater Objective
MW-3B	Intermediate	01/27/2000	8270	4-Chlorophenol	12	ug/l	NA	ug/l	None Available
MW-5B	Intermediate	01/28/00	8260	Chlorobenzene	19000	ug/l	100	ug/l	TACO Groundwater Objective
MW-5B	Intermediate	01/28/00	8260	Benzene	370000	ug/l	5	ug/l	TACO Groundwater Objective
MW-5B	Intermediate	01/28/2000	8270	Phenol	220	ug/l	100	ug/l	TACO Groundwater Objective
MW-5B	Intermediate	01/28/2000	8270	bis(2-Ethylhexyl)phthalate	10	ug/l	6	ug/l	TACO Groundwater Objective
MW-5B	Intermediate	01/28/2000	8270	4-Chloroaniline	200	ug/l	28	ug/l	TACO Groundwater Objective
MW-5B	Intermediate	01/28/2000	8270	3-Chloroaniline	42	ug/l	NA	ug/l	None Available

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
MW-5B	Intermediate	01/28/2000	8270	2-Chlorophenol	49	ug/l	35	ug/l	TACO Groundwater Objective
MW-5B	Intermediate	01/28/2000	8270	2-Chloroaniline	160	ug/l	NA	ug/l	None Available
MW-7B	Intermediate	01/25/00	8260	Chloroform	27	ug/l	0.2	ug/l	TACO Groundwater Objective
MW-7B	Intermediate	01/25/00	8260	Benzene	20	ug/l	5	ug/l	TACO Groundwater Objective
MW-7B	Intermediate	01/25/2000	8270	bis(2-Ethylhexyl)phthalate	17	ug/l	6	ug/l	TACO Groundwater Objective
AA-GWM-S3	Intermediate	07/24/2002	8260	Benzene	81000	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Intermediate	07/24/2002	8260	Chlorobenzene	180000	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S3	Intermediate	07/24/2002	8260	Methylene chloride	70	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Intermediate	07/24/2002	8270	2-Chlorophenol	70	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S3	Intermediate	07/24/2002	8270	Phenol	120	ug/l	100	ug/l	TACO Groundwater Objective
GM-4C	Deep	01/27/00	8260	Chlorobenzene	560	ug/l	100	ug/l	TACO Groundwater Objective
GM-4C	Deep	01/27/00	8260	Benzene	52	ug/l	5	ug/l	TACO Groundwater Objective
GM-4C	Deep	01/26/2000	8270	bis(2-Ethylhexyl)phthalate	30	ug/l	6	ug/l	TACO Groundwater Objective
GM-9C	Deep	02/01/00	8260	Benzene	30	ug/l	5	ug/l	TACO Groundwater Objective
GM-9C	Deep	02/01/00	8270	bis(2-Ethylhexyl)phthalate	10	ug/l	6	ug/l	TACO Groundwater Objective
GM-10C	Deep	02/02/00	8260	Chlorobenzene	2500	ug/l	100	ug/l	TACO Groundwater Objective
GM-10C	Deep	02/02/00	8260	Benzene	460	ug/l	5	ug/l	TACO Groundwater Objective
GM-10C	Deep	02/02/00	8270	1,3-Dichlorobenzene	27	ug/l	6.3	ug/l	IEPA Correspondance
GM-10C	Deep	02/02/00	8270	1,4-Dichlorobenzene	360	ug/l	75	ug/l	TACO Groundwater Objective
GM-10C	Deep	02/02/00	8270	4-Chlorophenol	32	ug/l	NA	ug/l	None Available
GM-12C	Deep	02/02/00	8260	Chlorobenzene	150	ug/l	100	ug/l	TACO Groundwater Objective
GM-12C	Deep	02/02/00	8260	Benzene	190	ug/l	5	ug/l	TACO Groundwater Objective
GM-17C	Deep	01/31/00	8260	Chlorobenzene	260	ug/l	100	ug/l	TACO Groundwater Objective
GM-17C	Deep	01/31/00	8260	Benzene	120	ug/l	5	ug/l	TACO Groundwater Objective
GM-17C	Deep	01/31/2000	8270	2-Chloroaniline	21	ug/l	NA	ug/l	None Available
GM-31C	Deep	01/28/00	8260	Chlorobenzene	2000	ug/l	100	ug/l	TACO Groundwater Objective
GM-31C	Deep	01/28/00	8260	Benzene	82	ug/l	5	ug/l	TACO Groundwater Objective
GM-31C	Deep	01/28/2000	8270	bis(2-Ethylhexyl)phthalate	26	ug/l	6	ug/l	TACO Groundwater Objective
MW-3C	Deep	01/27/00	8260	Chlorobenzene	9500	ug/l	100	ug/l	TACO Groundwater Objective
MW-3C	Deep	01/27/2000	8270	bis(2-Ethylhexyl)phthalate	12	ug/l	6	ug/l	TACO Groundwater Objective
MW-3C	Deep	01/27/2000	8270	4-Chlorophenol	76	ug/l	NA	ug/l	None Available
MW-3C	Deep	01/27/2000	8270	2-Chloroaniline	58	ug/l	NA	ug/l	None Available
MW-5C	Deep	01/28/00	8260	Chlorobenzene	990	ug/l	100	ug/l	TACO Groundwater Objective
MW-5C	Deep	01/28/00	8260	Benzene	960	ug/l	5	ug/l	TACO Groundwater Objective

TABLE 2
VOCs and SVOCs SUMMARY OF EXCEEDANCES
ON-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
MW-5C	Deep	01/28/2000	8270	bis(2-Ethylhexyl)phthalate	58	ug/l	6	ug/l	TACO Groundwater Objective
MW-5C	Deep	01/28/2000	8270	4-Chlorophenol	12	ug/l	NA	ug/l	None Available
MW-5C	Deep	01/28/2000	8270	2-Chloroaniline	25	ug/l	NA	ug/l	None Available
MW-5C	Deep	01/28/2000	8270	1,4-Dichlorobenzene	250	ug/l	75	ug/l	TACO Groundwater Objective
MW-7C	Deep	01/25/00	8260	Cis/Trans-1,2-Dichloroethene	220	ug/l	70	ug/l	TACO Groundwater Objective
MW-7C	Deep	01/25/00	8260	Chlorobenzene	7800	ug/l	100	ug/l	TACO Groundwater Objective
MW-7C	Deep	01/25/2000	8270	1,4-Dichlorobenzene	2800	ug/l	75	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/24/2002	8260	Benzene	74000	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/24/2002	8260	Chlorobenzene	100000	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/24/2002	8260	Methylene chloride	60	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/24/2002	8270	2-Chlorophenol	60	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/24/2002	8270	Phenol	170	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8260	Benzene	24000	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8260	Chlorobenzene	40000	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8260	Methylene chloride	56	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8270	2-Chlorophenol	38	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8260	Benzene	1900	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8260	Chlorobenzene	5500	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8260	Methylene chloride	62	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S3	Deep	07/25/2002	8270	1,3-Dichlorobenzene	7	ug/l	6.3	ug/l	IEPA Correspondance
AA-GWM-S3	Deep	07/25/2002	8270	1,4-Dichlorobenzene	190	ug/l	75	ug/l	TACO Groundwater Objective

TABLE 3
VOCs and SVOCs SUMMARY OF EXCEEDANCES
OFF-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
B-22A	Shallow	05/10/2000	8260	Benzene	1000	ug/l	5	ug/l	TACO Groundwater Objective
B-22A	Shallow	05/10/2000	8260	Chlorobenzene	6100	ug/l	100	ug/l	TACO Groundwater Objective
B-22A	Shallow	05/10/2000	8260	Toluene	240	ug/l	100	ug/l	TACO Groundwater Objective
B-22A	Shallow	05/10/2000	8270	2-Chloroaniline	21000	ug/l	NA	ug/l	None Available
B-22A	Shallow	05/10/2000	8270	2-Nitrochlorobenzene	22000	ug/l	NA	ug/l	None Available
B-22A	Shallow	05/10/2000	8270	Aniline	62000	ug/l	23	ug/l	TACO Groundwater Objective
B-22A	Shallow	05/10/2000	8270	bis(2-Ethylhexyl)phthalate	17000	ug/l	6	ug/l	TACO Groundwater Objective
B-22A	Shallow	05/10/2000	8270	Phenol	43000	ug/l	100	ug/l	TACO Groundwater Objective
B-24A	Shallow	05/11/2000	8260	Acetone	69000	ug/l	700	ug/l	TACO Groundwater Objective
B-24A	Shallow	05/11/2000	8260	Benzene	1600	ug/l	5	ug/l	TACO Groundwater Objective
B-24A	Shallow	05/11/2000	8260	Chlorobenzene	4000	ug/l	100	ug/l	TACO Groundwater Objective
B-24A	Shallow	05/11/2000	8270	2,4-Dichlorophenol	42000	ug/l	21	ug/l	TACO Groundwater Objective
B-24A	Shallow	05/11/2000	8270	2-Chloroaniline	100000	ug/l	NA	ug/l	None Available
B-24A	Shallow	05/11/2000	8270	2-Chlorophenol	330000	ug/l	35	ug/l	TACO Groundwater Objective
B-24A	Shallow	05/11/2000	8270	3-Nitrochlorobenzene	130000	ug/l	NA	ug/l	None Available
B-24A	Shallow	05/11/2000	8270	Phenol	650000	ug/l	100	ug/l	TACO Groundwater Objective
B-25A	Shallow	05/10/2000	8260	1,2-Dichloroethane	14000	ug/l	5	ug/l	TACO Groundwater Objective
B-25A	Shallow	05/10/2000	8260	Acetone	10000	ug/l	700	ug/l	TACO Groundwater Objective
B-25A	Shallow	05/10/2000	8260	Chlorobenzene	14000	ug/l	100	ug/l	TACO Groundwater Objective
B-25A	Shallow	05/10/2000	8270	2,4-Dichlorophenol	340000	ug/l	21	ug/l	TACO Groundwater Objective
B-25A	Shallow	05/10/2000	8270	2-Chloroaniline	300000	ug/l	NA	ug/l	None Available
B-25A	Shallow	05/10/2000	8270	2-Nitrochlorobenzene	3400000	ug/l	NA	ug/l	None Available
B-25A	Shallow	05/10/2000	8270	3-Nitrochlorobenzene	730000	ug/l	NA	ug/l	None Available
B-25A	Shallow	05/10/2000	8270	4-Nitrochlorobenzene	1500000	ug/l	NA	ug/l	None Available
B-25A	Shallow	05/10/2000	8270	Phenol	490000	ug/l	100	ug/l	TACO Groundwater Objective
B-26A	Shallow	05/11/2000	8260	Benzene	460	ug/l	5	ug/l	TACO Groundwater Objective
B-26A	Shallow	05/11/2000	8260	Chlorobenzene	2800	ug/l	100	ug/l	TACO Groundwater Objective
B-26A	Shallow	05/11/2000	8270	2-Chloroaniline	4300	ug/l	NA	ug/l	None Available
B-26A	Shallow	05/11/2000	8270	4-Chloroaniline	1900	ug/l	28	ug/l	TACO Groundwater Objective
B-26A	Shallow	05/11/2000	8270	Aniline	2000	ug/l	23	ug/l	TACO Groundwater Objective
B-28A	Shallow	05/10/2000	8260	Chlorobenzene	110	ug/l	100	ug/l	TACO Groundwater Objective
B-28A	Shallow	05/10/2000	8270	2-Chloroaniline	35	ug/l	NA	ug/l	None Available
B-28A	Shallow	05/10/2000	8270	3-Nitrochlorobenzene	20	ug/l	NA	ug/l	None Available

TABLE 3
VOCs and SVOCs SUMMARY OF EXCEEDANCES
OFF-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
B-28A	Shallow	05/10/2000	8270	4-Nitrochlorobenzene	69	ug/l	NA	ug/l	None Available
B-29A	Shallow	05/10/2000	8260	Acetone	1100	ug/l	700	ug/l	TACO Groundwater Objective
B-29A	Shallow	05/10/2000	8260	Chlorobenzene	2400	ug/l	100	ug/l	TACO Groundwater Objective
B-29A	Shallow	05/10/2000	8260	Toluene	460	ug/l	100	ug/l	TACO Groundwater Objective
B-29A	Shallow	05/10/2000	8270	2-Chlorophenol	540000	ug/l	35	ug/l	TACO Groundwater Objective
B-29A	Shallow	05/10/2000	8270	2-Nitrochlorobenzene	150000	ug/l	NA	ug/l	None Available
B-29A	Shallow	05/10/2000	8270	3-Methylphenol/4-Methylphenol	260000	ug/l	350	ug/l	TACO Groundwater Objective
B-29A	Shallow	05/10/2000	8270	4-Chlorophenol	210000	ug/l	NA	ug/l	None Available
B-29A	Shallow	05/10/2000	8270	Phenol	2000000	ug/l	100	ug/l	TACO Groundwater Objective
B-29A DUP	Shallow	05/10/2000	8270	2,4-Dichlorophenol	64000	ug/l	21	ug/l	TACO Groundwater Objective
B-29A DUP	Shallow	05/10/2000	8270	2,4-Dimethylphenol	44000	ug/l	140	ug/l	TACO Groundwater Objective
B-29A DUP	Shallow	05/10/2000	8270	2-Chlorophenol	540000	ug/l	35	ug/l	TACO Groundwater Objective
B-29A DUP	Shallow	05/10/2000	8270	3-Methylphenol/4-Methylphenol	280000	ug/l	350	ug/l	TACO Groundwater Objective
B-29A DUP	Shallow	05/10/2000	8270	Naphthalene	86000	ug/l	140	ug/l	TACO Groundwater Objective
B-29A DUP	Shallow	05/10/2000	8270	Phenol	1900000	ug/l	100	ug/l	TACO Groundwater Objective
GM-19A	Shallow	05/09/2000	8260	Benzene	18	ug/l	5	ug/l	TACO Groundwater Objective
GM-19A	Shallow	05/09/2000	8260	Tetrachloroethene	8.7	ug/l	5	ug/l	TACO Groundwater Objective
GM-19A	Shallow	05/09/2000	8260	Trichloroethene	6.9	ug/l	5	ug/l	TACO Groundwater Objective
GM-19A	Shallow	05/09/2000	8270	2-Chloroaniline	170	ug/l	NA	ug/l	None Available
GM-19A	Shallow	05/09/2000	8270	Pentachlorophenol	1900	ug/l	1	ug/l	TACO Groundwater Objective
GM-54A	Shallow	02/01/00	8260	Benzene	130	ug/l	5	ug/l	TACO Groundwater Objective
GM-54A	Shallow	02/01/2000	8270	bis(2-Ethylhexyl)phthalate	13	ug/l	6	ug/l	TACO Groundwater Objective
GM-60A	Shallow	05/08/2000	8260	Chlorobenzene	490	ug/l	100	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8260	Benzene	6300	ug/l	5	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8260	Chlorobenzene	16000	ug/l	100	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8270	2,4-Dichlorophenol	23000	ug/l	21	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8270	2-Chloroaniline	32000	ug/l	NA	ug/l	None Available
B-21B	Intermediate	05/10/2000	8270	2-Chlorophenol	26000	ug/l	35	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8270	2-Nitrochlorobenzene	56000	ug/l	NA	ug/l	None Available
B-21B	Intermediate	05/10/2000	8270	3-Chloroaniline	14000	ug/l	NA	ug/l	None Available
B-21B	Intermediate	05/10/2000	8270	3-Nitrochlorobenzene	110000	ug/l	NA	ug/l	None Available
B-21B	Intermediate	05/10/2000	8270	4-Chloroaniline	16000	ug/l	28	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8270	4-Chlorophenol	30000	ug/l	NA	ug/l	None Available

TABLE 3
VOCs and SVOCs SUMMARY OF EXCEEDANCES
OFF-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
B-21B	Intermediate	05/10/2000	8270	4-Nitrochlorobenzene	61000	ug/l	NA	ug/l	None Available
B-21B	Intermediate	05/10/2000	8270	Naphthalene	12000	ug/l	140	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8270	Nitrobenzene	14000	ug/l	3.5	ug/l	TACO Groundwater Objective
B-21B	Intermediate	05/10/2000	8270	Phenol	42000	ug/l	100	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8260	1,2-Dichloroethane	9200	ug/l	5	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8260	Acetone	6200	ug/l	700	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8260	Benzene	2000	ug/l	5	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8260	Chlorobenzene	8800	ug/l	100	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8260	Toluene	2500	ug/l	100	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8270	2-Chloroaniline	140000	ug/l	NA	ug/l	None Available
B-24C	Intermediate	05/11/2000	8270	2-Chlorophenol	44000	ug/l	35	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8270	2,4-Dichlorophenol	68000	ug/l	21	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8270	2-Nitrochlorobenzene	76000	ug/l	NA	ug/l	None Available
B-24C	Intermediate	05/11/2000	8270	3-Chloroaniline	18000	ug/l	NA	ug/l	None Available
B-24C	Intermediate	05/11/2000	8270	3-Nitrochlorobenzene	340000	ug/l	NA	ug/l	None Available
B-24C	Intermediate	05/11/2000	8270	4-Chlorophenol	33000	ug/l	NA	ug/l	None Available
B-24C	Intermediate	05/11/2000	8270	Naphthalene	13000	ug/l	140	ug/l	TACO Groundwater Objective
B-24C	Intermediate	05/11/2000	8270	Phenol	130000	ug/l	100	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8260	Toluene	2500	ug/l	100	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8260	Chlorobenzene	8800	ug/l	100	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8260	Benzene	2000	ug/l	5	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8260	Acetone	6400	ug/l	700	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8260	4-Methyl-2-pentanone	2700	ug/l	560	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8260	1,2-Dichloroethane	9200	ug/l	5	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8270	Phenol	130000	ug/l	100	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8270	4-Chlorophenol	31000	ug/l	NA	ug/l	None Available
B-24D	Intermediate	05/11/2000	8270	3-Nitrochlorobenzene	330000	ug/l	NA	ug/l	None Available
B-24D	Intermediate	05/11/2000	8270	2-Nitrochlorobenzene	70000	ug/l	NA	ug/l	None Available
B-24D	Intermediate	05/11/2000	8270	2-Chlorophenol	44000	ug/l	35	ug/l	TACO Groundwater Objective
B-24D	Intermediate	05/11/2000	8270	2-Chloroaniline	140000	ug/l	NA	ug/l	None Available
B-24D	Intermediate	05/11/2000	8270	2,4-Dichlorophenol	66000	ug/l	21	ug/l	TACO Groundwater Objective
B-25B	Intermediate	05/10/2000	8260	1,2-Dichloroethane	8700	ug/l	5	ug/l	TACO Groundwater Objective
B-25B	Intermediate	05/10/2000	8260	Acetone	22000	ug/l	700	ug/l	TACO Groundwater Objective

TABLE 3
VOCs and SVOCs SUMMARY OF EXCEEDANCES
OFF-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
B-25B	Intermediate	05/10/2000	8260	Chlorobenzene	16000	ug/l	100	ug/l	TACO Groundwater Objective
B-25B	Intermediate	05/10/2000	8260	Toluene	510	ug/l	100	ug/l	TACO Groundwater Objective
B-25B	Intermediate	05/10/2000	8270	2,4-Dichlorophenol	57000	ug/l	21	ug/l	TACO Groundwater Objective
B-25B	Intermediate	05/10/2000	8270	2-Chloroaniline	280000	ug/l	NA	ug/l	None Available
B-25B	Intermediate	05/10/2000	8270	2-Chlorophenol	45000	ug/l	35	ug/l	TACO Groundwater Objective
B-25B	Intermediate	05/10/2000	8270	2-Nitrochlorobenzene	270000	ug/l	NA	ug/l	None Available
B-25B	Intermediate	05/10/2000	8270	3-Nitrochlorobenzene	50000	ug/l	NA	ug/l	None Available
B-25B	Intermediate	05/10/2000	8270	4-Chlorophenol	37000	ug/l	NA	ug/l	None Available
B-25B	Intermediate	05/10/2000	8270	4-Nitrochlorobenzene	110000	ug/l	NA	ug/l	None Available
B-25B	Intermediate	05/10/2000	8270	Phenol	680000	ug/l	100	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8260	Acetone	8300	ug/l	700	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8260	Benzene	440	ug/l	5	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8260	Chlorobenzene	5900	ug/l	100	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8260	Tetrachloroethene	210	ug/l	5	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8260	Toluene	3000	ug/l	100	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8270	2,4-Dichlorophenol	9500	ug/l	21	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8270	2-Chloroaniline	73000	ug/l	NA	ug/l	None Available
B-26B	Intermediate	05/11/2000	8270	2-Nitrochlorobenzene	26000	ug/l	35	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8270	3-Chloroaniline	28000	ug/l	NA	ug/l	None Available
B-26B	Intermediate	05/11/2000	8270	3-Nitrochlorobenzene	130000	ug/l	NA	ug/l	None Available
B-26B	Intermediate	05/11/2000	8270	4-Chloroaniline	35000	ug/l	28	ug/l	TACO Groundwater Objective
B-26B	Intermediate	05/11/2000	8270	Phenol	26000	ug/l	100	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8260	4-Methyl-2-pentanone	3100	ug/l	560	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8260	Benzene	190	ug/l	5	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8260	Chlorobenzene	2800	ug/l	100	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8260	Toluene	650	ug/l	100	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8270	2,4-Dichlorophenol	39000	ug/l	21	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8270	2-Chloroaniline	120000	ug/l	NA	ug/l	None Available
B-28B	Intermediate	05/10/2000	8270	2-Chlorophenol	37000	ug/l	35	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8270	3-Methylphenol/4-Methylphenol	35000	ug/l	350	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8270	4-Chloroaniline	71000	ug/l	28	ug/l	TACO Groundwater Objective
B-28B	Intermediate	05/10/2000	8270	4-Chlorophenol	34000	ug/l	NA	ug/l	None Available
B-28B	Intermediate	05/10/2000	8270	Phenol	220000	ug/l	100	ug/l	TACO Groundwater Objective

TABLE 3
VOCs and SVOCs SUMMARY OF EXCEEDANCES
OFF-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
B-29B	Intermediate	05/10/2000	8260	Acetone	750	ug/l	700	ug/l	TACO Groundwater Objective
B-29B	Intermediate	05/10/2000	8260	Benzene	51	ug/l	5	ug/l	TACO Groundwater Objective
B-29B	Intermediate	05/10/2000	8260	Chlorobenzene	1600	ug/l	100	ug/l	TACO Groundwater Objective
B-29B	Intermediate	05/10/2000	8260	Toluene	400	ug/l	100	ug/l	TACO Groundwater Objective
B-29B	Intermediate	05/10/2000	8270	2,4-Dichlorophenol	83000	ug/l	21	ug/l	TACO Groundwater Objective
B-29B	Intermediate	05/10/2000	8270	2-Chlorophenol	160000	ug/l	35	ug/l	TACO Groundwater Objective
B-29B	Intermediate	05/10/2000	8270	3-Methylphenol/4-Methylphenol	110000	ug/l	350	ug/l	TACO Groundwater Objective
B-29B	Intermediate	05/10/2000	8270	4-Chlorophenol	67000	ug/l	NA	ug/l	None Available
B-29B	Intermediate	05/10/2000	8270	Phenol	1100000	ug/l	100	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	02/01/00	8260	1,1-Dichloroethene	33	ug/l	7	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	02/01/00	8260	Benzene	110	ug/l	5	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	05/09/2000	8260	Benzene	76	ug/l	5	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	02/01/00	8260	Chlorobenzene	760	ug/l	100	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	05/09/2000	8260	Chlorobenzene	910	ug/l	100	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	02/01/00	8260	Cis/Trans-1,2-Dichloroethene	400	ug/l	70	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	05/09/2000	8260	Cis/Trans-1,2-Dichloroethene	420	ug/l	70	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	02/01/00	8260	Vinyl chloride	62	ug/l	2	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	05/09/2000	8270	1,4-Dichlorobenzene	530	ug/l	75	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	02/01/2000	8270	1,4-Dichlorobenzene	330	ug/l	75	ug/l	TACO Groundwater Objective
GM-20B	Intermediate	02/01/2000	8270	2-Chloroaniline	55	ug/l	NA	ug/l	None Available
GM-20B	Intermediate	02/01/2000	8270	4-Chlorophenol	20	ug/l	NA	ug/l	None Available
GM-20B DUP	Intermediate	02/01/00	8260	1,1-Dichloroethene	28	ug/l	7	ug/l	TACO Groundwater Objective
GM-20B DUP	Intermediate	02/01/00	8260	Benzene	280	ug/l	5	ug/l	TACO Groundwater Objective
GM-20B DUP	Intermediate	02/01/00	8260	Chlorobenzene	840	ug/l	100	ug/l	TACO Groundwater Objective
GM-20B DUP	Intermediate	02/01/00	8260	Cis/Trans-1,2-Dichloroethene	360	ug/l	70	ug/l	TACO Groundwater Objective
GM-20B DUP	Intermediate	02/01/00	8260	Vinyl chloride	51	ug/l	2	ug/l	TACO Groundwater Objective
GM-20B DUP	Intermediate	02/01/2000	8270	1,4-Dichlorobenzene	360	ug/l	75	ug/l	TACO Groundwater Objective
GM-20B DUP	Intermediate	02/01/2000	8270	2-Chloroaniline	52	ug/l	NA	ug/l	None Available
GM-20B DUP	Intermediate	02/01/2000	8270	4-Chlorophenol	19	ug/l	NA	ug/l	None Available
GM-27B	Intermediate	05/10/2000	8260	Benzene	1400	ug/l	5	ug/l	TACO Groundwater Objective
GM-27B	Intermediate	05/10/2000	8260	Chlorobenzene	11000	ug/l	100	ug/l	TACO Groundwater Objective
GM-27B	Intermediate	05/10/2000	8260	Toluene	700	ug/l	100	ug/l	TACO Groundwater Objective
GM-27B	Intermediate	05/10/2000	8270	Aniline	39000	ug/l	23	ug/l	TACO Groundwater Objective

TABLE 3
VOCs and SVOCs SUMMARY OF EXCEEDANCES
OFF-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
GM-27B	Intermediate	05/10/2000	8270	2-Chloroaniline	20000	ug/l	NA	ug/l	None Available
GM-27B	Intermediate	05/10/2000	8270	3-Chloroaniline	25000	ug/l	NA	ug/l	None Available
GM-27B	Intermediate	05/10/2000	8270	4-Chloroaniline	25000	ug/l	28	ug/l	TACO Groundwater Objective
GM-27B	Intermediate	05/10/2000	8270	Phenol	8100	ug/l	100	ug/l	TACO Groundwater Objective
GM-54B	Intermediate	02/01/00	8260	Benzene	23	ug/l	5	ug/l	TACO Groundwater Objective
GM-54B	Intermediate	05/11/2000	8270	2-Chloroaniline	15	ug/l	NA	ug/l	None Available
GM-54B	Intermediate	05/11/2000	8270	3-Chloroaniline	87	ug/l	NA	ug/l	None Available
GM-60B	Intermediate	05/09/2000	8260	Chlorobenzene	850	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/16/2002	8260	Benzene	79	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/16/2002	8260	Chlorobenzene	620	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/16/2002	8260	Chloroethane	2.9	ug/l	NA	ug/l	None Available
AA-GWM-S1	Deep	07/17/2002	8260	Benzene	76	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Chlorobenzene	2800	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Chloroethane	11	ug/l	NA	ug/l	None Available
AA-GWM-S1	Deep	07/17/2002	8270	2-Chlorophenol	40	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Benzene	68	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Chlorobenzene	3700	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Vinyl chloride	27	ug/l	2	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8270	2-Chlorophenol	46	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8270	1,4-Dichlorobenzene	180	ug/l	75	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Benzene	56	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Chlorobenzene	3000	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Trichloroethene	15	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8260	Vinyl Chloride	27	ug/l	2	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8270	2-Chlorophenol	36	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S1	Deep	07/17/2002	8270	1,4-Dichlorobenzene	93	ug/l	75	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/22/2002	8260	Chlorobenzene	5100	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/22/2002	8270	2-Chlorophenol	49	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/22/2002	8270	1,4-Dichlorobenzene	120	ug/l	75	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/22/2002	8260	Benzene	18	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/22/2002	8260	Chlorobenzene	7800	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/22/2002	8270	2-Chlorophenol	54	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/22/2002	8270	1,4-Dichlorobenzene	120	ug/l	75	ug/l	TACO Groundwater Objective

TABLE 3
VOCs and SVOCs SUMMARY OF EXCEEDANCES
OFF-SITE GROUNDWATER SAMPLE LOCATIONS

WELL	ZONE	DATE SAMPLED	METHOD	COMPOUND	RESULT	UNITS	SCREENING CRITERION	UNITS	BASIS FOR SCREENING
AA-GWM-S2	Deep	07/23/2002	8270	Dibenzo(a,h)anthracene	2.2	ug/l	0.3	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/23/2002	8260	Benzene	23	ug/l	5	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/23/2002	8260	Chlorobenzene	6700	ug/l	100	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/23/2002	8270	2-Chlorophenol	42	ug/l	35	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/23/2002	8270	1,3-Dichlorobenzene	12	ug/l	6.3	ug/l	TACO Groundwater Objective
AA-GWM-S2	Deep	07/23/2002	8270	1,4-Dichlorobenzene	360	ug/l	75	ug/l	TACO Groundwater Objective
GM-19C	Deep	05/09/2000	8270	1,4-Dichlorobenzene	180	ug/l	75	ug/l	TACO Groundwater Objective
GM-19C	Deep	05/09/2000	8270	2-Chloroaniline	120	ug/l	NA	ug/l	None Available
GM-19C	Deep	05/09/2000	8270	4-Chlorophenol	16	ug/l	NA	ug/l	None Available
GM-27C	Deep	05/10/2000	8260	Benzene	250	ug/l	5	ug/l	TACO Groundwater Objective
GM-27C	Deep	05/10/2000	8260	Chlorobenzene	1700	ug/l	100	ug/l	TACO Groundwater Objective
GM-27C	Deep	05/10/2000	8270	2-Chloroaniline	620	ug/l	NA	ug/l	None Available
GM-27C	Deep	05/10/2000	8270	3-Chloroaniline	3200	ug/l	NA	ug/l	None Available
GM-27C	Deep	05/10/2000	8270	4-Chlorophenol	300	ug/l	NA	ug/l	None Available
GM-27C	Deep	05/10/2000	8270	Aniline	2800	ug/l	23	ug/l	TACO Groundwater Objective
GM-56C	Deep	05/11/2000	8260	Benzene	6.6	ug/l	5	ug/l	TACO Groundwater Objective
GM-56C	Deep	05/11/2000	8260	Chlorobenzene	140	ug/l	100	ug/l	TACO Groundwater Objective
GM-56C	Deep	05/11/2000	8270	2-Chloroaniline	14000	ug/l	NA	ug/l	None Available
GM-56C	Deep	05/11/2000	8270	2-Nitrochlorobenzene	3800	ug/l	NA	ug/l	None Available
GM-56C	Deep	05/11/2000	8270	3-Nitrochlorobenzene	17000	ug/l	NA	ug/l	None Available
GM-60C	Deep	05/09/2000	8260	Chlorobenzene	230	ug/l	100	ug/l	TACO Groundwater Objective
GM-60C	Deep	05/09/2000	8260	Benzene	18	ug/l	5	ug/l	TACO Groundwater Objective
GM-60C	Deep	05/09/2000	8270	3-Chloroaniline	47	ug/l	NA	ug/l	None Available
GM-60C	Deep	05/09/2000	8270	2-Chloroaniline	140	ug/l	NA	ug/l	None Available
GM-60C	Deep	05/09/2000	8270	1,4-Dichlorobenzene	790	ug/l	75	ug/l	TACO Groundwater Objective

TABLE 4
SUMMARY OF EXCEEDANCES
HWMU CLOSURE SOIL SAMPLES

HWMU	Sample ID	Chemical Group	Chemical	Result	Lab Qualifier	Reporting Limit	Units	Minimum Screening Level	Reference
BBU	BBU-B52-14-16'	Volatile Organic Compounds	Benzene	47	E	0.36	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B52-14-16'	Volatile Organic Compounds	Benzene	43	D	2	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B53-3-3.5'	Semivolatile Organic Compounds	1,2,4-Trichlorobenzene	1900	D	110	mg/kg dw	920	TACO - TIER I
BBU	BBU-B53-3-3.5'	Semivolatile Organic Compounds	1,2,4-Trichlorobenzene	1400	E	23	mg/kg dw	920	TACO - TIER I
BBU	BBU-B53-3-3.5'	Semivolatile Organic Compounds	Pentachlorophenol	1900	D	590	mg/kg dw	47.7	TACO - TIER II
BBU	BBU-B53-3-3.5'	Semivolatile Organic Compounds	Pentachlorophenol	1500	E	120	mg/kg dw	47.7	TACO - TIER II
BBU	BBU-B54-12-14'	Volatile Organic Compounds	Benzene	5.1		0.36	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B54-12-14'DUP	Volatile Organic Compounds	Benzene	2.5		0.36	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B55-2-4'	Semivolatile Organic Compounds	Pentachlorophenol	180	D	34	mg/kg dw	47.7	TACO - TIER II
BBU	BBU-B55-2-4'	Semivolatile Organic Compounds	Pentachlorophenol	130	E	2.2	mg/kg dw	47.7	TACO - TIER II
BBU	BBU-B55-6-8'	Volatile Organic Compounds	Benzene	5.9		0.25	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B55-6-8' DUP	Semivolatile Organic Compounds	Pentachlorophenol	150	D	34	mg/kg dw	47.7	TACO - TIER II
BBU	BBU-B55-6-8' DUP	Semivolatile Organic Compounds	Pentachlorophenol	130	E	2.4	mg/kg dw	47.7	TACO - TIER II
BBU	BBU-B56-4-6'	Volatile Organic Compounds	Benzene	5.6		0.3	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B57-3'	Volatile Organic Compounds	1,2-Dichloroethane	5	DJ	5	mg/kg dw	1.05	TACO - TIER II
BBU	BBU-B57-3'	Volatile Organic Compounds	1,2-Dichloroethane	4.7		1.4	mg/kg dw	1.05	TACO - TIER II
BBU	BBU-B57-3'	Volatile Organic Compounds	Benzene	240	D	5	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B57-3'	Volatile Organic Compounds	Benzene	230	E	1.4	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B58-3-4'	Volatile Organic Compounds	Benzene	1200		200	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B58-7-8'	Volatile Organic Compounds	Benzene	660	D	12.5	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B58-7-8'	Volatile Organic Compounds	Benzene	640	E	36	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B59-2-4'	Semivolatile Organic Compounds	1,2,4-Trichlorobenzene	1500		76	mg/kg dw	920	TACO - TIER I
BBU	BBU-B59-2-4'	Semivolatile Organic Compounds	1,4-Dichlorobenzene	410		76	mg/kg dw	340	TACO - TIER I
BBU	BBU-B59-2-4'	Volatile Organic Compounds	Benzene	3		0.38	mg/kg dw	1.6	TACO - TIER I
BBU	BBU-B59-6-8'	Volatile Organic Compounds	Benzene	12		0.657	mg/kg dw	1.6	TACO - TIER I
NTF	NTF-B74-2-4'	Volatile Organic Compounds	Chlorobenzene	30000	D	500	mg/kg dw	4080	TACO - TIER II
NTF	NTF-B75-16-20'	Semivolatile Organic Compounds	2-Methylnaphthalene	6.8		4.2	mg/kg dw	1.8	TACO Surrogate
NTF	NTF-B76-18-20'	Semivolatile Organic Compounds	2-Methylnaphthalene	10		3.9	mg/kg dw	1.8	TACO Surrogate
NTF	NTF-B76-18-20'	Volatile Organic Compounds	Benzene	210		5	mg/kg dw	1.6	TACO - TIER I
NTF	NTF-B76-18-20'	Volatile Organic Compounds	Benzene	210	E	2.9	mg/kg dw	1.6	TACO - TIER I
NTF	NTF-B77-16-18'	Semivolatile Organic Compounds	2-Methylnaphthalene	6.8		3.7	mg/kg dw	1.8	TACO Surrogate
PCB	PCB-B60-0-2'	Polychlorinated Biphenyls (PCB)	Total PCBs	47.5	NA	NA	mg/kg dw	25	TSCA
PCB	PCB-B63-4-5'	Polychlorinated Biphenyls (PCB)	Total PCBs	494	NA	NA	mg/kg dw	25	TSCA
PCB	PCB-B63-4-5'	Semivolatile Organic Compounds	Benzo(a)pyrene	2.2	D	2	mg/kg dw	0.8	TACO - TIER I
SCT	SCT-B67-10-12'	Volatile Organic Compounds	Benzene	170		7	mg/kg dw	1.6	TACO - TIER I
SCT	SCT-B67-10-12'	Volatile Organic Compounds	Chlorobenzene	23000	D	500	mg/kg dw	4080	TACO - TIER II
SCT	SCT-B70-6-8'	Volatile Organic Compounds	Benzene	44	D	25	mg/kg dw	1.6	TACO - TIER I
SCT	SCT-B70-6-8'	Volatile Organic Compounds	Benzene	40		5.6	mg/kg dw	1.6	TACO - TIER I
SCT	SCT-B71-6-8'	Volatile Organic Compounds	Benzene	240	D	100	mg/kg dw	1.6	TACO - TIER I
SCT	SCT-B71-6-8'	Volatile Organic Compounds	Benzene	230	E	5.1	mg/kg dw	1.6	TACO - TIER I
SOT	SOT-B64-6-8' DUP	Volatile Organic Compounds	Ethylbenzene	100	D	25	mg/kg dw	58	TACO - TIER I
SOT	SOT-B64-6-8' DUP	Volatile Organic Compounds	Ethylbenzene	94		10	mg/kg dw	58	TACO - TIER I
SOT	SOT-B65-12-14'	Volatile Organic Compounds	Benzene	7.5		0.25	mg/kg dw	1.6	TACO - TIER I

TABLE 5
SUMMARY OF EXCEEDANCES
PHASE I CMS SOIL SAMPLES

Area	SampleID	ChemGroup	Chemical	Result	Lab Qual	RL	UNITS	Min Industrial Screen Level	Reference
1	S0110(0-2)	Semivolatile Organic Compounds	Benzo(a)pyrene	1		0.4	mg/kg dw	0.8	TACO - TIER I
2	S0205(0-2)	Metals	Barium	15000	N	1.2	mg/kg dw	14000	TACO - TIER I
2	S0205(0-2)	Metals	Nickel	38000		4.9	mg/kg dw	14000	TACO - TIER I
4	S0408(6-8)	Volatile Organic Compounds	cis-1,3-Dichloropropene	1.7		0.2	mg/kg dw	0.39	TACO Surrogate
4	S0408(6-8)	Volatile Organic Compounds	trans-1,3-Dichloropropene	4.9		0.2	mg/kg dw	0.39	TACO Surrogate
4	S0413(10-12)	Volatile Organic Compounds	Benzene	61		3.9	mg/kg dw	1.6	TACO - TIER I
4	S0413(10-12)D	Volatile Organic Compounds	Benzene	49		4.7	mg/kg dw	1.6	TACO - TIER I
5	S0502(6-8)	Metals	Copper	27000	N	2.4	mg/kg dw	14000	TACO - TIER I
5	S0502(6-8)	Metals	Lead	770	N	0.6	mg/kg dw	14000	TACO - TIER II
5	S0502(6-8)	Volatile Organic Compounds	Benzene	7.9		5.6	mg/kg dw	1.6	TACO - TIER I
5	S0502(6-8)	Volatile Organic Compounds	Chloromethane	9.6		5.6	mg/kg dw	2.65	Region 9 PRG
5	S0506(13-15)	Volatile Organic Compounds	Benzene	340		1.4	mg/kg dw	1.6	TACO - TIER I
5	S0509(3-5)	Semivolatile Organic Compounds	Benzo(a)pyrene	1.3		0.36	mg/kg dw	0.8	TACO - TIER I
6	S0601(8-10)	Volatile Organic Compounds	Benzene	23		0.16	mg/kg dw	1.6	TACO - TIER I
6	S0601(8-10)D	Volatile Organic Compounds	Benzene	55		0.31	mg/kg dw	1.6	TACO - TIER I
6	S0603(6-8)	Polychlorinated Biphenyls (PCB)	Total PCBs	41	NA	NA	mg/kg dw	25	TSCA
7	S0703(5-7)	Metals	Lead	880	N	0.57	mg/kg dw	14000	TACO - TIER II
7	S0703(5-7)	Semivolatile Organic Compounds	3,3'-Dichlorobenzidine	22		8	mg/kg dw	13	TACO - TIER I
7	S0704(14-16)	Semivolatile Organic Compounds	2-Methylnaphthalene	2.8		0.4	mg/kg dw	1.8	TACO Surrogate
7	S0707(2-4)	Metals	Lead	1700	*	0.59	mg/kg dw	14000	TACO - TIER II
7	S0709(2-4)	Semivolatile Organic Compounds	Benzo(a)anthracene	9.3	D	1.5	mg/kg dw	8	TACO - TIER I
7	S0709(2-4)	Semivolatile Organic Compounds	Benzo(a)pyrene	3.8		0.38	mg/kg dw	0.8	TACO - TIER I
7	S0709(2-4)	Semivolatile Organic Compounds	Benzo(a)pyrene	6.3	D	1.5	mg/kg dw	0.8	TACO - TIER I
7	S0709(2-4)	Semivolatile Organic Compounds	Dibenzo(a,h)anthracene	1.2		0.38	mg/kg dw	0.8	TACO - TIER I
7	S0710(13-15)	Polychlorinated Biphenyls (PCB)	Total PCBs	30	NA	NA	mg/kg dw	25	TSCA
7	S0710(13-15)	Volatile Organic Compounds	Ethylbenzene	11000		5.3	mg/kg dw	58	TACO - TIER I
7	S0710(13-15)	Volatile Organic Compounds	mp-Xylene	44000		5.3	mg/kg dw	420	TACO - TIER I
7	S0710(13-15)	Volatile Organic Compounds	o-Xylene	11000		5.3	mg/kg dw	410	TACO - TIER I
8	S0802(2-4)	Polychlorinated Biphenyls (PCB)	Total PCBs	4870	NA	NA	mg/kg dw	25	TSCA
8	S0802(2-4)D	Semivolatile Organic Compounds	3,3'-Dichlorobenzidine	17		7.5	mg/kg dw	13	TACO - TIER I
9	S0904(6-8)	Metals	Mercury	1000	N*	237	mg/kg dw	14000	TACO - TIER I

Notes:

1.) Samples were analyzed for VOCs, SVOCs, PCBs and metals.

2.) Data validation is currently in progress.

TABLE 6
INDOOR/OUTDOOR AIR SAMPLING RESULTS (in ppbv)

Method TO-15	Target Indoor Concen-tration (ppbv)	OSHA PEL (ppbv)	Detection Limit (ppbv)	Building BBZ		Building BBG		Building CCB		Building BK Administration		
				Offices	Warehouse	Indoors	Outdoors	Indoors	Outdoors	Indoors 1st Floor	Indoors Basement	Outdoors
Sample No.				BBZ-O	BBZ-I	BBG-O	BBG-I	CCV-O	CCV-I	BK-1st	BK-Dist	BK-1
Benzene	9.8	1,000	0.86			0.86*			0.92*			
Methylene Chloride	150	25,000	0.86	60	25	87		440	3.1	13	24	2.2
Chlorobenzene	13	75,000	0.86			0.86*		1.6	1.0*			0.94*
4-Methyl-2-Pentanone (MIBK)	20	200,000	3.4	130	160	5.4						
Methyl Ethyl Ketone (MEK)	340	200,000	3.4	20	22	21	9.8					
Acetone	150	100,000	3.4	7.4	5.2	110		20	3.4*	4.4	4	4.5

Source: TRC, 2003

All samples collected on March 29, 2003. Blanks represent undetected (detection limits are below target concentrations)

* at or near detection limit

TABLE 7
SOIL VAPOR SAMPLING RESULTS (ppbv)

	Target Shallow		Samples (SVP-X)																
Contaminants	Soil Gas Concentrations	Detection Limit																	
	(ppbv)	(ppbv)																	
Sample Location			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Method TO-15																			
						none	none		wet						wet				
4-Methyl-2-pentanone (MIBK)	200	3.7						3.9*								72000	7.8		
1,1,1-Trichholoethane	4000	0.94											170	9.8					
Tetrachloroethene	48	0.94			1.9			150		1.1*	55		92	2.9					
Chlorobenzene	130	0.94										31000				2200	20		
1,2-Dichlorobenzene	330	0.94									46	870					8.2		
1,4-Dichlorobenzene	1300	0.94										4500					3.2		
Chloroform	22	0.94								11									
Benzene	98	0.94		1*						1.5		680				1100			3.5
Acetone	1500	3.7	7.6					6.7		11									11
Methylene Chloride	1500	0.94																	
MEK	3400	3.7																	
Method TO-13			none	none	none	none	none	none			none	none	none	none			none	none	none
Aniline	N/A	1.0														8.6ug			
					leak?						leak?								leak?

Source: TRC, 2003

* Near Detection Limit

TABLE 8
BENZENE PIPELINE SOIL VAPOR GRAB SAMPLES (ppbv)

	Target Shallow Soil Gas Concentrations	Detection Limit (ppbv)	Sample Locations (SVP-Y)				
			18	19	20	21	22
Method TO-15							
4-Methyl-2-Pentanone (MIBK)		3.7					
1,1,1-Trichholoethane		0.94					
Tetrachloroethene		0.94					
Chlorobenzene		0.94					
1,2-Dichlorobenzene		0.94					
1,4-Dichlorobenzene		0.94					
Chloroform		0.94					
Benzene		0.94					
Acetone	1500	3.7	6.3	5.6	4.2	12	9
Methylene Chloride		0.94					
MEK	3400	3.7	8.4	11	5.5		8
Method TO-14		1.0	none	none	none	none	none

Source: TRC, 2003

TABLE 9
AMBIENT AIR SAMPLING RESULTS (ppbv)

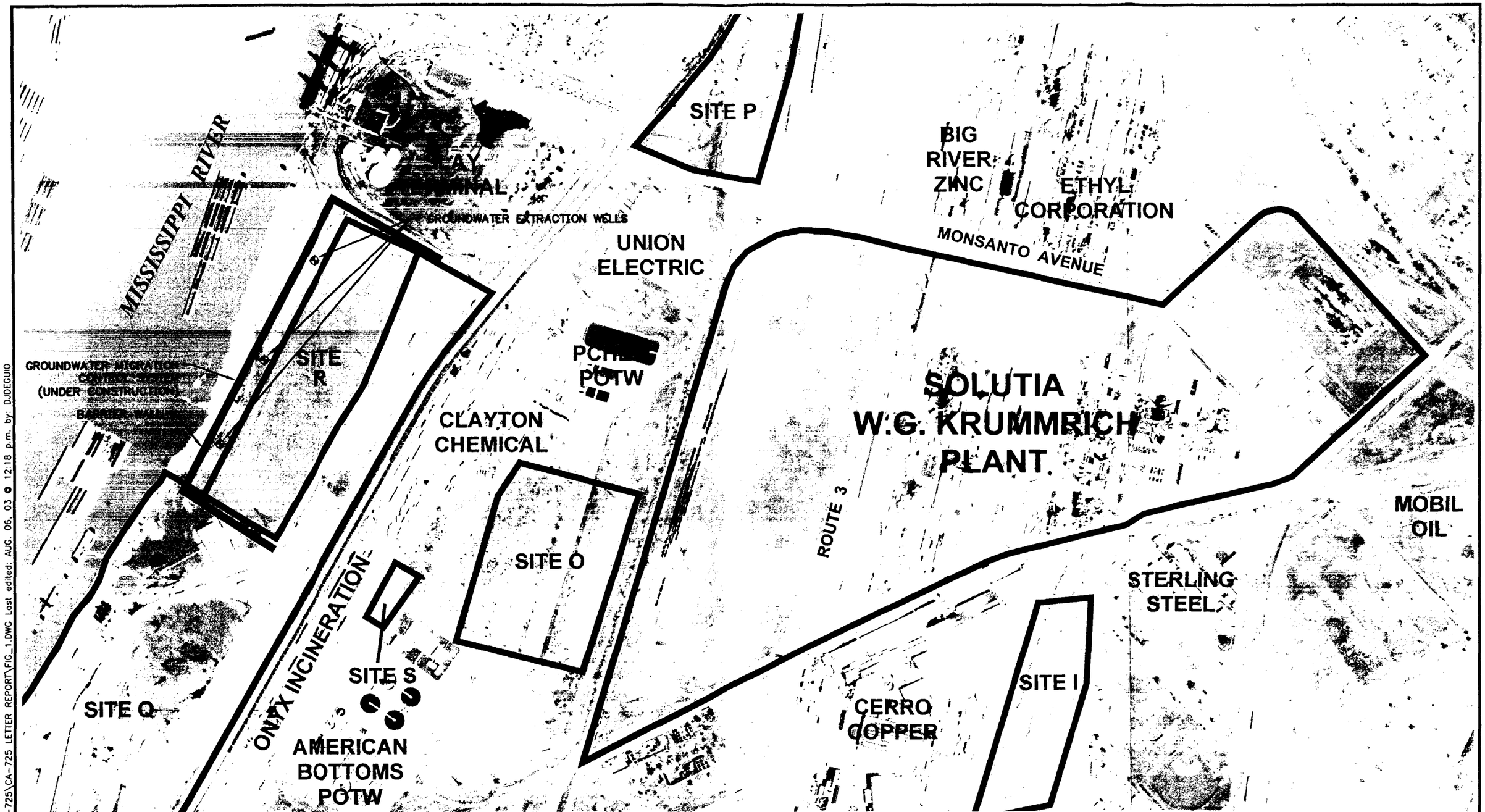
Method TO-15	Target Indoor Concentration (ppbv)	OSHA PEL (ppbv)	Detection Limit (ppbv)	March 31, 2003	April 1, 2003 AM	April 1, 2003 PM	April 2, 2003
Methylene Chloride	150	25,000	0.98				76
Chlorobenzene	13	75,000	0.96		2.6		
Acetone	150	100,000	3.8		4.7	4.1	19
1,4 Dichloro-benzene			6.96		1.5		

Blanks represent undetected (detection limits are below target concentrations)

Indicates above EPA Vapor Intrusion Guidance Target Indoor Concentrations (none were detected)

Source: TRC, 2003

Figures



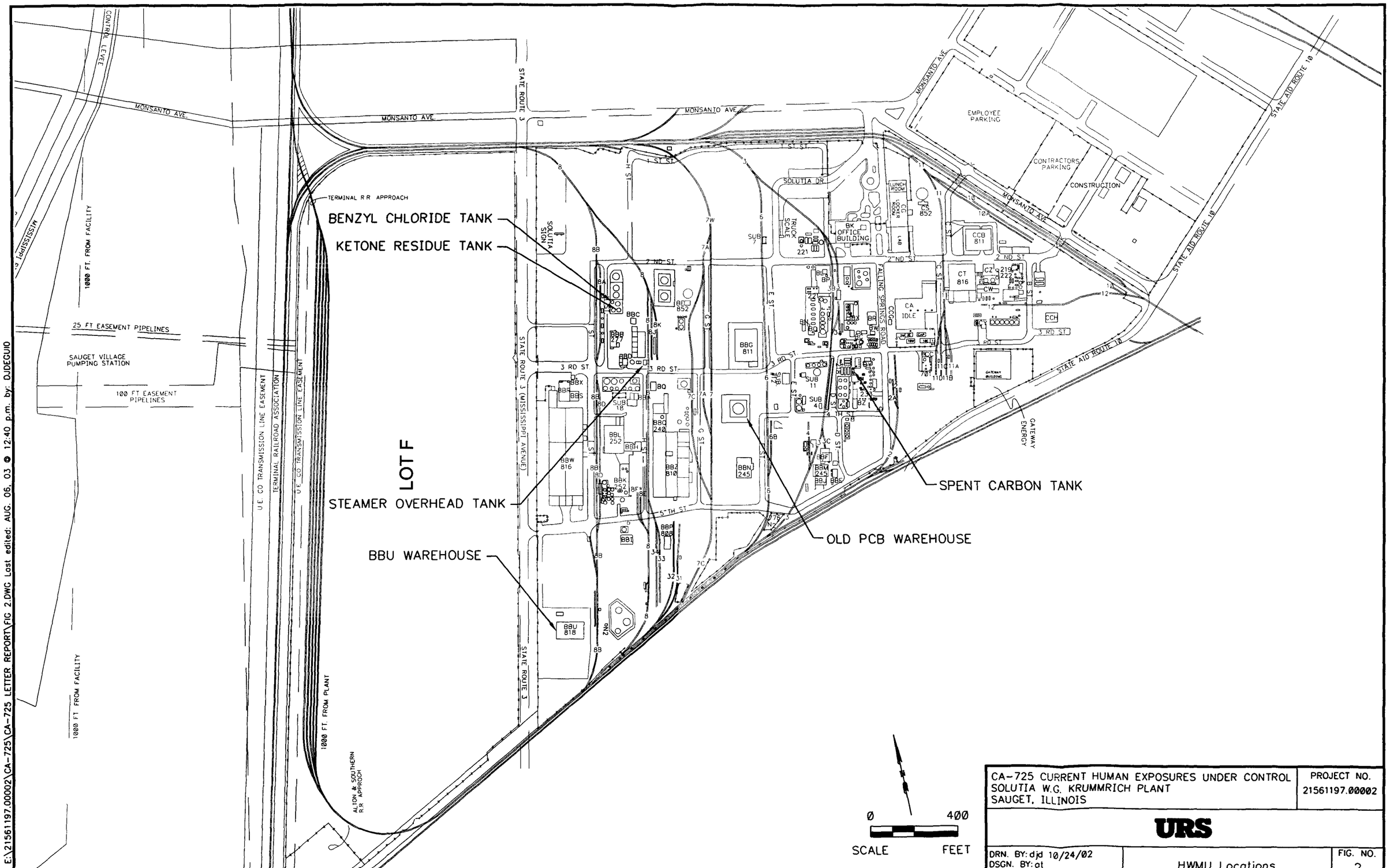
NOTES:
1) SITE I IS A SAUGET AREA 1 SITE (CERCLA).
2) SITES O, P, Q, R AND S ARE SAUGET AREA 2 SITES (CERCLA).

SOURCE: SURDEX AERIAL PHOTOGRAPHY DATED APRIL 2000.

0 600
SCALE FEET

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS	PROJECT NO. 21561197.00002
URS	
DRN. BY: djd 10/24/02 DSGN. BY: at CHKD. BY:	Site Location Map
	FIG. NO. 1

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG_1.DWG Last edited: AUG. 06, 03 @ 12:18 p.m. by: DJDEGUIO



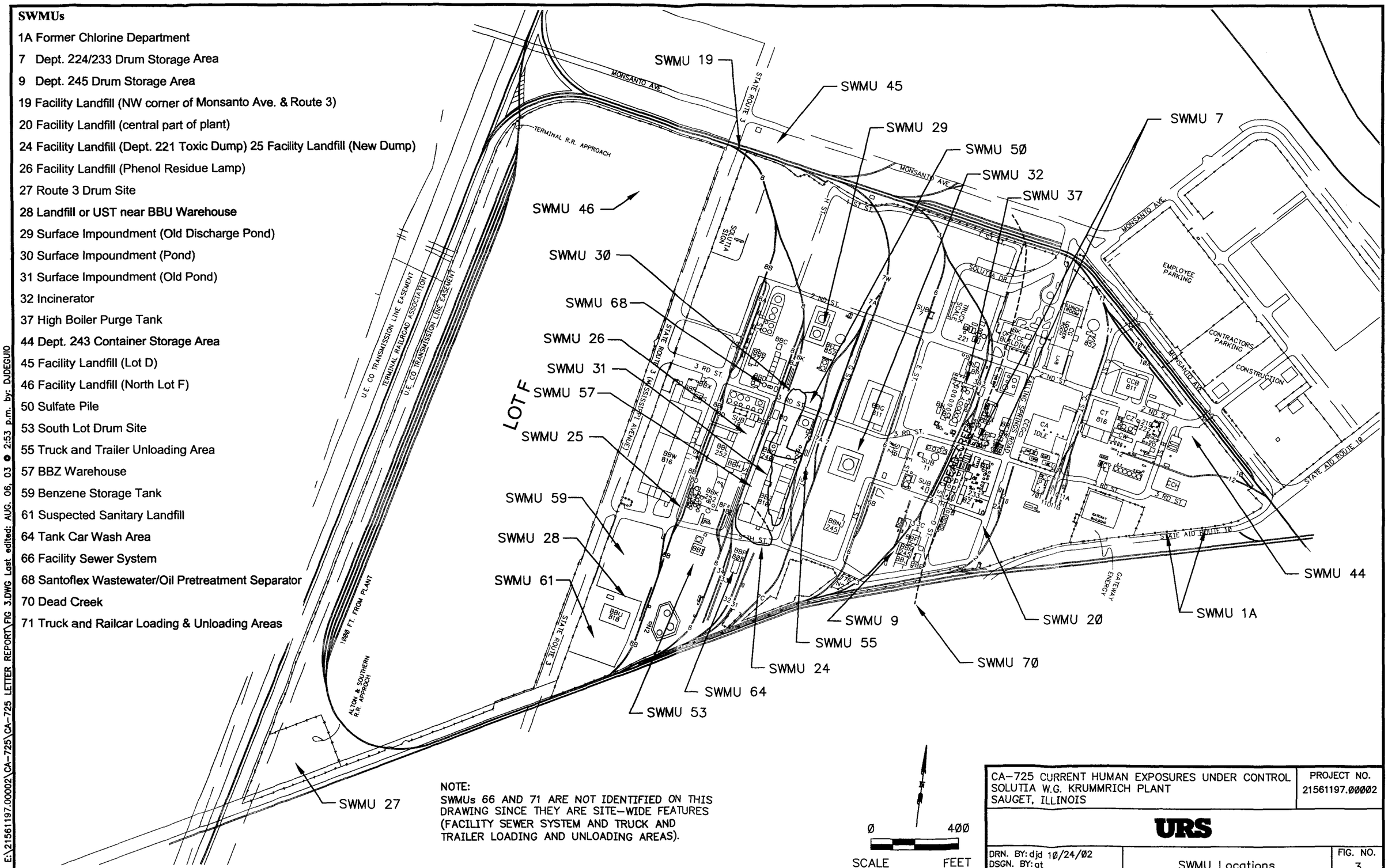
CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS		PROJECT NO. 21561197.00002
URS		
DRN. BY: djd 10/24/02 DSGN. BY: at CHKD. BY:	HWMU Locations	FIG. NO. 2

SOURCE: 1998 STATUS REPORT "HAZARDOUS WASTE MANAGEMENT UNIT CLOSURE" HWMU LOCATION MAP FIGURE 2-1

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG 2.DWG Last edited: AUG. 06, 03 @ 12:40 p.m. by: DJDEGUIO

SWMUs

1A Former Chlorine Department
7 Dept. 224/233 Drum Storage Area
9 Dept. 245 Drum Storage Area
19 Facility Landfill (NW corner of Monsanto Ave. & Route 3)
20 Facility Landfill (central part of plant)
24 Facility Landfill (Dept. 221 Toxic Dump) 25 Facility Landfill (New Dump)
26 Facility Landfill (Phenol Residue Lamp)
27 Route 3 Drum Site
28 Landfill or UST near BBU Warehouse
29 Surface Impoundment (Old Discharge Pond)
30 Surface Impoundment (Pond)
31 Surface Impoundment (Old Pond)
32 Incinerator
37 High Boiler Purge Tank
44 Dept. 243 Container Storage Area
45 Facility Landfill (Lot D)
46 Facility Landfill (North Lot F)
50 Sulfate Pile
53 South Lot Drum Site
55 Truck and Trailer Unloading Area
57 BBZ Warehouse
59 Benzene Storage Tank
61 Suspected Sanitary Landfill
64 Tank Car Wash Area
66 Facility Sewer System
68 Santoflex Wastewater/Oil Pretreatment Separator
70 Dead Creek
71 Truck and Railcar Loading & Unloading Areas



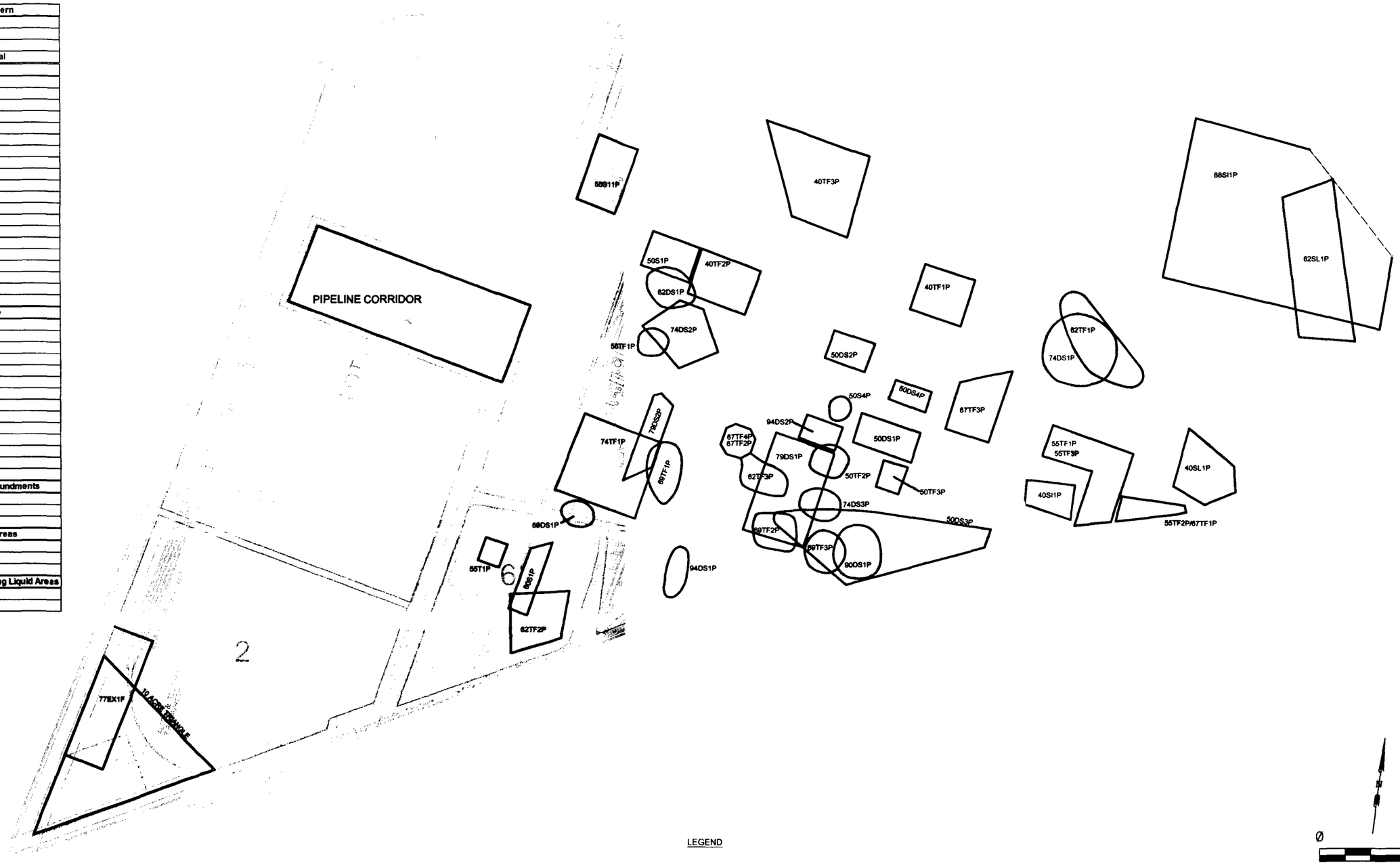
NOTE:
SWMUs 66 AND 71 ARE NOT IDENTIFIED ON THIS DRAWING SINCE THEY ARE SITE-WIDE FEATURES (FACILITY SEWER SYSTEM AND TRUCK AND TRAILER LOADING AND UNLOADING AREAS).

SOURCE: "DESCRIPTION OF CURRENT CONDITIONS" REPORT, AUGUST 2000 SWMU LOCATION MAP FIGURE 8.

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS	PROJECT NO. 21561197.00002
URS	
DRN. BY: djd 10/24/02 DSGN. BY: at CHKD. BY:	SWMU Locations
FIG. NO. 3	

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG 3.DWG Last edited: AUG. 06, 03 @ 2:53 p.m. by: DJDEGUIO

Possible Areas of Concern
Southern End of Lot F
1977 Excavations (77EX1F)
"Big MO" (55T1P)
Pipeline Corridor from River Terminal
Manufacturing Plant Tank Farms
40TF1P
40TF2P
40TF3P
50TF1P
50TF2P
50TF3P
55TF1P
55TF2P
55TF3P
62TF1P
62TF2P
62TF3P
67TF1P
67TF2P
67TF3P
67TF4P
69TF1P
69TF2P
69TF3P
74TF1P
Manufacturing Plant Drum Storage
50DS1P
50DS2P
50DS3P
50DS4P
62DS1P
69DS1P
74DS1P
74DS2P
74DS3P
79DS1P
79DS2P
90DS1P
94DS1P
94DS2P
Manufacturing Plant Surface Impoundments
40SI1P
55SI1P
85/88SI1P
Manufacturing Plant Major Stain Areas
50S1P
50S4P
60S1P
Manufacturing Plant Major Standing Liquid Areas
40SL1P
62SL1P



LEGEND

POSSIBLE AREA OF CONCERN (LIST FROM USEPA 9/11/02)

DENOTES INVESTIGATION AREA FOR CMS

NOTE:

AOC IDENTIFIERS (e.g., 50DS1P) ARE REFERENCED TO HISTORICAL AERIAL PHOTOGRAPHS CONTAINED IN THE DOCC REPORT (8/2000).

0 400

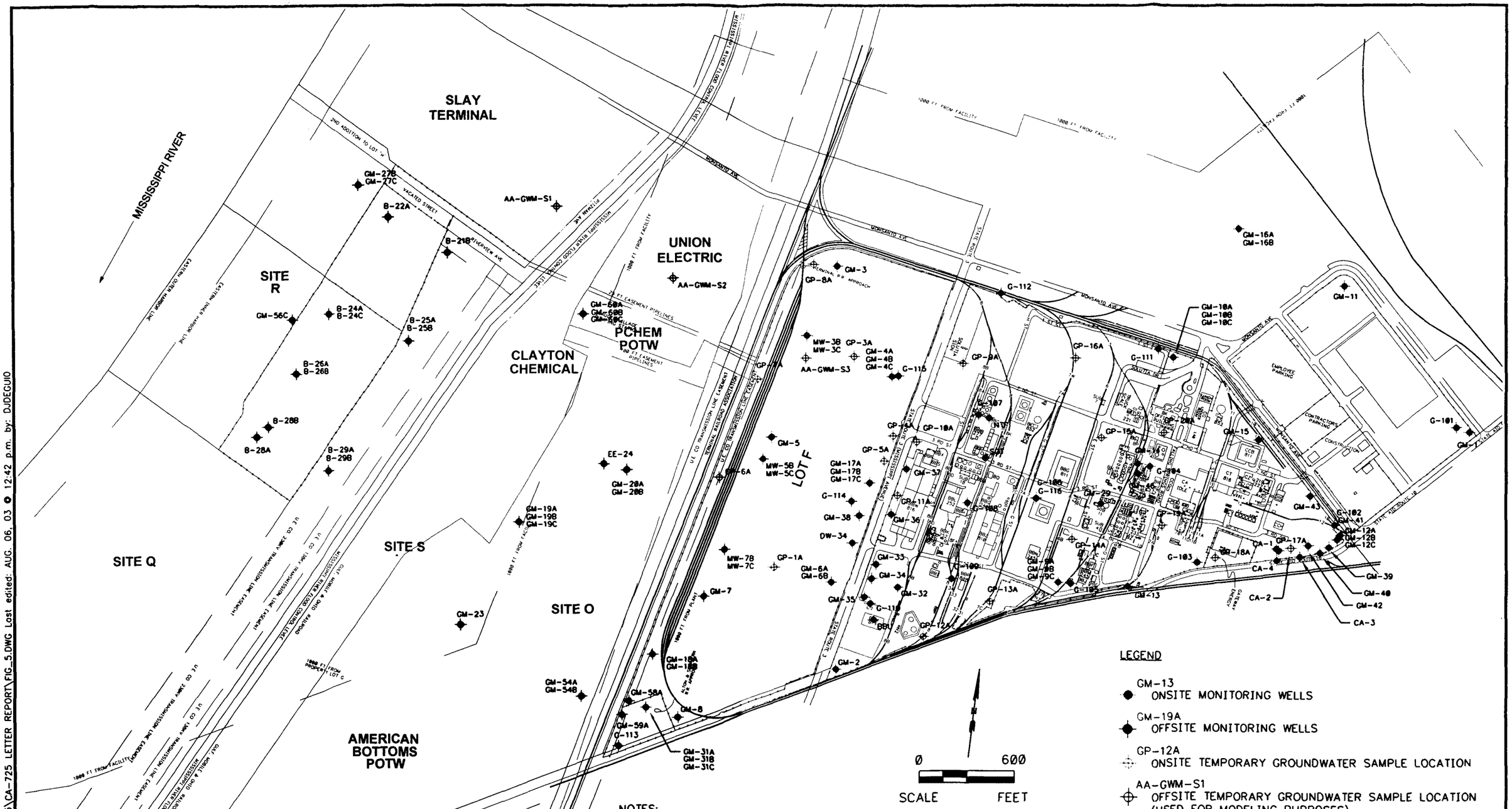
SCALE FEET

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS	PROJECT NO. 21561197.00002

URS

DRN. BY: djd 2/21/03 DSGN. BY: tja/bbb CHKD. BY:	Locations Of Possible Areas Of Concern	FIG. NO. 4

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG_4.DWG Last edited: AUG. 14, 03 @ 12:34 p.m. by: DJDEGUIO



LEGEND

GM-13
ONSITE MONITORING WELLS

GM-19A
OFFSITE MONITORING WELLS

GP-12A
ONSITE TEMPORARY GROUNDWATER SAMPLE LOCATION

AA-GWM-S1
OFFSITE TEMPORARY GROUNDWATER SAMPLE LOCATION (USED FOR MODELING PURPOSES)

NOTES:

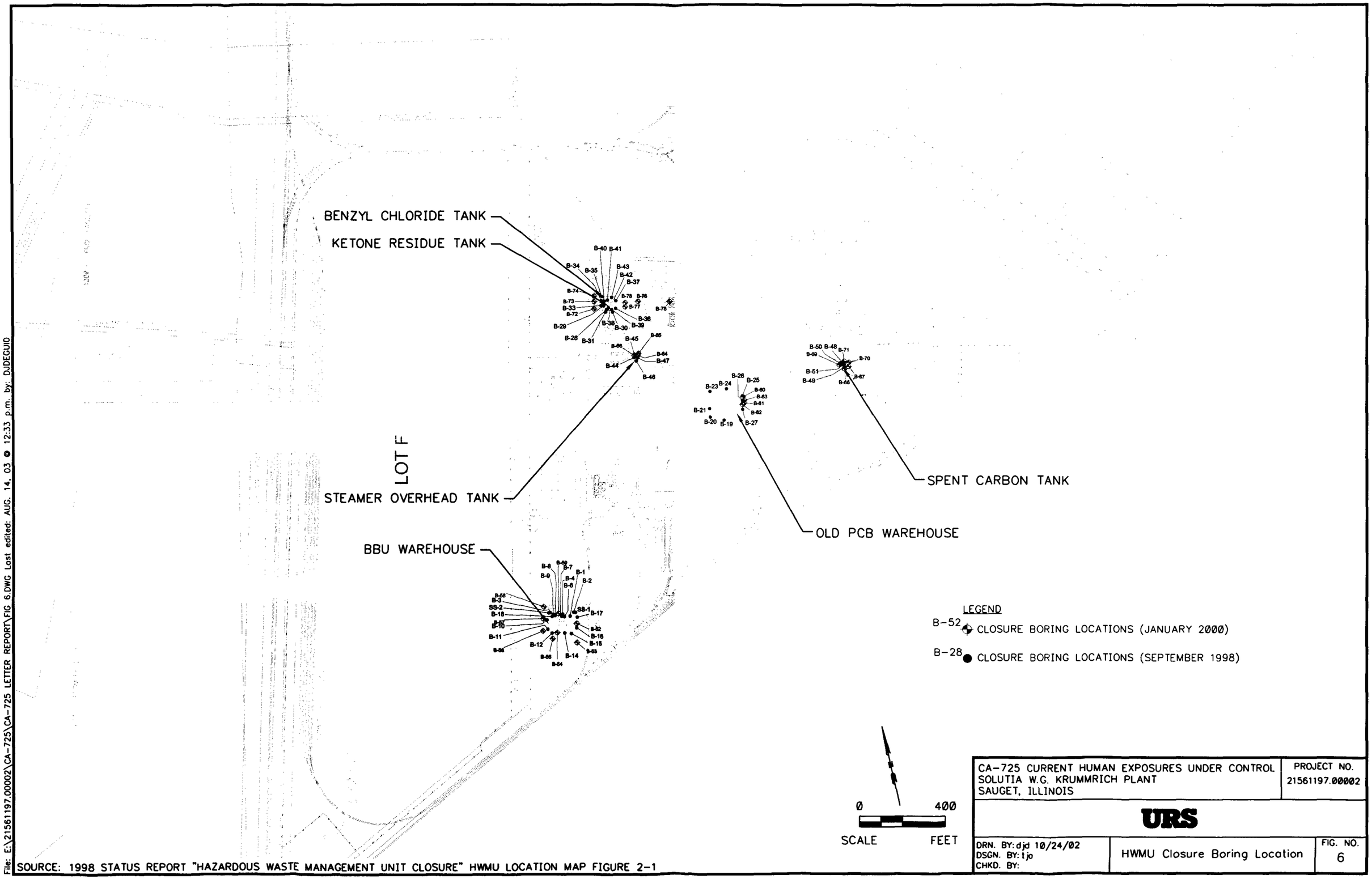
WELL DESIGNATIONS ARE AS FOLLOWS:

- WELLS WITH AN "A" SUFFIX (E.G., GM-4A OR NO SUFFIX ARE SHALLOW ZONE WELLS.
- WELLS WITH A "B" SUFFIX ARE INTERMEDIATE ZONE WELLS.
- WELLS WITH A "C" SUFFIX ARE DEEP ZONE WELLS.

SOURCE: 1999 "RCRA POST-CLOSURE PERMIT APPLICATION"

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS	PROJECT NO. 21561197.00002
URS	
DRN. BY: djd 10/24/02 DSGN. BY: at CHKD. BY:	Groundwater Monitoring Well Location Map
	FIG. NO. 5

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG_5.DWG Last edited: AUG. 06, 03 @ 12:42 p.m. by: DJDEGUIO



SOURCE: 1998 STATUS REPORT "HAZARDOUS WASTE MANAGEMENT UNIT CLOSURE" HWMU LOCATION MAP FIGURE 2-1

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS	PROJECT NO. 21561197.00002
URS	
DRN. BY: djd 10/24/02 DSGN. BY: tjo CHKD. BY:	HWMU Closure Boring Location	FIG. NO. 6

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG 6.DWG Last edited: AUG. 14, 03 @ 12:33 p.m. by: DJDEGUIO

LEGEND

- 2003 SOIL BORING LOCATION
- POSSIBLE AREA OF CONCERN (LIST FROM USEPA 9/11/02)
- INVESTIGATION AREA

0 400
SCALE FEET

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS	PROJECT NO. 21561197.00002

URS

DRN. BY: djd 2/21/03 DSGN. BY: tja/bbb CHKD. BY:	Phase I CMS Soil Sample Locations	FIG. NO. 7

SOURCE: "DESCRIPTION OF CURRENT CONDITIONS" REPORT, AUGUST 2000 SWMU LOCATION MAP FIGURE 8.

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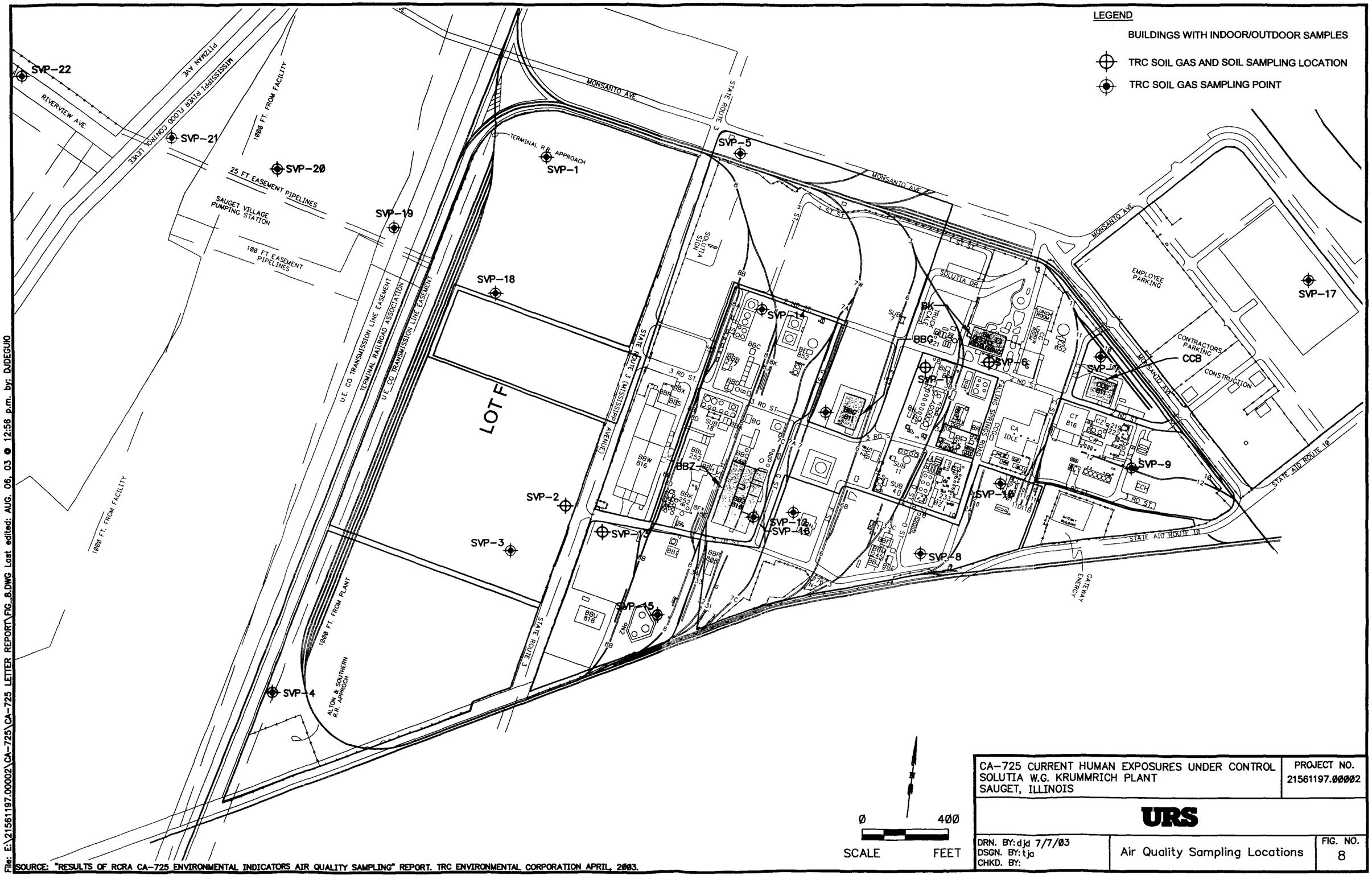
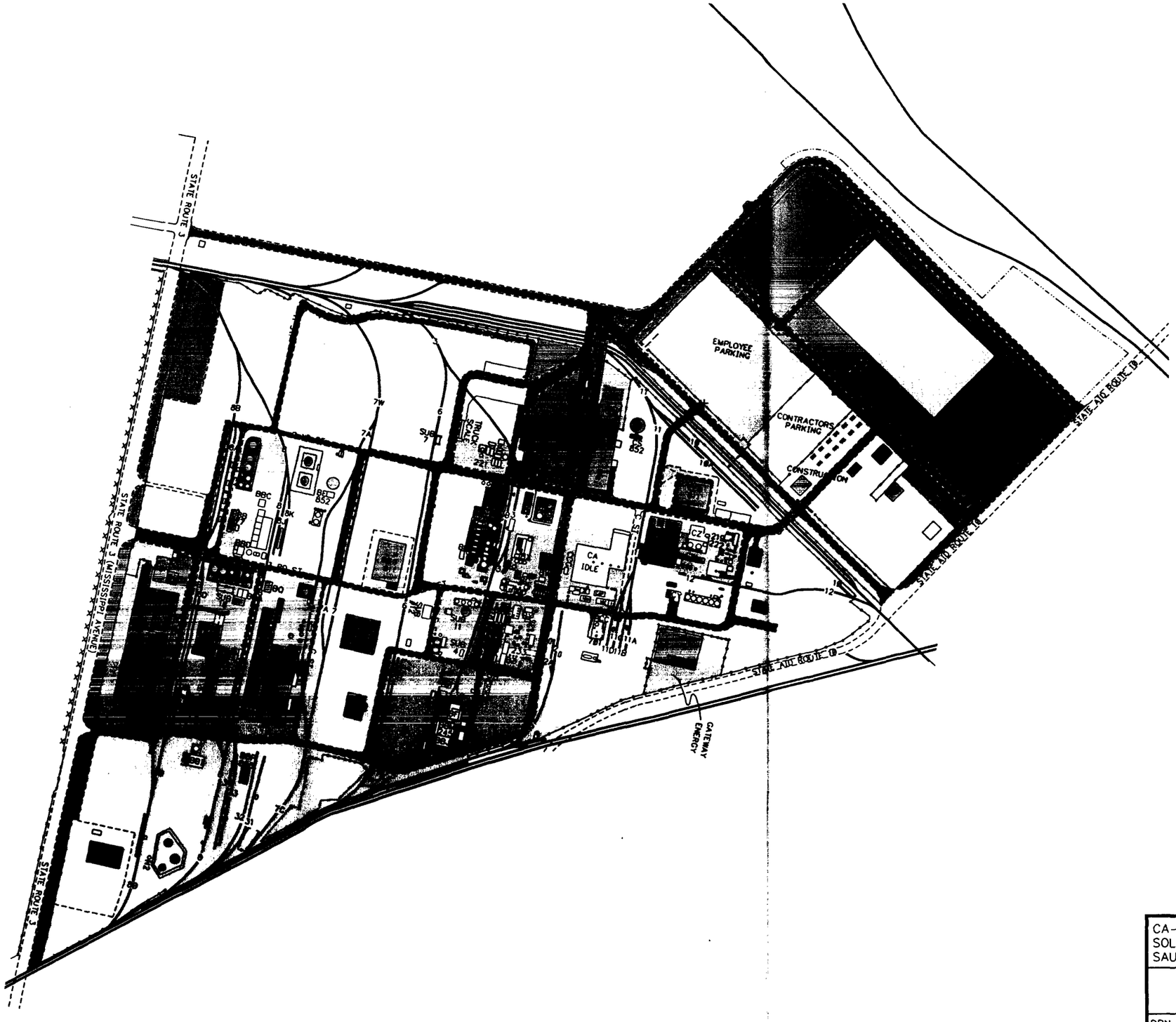


SOURCE: "RESULTS OF RCRA CA-725 ENVIRONMENTAL INDICATORS AIR QUALITY SAMPLING" REPORT. TRC ENVIRONMENTAL CORPORATION APRIL, 2003.

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS		PROJECT NO. 21561197.00002
URS		
DRN. BY: djd 7/7/03 DSGN. BY: tja CHKD. BY:	Air Quality Sampling Locations	FIG. NO. 8

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG_8.DWG Last edited: AUG. 06, 03 @ 12:56 p.m. by: DJDEGUIO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CONTRACTORS PARKING
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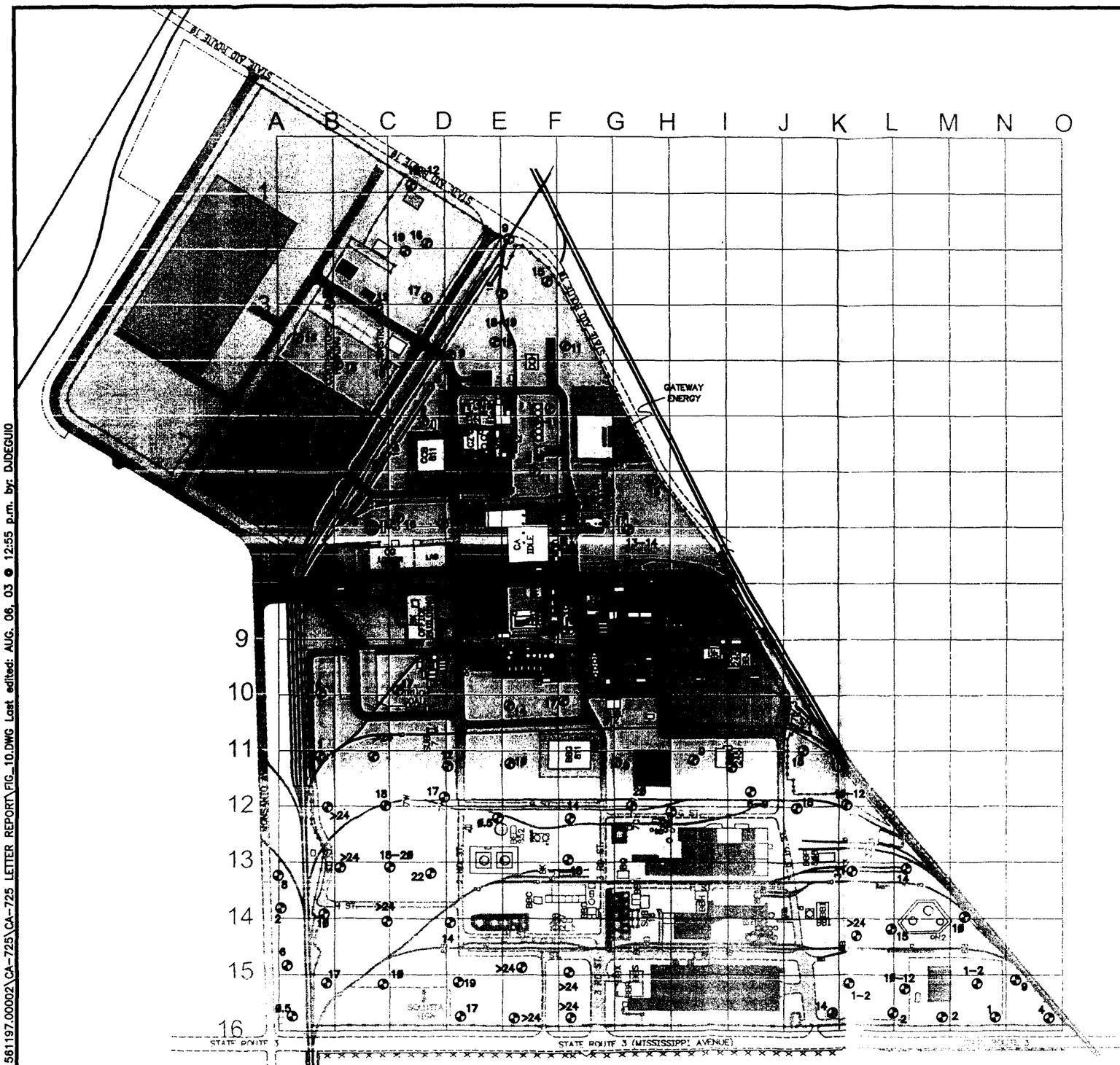

LEGEND

- GRASS
- ASPHALT
- ROADWAY
- GRAVEL
- BUILDINGS (EMPLOYEES PRESENT)
- CONCRETE
- TANKS
- ENCLOSED STRUCTURES (PART TIME)
- 18 GRAVEL THICKNESS DELINEATION POINT WITH GRAVEL THICKNESS AT THAT POINT SHOWN IN INCHES.

NOTES:

1) GRID SHOWS PLANNED DELINEATION POINTS.

2) ACTUAL POINTS VARY SLIGHTLY DUE TO THE PRESENCE OF UNDERGROUND UTILITIES, ROADS, RAILROADS AND STRUCTURES OR SLIGHT DEVIATIONS INCURRED WHILE MEASURING THE LOCATIONS IN THE FIELD.

0 400
SCALE FEET

SOURCE: GRAVEL DELINEATION SURVEY, URS JANUARY 2003.

CA-725 CURRENT HUMAN EXPOSURES UNDER CONTROL SOLUTIA W.G. KRUMMRICH PLANT SAUGET, ILLINOIS	PROJECT NO. 21561197.00002
URS	
DRN. BY: djd 7/8/03 DSGN. BY: ekf/kah CHKD. BY:	Surficial Gravel Thickness Survey Boring Locations
FIG. NO. 10	

File: E:\21561197.00002\CA-725\CA-725 LETTER REPORT\FIG_10.DWG Last edited: AUG. 06, 03 @ 12:55 p.m. by: DJDEGUIO

Attachment A
Tier 2 Soil Screening Criteria

Attachment A

Tier 2 Soil Screening Criteria

Table 1
Summary of Tier 2 Soil Screening Criteria
Solutia W.G. Krummrich Plant, Sauget, Illinois

Chemical	Tier 1[a] I/C Ingestion (mg/kg)	Tier 1[a] I/C Inhalation (mg/kg)	Tier 2 Industrial Worker[b] Ingestion (mg/kg)	Tier 2 Industrial Worker[b] Inhalation (mg/kg)	Tier 1[a] Construction Worker Ingestion (mg/kg)	Tier 1[a] Construction Worker Inhalation (mg/kg)	Tier 2[b] Construction Worker Ingestion (mg/kg)	Tier 2[b] Construction Worker Inhalation (mg/kg)
Barium	1.40E+05	9.10E+05	2.92E+02	3.58E-01	1.40E+04	8.70E+05	2.86E+02	3.43E-01
Copper	8.20E+04	NV	8.18E+04	NV	8.20E+03	NV	8.16E+03	NV
Lead[c]	4.00E+02	NA	7.50E+02	NA	4.00E+02	NA	7.50E+02	NA
Mercury	6.10E+02	5.40E+05	NV	NV	6.10E+01	5.20E+04	6.12E+01	4.21E-04
Nickel	4.10E+04	2.10E+04	6.13E+02	4.39E-04	4.10E+03	4.40E+05	4.08E+03	NV
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV
Benzo(a)anthracene	8.00E+00	NV	7.84E+00	3.90E+00	1.70E+02	NV	1.70E+02	7.63E+02
Benzo(a)pyrene	8.00E-01	NV	7.84E-01	2.15E-01	1.70E+01	NV	1.70E+01	1.79E+02
Dibenzo(a,h)anthracene	8.00E-01	NV	7.84E-01	2.11E+00	1.70E+01	NV	1.70E+01	6.18E+02
Naphthalene	4.10E+04	2.70E+02	4.09E+04	1.57E+04	4.10E+03	1.80E+00	4.08E+03	3.09E+01
Pentachlorophenol	2.40E+01	NV	4.77E+01	NV	520	NV	1.04E+03	NV
1,2-Dichloroethane	6.30E+01	7.00E-01	6.29E+01	4.58E-01	1.40E+03	9.90E-01	1.36E+03	1.14E+00
1,4-Dichlorobenzene	NV	1.70E+04	2.38E+02	2.58E+03	NV	3.40E+02	5.18E+03	4.29E+02
3,3'-Dichlorobenzidine	1.30E+01	NV	1.27E+01	3.05E+05	2.80E+02	NV	2.76E+02	2.74E+05
Benzene	1.00E+02	1.60E+00	1.04E+02	3.76E-01	2.30E+03	2.20E+00	2.26E+03	7.84E+00
Chlorobenzene	4.10E+04	2.10E+02	4.09E+04	NV	4.10E+03	1.30E+00	4.08E+03	NV
Chloromethane	NV	NV	2.04E+05	9.65E+00	NV	NV	2.24E+04	2.01E+02
cis-1,3-Dichloropropene	5.70E+01	2.10E+00	5.72E+01	4.85E-01	1.20E+03	3.90E-01	6.12E+02	1.01E+01
Ethylbenzene	2.00E+05	4.00E+02	2.04E+05	5.30E+00	2.00E+04	5.80E+01	2.24E+04	1.11E+02
trans-1,3-Dichloropropene	5.70E+01	2.10E+00	5.72E+01	4.85E-01	1.20E+03	3.90E-01	6.12E+02	1.01E+01
Xylenes, Total	1.00E+06	3.20E+02	4.09E+05	NV	4.10E+05	3.20E+02	7.28E+04	NV

Notes:

a –Tier 1 Soil Remediation Objectives are as presented in Title 35 Subtitle G Chapter 1 Subchapter f Part 742 Appendices B (updated February 5, 2002).

b – The selected remediation objective is the more stringent value of the carcinogenic and noncarcinogenic values calculated.

c – The Tier 2 SRO presented for lead is the Region 9 PRG for industrial soil calculated using USEPA's Adult Lead Model and default exposure assumptions.

Definitions and sources of the exposure parameters used are provided in Table A-1.

mg/kg – milligrams per kilogram

Table A-1A
Summary of Soil Parameters
Solutia W.G. Krummrich Plant, Sauget, Illinois

Inhalation of Chemicals in Fugitive Dust Emissions				
Body Weight	BW	kg	70	70
Averaging Time (cancer)	AT_c	years	70	70
Averaging Time (noncancer)	AT_n	years	25	0.115
Exposure Frequency	EF	days	250	30
Exposure Duration	ED	years	25	1
Particulate Emission Factor	PEF	m^3/kg	1.24E+08	1.24E+09
Ingestion of Soil				
Body Weight	BW	kg	70	70
Averaging Time (cancer)	AT_c	years	70	70
Averaging Time (noncancer)	AT_n	years	25	0.115
Ingestion Rate	IR_s	mg/day	50	480
Exposure Frequency	EF	days	250	30
Exposure Duration	ED	years	25	1

Notes:
a – All values used are from the Tiered Approach to Corrective Action Objectives (IPCB, 2002).
Definitions and sources of the exposure parameters used are provided in Table A-1.

Table A-1B
Summary of Toxicity Values
Solutia W.G. Krummrich, Sauget, Illinois

	Carcinogenic Toxicity Values						Oral Reference Values						Inhalation Reference Values							
							Noncarcinogenic Toxicity Data						Noncarcinogenic Toxicity Data							
Chemical	SFo (mg/kg-day)$^{-1}$	SFi (mg/kg-day)$^{-1}$	URF (mg/m^3)	WOE	Tumor Type	Source	Chronic RfDo	Subchronic RfDo	Confidence Level	Critical Effect	UF/MF	Source	RfDi Chronic	Chronic RfC	RfDi Subchronic	Subchronic RfC	Confidence Level	Critical Effect	UF/MF	Source
Barium	NV	NV	NV	NA	NA	NA	1.43E-04	1.40E-03	Medium	Increased kidney weight	3/1	ORNL RAIS	7.00E-02	2.45E-01	7.00E-02	2.45E-01	NA	Hypertension, baritosis	NA	ORNL RAIS
Copper	NV	NV	NV	NA		NA	4.00E-02	4.00E-02	NA	NA	NA	ORNL RAIS	NV	NV	NV	NV	NA	NA	NA	NA
Lead	NV	NV	NV	NA	NA	NA	NV	NV	NA	NA	NA	NA	NV	NV	NV	NV	NA	NA	NA	NA
Mercury	NV	NV	NV	NA	NA	NA	3.00E-04	NV	NA	NA	NA	NA	8.57E-05	3.00E-04	8.60E-05	3.01E-04	Medium	Hand tremor, increases in memory disturbance; slight subjective and objective evidence of autonomic dysfunction	30/1	ORNL RAIS
Nickel	NV	NV	NV	NA	NA	NA	2.00E-02	2.00E-02	Medium	Decreased body and organ weights	300/1	ORNL RAIS	NV	NV	NV	NV	NA	NA	NA	NA
2-Methylnaphthalene	NV	NV	NV	NA	NA	NA	NV	NV	NA	NA	NA		NV	NV	NV	NV	NA	NA	NA	NA
Benz[a]anthracene	7.30E-01	3.08E-01	8.80E-02	B2	Pulmonary adenoma and hepatoma	ORNL RAIS	NV	NV	NA	NA	NA	NA	NV	NV	NV	NV	NA	NA	NA	NA
Benzo[a]pyrene	7.30E+00	3.08E+00	8.80E-01	B2	Lung and stomach cancer	ORNL RAIS	NV	NV	NA	NA	NA	NA	NV	NV	NV	NV	NA	NA	NA	NA
Dibenz[a,h]anthracene	7.30E+00	3.08E+00	8.80E-01	B2	Pulmonary adenoma and carcinoma, mammary carcinoma	ORNL RAIS	NV	NV	NA	NA	NA	NA	NV	NV	NV	NV	NA	NA	NA	NA
Naphthalene	NV	NV	NV	C	Respiratory tumors	NA	2.00E-02	NV	Low	Decreased mean terminal body weight in males	3000/1	ORNL RAIS	8.57E-04	3.00E-03	NV	NV	Low to Medium	Nasal effects: hyperplasia and metaplasia in respiratory and olfactory epithelium	3000/1	ORNL RAIS
Pentachlorophenol	1.20E-01	NV	NV	B2	Hepatocellular adenomas and carcinomas, adrenal medulla and malignant pheochromocytomas, hemangiosarcomas and hemangiomas	ORNL RAIS	3.00E-02	3.00E-02	Medium	Liver and kidney pathology	100/1	ORNL RAIS	NV	NV	NV	NV	NA	NA	NA	NA
1,2-Dichloroethane	9.10E-02	9.10E-02	2.60E-02	B2	Forestomach carcinoma, hemangiosarcoma, mammary adenocarcinoma	ORNL RAIS	NV	NV	NA	NA	NA	NA	NV	NV	NV	NV	NA	NA	NA	NA
1,3-Dichloropropene	1.00E-01	1.40E-02	4.00E-03	B2	Liver and lung tumors	ORNL RAIS	3.00E-02	3.00E-03	High	Chronic irritation	100/1	ORNL RAIS	5.71E-03	2.00E-02	5.70E-03	2.00E-02	High	Hypertrophy/hyperplasia of the nasal respiratory epithelium	30/1	ORNL RAIS
1,4-Dichlorobenzene	2.40E-02	NV	NV	NAI	NA	ORNL RAIS	NV	NV	NA	NA	NA	NA	2.29E-01	8.02E-01	7.10E-01	2.49E+00	Medium	Increased liver weight	100/1	ORNL RAIS
3,3'-Dichlorobenzidine	4.50E-01	NV	NV	B2	Zymbal gland, skin, mammary gland, ileum, bladder, hemopoetic, connective tissue, salivary gland, liver, and thyroid cancer	ORNL RAIS	NV	NV	NA	NA	NA	NA	NV	NV	NV	NV	NA	NA	NA	NA
Benzene	5.50E-02	2.73E-02	7.80E-03	A	Leukemia, hematologic neoplasms, blood disorders, Hodgkin's lymphoma, myelodisplastic syndrome	ORNL RAIS	NV	NV	NA	NA	NA	NA	NV	NV	NV	NV	NA	NA	NA	NA
Chlorobenzene	NV	NV	NV	D	NA	NA	2.00E-02	NV	Medium	Histopathologic changes in liver	1000/1	ORNL RAIS	5.71E-03	2.00E-02	NV	NV	NA	NA	NA	ORNL RAIS
Chloromethane	NV	NV	NV	D	NA				NA	NA	NA						Medium	Cerebellar lesions	1000/1	
Ethylbenzene	NV	3.85E-03	1.10E-03	D	NA	ORNL RAIS	1.00E-01	1.10E-01	Low	Liver and kidney toxicity	1000/1	ORNL RAIS	2.86E-01	1.00E+00	2.90E-01	1.02E+00	Low	Developmental toxicity	300/1	ORNL RAIS
Xylene, m-	NV	NV	NV	NA[1]	NA	NA	2.00E+00	6.67E-02	NA	NA	NA	ORNL RAIS	NV	NV	NV	NV	NA	NA	NA	NA
Xylene, o-	NV	NV	NV	NA[1]	NA	NA	2.00E+00	NV	NA	NA	NA	ORNL RAIS	NV	NV	NV	NV	NA	NA	NA	NA
Xylene, P-	NV	NV	NV	NA[1]	NA	NA	NV	2.67E-01	NA	NA	NA	ORNL RAIS	NV	NV	NV	NV	NA	NA	NA	NA
Xylenes, total	NV	NV	NV	NA[1]	NA	NA	2.00E-01	3.57E-01	Medium	Decreased body weight, increased mortality	1000/1	ORNL RAIS	2.86E-02	1.00E-01	NV	NV	Medium	Impaired motor coordination	300/1	ORNL RAIS

Table A-2A
Calculated Soil Screening Criteria: Construction Worker/ Carcinogenic Effects
Direct Ingestion Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{ing\text{-}derm(CA)}$	= (	TR	×	BW	×	AT_c	×	365	) ÷ (	EF	×	ED	×	1E-06	) × [(	SF_o	×	IR	)]
Units	mg/kg		unitless		kg		years		days/year		days/year		years		kg/mg		kg-day/mg		mg/day	
Barium	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
Copper	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
Mercury	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
Nickel	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
2-Methylnaphthalene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
Benzo(a)anthracene	1.70E+02	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	7.30E-01	×	480	)]
Benzo(a)pyrene	1.70E+01	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	7.30E+00	×	480	)]
Dibenzo(a,h)anthracene	1.70E+01	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	7.30E+00	×	480	)]
Naphthalene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
Pentachlorophenol	1.04E+03	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	1.20E-01	×	480	)]
1,2-Dichloroethane	1.36E+03	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	9.10E-02	×	480	)]
1,4-Dichlorobenzene	5.18E+03	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	2.40E-02	×	480	)]
3,3'-Dichlorobenzidine	2.76E+02	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	4.50E-01	×	480	)]
Benzene	2.26E+03	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	5.50E-02	×	480	)]
Chlorobenzene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
Chloromethane	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
cis-1,3-Dichloropropene	1.24E+03	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	1.00E-01	×	480	)]
Ethylbenzene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]
trans-1,3-Dichloropropene	1.24E+03	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	1.00E-01	×	480	)]
Xylenes, Total	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	30	×	1	×	1E-06	) × [(	NV	×	480	)]

Notes:
Definitions and sources of the exposure parameters used are provided in Table A-1A.

NV – No toxicity valuable available for this pathway.
Definitions and sources of the exposure parameters used are provided in Table A-1A.

Table A-2B
Calculated Soil Screening Criteria: Construction Worker/ Noncarcinogenic Effects
Direct Ingestion Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{ing\text{-}derm(NC)}$	= (	THQ	×	BW	×	AT_n	×	365	) ÷ (	EF	×	ED	×	1E-06	) × [(1 /	RfD_o	×	IR	)]
Units	mg/kg		unitless		kg		years		days/year		days/year		years		kg/mg		mg/kg-day		mg/day	
					2938															
Barium	2.86E+02	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	1.40E-03	×	480	)]
Copper	8.16E+03	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	4.00E-02	×	480	)]
Mercury	6.12E+01	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	3.00E-04	×	480	)]
Nickel	4.08E+03	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	2.00E-02	×	480	)]
2-Methylnaphthalene	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
Benzo(a)anthracene	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
Benzo(a)pyrene	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
Dibenzo(a,h)anthracene	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
Naphthalene	4.08E+03	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	2.00E-02	×	480	)]
Pentachlorophenol	6.12E+03	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	3.00E-02	×	480	)]
1,2-Dichloroethane	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
1,4-Dichlorobenzene	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
3,3'-Dichlorobenzidine	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
Benzene	NA	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	NV	×	480	)]
Chlorobenzene	4.08E+03	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	2.00E-02	×	480	)]
Chloromethane	2.24E+04	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	1.10E-01	×	480	)]
cis-1,3-Dichloropropene	6.12E+02	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	3.00E-03	×	480	)]
Ethylbenzene	2.24E+04	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	1.10E-01	×	480	)]
trans-1,3-Dichloropropene	6.12E+02	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	3.00E-03	×	480	)]
Xylenes, Total	7.28E+04	= (	1	×	70	×	0.115	×	365	) ÷ (	30	×	1	×	1E-06	) × [(1 /	3.57E-01	×	480	)]

Definitions and sources of the exposure parameters used are provided in Table A-1A.

NV – No toxicity valuable available for this pathway.
NA – Not applicable

Table A-3A
Summary of Soil Screening Criteria
Subsurface Volatilization Factor Calculation: Apparent Diffusivity
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	D_A	= [(	$_a$	$^{3.33}$	×	D_i	×	H'	) + (	$_w$	$^{3.33}$	×	D_w	)) /	n	^{2}	] + (	$_b$	×	K_d	) +	$_w$	+ (	$_a$	×	H'	)
Units	cm^2/s		unitless			cm^2/s		unitless		unitless			cm^2/s		unitless			g/cm^3		cm^3/g		unitless		unitless		unitless	
Barium	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
Copper	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
Mercury	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
Nickel	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
1,4-Dichlorobenzene	6.04E-05	= [(	0.24	$^{3.33}$	×	6.90E-02	×	9.96E-02	) + (	0.16	$^{3.33}$	×	7.90E-06	)) /	0.4	^{2}	] + (	1.6	×	3.70E+00	) +	0.16	+ (	0.24	×	9.96E-02	)
2-Methylnaphthalene*	1.15E-08	= [(	0.24	$^{3.33}$	×	4.80E-02	×	2.12E-02	) + (	0.16	$^{3.33}$	×	7.84E-06	)) /	0.4	^{2}	] + (	1.6	×	2.98E+03	) +	0.16	+ (	0.24	×	2.12E-02	)
3,3'-Dichlorobenzidine	1.32E-08	= [(	0.24	$^{3.33}$	×	1.94E-02	×	1.64E-07	) + (	0.16	$^{3.33}$	×	6.74E-06	)) /	0.4	^{2}	] + (	1.6	×	4.34E+00	) +	0.16	+ (	0.24	×	1.64E-07	)
Benzo(a)anthracene	1.31E-10	= [(	0.24	$^{3.33}$	×	5.10E-02	×	1.37E-04	) + (	0.16	$^{3.33}$	×	9.00E-06	)) /	0.4	^{2}	] + (	1.6	×	2.39E+03	) +	0.16	+ (	0.24	×	1.37E-04	)
Benzo(a)pyrene	2.37E-11	= [(	0.24	$^{3.33}$	×	4.30E-02	×	4.63E-05	) + (	0.16	$^{3.33}$	×	9.00E-06	)) /	0.4	^{2}	] + (	1.6	×	6.12E+03	) +	0.16	+ (	0.24	×	4.63E-05	)
Dibenzo(a,h)anthracene	1.99E-12	= [(	0.24	$^{3.33}$	×	2.02E-02	×	6.03E-07	) + (	0.16	$^{3.33}$	×	5.18E-06	)) /	0.4	^{2}	] + (	1.6	×	2.28E+04	) +	0.16	+ (	0.24	×	6.03E-07	)
Naphthalene	3.24E-06	= [(	0.24	$^{3.33}$	×	5.90E-02	×	1.98E-02	) + (	0.16	$^{3.33}$	×	7.50E-06	)) /	0.4	^{2}	] + (	1.6	×	1.20E+01	) +	0.16	+ (	0.24	×	1.98E-02	)
Pentachlorophenol	1.50E-08	= [(	0.24	$^{3.33}$	×	5.60E-02	×	1.00E-06	) + (	0.16	$^{3.33}$	×	6.10E-06	)) /	0.4	^{2}	] + (	1.6	×	3.55E+00	) +	0.16	+ (	0.24	×	1.00E-06	)
1,2-Dichloroethane	6.66E-04	= [(	0.24	$^{3.33}$	×	1.04E-01	×	4.01E-02	) + (	0.16	$^{3.33}$	×	9.90E-06	)) /	0.4	^{2}	] + (	1.6	×	1.04E-01	) +	0.16	+ (	0.24	×	4.01E-02	)
Benzene	1.38E-03	= [(	0.24	$^{3.33}$	×	8.80E-02	×	2.28E-01	) + (	0.16	$^{3.33}$	×	9.80E-06	)) /	0.4	^{2}	] + (	1.6	×	3.53E-01	) +	0.16	+ (	0.24	×	2.28E-01	)
Chlorobenzene	2.59E-04	= [(	0.24	$^{3.33}$	×	7.30E-02	×	1.52E-01	) + (	0.16	$^{3.33}$	×	8.70E-06	)) /	0.4	^{2}	] + (	1.6	×	1.31E+00	) +	0.16	+ (	0.24	×	1.52E-01	)
Chloromethane*	1.06E-04	= [(	0.24	$^{3.33}$	×	1.26E-01	×	3.61E-01	) + (	0.16	$^{3.33}$	×	6.50E-06	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	3.61E-01	)
cis-1,3-Dichloropropene	3.16E-03	= [(	0.24	$^{3.33}$	×	6.26E-02	×	7.26E-01	) + (	0.16	$^{3.33}$	×	1.00E-05	)) /	0.4	^{2}	] + (	1.6	×	2.74E-01	) +	0.16	+ (	0.24	×	7.26E-01	)
Ethylbenzene	3.49E-04	= [(	0.24	$^{3.33}$	×	7.50E-02	×	3.23E-01	) + (	0.16	$^{3.33}$	×	7.80E-06	)) /	0.4	^{2}	] + (	1.6	×	2.18E+00	) +	0.16	+ (	0.24	×	3.23E-01	)
trans-1,3-Dichloropropene	3.16E-03	= [(	0.24	$^{3.33}$	×	6.26E-02	×	7.26E-01	) + (	0.16	$^{3.33}$	×	1.00E-05	)) /	0.4	^{2}	] + (	1.6	×	2.74E-01	) +	0.16	+ (	0.24	×	7.26E-01	)
Xylenes, Total	3.56E-04	= [(	0.24	$^{3.33}$	×	7.20E-02	×	2.50E-01	) + (	0.16	$^{3.33}$	×	9.34E-06	)) /	0.4	^{2}	] + (	1.6	×	1.56E+00	) +	0.16	+ (	0.24	×	2.50E-01	)

Notes:

D_A – apparent diffusivity

$_a$ – air-filled soil porosity

D_i – diffusivity in air; value provided in TACO rule

H' – dimensionless Henry's law constant; value provided in TACO rule

$_w$ – water-filled soil porosity; value provided in TACO rule

D_w – diffusivity in water; value provided in TACO rule

n – total soil porosity; value provided in TACO rule

$_b$ – dry soil bulk density; value provided in TACO rule.

K_d – soil-water partition coefficient and calculated using the equation $K_d = K_{oc} \times F_{oc}$

K_{oc} – soil organic carbon partition coefficient

f_{oc} – fraction organic carbon in soil

Table A-3B
Soil Screening Criteria
Subsurface Volatilization Factor Calculation
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	VF	= [(	3.14	×	D_A	×	T	$)^{0.5}$	/ (	2	×	$_b$	×	D_A	)] ×	1E-04	×	Q/C	)
Units	m^3/kg				cm^2/s		s					g/cm^3		cm^2/s		m^2/cm^2		g/m^2-s per kg/m^3	
Barium	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
Copper	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
Mercury	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
Nickel	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
1,4-Dichlorobenzene	1.16E+03	= [(	3.14	×	6.04E-05	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	6.04E-05	)] ×	1E-04	×	85.81	)
2-Methylnaphthalene	8.41E+04	= [(	3.14	×	1.15E-08	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	1.15E-08	)] ×	1E-04	×	85.81	)
3,3'-Dichlorobenzidine	7.85E+04	= [(	3.14	×	1.32E-08	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	1.32E-08	)] ×	1E-04	×	85.81	)
Benzo(a)anthracene	7.88E+05	= [(	3.14	×	1.31E-10	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	1.31E-10	)] ×	1E-04	×	85.81	)
Benzo(a)pyrene	1.85E+06	= [(	3.14	×	2.37E-11	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	2.37E-11	)] ×	1E-04	×	85.81	)
Dibenzo(a,h)anthracene	6.39E+06	= [(	3.14	×	1.99E-12	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	1.99E-12	)] ×	1E-04	×	85.81	)
Naphthalene	5.01E+03	= [(	3.14	×	3.24E-06	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	3.24E-06	)] ×	1E-04	×	85.81	)
Pentachlorophenol	7.36E+04	= [(	3.14	×	1.50E-08	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	1.50E-08	)] ×	1E-04	×	85.81	)
1,2-Dichloroethane	3.49E+02	= [(	3.14	×	6.66E-04	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	6.66E-04	)] ×	1E-04	×	85.81	)
Benzene	7.18E+02	= [(	3.14	×	1.38E-03	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	1.38E-03	)] ×	1E-04	×	85.81	)
Chlorobenzene	1.66E+03	= [(	3.14	×	2.59E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	2.59E-04	)] ×	1E-04	×	85.81	)
Chloromethane	2.60E+03	= [(	3.14	×	1.06E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	1.06E-04	)] ×	1E-04	×	85.81	)
cis-1,3-Dichloropropene	4.75E+02	= [(	3.14	×	3.16E-03	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	3.16E-03	)] ×	1E-04	×	85.81	)
Ethylbenzene	1.43E+03	= [(	3.14	×	3.49E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	3.49E-04	)] ×	1E-04	×	85.81	)
trans-1,3-Dichloropropene	4.75E+02	= [(	3.14	×	3.16E-03	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	3.16E-03	)] ×	1E-04	×	85.81	)
Xylenes, Total	1.41E+03	= [(	3.14	×	3.56E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	3.56E-04	)] ×	1E-04	×	85.81	)

Notes:

VF_{sc} – volatilization factor

D_A – apparent diffusivity

Definitions and sources of the exposure parameters used are provided in Tables 1 and A-1A.

$_b$ – dry soil bulk density

Q/C_{sa} – inverse of the mean concentration at the center of a square source

F_D – dispersion correction factor

Table A-3C
Calculated Soil Screening Criteria: Construction Worker/Carcinogenic Effects
Inhalation Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{inh(CA)}$	= (	TR	×	AT_c	×	365	) ÷ (	URF	× [1 /	VF'	+ 1 /	PEF	] ×	EF	×	ED	)
Units	mg/kg		unitless		years		days/year		$(mg/m^3)^{-1}$		m^3/kg		m^3/kg		days/year		years	
Barium	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+09	] ×	30	×	1	)
Copper	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+09	] ×	30	×	1	)
Mercury	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+09	] ×	30	×	1	)
Nickel	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+09	] ×	30	×	1	)
2-Methylnaphthalene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	8.41E+03	+ 1 /	1.24E+09	] ×	30	×	1	)
Benzo(a)anthracene	7.63E+02	= (	1E-06	×	70	×	365	) ÷ (	8.8E-02	× [1 /	7.88E+04	+ 1 /	1.24E+09	] ×	30	×	1	)
Benzo(a)pyrene	1.79E+02	= (	1E-06	×	70	×	365	) ÷ (	8.8E-01	× [1 /	1.85E+05	+ 1 /	1.24E+09	] ×	30	×	1	)
Dibenzo(a,h)anthracene	6.18E+02	= (	1E-06	×	70	×	365	) ÷ (	8.8E-01	× [1 /	6.39E+05	+ 1 /	1.24E+09	] ×	30	×	1	)
Naphthalene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	5.01E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
Pentachlorophenol	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	7.36E+03	+ 1 /	1.24E+09	] ×	30	×	1	)
1,2-Dichloroethane	1.14E+00	= (	1E-06	×	70	×	365	) ÷ (	2.6E-02	× [1 /	3.49E+01	+ 1 /	1.24E+09	] ×	30	×	1	)
1,4-Dichlorobenzene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	1.16E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
3,3'-Dichlorobenzidine	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	7.85E+03	+ 1 /	1.24E+09	] ×	30	×	1	)
Benzene	7.84E+00	= (	1E-06	×	70	×	365	) ÷ (	7.8E-03	× [1 /	7.18E+01	+ 1 /	1.24E+09	] ×	30	×	1	)
Chlorobenzene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	1.66E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
Chloromethane	2.01E+02	= (	1E-06	×	70	×	365	) ÷ (	1.1E-03	× [1 /	2.60E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
cis-1,3-Dichloropropene	1.01E+01	= (	1E-06	×	70	×	365	) ÷ (	4E-03	× [1 /	4.75E+01	+ 1 /	1.24E+09	] ×	30	×	1	)
Ethylbenzene	1.11E+02	= (	1E-06	×	70	×	365	) ÷ (	1E-03	× [1 /	1.43E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
trans-1,3-Dichloropropene	1.01E+01	= (	1E-06	×	70	×	365	) ÷ (	4E-03	× [1 /	4.75E+01	+ 1 /	1.24E+09	] ×	30	×	1	)
Xylenes, Total	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	1.41E+02	+ 1 /	1.24E+09	] ×	30	×	1	)

Table A-3D
Calculated Soil Screening Criteria: Construction Worker/Noncarcinogenic Effects
Inhalation Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{inh(NC)}$	= (	THQ	×	AT_{nc}	×	365	) ÷ ((1 /	RfC	) × [1 /	VF	+ 1 /	PEF	] ×	EF	×	ED	)
Units	mg/kg		unitless		years		days/year		mg/m^3		m^3/kg				days/year		years	
Barium	3.43E-01	= (	1	×	0.115	×	365	) ÷ ((1 /	2.5E-01	) × [1 /	NA	+ 1 /	1.24E+09	] ×	30	×	1	)
Copper	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	NA		1.24E+09	] ×	30	×	1	)
Mercury	4.21E-04	= (	1	×	0.115	×	365	) ÷ ((1 /	3.0E-04	) × [1 /	NA	+ 1 /	1.24E+09	] ×	30	×	1	)
Nickel	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	NA	+ 1 /	1.24E+09	] ×	30	×	1	)
2-Methylnaphthalene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	8.41E+03	+ 1 /	1.24E+09	] ×	30	×	1	)
Benzo(a)anthracene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	1.85E+05	+ 1 /	1.24E+09	] ×	30	×	1	)
Benzo(a)pyrene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	6.39E+05	+ 1 /	1.24E+09	] ×	30	×	1	)
Dibenzo(a,h)anthracene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	5.01E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
Naphthalene	3.09E+01	= (	1	×	0.115	×	365	) ÷ ((1 /	3.0E-03	) × [1 /	7.36E+03	+ 1 /	1.24E+09	] ×	30	×	1	)
Pentachlorophenol	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	3.49E+01	+ 1 /	1.24E+09	] ×	30	×	1	)
1,2-Dichloroethane	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	1.16E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
1,4-Dichlorobenzene	4.29E+02	= (	1	×	0.115	×	365	) ÷ ((1 /	2.0E-02	) × [1 /	1.54E+04	+ 1 /	1.24E+09	] ×	30	×	1	)
3,3'-Dichlorobenzidine	2.74E+05	= (	1	×	0.115	×	365	) ÷ ((1 /	2.5E+00	) × [1 /	7.88E+04	+ 1 /	1.24E+09	] ×	30	×	1	)
Benzene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	7.85E+03	+ 1 /	1.24E+09	] ×	30	×	1	)
Chlorobenzene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	7.18E+01	+ 1 /	1.24E+09	] ×	30	×	1	)
Chloromethane	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	1.66E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
cis-1,3-Dichloropropene	3.69E+02	= (	1	×	0.115	×	365	) ÷ ((1 /	1.0E+00	) × [1 /	2.60E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
Ethylbenzene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	4.75E+01	+ 1 /	1.24E+09	] ×	30	×	1	)
trans-1,3-Dichloropropene	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	1.43E+02	+ 1 /	1.24E+09	] ×	30	×	1	)
Xylenes, Total	NA	= (	1	×	0.115	×	365	) ÷ ((1 /	NV	) × [1 /	4.75E+01	+ 1 /	1.24E+09	] ×	30	×	1	)

Definitions and sources of the exposure parameters used are provided in Table A-1A.

NV – No toxicity value available for this pathway.
Definitions and sources of the exposure parameters used are provided in Table A-1A.

Table A-5A
Calculated Soil Screening Criteria: Industrial Worker/ Carcinogenic Effects
Direct Ingestion Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{ing(CA)}$	= (	TR	×	BW	×	AT_c	×	365	) ÷ (	EF	×	ED	×	1E-06	×	SF_o	×	IR	)]
Units	mg/kg		unitless		kg		years		days/year		days/year		years		kg/mg		kg-day/mg		mg/day	
Barium	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
Copper	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
Mercury	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
Nickel	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
2-Methylnaphthalene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
Benzo(a)anthracene	7.84E+00	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	7.30E-01	×	50	)]
Benzo(a)pyrene	7.84E-01	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	7.30E+00	×	50	)]
Dibenzo(a,h)anthracene	7.84E-01	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	7.30E+00	×	50	)]
Naphthalene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
Pentachlorophenol	4.77E+01	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	1.20E-01	×	50	)]
1,2-Dichloroethane	6.29E+01	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	9.10E-02	×	50	)]
1,4-Dichlorobenzene	2.38E+02	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	2.40E-02	×	50	)]
3,3'-Dichlorobenzidine	1.27E+01	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	4.50E-01	×	50	)]
Benzene	1.04E+02	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	5.50E-02	×	50	)]
Chlorobenzene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
Chloromethane	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
cis-1,3-Dichloropropene	5.72E+01	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	1.00E-01	×	50	)]
Ethylbenzene	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]
trans-1,3-Dichloropropene	5.72E+01	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	1.00E-01	×	50	)]
Xylenes, Total	NA	= (	1E-06	×	70	×	70	×	365	) ÷ (	250	×	25	×	1E-06	×	NV	×	50	)]

Definitions and sources of the exposure parameters used are provided in Table A-1A.

NV – No toxicity valuable available for this pathway.
NA – Not applicable

Table A-5B
Calculated Soil Screening Criteria: Industrial Worker/ Noncarcinogenic Effects
Direct Ingestion Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{ing\text{-}derm(NC)}$	= (	THQ	×	BW	×	AT_n	×	365	) ÷ (	EF	×	ED	×	1E-06	) × [(	1	/	RfD_o	×	IR	)]
Units	mg/kg		unitless		kg		years		days/year		days/year		years		kg/mg				mg/kg-day		mg/day	
Barium	2.92E+02	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	1.43E-04	×	50	)]
Copper	8.18E+04	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	4.00E-02	×	50	)]
Mercury	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
Nickel	6.13E+02	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	3.00E-04	×	50	)]
2-Methylnaphthalene	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
Benzo(a)anthracene	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
Benzo(a)pyrene	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
Dibenzo(a,h)anthracene	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
Naphthalene	4.09E+04	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	2.00E-02	×	50	)]
Pentachlorophenol	6.13E+04	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	3.00E-02	×	50	)]
1,2-Dichloroethane	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
1,4-Dichlorobenzene	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
3,3'-Dichlorobenzidine	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
Benzene	NA	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	NV	×	50	)]
Chlorobenzene	4.09E+04	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	2.00E-02	×	50	)]
Chloromethane	2.04E+05	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	1.00E-01	×	50	)]
cis-1,3-Dichloropropene	6.13E+04	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	3.00E-02	×	50	)]
Ethylbenzene	2.04E+05	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	1.00E-01	×	50	)]
trans-1,3-Dichloropropene	6.13E+04	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	3.00E-02	×	50	)]
Xylenes, Total	4.09E+05	= (	1	×	70	×	25	×	365	) ÷ (	250	×	25	×	1E-06	) × [(	1	/	2.00E-01	×	50	)]

Definitions and sources of the exposure parameters used are provided in Table A-1A.

NV – No toxicity valuable available for this pathway.
NA – Not applicable

Table A-6A
Summary of Soil Screening Criteria
Surface Volatilization Factor Calculation: Apparent Diffusivity
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	D_A	= [(	$_a$	$^{3.33}$	×	D_i	×	H'	) + (	$_w$	$^{3.33}$	×	D_w	)) /	n	^{2}	] + (	$_b$	×	K_d	) +	$_w$	+ (	$_a$	×	H'	)
Units	cm^2/s		unitless			cm^2/s		unitless		unitless			cm^2/s		unitless			g/cm^3		cm^3/g		unitless		unitless		unitless	
Barium	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
Copper	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
Mercury	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
Nickel	NA	= [(	0.24	$^{3.33}$	×	NA	×	NA	) + (	0.16	$^{3.33}$	×	NA	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	NA	)
1,4-Dichlorobenzene	1.71E-04	= [(	0.24	$^{3.33}$	×	6.90E-02	×	9.96E-02	) + (	0.16	$^{3.33}$	×	7.90E-06	)) /	0.4	^{2}	] + (	1.6	×	1.23E+00	) +	0.16	+ (	0.24	×	9.96E-02	)
2-Methylnaphthalene[a]	1.15E-08	= [(	0.24	$^{3.33}$	×	4.80E-02	×	2.12E-02	) + (	0.16	$^{3.33}$	×	7.84E-06	)) /	0.4	^{2}	] + (	1.6	×	2.98E+03	) +	0.16	+ (	0.24	×	2.12E-02	)
3,3'-Dichlorobenzidine	3.79E-08	= [(	0.24	$^{3.33}$	×	1.94E-02	×	1.64E-07	) + (	0.16	$^{3.33}$	×	6.74E-06	)) /	0.4	^{2}	] + (	1.6	×	1.45E+00	) +	0.16	+ (	0.24	×	1.64E-07	)
Benzo(a)anthracene	3.93E-10	= [(	0.24	$^{3.33}$	×	5.10E-02	×	1.37E-04	) + (	0.16	$^{3.33}$	×	9.00E-06	)) /	0.4	^{2}	] + (	1.6	×	7.96E+02	) +	0.16	+ (	0.24	×	1.37E-04	)
Benzo(a)pyrene	7.11E-11	= [(	0.24	$^{3.33}$	×	4.30E-02	×	4.63E-05	) + (	0.16	$^{3.33}$	×	9.00E-06	)) /	0.4	^{2}	] + (	1.6	×	2.04E+03	) +	0.16	+ (	0.24	×	4.63E-05	)
Dibenzo(a,h)anthracene	5.97E-12	= [(	0.24	$^{3.33}$	×	2.02E-02	×	6.03E-07	) + (	0.16	$^{3.33}$	×	5.18E-06	)) /	0.4	^{2}	] + (	1.6	×	7.60E+03	) +	0.16	+ (	0.24	×	6.03E-07	)
Naphthalene	9.57E-06	= [(	0.24	$^{3.33}$	×	5.90E-02	×	1.98E-02	) + (	0.16	$^{3.33}$	×	7.50E-06	)) /	0.4	^{2}	] + (	1.6	×	4.00E+00	) +	0.16	+ (	0.24	×	1.98E-02	)
Pentachlorophenol	4.27E-08	= [(	0.24	$^{3.33}$	×	5.60E-02	×	1.00E-06	) + (	0.16	$^{3.33}$	×	6.10E-06	)) /	0.4	^{2}	] + (	1.6	×	1.18E+00	) +	0.16	+ (	0.24	×	1.00E-06	)
1,2-Dichloroethane	9.94E-04	= [(	0.24	$^{3.33}$	×	1.04E-01	×	4.01E-02	) + (	0.16	$^{3.33}$	×	9.90E-06	)) /	0.4	^{2}	] + (	1.6	×	3.48E-02	) +	0.16	+ (	0.24	×	4.01E-02	)
Benzene	2.67E-03	= [(	0.24	$^{3.33}$	×	8.80E-02	×	2.28E-01	) + (	0.16	$^{3.33}$	×	9.80E-06	)) /	0.4	^{2}	] + (	1.6	×	1.18E-01	) +	0.16	+ (	0.24	×	2.28E-01	)
Chlorobenzene	6.64E-04	= [(	0.24	$^{3.33}$	×	7.30E-02	×	1.52E-01	) + (	0.16	$^{3.33}$	×	8.70E-06	)) /	0.4	^{2}	] + (	1.6	×	4.38E-01	) +	0.16	+ (	0.24	×	1.52E-01	)
Chloromethane[a]	1.06E-04	= [(	0.24	$^{3.33}$	×	1.26E-01	×	3.61E-01	) + (	0.16	$^{3.33}$	×	6.50E-06	)) /	0.4	^{2}	] + (	1.6	×	1.43E+01	) +	0.16	+ (	0.24	×	3.61E-01	)
cis-1,3-Dichloropropene	5.08E-03	= [(	0.24	$^{3.33}$	×	6.26E-02	×	7.26E-01	) + (	0.16	$^{3.33}$	×	1.00E-05	)) /	0.4	^{2}	] + (	1.6	×	9.14E-02	) +	0.16	+ (	0.24	×	7.26E-01	)
Ethylbenzene	9.30E-04	= [(	0.24	$^{3.33}$	×	7.50E-02	×	3.23E-01	) + (	0.16	$^{3.33}$	×	7.80E-06	)) /	0.4	^{2}	] + (	1.6	×	7.26E-01	) +	0.16	+ (	0.24	×	3.23E-01	)
trans-1,3-Dichloropropene	5.08E-03	= [(	0.24	$^{3.33}$	×	6.26E-02	×	7.26E-01	) + (	0.16	$^{3.33}$	×	1.00E-05	)) /	0.4	^{2}	] + (	1.6	×	9.14E-02	) +	0.16	+ (	0.24	×	7.26E-01	)
Xylenes, Total	9.19E-04	= [(	0.24	$^{3.33}$	×	7.20E-02	×	2.50E-01	) + (	0.16	$^{3.33}$	×	9.34E-06	)) /	0.4	^{2}	] + (	1.6	×	5.20E-01	) +	0.16	+ (	0.24	×	2.50E-01	)

Notes:

D_A – apparent diffusivity

$_a$ – air-filled soil porosity

D_i – diffusivity in air; value provided in TACO rule

H' – dimensionless Henry's law constant; value provided in TACO rule

$_w$ – water-filled soil porosity; value provided in TACO rule

D_w – diffusivity in water; value provided in TACO rule

n – total soil porosity; value provided in TACO rule

$_b$ – dry soil bulk density; value provided in TACO rule.

K_d – soil-water partition coefficient and calculated using the equation $K_d = K_{oc} \times F_{oc}$

K_{oc} – soil organic carbon partition coefficient

f_{oc} – fraction organic carbon in soil

Table A-6B
Soil Screening Criteria
Surface Volatilization Factor Calculation
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	VF	= [(	3.14	×	D_A	×	T	$)^{0.5}$	/ (	2	×	$_b$	×	D_A	)] ×	1E-04	×	Q/C	)
Units	m^3/kg				cm^2/s		s					g/cm^3		cm^2/s		m^2/cm^2		g/m^2-s per kg/m^3	
Barium	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
Copper	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
Mercury	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
Nickel	NA	= [(	3.14	×	NA	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	NA	)] ×	1E-04	×	85.81	)
1,4-Dichlorobenzene	6.89E+02	= [(	3.14	×	1.71E-04	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	1.71E-04	)] ×	1E-04	×	85.81	)
2-Methylnaphthalene	8.41E+04	= [(	3.14	×	1.15E-08	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	1.15E-08	)] ×	1E-04	×	85.81	)
3,3'-Dichlorobenzidine	4.63E+04	= [(	3.14	×	3.79E-08	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	3.79E-08	)] ×	1E-04	×	85.81	)
Benzo(a)anthracene	4.55E+05	= [(	3.14	×	3.93E-10	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	3.93E-10	)] ×	1E-04	×	85.81	)
Benzo(a)pyrene	1.07E+06	= [(	3.14	×	7.11E-11	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	7.11E-11	)] ×	1E-04	×	85.81	)
Dibenzo(a,h)anthracene	3.69E+06	= [(	3.14	×	5.97E-12	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	5.97E-12	)] ×	1E-04	×	85.81	)
Naphthalene	2.91E+03	= [(	3.14	×	9.57E-06	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	9.57E-06	)] ×	1E-04	×	85.81	)
Pentachlorophenol	4.36E+04	= [(	3.14	×	4.27E-08	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	4.27E-08	)] ×	1E-04	×	85.81	)
1,2-Dichloroethane	2.86E+02	= [(	3.14	×	9.94E-04	×	3.60E+06	$)^{0.5}$	/ (	2	×	1.6	×	9.94E-04	)] ×	1E-04	×	85.81	)
Benzene	5.16E+02	= [(	3.14	×	2.67E-03	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	2.67E-03	)] ×	1E-04	×	85.81	)
Chlorobenzene	1.04E+03	= [(	3.14	×	6.64E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	6.64E-04	)] ×	1E-04	×	85.81	)
Chloromethane	2.60E+03	= [(	3.14	×	1.06E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	1.06E-04	)] ×	1E-04	×	85.81	)
cis-1,3-Dichloropropene	3.74E+02	= [(	3.14	×	5.08E-03	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	5.08E-03	)] ×	1E-04	×	85.81	)
Ethylbenzene	8.75E+02	= [(	3.14	×	9.30E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	9.30E-04	)] ×	1E-04	×	85.81	)
trans-1,3-Dichloropropene	3.74E+02	= [(	3.14	×	5.08E-03	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	5.08E-03	)] ×	1E-04	×	85.81	)
Xylenes, Total	8.80E+02	= [(	3.14	×	9.19E-04	×	3.15E+07	$)^{0.5}$	/ (	2	×	1.6	×	9.19E-04	)] ×	1E-04	×	85.81	)

Notes:

VF_{sc} – volatilization factor

D_A – apparent diffusivity

Definitions and sources of the exposure parameters used are provided in Tables 1 and A-1A.

$_b$ – dry soil bulk density

Q/C – inverse of the mean concentration at the center of a square source

Table A-6C
Calculated Soil Screening Criteria: Industrial Worker/Carcinogenic Effects
Inhalation Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{inh(CA)}$	= (	TR	×	AT_c	×	365	) ÷ (	URF	× [1 /	VF	+ 1 /	PEF	] ×	EF	×	ED	)
Units	mg/kg		unitless		years		days/year		$(mg/m^3)^{-1}$		m^3/kg		m^3/kg		days/year		years	
Barium	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+08	] ×	250	×	25	)
Copper	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+08	] ×	250	×	25	)
Mercury	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+08	] ×	250	×	25	)
Nickel	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	NA	+ 1 /	1.24E+08	] ×	250	×	25	)
2-Methylnaphthalene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	6.89E+02	+ 1 /	1.24E+08	] ×	250	×	25	)
Benzo(a)anthracene	3.90E+00	= (	1E-06	×	70	×	365	) ÷ (	8.8E-02	× [1 /	8.41E+04	+ 1 /	1.24E+08	] ×	250	×	25	)
Benzo(a)pyrene	2.15E-01	= (	1E-06	×	70	×	365	) ÷ (	8.8E-01	× [1 /	4.63E+04	+ 1 /	1.24E+08	] ×	250	×	25	)
Dibenzo(a,h)anthracene	2.11E+00	= (	1E-06	×	70	×	365	) ÷ (	8.8E-01	× [1 /	4.55E+05	+ 1 /	1.24E+08	] ×	250	×	25	)
Naphthalene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	1.07E+06	+ 1 /	1.24E+08	] ×	250	×	25	)
Pentachlorophenol	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	3.69E+06	+ 1 /	1.24E+08	] ×	250	×	25	)
1,2-Dichloroethane	4.58E-01	= (	1E-06	×	70	×	365	) ÷ (	2.6E-02	× [1 /	2.91E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
1,4-Dichlorobenzene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	1.16E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
3,3'-Dichlorobenzidine	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	7.85E+04	+ 1 /	1.24E+08	] ×	250	×	25	)
Benzene	3.76E-01	= (	1E-06	×	70	×	365	) ÷ (	7.8E-03	× [1 /	7.18E+02	+ 1 /	1.24E+08	] ×	250	×	25	)
Chlorobenzene	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	1.66E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
Chloromethane	9.65E+00	= (	1E-06	×	70	×	365	) ÷ (	1.1E-03	× [1 /	2.60E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
cis-1,3-Dichloropropene	4.85E-01	= (	1E-06	×	70	×	365	) ÷ (	4E-03	× [1 /	4.75E+02	+ 1 /	1.24E+08	] ×	250	×	25	)
Ethylbenzene	5.30E+00	= (	1E-06	×	70	×	365	) ÷ (	1E-03	× [1 /	1.43E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
trans-1,3-Dichloropropene	4.85E-01	= (	1E-06	×	70	×	365	) ÷ (	4E-03	× [1 /	4.75E+02	+ 1 /	1.24E+08	] ×	250	×	25	)
Xylenes, Total	NA	= (	1E-06	×	70	×	365	) ÷ (	NV	× [1 /	1.41E+03	+ 1 /	1.24E+08	] ×	250	×	25	)

Definitions and sources of the exposure parameters used are provided in Table A-1A.

NV – No toxicity value available for this pathway.

Table A-6D
Calculated Soil Screening Criteria: Industrial Worker/Noncarcinogenic Effects
Inhalation Pathway
Solutia W.G. Krummrich Plant, Sauget, Illinois

Equation	$CW_{inh(NC)}$	= (	THQ	×	AT_{nc}	×	365	) ÷ ((1 /	RfC	) × [1 /	VF	+ 1 /	PEF	] ×	EF	×	ED	)
Units	mg/kg		unitless		years		days/year		mg/m^3		m^3/kg				days/year		years	
Barium	3.58E-01	= (	1	×	25	×	365	) ÷ ((1 /	2.5E-01	) × [1 /	NA	+ 1 /	1.24E+08	] ×	250	×	25	)
Copper	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	NA		1.24E+08	] ×	250	×	25	)
Mercury	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	NA	+ 1 /	1.24E+08	] ×	250	×	25	)
Nickel	4.39E-04	= (	1	×	25	×	365	) ÷ ((1 /	3.0E-04	) × [1 /	NA	+ 1 /	1.24E+08	] ×	250	×	25	)
2-Methylnaphthalene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	6.89E+02	+ 1 /	1.24E+08	] ×	250	×	25	)
Benzo(a)anthracene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	4.63E+04	+ 1 /	1.24E+08	] ×	250	×	25	)
Benzo(a)pyrene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	4.55E+05	+ 1 /	1.24E+08	] ×	250	×	25	)
Dibenzo(a,h)anthracene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	1.07E+06	+ 1 /	1.24E+08	] ×	250	×	25	)
Naphthalene	1.57E+04	= (	1	×	25	×	365	) ÷ ((1 /	3.0E-03	) × [1 /	3.69E+06	+ 1 /	1.24E+08	] ×	250	×	25	)
Pentachlorophenol	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	2.91E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
1,2-Dichloroethane	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	1.16E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
1,4-Dichlorobenzene	2.58E+03	= (	1	×	25	×	365	) ÷ ((1 /	2.0E-02	) × [1 /	8.87E+04	+ 1 /	1.24E+08	] ×	250	×	25	)
3,3'-Dichlorobenzidine	3.05E+05	= (	1	×	25	×	365	) ÷ ((1 /	2.5E+00	) × [1 /	8.41E+04	+ 1 /	1.24E+08	] ×	250	×	25	)
Benzene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	7.85E+04	+ 1 /	1.24E+08	] ×	250	×	25	)
Chlorobenzene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	7.18E+02	+ 1 /	1.24E+08	] ×	250	×	25	)
Chloromethane	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	1.66E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
cis-1,3-Dichloropropene	3.85E+03	= (	1	×	25	×	365	) ÷ ((1 /	1.0E+00	) × [1 /	2.60E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
Ethylbenzene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	4.75E+02	+ 1 /	1.24E+08	] ×	250	×	25	)
trans-1,3-Dichloropropene	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	1.43E+03	+ 1 /	1.24E+08	] ×	250	×	25	)
Xylenes, Total	NA	= (	1	×	25	×	365	) ÷ ((1 /	NV	) × [1 /	4.75E+02	+ 1 /	1.24E+08	] ×	250	×	25	)

Definitions and sources of the exposure parameters used are provided in Table A-1A.

NV – No toxicity value available for this pathway.