

## **APPENDIX 6L**

### **LEAD MODEL CALCULATIONS**

*IEUBK Model Information*

*Adult Lead Model Information*

**TABLE 1 (RAGS D IEUBK LEAD WORKSHEET)**  
**Site Name: Industri-plex Superfund Site**  
**Receptor: Young Child (1 to 6 years) Exposure to Media as Described**

**1. Lead Screening Questions**

Medium	Lead Concentration Used in Model Run		Basis for Lead Concentration Used For Model Run	Lead Screening Concentration		Basis for Lead Screening Level
	Value	Units		Value	Units	
Surface Soil	140	mg/kg	Average Detected Value	400	mg/kg	Recommended Soil Screening Level
Water	4	ug/L	Model Default	15	ug/L	Recommended Drinking Water Action Level

**2. Lead Model Questions**

Question	Response for Residential Lead Model
What lead model (version and date) was used?	IEUBKwin32 Model 1.0 build 252
Where are the input values located in the risk assessment report?	Located in Appendix 6L, Tables 3 and 4
What range of media concentrations were used for the model?	Refer to Table 3
What statistics were used to represent the exposure concentration terms and where are the data on concentrations in the risk assessment that support use of these statistics?	Arithmetic mean concentrations from Tables 3.3.RME/CT through 3.6.RME/CT
Was soil sample taken from top 2 cm? If not, why?	No
Was soil sample sieved? What size screen was used? If not sieved, provide rationale.	No
What was the point of exposure/location?	The maximum exposure scenario occurred in surface soil at Station HB01/A6
Where are the output values located in the risk assessment report?	Located in Appendix 6L, Table 4 and Figure 1
Was the model run using default values only?	No
Was the default soil bioavailability used?	Yes
Was the default soil ingestion rate used?	Yes
If non-default values were used, where are the rationale for the values located in the risk assessment report?	Located in Appendix 6L, Table 3

**3. Final Result**

Medium	Result	Comment/PRG <sup>1</sup>
Surface soil	Input value of 140 mg/kg in subsurface soil results in 0.234% of young children above a blood lead level of 10 ug/dL. Geometric mean blood lead = 2.647 ug/dL. This does not exceed the blood lead goal as described in the 1994 OSWER Directive of no more than 5% of children exceeding 10 ug/dL blood lead.	Based on site conditions, a PRG calculation is not necessary.

1. Attach the IEUBK text output file and graph upon which the PRG was based as an appendix. For additional information, see [www.epa.gov/superfund/programs/lead](http://www.epa.gov/superfund/programs/lead)

**TABLE 2 (RAGS D ADULT LEAD WORKSHEET)**  
**Site Name: Industri-Plex Superfund Site**  
**Receptor: Adult Non-Resident, Exposure to Media as Described**

**1. Lead Screening Questions**

Medium	Lead Concentration used in Model Run		Basis for Lead Concentration Used For Model Run	Lead Screening Concentration		Basis for Lead Screening Level
	Value	Units		Value	Units	
Surface Soil	1223	mg/kg	Average Detected Value	750	mg/kg	Recommended Soil Screening Level

**2. Lead Model Questions**

Question	Response
What lead model was used? Provide reference and version	Adult Model associated with EPA-540-R-03-001
If the EPA Adult Lead Model (ALM) was not used provide rationale for model selected.	N/A
Where are the input values located in the risk assessment report?	Located in Appendix 6L, Table 5
What statistics were used to represent the exposure concentration terms and where are the data on concentrations in the risk assessment that support use of these statistics?	Arithmetic mean concentrations from Tables 3.3.RME/CT through 3.6.RME/CT
What was the point of exposure and location?	The maximum exposure scenario occurred in Surface Soil at Station HB01/A6
Where are the output values located in the risk assessment report?	Located in Appendix 6L
What GSD value was used? If this is outside the recommended range of 1.8-2.1), provide rationale in Appendix 6L.	1.8
What baseline blood lead concentration (PbB <sub>0</sub> ) value was used? If this is outside the default range of 1.7 to 2.2 provide rationale in Appendix 6L.	2.0
Was the default exposure frequency (EF; 219 days/year) used?	No
Was the default BKSF used (0.4 ug/dL per ug/day) used?	Yes
Was the default absorption fraction (AF; 0.12) used?	Yes
Was the default soil ingestion rate (IR; 50 mg/day) used?	Yes
If non-default values were used for any of the parameters listed above, where are the rationale for the values located in the risk assessment report?	Located in Appendix 6L

**3. Final Result**

Medium	Result	Comment/RBRG <sup>1</sup>
Surface Soil	Input value of 1223 ppm in soil results in 0.2% of receptors above a blood lead level of 10 ug/dL and geometric mean blood lead = 2.0 ug/dL. This does not exceed the blood lead goal as described in the 1994 OSWER Directive of no more than 5% of children (fetuses of exposed women) exceeding 10 ug/dL blood lead.	Based on site conditions, a RBRG calculation is not necessary.

1. Attach the ALM spreadsheet output file upon which the Risk Based Remediation Goal (RBRG) was based and description of rationale for parameters used. For additional information, see [www.epa.gov/superfund/programs/lead](http://www.epa.gov/superfund/programs/lead)

**TABLE 3. SEDIMENT AND SOIL IEUBK MODEL INPUTS**

**Sediment**

Station	Average Concentration (mg/Kg)		CT Exposure Frequency (days/yr) <sup>1</sup>		Time-weighted conc. (mg/Kg) <sup>2</sup>	
	Current	Future	Current	Future	Current	Future
HB01/A6	254		13		105	
HB02/HB04	--	214	--	13	--	104
AR	164		13		102	

**Surface Soil**

HB01/A6	1223	13	140
---------	------	----	-----

**Subsurface Soil**

SO	--	135	--	150	--	114
HB01/A6	--	845	--	13	--	127

Notes

- (1) Adjusted by fraction ingested term (50%) when appropriate; for multiple receptors, the most conservative exposure frequency is presented.
- (2) Time-weighted over one year using MADEP background value (MADEP, 2002) of 100 mg/Kg. If average concentration is less than 100 mg/Kg, the average concentration is used.

$$\text{Time-weighted conc} = (\text{Average Conc.} * \text{Exposure Freq.} + \text{Bkgd. Conc} * (365 - \text{Exposure Freq.})) / 365$$

$$\text{Indoor Dust Lead Levels} = \text{MADEP Bkgd (100 mg/Kg)} * 0.7 = 70 \text{ mg/Kg [Assumption]}$$

**TABLE 4. IEUBK TEXT OUTPUT FOR STATION HB01/A6 (MAXIMUM)**

LEAD MODEL FOR WINDOWS Version 1.0 Build 252

```

=====
Model Version: 1.0 Build 252
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research
    
```

```

=====
The time step used in this model run: 1 - Every 4 Hours (6 times a day).
    
```

\*\*\*\*\* Air \*\*\*\*\*

Indoor Air Pb Concentration: 30.000 percent of outdoor.  
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m <sup>3</sup> /day)	Lung Absorption (%)	Outdoor Air Pb Conc (ug Pb/m <sup>3</sup> )
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

\*\*\*\*\* Diet \*\*\*\*\*

Age	Diet Intake(ug/day)
.5-1	5.530
1-2	5.780
2-3	6.490
3-4	6.240
4-5	6.010
5-6	6.340
6-7	7.000

\*\*\*\*\* Drinking Water \*\*\*\*\*

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 ug Pb/L

\*\*\*\*\* Soil & Dust \*\*\*\*\*

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
.5-1	140.000	70.000
1-2	140.000	70.000
2-3	140.000	70.000
3-4	140.000	70.000
4-5	140.000	70.000
5-6	140.000	70.000
6-7	140.000	70.000

\*\*\*\*\* Alternate Intake \*\*\*\*\*

Age	Alternate (ug Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

\*\*\*\*\* Maternal Contribution: Infant Model \*\*\*\*\*

Maternal Blood Concentration: 2.500 ug Pb/dL

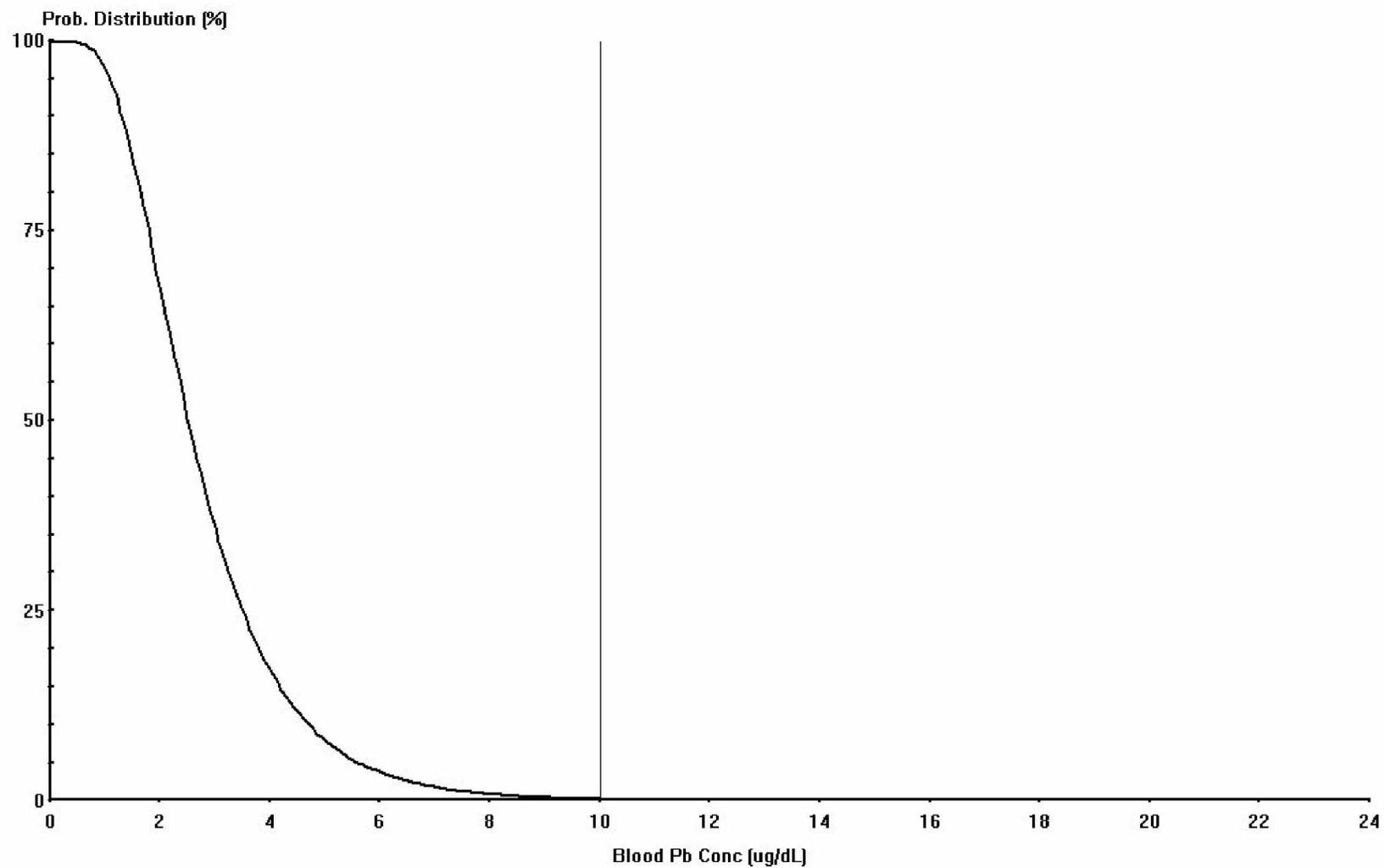
\*\*\*\*\*

CALCULATED BLOOD LEAD AND LEAD UPTAKES:

\*\*\*\*\*

Year	Air (ug/dL)	Diet (ug/day)	Alternate (ug/day)	Water (ug/day)
.5-1	0.021	2.600	0.000	0.376
1-2	0.034	2.706	0.000	0.936
2-3	0.062	3.059	0.000	0.980
3-4	0.067	2.968	0.000	1.008
4-5	0.067	2.894	0.000	1.059
5-6	0.093	3.067	0.000	1.122
6-7	0.093	3.392	0.000	1.144

Year	Soil+Dust (ug/day)	Total (ug/day)	Blood (ug/dL)
.5-1	2.434	5.431	3.0
1-2	3.849	7.526	3.2
2-3	3.876	7.977	3.0
3-4	3.910	7.953	2.8
4-5	2.933	6.953	2.4
5-6	2.651	6.933	2.2
6-7	2.508	7.137	2.0



Cutoff = 10.000 ug/dl  
Geo Mean = 2.647  
GSD = 1.600  
% Above = 0.234

Age Range = 0 to 84 months  
Time Step = Every 4 Hours  
Run Mode = Research

**FIGURE 1. IEUBK GRAPHICAL OUTPUT FOR STATION HB01/A6 (MAXIMUM)**

**TABLE 5. SEDIMENT/SOIL ADULT LEAD MODEL INPUTS**

**Sediment**

Station	Average Concentration (mg/Kg)		CT Exposure Frequency (days/yr) <sup>1</sup>	
	Current	Future	Current	Future
HB01/A6	254		13	
HB02/HB04	--	214	--	13
AR	164		13	

**Surface Soil**

Station	Average Concentration (mg/Kg)		CT Exposure Frequency (days/yr) <sup>1</sup>	
	Current	Future	Current	Future
HB01/A6	1223		13	

**Subsurface Soil**

Station	Average Concentration (mg/Kg)		CT Exposure Frequency (days/yr) <sup>1</sup>	
	Current	Future	Current	Future
SO	--	135	150	
HB01/A6	--	845	--	13

Notes

- (1) Adjusted by fraction ingested term (50%) when appropriate;  
for multiple receptors, the most conservative exposure frequency is presented.

## Calculations of Preliminary Remediation Goals (PRGs)

Exposure Variable	PbB Equation <sup>1</sup>		Description of Exposure Variable	Units
	1*	2**		
PbS	X	X	Soil lead concentration	ug/g or ppm
R <sub>fetal/maternal</sub>	X	X	Fetal/maternal PbB ratio	--
BKSF	X	X	Biokinetic Slope Factor	ug/dL per ug/day
GSD <sub>i</sub>	X	X	Geometric standard deviation PbB	--
PbB <sub>0</sub>	X	X	Baseline PbB	ug/dL
IR <sub>S</sub>	X		Soil ingestion rate (including soil-derived indoor dust)	g/day
IR <sub>S+D</sub>		X	Total ingestion rate of outdoor soil and indoor dust	g/day
W <sub>S</sub>		X	Weighting factor; fraction of IR <sub>S+D</sub> ingested as outdoor soil	--
K <sub>SD</sub>		X	Mass fraction of soil in dust	--
AF <sub>S,D</sub>	X	X	Absorption fraction (same for soil and dust)	--
EF <sub>S,D</sub>	X	X	Exposure frequency (same for soil and dust)	days/yr
AT <sub>S,D</sub>	X	X	Averaging time (same for soil and dust)	days/yr
<b>PbB<sub>adult</sub></b>	<b>PbB of adult worker, geometric mean</b>			<b>ug/dL</b>
<b>PbB<sub>fetal, 0.95</sub></b>	<b>95th percentile PbB among fetuses of adult workers</b>			<b>ug/dL</b>
<b>PbB<sub>t</sub></b>	<b>Target PbB level of concern (e.g., 10 ug/dL)</b>			<b>ug/dL</b>
<b>P(PbB<sub>fetal</sub> &gt; PbB<sub>t</sub>)</b>	<b>Probability that fetal PbB &gt; PbB<sub>t</sub>, assuming lognormal distribution</b>			<b>%</b>

<sup>1</sup> Equation 1 does not apportion exposure between soil and dust ingestion (excludes W<sub>S</sub>, K<sub>SD</sub>).  
When IR<sub>S</sub> = IR<sub>S+D</sub> and W<sub>S</sub> = 1.0, the equations yield the same PbB<sub>fetal,0.95</sub>.

**\*Equation 1, based on Eq. 1, 2 in USEPA (1996).**

<b>PbB<sub>adult</sub></b> =	$(PbS * BKSF * IR_{S+D} * AF_{S,D} * EF_S / AT_{S,D}) + PbB_0$
<b>PbB<sub>fetal, 0.95</sub></b> =	$PbB_{adult} * (GSD_i^{1.645} * R)$

**\*\*Equation 2, alternate approach based on Eq. 1, 2, and A-19 in USEPA (1996).**

<b>PbB<sub>adult</sub></b> =	$PbS * BKSF * ((IR_{S+D}) * AF_S * EF_S * W_S) + [K_{SD} * (IR_{S+D}) * (1 - W_S) * AF_D * EF_D] / 365 + PbB_0$
<b>PbB<sub>fetal, 0.95</sub></b> =	$PbB_{adult} * (GSD_i^{1.645} * R)$

## Calculations of Preliminary Remediation Goals (PRGs)

Exposure Variable	Units	Values for Maximum Conc. 13-day Exposure Frequency			
		Using Equation 1		Using Equation 2	
		GSDi = 1.8		GSDi = 1.8	
PbS	ug/g or ppm	1223		1223	
R <sub>fetal/maternal</sub>	--	0.9		0.9	
BKSF	ug/dL per ug/day	0.4		0.4	
GSD <sub>i</sub>	--	1.8		1.8	
PbB <sub>0</sub>	ug/dL	2.0		2.0	
IR <sub>S</sub>	g/day	0.050		--	
IR <sub>S+D</sub>	g/day	--		0.050	
W <sub>S</sub>	--	--		1.0	
K <sub>SD</sub>	--	--		0.7	
AF <sub>S, D</sub>	--	0.12		0.12	
EF <sub>S, D</sub>	days/yr	13		13	
AT <sub>S, D</sub>	days/yr	365		365	
<b>PbB<sub>adult</sub></b>	<b>ug/dL</b>	<b>2.1</b>		<b>2.1</b>	
<b>PbB<sub>fetal, 0.95</sub></b>	<b>ug/dL</b>	<b>5.0</b>		<b>5.0</b>	
<b>PbB<sub>t</sub></b>	<b>ug/dL</b>	<b>10.0</b>		<b>10.0</b>	
<b>P(PbB<sub>fetal</sub> &gt; PbB<sub>t</sub>)</b>	<b>%</b>	<b>0.2%</b>		<b>0.2%</b>	

## Calculations of Preliminary Remediation Goals (PRGs)

Exposure Variable	Units	Values for Maximum Conc. 150-day Exposure Frequency			
		Using Equation 1		Using Equation 2	
		GSDi = 1.8		GSDi = 1.8	
PbS	ug/g or ppm	135		135	
R <sub>fetal/maternal</sub>	--	0.9		0.9	
BKSF	ug/dL per ug/day	0.4		0.4	
GSD <sub>i</sub>	--	1.8		1.8	
PbB <sub>0</sub>	ug/dL	2.0		2.0	
IR <sub>S</sub>	g/day	0.050		--	
IR <sub>S+D</sub>	g/day	--		0.050	
W <sub>S</sub>	--	--		1.0	
K <sub>SD</sub>	--	--		0.7	
AF <sub>S, D</sub>	--	0.12		0.12	
EF <sub>S, D</sub>	days/yr	150		150	
AT <sub>S, D</sub>	days/yr	365		365	
<b>PbB<sub>adult</sub></b>	<b>ug/dL</b>	<b>2.1</b>		<b>2.1</b>	
<b>PbB<sub>fetal, 0.95</sub></b>	<b>ug/dL</b>	<b>5.0</b>		<b>5.0</b>	
<b>PbB<sub>t</sub></b>	<b>ug/dL</b>	<b>10.0</b>		<b>10.0</b>	
<b>P(PbB<sub>fetal</sub> &gt; PbB<sub>t</sub>)</b>	<b>%</b>	<b>0.2%</b>		<b>0.2%</b>	

## **APPENDIX 6M**

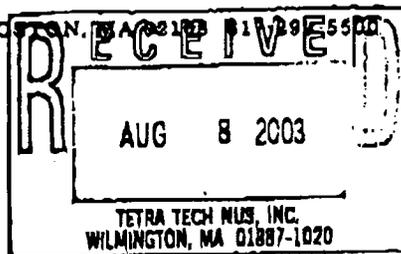
### **GROUNDWATER USE AND VALUE DETERMINATION**



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ONE WINTER STREET, BOSTON, MA 02115 TEL: 617-291-5500

JANE SWIFT  
Governor



BOB DURAND  
Secretary

LAUREN A. LISS  
Commissioner

MEMORANDUM

File No. 4123-2.2  
RACI-101778

Date: August 4, 2003

To: Gordon Bullard, TTNUS (with enclosure)

From: Anna Mayor, MADEP *[Signature]*

Re: Industri-Plex DEP Groundwater Use and Value Determination

cc.: Joe LeMay, EPA (without enclosure)

---

Enclosed is a copy of the Industri-Plex DEP Groundwater Use and Value Determination dated August 26, 1997. This is in response to a July 18, 2003 email request by Joe LeMay. The determination is for your use in the drafting of the Remedial Investigation for the area. If there is anything else you need, please let me know.



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

SITE 3-1731-02  
REVISION 3.11

ARDEO PAUL CELLUCCI  
Governor

TRUDY COXE  
Secretary

DAVID B. STRUHS  
Commissioner

August 26, 1997

Mr. Daniel Coughlin, Chief  
Massachusetts Superfund Section  
USEPA  
JFK Federal Building, HBO  
Boston, MA 02203

Dear Dan:

Enclosed please find the Groundwater Use and Value Determination prepared by DEP for the Industri-Plex site. This first Use and Value Determination conducted by DEP, pursuant to the recently finalized Guidance developed by EPA, was done as a pilot in anticipation of the signing of a Memorandum of Agreement between the two agencies.

In determining the use and value of the groundwater in the vicinity of the Industri-Plex site, we referred to the aquifer classification contained in the Massachusetts Contingency Plan. As we have discussed, the classification in the MCP gives consideration to all of the eight factors contained in the Use and Value Guidance. Enclosed with the Use and Value Determination is a copy of the GIS map used to determine the aquifer classification. This map provides a variety of information, including the USGS yield classification, the presence of public water supplies and zones of protection, surface water bodies, wetlands and protected open space areas.

I trust you will find this example of how we will conduct Use and Value Determinations under the MOA acceptable. If so, I believe we are ready to finalize the MOA and begin implementing these determinations on other NPL sites. The most recent version of the MOA was drafted by Bill Walsh-Rogalski of your office. I have included a copy of the comments we submitted on that draft. If you are satisfied with the Industri-Plex example, please send us a final version of the MOA for review and signature.

If I can be of any further assistance on this, please do not hesitate to call me at 292-5697.

Very truly yours,

*Jay Naparstek*  
Jay Naparstek, Chief  
Federal Sites Section

**GROUNDWATER USE AND VALUE DETERMINATION PILOT  
Industri-Plex Superfund Site**

August, 1997

Consistent with the Environmental Protection Agency's (EPA) 1996 Final Ground Water Use and Value Determination Guidance, the Department has developed a "Use and Value Determination" of the groundwater impacted by the Industri-Plex Superfund Site (the "Site"). The purpose of the Use and Value Determination is to identify whether the aquifer at the site should be considered of "High, Medium", or "Low" use and value. In the development of its Determination, the Department has applied the criteria for groundwater classification as promulgated in the Massachusetts Contingency Plan (MCP). The classification contained in the MCP considers criteria similar to those recommended in the Use and Value Guidance. The Department's recommendation supports a low use and value for the Study Area groundwater. An explanation for the determination is outlined below.

The Industri-Plex Superfund Site (the "Site") covers approximately 245 acres of land in Woburn, Massachusetts. Contamination at the Site includes soils containing arsenic, chromium, lead, and odorous tannery wastes; and groundwater and surface water containing heavy metals and volatile organics. The soil remedy is nearly complete, but the groundwater and surface water at the site are still under investigation. For the purposes of this Determination, the groundwater under evaluation is defined as the extent of the Groundwater/Surface Water Investigation Plan (GSIP), which includes and expands upon the boundaries for the soil remedy (See Figure A, the "Study Area").

The aquifer underlying much of the Study Area is classified as medium or high yield by the United States Geological Survey (USGS). Portions of the north, southeast and southwest regions of the Area are classified as low yield. Despite the medium/high yield classification of a significant portion of the aquifer, the Department has classified the Study Area as a Non-Potential Drinking Water Source Area because of its concentrated industrial development. More specifically, the Study Area aquifer is classified as both GW-2 and GW-3 (see description below). Table 1 reviews the Study Area with respect to the eight factors contained in the Use and Value guidance.

There are no public or private wells in the Study Area. However, the southern border at Route 128 is the edge of the Wells G + H Interim Wellhead Protection Area (IWPA). Wells G + H are inactive, but are still considered a public drinking water supply. The medium and low yield portions of the Area aquifer flow into this IWPA. Study Area groundwater must meet drinking water standards (the GW-1 classification) before entering the IWPA.

For the purposes of the risk assessment of the Study Area groundwater, the Department defines a GW-2 classification as areas where there is a potential for migration of vapors from groundwater to occupied structures. The classification applies to locations where groundwater has an average annual depth of 15 feet or less and where there is an occupied building or structure within a 30 foot surface radius of that groundwater. The GW-3 designation considers the impacts and risks associated with the discharge of groundwater to surface water and therefore applies to all

groundwater. Considering these classifications, the groundwater risk evaluation for the Industri-Plex site should include, but is not limited to, the following:

- Human Health:**
- a) vapor seepage into buildings,
  - b) use of the water in industrial processes,
  - c) excavation into groundwater (i.e., worker exposure),
  - d) discharge into surface water (and the consequential effects of the discharge-- i.e., wading scenarios, recreation, fishing).
- Ecological:**
- a) effects on the biota that make up the benthic community,
  - b) effects on the biota that feed on or in the benthic community, and on up the food chain, as determined by the substance's persistence and ability to bioaccumulate.

In light of the use and value factors and similar criteria established in the MCP that were examined in this determination, the Department supports a low use and value for the Study Area aquifer. The Department welcomes the opportunity to participate in this new approach to evaluating groundwater, which furthers the goal of making more consistent and realistic remedial groundwater decisions at Superfund sites.

**TABLE I**  
**INDUSTRI-PLEX SITE GROUNDWATER USE AND VALUE DETERMINATION PILOT**  
 August, 1997

Quantity	<ul style="list-style-type: none"> <li>-Medium/High Yield, small portions Low Yield</li> <li>-Medium/High Yield covers entire south-western portion of the OU-1 portion of the site, and three quarters of the Groundwater/ Surface Water Study Area down to Route 128.</li> </ul>
Quality	<ul style="list-style-type: none"> <li>-Elevated levels of total magnesium, calcium, sodium, and iron and other metals in Study Area groundwater. Site groundwater contaminants include volatile organics (primarily benzene and toluene), and metals (primarily arsenic and chromium)</li> </ul>
Current Public Drinking Water Supply	<ul style="list-style-type: none"> <li>-No Wellhead Protection Area within the Study Area, but the study area borders the Wells G &amp; H IWPA to the south.</li> <li>-Home Pond wells supplemented by MWRA water are supplied by town for drinking water.</li> <li>-It is not a sole Source Aquifer.</li> </ul>
Current Private-Drinking Water Supply	<ul style="list-style-type: none"> <li>-No known private drinking water supplies in the Study Area.</li> </ul>
Likelihood and Identification of Future Drinking Water Use	<ul style="list-style-type: none"> <li>-Study Area groundwater is designated by the State as a Non-Potential Drinking Water Source Area.</li> <li>-Study Area is highly urbanized: industrial and commercial development, with some residential at southeast.</li> <li>-Not designated by the Town as an area for future drinking.</li> <li>-No known Activity and Use Limitations on the Study Area properties.</li> </ul>
Other Current or Reasonable Expected Ground Water Use(s) in Review Area	<ul style="list-style-type: none"> <li>-Several groundwater wells in the area are used for non-potable activities such as irrigation.</li> <li>-In the future, possible increase in production well use, and use of well water for irrigation.</li> </ul>
Ecological Value	<ul style="list-style-type: none"> <li>-Groundwater discharge to Halls Brook, Halls Brook Holding Area, and the Aberjona River.</li> </ul>
Public Opinion	<ul style="list-style-type: none"> <li>-Public comment occurs during the promulgation of MCP regulations, and under CERCLA will occur during the Record of Decision process.</li> <li>-No known petition in process for a change in groundwater classification in the Study Area. Would expect substantial opposition to possible use as a water supply.</li> </ul>

# MA DEP - Bureau of Waste Site Cleanup

## SITE NAME:

Industriplex V42 31 07n 71 08 29ew

## FIGURE A: STUDY AREA

The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.



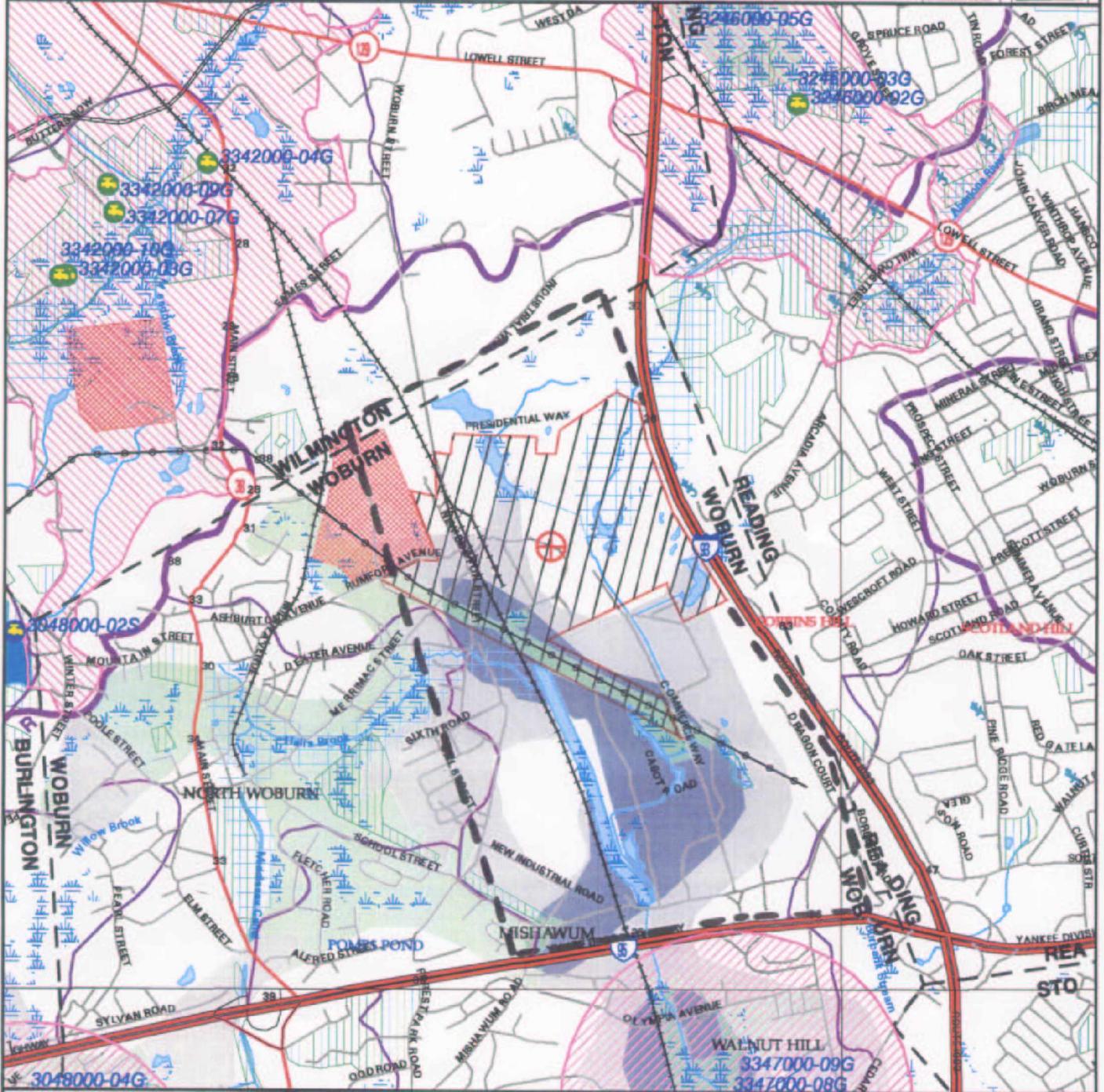
STUDY AREA



INDUSTRI-PLEX SITE



Site Location



- |   |  |  |
|---|--|--|
| Roads: Interstate, US, State, Street, Trail | EPA Designated Sole Source Aquifer                           | Public Water Supplies: Ground, Surface, Non Community        |
| Boundaries: Municipal, County, DEP Region   | Approved Zone 2; MWPA  | Hydrography: Water Features, Public Surface Water Supply     |
| Train; Powerline; Pipeline                  | Wetlands: Fresh, Salt, NHESP Wetlands Habitat                | Potentially Productive Aquifers: Medium Yield, High Yield    |
| Drainage Basins: Major, Sub                 | Protected Open Space; ACEC                                   | Non-Potential Drinking Water Source Area: Medium, High Yield |
| Streams: Perennial, Intermittent, Aqueduct  | DEP Permitted Solid Waste Facilities; Certified Vernal Pools |  |



SCALE 1:25000



June 27, 1997