Appendices

Appendix A

Excavation Limitations

APPENDIX A

1.0 INTRODUCTION

This document was prepared to:

i. Summarize the depth limitations for outboard dredging/excavation as determined during the detailed engineering design for the West Wall; and

ii. Summarize the potential excavation limitations for dredging/excavation outboard of the East Wall based on the preliminary analyses conducted to date.

2.0 WEST WALL

2.1 West Wall Design

The West Wall was designed to facilitate future dredging/excavation on the outboard (lakeside) of the wall. Potential maximum outboard removal depths for each design section of the wall were presented in the *West Wall Portion of the Wastebed B/Harbor Brook IRM Final Design Report* (*West Wall Design*) prepared by Geosyntec, Parsons, and O'Brien & Gere dated November 2009. The maximum outboard removal depths were determined based on global and internal stability analyses. The dredged/excavated condition was determined to be the critical design case for the barrier wall. Additionally, limitations on the use of the area inboard of the barrier wall were determined to maintain wall stability. These include restrictions on the stockpiling/staging of materials and vehicle access. Appendix B of the *West Wall Design* was developed to identify limitations/restrictions on future activities with regard to maintaining the stability of the West Wall including potential outboard excavation and inboard material staging.

2.2 West Wall Outboard Excavation Limitations

Table 1 summarizes the anticipated maximum potential excavation depths and corresponding elevations outboard of the proposed West Wall for all the analyzed cross sections. For cross sections where the anticipated maximum potential depths are less than 4 m (or 13 ft), the tiered excavation option may be used to achieve the deeper, 4 m excavation, if required. Figure 1 illustrates the configuration of the tiered excavation. The plan view of the tiered excavation is shown on Figure 2. The maximum potential outboard excavation depths shown on Figure 2 were used to support the development of the potential response actions evaluated in the EE/CA.

3.0 EAST WALL

3.1 Potential East Wall Excavation Limits

The East Wall 95% Design was submitted to NYSDEC in December 2010. As part of that design, stability and risk issues related to the railroad and potential excavation in front of the wall were identified. Based on the evaluations to date, sequential excavation and monitoring are recommended as the most appropriate methods for addressing the stability concerns and mitigating the potential risks. Sequential excavation would likely be required within the area 100-ft outboard of the wall. The allowable width for sequential excavation would be determined based on the depth, and the excavation would be backfilled prior to proceeding to the next section. A comprehensive monitoring program would be implemented during the excavation and backfilling activities to mitigate risks associated with the railroad stability.

For the purposes of determining volumes and cost estimates for evaluation in the EE/CA, the maximum excavation limit in the eastern outboard area was assumed to be the depth of removal required to achieve cap placement and habitat restoration with up to one additional meter of removal starting 100 ft outboard of the barrier wall. Removal to depths beyond approximately 2 meters within 100 feet of the barrier wall would be difficult given the subsurface conditions (i.e., soft soils with little structural value). The ability to remove materials from below the water table within the allowable width for sequential excavation (i.e., approximately 40 feet for an average 3-m removal), maintain the required excavation side slopes, place cap materials in a safe and controlled manner, and control cross-contamination is questionable. Although the preliminary geotechnical analyses indicate excavation may be conducted to an average depths of 3 meters at a distance greater than 100-ft outboard of the East Wall, an upper removal limitation would determined in future stability analyses if this is the selected remedy. Stability analysis would be performed as part of the design.

The maximum excavation limit would be determined by future stability analyses performed as part of the remedial design. Actual removal depths and elevation will also vary throughout the area to accommodate the existing grade, top of wall elevation, and proposed habitat features.

In contrast to the area outboard of the West Wall, available analytical data obtained from the eastern outboard area indicate that the majority of samples from depths greater than 2 meters exhibited relatively low or non-detectable concentrations of chemical parameters of interest (CPOIs) and were below Lake hot-spot criteria.

Table 1. Summary of Anticipated Maximum Potential Excavation Depths

Cross Section		Existing Ground/Mudline Elevation at Wall Location (ft)	Regraded Ground Elevation at Wall Location (ft)	Anticipated Maximum Potential Excavation Depth at Wall Location From Global Stability Analysis (ft)[1]	Anticipated Maximum Potential Excavation Depth at Wall Location From Internal Stability Analysis (ft)[1]	Anticipated Maximum Potential Excavation Depth at Wall Location for Design [2] (ft)	Anticipated Minimum Elevation of Potential Excavation at Wall Location (ft)
Section 1	1A	368.1	365	13	13	13	355.1
	1B	368.0	365	13	13	13	355.0
	1C	366.4	365	13	13	13	352.0
	1D	361.7	365	13	13	13	352.0
	1E	368.0	365	13	13	13	355.0
Section 2	2A	369.6	370	10	10	10	359.6
	2B	373.1	370	13	13	13	360.1
	2C	368.2	370	N/A[3]	8.2	8.2	360.0
Section 3	3A	373.0	370	N/A	10	10	363.0
	3B	371.9	370	10	10	10	361.9
	3C	367.1	367	N/A	10	10	357.1
Section 4	4A	366.6	367	10	10	10	356.6
	4B	368.1	367	10	10	10	358.1
	4C	366.7	367	10	10	10	356.7
	4D	375.3	367	10	10	10	365.3[4]
	4E	367.5	367	N/A	10	10	357.5
Section 5	5A	364.2	364	13	13	13	351.2
	5B	364.0	364	N/A	13	13	351.0
	5C	364.0	364	13	13	13	351.0

Notes:

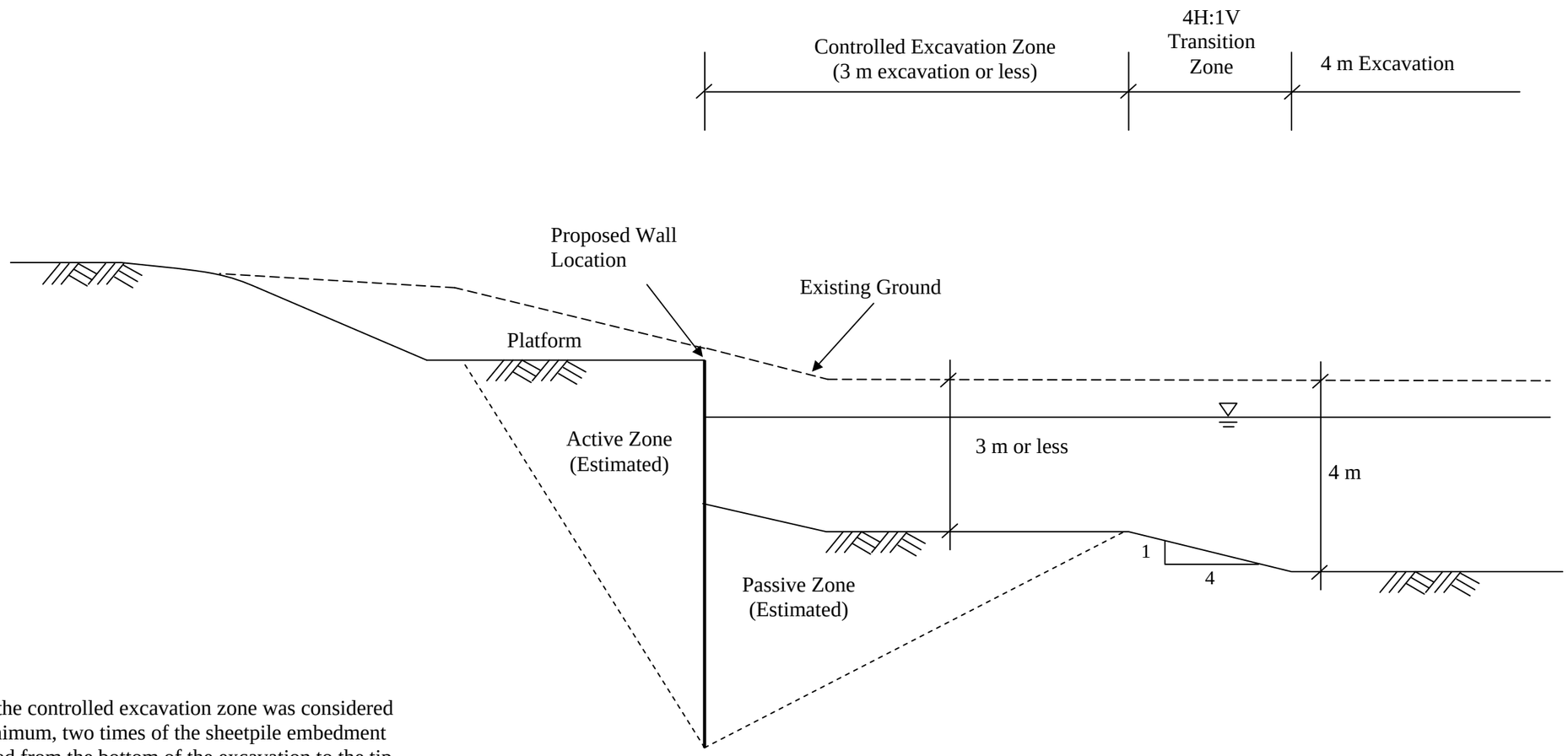
[1]. The anticipated maximum potential excavation depths are measured from the existing ground at the wall location prior to regrading, except for the wall section inside the East Flume (Cross Sections 1C and 1D). At these locations, the anticipated maximum potential excavation depths are measured from the regraded ground at the wall location.

[2]. The anticipated maximum potential excavation depth for design is the lesser of the calculated anticipated maximum depths from the global and internal stability analyses.

[3]. Global slope stability analyses were performed for nine selected cross sections that were considered to represent the critical and typical cross sections from the standpoint of global wall stability. These nine cross sections do not include 2C, 3A, 3C, 4E, and 5B.

[4]. As shown in Figure 33 of the calculation package titled "*Internal Stability Analysis*" of the *West Wall Design*, the bottom of excavation was modeled in the Shoring program by ignoring the SOLW wedge immediately outboard of the sheetpile. This resulted in an increased excavation depth from 1.7 ft to 10 ft just outboard of the wall in the Shoring model. As a result, the minimum elevation of the excavation at the wall location can potentially be 357 ft, which is 8.3 ft lower than the 365.3 ft presented in the table.

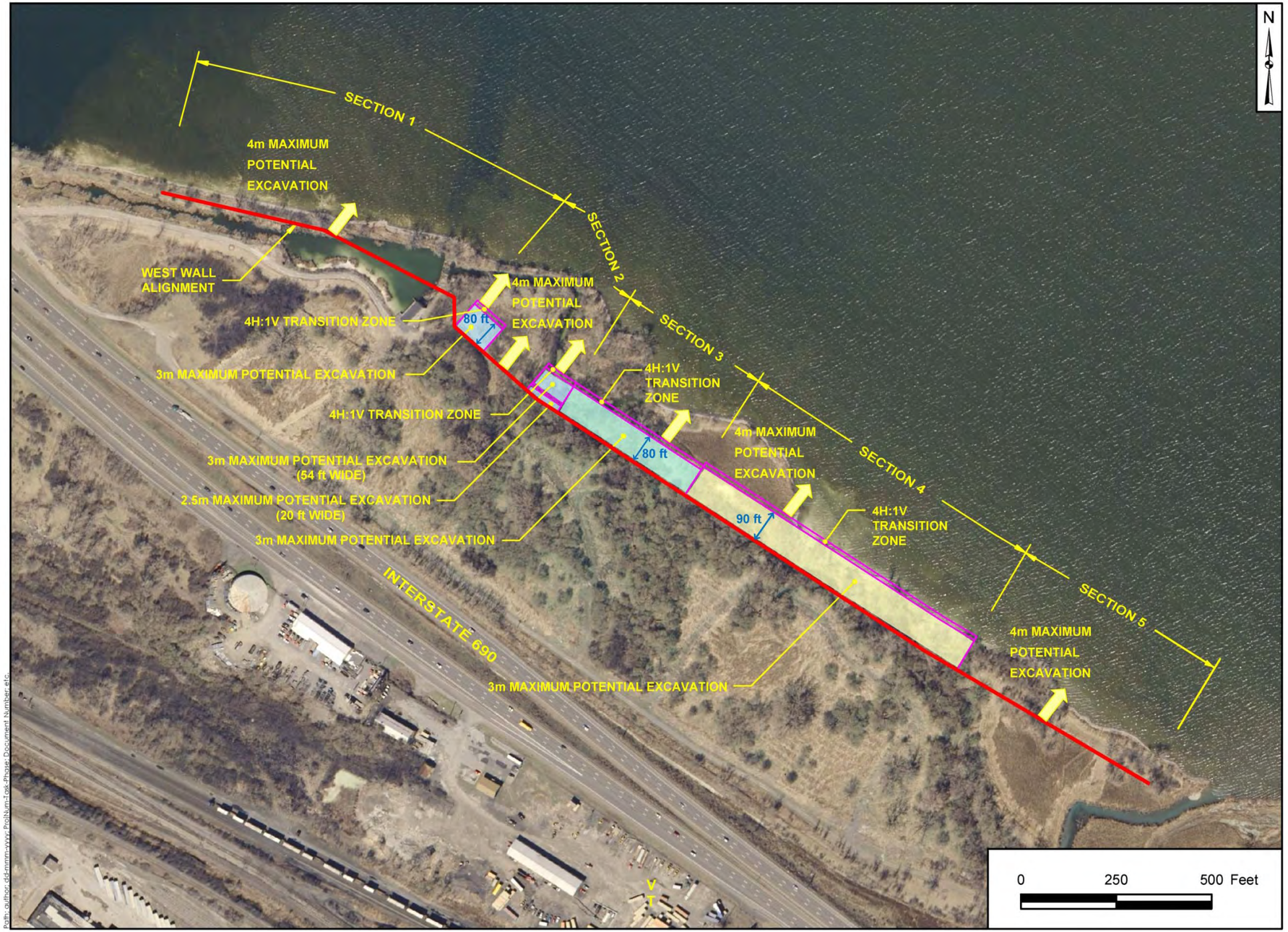
Figure 1. Configuration of Tiered Excavation (Cross Section View)



Note:

The width of the controlled excavation zone was considered to be, at a minimum, two times of the sheetpile embedment depth measured from the bottom of the excavation to the tip of sheet pile.

Figure 2. Configuration of Tiered Excavation (Plan View)



Appendix B

Streamlined Risk Assessment

Appendix B

Streamlined Risk Evaluation

Introduction

An Engineering Evaluation/Cost Analysis (EE/CA) is being performed for the Wastebed B/Harbor Brook Site (Site) to evaluate alternatives for remediating the Outboard Area including the permanent relocation and restoration of Lower Harbor Brook. Due to similarities in the nature of contaminants, potential remedies, and the connectivity between the Outboard Area and the adjacent lake sediments, remediation of the Outboard Area will occur at or about the same time as the remediation of the adjacent lake area. In order to maintain the overall schedule for remediation of Onondaga Lake, Honeywell has proposed to address remediation of the Outboard Area as an Interim Remedial Measure (IRM). The Lower Harbor Brook IRM objectives are to:

- To eliminate or reduce, to the extent practicable, releases of contaminants from the Outboard Area.
- To be protective of fish and wildlife by eliminating or reducing, to the extent practicable, existing and potential future adverse ecological effects on fish and wildlife resources and to be protective of human health by eliminating or reducing, to the extent practicable, potential risks to humans.
- To achieve surface water quality standards, to the extent practicable, associated with chemical parameters of interest (CPOIs).

This Streamlined Risk Assessment (SRE) has been prepared to support the EE/CA.

The study area and sample locations assessed in this SRE are presented on Figure 1. The objective of the SRE is to provide a thorough and concise evaluation of potential risks to human and ecological receptors assuming no removal or cleanup actions are taken at the Site. However, it should be noted that while the SRE may indicate risks associated with Site media, the screening was conservative and completed using maximum concentrations and conservative screening criteria. The methods and results of the SRE are provided below.

Human Health Screening – Constituents of Potential Concern (COPCs)

Current and future exposure scenarios in the portion of the Harbor Brook/Wastebed B affected by the proposed IRM include a trespasser, construction worker, surveillance worker, recreational visitor, and, although unlikely, potential future industrial/commercial workers and residents. The future state of the area included in this EE/CA is slated for habitat enhancements, including wetland improvements. In addition to its future use for ecological/nature activities, the area will also likely be used for recreational activities (*e.g.*, biking along a bike trail). To evaluate the potential risks posed to current and likely future receptors, a conservative screening process was applied to identify Constituents of Potential Concern (COPCs) in the surface soil, subsurface soil, and sediment of the Site.

To develop a list of COPCs for each medium, the maximum detected concentrations of the Site-related constituents were compared to regional screening levels (RSLs) from *Regional*

Screening Levels for Chemical Contaminants at Superfund Sites (USEPA, 2009). The screening levels utilized in this SRE correspond to either a cancer risk of 1×10^{-6} or a hazard quotient of 0.1.

For each medium, if the maximum detected constituent concentration exceeded an RSL, the constituent was identified as a COPC. Otherwise, it was concluded that exposure to the constituent does not represent an unacceptable risk to human health. Naturally occurring compounds were eliminated from the COPC list if they were essential nutrients; therefore calcium, magnesium, potassium, and sodium were not included as human health COPCs. Group A known human carcinogens (*e.g.*, arsenic, benzene, and hexavalent chromium) that were detected were selected as COPCs regardless of the level at which they were detected. If no RSL screening criterion was available but an ARAR/TBC criterion was available, the latter was used to identify constituents as COPCs. Constituents that were detected, but lacked recommended screening criteria, were retained as COPCs.

Ecological Screening - Constituents of Potential Ecological Concern

Constituents of Potential Ecological Concern (COPECs) were identified by screening the maximum detected concentrations in Site media against recommended conservative ecologically-based screening criteria and/or guidance values. Surface soils were screened against USEPA *Ecological Soil Screening Levels* (USEPA, 2007) for plants, terrestrial invertebrates, birds, and mammals, values from Efroymson *et al.*, 1997a and Efroymson *et al.*, 1997b, and *NYSDEC Restricted Use Soil Cleanup Objectives for the Protection of Ecological Resources* (NYSDEC, 2006; Table 375-6.8(b)).

Compounds detected in sediment were screened against values found in the *NYSDEC Technical Guidance for Screening Contaminated Sediments* (NYSDEC, 1999). These criteria included benthic aquatic life chronic toxicity values and wildlife bioaccumulation values.

If the maximum detected constituent concentration exceeded any of the screening criteria, the constituent was identified as a COPEC. Otherwise, it was concluded that exposure to the constituent does not represent an unacceptable risk to ecological receptors. Naturally occurring compounds were eliminated from the COPEC list if they were essential nutrients; therefore, magnesium and potassium were not included as COPECs. Although calcium and sodium are also naturally occurring essential nutrients, they are major constituents of Solvay waste and have been identified as physical stressors to the lake (NYSDEC, 2002). Consequently, calcium and sodium were retained as COPECs. Constituents that were detected, but lacked recommended screening criteria, were retained as COPECs.

Results

Human Health Screening

Tables 1, 2, and 3 summarize human health COPCs identified for surface soil, subsurface soil, and sediment, respectively.

In surface soil (Table 1), 28 detected compounds exceeded conservative screening criteria or are considered Group A (known) human carcinogens. Nine compounds had no toxicity screening criteria. Dioxins (2,3,7,8-TCDD Equivalents), some PAHs, and 1,4-dichlorobenzene exceeded their RSL by approximately 2 or more orders of magnitude. Of the 28 surface soil

COPCs with screening criteria identified in Table 1, arsenic, mercury, iron, benzene, hexachlorobenzene and benzo(a)pyrene were identified as soil Constituents of Concern (COCs) and risk drivers in the Onondaga Lake Human Health Risk Assessment (HHRA; NYSDEC 2002a). Also, PCBs, dioxins (2,3,7,8-TCDD equivalents) and arsenic were identified in the HHRA as primary risk drivers associated with the consumption of fish from the lake. This is important because surface soils in the proposed remediation area have the potential to enter the lake and remain at the bottom as sediment.

Subsurface soil contained 40 constituents that are above conservative screening levels or are considered Group A (known) human carcinogens (Table 2). Twenty compounds had no toxicity screening criteria. Arsenic, some polyaromatic hydrocarbons (PAHs), 1,2-dibromo-3-chloropropane, 1,4-dichlorobenzene, and benzene exceeded their RSL by approximately 2 or more orders of magnitude. Of the 40 subsurface soil COPCs identified in Table 2, arsenic, iron, mercury, benzo(a)pyrene and dibenz(a,h)anthracene were identified as subsurface soil COCs and also identified as risk drivers in the Onondaga Lake HHRA. In addition, arsenic and PCBs (which was also detected in subsurface soil) were identified as two of the primary risk drivers associated with the consumption of fish from the lake.

In Harbor Brook sediment, 31 compounds exceeded the conservative screening criteria or are considered Group A (known) human carcinogens (Table 3). Twenty compounds had no toxicity screening criteria. Dioxins (2,3,7,8-TCDD Equivalents) and some PAHs exceeded their RSL by approximately 2 or more orders of magnitude. Of the 31 sediment COPCs exceeding screening criteria identified in Table 3, dioxins (2,3,7,8-TCDD equivalents), PCBs, antimony, arsenic, chromium, iron, manganese, mercury, thallium, PAHs, naphthalene and hexachlorobenzene, were identified as sediment COCs and risk drivers in the Onondaga Lake HHRA. PCBs, dioxins (2,3,7,8-TCDD equivalents) and arsenic also were identified in the HHRA as primary risk drivers associated with the consumption of fish from the lake.

Ecological Screening

Tables 4 and 5 summarize ecological COPECs identified for surface soil and sediment, respectively.

In surface soil, 37 detected compounds exceeded screening criteria, and two were identified as known physical stressors (Table 4). Twenty nine compounds had no toxicity screening criteria. Aluminum, chromium, iron, lead, mercury, 4,4'-DDD, and 4,4'-DDT exceeded their respective screening criterion by approximately 2 or more orders of magnitude. Of the 37 surface soil COPECs with screening criteria identified in Table 4, metals (antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, zinc, and cyanide), dichlorobenzenes, trichlorobenzenes, xylenes, PAHs, DDT and metabolites, dieldrin, and PCBs also were identified as surface soil COCs in the Onondaga Lake Baseline Ecological Risk Assessment (BERA; NYSDEC 2002b). In addition, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc, were among the risk drivers associated with the potential for phytotoxic effects in soil.

Harbor Brook sediment contained 32 constituents above the screening levels, and two were identified as known physical stressors (Table 5). Sixty eight compounds had no toxicity screening criteria. Mercury, 2-methylnaphthalene, fluorene, naphthalene, phenol, and chlorobenzene exceeded their respective screening criterion by approximately 2 or more orders of magnitude. Of 32 the sediment COPECs with screening criteria identified in Table 5, metals

(antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc), benzene, ethylbenzene, toluene, xylenes, chlorobenzenes, phenol, PAHs, aldrin, dieldrin, endrin, and heptachlor/heptachlor epoxide, also were identified as sediment COCs in the Onondaga Lake BERA. PCBs and dioxins (2,3,7,8-TCDD equivalents), which were detected in Site sediment, also have been identified as sediment COCs in the Onondaga Lake BERA.

Conclusions

The identification of constituents of potential concern to human health (COPCs) and potential ecological concern (COPECs) indicate that there is a potential threat to human health and the environment. Many of these COCs and COPECs are also identified as COCs and COPECs in the Onondaga Lake HHRA and BERA (Table 6). Therefore, the SRE results indicate that there is a clear potential threat to human health from exposure to some constituents found in surface soil, subsurface soil, and sediment. Likewise, there is a potential threat posed to ecological receptors from exposure to surface soil and sediment. Response actions at the portion of the Site being evaluated by the EE/CA are warranted based on the following factors acknowledged in 40 CFR Section 300.415 (b)(2):

- Potential threat of exposure to nearby human populations, animals, and the food chain from COPCs.
- Unacceptable potential risks due to elevated levels of COPCs in soils and sediment.
- Potential threat to public health, welfare, or the environment.
- High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.
- Actual or potential contamination of sensitive ecosystems

The proposed IRM for the Outboard Area calls for remediation and restoration of impacted soil and sediments and will eliminate, to the extent practicable, continued migration of COCs into Onondaga Lake and Harbor Brook. In addition, the potential ecological and human health risks associated with exposure to surface water will be addressed by the elimination of contamination sources from soil (from runoff) and sediment, which can impact water quality. Consequently, the proposed remediation and restoration activities will eliminate, to the extent practicable, potential human health and ecological impacts associated with Site-related constituents of concern.

References

Efroymson, R. A., M. E. Will, G. W. Suter, II, and A. C. Wooten. 1997a. *Toxicological Benchmarks for Contaminants of Potential Concern for Effects on Terrestrial Plants: 1997 Revision*, Oak Ridge National Laboratory, Oak Ridge, Tennessee, ES/ER/TM-85/R3.

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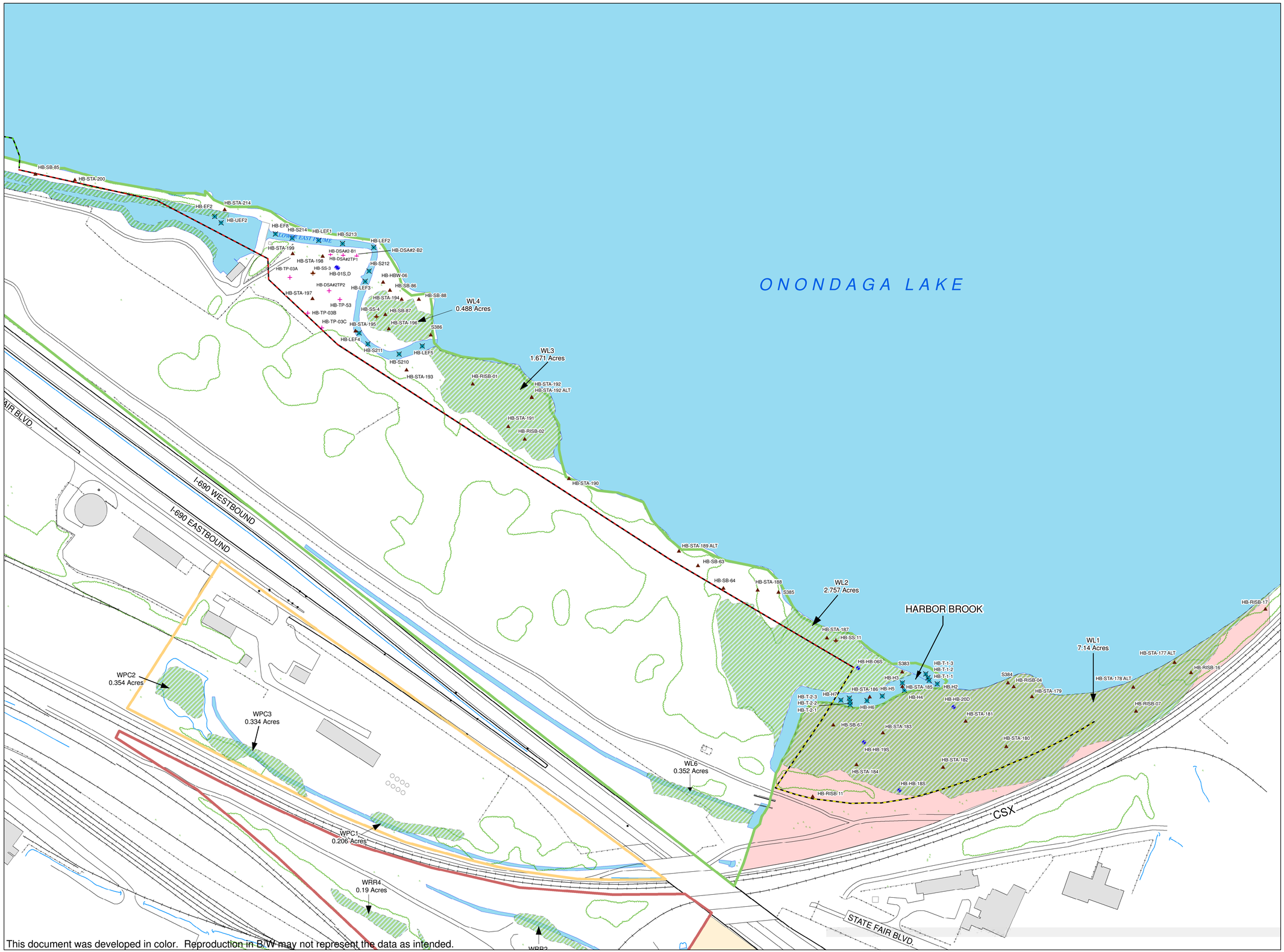
USEPA. 2007. *Ecological Soil Screening Levels*. Interim Final. Office of Solid Waste and Emergency Response. Washington, D.C. Available at: http://www.epa.gov/ecotox/ecossl/.

USEPA. 2009. *Regional Screening Levels for Chemical Contaminants at Superfund Sites*. Available at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm.

FIGURE 1



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LEGEND

LOCATION TYPE

- MONITORING WELL
- SOIL BORING
- SURFACE SOIL
- TEST PIT SAMPLE
- SURFACE WATER/SEDIMENT
- WL1 DELINEATED WETLAND

SITE BOUNDARY

- RAILROAD AREA
- LAKESHORE AREA
- PENN-CAN PROPERTY
- ADDITIONAL AREA OF STUDY #1
- ADDITIONAL AREA OF STUDY #2

N

HONEYWELL
WASTEBED B/ HARBOR BROOK
GEDDES AND SYRACUSE, NY

SAMPLE LOCATIONS WITH ANALYTIC DATA OUTBOARD OF IRM BARRIER WALL

0 125 250 500
Feet

JULY 2009
1163.42071

O'BRIEN & GERE

PATH: I:\Honeywell.1163\STDS\GIS\Harborbrook\MXD\IRM-WALL-LOCS_June09.mxd

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TABLE 1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value[4] (mg/kg)		Potential ARAR/TBC Value[5]	Selected Screening Value[4] (mg/kg)	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion[7]
Wastebed B/Harbor Brook - Surface Soil	DIOXIN/FURAN															
	1746-01-6	2,3,7,8-TCDD Equivalent[8]	2.5	575.5	ng/kg	HB-SS-04	NA	-	5.75E-04		4.50E-06	c*	1.50E-07	4.50E-06	Y	ASL
	METALS															
	7429-90-5	Aluminum	2820	14300 J	mg/kg	HB-HB-20D	33/33	-	1.43E+04		7.70E+03	n	5.50E+04	7.70E+03	Y	ASL
	7440-36-0	Antimony	0.29 J	0.54 J	mg/kg	HB-HB-01D	4/33	0.59-24	5.40E-01		3.10E+00	n	2.70E-01	3.10E+00	N	BSL
	7440-38-2	Arsenic	2.1	14 J	mg/kg	HB-RISB-04	33/33	-	1.40E+01		3.90E-01	c*	1.30E-03	3.90E-01	Y	TOX
	7440-39-3	Barium	46.2	1240	mg/kg	HB-SS-04	33/33	-	1.24E+03		1.50E+03	n	8.20E+01	1.50E+03	N	BSL
	7440-41-7	Beryllium	0.39	0.74	mg/kg	HB-HBW-06	5/33	0.53-2	7.40E-01		1.60E+01	n	3.20E+00	1.60E+01	N	BSL
	7440-42-8	Boron	5.1 J	5.1 J	mg/kg	HB-STA-200	1/1	-	5.10E+00		1.60E+03	n	2.30E+01	1.60E+03	N	BSL
	7440-43-9	Cadmium	0.97	9.9 J	mg/kg	HB-RISB-07	20/33	0.029-1.18	9.90E+00		7.00E+00	n	NV	7.00E+00	Y	ASL
	7440-70-2	Calcium	23000 J	308000 J	mg/kg	HB-RISB-01	33/33	-	3.08E+05		NV		NV	NV	N	NUT
	7440-47-3	Chromium[9]	10.3	191 J	mg/kg	HB-HB-20D	33/33	-	1.91E+02		3.90E+01	c**	2.10E+00	3.90E+01	Y	ASL
	7440-48-4	Cobalt	4.3 J	12.2	mg/kg	HB-SS-03	9/33	6.28-20	1.22E+01		2.30E+00	n	4.90E-01	2.30E+00	Y	ASL
	7440-50-8	Copper	21.8	302 J	mg/kg	HB-HB-19S	33/33	-	3.02E+02		3.10E+02	n	4.60E+01	3.10E+02	N	BSL
	57-12-5	Cyanide	0.68	2.9	mg/kg	HB-HBW-06	2/32	0.51-4	2.90E+00		1.60E+02	n	2.00E+00	1.60E+02	N	BSL
	7439-89-6	Iron	5270 J	22300 J	mg/kg	HB-HB-19S	33/33	-	2.23E+04		5.50E+03	n	6.40E+02	5.50E+03	Y	ASL
	7439-92-1	Lead	6.1 J	2320 J	mg/kg	HB-HB-20D	33/33	-	2.32E+03		4.00E+02	nL	NV	4.00E+02	Y	ASL
	7439-95-4	Magnesium	2880 J	36500	mg/kg	HB-SS-03	33/33	-	3.65E+04		NV		NV	NV	N	NUT
	7439-96-5	Manganese	60.7 J	448	mg/kg	HB-STA-200	33/33	-	4.48E+02		1.80E+02	n	5.70E+01	1.80E+02	Y	ASL
	7439-97-6	Mercury[10]	0.72	27.4 J	mg/kg	HB-HB-01D	31/33	0.04-0.04	2.74E+01		7.80E-01	n	NV	7.80E-01	Y	ASL
	7440-02-0	Nickel	9.1	104 J	mg/kg	HB-RISB-06	33/33	-	1.04E+02		1.50E+02	n	4.80E+01	1.50E+02	N	BSL
	7440-09-7	Potassium	455 J	3670 J	mg/kg	HB-HB-20D	31/33	367.7-398.72	3.67E+03		NV		NV	NV	N	NUT
	7782-49-2	Selenium	0.46 J	4.1 J	mg/kg	HB-RISB-07	7/29	0.16-5.77	4.10E+00		3.90E+01	n	2.60E-01	3.90E+01	N	BSL
	7440-22-4	Silver	0.15 J	4.3 J	mg/kg	HB-RISB-16	7/33	0.077-4	4.30E+00		3.90E+01	n	1.60E+00	3.90E+01	N	BSL
	7440-23-5	Sodium	81.9	4910 J	mg/kg	HB-RISB-01	33/33	-	4.91E+03		NV		NV	NV	N	NUT
	7440-28-0	Thallium	0.82 J	0.82 J	mg/kg	HB-HBW-06	1/33	0.18-5.4	8.20E-01		5.10E-01	n	1.40E-01	5.10E-01	Y	ASL
	7440-62-2	Vanadium	7.5	40.9 J	mg/kg	HB-HB-20D	31/33	11.66-20	4.09E+01		5.50E+01	n	2.60E+02	5.50E+01	N	BSL
	7440-66-6	Zinc	34.2	823 J	mg/kg	HB-RISB-06	33/33	-	8.23E+02		2.30E+03	n	6.80E+02	2.30E+03	N	BSL
	PCB															
	12674-11-2	Aroclor 1016	0.3	2	mg/kg	HB-HB-01D	2/33	0.0094-5.3	2.00E+00		3.90E-01	n	5.20E-02	3.90E-01	Y	ASL
	12672-29-6	Aroclor 1248	0.2	0.38	mg/kg	HB-RISB-17	3/33	0.0094-5.3	3.80E-01		2.20E-01	c	NV	2.20E-01	Y	ASL
	11097-69-1	Aroclor 1254	0.043	2.4	mg/kg	HB-HB-18S	7/33	0.02-5.3	2.40E+00		2.20E-01	c**	NV	2.20E-01	Y	ASL
	11096-82-5	Aroclor 1260	0.08	4 J	mg/kg	HB-RISB-07	19/33	0.0094-5.3	4.00E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	PESTICIDE															
	72-54-8	4,4'-DDD	0.043 J	0.73 J	mg/kg	HB-HB-19S	2/32	0.003-0.53	7.30E-01		2.00E+00	c	NV	2.00E+00	N	BSL
	72-55-9	4,4'-DDE	0.076	0.11 J	mg/kg	HB-HB-19S	3/32	0.003-0.53	1.10E-01		1.40E+00	c	NV	1.40E+00	N	BSL
	50-29-3	4,4'-DDT	0.04 J	0.39 J	mg/kg	HB-HB-19S	3/32	0.003-0.53	3.90E-01		1.70E+00	c*	NV	1.70E+00	N	BSL
	12789-03-6	gamma Chlordane[11]	0.001 J	0.12 J	mg/kg	HB-HB-19S	3/32	0.0039-0.27	1.20E-01		1.60E+00	c*	3.30E-02	1.60E+00	N	BSL
	60-57-1	Dieldrin	0.11	0.11	mg/kg	HB-HB-18S	1/32	0.003-0.53	1.10E-01		3.00E-02	c	NV	3.00E-02	Y	ASL
	53494-70-5	Endrin ketone[12]	0.39	0.56	mg/kg	HB-SS-11	2/32	0.003-0.53	5.60E-01		1.80E+00	n	NV	1.80E+00	N	BSL
	1024-57-3	Heptachlor Epoxide	0.052 J	0.052 J	mg/kg	HB-HB-19S	1/32	0.002-0.27	5.20E-02		5.30E-02	c*	7.90E-05	5.30E-02	N	BSL

TABLE 1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value[4] (mg/kg)		Potential ARAR/TBC Value[5]	Selected Screening Value[4] (mg/kg)	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion[7]
Wastebed B/Harbor Brook - Surface Soil	SVOC															
	65-85-0	Benzoic acid	0.091 J	1.5 J	mg/kg	HB-HB-06S	3/4	18-18	1.50E+00		2.40E+05	nm	NV	2.40E+05	N	BSL
	91-57-6	2-Methylnaphthalene	0.053	3.4 J	mg/kg	HB-RISB-16	18/33	0.34-160	3.40E+00		3.10E+01	n	9.00E-01	3.10E+01	N	BSL
	83-32-9	Acenaphthene	0.019 J	5.4 J	mg/kg	HB-RISB-16	15/33	0.34-160	5.40E+00		3.40E+02	n	2.70E+01	3.40E+02	N	BSL
	208-96-8	Acenaphthylene	0.037 J	7.7 J	mg/kg	HB-HB-19S	25/33	0.038-160	7.70E+00		NV		NV	NV	Y	NTX
	120-12-7	Anthracene	0.034 J	14	mg/kg	HB-RISB-16	23/33	0.34-160	1.40E+01		1.70E+03	n	4.50E+02	1.70E+03	N	BSL
	56-55-3	Benzo[a]anthracene	0.05 J	32 J	mg/kg	HB-RISB-06	28/33	0.38-160	3.20E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	50-32-8	Benzo[a]pyrene	0.061 J	32 J	mg/kg	HB-RISB-06	27/33	0.38-160	3.20E+01		1.50E-02	c	4.60E-03	1.50E-02	Y	ASL
	205-99-2	Benzo[b]fluoranthene	0.13	27 J	mg/kg	HB-RISB-06	28/33	0.38-160	2.70E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	191-24-2	Benzo[g,h,i]perylene	0.055	24 J	mg/kg	HB-RISB-06	28/33	0.38-160	2.40E+01		NV		NV	NV	Y	NTX
	207-08-9	Benzo[k]fluoranthene	0.046 J	25 J	mg/kg	HB-RISB-06	27/33	0.038-160	2.50E+01		1.50E+00	c	NV	1.50E+00	Y	ASL
	111-44-4	bis(2-Chloroethyl)ether	0.05 J	0.05 J	mg/kg	HB-HBW-06	1/33	0.038-160	5.00E-02		1.90E-01	c	NV	1.90E-01	N	BSL
	117-81-7	bis(2-Ethylhexyl)phthalate	0.16 J	3.7 J	mg/kg	HB-RISB-07	8/33	0.34-160	3.70E+00		3.50E+01	c*	1.60E+00	3.50E+01	N	BSL
	85-68-7	Butylbenzylphthalate	0.03 J	0.03 J	mg/kg	HB-STA-200	1/33	0.34-160	3.00E-02		2.60E+02	c*	NV	2.60E+02	N	BSL
	86-74-8	Carbazole	0.081 J	5.8 J	mg/kg	HB-RISB-06	12/33	0.038-160	5.80E+00		NV		NV	NV	Y	NTX
	218-01-9	Chrysene	0.065 J	34 J	mg/kg	HB-HB-19S	28/33	0.38-160	3.40E+01		1.50E+01	c	NV	1.50E+01	Y	ASL
	53-70-3	Dibenz[a,h]anthracene	0.17 J	6.2 J	mg/kg	HB-HB-19S	17/33	0.038-160	6.20E+00		1.50E-02	c	NV	1.50E-02	Y	ASL
	132-64-9	Dibenzofuran	0.017 J	4.3 J	mg/kg	HB-RISB-16	13/33	0.34-160	4.30E+00		NV		NV	NV	Y	NTX
	206-44-0	Fluoranthene	0.093 J	77 J	mg/kg	HB-HB-19S	28/33	0.38-160	7.70E+01		2.30E+02	n	2.10E+02	2.30E+02	N	BSL
	86-73-7	Fluorene	0.018 J	6.8 J	mg/kg	HB-HB-19S	15/33	0.34-160	6.80E+00		2.30E+02	n	3.30E+01	2.30E+02	N	BSL
	118-74-1	Hexachlorobenzene	0.11 J	11 J	mg/kg	HB-HB-01D	8/33	0.38-160	1.10E+01		3.00E-01	c	2.90E-04	3.00E-01	Y	ASL
	193-39-5	Indeno[1,2,3-cd]pyrene	0.044	20 J	mg/kg	HB-RISB-06	27/33	0.38-160	2.00E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	91-20-3	Naphthalene	0.088 J	33 J	mg/kg	HB-SS-11	27/37	0.005-160	3.30E+01		3.90E+00	c*	NV	3.90E+00	Y	ASL
	85-01-8	Phenanthrene	0.075 J	61 J	mg/kg	HB-HB-19S	26/33	0.38-160	6.10E+01		NV		NV	NV	Y	NTX
	108-95-2	Phenol	0.044 J	1.9 J	mg/kg	HB-RISB-16	3/33	0.038-160	1.90E+00		1.80E+03	n	8.10E+00	1.80E+03	N	BSL
	129-00-0	Pyrene	0.08 J	59 J	mg/kg	HB-HB-19S	28/33	0.38-160	5.90E+01		1.70E+02	n	1.50E+02	1.70E+02	N	BSL
	VOC															
	135-98-8	sec-Butylbenzene	0.002 J	0.002 J	mg/kg	HB-HB-01D	1/4	0.003-0.005	2.00E-03		NV		NV	NV	Y	NTX
	95-63-6	1,2,4-Trimethylbenzene	0.003 J	0.003 J	mg/kg	HB-HB-01D	1/4	0.003-0.005	3.00E-03		6.70E+00	n	2.40E-02	6.70E+00	N	BSL
	108-67-8	1,3,5-Trimethylbenzene	0.002 J	0.002 J	mg/kg	HB-HB-01D	1/4	0.003-0.005	2.00E-03		4.70E+00	n	2.00E-02	4.70E+00	N	BSL
	87-61-6	1,2,3-Trichlorobenzene	0.057	0.057	mg/kg	HB-HB-01D	1/5	0.005-0.009	5.70E-02		NV		NV	NV	Y	NTX
	120-82-1	1,2,4-Trichlorobenzene	0.004 J	53 J	mg/kg	HB-HB-01D	22/37	0.0056-33	5.30E+01		8.70E+00	n	1.30E-02	8.70E+00	Y	ASL
	95-50-1	1,2-Dichlorobenzene	0.003 J	210	mg/kg	HB-SS-11	24/37	0.0056-33	2.10E+02		2.00E+03	ns	4.00E-01	2.00E+03	N	BSL
	541-73-1	1,3-Dichlorobenzene	0.001 J	3.7 J	mg/kg	HB-HB-06S	7/37	0.003-160	3.70E+00		NV		NV	NV	Y	NTX
	106-46-7	1,4-Dichlorobenzene	0.007	350	mg/kg	HB-SS-11	28/37	0.0056-33	3.50E+02		2.60E+00	c	4.60E-04	2.60E+00	Y	ASL
	78-93-3	2-Butanone	0.0075 J	0.047 J	mg/kg	HB-HB-20D	6/33	0.0056-0.06	4.70E-02		2.80E+04	ns	NV	2.80E+04	N	BSL
	67-64-1	Acetone	0.0077 J	0.18 J	mg/kg	HB-HB-20D	10/33	0.01-0.08	1.80E-01		6.10E+03	n	4.40E+00	6.10E+03	N	BSL
	71-43-2	Benzene	0.001 J	0.028 J	mg/kg	HB-RISB-01	13/33	0.0054-0.02	2.80E-02		1.10E+00	c*	2.30E-04	1.10E+00	Y	TOX
	75-15-0	Carbon disulfide	0.0026 J	0.0026 J	mg/kg	HB-RISB-01	1/29	0.0056-0.06	2.60E-03		6.70E+02	ns	NV	6.70E+02	N	BSL
	108-90-7	Chlorobenzene	0.002 J	0.37	mg/kg	HB-HB-01D	21/33	0.0054-0.02	3.70E-01		3.10E+01	n	6.80E-02	3.10E+01	N	BSL
	156-59-2	cis-1,2-Dichloroethene	0.0026 J	0.0026 J	mg/kg	HB-HB-20D	1/33	0.003-0.03	2.60E-03		7.80E+01	n	2.10E-02	7.80E+01	N	BSL

TABLE 1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value(4) (mg/kg)		Potential ARAR/TBC Value(5)	Selected Screening Value(4) (mg/kg)	COPC Flag (Y/N)(6)	Rationale for Selection or Deletion(7)
	100-41-4	Ethylbenzene	0.0022 J	0.054 J	mg/kg	HB-RISB-01	7/33	0.003-0.02	5.40E-02		5.70E+00	c	1.90E-03	5.70E+00	N	BSL
	98-82-8	Isopropylbenzene	0.001 J	0.001 J	mg/kg	HB-HB-01D	1/5	0.003-0.0056	1.00E-03		2.20E+03	ns	NV	2.20E+03	N	BSL
	75-09-2	Methylene Chloride	0.0021 J	0.0052 J	mg/kg	HB-HB-20D	5/33	0.003-0.03	5.20E-03		1.10E+01	c	1.20E-03	1.10E+01	N	BSL
	95-47-6	o-Xylene	0.0018 J	0.21 J	mg/kg	HB-RISB-01	6/28	0.0054-0.03	2.10E-01		5.30E+03	ns	NV	5.30E+03	N	BSL
	100-42-5	Styrene	0.0052 J	0.0052 J	mg/kg	HB-HB-20D	1/33	0.003-0.03	5.20E-03		6.50E+03	ns	1.20E-01	6.50E+03	N	BSL
	127-18-4	Tetrachloroethene	0.004 J	0.0085 J	mg/kg	HB-RISB-07	2/33	0.003-0.02	8.50E-03		5.70E-01	c	5.20E-05	5.70E-01	N	BSL
	108-88-3	Toluene	0.001 J	0.22 J	mg/kg	HB-RISB-01	11/33	0.0054-0.03	2.20E-01		5.00E+03	ns	7.60E-01	5.00E+03	N	BSL
	79-01-6	Trichloroethene	0.001 J	0.0071 J	mg/kg	HB-RISB-07	2/33	0.003-0.02	7.10E-03		2.80E+00	c	6.10E-04	2.80E+00	N	BSL
	XYLENES1314	m,p-Xylenes(13)	0.0033 J	0.42 J	mg/kg	HB-RISB-01	11/28	0.0054-0.02	4.20E-01		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	1330-20-7	Xylenes (Total)	0.001 J	0.037	mg/kg	HB-HB-01D	4/5	0.017-0.017	3.70E-02		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	OTHER															
	112-40-3	n-Dodecane	590 J	1100 J	mg/kg	HB-RISB-04	2/6	200-210	1.10E+03		NV		NV	NV	Y	NTX
	22967-92-6	Methyl Mercury	0.00112	0.0373 J	mg/kg	HB-RISB-07	16/16	-	3.73E-02		7.80E-01	n	NV	7.80E-01	N	BSL

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Maximum detected concentration
(3) N/A - No background screening performed.
(4) Screening values are for residential soil and represent cancer benchmark of 1E-06 and HQ=0.1
(USEPA April 2009 RSL Screening Toxicity Values).
(5) Soil screening level for migration to ground water. Minimum of risk-based and MCL-based soil screening levels
(USEPA April 2009 RSL Screening Toxicity Values). Based on DAF = 1.
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds
Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Based on use of WHO toxicity equivalency factors for dioxins and dioxin-like compounds from Van Den Berg et al. (2006). See Table 1a.
(9) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9)
(10) Toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6)
(11) Toxicity values reflect those of technical Chlordane (CAS # 12789-03-6)
(12) Toxicity values reflect those of Endrin (CAS # 72-20-8)
(13) Toxicity values reflect those of Total Xylenes (CAS # 1330-20-7)
Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL or TOX.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer
m = concentration may exceed ceiling limit
s = concentration may exceed Csat
L = see EPA RSL user guide on lead

TABLE 1a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-HB-18S	8/29/2003	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	74.975	74.975	ng/kg		0.01	0.750
HB-HB-18S	8/29/2003	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	8.765	8.765	ng/kg		0.01	0.088
HB-HB-18S	8/29/2003	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.202	1.202	ng/kg	EMPC	0.01	0.012
HB-HB-18S	8/29/2003	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	0.635	0.635	ng/kg	EMPC	0.1	0.064
HB-HB-18S	8/29/2003	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	3.906	3.906	ng/kg	J	0.1	0.391
HB-HB-18S	8/29/2003	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	3.43	3.43	ng/kg	J	0.1	0.343
HB-HB-18S	8/29/2003	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	1.065	1.065	ng/kg	J	0.1	0.107
HB-HB-18S	8/29/2003	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	3.306	3.306	ng/kg	J	0.1	0.331
HB-HB-18S	8/29/2003	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-HB-18S	8/29/2003	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	1.388	1.388	ng/kg	J	1	1.388
HB-HB-18S	8/29/2003	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	1.863	1.863	ng/kg	EMPC	0.03	0.056
HB-HB-18S	8/29/2003	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-HB-18S	8/29/2003	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	5.016	5.016	ng/kg		0.1	0.502
HB-HB-18S	8/29/2003	0	0.5	39001-02-0	OCDF	Y	24.165	24.165	ng/kg		0.0003	0.007
											Sample Location TEQ =	**4.7**
HB-HB-18S	8/29/2003	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	229.416	229.416	ng/kg		0.01	2.294
HB-HB-18S	8/29/2003	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	28.993	28.993	ng/kg		0.01	0.290
HB-HB-18S	8/29/2003	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	4.052	4.052	ng/kg	J	0.01	0.041
HB-HB-18S	8/29/2003	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	2.923	2.923	ng/kg	J	0.1	0.292
HB-HB-18S	8/29/2003	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	12.597	12.597	ng/kg		0.1	1.260
HB-HB-18S	8/29/2003	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	14.043	14.043	ng/kg		0.1	1.404
HB-HB-18S	8/29/2003	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	4.201	4.201	ng/kg	J	0.1	0.420
HB-HB-18S	8/29/2003	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	14.045	14.045	ng/kg		0.1	1.405
HB-HB-18S	8/29/2003	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-HB-18S	8/29/2003	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	5.849	5.849	ng/kg		1	5.849
HB-HB-18S	8/29/2003	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	9.707	9.707	ng/kg	J	0.03	0.291
HB-HB-18S	8/29/2003	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	1.49	1.49	ng/kg	J	1	1.490
HB-HB-18S	8/29/2003	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	19.27	19.27	ng/kg		0.1	1.927
HB-HB-18S	8/29/2003	0.5	1	3268-87-9	OCDD	Y	1373.023	1373.023	ng/kg		0.0003	0.412
HB-HB-18S	8/29/2003	0.5	1	39001-02-0	OCDF	Y	49.114	49.114	ng/kg		0.0003	0.015
											Sample Location TEQ =	**17.5**

TABLE 1a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-HB-20D	8/29/2003	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	40.629	40.629	ng/kg	J	0.01	0.406
HB-HB-20D	8/29/2003	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	5.857	5.857	ng/kg	J	0.01	0.059
HB-HB-20D	8/29/2003	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	0.717	0.717	ng/kg	J	0.01	0.007
HB-HB-20D	8/29/2003	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	UJ	0.1	0.125
HB-HB-20D	8/29/2003	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	1.939	1.939	ng/kg	J	0.1	0.194
HB-HB-20D	8/29/2003	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	1.904	1.904	ng/kg	J	0.1	0.190
HB-HB-20D	8/29/2003	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	0.648	0.648	ng/kg	J	0.1	0.065
HB-HB-20D	8/29/2003	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	1.276	1.276	ng/kg	J	0.1	0.128
HB-HB-20D	8/29/2003	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	UJ	0.1	0.125
HB-HB-20D	8/29/2003	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	UJ	1	1.250
HB-HB-20D	8/29/2003	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	1.077	1.077	ng/kg	J	0.03	0.032
HB-HB-20D	8/29/2003	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	UJ	1	0.500
HB-HB-20D	8/29/2003	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	2.641	2.641	ng/kg	J	0.1	0.264
HB-HB-20D	8/29/2003	0	0.5	3268-87-9	OCDD	Y	293.433	293.433	ng/kg	J	0.0003	0.088
HB-HB-20D	8/29/2003	0	0.5	39001-02-0	OCDF	Y	14.539	14.539	ng/kg	J	0.0003	0.004
											Sample Location TEQ =	**3.4**
HB-HB-20D	8/29/2003	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	282.196	282.196	ng/kg	J	0.01	2.822
HB-HB-20D	8/29/2003	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	35.287	35.287	ng/kg	J	0.01	0.353
HB-HB-20D	8/29/2003	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	4.493	4.493	ng/kg	EMPC	0.01	0.045
HB-HB-20D	8/29/2003	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	3.131	3.131	ng/kg	J	0.1	0.313
HB-HB-20D	8/29/2003	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	12.268	12.268	ng/kg	J	0.1	1.227
HB-HB-20D	8/29/2003	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	16.879	16.879	ng/kg	J	0.1	1.688
HB-HB-20D	8/29/2003	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	3.902	3.902	ng/kg	EMPC	0.1	0.390
HB-HB-20D	8/29/2003	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	15.445	15.445	ng/kg	J	0.1	1.545
HB-HB-20D	8/29/2003	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	UJ	0.1	0.125
HB-HB-20D	8/29/2003	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	5.975	5.975	ng/kg	J	1	5.975
HB-HB-20D	8/29/2003	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	8.695	8.695	ng/kg	J	0.03	0.261
HB-HB-20D	8/29/2003	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	1.54	1.54	ng/kg	EMPC	1	1.540
HB-HB-20D	8/29/2003	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	14.863	14.863	ng/kg	J	0.1	1.486
HB-HB-20D	8/29/2003	0.5	1	3268-87-9	OCDD	Y	1686.851	1686.851	ng/kg	J	0.0003	0.506
HB-HB-20D	8/29/2003	0.5	1	39001-02-0	OCDF	Y	84.01	84.01	ng/kg	J	0.0003	0.025
											Sample Location TEQ =	**18.3**

TABLE 1a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-RISB-02	12/13/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	18.458	18.458	ng/kg	J	0.01	0.185
HB-RISB-02	12/13/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	13.331	13.331	ng/kg	J	0.01	0.133
HB-RISB-02	12/13/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	2.801	2.801	ng/kg	J	0.01	0.028
HB-RISB-02	12/13/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	0.596	0.596	ng/kg	EMPC	0.1	0.060
HB-RISB-02	12/13/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	9.566	9.566	ng/kg	J	0.1	0.957
HB-RISB-02	12/13/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	1.966	1.966	ng/kg	J	0.1	0.197
HB-RISB-02	12/13/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	2.385	2.385	ng/kg	J	0.1	0.239
HB-RISB-02	12/13/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	0.875	0.875	ng/kg	EMPC	0.1	0.088
HB-RISB-02	12/13/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	1.958	1.958	ng/kg	EMPC	0.1	0.196
HB-RISB-02	12/13/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	0.68	0.68	ng/kg	J	1	0.680
HB-RISB-02	12/13/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	5.239	5.239	ng/kg	J	0.03	0.157
HB-RISB-02	12/13/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	UJ	1	0.500
HB-RISB-02	12/13/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	12.75	12.75	ng/kg	J	0.1	1.275
HB-RISB-02	12/13/2002	0	0.5	3268-87-9	OCDD	Y	96.811	96.811	ng/kg	J	0.0003	0.029
HB-RISB-02	12/13/2002	0	0.5	39001-02-0	OCDF	Y	46.831	46.831	ng/kg	J	0.0003	0.014
											Sample Location TEQ =	**4.7**
HB-RISB-02	12/13/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	9.541	9.541	ng/kg		0.01	0.095
HB-RISB-02	12/13/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	7.187	7.187	ng/kg		0.01	0.072
HB-RISB-02	12/13/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.445	1.445	ng/kg	J	0.01	0.014
HB-RISB-02	12/13/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-02	12/13/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	6.501	6.501	ng/kg		0.1	0.650
HB-RISB-02	12/13/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	0.852	0.852	ng/kg	J	0.1	0.085
HB-RISB-02	12/13/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	1.59	1.59	ng/kg	J	0.1	0.159
HB-RISB-02	12/13/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-02	12/13/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-02	12/13/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	U	1	1.250
HB-RISB-02	12/13/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	4.574	4.574	ng/kg		0.03	0.137
HB-RISB-02	12/13/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-RISB-02	12/13/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	12.846	12.846	ng/kg		0.1	1.285
HB-RISB-02	12/13/2002	0.5	1	3268-87-9	OCDD	Y	66.844	66.844	ng/kg	J	0.0003	0.020
HB-RISB-02	12/13/2002	0.5	1	39001-02-0	OCDF	Y	20.584	20.584	ng/kg	J	0.0003	0.006
											Sample Location TEQ =	**4.6**

TABLE 1a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-RISB-11	8/29/2003	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	34.672	34.672	ng/kg		0.01	0.347
HB-RISB-11	8/29/2003	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	16.787	16.787	ng/kg		0.01	0.168
HB-RISB-11	8/29/2003	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.618	1.618	ng/kg	J	0.01	0.016
HB-RISB-11	8/29/2003	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-11	8/29/2003	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	8.172	8.172	ng/kg		0.1	0.817
HB-RISB-11	8/29/2003	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	5.436	5.436	ng/kg		0.1	0.544
HB-RISB-11	8/29/2003	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	2.426	2.426	ng/kg	EMPC	0.1	0.243
HB-RISB-11	8/29/2003	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	3.426	3.426	ng/kg	EMPC	0.1	0.343
HB-RISB-11	8/29/2003	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	1.195	1.195	ng/kg	J	0.1	0.120
HB-RISB-11	8/29/2003	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	UJ	1	1.250
HB-RISB-11	8/29/2003	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	4.018	4.018	ng/kg	J	0.03	0.121
HB-RISB-11	8/29/2003	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-RISB-11	8/29/2003	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	12.767	12.767	ng/kg		0.1	1.277
HB-RISB-11	8/29/2003	0	0.5	3268-87-9	OCDD	Y	196.43	196.43	ng/kg	J	0.0003	0.059
HB-RISB-11	8/29/2003	0	0.5	39001-02-0	OCDF	Y	22.011	22.011	ng/kg		0.0003	0.007
											Sample Location TEQ =	**5.9**
HB-RISB-11	8/29/2003	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	24.416	24.416	ng/kg		0.01	0.244
HB-RISB-11	8/29/2003	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	11.65	11.65	ng/kg		0.01	0.117
HB-RISB-11	8/29/2003	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.033	1.033	ng/kg	EMPC	0.01	0.010
HB-RISB-11	8/29/2003	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	0.488	0.488	ng/kg	J	0.1	0.049
HB-RISB-11	8/29/2003	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	5.198	5.198	ng/kg		0.1	0.520
HB-RISB-11	8/29/2003	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	3.881	3.881	ng/kg		0.1	0.388
HB-RISB-11	8/29/2003	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	1.82	1.82	ng/kg	J	0.1	0.182
HB-RISB-11	8/29/2003	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	2.16	2.16	ng/kg	J	0.1	0.216
HB-RISB-11	8/29/2003	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-11	8/29/2003	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	0.927	0.927	ng/kg	J	1	0.927
HB-RISB-11	8/29/2003	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	2.402	2.402	ng/kg	J	0.03	0.072
HB-RISB-11	8/29/2003	0.5	1	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-RISB-11	8/29/2003	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	4.103	4.103	ng/kg		0.1	0.410
HB-RISB-11	8/29/2003	0.5	1	39001-02-0	OCDF	Y	14.329	14.329	ng/kg		0.0003	0.004
											Sample Location TEQ =	**3.8**
HB-SS-03	12/3/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	4.36	4.36	ng/kg		0.01	0.044
HB-SS-03	12/3/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	0.537	0.537	ng/kg	EMPC	0.01	0.005
HB-SS-03	12/3/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	N	2.5	1.25	ng/kg	U	0.01	0.013
HB-SS-03	12/3/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	U	1	1.250
HB-SS-03	12/3/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	N	2.5	1.25	ng/kg	U	0.03	0.038
HB-SS-03	12/3/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-SS-03	12/3/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	1	1	ng/kg		0.1	0.100
HB-SS-03	12/3/2002	0	0.5	3268-87-9	OCDD	Y	21.764	21.764	ng/kg	J	0.0003	0.007
HB-SS-03	12/3/2002	0	0.5	39001-02-0	OCDF	N	5	2.5	ng/kg	UJ	0.0003	0.001
											Sample Location TEQ =	**2.7**

TABLE 1a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-SS-03	12/3/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	2.613	2.613	ng/kg		0.01	0.026
HB-SS-03	12/3/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	0.543	0.543	ng/kg		0.01	0.005
HB-SS-03	12/3/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	N	2.5	1.25	ng/kg	U	0.01	0.013
HB-SS-03	12/3/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	0.465	0.465	ng/kg	J	0.1	0.047
HB-SS-03	12/3/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	0.42	0.42	ng/kg	EMPC	0.1	0.042
HB-SS-03	12/3/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	U	1	1.250
HB-SS-03	12/3/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	N	2.5	1.25	ng/kg	U	0.03	0.038
HB-SS-03	12/3/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-SS-03	12/3/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	1	1	ng/kg		0.1	0.100
HB-SS-03	12/3/2002	0.5	1	3268-87-9	OCDD	Y	9.932	9.932	ng/kg	J	0.0003	0.003
HB-SS-03	12/3/2002	0.5	1	39001-02-0	OCDF	N	5	2.5	ng/kg	UJ	0.0003	0.001
											Sample Location TEQ =	**2.5**
HB-SS-04	12/3/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	1186.223	1186.223	ng/kg		0.01	11.862
HB-SS-04	12/3/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	274.059	274.059	ng/kg		0.01	2.741
HB-SS-04	12/3/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	64.442	64.442	ng/kg		0.01	0.644
HB-SS-04	12/3/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	210.432	210.432	ng/kg		0.1	21.043
HB-SS-04	12/3/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	437.121	437.121	ng/kg		0.1	43.712
HB-SS-04	12/3/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	446.742	446.742	ng/kg		0.1	44.674
HB-SS-04	12/3/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	125.718	125.718	ng/kg	J	0.1	12.572
HB-SS-04	12/3/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	282.125	282.125	ng/kg		0.1	28.213
HB-SS-04	12/3/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	69.159	69.159	ng/kg	J	0.1	6.916
HB-SS-04	12/3/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	275.231	275.231	ng/kg		1	275.231
HB-SS-04	12/3/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	352.347	352.347	ng/kg		0.03	10.570
HB-SS-04	12/3/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	31.176	31.176	ng/kg		1	31.176
HB-SS-04	12/3/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	855.5	855.5	ng/kg	J	0.1	85.550
HB-SS-04	12/3/2002	0	0.5	3268-87-9	OCDD	Y	1354.982	1354.982	ng/kg	J	0.0003	0.406
HB-SS-04	12/3/2002	0	0.5	39001-02-0	OCDF	Y	496.581	496.581	ng/kg	J	0.0003	0.149
											Sample Location TEQ =	**575.5**
HB-SS-04	12/3/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	1083.071	1083.071	ng/kg		0.01	10.831
HB-SS-04	12/3/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	331.513	331.513	ng/kg		0.01	3.315
HB-SS-04	12/3/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	81.67	81.67	ng/kg		0.01	0.817
HB-SS-04	12/3/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	167.275	167.275	ng/kg		0.1	16.728
HB-SS-04	12/3/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	598.716	598.716	ng/kg		0.1	59.872
HB-SS-04	12/3/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	390.763	390.763	ng/kg		0.1	39.076
HB-SS-04	12/3/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	153.225	153.225	ng/kg		0.1	15.323
HB-SS-04	12/3/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	269.866	269.866	ng/kg		0.1	26.987
HB-SS-04	12/3/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	Y	107.172	107.172	ng/kg		0.1	10.717
HB-SS-04	12/3/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	237.276	237.276	ng/kg		1	237.276
HB-SS-04	12/3/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	374.758	374.758	ng/kg		0.03	11.243
HB-SS-04	12/3/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	25.347	25.347	ng/kg		1	25.347
HB-SS-04	12/3/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	793	793	ng/kg	J	0.1	79.300
HB-SS-04	12/3/2002	0.5	1	3268-87-9	OCDD	Y	1447.067	1447.067	ng/kg	J	0.0003	0.434
HB-SS-04	12/3/2002	0.5	1	39001-02-0	OCDF	Y	485.628	485.628	ng/kg	J	0.0003	0.146
											Sample Location TEQ =	**537.4**

TABLE 1a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-SS-11	12/4/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	528.876	528.876	ng/kg		0.01	5.289
HB-SS-11	12/4/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	201.137	201.137	ng/kg		0.01	2.011
HB-SS-11	12/4/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	57.162	57.162	ng/kg		0.01	0.572
HB-SS-11	12/4/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	90.395	90.395	ng/kg		0.1	9.040
HB-SS-11	12/4/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	348.307	348.307	ng/kg		0.1	34.831
HB-SS-11	12/4/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	218.606	218.606	ng/kg		0.1	21.861
HB-SS-11	12/4/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	99.834	99.834	ng/kg		0.1	9.983
HB-SS-11	12/4/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	129.133	129.133	ng/kg		0.1	12.913
HB-SS-11	12/4/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	65.808	65.808	ng/kg		0.1	6.581
HB-SS-11	12/4/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	129.77	129.77	ng/kg		1	129.770
HB-SS-11	12/4/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	214.534	214.534	ng/kg		0.03	6.436
HB-SS-11	12/4/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	16.073	16.073	ng/kg		1	16.073
HB-SS-11	12/4/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	299.1	299.1	ng/kg		0.1	29.910
HB-SS-11	12/4/2002	0	0.5	3268-87-9	OCDD	Y	647.321	647.321	ng/kg	J	0.0003	0.194
											Sample Location TEQ =	**285.5**
HB-SS-11	12/4/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	62.134	62.134	ng/kg		0.01	0.621
HB-SS-11	12/4/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	63.752	63.752	ng/kg		0.01	0.638
HB-SS-11	12/4/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	16.645	16.645	ng/kg		0.01	0.166
HB-SS-11	12/4/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.298	6.298	ng/kg	EMPC	0.1	0.630
HB-SS-11	12/4/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	108.398	108.398	ng/kg		0.1	10.840
HB-SS-11	12/4/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	19.388	19.388	ng/kg		0.1	1.939
HB-SS-11	12/4/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	34.666	34.666	ng/kg		0.1	3.467
HB-SS-11	12/4/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	11.339	11.339	ng/kg		0.1	1.134
HB-SS-11	12/4/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	Y	17.594	17.594	ng/kg	EMPC	0.1	1.759
HB-SS-11	12/4/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	12.855	12.855	ng/kg		1	12.855
HB-SS-11	12/4/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	63.962	63.962	ng/kg		0.03	1.919
HB-SS-11	12/4/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	1.975	1.975	ng/kg		1	1.975
HB-SS-11	12/4/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	80.2	80.2	ng/kg		0.1	8.020
HB-SS-11	12/4/2002	0.5	1	3268-87-9	OCDD	Y	133.435	133.435	ng/kg	J	0.0003	0.040
HB-SS-11	12/4/2002	0.5	1	39001-02-0	OCDF	Y	75.28	75.28	ng/kg	J	0.0003	0.023
											Sample Location TEQ =	**46.0**

NOTES:
TCDD/F = Tetra Chlorinated Dibenzo-p-dioxins/Dibenzofurans
PeCDD/F = Penta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HxCDD/F = Hexa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HpCDD/F = Hepta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
OCDD/F = Octa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
N/A = not applicable
EMPC = Estimated Maximum Possible Concentration; J = Estimated Value; U = Value Below The Detection Limit
(1) Van den berg, Martin, et al. 2006. The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds. Toxicological Sciences 93(2), 223–241.

TABLE 2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SUBSURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Subsurface Soil (2-10 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value[4] (mg/kg)		Potential ARAR/TBC Value[5]	Selected Screening Value[4] (mg/kg)	COPC Flag (Y/N) [6]	Rationale for Selection or Deletion [7]
Wastebed B/Harbor Brook - Subsurface Soil	METALS															
	7429-90-5	Aluminum	856	9550	mg/kg	HB-HB-01S	63/63	-	9.55E+03		7.70E+03	n	5.50E+04	7.70E+03	Y	ASL
	7440-36-0	Antimony	0.2 J	1.6 J	mg/kg	HB-SB-64	40/63	0.072-10	1.60E+00		3.10E+00	n	2.70E-01	3.10E+00	N	BSL
	7440-38-2	Arsenic	0.46 J	55.4	mg/kg	HB-TP-03B	61/63	0.22-0.23	5.54E+01		3.90E-01	c*	1.30E-03	3.90E-01	Y	TOX
	7440-39-3	Barium	8.2 J	4920 J	mg/kg	HB-STA-196	63/63	-	4.92E+03		1.50E+03	n	8.20E+01	1.50E+03	Y	ASL
	7440-41-7	Beryllium	0.11 J	1.1 J	mg/kg	HB-STA-190	61/63	0.71-0.72	1.10E+00		1.60E+01	n	3.20E+00	1.60E+01	N	BSL
	7440-42-8	Boron	2.2 J	29.5 J	mg/kg	HB-STA-190	52/52	-	2.95E+01		1.60E+03	n	2.30E+01	1.60E+03	N	BSL
	7440-43-9	Cadmium	0.091 J	3.7	mg/kg	HB-RISB-16	47/63	0.037-0.71	3.70E+00		7.00E+00	n	NV	7.00E+00	N	BSL
	7440-70-2	Calcium	74900	370000	mg/kg	HB-SB-85	63/63	-	3.70E+05		NV		NV	NV	N	NUT
	7440-47-3	Chromium[8]	1.8	105	mg/kg	HB-STA-187	63/63	-	1.05E+02		3.90E+01	c**	2.10E+00	3.90E+01	Y	ASL
	7440-48-4	Cobalt	0.29 J	18.7	mg/kg	HB-STA-187	61/63	7.1-7.2	1.87E+01		2.30E+00	n	4.90E-01	2.30E+00	Y	ASL
	7440-50-8	Copper	2.3 J	180	mg/kg	HB-SB-85	63/63	-	1.80E+02		3.10E+02	n	4.60E+01	3.10E+02	N	BSL
	57-12-5	Cyanide	1.7	22.7	mg/kg	HB-TP-03C	6/11	0.83-1.46	2.27E+01		1.60E+02	n	2.00E+00	1.60E+02	N	BSL
	7439-89-6	Iron	2020	17000	mg/kg	HB-SB-67	63/63	-	1.70E+04		5.50E+03	n	6.40E+02	5.50E+03	Y	ASL
	7439-92-1	Lead	0.8	259 J	mg/kg	HB-STA-187	63/63	-	2.59E+02		4.00E+02	nL	NV	4.00E+02	N	BSL
	7439-95-4	Magnesium	2940 J	29900 J	mg/kg	HB-STA-199	63/63	-	2.99E+04		NV		NV	NV	N	NUT
	7439-96-5	Manganese	114 J	1500 J	mg/kg	HB-STA-190	63/63	-	1.50E+03		1.80E+02	n	5.70E+01	1.80E+02	Y	ASL
	7439-97-6	Mercury[9]	0.018 J	48.1 J	mg/kg	HB-HB-01S	59/65	0.0062-0.0072	4.81E+01		4.30E+00	ns	3.00E-02	4.30E+00	Y	ASL
	7440-02-0	Nickel	2.2 J	42	mg/kg	HB-SB-64	63/63	-	4.20E+01		1.50E+02	n	4.80E+01	1.50E+02	N	BSL
	7440-09-7	Potassium	114 J	1940 J	mg/kg	HB-HB-01S	60/63	7-103	1.94E+03		NV		NV	NV	N	NUT
	7782-49-2	Selenium	0.4 J	4.7 J	mg/kg	HB-TP-03B	13/63	0.16-1.7	4.70E+00		3.90E+01	n	2.60E-01	3.90E+01	N	BSL
	7440-22-4	Silver	0.083 J	1.7	mg/kg	HB-STA-196	49/63	0.03-1.7	1.70E+00		3.90E+01	n	1.60E+00	3.90E+01	N	BSL
	7440-23-5	Sodium	229 J	17400	mg/kg	HB-STA-181	63/63	-	1.74E+04		NV		NV	NV	N	NUT
	7440-28-0	Thallium	0.65 J	1.3 J	mg/kg	HB-STA-196	3/63	0.18-3.5	1.30E+00		5.10E-01	n	1.40E-01	5.10E-01	Y	ASL
	7440-62-2	Vanadium	1.5 J	29 J	mg/kg	HB-STA-190	63/63	-	2.90E+01		5.50E+01	n	2.60E+02	5.50E+01	N	BSL
	7440-66-6	Zinc	8.1	306	mg/kg	HB-STA-187	63/63	-	3.06E+02		2.30E+03	n	6.80E+02	2.30E+03	N	BSL
	PCB															
	12674-11-2	Aroclor 1016	0.3 J	0.3 J	mg/kg	HB-HB-01S	1/65	0.0092-1.48	3.00E-01		3.90E-01	n	5.20E-02	3.90E-01	N	BSL
	11104-28-2	Aroclor 1221	0.79 J	0.79 J	mg/kg	HB-STA-192	1/65	0.0092-1.48	7.90E-01		1.70E-01	c	NV	1.70E-01	Y	ASL
	11141-16-5	Aroclor 1232	0.01 J	1.4	mg/kg	HB-STA-187	3/65	0.0092-1.48	1.40E+00		1.70E-01	c	NV	1.70E-01	Y	ASL
	53469-21-9	Aroclor 1242	0.014	7.8 J	mg/kg	HB-STA-192 ALT	15/65	0.0092-1.48	7.80E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	12672-29-6	Aroclor 1248	0.038 J	0.76	mg/kg	HB-RISB-16	5/65	0.0092-1.48	7.60E-01		2.20E-01	c	NV	2.20E-01	Y	ASL
	11097-69-1	Aroclor 1254	0.0026 J	0.79	mg/kg	HB-STA-187	16/65	0.0092-1.48	7.90E-01		2.20E-01	c**	NV	2.20E-01	Y	ASL
	11096-82-5	Aroclor 1260	0.01 J	3.6	mg/kg	HB-STA-187	18/65	0.0092-1.48	3.60E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	11100-14-4	Aroclor 1268	0.011 J	0.011 J	mg/kg	HB-STA-190	1/63	0.0092-1.48	1.10E-02		NV		NV	NV	Y	NTX
	PEST															
	50-29-3	4,4'-DDT	0.03 J	0.03 J	mg/kg	HB-SB-63	1/13	0.0095-0.54	3.00E-02		1.70E+00	c*	NV	1.70E+00	N	BSL
	309-00-2	Aldrin	0.13 JN	0.13 JN	mg/kg	HB-SB-64	1/13	0.0049-0.27	1.30E-01		2.90E-02	c*	NV	2.90E-02	Y	ASL
	319-86-8	delta-BHC	0.12 JN	0.12 JN	mg/kg	HB-SB-64	1/13	0.0049-0.27	1.20E-01		NV		NV	NV	Y	NTX
	60-57-1	Dieldrin	0.017 J	0.028 J	mg/kg	HB-SB-64	2/13	0.0095-0.54	2.80E-02		3.00E-02	c	NV	3.00E-02	N	BSL
	1031-07-8	Endosulfan sulfate	0.3 J	0.3 J	mg/kg	HB-TP-03B	1/13	0.0095-0.54	3.00E-01		NV		NV	NV	Y	NTX
	12789-03-6	Chlordane[10]	0.026 J	0.026 J	mg/kg	HB-RISB-17	1/11	0.005-0.2	2.60E-02		1.60E+00	c*	3.30E-02	1.60E+00	N	BSL

TABLE 2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SUBSURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Subsurface Soil (2-10 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value(4) (mg/kg)		Potential ARAR/TBC Value(5)	Selected Screening Value(4) (mg/kg)	COPC Flag (Y/N) (6)	Rationale for Selection or Deletion (7)
Wastebed B/Harbor Brook - Subsurface Soil	SVOC															
	92-52-4	1,1'-Biphenyl	0.0017 J	12 J	mg/kg	HB-SB-63	41/57	0.27-57	1.20E+01		3.90E+03	ns	NV	3.90E+03	N	BSL
	120-83-2	2,4-Dichlorophenol	0.011 J	0.011 J	mg/kg	HB-STA-199	1/63	0.0036-340	1.10E-02		1.80E+01	n	1.80E-01	1.80E+01	N	BSL
	105-67-9	2,4-Dimethylphenol	0.0069 J	4	mg/kg	HB-STA-188	15/64	0.018-340	4.00E+00		1.20E+02	n	1.20E+00	1.20E+02	N	BSL
	91-57-6	2-Methylnaphthalene	0.0041	1900 J	mg/kg	HB-TP-03B	55/64	0.059-57	1.90E+03		3.10E+01	n	9.00E-01	3.10E+01	Y	ASL
	106-44-5	4-Methylphenol	0.021 J	9.1 J	mg/kg	HB-STA-189 ALT	35/57	0.018-57	9.10E+00		3.10E+01	n	1.90E-01	3.10E+01	N	BSL
	83-32-9	Acenaphthene	0.0013 J	120 J	mg/kg	HB-TP-03B	46/64	0.014-57	1.20E+02		3.40E+02	n	2.70E+01	3.40E+02	N	BSL
	208-96-8	Acenaphthylene	0.0033 J	38 J	mg/kg	HB-TP-03B	48/64	0.0036-57	3.80E+01		NV		NV	NV	Y	NTX
	98-86-2	Acetophenone	0.002 J	0.44	mg/kg	HB-STA-188	18/57	0.16-57	4.40E-01		7.80E+03	ns	NV	7.80E+03	N	BSL
	120-12-7	Anthracene	0.0016 J	510	mg/kg	HB-RISB-16	54/64	0.059-57	5.10E+02		1.70E+03	n	4.50E+02	1.70E+03	N	BSL
	100-52-7	Benzaldehyde	0.0024 J	4.9 J	mg/kg	HB-STA-196	9/57	0.05-57	4.90E+00		7.80E+03	ns	NV	7.80E+03	N	BSL
	56-55-3	Benzo[a]anthracene	0.0027 J	150 J	mg/kg	HB-TP-03B	55/64	0.063-57	1.50E+02		1.50E-01	c	NV	1.50E-01	Y	ASL
	50-32-8	Benzo[a]pyrene	0.0084 J	68 J	mg/kg	HB-TP-03B	52/64	0.0036-57	6.80E+01		1.50E-02	c	4.60E-03	1.50E-02	Y	ASL
	205-99-2	Benzo[b]fluoranthene	0.0069	110 J	mg/kg	HB-TP-03B	54/64	0.059-57	1.10E+02		1.50E-01	c	NV	1.50E-01	Y	ASL
	191-24-2	Benzo[g,h,i]perylene	0.0041	27 J	mg/kg	HB-RISB-16	48/64	0.014-340	2.70E+01		NV		NV	NV	Y	NTX
	207-08-9	Benzo[k]fluoranthene	0.039 J	38 J	mg/kg	HB-TP-03B	16/64	0.0036-57	3.80E+01		1.50E+00	c	NV	1.50E+00	Y	ASL
	117-81-7	bis(2-Ethylhexyl)phthalate	0.011 J	1 J	mg/kg	HB-STA-214	24/64	0.15-340	1.00E+00		3.50E+01	c*	1.60E+00	3.50E+01	N	BSL
	85-68-7	Butylbenzylphthalate	0.0054 J	0.064 J	mg/kg	HB-STA-190	9/64	0.039-340	6.40E-02		2.60E+02	c*	NV	2.60E+02	N	BSL
	105-60-2	Caprolactam	0.008 J	0.033 J	mg/kg	HB-STA-190	2/57	0.039-57	3.30E-02		3.10E+03	n	5.70E+00	3.10E+03	N	BSL
	95-48-7	o-Cresol	0.015 J	4.5	mg/kg	HB-STA-188	22/64	0.018-340	4.50E+00		3.10E+02	n	2.00E+00	3.10E+02	N	BSL
	86-74-8	Carbazole	0.011 J	43 J	mg/kg	HB-TP-03B	37/63	0.0036-57	4.30E+01		NV		NV	NV	Y	NTX
	218-01-9	Chrysene	0.0053	130 J	mg/kg	HB-TP-03B	55/64	0.063-57	1.30E+02		1.50E+01	c	NV	1.50E+01	Y	ASL
	53-70-3	Dibenz[a,h]anthracene	0.0044 J	9.5 J	mg/kg	HB-RISB-16	38/64	0.0036-340	9.50E+00		1.50E-02	c	NV	1.50E-02	Y	ASL
	132-64-9	Dibenzofuran	0.0022 J	320 J	mg/kg	HB-TP-03B	52/64	0.074-57	3.20E+02		NV		NV	NV	Y	NTX
	84-66-2	Diethylphthalate	0.0018 J	4.1 J	mg/kg	HB-STA-192 ALT	11/64	0.039-340	4.10E+00		4.90E+03	n	1.30E+01	4.90E+03	N	BSL
	84-74-2	Di-n-butylphthalate	0.0096 J	0.21 J	mg/kg	HB-STA-188	10/64	0.018-340	2.10E-01		6.10E+02	n	1.10E+01	6.10E+02	N	BSL
	117-84-0	Di-n-octylphthalate	0.11 J	0.11 J	mg/kg	HB-STA-187	1/64	0.018-340	1.10E-01		NV		NV	NV	Y	NTX
	206-44-0	Fluoranthene	0.0047	400 J	mg/kg	HB-TP-03B	58/64	0.064-57	4.00E+02		2.30E+02	n	2.10E+02	2.30E+02	Y	ASL
	86-73-7	Fluorene	0.01	270 J	mg/kg	HB-TP-03B	40/64	0.0036-57	2.70E+02		2.30E+02	n	3.30E+01	2.30E+02	Y	ASL
	118-74-1	Hexachlorobenzene	0.0034 J	1.1	mg/kg	HB-DSA#2TP1	12/66	0.008-340	1.10E+00		3.00E-01	c	2.90E-04	3.00E-01	Y	ASL
	193-39-5	Indeno[1,2,3-cd]pyrene	0.0033 J	24 J	mg/kg	HB-RISB-16	50/64	0.059-340	2.40E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	78-59-1	Isophorone	0.028	0.028	mg/kg	HB-STA-190	1/64	0.018-340	2.80E-02		5.10E+02	c*	NV	5.10E+02	N	BSL
	91-20-3	Naphthalene	0.0022 J	21000 J	mg/kg	HB-TP-03B	55/70	0.0055-57	2.10E+04		3.90E+00	c*	NV	3.90E+00	Y	ASL
	85-01-8	Phenanthrene	0.0077	1000 J	mg/kg	HB-TP-03B	58/64	0.063-57	1.00E+03		NV		NV	NV	Y	NTX
	108-95-2	Phenol	0.031 J	12 J	mg/kg	HB-STA-189 ALT	43/64	0.0036-340	1.20E+01		1.80E+03	n	8.10E+00	1.80E+03	N	BSL
	129-00-0	Pyrene	0.0053	240 J	mg/kg	HB-TP-03B	57/64	0.063-57	2.40E+02		1.70E+02	n	1.50E+02	1.70E+02	Y	ASL
	VOC															
	79-34-5	1,1,2,2-Tetrachloroethane	0.67 J	0.67 J	mg/kg	HB-STA-198	1/65	0.0041-1300	6.70E-01		5.90E-01	c	NV	5.90E-01	Y	ASL
	87-61-6	1,2,3-Trichlorobenzene	0.002 J	27 J	mg/kg	HB-STA-192 ALT	8/58	0.0055-2600	2.70E+01		NV		NV	NV	Y	NTX
	120-82-1	1,2,4-Trichlorobenzene	0.0043 J	120 J	mg/kg	HB-DSA#2TP1	20/69	0.0055-2600	1.20E+02		8.70E+00	n	1.30E-02	8.70E+00	Y	ASL
	95-63-6	1,2,4-Trimethylbenzene	0.44	250 J	mg/kg	HB-TP-03B	6/6	-	2.50E+02		6.70E+00	n	2.40E-02	6.70E+00	Y	ASL
	96-12-8	1,2-Dibromo-3-chloropropane	1.9 J	1.9 J	mg/kg	HB-STA-198	1/63	0.0055-2600	1.90E+00		5.60E-03	c	1.50E-07	5.60E-03	Y	ASL
	95-50-1	1,2-Dichlorobenzene	0.0044 J	920	mg/kg	HB-HB-01S	33/70	0.0041-1300	9.20E+02		2.00E+03	ns	4.00E-01	2.00E+03	N	BSL
	108-70-3	1,3,5-Trichlorobenzene	0.0097 J	0.0097 J	mg/kg	HB-STA-197	1/52	0.0055-29	9.70E-03		NV		NV	NV	Y	NTX
	108-67-8	1,3,5-Trimethylbenzene	0.76	150 J	mg/kg	HB-TP-03B	5/6	0.56-0.56	1.50E+02		4.70E+00	n	2.00E-02	4.70E+00	Y	ASL
	541-73-1	1,3-Dichlorobenzene	0.0023 J	41	mg/kg	HB-TP-53	13/70	0.0041-1300	4.10E+01		NV		NV	NV	Y	NTX
	106-46-7	1,4-Dichlorobenzene	0.0026 J	470 J	mg/kg	HB-STA-192 ALT	36/70	0.0041-340	4.70E+02		2.60E+00	c	4.60E-04	2.60E+00	Y	ASL
	78-93-3	2-Butanone	0.002 J	0.073 J	mg/kg	HB-SB-67	10/63	0.0055-5100	7.30E-02		2.80E+04	ns	NV	2.80E+04	N	BSL
	67-64-1	Acetone	0.0086 J	0.44 J	mg/kg	HB-STA-199	21/63	0.022-5100	4.40E-01		6.10E+03	n	4.40E+00	6.10E+03	N	BSL

TABLE 2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SUBSURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Subsurface Soil (2-10 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value(4) (mg/kg)		Potential ARAR/TBC Value(5)	Selected Screening Value(4) (mg/kg)	COPC Flag (Y/N) (6)	Rationale for Selection or Deletion (7)
Wastebed B/Harbor Brook - Subsurface Soil	71-43-2	Benzene	0.0051 J	190 J	mg/kg	HB-TP-03B	22/65	0.0055-29	1.90E+02		1.10E+00	c*	2.30E-04	1.10E+00	Y	TOX
	108-86-1	Bromobenzene	0.092 J	0.092 J	mg/kg	HB-HB-01S	1/6	0.017-1300	9.20E-02		9.40E+00	n	1.50E-02	9.40E+00	N	BSL
	74-83-9	Bromomethane	0.76 J	0.76 J	mg/kg	HB-DSA#2TP2	1/65	0.0055-2600	7.60E-01		7.90E-01	n	2.20E-03	7.90E-01	N	TOX
	75-15-0	Carbon disulfide	0.0048 J	0.01 J	mg/kg	HB-STA-196	5/59	0.0055-29	1.00E-02		6.70E+02	ns	NV	6.70E+02	N	BSL
	108-90-7	Chlorobenzene	0.0023 J	190 J	mg/kg	HB-STA-192 ALT	27/65	0.0041-1300	1.90E+02		3.10E+01	n	6.80E-02	3.10E+01	Y	ASL
	74-87-3	Chloromethane	0.97 J	0.97 J	mg/kg	HB-DSA#2TP2	1/65	0.0055-2600	9.70E-01		1.20E+01	n	4.90E-02	1.20E+01	N	BSL
	110-82-7	Cyclohexane	0.0023 J	0.83 J	mg/kg	HB-STA-187	3/57	0.0055-29	8.30E-01		7.20E+03	ns	NV	7.20E+03	N	BSL
	100-41-4	Ethylbenzene	0.0026 J	5.9 J	mg/kg	HB-TP-03A	18/65	0.0055-1300	5.90E+00		5.70E+00	c	1.90E-03	5.70E+00	Y	ASL
	98-82-8	Isopropylbenzene	0.01	5.1 J	mg/kg	HB-STA-195	18/63	0.0055-1300	5.10E+00		2.20E+03	ns	NV	2.20E+03	N	BSL
	79-20-9	Methyl acetate	0.16 J	0.44	mg/kg	HB-STA-184	3/57	0.0041-29	4.40E-01		7.80E+04	ns	NV	7.80E+04	N	BSL
	108-87-2	Methylcyclohexane	0.0015 J	6.3 J	mg/kg	HB-STA-192 ALT	10/57	0.0055-29	6.30E+00		NV		NV	NV	Y	NTX
	75-09-2	Methylene Chloride	0.0015 J	0.8 J	mg/kg	HB-STA-187	4/65	0.0055-2600	8.00E-01		1.10E+01	c	1.20E-03	1.10E+01	N	BSL
	104-51-8	n-Butylbenzene	0.02	0.52 J	mg/kg	HB-HB-01S	2/6	0.56-1300	5.20E-01		NV		NV	NV	Y	NTX
	103-65-1	n-Propylbenzene	0.025	0.58 J	mg/kg	HB-HB-01S	2/6	0.56-1300	5.80E-01		NV		NV	NV	Y	NTX
	99-87-6	p-Isopropyltoluene	0.045	1.7 J	mg/kg	HB-HB-01S	3/6	5.1-1300	1.70E+00		NV		NV	NV	Y	NTX
	135-98-8	sec-Butylbenzene	0.23	14	mg/kg	HB-HB-01S	4/6	87-1300	1.40E+01		NV		NV	NV	Y	NTX
	100-42-5	Styrene	0.019 J	10	mg/kg	HB-SB-63	5/65	0.0041-1300	1.00E+01		6.50E+03	ns	1.20E-01	6.50E+03	N	BSL
	98-06-6	tert-Butylbenzene	0.051	1.1 J	mg/kg	HB-DSA#2TP1	4/6	87-1300	1.10E+00		NV		NV	NV	Y	NTX
	127-18-4	Tetrachloroethene	0.33 J	0.33 J	mg/kg	HB-DSA#2TP2	1/65	0.0041-1300	3.30E-01		5.70E-01	c	5.20E-05	5.70E-01	N	BSL
	108-88-3	Toluene	0.0071	450 J	mg/kg	HB-TP-03B	30/65	0.0055-26	4.50E+02		5.00E+03	ns	7.60E-01	5.00E+03	N	BSL
	75-69-4	Trichlorofluoromethane	5.7	5.7	mg/kg	HB-STA-187	1/63	0.0055-2600	5.70E+00		8.00E+01	n	8.40E-01	8.00E+01	N	BSL
	95-47-6	o-Xylene	0.011	3 J	mg/kg	HB-RISB-17	2/2	-	3.00E+00		5.30E+03	ns	NV	5.30E+03	N	BSL
	XYLENES1314	m,p-Xylenes(11)	0.018	5.8 J	mg/kg	HB-RISB-17	2/2	-	5.80E+00		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	1330-20-7	Xylenes (Total)	0.0053 J	860 J	mg/kg	HB-TP-03B	32/63	0.017-86	8.60E+02		6.00E+02	ns	2.30E-01	6.00E+02	Y	ASL
	OTHER															
	6165-52-2	1-Phenyl-1-[2,4-dimethylphenyl]-ethane	2.3	790	mg/kg	HB-TP-53	5/5	-	7.90E+02		NV		NV	NV	Y	NTX
	3717-68-8	1-Phenyl-1-[4-methylphenyl]-ethane	0.87 J	480	mg/kg	HB-TP-53	5/5	-	4.80E+02		NV		NV	NV	Y	NTX

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Maximum detected concentration
(3) N/A - No background screening performed.
(4) Screening values are for residential soil and represent cancer benchmark of 1E-06 and HQ=0.1
(USEPA April 2009 RSL Screening Toxicity Values).
(5) Soil screening level for migration to ground water. Minimum of risk-based and MCL-based soil screening levels
(USEPA April 2009 RSL Screening Toxicity Values). Based on DAF = 1.
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds
Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9)
(9) Toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6)
(10) Toxicity values reflect those of Constituents of Chlordane (CAS # 12789-03-6)
(11) Toxicity values reflect those of Total Xylenes (CAS # 1330-20-7)
Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL or TOX.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer
m = concentration may exceed ceiling limit

s = concentration may exceed Csat
L = see EPA RSL user guide on lead

TABLE 3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value [4]		Potential ARAR/TBC Value[5]	Selected Screening Value [4]	COPC Flag (Y/N) [6]	Rationale for Selection or Deletion [7]
Wastebed B/Harbor Brook - Surface Sediment	DIOXIN/FURAN															
	1746-01-6	2,3,7,8-TCDD Equivalent[8]	24.6	914.0	ng/kg	S385	NA	-	9.14E-04		4.50E-06	c*	1.50E-07	4.50E-06	Y	ASL
	METALS															
	7429-90-5	Aluminum	1280	6500	mg/kg	S386	26/26	-	6.50E+03		7.70E+03	n	5.50E+04	7.70E+03	N	BSL
	7440-36-0	Antimony	0.43 J	5.5 J	mg/kg	S385	9/26	0.32-17.5	5.50E+00		3.10E+00	n	2.70E-01	3.10E+00	Y	ASL
	7440-38-2	Arsenic	2.7 J	18.8	mg/kg	S213	26/26	-	1.88E+01		3.90E-01	c*	1.30E-03	3.90E-01	Y	TOX
	7440-39-3	Barium	74.7 J	655 J	mg/kg	S386	26/26	-	6.55E+02		1.50E+03	n	8.20E+01	1.50E+03	N	BSL
	7440-41-7	Beryllium	0.1 J	1.9	mg/kg	HB-T-2-1	24/26	0.18-0.1818	1.90E+00		1.60E+01	n	3.20E+00	1.60E+01	N	BSL
	7440-43-9	Cadmium	0.58 J	4.6	mg/kg	S383	22/37	0.91-2.5	4.60E+00		7.00E+00	n	NV	7.00E+00	N	BSL
	7440-70-2	Calcium	125000	355000	mg/kg	S210	37/37	-	3.55E+05		NV		NV	NV	N	NUT
	7440-47-3	Chromium[9]	8.1	172	mg/kg	HB-T-2-3	37/37	-	1.72E+02		3.90E+01	c**	2.10E+00	3.90E+01	Y	ASL
	7440-48-4	Cobalt	1.9	12.6 J	mg/kg	HB-T-2-3	26/26	-	1.26E+01		2.30E+00	n	4.90E-01	2.30E+00	Y	ASL
	7440-50-8	Copper	8.8	175	mg/kg	HB-T-2-3	37/37	-	1.75E+02		3.10E+02	n	4.60E+01	3.10E+02	N	BSL
	57-12-5	Cyanide	0.56	7	mg/kg	S211	8/26	0.66-2.51	7.00E+00		1.60E+02	n	2.00E+00	1.60E+02	N	BSL
	7439-89-6	Iron	2520	16400	mg/kg	HB-H5	26/26	-	1.64E+04		5.50E+03	n	6.40E+02	5.50E+03	Y	ASL
	7439-92-1	Lead	15.2 J	376 J	mg/kg	S385	37/37	-	3.76E+02		4.00E+02	nL	NV	4.00E+02	N	BSL
	7439-95-4	Magnesium	3420	25400	mg/kg	S211	37/37	-	2.54E+04		NV		NV	NV	N	NUT
	7439-96-5	Manganese	140	348	mg/kg	HB-H3	26/26	-	3.48E+02		1.80E+02	n	5.70E+01	1.80E+02	Y	ASL
	7439-97-6	Mercury[10]	0.42	60.2	mg/kg	S385	37/37	-	6.02E+01		4.30E+00	ns	3.00E-02	4.30E+00	Y	ASL
	7440-02-0	Nickel	4.6	44.7	mg/kg	S383	35/37	3.9-4.5	4.47E+01		1.50E+02	n	4.80E+01	1.50E+02	N	BSL
	7440-09-7	Potassium	138	1010	mg/kg	S214	26/26	-	1.01E+03		NV		NV	NV	N	NUT
	7782-49-2	Selenium	0.8 J	2.8 J	mg/kg	HB-UEF2	19/26	0.4-1.2	2.80E+00		3.90E+01	n	2.60E-01	3.90E+01	N	BSL
	7440-22-4	Silver	0.14 J	1.4	mg/kg	S385	14/26	0.099-2.7	1.40E+00		3.90E+01	n	1.60E+00	3.90E+01	N	BSL
	7440-23-5	Sodium	781 J	8240	mg/kg	S214	33/37	782-1880	8.24E+03		NV		NV	NV	N	NUT
	7440-28-0	Thallium	0.52 J	0.52 J	mg/kg	HB-T-1-3	1/26	0.33-3	5.20E-01		5.10E-01	n	1.40E-01	5.10E-01	Y	ASL
	7440-62-2	Vanadium	1.6	25 J	mg/kg	HB-UEF2	26/26	-	2.50E+01		5.50E+01	n	2.60E+02	5.50E+01	N	BSL
	7440-66-6	Zinc	65.2	958	mg/kg	HB-H4	37/37	-	9.58E+02		2.30E+03	n	6.80E+02	2.30E+03	N	BSL
	PCB															
	53469-21-9	Aroclor 1242	0.049 J	1.13 J	mg/kg	S385	8/35	0.031-1.3	1.13E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	12672-29-6	Aroclor 1248	0.039 J	0.13	mg/kg	S212	9/35	0.051-1.3	1.30E-01		2.20E-01	c	NV	2.20E-01	N	BSL
	11097-69-1	Aroclor 1254	0.05 J	0.75	mg/kg	S383	8/35	0.031-1.2	7.50E-01		2.20E-01	c**	NV	2.20E-01	Y	ASL
	11096-82-5	Aroclor 1260	0.035 J	3.7	mg/kg	HB-T-2-3	23/35	0.053-1.3	3.70E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	PEST															
	72-54-8	4,4'-DDD	0.028 J	0.059 J	mg/kg	HB-H7	4/25	0.00101-0.13	5.90E-02		2.00E+00	c	NV	2.00E+00	N	BSL
	72-55-9	4,4'-DDE	0.00341 J	0.021 J	mg/kg	HB-UEF2, HB-H5	11/22	0.0074-0.041	2.10E-02		1.40E+00	c	NV	1.40E+00	N	BSL
	50-29-3	4,4'-DDT	0.00351 J	0.075 J	mg/kg	HB-H6	10/23	0.0074-0.13	7.50E-02		1.70E+00	c*	NV	1.70E+00	N	BSL
	309-00-2	Aldrin	0.00335 J	0.0496 J	mg/kg	S385	8/25	0.00107-0.067	4.96E-02		2.90E-02	c*	NV	2.90E-02	Y	ASL
	319-84-6	alpha-BHC	0.00235 J	0.00248 J	mg/kg	S384	2/22	0.00101-0.067	2.48E-03		7.70E-02	c	NV	7.70E-02	N	BSL
	5103-71-9	alpha-Chlordane[11]	0.00202 T	0.0184	mg/kg	S383	5/13	0.00101-0.0079	1.84E-02		1.60E+00	c*	NV	1.60E+00	N	BSL
	319-85-7	beta-BHC	0.00171 J	0.0107 J	mg/kg	S385	2/25	0.00105-0.067	1.07E-02		2.70E-01	c	NV	2.70E-01	N	BSL
	57-74-9	Chlordane[11]	0.048 J	0.048 J	mg/kg	HB-H5	1/12	0.026-0.067	4.80E-02		1.60E+00	c*	3.30E-02	1.60E+00	N	BSL
	319-86-8	Delta-BHC	0.00183	0.0104 J	mg/kg	S385	5/22	0.0038-0.067	1.04E-02		NV		NV	NV	Y	NTX
	60-57-1	Dieldrin	0.00204 J	0.069 J	mg/kg	HB-H5	13/25	0.0074-0.13	6.90E-02		3.00E-02	c	NV	3.00E-02	Y	ASL
	959-98-8	Endosulfan I	0.00785 J	0.0109 J	mg/kg	S384	2/25	0.00101-0.067	1.09E-02		NV		NV	NV	Y	NTX
	33213-65-9	Endosulfan II	0.0087 J	0.023 J	mg/kg	HB-H4	2/23	0.00101-0.13	2.30E-02		NV		NV	NV	Y	NTX
	72-20-8	Endrin	0.0133	0.027 J	mg/kg	HB-H5	2/24	0.00101-0.13	2.70E-02		1.80E+00	n	4.30E-02	1.80E+00	N	BSL
	7421-93-4	Endrin aldehyde[12]	0.003 J	0.1 J	mg/kg	HB-H6	4/23	0.00101-0.13	1.00E-01		1.80E+00	n	4.30E-02	1.80E+00	N	BSL
	53494-70-5	Endrin ketone[12]	0.00588 J	0.092 J	mg/kg	HB-UEF2	6/25	0.00101-0.12	9.20E-02		1.80E+00	n	4.30E-02	1.80E+00	N	BSL

TABLE 3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value (4)		Potential ARAR/TBC Value(5)	Selected Screening Value (4)	COPC Flag (Y/N) (6)	Rationale for Selection or Deletion (7)
Wastebed B/Harbor Brook - Sediment	58-89-9	gamma-BHC	0.00128 J	0.0096 J	mg/kg	HB-H5	6/23	0.00105-0.067	9.60E-03		5.20E-01	c*	4.30E-04	5.20E-01	N	BSL
	5566-34-7	gamma Chlordane(11)	0.00176 J	0.028 J	mg/kg	HB-H6	11/23	0.0038-0.067	2.80E-02		1.60E+00	c*	NV	1.60E+00	N	BSL
	76-44-8	Heptachlor	0.0013 J	0.015 J	mg/kg	HB-H7	3/25	0.00101-0.067	1.50E-02		1.10E-01	c	1.60E-03	1.10E-01	N	BSL
	1024-57-3	Heptachlor Epoxide	0.00331	0.063 J	mg/kg	HB-UEF2	11/25	0.00108-0.041	6.30E-02		5.30E-02	c*	7.90E-05	5.30E-02	Y	ASL
	72-43-5	Methoxychlor	0.0116 J	0.18 J	mg/kg	HB-UEF2	2/24	0.00105-0.62	1.80E-01		3.10E+01	n	3.40E+00	3.10E+01	N	BSL
	SVOC															
	634-66-2	1,2,3,4-Tetrachlorobenzene	0.028 J	0.24 J	mg/kg	S214	10/10	-	2.40E-01		NV		NV	NV	Y	NTX
	95-94-3	1,2,4,5-Tetrachlorobenzene	0.009 J	0.15 J	mg/kg	S214	10/10	-	1.50E-01		1.80E+00	n	0.028	1.80E+00	N	BSL
	105-67-9	2,4-Dimethylphenol	5 J	5 J	mg/kg	HB-H5	1/25	0.11-15	5.00E+00		1.20E+02	n	1.20E+00	1.20E+02	N	BSL
	90-12-0	1-Methylnaphthalene	0.007 J	4.6 J	mg/kg	S212	5/5	-	4.60E+00		2.20E+01	c	NV	2.20E+01	N	BSL
	91-57-6	2-Methylnaphthalene	0.071 J	220	mg/kg	HB-H7	19/25	0.049-6.7	2.20E+02		3.10E+01	n	9.00E-01	3.10E+01	Y	ASL
	83-32-9	Acenaphthene	0.066 J	85	mg/kg	HB-H6	19/25	0.049-6.7	8.50E+01		3.40E+02	n	2.70E+01	3.40E+02	N	BSL
	208-96-8	Acenaphthylene	0.061 J	22	mg/kg	HB-H6	20/25	0.11-6.7	2.20E+01		NV		NV	NV	Y	NTX
	120-12-7	Anthracene	0.12 J	37	mg/kg	HB-H6	20/25	0.11-0.84	3.70E+01		1.70E+03	n	4.50E+02	1.70E+03	N	BSL
	56-55-3	Benzo[a]anthracene	0.063 J	28	mg/kg	HB-H6	25/25	-	2.80E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	50-32-8	Benzo[a]pyrene	0.074 J	23	mg/kg	HB-H6	25/25	-	2.30E+01		1.50E-02	c	4.60E-03	1.50E-02	Y	ASL
	205-99-2	Benzo[b]fluoranthene	0.1 J	37	mg/kg	HB-H6	25/25	-	3.70E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	191-24-2	Benzo[g,h,i]perylene	0.04 J	7.3 J	mg/kg	HB-H6	25/25	-	7.30E+00		NV		NV	NV	Y	NTX
	207-08-9	Benzo[k]fluoranthene	0.096 J	10	mg/kg	S384	25/25	-	1.00E+01		1.50E+00	c	NV	1.50E+00	Y	ASL
	117-81-7	bis(2-Ethylhexyl)phthalate	0.24	9.9 J	mg/kg	HB-UEF2	19/25	0.049-15	9.90E+00		3.50E+01	c*	1.60E+00	3.50E+01	N	BSL
	86-74-8	Carbazole	0.054 J	18	mg/kg	HB-H6	18/25	0.049-6.7	1.80E+01		NV		NV	NV	Y	NTX
	218-01-9	Chrysene	0.1 J	39	mg/kg	HB-H6	25/25	-	3.90E+01		1.50E+01	c	NV	1.50E+01	Y	ASL
	53-70-3	Dibenz[a,h]anthracene	0.066 J	3.3	mg/kg	S385	16/25	0.11-18	3.30E+00		1.50E-02	c	NV	1.50E-02	Y	ASL
	132-64-9	Dibenzofuran	0.12 J	60	mg/kg	HB-H6	16/25	0.049-6.7	6.00E+01		NV		NV	NV	Y	NTX
	84-74-2	Di-n-butylphthalate	0.17 J	0.7	mg/kg	HB-T-1-2	2/25	0.049-18	7.00E-01		6.10E+02	n	1.10E+01	6.10E+02	N	BSL
	117-84-0	Di-n-octylphthalate	0.031 J	1.2 J	mg/kg	HB-UEF2	3/25	0.049-18	1.20E+00		NV		NV	NV	Y	NTX
	206-44-0	Fluoranthene	0.14	48	mg/kg	HB-H6	25/25	-	4.80E+01		2.30E+02	n	2.10E+02	2.30E+02	N	BSL
	86-73-7	Fluorene	0.028 J	82	mg/kg	HB-H6	21/25	0.049-6.7	8.20E+01		2.30E+02	n	3.30E+01	2.30E+02	N	BSL
	118-74-1	Hexachlorobenzene	0.037 J	1.8	mg/kg	S385	14/35	0.049-18	1.80E+00		3.00E-01	c	2.90E-04	3.00E-01	Y	ASL
	544-76-3	Hexadecane	0.52	0.83	mg/kg	S211	2/2	-	8.30E-01		NV		NV	NV	Y	NTX
	193-39-5	Indeno[1,2,3-cd]pyrene	0.041 J	9.4 J	mg/kg	HB-H6	25/25	-	9.40E+00		1.50E-01	c	NV	1.50E-01	Y	ASL
	91-20-3	Naphthalene	0.071 J	420	mg/kg	HB-H7	24/25	6.7-6.7	4.20E+02		3.90E+00	c*	NV	3.90E+00	Y	ASL
	34METPH	m&p-Cresol	0.13	2 J	mg/kg	HB-H5	3/12	0.13-15	2.00E+00		3.10E+01		NV	3.10E+01	N	BSL
	95-48-7	o-Cresol	2	2	mg/kg	HB-H5	1/25	0.049-15	2.00E+00		3.10E+02	n	2.00E+00	3.10E+02	N	BSL
	106-44-5	p-Cresol	0.13	0.25	mg/kg	S214	3/13	0.049-0.83	2.50E-01		3.10E+01	n	1.90E-01	3.10E+01	N	BSL
	608-93-5	Pentachlorobenzene	0.01 J	0.067 J	mg/kg	S212	10/10	-	6.70E-02		4.90E+00	n	1.20E-01	4.90E+00	N	BSL
	85-01-8	Phenanthrene	0.07 J	110	mg/kg	HB-H6	25/25	-	1.10E+02		NV		NV	NV	Y	NTX
	108-95-2	Phenol	0.089 J	3.3	mg/kg	S214	10/25	0.11-18	3.30E+00		1.80E+03	n	8.10E+00	1.80E+03	N	BSL
	129-00-0	Pyrene	0.17	58	mg/kg	HB-H6, HB-H7	24/25	0.42-0.42	5.80E+01		1.70E+02	n	1.50E+02	1.70E+02	N	BSL
	VOCs															
	87-61-6	1,2,3-Trichlorobenzene	0.009 J	3.7 J	mg/kg	S214	6/10	0.009-0.023	3.70E+00		NV		NV	NV	Y	NTX
	120-82-1	1,2,4-Trichlorobenzene	0.071 J	18	mg/kg	S385	14/29	0.009-5.7	1.80E+01		8.70E+00	n	1.30E-02	8.70E+00	Y	ASL
	95-63-6	1,2,4-Trimethylbenzene	6.4 JN	6.4 JN	mg/kg	S214	1/1	-	6.40E+00		6.70E+00	n	2.40E-02	6.70E+00	N	BSL
	95-50-1	1,2-Dichlorobenzene	0.018	120	mg/kg	S214	27/35	0.13-18	1.20E+02		2.00E+03	ns	4.00E-01	2.00E+03	N	BSL
	541-73-1	1,3-Dichlorobenzene	0.005 J	14	mg/kg	S214	17/35	0.012-18	1.40E+01		NV		NV	NV	Y	NTX
	108-70-3	1,3,5-Trichlorobenzene	0.005 J	15	mg/kg	S214	9/10	0.023-0.023	1.50E+01		NV		NV	NV	Y	NTX
	106-46-7	1,4-Dichlorobenzene	0.033	160	mg/kg	S214	29/35	0.13-18	1.60E+02		2.60E+00	c	4.60E-04	2.60E+00	Y	ASL
	620-14-4	1-Ethyl-3-methyl-benzene	0.4 JN	0.4 JN	mg/kg	S212	1/1	-	4.00E-01		NV		NV	NV	Y	NTX

TABLE 3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value (4)		Potential ARAR/TBC Value(5)	Selected Screening Value (4)	COPC Flag (Y/N) (6)	Rationale for Selection or Deletion (7)
Wastebed B/Harbor Brook - Sediment	2050-77-3	1-Iododecane	0.7 JN	0.7 JN	mg/kg	S210	1/1	-	7.00E-01		NV		NV	NV	Y	NTX
	78-93-3	2-Butanone	0.0042 J	0.051 J	mg/kg	S384	11/25	0.015-9.7	5.10E-02		2.80E+04	ns	NV	2.80E+04	N	BSL
	7225-64-1	9-Octylheptadecane	1.5 JN	1.5 JN	mg/kg	S211	1/1	-	1.50E+00		NV		NV	NV	Y	NTX
	67-64-1	Acetone	0.045 J	0.24 J	mg/kg	S384	7/25	0.02-19	2.40E-01		6.10E+03	n	4.40E+00	6.10E+03	N	BSL
	61424-28-0	Benzenamine, 3-(2-phenylethenly)-	0.96 JN	1.2 JN	mg/kg	S210	2/2	-	1.20E+00		NV		NV	NV	Y	NTX
	71-43-2	Benzene	0.0039	6.5	mg/kg	HB-H6	24/35	0.0069-5.6	6.50E+00		1.10E+00	c*	2.30E-04	1.10E+00	Y	TOX
	673-32-5	Benzene, 1-Propynyl-	2.9 JN	2.9 JN	mg/kg	S214	1/1	-	2.90E+00		NV		NV	NV	Y	NTX
	75-15-0	Carbon disulfide	0.002 J	0.0084 J	mg/kg	S384	7/25	0.014-9.7	8.40E-03		6.70E+02	ns	NV	6.70E+02	N	BSL
	108-90-7	Chlorobenzene	0.001 J	36	mg/kg	S214	31/34	1-2	3.60E+01		3.10E+01	n	6.80E-02	3.10E+01	Y	ASL
	156-59-2	cis-1,2-Dichloroethene	0.002 J	0.002 J	mg/kg	S384	1/20	0.0069-4.8	2.00E-03		7.80E+01	n	2.10E-02	7.80E+01	N	BSL
	100-41-4	Ethylbenzene	0.004 J	26	mg/kg	HB-H6	23/35	0.0069-5.7	2.60E+01		5.70E+00	c	1.90E-03	5.70E+00	Y	ASL
	75-09-2	Methylene Chloride	0.005	0.017	mg/kg	HB-H4	3/25	0.0069-140	1.70E-02		1.10E+01	c	1.20E-03	1.10E+01	N	BSL
	95-47-6	o-Xylene	0.026 J	0.06	mg/kg	HB-T-1-1	3/14	0.0069-4.8	6.00E-02		5.30E+03	ns	NV	5.30E+03	N	BSL
	135-98-8	sec-Butylbenzene	3.5 JN	3.5 JN	mg/kg	S214	1/1	-	3.50E+00		NV		NV	NV	Y	NTX
	100-42-5	Styrene	0.0028	0.011 J	mg/kg	HB-H7	3/25	0.0069-5.6	1.10E-02		6.50E+03	ns	1.20E-01	6.50E+03	N	BSL
	108-88-3	Toluene	0.003 J	33	mg/kg	HB-H6	21/35	0.0069-4.8	3.30E+01		5.00E+03	ns	7.60E-01	5.00E+03	N	BSL
	79-01-6	Trichloroethene	0.005 J	0.005 J	mg/kg	S213	1/25	0.0069-5.6	5.00E-03		2.80E+00	c	6.10E-04	2.80E+00	N	BSL
	XYLENES1314	m,p-Xylenes(13)	0.029 J	0.3 J	mg/kg	HB-T-2-2	5/14	0.0069-4.8	3.00E-01		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	1330-20-7	Xylenes (Total)	0.006 J	81	mg/kg	HB-H6	18/21	0.012-0.036	8.10E+01		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Maximum detected concentration
(3) N/A - No background screening performed.
(4) Screening values are for residential soil and represent cancer benchmark of 1E-06 and HQ=0.1
(USEPA April 2009 RSL Screening Toxicity Values).
(5) Soil screening level for migration to ground water. Minimum of risk-based and MCL-based soil screening levels
(USEPA April 2009 RSL Screening Toxicity Values).
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds
Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Based on use of WHO toxicity equivalency factors for dioxins and dioxin-like compounds from Van den Berg et al. (2006); see Table 3a.
(9) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9)
(10) Where mercury is not speciated, toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6)
(11) Toxicity values reflect those of Constituents of Chlordane (CAS # 12789-03-6)
(12) Toxicity values reflect those of Endrin (CAS # 72-20-8)
(13) Toxicity values reflect those of Total Xylenes (CAS # 1330-20-7)
Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL or TOX.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer
m = concentration may exceed ceiling limit
s = concentration may exceed Csat
L = see EPA RSL user guide on lead

TABLE 3a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF [1]	Calculated Dioxin Equivalency (ng/kg)
HB-EF8	11/19/1997	0	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	N	100	50	ng/kg	U	0.01	0.500
HB-EF8	11/19/1997	0	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	1500	1500	ng/kg	J	0.01	15.000
HB-EF8	11/19/1997	0	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	N	80	40	ng/kg	U	0.01	0.400
HB-EF8	11/19/1997	0	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	2600	2600	ng/kg	J	0.1	260.000
HB-EF8	11/19/1997	0	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	110	110	ng/kg	J	0.1	11.000
HB-EF8	11/19/1997	0	1	57653-85-7	1,2,3,6,7,8-HxCDD	N	70	35	ng/kg	U	0.1	3.500
HB-EF8	11/19/1997	0	1	57117-44-9	1,2,3,6,7,8-HxCDF	N	40	20	ng/kg	U	0.1	2.000
HB-EF8	11/19/1997	0	1	19408-74-3	1,2,3,7,8,9-HxCDD	N	80	40	ng/kg	U	0.1	4.000
HB-EF8	11/19/1997	0	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	60	30	ng/kg	U	0.1	3.000
HB-EF8	11/19/1997	0	1	40321-76-4	1,2,3,7,8-PeCDD	N	90	45	ng/kg	U	1	45.000
HB-EF8	11/19/1997	0	1	57117-41-6	1,2,3,7,8-PeCDF	Y	170	170	ng/kg	J	0.03	5.100
HB-EF8	11/19/1997	0	1	1746-01-6	2,3,7,8-TCDD	N	50	25	ng/kg	U	1	25.000
HB-EF8	11/19/1997	0	1	51207-31-9	2,3,7,8-TCDF	Y	840	840	ng/kg	J	0.1	84.000
HB-EF8	11/19/1997	0	1	3268-87-9	OCDD	N	100	50	ng/kg	U	0.0003	0.015
HB-EF8	11/19/1997	0	1	39001-02-0	OCDF	Y	180	180	ng/kg	J	0.0003	0.054
											Sample Location TEQ =	**458.6**
HB-LEF1	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	400	400	ng/kg	J	0.01	4.000
HB-LEF1	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	147	147	ng/kg	J	0.01	1.470
HB-LEF1	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	20.2	20.2	ng/kg	J	0.01	0.202
HB-LEF1	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	20.6	20.6	ng/kg	J	0.1	2.060
HB-LEF1	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	76	76	ng/kg	J	0.1	7.600
HB-LEF1	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	55.3	55.3	ng/kg	J	0.1	5.530
HB-LEF1	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	20	20	ng/kg	J	0.1	2.000
HB-LEF1	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	33.5	33.5	ng/kg	J	0.1	3.350
HB-LEF1	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	3.63	1.815	ng/kg	UJ	0.1	0.182
HB-LEF1	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	22.1	22.1	ng/kg	J	1	22.100
HB-LEF1	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	40.3	40.3	ng/kg	J	0.03	1.209
HB-LEF1	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	4.78	4.78	ng/kg	J	1	4.780
HB-LEF1	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	108	108	ng/kg	J	0.1	10.800
HB-LEF1	9/29/1998	0	0.5	3268-87-9	OCDD	Y	2570	2570	ng/kg	J	0.0003	0.771
HB-LEF1	9/29/1998	0	0.5	39001-02-0	OCDF	Y	382	382	ng/kg	J	0.0003	0.115
											Sample Location TEQ =	**66.2**

TABLE 3a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-LEF2	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	267	267	ng/kg	J	0.01	2.670
HB-LEF2	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	110	110	ng/kg	J	0.01	1.100
HB-LEF2	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	19.7	19.7	ng/kg	J	0.01	0.197
HB-LEF2	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	18.1	18.1	ng/kg	J	0.1	1.810
HB-LEF2	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	178	178	ng/kg	J	0.1	17.800
HB-LEF2	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	43.2	43.2	ng/kg	J	0.1	4.320
HB-LEF2	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	32.6	32.6	ng/kg	J	0.1	3.260
HB-LEF2	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	22.3	22.3	ng/kg	J	0.1	2.230
HB-LEF2	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	6.03	6.03	ng/kg	J	0.1	0.603
HB-LEF2	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	20.3	20.3	ng/kg	J	1	20.300
HB-LEF2	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	315	315	ng/kg	J	0.03	9.450
HB-LEF2	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	8.07	8.07	ng/kg	J	1	8.070
HB-LEF2	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	1580	1580	ng/kg	J	0.1	158.000
HB-LEF2	9/29/1998	0	0.5	3268-87-9	OCDD	Y	1800	1800	ng/kg	J	0.0003	0.540
HB-LEF2	9/29/1998	0	0.5	39001-02-0	OCDF	Y	302	302	ng/kg	J	0.0003	0.091
											Sample Location TEQ =	**230.4**
HB-LEF3	9/29/1998	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	416	416	ng/kg	J	0.01	4.160
HB-LEF3	9/29/1998	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	124	124	ng/kg	J	0.01	1.240
HB-LEF3	9/29/1998	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	45.7	45.7	ng/kg	J	0.01	0.457
HB-LEF3	9/29/1998	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	75.5	75.5	ng/kg	J	0.1	7.550
HB-LEF3	9/29/1998	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	267	267	ng/kg	J	0.1	26.700
HB-LEF3	9/29/1998	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	174	174	ng/kg	J	0.1	17.400
HB-LEF3	9/29/1998	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	52.3	52.3	ng/kg	J	0.1	5.230
HB-LEF3	9/29/1998	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	96	96	ng/kg	J	0.1	9.600
HB-LEF3	9/29/1998	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	Y	11	11	ng/kg	J	0.1	1.100
HB-LEF3	9/29/1998	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	95.9	95.9	ng/kg	J	1	95.900
HB-LEF3	9/29/1998	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	159	159	ng/kg	J	0.03	4.770
HB-LEF3	9/29/1998	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	4.38	4.38	ng/kg	J	1	4.380
HB-LEF3	9/29/1998	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	449	449	ng/kg	J	0.1	44.900
HB-LEF3	9/29/1998	0.5	1	3268-87-9	OCDD	Y	888	888	ng/kg	J	0.0003	0.266
HB-LEF3	9/29/1998	0.5	1	39001-02-0	OCDF	Y	531	531	ng/kg	J	0.0003	0.159
											Sample Location TEQ =	**223.8**
HB-LEF4	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	171	171	ng/kg	J	0.01	1.710
HB-LEF4	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	33.7	33.7	ng/kg	J	0.01	0.337
HB-LEF4	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	6.39	6.39	ng/kg	J	0.01	0.064
HB-LEF4	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.55	6.55	ng/kg	J	0.1	0.655
HB-LEF4	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	61.5	61.5	ng/kg	J	0.1	6.150
HB-LEF4	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	25	25	ng/kg	J	0.1	2.500
HB-LEF4	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	10.7	10.7	ng/kg	J	0.1	1.070
HB-LEF4	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	12.9	12.9	ng/kg	J	0.1	1.290
HB-LEF4	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.86	1.43	ng/kg	UJ	0.1	0.143
HB-LEF4	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	9.55	9.55	ng/kg	J	1	9.550
HB-LEF4	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	17.1	17.1	ng/kg	J	0.03	0.513
HB-LEF4	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	8.76	8.76	ng/kg	J	1	8.760
HB-LEF4	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	49.9	49.9	ng/kg	J	0.1	4.990
HB-LEF4	9/29/1998	0	0.5	3268-87-9	OCDD	Y	1150	1150	ng/kg	J	0.0003	0.345
HB-LEF4	9/29/1998	0	0.5	39001-02-0	OCDF	Y	56.5	56.5	ng/kg	J	0.0003	0.017
											Sample Location TEQ =	**38.1**

TABLE 3a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-LEF5	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	123	123	ng/kg	J	0.01	1.230
HB-LEF5	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	42.6	42.6	ng/kg	J	0.01	0.426
HB-LEF5	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	4.97	4.97	ng/kg	J	0.01	0.050
HB-LEF5	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	5.69	5.69	ng/kg	J	0.1	0.569
HB-LEF5	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	28.3	28.3	ng/kg	J	0.1	2.830
HB-LEF5	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	18.4	18.4	ng/kg	J	0.1	1.840
HB-LEF5	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	8.74	8.74	ng/kg	J	0.1	0.874
HB-LEF5	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	9.92	9.92	ng/kg	J	0.1	0.992
HB-LEF5	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	1.01	1.01	ng/kg	J	0.1	0.101
HB-LEF5	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	9.03	9.03	ng/kg	J	1	9.030
HB-LEF5	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	15.3	15.3	ng/kg	J	0.03	0.459
HB-LEF5	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	2.2	2.2	ng/kg	J	1	2.200
HB-LEF5	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	37.4	37.4	ng/kg	J	0.1	3.740
HB-LEF5	9/29/1998	0	0.5	3268-87-9	OCDD	Y	896	896	ng/kg	J	0.0003	0.269
HB-LEF5	9/29/1998	0	0.5	39001-02-0	OCDF	Y	74.4	74.4	ng/kg	J	0.0003	0.022
											Sample Location TEQ =	**24.6**
HB-LEF5	9/29/1998	0.5	0.96	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	74	74	ng/kg	J	0.01	0.740
HB-LEF5	9/29/1998	0.5	0.96	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	41.3	41.3	ng/kg	J	0.01	0.413
HB-LEF5	9/29/1998	0.5	0.96	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	13.5	13.5	ng/kg	J	0.01	0.135
HB-LEF5	9/29/1998	0.5	0.96	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.82	6.82	ng/kg	J	0.1	0.682
HB-LEF5	9/29/1998	0.5	0.96	70648-26-9	1,2,3,4,7,8-HxCDF	Y	62.9	62.9	ng/kg	J	0.1	6.290
HB-LEF5	9/29/1998	0.5	0.96	57653-85-7	1,2,3,6,7,8-HxCDD	Y	20.9	20.9	ng/kg	J	0.1	2.090
HB-LEF5	9/29/1998	0.5	0.96	57117-44-9	1,2,3,6,7,8-HxCDF	Y	14.8	14.8	ng/kg	J	0.1	1.480
HB-LEF5	9/29/1998	0.5	0.96	19408-74-3	1,2,3,7,8,9-HxCDD	Y	9.68	9.68	ng/kg	J	0.1	0.968
HB-LEF5	9/29/1998	0.5	0.96	72918-21-9	1,2,3,7,8,9-HxCDF	N	1.61	0.805	ng/kg	UJ	0.1	0.081
HB-LEF5	9/29/1998	0.5	0.96	40321-76-4	1,2,3,7,8-PeCDD	Y	11	11	ng/kg	J	1	11.000
HB-LEF5	9/29/1998	0.5	0.96	57117-41-6	1,2,3,7,8-PeCDF	Y	29.3	29.3	ng/kg	J	0.03	0.879
HB-LEF5	9/29/1998	0.5	0.96	1746-01-6	2,3,7,8-TCDD	Y	2.77	2.77	ng/kg	J	1	2.770
HB-LEF5	9/29/1998	0.5	0.96	51207-31-9	2,3,7,8-TCDF	Y	64.9	64.9	ng/kg	J	0.1	6.490
HB-LEF5	9/29/1998	0.5	0.96	3268-87-9	OCDD	Y	357	357	ng/kg	J	0.0003	0.107
HB-LEF5	9/29/1998	0.5	0.96	39001-02-0	OCDF	Y	75.7	75.7	ng/kg	J	0.0003	0.023
											Sample Location TEQ =	**34.1**
HB-T-1-2	1/24/2001	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	128.558	128.558	ng/kg		0.01	1.286
HB-T-1-2	1/24/2001	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	84.417	84.417	ng/kg		0.01	0.844
HB-T-1-2	1/24/2001	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	27.021	27.021	ng/kg		0.01	0.270
HB-T-1-2	1/24/2001	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	4.534	4.534	ng/kg		0.1	0.453
HB-T-1-2	1/24/2001	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	90.244	90.244	ng/kg		0.1	9.024
HB-T-1-2	1/24/2001	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	17.131	17.131	ng/kg		0.1	1.713
HB-T-1-2	1/24/2001	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	29.579	29.579	ng/kg		0.1	2.958
HB-T-1-2	1/24/2001	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	7.816	7.816	ng/kg	J	0.1	0.782
HB-T-1-2	1/24/2001	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	20.203	20.203	ng/kg		0.1	2.020
HB-T-1-2	1/24/2001	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	6.414	6.414	ng/kg	M	1	6.414
HB-T-1-2	1/24/2001	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	54.334	54.334	ng/kg		0.03	1.630
HB-T-1-2	1/24/2001	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	1.314	1.314	ng/kg		1	1.314
HB-T-1-2	1/24/2001	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	63.5	63.5	ng/kg		0.1	6.350
HB-T-1-2	1/24/2001	0	0.5	3268-87-9	OCDD	Y	673.904	673.904	ng/kg		0.0003	0.202
HB-T-1-2	1/24/2001	0	0.5	39001-02-0	OCDF	Y	154.272	154.272	ng/kg		0.0003	0.046
											Sample Location TEQ =	**35.3**

TABLE 3a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-T-2-3	1/25/2001	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	376.766	376.766	ng/kg	J	0.01	3.768
HB-T-2-3	1/25/2001	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	328.425	328.425	ng/kg	J	0.01	3.284
HB-T-2-3	1/25/2001	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	25.007	25.007	ng/kg	J	0.01	0.250
HB-T-2-3	1/25/2001	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.235	6.235	ng/kg	J	0.1	0.624
HB-T-2-3	1/25/2001	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	61.935	61.935	ng/kg	J	0.1	6.194
HB-T-2-3	1/25/2001	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	51.72	51.72	ng/kg	J	0.1	5.172
HB-T-2-3	1/25/2001	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	24.718	24.718	ng/kg	J	0.1	2.472
HB-T-2-3	1/25/2001	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	18.23	18.23	ng/kg	J	0.1	1.823
HB-T-2-3	1/25/2001	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	15.997	15.997	ng/kg	J	0.1	1.600
HB-T-2-3	1/25/2001	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	9.719	9.719	ng/kg		1	9.719
HB-T-2-3	1/25/2001	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	28.773	28.773	ng/kg		0.03	0.863
HB-T-2-3	1/25/2001	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	2.583	2.583	ng/kg		1	2.583
HB-T-2-3	1/25/2001	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	54.69	54.69	ng/kg	J	0.1	5.469
HB-T-2-3	1/25/2001	0	0.5	3268-87-9	OCDD	Y	1477.489	1477.489	ng/kg	J	0.0003	0.443
HB-T-2-3	1/25/2001	0	0.5	39001-02-0	OCDF	Y	298.975	298.975	ng/kg	J	0.0003	0.090
											Sample Location TEQ =	**44.4**
HB-UEF2	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	735	735	ng/kg		0.01	7.350
HB-UEF2	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	244	244	ng/kg		0.01	2.440
HB-UEF2	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	15	15	ng/kg		0.01	0.150
HB-UEF2	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	12.6	12.6	ng/kg		0.1	1.260
HB-UEF2	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	16.4	16.4	ng/kg		0.1	1.640
HB-UEF2	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	32.3	32.3	ng/kg		0.1	3.230
HB-UEF2	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	13.5	13.5	ng/kg		0.1	1.350
HB-UEF2	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	29.4	29.4	ng/kg		0.1	2.940
HB-UEF2	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	0.92	0.46	ng/kg	U	0.1	0.046
HB-UEF2	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	7.36	7.36	ng/kg		1	7.360
HB-UEF2	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	6.24	6.24	ng/kg		0.03	0.187
HB-UEF2	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	2.85	2.85	ng/kg		1	2.850
HB-UEF2	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	26.5	26.5	ng/kg		0.1	2.650
HB-UEF2	9/29/1998	0	0.5	3268-87-9	OCDD	Y	7970	7970	ng/kg		0.0003	2.391
HB-UEF2	9/29/1998	0	0.5	39001-02-0	OCDF	Y	590	590	ng/kg		0.0003	0.177
											Sample Location TEQ =	**36.0**
S383	8/11/2000	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	408	408	ng/kg		0.01	4.080
S383	8/11/2000	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	151	151	ng/kg		0.01	1.510
S383	8/11/2000	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	43.6	43.6	ng/kg		0.01	0.436
S383	8/11/2000	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	40.9	40.9	ng/kg		0.1	4.090
S383	8/11/2000	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	214	214	ng/kg		0.1	21.400
S383	8/11/2000	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	110	110	ng/kg		0.1	11.000
S383	8/11/2000	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	67.4	67.4	ng/kg		0.1	6.740
S383	8/11/2000	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	57.4	57.4	ng/kg		0.1	5.740
S383	8/11/2000	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	6.13	6.13	ng/kg		0.1	0.613
S383	8/11/2000	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	55.8	55.8	ng/kg		1	55.800
S383	8/11/2000	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	138	138	ng/kg		0.03	4.140
S383	8/11/2000	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	9.5	9.5	ng/kg		1	9.500
S383	8/11/2000	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	281	281	ng/kg		0.1	28.100
S383	8/11/2000	0	0.49	3268-87-9	OCDD	Y	1470	1470	ng/kg		0.0003	0.441
S383	8/11/2000	0	0.49	39001-02-0	OCDF	Y	303	303	ng/kg		0.0003	0.091
											Sample Location TEQ =	**153.7**

TABLE 3a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
S383	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	664	664	ng/kg		0.01	6.640
S383	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	207	207	ng/kg		0.01	2.070
S383	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	54.5	54.5	ng/kg		0.01	0.545
S383	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	74.1	74.1	ng/kg		0.1	7.410
S383	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	347	347	ng/kg		0.1	34.700
S383	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	204	204	ng/kg		0.1	20.400
S383	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	94.1	94.1	ng/kg		0.1	9.410
S383	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	113	113	ng/kg		0.1	11.300
S383	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	7.18	7.18	ng/kg		0.1	0.718
S383	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	114	114	ng/kg		1	114.000
S383	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	206	206	ng/kg		0.03	6.180
S383	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	22.4	22.4	ng/kg		1	22.400
S383	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	446	446	ng/kg		0.1	44.600
S383	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	2190	2190	ng/kg		0.0003	0.657
S383	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	455	455	ng/kg		0.0003	0.137
											Sample Location TEQ =	**281.2**
S384	8/11/2000	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	561	561	ng/kg	W	0.01	5.610
S384	8/11/2000	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	216	216	ng/kg	W	0.01	2.160
S384	8/11/2000	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	63.7	63.7	ng/kg	W	0.01	0.637
S384	8/11/2000	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	70.5	70.5	ng/kg	W	0.1	7.050
S384	8/11/2000	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	332	332	ng/kg	W	0.1	33.200
S384	8/11/2000	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	177	177	ng/kg	W	0.1	17.700
S384	8/11/2000	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	98.6	98.6	ng/kg	W	0.1	9.860
S384	8/11/2000	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	95.9	95.9	ng/kg	W	0.1	9.590
S384	8/11/2000	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	9.08	9.08	ng/kg	W	0.1	0.908
S384	8/11/2000	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	102	102	ng/kg	W	1	102.000
S384	8/11/2000	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	224	224	ng/kg	W	0.03	6.720
S384	8/11/2000	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	16.8	16.8	ng/kg	W	1	16.800
S384	8/11/2000	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	442	442	ng/kg	W	0.1	44.200
S384	8/11/2000	0	0.49	3268-87-9	OCDD	Y	1720	1720	ng/kg	W	0.0003	0.516
S384	8/11/2000	0	0.49	39001-02-0	OCDF	Y	481	481	ng/kg	W	0.0003	0.144
											Sample Location TEQ =	**257.1**
S384	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	298	298	ng/kg		0.01	2.980
S384	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	329	329	ng/kg		0.01	3.290
S384	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	88.2	88.2	ng/kg		0.01	0.882
S384	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	26.1	26.1	ng/kg		0.1	2.610
S384	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	490	490	ng/kg		0.1	49.000
S384	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	76	76	ng/kg		0.1	7.600
S384	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	155	155	ng/kg		0.1	15.500
S384	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	41.6	41.6	ng/kg		0.1	4.160
S384	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	10.7	10.7	ng/kg		0.1	1.070
S384	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	37.3	37.3	ng/kg		1	37.300
S384	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	265	265	ng/kg		0.03	7.950
S384	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	8.29	8.29	ng/kg		1	8.290
S384	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	476	476	ng/kg		0.1	47.600
S384	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	1100	1100	ng/kg		0.0003	0.330
S384	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	502	502	ng/kg		0.0003	0.151
											Sample Location TEQ =	**188.7**

TABLE 3a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
S385	8/11/2008	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	2070	2070	ng/kg		0.01	20.700
S385	8/11/2008	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	391	391	ng/kg		0.01	3.910
S385	8/11/2008	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	83.9	83.9	ng/kg		0.01	0.839
S385	8/11/2008	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	401	401	ng/kg		0.1	40.100
S385	8/11/2008	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	506	506	ng/kg		0.1	50.600
S385	8/11/2008	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	860	860	ng/kg		0.1	86.000
S385	8/11/2008	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	147	147	ng/kg		0.1	14.700
S385	8/11/2008	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	446	446	ng/kg		0.1	44.600
S385	8/11/2008	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	12.8	12.8	ng/kg		0.1	1.280
S385	8/11/2008	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	455	455	ng/kg		1	455.000
S385	8/11/2008	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	553	553	ng/kg		0.03	16.590
S385	8/11/2008	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	71.6	71.6	ng/kg		1	71.600
S385	8/11/2008	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	1070	1070	ng/kg		0.1	107.000
S385	8/11/2008	0	0.49	3268-87-9	OCDD	Y	2700	2700	ng/kg		0.0003	0.810
S385	8/11/2008	0	0.49	39001-02-0	OCDF	Y	774	774	ng/kg		0.0003	0.232
											Sample Location TEQ =	**914.0**
S385	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	374	374	ng/kg		0.01	3.740
S385	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	721	721	ng/kg		0.01	7.210
S385	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	240	240	ng/kg		0.01	2.400
S385	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	47.6	47.6	ng/kg		0.1	4.760
S385	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	1180	1180	ng/kg		0.1	118.000
S385	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	115	115	ng/kg		0.1	11.500
S385	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	350	350	ng/kg		0.1	35.000
S385	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	64.9	64.9	ng/kg		0.1	6.490
S385	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	23.6	23.6	ng/kg		0.1	2.360
S385	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	57.6	57.6	ng/kg		1	57.600
S385	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	637	637	ng/kg		0.03	19.110
S385	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	14.2	14.2	ng/kg		1	14.200
S385	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	605	605	ng/kg		0.1	60.500
S385	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	688	688	ng/kg		0.0003	0.206
S385	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	716	716	ng/kg		0.0003	0.215
											Sample Location TEQ =	**343.3**
S386	8/11/2000	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	71.3	71.3	ng/kg		0.01	0.713
S386	8/11/2000	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	53	53	ng/kg		0.01	0.530
S386	8/11/2000	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	24.1	24.1	ng/kg		0.01	0.241
S386	8/11/2000	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	7.96	7.96	ng/kg		0.1	0.796
S386	8/11/2000	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	72.1	72.1	ng/kg		0.1	7.210
S386	8/11/2000	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	21	21	ng/kg		0.1	2.100
S386	8/11/2000	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	16.3	16.3	ng/kg		0.1	1.630
S386	8/11/2000	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	14.8	14.8	ng/kg		0.1	1.480
S386	8/11/2000	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	2.51	2.51	ng/kg		0.1	0.251
S386	8/11/2000	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	11.4	11.4	ng/kg		1	11.400
S386	8/11/2000	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	51.6	51.6	ng/kg		0.03	1.548
S386	8/11/2000	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	2.61	2.61	ng/kg		1	2.610
S386	8/11/2000	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	137	137	ng/kg		0.1	13.700
S386	8/11/2000	0	0.49	3268-87-9	OCDD	Y	250	250	ng/kg		0.0003	0.075
S386	8/11/2000	0	0.49	39001-02-0	OCDF	Y	207	207	ng/kg		0.0003	0.062
											Sample Location TEQ =	**44.3**

TABLE 3a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
S386	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	96.1	96.1	ng/kg		0.01	0.961
S386	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	47.6	47.6	ng/kg		0.01	0.476
S386	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	16.8	16.8	ng/kg		0.01	0.168
S386	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	13.9	13.9	ng/kg		0.1	1.390
S386	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	64.1	64.1	ng/kg		0.1	6.410
S386	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	42.7	42.7	ng/kg		0.1	4.270
S386	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	16.8	16.8	ng/kg		0.1	1.680
S386	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	23.4	23.4	ng/kg		0.1	2.340
S386	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	2.72	2.72	ng/kg		0.1	0.272
S386	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	22.7	22.7	ng/kg		1	22.700
S386	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	55.6	55.6	ng/kg		0.03	1.668
S386	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	4.17	4.17	ng/kg		1	4.170
S386	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	146	146	ng/kg		0.1	14.600
S386	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	109	109	ng/kg		0.0003	0.033
S386	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	154	154	ng/kg		0.0003	0.046
											Sample Location TEQ =	**61.2**

NOTES:
TCDD/F = Tetra Chlorinated Dibenzo-p-dioxins/Dibenzofurans
PeCDD/F = Penta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HxCDD/F = Hexa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HpCDD/F = Hepta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
OCDD/F = Octa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
N/A = not applicable
EMPC, M = Estimated Maximum Possible Concentration; J, W = Estimated Value; U = Value Below The Detection Limit
(1) Van den berg, Martin, et al. 2006. The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds. Toxicological Sciences 93(2), 223–241.

TABLE 4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)	Background Value	USEPA Ecological Soil Screening Levels - Plants[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Invertebrates[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Aves[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Mammals[a] (mg/kg dw)	Microorganisms and microbial processes (Table 2)[b] (mg/kg)	Earthworms (Table 1)[b] (mg/kg)	Terrestrial Plants[c] (mg/kg)	NYSDEC: Restricted Use Soil Cleanup Objectives for Protection of Ecological Resources[d] (mg/kg)	Potential ARAR/TBC Value	Selected Screening Value[e]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[f]
Wastebed B/Harbor Brook - Surface Soil	DIOXIN/FURAN																					
	1746-01-6	2,3,7,8-TCDD Equivalent[(g)]	2.5	575.5	ng/kg	HB-SS-04	NA	-	5.75E-04		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	METALS																					
	7429-90-5	Aluminum	2820	14300 J	mg/kg	HB-HB-20D	33/33	-	1.43E+04		NV	NV	NV	NV	6.00E+02	NV	5.00E+01	NV		5.00E+01	Y	ASL
	7440-36-0	Antimony	0.29 J	0.54 J	mg/kg	HB-HB-01D	4/33	0.59-24	5.40E-01		NV	7.80E+01	NV	2.70E-01	NV	NV	5.00E+00	NV		2.70E-01	Y	ASL
	7440-38-2	Arsenic	2.1	14 J	mg/kg	HB-RISB-04	33/33	-	1.40E+01		1.80E+01	NV	4.30E+01	4.60E+01	1.00E+02	NV	1.00E+01	1.30E+01		1.00E+01	Y	ASL
	7440-39-3	Barium	46.2	1240	mg/kg	HB-SS-04	33/33	-	1.24E+03		NV	3.30E+02	NV	2.00E+03	3.00E+03	NV	NV	4.33E+02		3.30E+02	Y	ASL
	7440-41-7	Beryllium	0.39	0.74	mg/kg	HB-HBW-06	5/33	0.53-2	7.40E-01		NV	4.00E+01	NV	2.10E+01	NV	NV	1.00E+01	1.00E+01		1.00E+01	N	BSL
	7440-42-8	Boron	5.1 J	5.1 J	mg/kg	HB-STA-200	1/1	-	5.10E+00		NV	NV	NV	NV	2.00E+01	NV	5.00E-01	NV		5.00E-01	Y	ASL
	7440-43-9	Cadmium	0.97	9.9 J	mg/kg	HB-RISB-07	20/33	0.029-1.18	9.90E+00		3.20E+01	1.40E+02	7.70E-01	3.60E-01	2.00E+01	NV	4.00E+00	4.00E+00		3.60E-01	Y	ASL
	7440-70-2	Calcium	23000 J	308000 J	mg/kg	HB-RISB-01	33/33	-	3.08E+05		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	KPS
	7440-47-3	Chromium	10.3	191 J	mg/kg	HB-HB-20D	33/33	-	1.91E+02		NV	NV	2.60E+01	3.40E+01	1.00E+01	NV	1.00E+00	NV		1.00E+00	Y	ASL
	7440-48-4	Cobalt	4.3 J	12.2	mg/kg	HB-SS-03	9/33	6.28-20	1.22E+01		1.30E+01	NV	1.20E+02	2.30E+02	1.00E+03	NV	2.00E+01	NV		1.30E+01	N	BSL
	7440-50-8	Copper	21.8	302 J	mg/kg	HB-HB-19S	33/33	-	3.02E+02		7.00E+01	8.00E+01	2.80E+01	4.90E+01	1.00E+02	NV	1.00E+02	5.00E+01		2.80E+01	Y	ASL
	57-12-5	Cyanide	0.68	2.9	mg/kg	HB-HBW-06	2/32	0.51-4	2.90E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	7439-89-6	Iron	5270 J	22300 J	mg/kg	HB-HB-19S	33/33	-	2.23E+04		NV	NV	NV	NV	2.00E+02	NV	NV	NV		2.00E+02	Y	ASL
	7439-92-1	Lead	6.1 J	2320 J	mg/kg	HB-HB-20D	33/33	-	2.32E+03		1.20E+02	1.70E+03	1.10E+01	5.60E+01	9.00E+02	NV	5.00E+01	6.30E+01		1.10E+01	Y	ASL
	7439-95-4	Magnesium	2880 J	36500	mg/kg	HB-SS-03	33/33	-	3.65E+04		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	7439-96-5	Manganese	60.7 J	448	mg/kg	HB-STA-200	33/33	-	4.48E+02		2.20E+02	4.50E+02	4.30E+03	4.00E+03	1.00E+02	NV	5.00E+02	1.60E+03		1.00E+02	Y	ASL
	7439-97-6	Mercury	0.72	27.4 J	mg/kg	HB-HB-01D	31/33	0.04-0.04	2.74E+01		NV	NV	NV	NV	NV	NV	NV	1.80E-01		1.80E-01	Y	ASL
	7440-02-0	Nickel	9.1	104 J	mg/kg	HB-RISB-06	33/33	-	1.04E+02		3.80E+01	2.80E+02	2.10E+02	1.30E+02	9.00E+01	NV	3.00E+01	3.00E+01		3.00E+01	Y	ASL
	7440-09-7	Potassium	455 J	3670 J	mg/kg	HB-HB-20D	31/33	367.7-398.72	3.67E+03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	7782-49-2	Selenium	0.46 J	4.1 J	mg/kg	HB-RISB-07	7/29	0.16-5.77	4.10E+00		5.20E-01	4.10E+00	1.20E+00	6.30E-01	1.00E+02	NV	1.00E+00	3.90E+00		5.20E-01	Y	ASL
	7440-22-4	Silver	0.15 J	4.3 J	mg/kg	HB-RISB-16	7/33	0.077-4	4.30E+00		5.60E+02	NV	4.20E+00	1.40E+01	5.00E+01	NV	2.00E+00	2.00E+00		2.00E+00	Y	ASL
	7440-23-5	Sodium	81.9	4910 J	mg/kg	HB-RISB-01	33/33	-	4.91E+03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	KPS
	7440-28-0	Thallium	0.82 J	0.82 J	mg/kg	HB-HBW-06	1/33	0.18-5.4	8.20E-01		NV	NV	NV	NV	NV	NV	1.00E+00	NV		1.00E+00	N	BSL
	7440-62-2	Vanadium	7.5	40.9 J	mg/kg	HB-HB-20D	31/33	11.66-20	4.09E+01		NV	NV	7.80E+00	2.80E+02	2.00E+01	NV	2.00E+00	NV		2.00E+00	Y	ASL
	7440-66-6	Zinc	34.2	823 J	mg/kg	HB-RISB-06	33/33	-	8.23E+02		1.60E+02	1.20E+02	4.60E+01	7.90E+01	1.00E+02	NV	5.00E+01	1.09E+02		4.60E+01	Y	ASL
	PCB																					
	12674-11-2	Aroclor 1016	0.3	2	mg/kg	HB-HB-01D	2/33	0.0094-5.3	2.00E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	12672-29-6	Aroclor 1248	0.2	0.38	mg/kg	HB-RISB-17	3/33	0.0094-5.3	3.80E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	11097-69-1	Aroclor 1254	0.043	2.4	mg/kg	HB-HB-18S	7/33	0.02-5.3	2.40E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	11096-82-5	Aroclor 1260	0.08	4 J	mg/kg	HB-RISB-07	19/33	0.0094-5.3	4.00E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
		Sum of Aroclors (total PCBs)[i]	0.043	5	mg/kg	HB-HB-01D	NA	-	5.00E+00		NV	NV	NV	NV	NV	NV	NV	1.00E+00		1.00E+00	Y	ASL
	PESTICIDE																					
	72-54-8	4,4'-DDD	0.043 J	0.73 J	mg/kg	HB-HB-19S	2/32	0.003-0.53	7.30E-01		NV	NV	9.30E-02	2.10E-02	NV	NV	NV	3.30E-03		3.30E-03	Y	ASL
	72-55-9	4,4'-DDE	0.076	0.11 J	mg/kg	HB-HB-19S	3/32	0.003-0.53	1.10E-01		NV	NV	9.30E-02	2.10E-02	NV	NV	NV	3.30E-03		3.30E-03	Y	ASL
	50-29-3	4,4'-DDT	0.04 J	0.39 J	mg/kg	HB-HB-19S	3/32	0.003-0.53	3.90E-01		NV	NV	9.30E-02	2.10E-02	NV	NV	NV	3.30E-03		3.30E-03	Y	ASL
	12789-03-6	gamma Chlordane	0.001 J	0.12 J	mg/kg	HB-HB-19S	3/32	0.0039-0.27	1.20E-01		NV	NV	NV	NV	NV	NV	NV	1.30E+00		1.30E+00	N	BSL
	60-57-1	Dieldrin	0.11	0.11	mg/kg	HB-HB-18S	1/32	0.003-0.53	1.10E-01		NV	NV	2.20E-02	4.90E-03	NV	NV	NV	6.00E-03		4.90E-03	Y	ASL
	53494-70-5	Endrin ketone	0.39	0.56	mg/kg	HB-SS-11	2/32	0.003-0.53	5.60E-01		NV	NV	NV	NV	NV	NV	NV	1.40E-02		NV	Y	NTX
	1024-57-3	Heptachlor Epoxide	0.052 J	0.052 J	mg/kg	HB-HB-19S	1/32	0.002-0.27	5.20E-02		NV	NV	NV	NV	NV	NV	NV	1.40E-01		NV	Y	NTX
	SVOC																					
	65-85-0	Benzoic acid	0.091 J	1.5 J	mg/kg	HB-HB-06S	3/4	18-18	1.50E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	91-57-6	2-Methylnaphthalene	0.053	3.4 J	mg/kg	HB-RISB-16	18/33	0.34-160	3.40E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	83-32-9	Acenaphthene	0.019 J	5.4 J	mg/kg	HB-RISB-16	15/33	0.34-160	5.40E+00		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	2.00E+01		2.00E+01	N	BSL
	208-96-8	Acenaphthylene	0.037 J	7.7 J	mg/kg	HB-HB-19S	25/33	0.038-160	7.70E+00		NV	2.90E+01	NV	1.00E+02	NV	NV	2.00E+01	NV		2.00E+01	N	BSL
	120-12-7	Anthracene	0.034 J	14	mg/kg	HB-RISB-16	23/33	0.34-160	1.40E+01		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	NV		2.90E+01	N	BSL
	56-55-3	Benzo[a]anthracene	0.05 J	32 J	mg/kg	HB-RISB-06	28/33	0.38-160	3.20E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	50-32-8	Benzo[a]pyrene	0.061 J	32 J	mg/kg	HB-RISB-06	27/33	0.38-160	3.20E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	2.60E+00		1.10E+00	Y	ASL
	205-99-2	Benzo[b]fluoranthene	0.13	27 J	mg/kg	HB-RISB-06	28/33	0.38-160	2.70E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	191-24-2	Benzo[g,h,i]perylene	0.055	24 J	mg/kg	HB-RISB-06	28/33	0.38-160	2.40E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	207-08-9	Benzo[k]fluoranthene	0.046 J	25 J	mg/kg	HB-RISB-06	27/33	0.038-160	2.50E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	111-44-4	bis(2-Chloroethyl)ether	0.05 J	0.05 J	mg/kg	HB-HBW-06	1/33	0.038-160	5.00E-02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	117-81-7	bis(2-Ethylhexyl)phthalate	0.16 J	3.7 J	mg/kg	HB-RISB-07	8/33	0.34-160	3.70E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	85-68-7	Butylbenzylphthalate	0.03 J	0.03 J	mg/kg	HB-STA-200	1/33	0.34-160	3.00E-02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	86-74-8	Carbazole	0.081 J	5.8 J	mg/kg	HB-RISB-06	12/33	0.038-160	5.80E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	218-01-9	Chrysene	0.065 J	34 J	mg/kg	HB-HB-19S	28/33	0.38-160	3.40E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	53-70-3	Dibenz[a,h]anthracene	0.17 J	6.2 J	mg/kg	HB-HB-19S	17/33	0.038-160	6.20E+00		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	132-64-9	Dibenzofuran	0.017 J	4.3 J	mg/kg	HB-RISB-16	13/33	0.34-160	4.30E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	206-44-0	Fluoranthene	0.093 J	77 J	mg/kg	HB-HB-19S	28/33	0.38-160	7.70E+01		NV	2.90E+01	NV	1.00E+02	NV	3.00E+01	NV	NV		2.90E+01	Y	ASL
	86-73-7	Fluorene	0.018 J	6.8 J	mg/kg	HB-HB-19S	15/33	0.34-160	6.80E+00		NV	NV	NV	NV	NV	NV	NV	3.00E+01		3.00E+01	N	BSL
	118-74-1	Hexachlorobenzene	0.11 J	11 J	mg/kg	HB-HB-01D	8/33	0.38-160	1.10E+01		NV	NV	NV	NV	1.00E+03	NV	NV	NV		1.00E+03	N	BSL
	193-39-5	Indeno[1,2,3-cd]pyrene	0.044	20 J	mg/kg	HB-RISB-06	27/33	0.38-160	2.00E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	91-20-3	Naphthalene	0.088 J	33 J	mg/kg	HB-SS-11	27/37	0.005-160	3.30E+01		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	NV		2.90E+01	Y	ASL
	85-01-8	Phenanthrene	0.075 J	61 J	mg/kg	HB-HB-19S	26/33	0.38-160	6.10E+01		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	NV		2.90E+01	Y	ASL
	108-95-2	Phenol	0.044 J	1.9 J	mg/kg	HB-RISB-16	3/33	0.038-160	1.90E+00		NV	NV	NV	NV	1.00E+02	3.00E+01	7.00E+01	3.00E+01		3.00E+01	N	BSL
	129-00-0	Pyrene	0.08 J	59 J	mg/kg	HB-HB-19S	28/33	0.38-160	5.90E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL

TABLE 4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)	Background Value	USEPA Ecological Soil Screening Levels - Plants[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Invertebrates[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Aves[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Mammals[a] (mg/kg dw)	Microorganisms and microbial processes (Table 2)[b] (mg/kg)	Earthworms (Table 1)[b] (mg/kg)	Terrestrial Plants[c] (mg/kg)	NYSDEC: Restricted Use Soil Cleanup Objectives for Protection of Ecological Resources[d] (mg/kg)	Potential ARAR/TBC Value	Selected Screening Value[e]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[f]
	VOC																					
	135-98-8	sec-Butylbenzene	0.002 J	0.002 J	mg/kg	HB-HB-01D	1/4	0.003-0.005	2.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	95-63-6	1,2,4-Trimethylbenzene	0.003 J	0.003 J	mg/kg	HB-HB-01D	1/4	0.003-0.005	3.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	108-67-8	1,3,5-Trimethylbenzene	0.002 J	0.002 J	mg/kg	HB-HB-01D	1/4	0.003-0.005	2.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	87-61-6	1,2,3-Trichlorobenzene	0.057	0.057	mg/kg	HB-HB-01D	1/5	0.005-0.009	5.70E-02		NV	NV	NV	NV	NV	2.00E+01	NV	NV		2.00E+01	N	BSL
	120-82-1	1,2,4-Trichlorobenzene	0.004 J	53 J	mg/kg	HB-HB-01D	22/37	0.0056-33	5.30E+01		NV	NV	NV	NV	NV	2.00E+01	NV	NV		2.00E+01	Y	ASL
	95-50-1	1,2-Dichlorobenzene	0.003 J	210	mg/kg	HB-SS-11	24/37	0.0056-33	2.10E+02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	541-73-1	1,3-Dichlorobenzene	0.001 J	3.7 J	mg/kg	HB-HB-06S	7/37	0.003-160	3.70E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	106-46-7	1,4-Dichlorobenzene	0.007	350	mg/kg	HB-SS-11	28/37	0.0056-33	3.50E+02		NV	NV	NV	NV	NV	2.00E+01	NV	2.00E+01		2.00E+01	Y	ASL
	78-93-3	2-Butanone	0.0075 J	0.047 J	mg/kg	HB-HB-20D	6/33	0.0056-0.06	4.70E-02		NV	NV	NV	NV	NV	NV	NV	1.00E+02		1.00E+02	N	BSL
	67-64-1	Acetone	0.0077 J	0.18 J	mg/kg	HB-HB-20D	10/33	0.01-0.08	1.80E-01		NV	NV	NV	NV	NV	NV	NV	2.20E+00		2.20E+00	N	BSL
	71-43-2	Benzene	0.001 J	0.028 J	mg/kg	HB-RISB-01	13/33	0.0054-0.02	2.80E-02		NV	NV	NV	NV	NV	NV	NV	7.00E+01		7.00E+01	N	BSL
	75-15-0	Carbon disulfide	0.0026 J	0.0026 J	mg/kg	HB-RISB-01	1/29	0.0056-0.06	2.60E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	108-90-7	Chlorobenzene	0.002 J	0.37	mg/kg	HB-HB-01D	21/33	0.0054-0.02	3.70E-01		NV	NV	NV	NV	NV	4.00E+01	NV	4.00E+01		4.00E+01	N	BSL
	156-59-2	cis-1,2-Dichloroethene	0.0026 J	0.0026 J	mg/kg	HB-HB-20D	1/33	0.003-0.03	2.60E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	100-41-4	Ethylbenzene	0.0022 J	0.054 J	mg/kg	HB-RISB-01	7/33	0.003-0.02	5.40E-02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	98-82-8	Isopropylbenzene	0.001 J	0.001 J	mg/kg	HB-HB-01D	1/5	0.003-0.0056	1.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	75-09-2	Methylene Chloride	0.0021 J	0.0052 J	mg/kg	HB-HB-20D	5/33	0.003-0.03	5.20E-03		NV	NV	NV	NV	NV	NV	NV	1.20E+01		1.20E+01	N	BSL
	95-47-6	o-Xylene	0.0018 J	0.21 J	mg/kg	HB-RISB-01	6/28	0.0054-0.03	2.10E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	100-42-5	Styrene	0.0052 J	0.0052 J	mg/kg	HB-HB-20D	1/33	0.003-0.03	5.20E-03		NV	NV	NV	NV	NV	NV	3.00E+02	NV		3.00E+02	N	BSL
	127-18-4	Tetrachloroethene	0.004 J	0.0085 J	mg/kg	HB-RISB-07	2/33	0.003-0.02	8.50E-03		NV	NV	NV	NV	NV	NV	NV	2.00E+00		2.00E+00	N	BSL
	108-88-3	Toluene	0.001 J	0.22 J	mg/kg	HB-RISB-01	11/33	0.0054-0.03	2.20E-01		NV	NV	NV	NV	NV	NV	2.00E+02	3.60E+01		3.60E+01	N	BSL
	79-01-6	Trichloroethene	0.001 J	0.0071 J	mg/kg	HB-RISB-07	2/33	0.003-0.02	7.10E-03		NV	NV	NV	NV	NV	NV	NV	2.00E+00		2.00E+00	N	BSL
	XYLENES1314	m,p-Xylenes[(h)]	0.0033 J	0.42 J	mg/kg	HB-RISB-01	11/28	0.0054-0.02	4.20E-01		NV	NV	NV	NV	NV	NV	NV	2.60E-01		2.60E-01	Y	ASL
	1330-20-7	Xylenes (Total)	0.001 J	0.037	mg/kg	HB-HB-01D	4/5	0.017-0.017	3.70E-02		NV	NV	NV	NV	NV	NV	NV	2.60E-01		2.60E-01	N	BSL
	OTHER																					
	112-40-3	n-Dodecane	590 J	1100 J	mg/kg	HB-RISB-04	2/6	200-210	1.10E+03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	22967-92-6	Methyl Mercury	0.00112	0.0373 J	mg/kg	HB-RISB-07	16/16	-	3.73E-02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX

NOTES:
a: Values are from USEPA (2007) Ecological Soil Screening Levels (Available at: http://www.epa.gov/ecotox/ecossl/).
b: Values are from Efroymson *et al*. 1997b.
c: Values are from Efroymson *et al*. 1997a.
d: Values are from NYSDEC, 2006 (6 NYCRR Subpart 375-6) Remedial Program Soil Cleanup Objectives.
e: Minimum of screening criteria
f: Compounds are selected as COPECs if the selected screening concentration is greater than the selected criteria or if there are no screening criteria available.
g: Based on use of WHO toxicity equivalency factors for dioxins and dioxin-like compounds from Van den Berg et al. (2006); see Table 4a.
h: Criteria for total xylenes utilized.
i: Sum of detected Aroclors; see Table 4b.
- = 100'% detection frequency
Rows highlighted yellow indicate constituents selected as COPECs based on the following selection rationale: ASL and KPS.
Rows highlighted orange indicate constituents selected as COPECs based on the following selection rationale: NTX.

Definitions:
ARAR: Applicable or Relevant and Appropriate Requirements
ASL = Above screening level
BSL = Below screening level
CAS: Chemical Abstact Service
COPEC: Compound of Potential Ecological Concern
J = estimated value
KPS = Known physical stressor
N = tentatively identified compound.
NTX = No toxicity information
NUT: Compound is an essential nutrient and not screened in
NV: No Value
NYSDEC: New York State Department of Environmental Conservation
PCB: Polychlorinated Biphenyls
SVOC: Semi-Volatile Organic Compounds
TBC: To Be Considered
USEPA: United States Environmental Protection Agency
VOC: Volatile Organic Compounds

TABLE 4a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-HB-18S	8/29/2003	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	74.975	74.975	ng/kg		0.01	0.750
HB-HB-18S	8/29/2003	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	8.765	8.765	ng/kg		0.01	0.088
HB-HB-18S	8/29/2003	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.202	1.202	ng/kg	EMPC	0.01	0.012
HB-HB-18S	8/29/2003	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	0.635	0.635	ng/kg	EMPC	0.1	0.064
HB-HB-18S	8/29/2003	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	3.906	3.906	ng/kg	J	0.1	0.391
HB-HB-18S	8/29/2003	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	3.43	3.43	ng/kg	J	0.1	0.343
HB-HB-18S	8/29/2003	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	1.065	1.065	ng/kg	J	0.1	0.107
HB-HB-18S	8/29/2003	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	3.306	3.306	ng/kg	J	0.1	0.331
HB-HB-18S	8/29/2003	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-HB-18S	8/29/2003	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	1.388	1.388	ng/kg	J	1	1.388
HB-HB-18S	8/29/2003	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	1.863	1.863	ng/kg	EMPC	0.03	0.056
HB-HB-18S	8/29/2003	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-HB-18S	8/29/2003	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	5.016	5.016	ng/kg		0.1	0.502
HB-HB-18S	8/29/2003	0	0.5	39001-02-0	OCDF	Y	24.165	24.165	ng/kg		0.0003	0.007
											Sample Location TEQ =	**4.7**
HB-HB-18S	8/29/2003	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	229.416	229.416	ng/kg		0.01	2.294
HB-HB-18S	8/29/2003	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	28.993	28.993	ng/kg		0.01	0.290
HB-HB-18S	8/29/2003	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	4.052	4.052	ng/kg	J	0.01	0.041
HB-HB-18S	8/29/2003	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	2.923	2.923	ng/kg	J	0.1	0.292
HB-HB-18S	8/29/2003	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	12.597	12.597	ng/kg		0.1	1.260
HB-HB-18S	8/29/2003	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	14.043	14.043	ng/kg		0.1	1.404
HB-HB-18S	8/29/2003	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	4.201	4.201	ng/kg	J	0.1	0.420
HB-HB-18S	8/29/2003	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	14.045	14.045	ng/kg		0.1	1.405
HB-HB-18S	8/29/2003	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-HB-18S	8/29/2003	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	5.849	5.849	ng/kg		1	5.849
HB-HB-18S	8/29/2003	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	9.707	9.707	ng/kg	J	0.03	0.291
HB-HB-18S	8/29/2003	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	1.49	1.49	ng/kg	J	1	1.490
HB-HB-18S	8/29/2003	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	19.27	19.27	ng/kg		0.1	1.927
HB-HB-18S	8/29/2003	0.5	1	3268-87-9	OCDD	Y	1373.023	1373.023	ng/kg		0.0003	0.412
HB-HB-18S	8/29/2003	0.5	1	39001-02-0	OCDF	Y	49.114	49.114	ng/kg		0.0003	0.015
											Sample Location TEQ =	**17.5**

TABLE 4a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-HB-20D	8/29/2003	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	40.629	40.629	ng/kg	J	0.01	0.406
HB-HB-20D	8/29/2003	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	5.857	5.857	ng/kg	J	0.01	0.059
HB-HB-20D	8/29/2003	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	0.717	0.717	ng/kg	J	0.01	0.007
HB-HB-20D	8/29/2003	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	UJ	0.1	0.125
HB-HB-20D	8/29/2003	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	1.939	1.939	ng/kg	J	0.1	0.194
HB-HB-20D	8/29/2003	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	1.904	1.904	ng/kg	J	0.1	0.190
HB-HB-20D	8/29/2003	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	0.648	0.648	ng/kg	J	0.1	0.065
HB-HB-20D	8/29/2003	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	1.276	1.276	ng/kg	J	0.1	0.128
HB-HB-20D	8/29/2003	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	UJ	0.1	0.125
HB-HB-20D	8/29/2003	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	UJ	1	1.250
HB-HB-20D	8/29/2003	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	1.077	1.077	ng/kg	J	0.03	0.032
HB-HB-20D	8/29/2003	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	UJ	1	0.500
HB-HB-20D	8/29/2003	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	2.641	2.641	ng/kg	J	0.1	0.264
HB-HB-20D	8/29/2003	0	0.5	3268-87-9	OCDD	Y	293.433	293.433	ng/kg	J	0.0003	0.088
HB-HB-20D	8/29/2003	0	0.5	39001-02-0	OCDF	Y	14.539	14.539	ng/kg	J	0.0003	0.004
											Sample Location TEQ =	**3.4**
HB-HB-20D	8/29/2003	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	282.196	282.196	ng/kg	J	0.01	2.822
HB-HB-20D	8/29/2003	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	35.287	35.287	ng/kg	J	0.01	0.353
HB-HB-20D	8/29/2003	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	4.493	4.493	ng/kg	EMPC	0.01	0.045
HB-HB-20D	8/29/2003	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	3.131	3.131	ng/kg	J	0.1	0.313
HB-HB-20D	8/29/2003	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	12.268	12.268	ng/kg	J	0.1	1.227
HB-HB-20D	8/29/2003	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	16.879	16.879	ng/kg	J	0.1	1.688
HB-HB-20D	8/29/2003	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	3.902	3.902	ng/kg	EMPC	0.1	0.390
HB-HB-20D	8/29/2003	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	15.445	15.445	ng/kg	J	0.1	1.545
HB-HB-20D	8/29/2003	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	UJ	0.1	0.125
HB-HB-20D	8/29/2003	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	5.975	5.975	ng/kg	J	1	5.975
HB-HB-20D	8/29/2003	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	8.695	8.695	ng/kg	J	0.03	0.261
HB-HB-20D	8/29/2003	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	1.54	1.54	ng/kg	EMPC	1	1.540
HB-HB-20D	8/29/2003	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	14.863	14.863	ng/kg	J	0.1	1.486
HB-HB-20D	8/29/2003	0.5	1	3268-87-9	OCDD	Y	1686.851	1686.851	ng/kg	J	0.0003	0.506
HB-HB-20D	8/29/2003	0.5	1	39001-02-0	OCDF	Y	84.01	84.01	ng/kg	J	0.0003	0.025
											Sample Location TEQ =	**18.3**

TABLE 4a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-RISB-02	12/13/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	18.458	18.458	ng/kg	J	0.01	0.185
HB-RISB-02	12/13/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	13.331	13.331	ng/kg	J	0.01	0.133
HB-RISB-02	12/13/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	2.801	2.801	ng/kg	J	0.01	0.028
HB-RISB-02	12/13/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	0.596	0.596	ng/kg	EMPC	0.1	0.060
HB-RISB-02	12/13/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	9.566	9.566	ng/kg	J	0.1	0.957
HB-RISB-02	12/13/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	1.966	1.966	ng/kg	J	0.1	0.197
HB-RISB-02	12/13/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	2.385	2.385	ng/kg	J	0.1	0.239
HB-RISB-02	12/13/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	0.875	0.875	ng/kg	EMPC	0.1	0.088
HB-RISB-02	12/13/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	1.958	1.958	ng/kg	EMPC	0.1	0.196
HB-RISB-02	12/13/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	0.68	0.68	ng/kg	J	1	0.680
HB-RISB-02	12/13/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	5.239	5.239	ng/kg	J	0.03	0.157
HB-RISB-02	12/13/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	UJ	1	0.500
HB-RISB-02	12/13/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	12.75	12.75	ng/kg	J	0.1	1.275
HB-RISB-02	12/13/2002	0	0.5	3268-87-9	OCDD	Y	96.811	96.811	ng/kg	J	0.0003	0.029
HB-RISB-02	12/13/2002	0	0.5	39001-02-0	OCDF	Y	46.831	46.831	ng/kg	J	0.0003	0.014
											Sample Location TEQ =	**4.7**
HB-RISB-02	12/13/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	9.541	9.541	ng/kg		0.01	0.095
HB-RISB-02	12/13/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	7.187	7.187	ng/kg		0.01	0.072
HB-RISB-02	12/13/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.445	1.445	ng/kg	J	0.01	0.014
HB-RISB-02	12/13/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-02	12/13/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	6.501	6.501	ng/kg		0.1	0.650
HB-RISB-02	12/13/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	0.852	0.852	ng/kg	J	0.1	0.085
HB-RISB-02	12/13/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	1.59	1.59	ng/kg	J	0.1	0.159
HB-RISB-02	12/13/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-02	12/13/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-02	12/13/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	U	1	1.250
HB-RISB-02	12/13/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	4.574	4.574	ng/kg		0.03	0.137
HB-RISB-02	12/13/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-RISB-02	12/13/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	12.846	12.846	ng/kg		0.1	1.285
HB-RISB-02	12/13/2002	0.5	1	3268-87-9	OCDD	Y	66.844	66.844	ng/kg	J	0.0003	0.020
HB-RISB-02	12/13/2002	0.5	1	39001-02-0	OCDF	Y	20.584	20.584	ng/kg	J	0.0003	0.006
											Sample Location TEQ =	**4.6**

TABLE 4a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-RISB-11	8/29/2003	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	34.672	34.672	ng/kg		0.01	0.347
HB-RISB-11	8/29/2003	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	16.787	16.787	ng/kg		0.01	0.168
HB-RISB-11	8/29/2003	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.618	1.618	ng/kg	J	0.01	0.016
HB-RISB-11	8/29/2003	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-11	8/29/2003	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	8.172	8.172	ng/kg		0.1	0.817
HB-RISB-11	8/29/2003	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	5.436	5.436	ng/kg		0.1	0.544
HB-RISB-11	8/29/2003	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	2.426	2.426	ng/kg	EMPC	0.1	0.243
HB-RISB-11	8/29/2003	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	3.426	3.426	ng/kg	EMPC	0.1	0.343
HB-RISB-11	8/29/2003	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	1.195	1.195	ng/kg	J	0.1	0.120
HB-RISB-11	8/29/2003	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	UJ	1	1.250
HB-RISB-11	8/29/2003	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	4.018	4.018	ng/kg	J	0.03	0.121
HB-RISB-11	8/29/2003	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-RISB-11	8/29/2003	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	12.767	12.767	ng/kg		0.1	1.277
HB-RISB-11	8/29/2003	0	0.5	3268-87-9	OCDD	Y	196.43	196.43	ng/kg	J	0.0003	0.059
HB-RISB-11	8/29/2003	0	0.5	39001-02-0	OCDF	Y	22.011	22.011	ng/kg		0.0003	0.007
											Sample Location TEQ =	**5.9**
HB-RISB-11	8/29/2003	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	24.416	24.416	ng/kg		0.01	0.244
HB-RISB-11	8/29/2003	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	11.65	11.65	ng/kg		0.01	0.117
HB-RISB-11	8/29/2003	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	1.033	1.033	ng/kg	EMPC	0.01	0.010
HB-RISB-11	8/29/2003	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	0.488	0.488	ng/kg	J	0.1	0.049
HB-RISB-11	8/29/2003	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	5.198	5.198	ng/kg		0.1	0.520
HB-RISB-11	8/29/2003	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	3.881	3.881	ng/kg		0.1	0.388
HB-RISB-11	8/29/2003	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	1.82	1.82	ng/kg	J	0.1	0.182
HB-RISB-11	8/29/2003	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	2.16	2.16	ng/kg	J	0.1	0.216
HB-RISB-11	8/29/2003	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-RISB-11	8/29/2003	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	0.927	0.927	ng/kg	J	1	0.927
HB-RISB-11	8/29/2003	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	2.402	2.402	ng/kg	J	0.03	0.072
HB-RISB-11	8/29/2003	0.5	1	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-RISB-11	8/29/2003	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	4.103	4.103	ng/kg		0.1	0.410
HB-RISB-11	8/29/2003	0.5	1	39001-02-0	OCDF	Y	14.329	14.329	ng/kg		0.0003	0.004
											Sample Location TEQ =	**3.8**
HB-SS-03	12/3/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	4.36	4.36	ng/kg		0.01	0.044
HB-SS-03	12/3/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	0.537	0.537	ng/kg	EMPC	0.01	0.005
HB-SS-03	12/3/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	N	2.5	1.25	ng/kg	U	0.01	0.013
HB-SS-03	12/3/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	U	1	1.250
HB-SS-03	12/3/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	N	2.5	1.25	ng/kg	U	0.03	0.038
HB-SS-03	12/3/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-SS-03	12/3/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	1	1	ng/kg		0.1	0.100
HB-SS-03	12/3/2002	0	0.5	3268-87-9	OCDD	Y	21.764	21.764	ng/kg	J	0.0003	0.007
HB-SS-03	12/3/2002	0	0.5	39001-02-0	OCDF	N	5	2.5	ng/kg	UJ	0.0003	0.001
											Sample Location TEQ =	**2.7**

TABLE 4a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-SS-03	12/3/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	2.613	2.613	ng/kg		0.01	0.026
HB-SS-03	12/3/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	0.543	0.543	ng/kg		0.01	0.005
HB-SS-03	12/3/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	N	2.5	1.25	ng/kg	U	0.01	0.013
HB-SS-03	12/3/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	0.465	0.465	ng/kg	J	0.1	0.047
HB-SS-03	12/3/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	0.42	0.42	ng/kg	EMPC	0.1	0.042
HB-SS-03	12/3/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.5	1.25	ng/kg	U	0.1	0.125
HB-SS-03	12/3/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	N	2.5	1.25	ng/kg	U	1	1.250
HB-SS-03	12/3/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	N	2.5	1.25	ng/kg	U	0.03	0.038
HB-SS-03	12/3/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	N	1	0.5	ng/kg	U	1	0.500
HB-SS-03	12/3/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	1	1	ng/kg		0.1	0.100
HB-SS-03	12/3/2002	0.5	1	3268-87-9	OCDD	Y	9.932	9.932	ng/kg	J	0.0003	0.003
HB-SS-03	12/3/2002	0.5	1	39001-02-0	OCDF	N	5	2.5	ng/kg	UJ	0.0003	0.001
											Sample Location TEQ =	**2.5**
HB-SS-04	12/3/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	1186.223	1186.223	ng/kg		0.01	11.862
HB-SS-04	12/3/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	274.059	274.059	ng/kg		0.01	2.741
HB-SS-04	12/3/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	64.442	64.442	ng/kg		0.01	0.644
HB-SS-04	12/3/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	210.432	210.432	ng/kg		0.1	21.043
HB-SS-04	12/3/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	437.121	437.121	ng/kg		0.1	43.712
HB-SS-04	12/3/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	446.742	446.742	ng/kg		0.1	44.674
HB-SS-04	12/3/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	125.718	125.718	ng/kg	J	0.1	12.572
HB-SS-04	12/3/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	282.125	282.125	ng/kg		0.1	28.213
HB-SS-04	12/3/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	69.159	69.159	ng/kg	J	0.1	6.916
HB-SS-04	12/3/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	275.231	275.231	ng/kg		1	275.231
HB-SS-04	12/3/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	352.347	352.347	ng/kg		0.03	10.570
HB-SS-04	12/3/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	31.176	31.176	ng/kg		1	31.176
HB-SS-04	12/3/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	855.5	855.5	ng/kg	J	0.1	85.550
HB-SS-04	12/3/2002	0	0.5	3268-87-9	OCDD	Y	1354.982	1354.982	ng/kg	J	0.0003	0.406
HB-SS-04	12/3/2002	0	0.5	39001-02-0	OCDF	Y	496.581	496.581	ng/kg	J	0.0003	0.149
											Sample Location TEQ =	**575.5**
HB-SS-04	12/3/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	1083.071	1083.071	ng/kg		0.01	10.831
HB-SS-04	12/3/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	331.513	331.513	ng/kg		0.01	3.315
HB-SS-04	12/3/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	81.67	81.67	ng/kg		0.01	0.817
HB-SS-04	12/3/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	167.275	167.275	ng/kg		0.1	16.728
HB-SS-04	12/3/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	598.716	598.716	ng/kg		0.1	59.872
HB-SS-04	12/3/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	390.763	390.763	ng/kg		0.1	39.076
HB-SS-04	12/3/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	153.225	153.225	ng/kg		0.1	15.323
HB-SS-04	12/3/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	269.866	269.866	ng/kg		0.1	26.987
HB-SS-04	12/3/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	Y	107.172	107.172	ng/kg		0.1	10.717
HB-SS-04	12/3/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	237.276	237.276	ng/kg		1	237.276
HB-SS-04	12/3/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	374.758	374.758	ng/kg		0.03	11.243
HB-SS-04	12/3/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	25.347	25.347	ng/kg		1	25.347
HB-SS-04	12/3/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	793	793	ng/kg	J	0.1	79.300
HB-SS-04	12/3/2002	0.5	1	3268-87-9	OCDD	Y	1447.067	1447.067	ng/kg	J	0.0003	0.434
HB-SS-04	12/3/2002	0.5	1	39001-02-0	OCDF	Y	485.628	485.628	ng/kg	J	0.0003	0.146
											Sample Location TEQ =	**537.4**

TABLE 4a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-SS-11	12/4/2002	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	528.876	528.876	ng/kg		0.01	5.289
HB-SS-11	12/4/2002	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	201.137	201.137	ng/kg		0.01	2.011
HB-SS-11	12/4/2002	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	57.162	57.162	ng/kg		0.01	0.572
HB-SS-11	12/4/2002	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	90.395	90.395	ng/kg		0.1	9.040
HB-SS-11	12/4/2002	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	348.307	348.307	ng/kg		0.1	34.831
HB-SS-11	12/4/2002	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	218.606	218.606	ng/kg		0.1	21.861
HB-SS-11	12/4/2002	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	99.834	99.834	ng/kg		0.1	9.983
HB-SS-11	12/4/2002	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	129.133	129.133	ng/kg		0.1	12.913
HB-SS-11	12/4/2002	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	65.808	65.808	ng/kg		0.1	6.581
HB-SS-11	12/4/2002	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	129.77	129.77	ng/kg		1	129.770
HB-SS-11	12/4/2002	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	214.534	214.534	ng/kg		0.03	6.436
HB-SS-11	12/4/2002	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	16.073	16.073	ng/kg		1	16.073
HB-SS-11	12/4/2002	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	299.1	299.1	ng/kg		0.1	29.910
HB-SS-11	12/4/2002	0	0.5	3268-87-9	OCDD	Y	647.321	647.321	ng/kg	J	0.0003	0.194
											Sample Location TEQ =	**285.5**
HB-SS-11	12/4/2002	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	62.134	62.134	ng/kg		0.01	0.621
HB-SS-11	12/4/2002	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	63.752	63.752	ng/kg		0.01	0.638
HB-SS-11	12/4/2002	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	16.645	16.645	ng/kg		0.01	0.166
HB-SS-11	12/4/2002	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.298	6.298	ng/kg	EMPC	0.1	0.630
HB-SS-11	12/4/2002	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	108.398	108.398	ng/kg		0.1	10.840
HB-SS-11	12/4/2002	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	19.388	19.388	ng/kg		0.1	1.939
HB-SS-11	12/4/2002	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	34.666	34.666	ng/kg		0.1	3.467
HB-SS-11	12/4/2002	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	11.339	11.339	ng/kg		0.1	1.134
HB-SS-11	12/4/2002	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	Y	17.594	17.594	ng/kg	EMPC	0.1	1.759
HB-SS-11	12/4/2002	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	12.855	12.855	ng/kg		1	12.855
HB-SS-11	12/4/2002	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	63.962	63.962	ng/kg		0.03	1.919
HB-SS-11	12/4/2002	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	1.975	1.975	ng/kg		1	1.975
HB-SS-11	12/4/2002	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	80.2	80.2	ng/kg		0.1	8.020
HB-SS-11	12/4/2002	0.5	1	3268-87-9	OCDD	Y	133.435	133.435	ng/kg	J	0.0003	0.040
HB-SS-11	12/4/2002	0.5	1	39001-02-0	OCDF	Y	75.28	75.28	ng/kg	J	0.0003	0.023
											Sample Location TEQ =	**46.0**

NOTES:
TCDD/F = Tetra Chlorinated Dibenzo-p-dioxins/Dibenzofurans
PeCDD/F = Penta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HxCDD/F = Hexa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HpCDD/F = Hepta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
OCDD/F = Octa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
N/A = not applicable
EMPC = Estimated Maximum Possible Concentration; J = Estimated Value; U = Value Below The Detection Limit
(1) Van den berg, Martin, et al. 2006. The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds. Toxicological Sciences 93(2), 223–241.

TABLE 4b
BASIS FOR SUM OF DETECTED AROCLORS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL (0-2 FT) - GEDDES, NY

Sample Location	Start Depth (ft)	End Depth (ft)	Sample Date	Sum of Location PCB Concentration	Units
HB-HB-01D	0	0.17	7/21/2000	5	mg/kg
HB-HB-01S	0	0.17	7/25/2000	0.7	mg/kg
HB-HB-06S	0	0.17	8/2/2000	0.5	mg/kg
HB-HB-18S	0	0.5	8/29/2003	0.74	mg/kg
HB-HB-18S	0.5	1	8/29/2003	3.9	mg/kg
HB-HB-19S	0	0.5	12/30/2002	0.24	mg/kg
HB-HB-19S	0.5	1	12/30/2002	1	mg/kg
HB-HB-20D	0	0.5	8/29/2003	1.7	mg/kg
HB-HB-20D	0.5	1	8/29/2003	2.6	mg/kg
HB-HBW-06	0	0.17	8/8/2000	0.08	mg/kg
HB-RISB-01	0	0.5	12/13/2002	0.2	mg/kg
HB-RISB-02	0	0.5	12/13/2002	0.15	mg/kg
HB-RISB-07	0	0.5	12/17/2002	4	mg/kg
HB-RISB-16	0	0.5	5/25/2004	0.49	mg/kg
HB-RISB-16	0.5	1	5/25/2004	0.39	mg/kg
HB-RISB-17	0	0.5	5/25/2004	0.44	mg/kg
HB-RISB-17	0.5	1	5/25/2004	0.75	mg/kg
HB-SS-04	0	0.5	12/3/2002	0.49	mg/kg
HB-SS-04	0.5	1	12/3/2002	0.43	mg/kg
HB-SS-11	0.5	1	12/4/2002	2.2	mg/kg
HB-STA-200	0	2	8/15/2008	0.043	mg/kg

TABLE 5
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)[2]	Background Value[3]	NYSDEC Benthic Aquatic Life, Chronic Toxicity Values (mg/kg)[4]	NYSDEC Wildlife Bioaccumulation Values (mg/kg)[4]	Potential ARAR/TBC Value	Selected Screening Value[5]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[6]
Wastebed B/Harbor Brook - Surface Sediment	DIOXIN/FURAN															
	1746-01-6	2,3,7,8-TCDD Equivalent[8]	24.6	914.0	ng/kg	S385	NA	-	9.14E-04		NV	NV		NV	Y	NTX
	METALS															
	7429-90-5	Aluminum	1280	6500	mg/kg	S386	26/26	-	6.50E+03		NV	NV		NV	Y	NTX
	7440-36-0	Antimony	0.43 J	5.5 J	mg/kg	S385	9/26	0.32-17.5	5.50E+00		2.00E+00	NV		2.00E+00	Y	ASL
	7440-38-2	Arsenic	2.7 J	18.8	mg/kg	S213	26/26	-	1.88E+01		6.00E+00	NV		6.00E+00	Y	ASL
	7440-39-3	Barium	74.7 J	655 J	mg/kg	S386	26/26	-	6.55E+02		NV	NV		NV	Y	NTX
	7440-41-7	Beryllium	0.1 J	1.9	mg/kg	HB-T-2-1	24/26	0.18-0.1818	1.90E+00		NV	NV		NV	Y	NTX
	7440-43-9	Cadmium	0.58 J	4.6	mg/kg	S383	22/37	0.91-2.5	4.60E+00		6.00E-01	NV		6.00E-01	Y	ASL
	7440-70-2	Calcium	125000	355000	mg/kg	S210	37/37	-	3.55E+05		NV	NV		NV	Y	KPS
	7440-47-3	Chromium	8.1	172	mg/kg	HB-T-2-3	37/37	-	1.72E+02		2.60E+01	NV		2.60E+01	Y	ASL
	7440-48-4	Cobalt	1.9	12.6 J	mg/kg	HB-T-2-3	26/26	-	1.26E+01		NV	NV		NV	Y	NTX
	7440-50-8	Copper	8.8	175	mg/kg	HB-T-2-3	37/37	-	1.75E+02		1.60E+01	NV		1.60E+01	Y	ASL
	57-12-5	Cyanide	0.56	7	mg/kg	S211	8/26	0.66-2.51	7.00E+00		NV	NV		NV	Y	NTX
	7439-89-6	Iron	2520	16400	mg/kg	HB-H5	26/26	-	1.64E+04		2.00E+04	NV		2.00E+04	N	BSL
	7439-92-1	Lead	15.2 J	376 J	mg/kg	S385	37/37	-	3.76E+02		3.10E+01	NV		3.10E+01	Y	ASL
	7439-95-4	Magnesium	3420	25400	mg/kg	S211	37/37	-	2.54E+04		NV	NV		NV	N	NUT
	7439-96-5	Manganese	140	348	mg/kg	HB-H3	26/26	-	3.48E+02		4.60E+02	NV		4.60E+02	N	BSL
	7439-97-6	Mercury	0.42	60.2	mg/kg	S385	37/37	-	6.02E+01		1.50E-01	NV		1.50E-01	Y	ASL
	7440-02-0	Nickel	4.6	44.7	mg/kg	S383	35/37	3.9-4.5	4.47E+01		1.60E+01	NV		1.60E+01	Y	ASL
	7440-09-7	Potassium	138	1010	mg/kg	S214	26/26	-	1.01E+03		NV	NV		NV	N	NUT
	7782-49-2	Selenium	0.8 J	2.8 J	mg/kg	HB-UEF2	19/26	0.4-1.2	2.80E+00		NV	NV		NV	Y	NTX
	7440-22-4	Silver	0.14 J	1.4	mg/kg	S385	14/26	0.099-2.7	1.40E+00		1.00E+00	NV		1.00E+00	Y	ASL
	7440-23-5	Sodium	781 J	8240	mg/kg	S214	33/37	782-1880	8.24E+03		NV	NV		NV	Y	KPS
	7440-28-0	Thallium	0.52 J	0.52 J	mg/kg	HB-T-1-3	1/26	0.33-3	5.20E-01		NV	NV		NV	Y	NTX
	7440-62-2	Vanadium	1.6	25 J	mg/kg	HB-UEF2	26/26	-	2.50E+01		NV	NV		NV	Y	NTX
	7440-66-6	Zinc	65.2	958	mg/kg	HB-H4	37/37	-	9.58E+02		1.20E+02	NV		1.20E+02	Y	ASL
	PCB															
	53469-21-9	Aroclor 1242	0.049 J	1.13 J	mg/kg	S385	8/35	0.031-1.3	1.13E+00		NV	NV		NV	Y	NTX
	12672-29-6	Aroclor 1248	0.039 J	0.13	mg/kg	S212	9/35	0.051-1.3	1.30E-01		NV	NV		NV	Y	NTX
	11097-69-1	Aroclor 1254	0.05 J	0.75	mg/kg	S383	8/35	0.031-1.2	7.50E-01		NV	NV		NV	Y	NTX
	11096-82-5	Aroclor 1260	0.035 J	3.7	mg/kg	HB-T-2-3	23/35	0.053-1.3	3.70E+00		NV	NV		NV	Y	NTX
	PEST															
	72-54-8	4,4'-DDD	0.028 J	0.059 J	mg/kg	HB-H7	4/25	0.00101-0.13	5.90E-02		NV	NV		NV	Y	NTX
	72-55-9	4,4'-DDE	0.00341 J	0.021 J	mg/kg	HB-UEF2, HB-H5	11/22	0.0074-0.041	2.10E-02		NV	NV		NV	Y	NTX
	50-29-3	4,4'-DDT	0.00351 J	0.075 J	mg/kg	HB-H6	10/23	0.0074-0.13	7.50E-02		NV	NV		NV	Y	NTX
	309-00-2	Aldrin	0.00335 J	0.0496 J	mg/kg	S385	8/25	0.00107-0.067	4.96E-02		NV	4.48E-02		4.48E-02	Y	ASL
	319-84-6	alpha-BHC	0.00235 J	0.00248 J	mg/kg	S384	2/22	0.00101-0.067	2.48E-03		NV	NV		NV	Y	NTX
	5103-71-9	alpha-Chlordane	0.00202 T	0.0184	mg/kg	S383	5/13	0.00101-0.0079	1.84E-02		NV	NV		NV	Y	NTX
	319-85-7	beta-BHC	0.00171 J	0.0107 J	mg/kg	S385	2/25	0.00105-0.067	1.07E-02		NV	NV		NV	Y	NTX
	57-74-9	Chlordane	0.048 J	0.048 J	mg/kg	HB-H5	1/12	0.026-0.067	4.80E-02		NV	NV		NV	Y	NTX
	319-86-8	Delta-BHC	0.00183	0.0104 J	mg/kg	S385	5/22	0.0038-0.067	1.04E-02		NV	NV		NV	Y	NTX
	60-57-1	Dieldrin	0.00204 J	0.069 J	mg/kg	HB-H5	13/25	0.0074-0.13	6.90E-02		NV	4.48E-02		4.48E-02	Y	ASL
	959-98-8	Endosulfan I	0.00785 J	0.0109 J	mg/kg	S384	2/25	0.00101-0.067	1.09E-02		NV	NV		NV	Y	NTX
	33213-65-9	Endosulfan II	0.0087 J	0.023 J	mg/kg	HB-H4	2/23	0.00101-0.13	2.30E-02		NV	NV		NV	Y	NTX
	72-20-8	Endrin	0.0133	0.027 J	mg/kg	HB-H5	2/24	0.00101-0.13	2.70E-02		2.33E-01	4.66E-02		4.66E-02	N	BSL
	7421-93-4	Endrin aldehyde	0.003 J	0.1 J	mg/kg	HB-H6	4/23	0.00101-0.13	1.00E-01		NV	NV		NV	Y	NTX
	53494-70-5	Endrin ketone	0.00588 J	0.092 J	mg/kg	HB-UEF2	6/25	0.00101-0.12	9.20E-02		NV	NV		NV	Y	NTX

TABLE 5
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)[2]	Background Value[3]	NYSDEC Benthic Aquatic Life, Chronic Toxicity Values (mg/kg)[4]	NYSDEC Wildlife Bioaccumulation Values (mg/kg)[4]	Potential ARAR/TBC Value	Selected Screening Value[5]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[6]
Wastebed B/Harbor Brook - Sediment	58-89-9	gamma-BHC	0.00128 J	0.0096 J	mg/kg	HB-H5	6/23	0.00105-0.067	9.60E-03		3.49E-03	8.73E-02		3.49E-03	Y	ASL
	5566-34-7	gamma Chlordane	0.00176 J	0.028 J	mg/kg	HB-H6	11/23	0.0038-0.067	2.80E-02		NV	NV		NV	Y	NTX
	76-44-8	Heptachlor	0.0013 J	0.015 J	mg/kg	HB-H7	3/25	0.00101-0.067	1.50E-02		5.82E-03	1.75E-03		1.75E-03	Y	ASL
	1024-57-3	Heptachlor Epoxide	0.00331	0.063 J	mg/kg	HB-UEF2	11/25	0.00108-0.041	6.30E-02		5.82E-03	1.75E-03		1.75E-03	Y	ASL
	72-43-5	Methoxychlor	0.0116 J	0.18 J	mg/kg	HB-UEF2	2/24	0.00105-0.62	1.80E-01		3.49E-02	NV		3.49E-02	Y	ASL
	SVOC															
	634-66-2	1,2,3,4-Tetrachlorobenzene	0.028 J	0.24 J	mg/kg	S214	10/10	-	2.40E-01		NV	NV		NV	Y	NTX
	95-94-3	1,2,4,5-Tetrachlorobenzene	0.009 J	0.15 J	mg/kg	S214	10/10	-	1.50E-01		NV	NV		NV	Y	NTX
	105-67-9	2,4-Dimethylphenol	5 J	5 J	mg/kg	HB-H5	1/25	0.11-15	5.00E+00		NV	NV		NV	Y	NTX
	90-12-0	1-Methylnaphthalene	0.007 J	4.6 J	mg/kg	S212	5/5	-	4.60E+00		NV	NV		NV	Y	NTX
	91-57-6	2-Methylnaphthalene	0.071 J	220	mg/kg	HB-H7	19/25	0.049-6.7	2.20E+02		1.98E+00	NV		1.98E+00	Y	ASL
	83-32-9	Acenaphthene	0.066 J	85	mg/kg	HB-H6	19/25	0.049-6.7	8.50E+01		8.15E+00	NV		8.15E+00	Y	ASL
	208-96-8	Acenaphthylene	0.061 J	22	mg/kg	HB-H6	20/25	0.11-6.7	2.20E+01		NV	NV		NV	Y	NTX
	120-12-7	Anthracene	0.12 J	37	mg/kg	HB-H6	20/25	0.11-0.84	3.70E+01		6.23E+00	NV		6.23E+00	Y	ASL
	56-55-3	Benzo[a]anthracene	0.063 J	28	mg/kg	HB-H6	25/25	-	2.80E+01		6.98E-01	NV		6.98E-01	Y	ASL
	50-32-8	Benzo[a]pyrene	0.074 J	23	mg/kg	HB-H6	25/25	-	2.30E+01		NV	NV		NV	Y	NTX
	205-99-2	Benzo[b]fluoranthene	0.1 J	37	mg/kg	HB-H6	25/25	-	3.70E+01		NV	NV		NV	Y	NTX
	191-24-2	Benzo[g,h,i]perylene	0.04 J	7.3 J	mg/kg	HB-H6	25/25	-	7.30E+00		NV	NV		NV	Y	NTX
	207-08-9	Benzo[k]fluoranthene	0.096 J	10	mg/kg	S384	25/25	-	1.00E+01		NV	NV		NV	Y	NTX
	117-81-7	bis(2-Ethylhexyl)phthalate	0.24	9.9 J	mg/kg	HB-UEF2	19/25	0.049-15	9.90E+00		1.16E+01	NV		1.16E+01	N	BSL
	86-74-8	Carbazole	0.054 J	18	mg/kg	HB-H6	18/25	0.049-6.7	1.80E+01		NV	NV		NV	Y	NTX
	218-01-9	Chrysene	0.1 J	39	mg/kg	HB-H6	25/25	-	3.90E+01		NV	NV		NV	Y	NTX
	53-70-3	Dibenz[a,h]anthracene	0.066 J	3.3	mg/kg	S385	16/25	0.11-18	3.30E+00		NV	NV		NV	Y	NTX
	132-64-9	Dibenzofuran	0.12 J	60	mg/kg	HB-H6	16/25	0.049-6.7	6.00E+01		NV	NV		NV	Y	NTX
	84-74-2	Di-n-butylphthalate	0.17 J	0.7	mg/kg	HB-T-1-2	2/25	0.049-18	7.00E-01		NV	NV		NV	Y	NTX
	117-84-0	Di-n-octylphthalate	0.031 J	1.2 J	mg/kg	HB-UEF2	3/25	0.049-18	1.20E+00		NV	NV		NV	Y	NTX
	206-44-0	Fluoranthene	0.14	48	mg/kg	HB-H6	25/25	-	4.80E+01		5.94E+01	NV		5.94E+01	N	BSL
	86-73-7	Fluorene	0.028 J	82	mg/kg	HB-H6	21/25	0.049-6.7	8.20E+01		4.66E-01	NV		4.66E-01	Y	ASL
	118-74-1	Hexachlorobenzene	0.037 J	1.8	mg/kg	S385	14/35	0.049-18	1.80E+00		3.24E+02	6.98E-01		6.98E-01	Y	ASL
	544-76-3	Hexadecane	0.52	0.83	mg/kg	S211	2/2	-	8.30E-01		NV	NV		NV	Y	NTX
	193-39-5	Indeno[1,2,3-cd]pyrene	0.041 J	9.4 J	mg/kg	HB-H6	25/25	-	9.40E+00		NV	NV		NV	Y	NTX
	91-20-3	Naphthalene	0.071 J	420	mg/kg	HB-H7	24/25	6.7-6.7	4.20E+02		1.75E+00	NV		1.75E+00	Y	ASL
	34METPH	m&p-Cresol	0.13	2 J	mg/kg	HB-H5	3/12	0.13-15	2.00E+00		NV	NV		NV	Y	NTX
	95-48-7	o-Cresol	2	2	mg/kg	HB-H5	1/25	0.049-15	2.00E+00		NV	NV		NV	Y	NTX
	106-44-5	p-Cresol	0.13	0.25	mg/kg	S214	3/13	0.049-0.83	2.50E-01		NV	NV		NV	Y	NTX
	608-93-5	Pentachlorobenzene	0.01 J	0.067 J	mg/kg	S212	10/10	-	6.70E-02		NV	NV		NV	Y	NTX
	85-01-8	Phenanthrene	0.07 J	110	mg/kg	HB-H6	25/25	-	1.10E+02		6.98E+00	NV		6.98E+00	Y	ASL
	108-95-2	Phenol	0.089 J	3.3	mg/kg	S214	10/25	0.11-18	3.30E+00		2.91E-02	NV		2.91E-02	Y	ASL
	129-00-0	Pyrene	0.17	58	mg/kg	HB-H6, HB-H7	24/25	0.42-0.42	5.80E+01		5.59E+01	NV		5.59E+01	Y	ASL
	VOCs															
	87-61-6	1,2,3-Trichlorobenzene	0.009 J	3.7 J	mg/kg	S214	6/10	0.009-0.023	3.70E+00		NV	NV		NV	Y	NTX
	120-82-1	1,2,4-Trichlorobenzene	0.071 J	18	mg/kg	S385	14/29	0.009-5.7	1.80E+01		NV	NV		NV	Y	NTX
	95-63-6	1,2,4-Trimethylbenzene	6.4 JN	6.4 JN	mg/kg	S214	1/1	-	6.40E+00		NV	NV		NV	Y	NTX
	95-50-1	1,2-Dichlorobenzene	0.018	120	mg/kg	S214	27/35	0.13-18	1.20E+02		NV	NV		NV	Y	NTX
	541-73-1	1,3-Dichlorobenzene	0.005 J	14	mg/kg	S214	17/35	0.012-18	1.40E+01		NV	NV		NV	Y	NTX
	108-70-3	1,3,5-Trichlorobenzene	0.005 J	15	mg/kg	S214	9/10	0.023-0.023	1.50E+01		NV	NV		NV	Y	NTX
	106-46-7	1,4-Dichlorobenzene	0.033	160	mg/kg	S214	29/35	0.13-18	1.60E+02		NV	NV		NV	Y	NTX
	620-14-4	1-Ethyl-3-methyl-benzene	0.4 JN	0.4 JN	mg/kg	S212	1/1	-	4.00E-01		NV	NV		NV	Y	NTX

TABLE 5
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)(2)	Background Value(3)	NYSDEC Benthic Aquatic Life, Chronic Toxicity Values (mg/kg)(4)	NYSDEC Wildlife Bioaccumulation Values (mg/kg)(4)	Potential ARAR/TBC Value	Selected Screening Value(5)	COPEC Flag (Y/N)	Rationale for Selection or Deletion(6)
Wastebed B/Harbor Brook - Sediment	2050-77-3	1-Iododecane	0.7 JN	0.7 JN	mg/kg	S210	1/1	-	7.00E-01		NV	NV		NV	Y	NTX
	78-93-3	2-Butanone	0.0042 J	0.051 J	mg/kg	S384	11/25	0.015-9.7	5.10E-02		NV	NV		NV	Y	NTX
	7225-64-1	9-Octylheptadecane	1.5 JN	1.5 JN	mg/kg	S211	1/1	-	1.50E+00		NV	NV		NV	Y	NTX
	67-64-1	Acetone	0.045 J	0.24 J	mg/kg	S384	7/25	0.02-19	2.40E-01		NV	NV		NV	Y	NTX
	61424-28-0	Benzenamine, 3-(2-phenylethenly)-	0.96 JN	1.2 JN	mg/kg	S210	2/2	-	1.20E+00		NV	NV		NV	Y	NTX
	71-43-2	Benzene	0.0039	6.5	mg/kg	HB-H6	24/35	0.0069-5.6	6.50E+00		1.63E+00	NV		1.63E+00	Y	ASL
	673-32-5	Benzene, 1-Propynyl-	2.9 JN	2.9 JN	mg/kg	S214	1/1	-	2.90E+00		NV	NV		NV	Y	NTX
	75-15-0	Carbon disulfide	0.002 J	0.0084 J	mg/kg	S384	7/25	0.014-9.7	8.40E-03		NV	NV		NV	Y	NTX
	108-90-7	Chlorobenzene	0.001 J	36	mg/kg	S214	31/34	1-2	3.60E+01		2.04E-01	NV		2.04E-01	Y	ASL
	156-59-2	cis-1,2-Dichloroethene	0.002 J	0.002 J	mg/kg	S384	1/20	0.0069-4.8	2.00E-03		NV	NV		NV	Y	NTX
	100-41-4	Ethylbenzene	0.004 J	26	mg/kg	HB-H6	23/35	0.0069-5.7	2.60E+01		1.40E+00	NV		1.40E+00	Y	ASL
	75-09-2	Methylene Chloride	0.005	0.017	mg/kg	HB-H4	3/25	0.0069-140	1.70E-02		NV	NV		NV	Y	NTX
	95-47-6	o-Xylene	0.026 J	0.06	mg/kg	HB-T-1-1	3/14	0.0069-4.8	6.00E-02		NV	NV		NV	Y	NTX
	135-98-8	sec-Butylbenzene	3.5 JN	3.5 JN	mg/kg	S214	1/1	-	3.50E+00		NV	NV		NV	Y	NTX
	100-42-5	Styrene	0.0028	0.011 J	mg/kg	HB-H7	3/25	0.0069-5.6	1.10E-02		NV	NV		NV	Y	NTX
	108-88-3	Toluene	0.003 J	33	mg/kg	HB-H6	21/35	0.0069-4.8	3.30E+01		2.85E+00	NV		2.85E+00	Y	ASL
	79-01-6	Trichloroethene	0.005 J	0.005 J	mg/kg	S213	1/25	0.0069-5.6	5.00E-03		NV	NV		NV	Y	NTX
	XYLENES1314	m,p-Xylenes(7)	0.029 J	0.3 J	mg/kg	HB-T-2-2	5/14	0.0069-4.8	3.00E-01		5.35E+00	NV		5.35E+00	N	BSL
	1330-20-7	Xylenes (Total)	0.006 J	81	mg/kg	HB-H6	18/21	0.012-0.036	8.10E+01		5.35E+00	NV		5.35E+00	Y	ASL

NOTES:
(1) J - estimated value; N - tentatively identified compound.
(2) Concentration used for screening is the maximum detected concentration.
(3) N/A - No background screening performed.
(4) Values are from NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments. Metals data are Lowest Effect Levels. Criteria for organic compounds presented in NYSDEC (1999) in units of mg/kg of organic carbon were converted to mg/kg of sediment using the Site average sediment Total Organic Carbon (TOC) content of 5.8%.
(5) The Screening Toxicity Value represents the minimum of the NYSDEC Values
(6) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information. Deletion Rationale: BSL - Below Screening Level; NUT - Compound is an essential nutrient
Compounds are selected as COPECs if the selected screening concentration is greater than the selected criteria or if there are no screening criteria available.
(7) Screening value is for total xylenes.
(8) Based on use of WHO toxicity equivalency factors for dioxins and dioxin-like compounds from Van den Berg et al. (2006); see Table 5a.
- = Compound detected in 100% of samples.
Rows highlighted yellow indicate constituents selected as COPECs based on the following selection rationale: ASL and KPS.
Rows highlighted orange indicate constituents selected as COPECs based on the following selection rationale: NTX.

Definitions:
ARAR: Applicable or Relevant and Appropriate Requirements
ASL = Above screening level
BSL = Below screening level
CAS: Chemical Abstact Service
COPEC: Compound of Potential Ecological Concern
KPS = Known physical stressor
NTX = No toxicity information
NUT: Compound is an essential nutrient and not screened in
NV: No Value
NYSDEC: New York State Department of Environmental Conservation
PCB: Polychlorinated Biphenyls
SVOC: Semi-Volatile Organic Compounds
TBC: To Be Considered
USEPA: United States Environmental Protection Agency
VOC: Volatile Organic Compounds

TABLE 5a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF [1]	Calculated Dioxin Equivalency (ng/kg)
HB-EF8	11/19/1997	0	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	N	100	50	ng/kg	U	0.01	0.500
HB-EF8	11/19/1997	0	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	1500	1500	ng/kg	J	0.01	15.000
HB-EF8	11/19/1997	0	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	N	80	40	ng/kg	U	0.01	0.400
HB-EF8	11/19/1997	0	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	2600	2600	ng/kg	J	0.1	260.000
HB-EF8	11/19/1997	0	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	110	110	ng/kg	J	0.1	11.000
HB-EF8	11/19/1997	0	1	57653-85-7	1,2,3,6,7,8-HxCDD	N	70	35	ng/kg	U	0.1	3.500
HB-EF8	11/19/1997	0	1	57117-44-9	1,2,3,6,7,8-HxCDF	N	40	20	ng/kg	U	0.1	2.000
HB-EF8	11/19/1997	0	1	19408-74-3	1,2,3,7,8,9-HxCDD	N	80	40	ng/kg	U	0.1	4.000
HB-EF8	11/19/1997	0	1	72918-21-9	1,2,3,7,8,9-HxCDF	N	60	30	ng/kg	U	0.1	3.000
HB-EF8	11/19/1997	0	1	40321-76-4	1,2,3,7,8-PeCDD	N	90	45	ng/kg	U	1	45.000
HB-EF8	11/19/1997	0	1	57117-41-6	1,2,3,7,8-PeCDF	Y	170	170	ng/kg	J	0.03	5.100
HB-EF8	11/19/1997	0	1	1746-01-6	2,3,7,8-TCDD	N	50	25	ng/kg	U	1	25.000
HB-EF8	11/19/1997	0	1	51207-31-9	2,3,7,8-TCDF	Y	840	840	ng/kg	J	0.1	84.000
HB-EF8	11/19/1997	0	1	3268-87-9	OCDD	N	100	50	ng/kg	U	0.0003	0.015
HB-EF8	11/19/1997	0	1	39001-02-0	OCDF	Y	180	180	ng/kg	J	0.0003	0.054
											Sample Location TEQ =	**458.6**
HB-LEF1	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	400	400	ng/kg	J	0.01	4.000
HB-LEF1	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	147	147	ng/kg	J	0.01	1.470
HB-LEF1	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	20.2	20.2	ng/kg	J	0.01	0.202
HB-LEF1	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	20.6	20.6	ng/kg	J	0.1	2.060
HB-LEF1	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	76	76	ng/kg	J	0.1	7.600
HB-LEF1	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	55.3	55.3	ng/kg	J	0.1	5.530
HB-LEF1	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	20	20	ng/kg	J	0.1	2.000
HB-LEF1	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	33.5	33.5	ng/kg	J	0.1	3.350
HB-LEF1	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	3.63	1.815	ng/kg	UJ	0.1	0.182
HB-LEF1	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	22.1	22.1	ng/kg	J	1	22.100
HB-LEF1	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	40.3	40.3	ng/kg	J	0.03	1.209
HB-LEF1	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	4.78	4.78	ng/kg	J	1	4.780
HB-LEF1	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	108	108	ng/kg	J	0.1	10.800
HB-LEF1	9/29/1998	0	0.5	3268-87-9	OCDD	Y	2570	2570	ng/kg	J	0.0003	0.771
HB-LEF1	9/29/1998	0	0.5	39001-02-0	OCDF	Y	382	382	ng/kg	J	0.0003	0.115
											Sample Location TEQ =	**66.2**

TABLE 5a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-LEF2	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	267	267	ng/kg	J	0.01	2.670
HB-LEF2	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	110	110	ng/kg	J	0.01	1.100
HB-LEF2	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	19.7	19.7	ng/kg	J	0.01	0.197
HB-LEF2	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	18.1	18.1	ng/kg	J	0.1	1.810
HB-LEF2	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	178	178	ng/kg	J	0.1	17.800
HB-LEF2	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	43.2	43.2	ng/kg	J	0.1	4.320
HB-LEF2	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	32.6	32.6	ng/kg	J	0.1	3.260
HB-LEF2	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	22.3	22.3	ng/kg	J	0.1	2.230
HB-LEF2	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	6.03	6.03	ng/kg	J	0.1	0.603
HB-LEF2	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	20.3	20.3	ng/kg	J	1	20.300
HB-LEF2	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	315	315	ng/kg	J	0.03	9.450
HB-LEF2	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	8.07	8.07	ng/kg	J	1	8.070
HB-LEF2	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	1580	1580	ng/kg	J	0.1	158.000
HB-LEF2	9/29/1998	0	0.5	3268-87-9	OCDD	Y	1800	1800	ng/kg	J	0.0003	0.540
HB-LEF2	9/29/1998	0	0.5	39001-02-0	OCDF	Y	302	302	ng/kg	J	0.0003	0.091
											Sample Location TEQ =	**230.4**
HB-LEF3	9/29/1998	0.5	1	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	416	416	ng/kg	J	0.01	4.160
HB-LEF3	9/29/1998	0.5	1	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	124	124	ng/kg	J	0.01	1.240
HB-LEF3	9/29/1998	0.5	1	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	45.7	45.7	ng/kg	J	0.01	0.457
HB-LEF3	9/29/1998	0.5	1	39227-28-6	1,2,3,4,7,8-HxCDD	Y	75.5	75.5	ng/kg	J	0.1	7.550
HB-LEF3	9/29/1998	0.5	1	70648-26-9	1,2,3,4,7,8-HxCDF	Y	267	267	ng/kg	J	0.1	26.700
HB-LEF3	9/29/1998	0.5	1	57653-85-7	1,2,3,6,7,8-HxCDD	Y	174	174	ng/kg	J	0.1	17.400
HB-LEF3	9/29/1998	0.5	1	57117-44-9	1,2,3,6,7,8-HxCDF	Y	52.3	52.3	ng/kg	J	0.1	5.230
HB-LEF3	9/29/1998	0.5	1	19408-74-3	1,2,3,7,8,9-HxCDD	Y	96	96	ng/kg	J	0.1	9.600
HB-LEF3	9/29/1998	0.5	1	72918-21-9	1,2,3,7,8,9-HxCDF	Y	11	11	ng/kg	J	0.1	1.100
HB-LEF3	9/29/1998	0.5	1	40321-76-4	1,2,3,7,8-PeCDD	Y	95.9	95.9	ng/kg	J	1	95.900
HB-LEF3	9/29/1998	0.5	1	57117-41-6	1,2,3,7,8-PeCDF	Y	159	159	ng/kg	J	0.03	4.770
HB-LEF3	9/29/1998	0.5	1	1746-01-6	2,3,7,8-TCDD	Y	4.38	4.38	ng/kg	J	1	4.380
HB-LEF3	9/29/1998	0.5	1	51207-31-9	2,3,7,8-TCDF	Y	449	449	ng/kg	J	0.1	44.900
HB-LEF3	9/29/1998	0.5	1	3268-87-9	OCDD	Y	888	888	ng/kg	J	0.0003	0.266
HB-LEF3	9/29/1998	0.5	1	39001-02-0	OCDF	Y	531	531	ng/kg	J	0.0003	0.159
											Sample Location TEQ =	**223.8**
HB-LEF4	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	171	171	ng/kg	J	0.01	1.710
HB-LEF4	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	33.7	33.7	ng/kg	J	0.01	0.337
HB-LEF4	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	6.39	6.39	ng/kg	J	0.01	0.064
HB-LEF4	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.55	6.55	ng/kg	J	0.1	0.655
HB-LEF4	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	61.5	61.5	ng/kg	J	0.1	6.150
HB-LEF4	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	25	25	ng/kg	J	0.1	2.500
HB-LEF4	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	10.7	10.7	ng/kg	J	0.1	1.070
HB-LEF4	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	12.9	12.9	ng/kg	J	0.1	1.290
HB-LEF4	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	2.86	1.43	ng/kg	UJ	0.1	0.143
HB-LEF4	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	9.55	9.55	ng/kg	J	1	9.550
HB-LEF4	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	17.1	17.1	ng/kg	J	0.03	0.513
HB-LEF4	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	8.76	8.76	ng/kg	J	1	8.760
HB-LEF4	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	49.9	49.9	ng/kg	J	0.1	4.990
HB-LEF4	9/29/1998	0	0.5	3268-87-9	OCDD	Y	1150	1150	ng/kg	J	0.0003	0.345
HB-LEF4	9/29/1998	0	0.5	39001-02-0	OCDF	Y	56.5	56.5	ng/kg	J	0.0003	0.017
											Sample Location TEQ =	**38.1**

TABLE 5a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-LEF5	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	123	123	ng/kg	J	0.01	1.230
HB-LEF5	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	42.6	42.6	ng/kg	J	0.01	0.426
HB-LEF5	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	4.97	4.97	ng/kg	J	0.01	0.050
HB-LEF5	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	5.69	5.69	ng/kg	J	0.1	0.569
HB-LEF5	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	28.3	28.3	ng/kg	J	0.1	2.830
HB-LEF5	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	18.4	18.4	ng/kg	J	0.1	1.840
HB-LEF5	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	8.74	8.74	ng/kg	J	0.1	0.874
HB-LEF5	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	9.92	9.92	ng/kg	J	0.1	0.992
HB-LEF5	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	1.01	1.01	ng/kg	J	0.1	0.101
HB-LEF5	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	9.03	9.03	ng/kg	J	1	9.030
HB-LEF5	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	15.3	15.3	ng/kg	J	0.03	0.459
HB-LEF5	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	2.2	2.2	ng/kg	J	1	2.200
HB-LEF5	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	37.4	37.4	ng/kg	J	0.1	3.740
HB-LEF5	9/29/1998	0	0.5	3268-87-9	OCDD	Y	896	896	ng/kg	J	0.0003	0.269
HB-LEF5	9/29/1998	0	0.5	39001-02-0	OCDF	Y	74.4	74.4	ng/kg	J	0.0003	0.022
											Sample Location TEQ =	**24.6**
HB-LEF5	9/29/1998	0.5	0.96	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	74	74	ng/kg	J	0.01	0.740
HB-LEF5	9/29/1998	0.5	0.96	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	41.3	41.3	ng/kg	J	0.01	0.413
HB-LEF5	9/29/1998	0.5	0.96	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	13.5	13.5	ng/kg	J	0.01	0.135
HB-LEF5	9/29/1998	0.5	0.96	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.82	6.82	ng/kg	J	0.1	0.682
HB-LEF5	9/29/1998	0.5	0.96	70648-26-9	1,2,3,4,7,8-HxCDF	Y	62.9	62.9	ng/kg	J	0.1	6.290
HB-LEF5	9/29/1998	0.5	0.96	57653-85-7	1,2,3,6,7,8-HxCDD	Y	20.9	20.9	ng/kg	J	0.1	2.090
HB-LEF5	9/29/1998	0.5	0.96	57117-44-9	1,2,3,6,7,8-HxCDF	Y	14.8	14.8	ng/kg	J	0.1	1.480
HB-LEF5	9/29/1998	0.5	0.96	19408-74-3	1,2,3,7,8,9-HxCDD	Y	9.68	9.68	ng/kg	J	0.1	0.968
HB-LEF5	9/29/1998	0.5	0.96	72918-21-9	1,2,3,7,8,9-HxCDF	N	1.61	0.805	ng/kg	UJ	0.1	0.081
HB-LEF5	9/29/1998	0.5	0.96	40321-76-4	1,2,3,7,8-PeCDD	Y	11	11	ng/kg	J	1	11.000
HB-LEF5	9/29/1998	0.5	0.96	57117-41-6	1,2,3,7,8-PeCDF	Y	29.3	29.3	ng/kg	J	0.03	0.879
HB-LEF5	9/29/1998	0.5	0.96	1746-01-6	2,3,7,8-TCDD	Y	2.77	2.77	ng/kg	J	1	2.770
HB-LEF5	9/29/1998	0.5	0.96	51207-31-9	2,3,7,8-TCDF	Y	64.9	64.9	ng/kg	J	0.1	6.490
HB-LEF5	9/29/1998	0.5	0.96	3268-87-9	OCDD	Y	357	357	ng/kg	J	0.0003	0.107
HB-LEF5	9/29/1998	0.5	0.96	39001-02-0	OCDF	Y	75.7	75.7	ng/kg	J	0.0003	0.023
											Sample Location TEQ =	**34.1**
HB-T-1-2	1/24/2001	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	128.558	128.558	ng/kg		0.01	1.286
HB-T-1-2	1/24/2001	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	84.417	84.417	ng/kg		0.01	0.844
HB-T-1-2	1/24/2001	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	27.021	27.021	ng/kg		0.01	0.270
HB-T-1-2	1/24/2001	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	4.534	4.534	ng/kg		0.1	0.453
HB-T-1-2	1/24/2001	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	90.244	90.244	ng/kg		0.1	9.024
HB-T-1-2	1/24/2001	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	17.131	17.131	ng/kg		0.1	1.713
HB-T-1-2	1/24/2001	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	29.579	29.579	ng/kg		0.1	2.958
HB-T-1-2	1/24/2001	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	7.816	7.816	ng/kg	J	0.1	0.782
HB-T-1-2	1/24/2001	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	20.203	20.203	ng/kg		0.1	2.020
HB-T-1-2	1/24/2001	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	6.414	6.414	ng/kg	M	1	6.414
HB-T-1-2	1/24/2001	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	54.334	54.334	ng/kg		0.03	1.630
HB-T-1-2	1/24/2001	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	1.314	1.314	ng/kg		1	1.314
HB-T-1-2	1/24/2001	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	63.5	63.5	ng/kg		0.1	6.350
HB-T-1-2	1/24/2001	0	0.5	3268-87-9	OCDD	Y	673.904	673.904	ng/kg		0.0003	0.202
HB-T-1-2	1/24/2001	0	0.5	39001-02-0	OCDF	Y	154.272	154.272	ng/kg		0.0003	0.046
											Sample Location TEQ =	**35.3**

TABLE 5a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
HB-T-2-3	1/25/2001	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	376.766	376.766	ng/kg	J	0.01	3.768
HB-T-2-3	1/25/2001	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	328.425	328.425	ng/kg	J	0.01	3.284
HB-T-2-3	1/25/2001	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	25.007	25.007	ng/kg	J	0.01	0.250
HB-T-2-3	1/25/2001	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	6.235	6.235	ng/kg	J	0.1	0.624
HB-T-2-3	1/25/2001	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	61.935	61.935	ng/kg	J	0.1	6.194
HB-T-2-3	1/25/2001	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	51.72	51.72	ng/kg	J	0.1	5.172
HB-T-2-3	1/25/2001	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	24.718	24.718	ng/kg	J	0.1	2.472
HB-T-2-3	1/25/2001	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	18.23	18.23	ng/kg	J	0.1	1.823
HB-T-2-3	1/25/2001	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	Y	15.997	15.997	ng/kg	J	0.1	1.600
HB-T-2-3	1/25/2001	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	9.719	9.719	ng/kg		1	9.719
HB-T-2-3	1/25/2001	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	28.773	28.773	ng/kg		0.03	0.863
HB-T-2-3	1/25/2001	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	2.583	2.583	ng/kg		1	2.583
HB-T-2-3	1/25/2001	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	54.69	54.69	ng/kg	J	0.1	5.469
HB-T-2-3	1/25/2001	0	0.5	3268-87-9	OCDD	Y	1477.489	1477.489	ng/kg	J	0.0003	0.443
HB-T-2-3	1/25/2001	0	0.5	39001-02-0	OCDF	Y	298.975	298.975	ng/kg	J	0.0003	0.090
											Sample Location TEQ =	**44.4**
HB-UEF2	9/29/1998	0	0.5	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	735	735	ng/kg		0.01	7.350
HB-UEF2	9/29/1998	0	0.5	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	244	244	ng/kg		0.01	2.440
HB-UEF2	9/29/1998	0	0.5	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	15	15	ng/kg		0.01	0.150
HB-UEF2	9/29/1998	0	0.5	39227-28-6	1,2,3,4,7,8-HxCDD	Y	12.6	12.6	ng/kg		0.1	1.260
HB-UEF2	9/29/1998	0	0.5	70648-26-9	1,2,3,4,7,8-HxCDF	Y	16.4	16.4	ng/kg		0.1	1.640
HB-UEF2	9/29/1998	0	0.5	57653-85-7	1,2,3,6,7,8-HxCDD	Y	32.3	32.3	ng/kg		0.1	3.230
HB-UEF2	9/29/1998	0	0.5	57117-44-9	1,2,3,6,7,8-HxCDF	Y	13.5	13.5	ng/kg		0.1	1.350
HB-UEF2	9/29/1998	0	0.5	19408-74-3	1,2,3,7,8,9-HxCDD	Y	29.4	29.4	ng/kg		0.1	2.940
HB-UEF2	9/29/1998	0	0.5	72918-21-9	1,2,3,7,8,9-HxCDF	N	0.92	0.46	ng/kg	U	0.1	0.046
HB-UEF2	9/29/1998	0	0.5	40321-76-4	1,2,3,7,8-PeCDD	Y	7.36	7.36	ng/kg		1	7.360
HB-UEF2	9/29/1998	0	0.5	57117-41-6	1,2,3,7,8-PeCDF	Y	6.24	6.24	ng/kg		0.03	0.187
HB-UEF2	9/29/1998	0	0.5	1746-01-6	2,3,7,8-TCDD	Y	2.85	2.85	ng/kg		1	2.850
HB-UEF2	9/29/1998	0	0.5	51207-31-9	2,3,7,8-TCDF	Y	26.5	26.5	ng/kg		0.1	2.650
HB-UEF2	9/29/1998	0	0.5	3268-87-9	OCDD	Y	7970	7970	ng/kg		0.0003	2.391
HB-UEF2	9/29/1998	0	0.5	39001-02-0	OCDF	Y	590	590	ng/kg		0.0003	0.177
											Sample Location TEQ =	**36.0**
S383	8/11/2000	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	408	408	ng/kg		0.01	4.080
S383	8/11/2000	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	151	151	ng/kg		0.01	1.510
S383	8/11/2000	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	43.6	43.6	ng/kg		0.01	0.436
S383	8/11/2000	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	40.9	40.9	ng/kg		0.1	4.090
S383	8/11/2000	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	214	214	ng/kg		0.1	21.400
S383	8/11/2000	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	110	110	ng/kg		0.1	11.000
S383	8/11/2000	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	67.4	67.4	ng/kg		0.1	6.740
S383	8/11/2000	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	57.4	57.4	ng/kg		0.1	5.740
S383	8/11/2000	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	6.13	6.13	ng/kg		0.1	0.613
S383	8/11/2000	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	55.8	55.8	ng/kg		1	55.800
S383	8/11/2000	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	138	138	ng/kg		0.03	4.140
S383	8/11/2000	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	9.5	9.5	ng/kg		1	9.500
S383	8/11/2000	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	281	281	ng/kg		0.1	28.100
S383	8/11/2000	0	0.49	3268-87-9	OCDD	Y	1470	1470	ng/kg		0.0003	0.441
S383	8/11/2000	0	0.49	39001-02-0	OCDF	Y	303	303	ng/kg		0.0003	0.091
											Sample Location TEQ =	**153.7**

TABLE 5a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
S383	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	664	664	ng/kg		0.01	6.640
S383	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	207	207	ng/kg		0.01	2.070
S383	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	54.5	54.5	ng/kg		0.01	0.545
S383	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	74.1	74.1	ng/kg		0.1	7.410
S383	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	347	347	ng/kg		0.1	34.700
S383	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	204	204	ng/kg		0.1	20.400
S383	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	94.1	94.1	ng/kg		0.1	9.410
S383	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	113	113	ng/kg		0.1	11.300
S383	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	7.18	7.18	ng/kg		0.1	0.718
S383	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	114	114	ng/kg		1	114.000
S383	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	206	206	ng/kg		0.03	6.180
S383	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	22.4	22.4	ng/kg		1	22.400
S383	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	446	446	ng/kg		0.1	44.600
S383	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	2190	2190	ng/kg		0.0003	0.657
S383	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	455	455	ng/kg		0.0003	0.137
											Sample Location TEQ =	**281.2**
S384	8/11/2000	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	561	561	ng/kg	W	0.01	5.610
S384	8/11/2000	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	216	216	ng/kg	W	0.01	2.160
S384	8/11/2000	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	63.7	63.7	ng/kg	W	0.01	0.637
S384	8/11/2000	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	70.5	70.5	ng/kg	W	0.1	7.050
S384	8/11/2000	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	332	332	ng/kg	W	0.1	33.200
S384	8/11/2000	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	177	177	ng/kg	W	0.1	17.700
S384	8/11/2000	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	98.6	98.6	ng/kg	W	0.1	9.860
S384	8/11/2000	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	95.9	95.9	ng/kg	W	0.1	9.590
S384	8/11/2000	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	9.08	9.08	ng/kg	W	0.1	0.908
S384	8/11/2000	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	102	102	ng/kg	W	1	102.000
S384	8/11/2000	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	224	224	ng/kg	W	0.03	6.720
S384	8/11/2000	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	16.8	16.8	ng/kg	W	1	16.800
S384	8/11/2000	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	442	442	ng/kg	W	0.1	44.200
S384	8/11/2000	0	0.49	3268-87-9	OCDD	Y	1720	1720	ng/kg	W	0.0003	0.516
S384	8/11/2000	0	0.49	39001-02-0	OCDF	Y	481	481	ng/kg	W	0.0003	0.144
											Sample Location TEQ =	**257.1**
S384	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	298	298	ng/kg		0.01	2.980
S384	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	329	329	ng/kg		0.01	3.290
S384	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	88.2	88.2	ng/kg		0.01	0.882
S384	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	26.1	26.1	ng/kg		0.1	2.610
S384	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	490	490	ng/kg		0.1	49.000
S384	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	76	76	ng/kg		0.1	7.600
S384	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	155	155	ng/kg		0.1	15.500
S384	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	41.6	41.6	ng/kg		0.1	4.160
S384	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	10.7	10.7	ng/kg		0.1	1.070
S384	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	37.3	37.3	ng/kg		1	37.300
S384	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	265	265	ng/kg		0.03	7.950
S384	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	8.29	8.29	ng/kg		1	8.290
S384	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	476	476	ng/kg		0.1	47.600
S384	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	1100	1100	ng/kg		0.0003	0.330
S384	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	502	502	ng/kg		0.0003	0.151
											Sample Location TEQ =	**188.7**

TABLE 5a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
S385	8/11/2008	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	2070	2070	ng/kg		0.01	20.700
S385	8/11/2008	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	391	391	ng/kg		0.01	3.910
S385	8/11/2008	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	83.9	83.9	ng/kg		0.01	0.839
S385	8/11/2008	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	401	401	ng/kg		0.1	40.100
S385	8/11/2008	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	506	506	ng/kg		0.1	50.600
S385	8/11/2008	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	860	860	ng/kg		0.1	86.000
S385	8/11/2008	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	147	147	ng/kg		0.1	14.700
S385	8/11/2008	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	446	446	ng/kg		0.1	44.600
S385	8/11/2008	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	12.8	12.8	ng/kg		0.1	1.280
S385	8/11/2008	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	455	455	ng/kg		1	455.000
S385	8/11/2008	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	553	553	ng/kg		0.03	16.590
S385	8/11/2008	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	71.6	71.6	ng/kg		1	71.600
S385	8/11/2008	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	1070	1070	ng/kg		0.1	107.000
S385	8/11/2008	0	0.49	3268-87-9	OCDD	Y	2700	2700	ng/kg		0.0003	0.810
S385	8/11/2008	0	0.49	39001-02-0	OCDF	Y	774	774	ng/kg		0.0003	0.232
											Sample Location TEQ =	**914.0**
S385	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	374	374	ng/kg		0.01	3.740
S385	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	721	721	ng/kg		0.01	7.210
S385	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	240	240	ng/kg		0.01	2.400
S385	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	47.6	47.6	ng/kg		0.1	4.760
S385	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	1180	1180	ng/kg		0.1	118.000
S385	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	115	115	ng/kg		0.1	11.500
S385	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	350	350	ng/kg		0.1	35.000
S385	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	64.9	64.9	ng/kg		0.1	6.490
S385	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	23.6	23.6	ng/kg		0.1	2.360
S385	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	57.6	57.6	ng/kg		1	57.600
S385	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	637	637	ng/kg		0.03	19.110
S385	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	14.2	14.2	ng/kg		1	14.200
S385	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	605	605	ng/kg		0.1	60.500
S385	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	688	688	ng/kg		0.0003	0.206
S385	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	716	716	ng/kg		0.0003	0.215
											Sample Location TEQ =	**343.3**
S386	8/11/2000	0	0.49	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	71.3	71.3	ng/kg		0.01	0.713
S386	8/11/2000	0	0.49	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	53	53	ng/kg		0.01	0.530
S386	8/11/2000	0	0.49	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	24.1	24.1	ng/kg		0.01	0.241
S386	8/11/2000	0	0.49	39227-28-6	1,2,3,4,7,8-HxCDD	Y	7.96	7.96	ng/kg		0.1	0.796
S386	8/11/2000	0	0.49	70648-26-9	1,2,3,4,7,8-HxCDF	Y	72.1	72.1	ng/kg		0.1	7.210
S386	8/11/2000	0	0.49	57653-85-7	1,2,3,6,7,8-HxCDD	Y	21	21	ng/kg		0.1	2.100
S386	8/11/2000	0	0.49	57117-44-9	1,2,3,6,7,8-HxCDF	Y	16.3	16.3	ng/kg		0.1	1.630
S386	8/11/2000	0	0.49	19408-74-3	1,2,3,7,8,9-HxCDD	Y	14.8	14.8	ng/kg		0.1	1.480
S386	8/11/2000	0	0.49	72918-21-9	1,2,3,7,8,9-HxCDF	Y	2.51	2.51	ng/kg		0.1	0.251
S386	8/11/2000	0	0.49	40321-76-4	1,2,3,7,8-PeCDD	Y	11.4	11.4	ng/kg		1	11.400
S386	8/11/2000	0	0.49	57117-41-6	1,2,3,7,8-PeCDF	Y	51.6	51.6	ng/kg		0.03	1.548
S386	8/11/2000	0	0.49	1746-01-6	2,3,7,8-TCDD	Y	2.61	2.61	ng/kg		1	2.610
S386	8/11/2000	0	0.49	51207-31-9	2,3,7,8-TCDF	Y	137	137	ng/kg		0.1	13.700
S386	8/11/2000	0	0.49	3268-87-9	OCDD	Y	250	250	ng/kg		0.0003	0.075
S386	8/11/2000	0	0.49	39001-02-0	OCDF	Y	207	207	ng/kg		0.0003	0.062
											Sample Location TEQ =	**44.3**

TABLE 5a
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL, WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT (0-1 FT) - GEDDES, NY

Sample Location	Sample Date	Start Depth (ft)	End Depth (ft)	CAS Number	Chemical	Detect (Y/N)	Reported Value	Concentration for TEF Derivation	Units	Data Qualifier	Dioxin TEF (1)	Calculated Dioxin Equivalency (ng/kg)
S386	8/11/2000	0.49	0.98	35822-46-9	1,2,3,4,6,7,8-HpCDD	Y	96.1	96.1	ng/kg		0.01	0.961
S386	8/11/2000	0.49	0.98	67562-39-4	1,2,3,4,6,7,8-HpCDF	Y	47.6	47.6	ng/kg		0.01	0.476
S386	8/11/2000	0.49	0.98	55673-89-7	1,2,3,4,7,8,9-HpCDF	Y	16.8	16.8	ng/kg		0.01	0.168
S386	8/11/2000	0.49	0.98	39227-28-6	1,2,3,4,7,8-HxCDD	Y	13.9	13.9	ng/kg		0.1	1.390
S386	8/11/2000	0.49	0.98	70648-26-9	1,2,3,4,7,8-HxCDF	Y	64.1	64.1	ng/kg		0.1	6.410
S386	8/11/2000	0.49	0.98	57653-85-7	1,2,3,6,7,8-HxCDD	Y	42.7	42.7	ng/kg		0.1	4.270
S386	8/11/2000	0.49	0.98	57117-44-9	1,2,3,6,7,8-HxCDF	Y	16.8	16.8	ng/kg		0.1	1.680
S386	8/11/2000	0.49	0.98	19408-74-3	1,2,3,7,8,9-HxCDD	Y	23.4	23.4	ng/kg		0.1	2.340
S386	8/11/2000	0.49	0.98	72918-21-9	1,2,3,7,8,9-HxCDF	Y	2.72	2.72	ng/kg		0.1	0.272
S386	8/11/2000	0.49	0.98	40321-76-4	1,2,3,7,8-PeCDD	Y	22.7	22.7	ng/kg		1	22.700
S386	8/11/2000	0.49	0.98	57117-41-6	1,2,3,7,8-PeCDF	Y	55.6	55.6	ng/kg		0.03	1.668
S386	8/11/2000	0.49	0.98	1746-01-6	2,3,7,8-TCDD	Y	4.17	4.17	ng/kg		1	4.170
S386	8/11/2000	0.49	0.98	51207-31-9	2,3,7,8-TCDF	Y	146	146	ng/kg		0.1	14.600
S386	8/11/2000	0.49	0.98	3268-87-9	OCDD	Y	109	109	ng/kg		0.0003	0.033
S386	8/11/2000	0.49	0.98	39001-02-0	OCDF	Y	154	154	ng/kg		0.0003	0.046
											Sample Location TEQ =	**61.2**

NOTES:
TCDD/F = Tetra Chlorinated Dibenzo-p-dioxins/Dibenzofurans
PeCDD/F = Penta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HxCDD/F = Hexa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HpCDD/F = Hepta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
OCDD/F = Octa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
N/A = not applicable
EMPC, M = Estimated Maximum Possible Concentration; J, W = Estimated Value; U = Value Below The Detection Limit
(1) Van den berg, Martin, et al. 2006. The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds. Toxicological Sciences 93(2), 223–241.

Table 6
Wastebed B/Harbor Brook IRM
Lower Harbor Brook EE/CA (Outboard Area)
Onondaga Lake and Wastebed B/Harbor Brook COC/COPC Comparison

	Onondaga Lake COCs		Wastebed B/Harbor Brook EE/CA COCs				
			Human Health - COPCs			Ecological - COPECs	
Chemical	**BERA**	**HHRA**	**Surface Soil**	**Subsurface Soil**	**Sediment**	**Surface Soil**	**Sediment**
Metals							
Aluminum	N	Y	Y	Y	N	Y	NTX
Antimony	Y	Y	N	N	Y	Y	Y
Arsenic	Y	Y	Y	Y	Y	Y	Y
Barium	Y	Y	N	Y	N	Y	NTX
Cadmium	Y	Y	Y	N	N	Y	Y
Chromium	Y	Y	Y	Y	Y	Y	Y
Copper	Y	Y	N	N	N	Y	Y
Iron	Y	Y	Y	Y	Y	Y	N
Lead	Y	Y	Y	N	N	Y	Y
Manganese	Y	Y	Y	Y	Y	Y	N
Mercury	Y	Y	Y	Y	Y	Y	Y
Methylmercury	Y	Y	N	NA	NA	NTX	NA
Nickel	Y	Y	N	N	N	Y	Y
Selenium	Y	Y	N	N	N	Y	NTX
Silver	Y	N	N	N	N	Y	Y
Thallium	Y	Y	Y	Y	Y	Y	NTX
Vanadium	Y	Y	N	N	N	Y	NTX
Zinc	Y	Y	N	N	N	Y	Y
Cyanide	Y	Y	N	N	N	NTX	NTX
Volatile Organic Compounds							
Benzene	Y	Y	Y	Y	Y	N	Y
Bromodichloromethane	N	Y	NA	NA	NA	NA	NA
Chlorobenzene	Y	Y	N	Y	Y	N	Y
Chloroform	N	Y	NA	NA	NA	NA	NA
Dichlorobenzenes	Y	Y	Y	Y	Y	Y	NTX
Ethylbenzene	Y	N	N	Y	Y	NTX	Y
Methylene chloride	N	Y	N	N	N	N	NTX
Toluene	Y	Y	N	N	N	N	Y
Trichlorobenzenes	Y	Y	Y	Y	Y	Y	NTX
Xylene isomers	Y	Y	N	Y	N	Y	Y
Semivolatile Organic Compunds							
Bis(2-ethylhexyl)phthalate	Y	Y	N	N	N	NTX	N
Dibenzofuran	Y	Y	NTX	NTX	NTX	NTX	NTX
Hexachlorobenzene	Y	Y	Y	Y	Y	N	Y
Phenol	Y	N	N	N	N	N	Y
Polyaromatic Hydrocarbon (total)	Y	Y	Y	Y	Y	Y	Y
Pesticides/Polychlorinated Biphenyls							
Aldrin	Y	Y	NA	Y	Y	NA	Y
Chlordane Isomers	Y	Y	N	N	N	N	NTX
DDT and metabolites	Y	Y	N	N	N	Y	NTX
Dieldrin	Y	Y	Y	N	Y	Y	Y
Endrin	Y	N	N	NA	N	NTX	Y
Hexachlorocyclohexanes	Y	Y	NA	NTX	N/NTX	NA	Y/NTX
Heptachlor and heptachlor epoxide	Y	Y	N	NA	Y	NTX	Y
Polychlorinated biphenyls (total)	Y	Y	Y	Y	Y	Y	NTX
Dioxins/Furans							
Total dioxins/furans	Y	Y	Y	NA	Y	NTX	NTX

Y - Site COC, Exceeds criteria
N - Not a Site COC, No criteria exceedance
NTX - No toxicity screening information available
NA - No analytic data available

Appendix C

Response Action 3 Cross Sections

REMEDIATION AREA D ADDENDUM CAP AREA

REMEDIATION AREA D (SMU-1)

REMEDIATION AREA D (SMU-2)

REMEDIATION AREA D (SMU-1)

MATCHLINE TO SHEET D-5

MATCHLINE TO SHEET D-8

MATCHLINE TO SHEET D-7

MATCHLINE TO SHEET D-6

HOT SPOT A

HOT SPOT B

HOT SPOT C

HOT SPOT D

HOT SPOT E

BARRIER WALL

HARBOR BROOK OUTBOARD AREA

TO BE DECOMISSIONED

▲ BASELINE COORDINATES		
POINT #	NORTHING	EASTING
57	1118244.53	922652.79
58	1118059.21	922844.66
59	1117950.41	922942.52
60	1117767.00	923186.16
61	1117687.29	923604.10
62	1117565.62	924111.49
63	1117500.71	924643.80
64	1117151.06	924952.28

0 100 200

SCALE IN FEET

NOTE:
SEE SHEET D-IDX FOR GENERAL NOTES AND LEGEND.

LEGEND:

- LIMITS OF DREDGING AND CAPPING
- LIMITS OF REMOVAL AND CAPPING IN ADJACENT AREAS INCLUDED IN THE DESIGN
- LIMITS OF CAP ONLY
- PROJECT BASELINE
- EXISTING CONTOUR
- 360 PROPOSED DREDGING CONTOUR
- SHORELINE (ELEV. 362.5)
- REMEDIATION AREA BOUNDARY
- SMU BOUNDARY
- 17 D-18 CROSS SECTION LOCATION AND DESIGNATION

DRAFT DOCUMENT
SUBJECT TO CHANGE IN WHOLE OR IN PART.
PRELIMINARY DRAFT – NOT FOR CONSTRUCTION

ANCHOR QEA
290 Elwood Davis Road, Suite 290 | Liverpool, NY 13088 | (315) 453-9009

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: K. POWELL / W. DINICOLA
DRAWN BY: G. HOWELL
CHECKED BY: R. MOHAN
APPROVED BY: J. VERDUIN
SCALE: AS NOTED
DATE: JANUARY 24, 2011

ONONDAGA LAKE DRAFT CAPPING, DREDGING AND HABITAT INTERMEDIATE DESIGN

REMEDIATION AREA D DREDGING PLAN

D-6

SHEET NO. 8 OF 29

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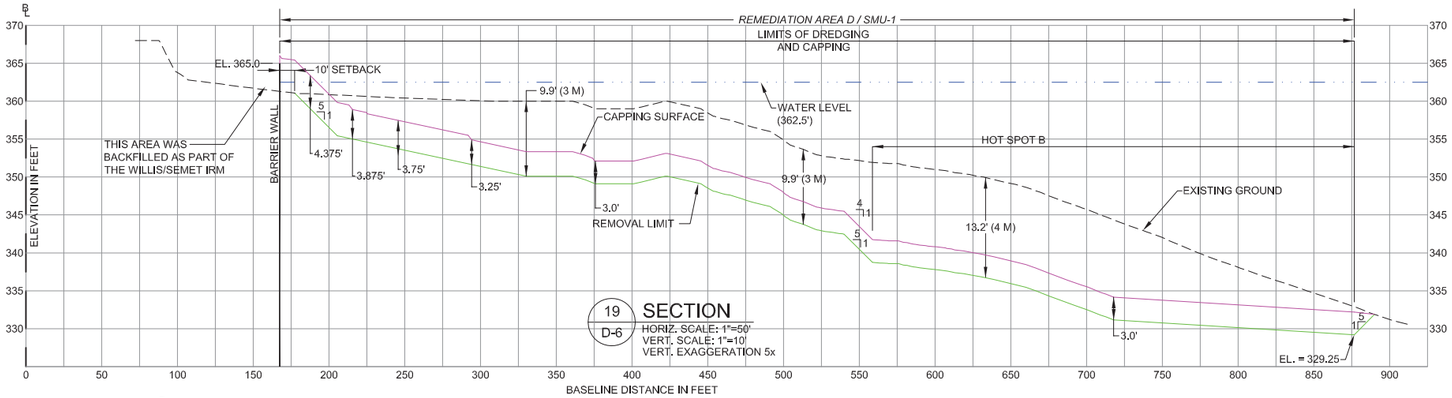
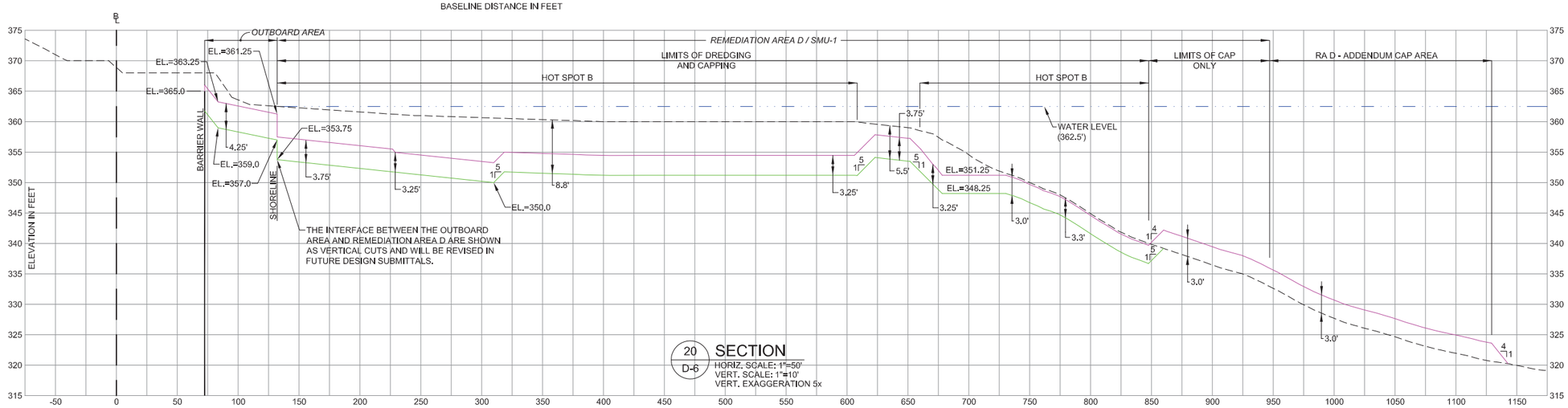
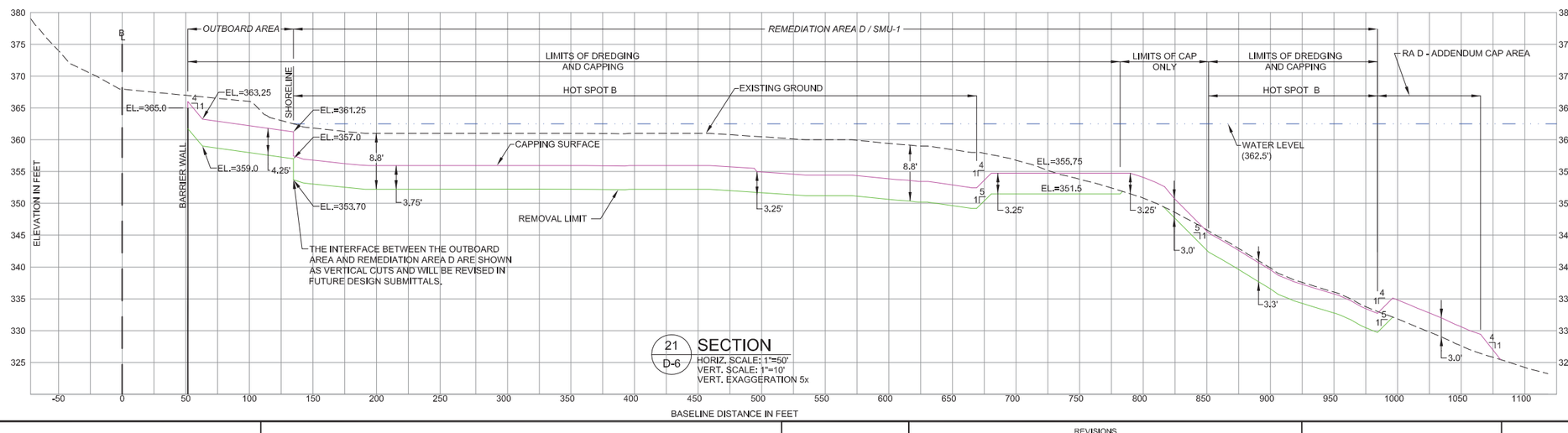
Jan 13, 2011 1:30pm lanlas



19 / D-6 SECTION
HORIZ. SCALE: 1"=50'
VERT. SCALE: 1"=10'
VERT. EXAGGERATION 5x



20 / D-6 SECTION
HORIZ. SCALE: 1"=50'
VERT. SCALE: 1"=10'
VERT. EXAGGERATION 5x



21 / D-6 SECTION
HORIZ. SCALE: 1"=50'
VERT. SCALE: 1"=10'
VERT. EXAGGERATION 5x

NOTES:
1. SEE SHEET D-IDX FOR GENERAL NOTES AND LEGEND.
2. WATER LEVEL 362.5 FT NAVD 88 IS THE AVERAGE LAKE LEVEL DURING AQUATIC PLANT GROWING SEASON.
3. THE TYPICAL DREDGING SLOPE FOR EDGES AND TRANSITIONS IS 5:1 AND THE TYPICAL CAPPING SLOPE FOR EDGES AND TRANSITIONS IS 4:1.
4. CAP THICKNESS AND ELEVATION ARE BASED ON MEAN OVER-PLACEMENT WITHOUT SETTLEMENT CONSIDERATIONS.

DRAFT DOCUMENT
SUBJECT TO CHANGE IN WHOLE OR IN PART.
PRELIMINARY DRAFT – NOT FOR CONSTRUCTION

K:\Jobs\010139-ONONDAGA_LAKE\01013902\01013902-RP-07-D02.dwg D-18

Jan 12, 2011 3:39pm torkia

ANCHOR QEA
290 Elwood Davis Road, Suite 230 | Liverpool, NY 13088 | (315) 453-9009

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REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

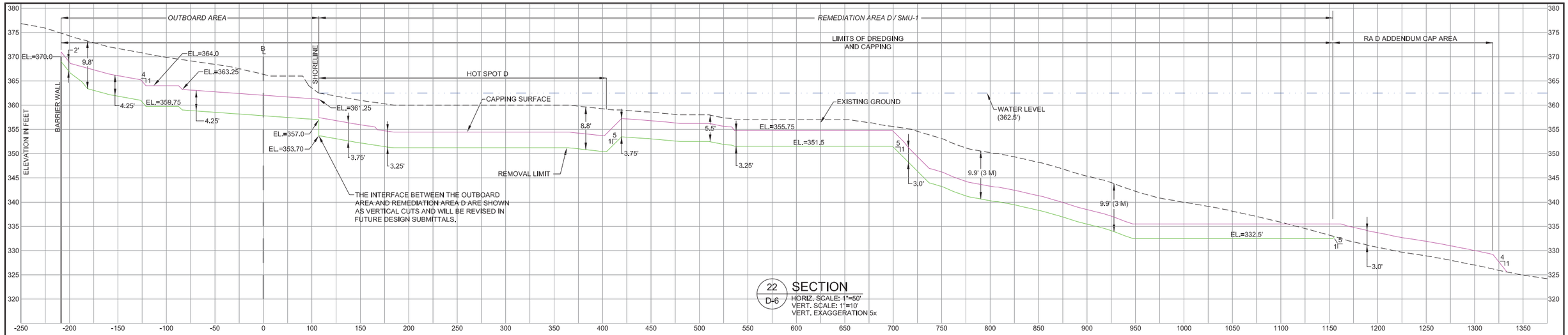
DESIGNED BY: K. POWELL / W. DINICOLA
DRAWN BY: G. HOWELL
CHECKED BY: R. MOHAN
APPROVED BY: J. VERDUIN
SCALE: AS NOTED
DATE: JANUARY 24, 2011

ONONDAGA LAKE DRAFT CAPPING, DREDGING AND HABITAT INTERMEDIATE DESIGN

REMEDIATION AREA D
DREDGING CROSS SECTIONS 19, 20, & 21

D-18

SHEET NO. 20 OF 29



22 / D-6 SECTION
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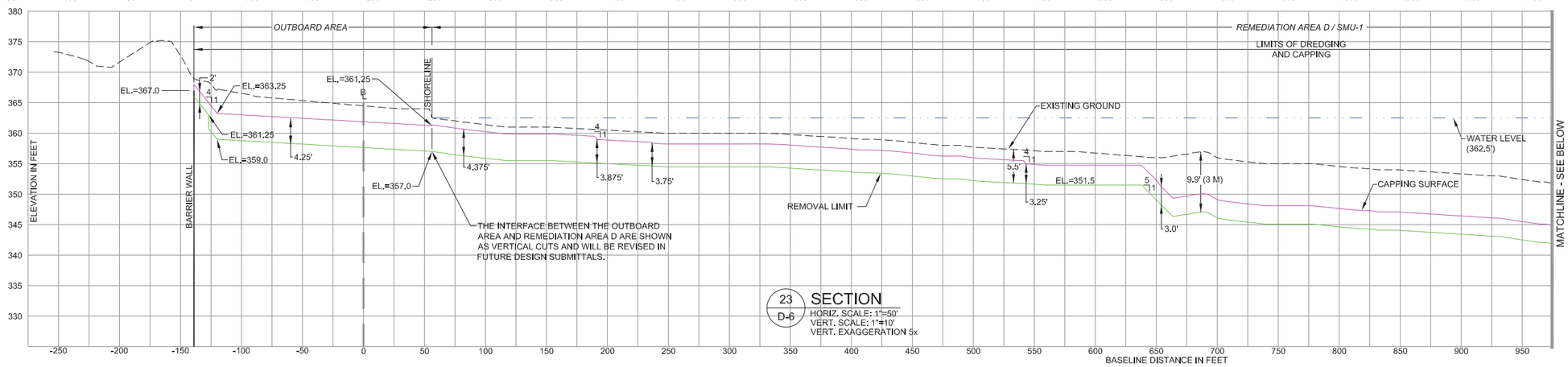
VERT. SCALE: 1"=10'
VERT. EXAGGERATION 5x



23 / D-6 SECTION
HORIZ. SCALE: 1"=50'
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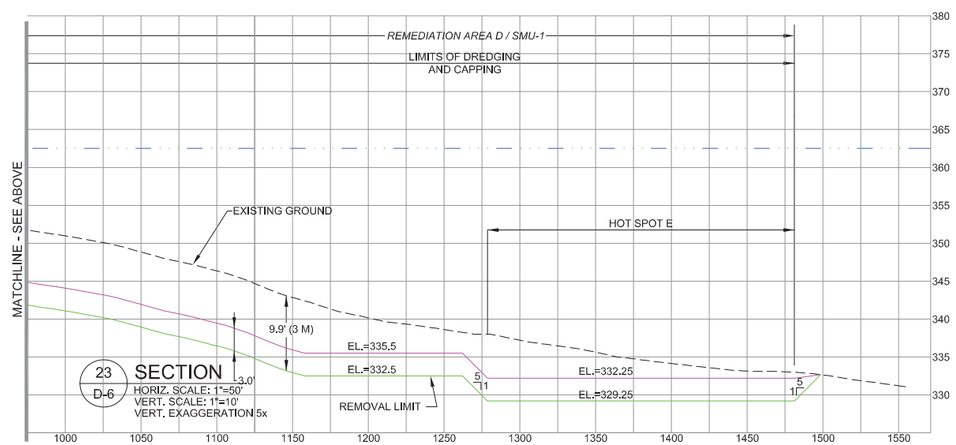

23 / D-6 SECTION
HORIZ. SCALE: 1"=50'
VERT. SCALE: 1"=10'
VERT. EXAGGERATION 5x

NOTES:
1. SEE SHEET D-IDX FOR GENERAL NOTES AND LEGEND.
2. WATER LEVEL 362.5 FT NAVD 88 IS THE AVERAGE LAKE LEVEL DURING AQUATIC PLANT GROWING SEASON.
3. THE TYPICAL DREDGING SLOPE FOR EDGES AND TRANSITIONS IS 5:1 AND THE TYPICAL CAPPING SLOPE FOR EDGES AND TRANSITIONS IS 4:1.
4. CAP THICKNESS AND ELEVATION ARE BASED ON MEAN OVER-PLACEMENT WITHOUT SETTLEMENT CONSIDERATIONS.

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REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: K. POWELL / W. DINICOLA
DRAWN BY: G. HOWELL
CHECKED BY: R. MOHAN
APPROVED BY: J. VERDUIN
SCALE: AS NOTED
DATE: JANUARY 24, 2011

ONONDAGA LAKE DRAFT CAPPING, DREDGING AND HABITAT INTERMEDIATE DESIGN

REMEDIATION AREA D
DREDGING CROSS SECTIONS 22 & 23

D-19

SHEET NO. 21 OF 29

K:\Jobs\010139-ONONDAGA_LAKE\010139020\01013902-RP-07-D02.dwg D-19
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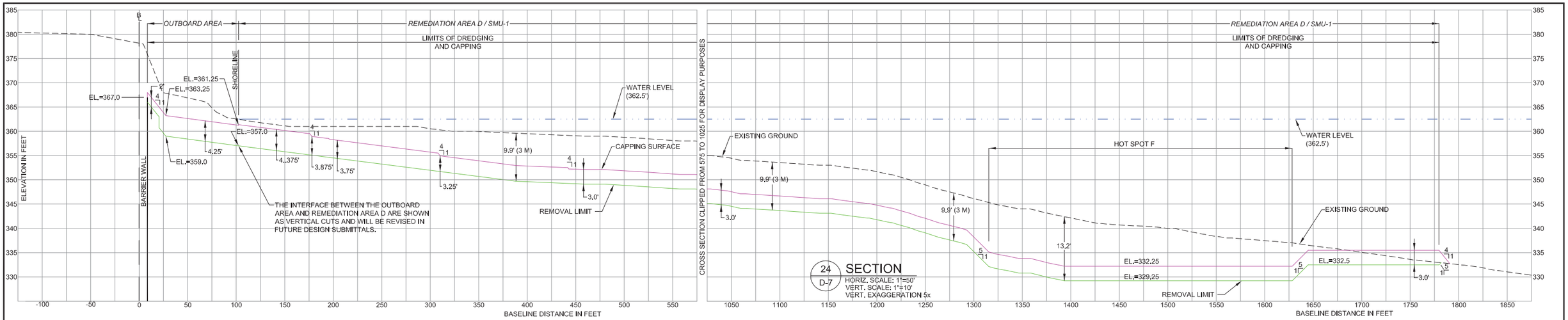

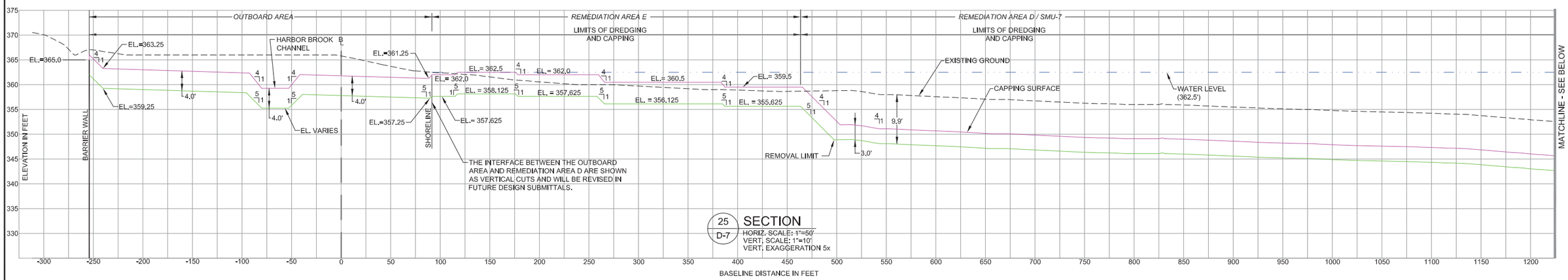

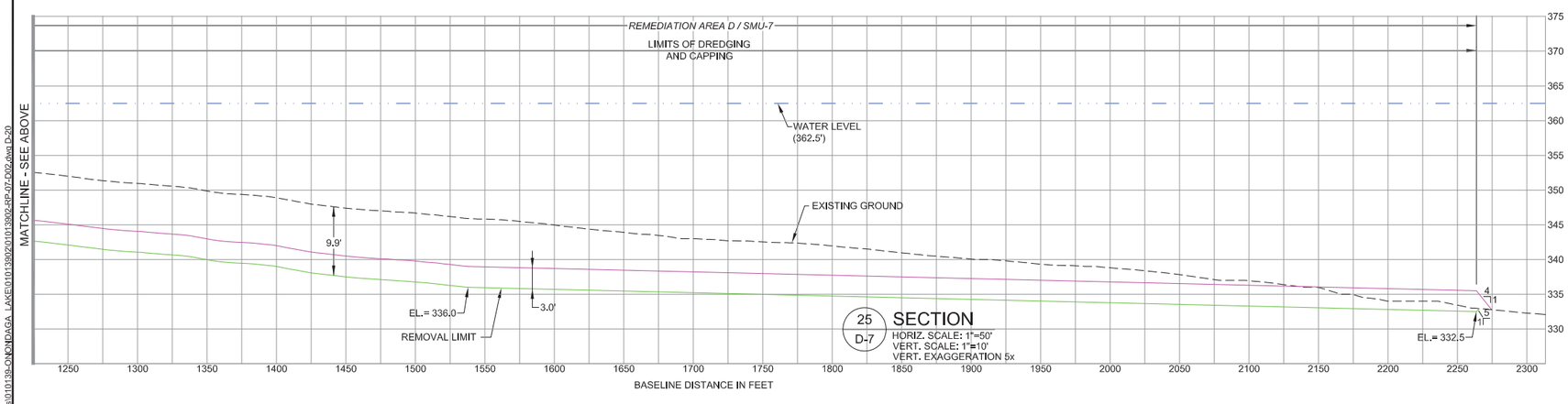

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DRAWN BY: G. HOWELL
CHECKED BY: R. MOHAN
APPROVED BY: J. VERDUIN
SCALE: AS NOTED
DATE: JANUARY 24, 2011

ONONDAGA LAKE DRAFT CAPPING, DREDGING AND HABITAT INTERMEDIATE DESIGN

REMEDIATION AREA D
DREDGING CROSS SECTIONS 24 & 25

D-20

SHEET NO. 22 OF 29

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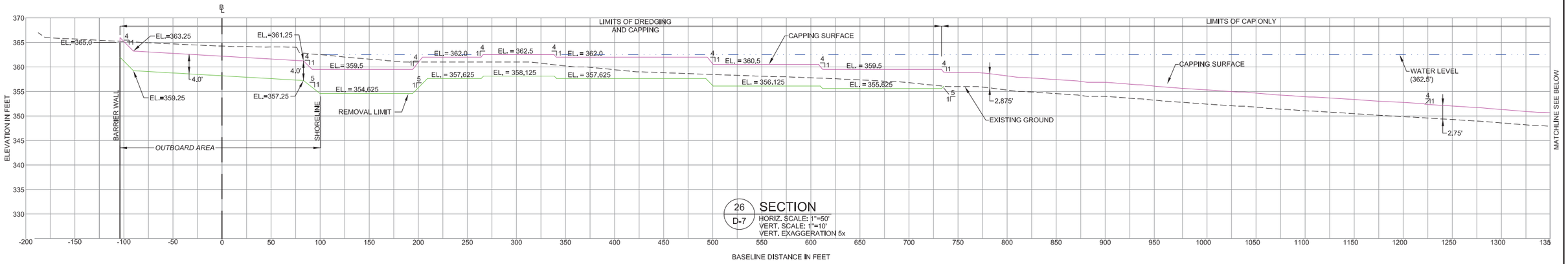

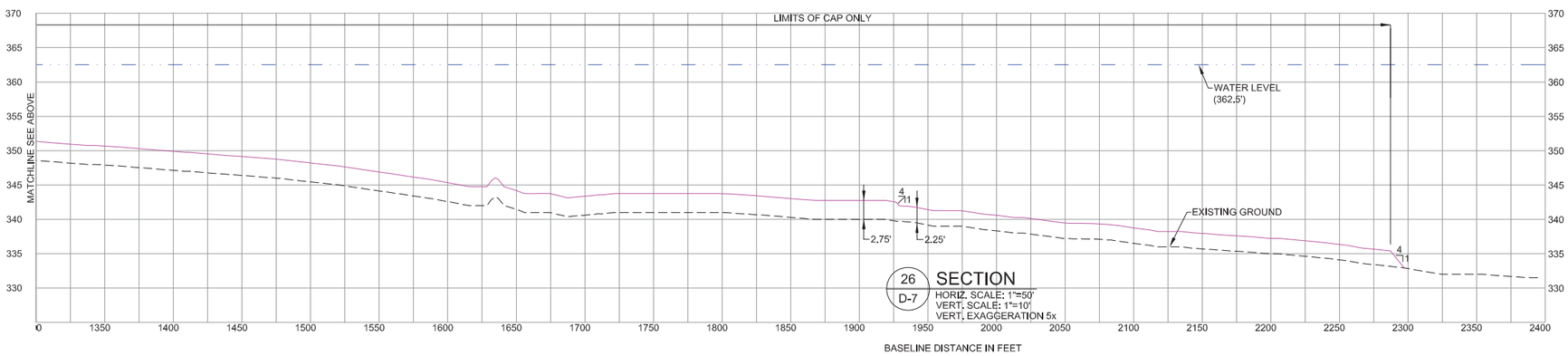

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4. REMEDIATION AREA D / REMEDIATION AREA E CAP THICKNESS AND ELEVATION ARE BASED ON MEAN OVER-PLACEMENT WITHOUT SETTLEMENT CONSIDERATIONS.
5. OUTBOARD AREA CAP THICKNESS AND ELEVATION ARE BASED ON MEAN OVER-PLACEMENT WITHOUT SETTLEMENT CONSIDERATIONS.

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SCALE: AS NOTED
DATE: JANUARY 24, 2011

ONONDAGA LAKE DRAFT CAPPING, DREDGING AND HABITAT INTERMEDIATE DESIGN

REMEDIATION AREA E
DREDGING CROSS SECTION 26

D-21

SHEET NO. 23 OF 29

K:\Jobs\010139-ONONDAGA_LAKE\01013902\01013902-RP-08-D03.dwg D-21
Jan 12, 2011, 3:40pm barkaa

MATCHLINE TO SHEET D-8

RA-D
(SMU-7)

REMEDIATION AREA E

HOT SPOT F

HOT SPOT G

REMEDIATION AREA D
(SMU-1)

TO SHEET D-6

PROPOSED HARBOR BROOK CHANNEL

BARRIER WALL

EXISTING HARBOR BROOK CHANNEL

WASTEBED B / HARBOR BROOK OUTBOARD AREA

HARBOR BROOK

8" SUN OIL FORCE MAIN

GEOTHECHNICAL ANALYSIS INDICATES THAT DREDGING WITHIN APPROXIMATELY 150 FT. OF THE SHORELINE COULD RESULT IN AN UNACCEPTABLE FACTOR OF SAFETY FOR THE SHORELINE AND RAIL LINE STABILITY. DETAILS FOR THIS AREA WILL BE DEVELOPED AS PART OF THE DRAFT FINAL DESIGN.

0 100 200
SCALE IN FEET

LEGEND:

- LIMITS OF DREDGING AND CAPPING
- LIMITS OF REMOVAL AND CAPPING IN ADJACENT AREAS INCLUDED IN THE DESIGN
- LIMITS OF CAP ONLY
- PROJECT BASELINE
- EXISTING CONTOUR
- 360 PROPOSED DREDGING CONTOUR
- SHORELINE (ELEV. 362.5)
- REMEDIATION AREA BOUNDARY
- BARRIER WALL
- SMU BOUNDARY
- RAILROAD LINE
- 7 / D-13 CROSS SECTION LOCATION AND DESIGNATION

BASELINE COORDINATES		
POINT #	NORTHING	EASTING
65	1116762.43	925336.95
66	1116635.52	925448.67
67	1116345.82	925904.96
68	1116117.81	926327.44
69	1116112.62	926889.51
70	1116216.95	927304.39
71	1116494.16	927600.25

NOTE:
SEE SHEET D-IDX FOR GENERAL NOTES AND LEGEND.

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K:\Jobs\010139-ONONDAGA_LAKE\01013902\01013902-RP-06-D01.dwg D-7

Jan 13, 2011 1:30pm lorkea

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DATE: JANUARY 24, 2011

ONONDAGA LAKE DRAFT CAPPING, DREDGING AND HABITAT INTERMEDIATE DESIGN

REMEDIATION AREAS D AND E DREDGING PLAN

D-7

SHEET NO. 9 OF 29

Appendix D

Preliminary Delineation of Hot Spots

APPENDIX D

1.0 Introduction

The objective of this analysis was to delineate hot spots in the Wastebed B Outboard Area. The work summarized in this report is used to estimate the depth and volume of additional hot spot removal associated with Response Action 3 (Removal for Cap Placement, Hot Spot Excavation, and Wetland Mitigation) presented in the Outboard Area Engineering Evaluation/Cost Analysis (EE/CA). The remedy for the Outboard Area consists of the removal of surface materials, placement of an isolation cap and achieving final grades to facilitate wetland mitigation and habitat restoration in accordance with the Draft Habitat Plan and subsequent concept revisions for the Outboard Area. In order to achieve targeted habitat and wetland conditions, the proposed elevation of final grade within the Outboard Area following the remediation activities is lower than the existing grade.

Under Response Action 3, hot spot removal will include an extension of the excavation and/or dredging beneath the base removal up to one additional meter in depth in the defined hot spot areas. For this report, hot spots are defined as sediment and or waste material that contain contaminants above the sediment hot spot criteria specified in the Lake ROD and summarized in Table D-1.

Table D-1 Lake Sediment Hot Spot Criteria

CPOI	Sediment Hot Spot Criteria (mg/kg)
Benzene	208
Chlorobenzene	114
Dichlorobenzene	90
Naphthalene	20,573
Xylene	142
Ethylbenzene	1,655
Toluene	2,625
Mercury	2,924

Excavation/dredging for hot spot removal will not extend beyond the maximum excavation limits that are established for stability of existing or proposed site features, including the railroad, and barrier wall as defined in Appendix A of the EE/CA. The cap will be designed to isolate remaining sediments/soils that exceed the hot-spot criteria.

2.0 Hot Spot Investigations

Remedial Investigation (RI) data and initial Outboard Pre-Design Investigation (PDI) data was used to identify potential hot spots in the Outboard Area. A supplemental hot spot field investigation was conducted in the fall of 2010 to further delineate initial hot spots boundaries in the Outboard area. Sampling and analyses were conducted in accordance with the Wastebed B/Harbor Brook IRM Work Plan Addendum – Proposed Outboard Area Additional Investigation (Parsons, 2010) and approved by the New York State Department of Environmental Conservation (NYSDEC). Soil samples were collected and analyzed from 22 locations to supplement the exiting data set.

Results from these investigations identified three chemical parameters of interest (CPOIs) that exceed the Onondaga Lake hot spot criteria; Chlorobenzene, Total Dichlorobenzene, and Total Xylenes. Analytical results for each of the above CPOIs is summarized on Figures D-1 through D-3, respectively.

3.0 Delineation of Hot Spot Removal in the Harbor Brook / Wastebed B Outboard Area

The delineation methods used for the Outboard Area were consistent with those used to delineate hot spot removal areas within Remediation Area D of the lake, as described in Appendix G of the Lake Sediment Capping, Dredging, and Habitat Intermediate Design Report (Parsons et al. 2011). Chemical concentrations measured in samples from sediment cores and soil borings collected from within the Wastebed B Outboard Area were used to delineate portions of that area where hot spot removal (i.e., an additional 1-m of removal beyond the base removal depth already delineated) would be necessary. Specifically, sediment/soil data from the 1-meter interval below the base removal elevation were assessed to identify exceedances of the hot spot criteria that were developed in the Record of Decision (ROD) for the lake sediment. Details concerning the identification of locations where sediment/soil chemical concentrations exceed hot spot criteria and delineation of hot spot removal areas are provided below.

Chemical concentrations at each sample location in the 1-meter interval below the post-removal surface for Response Action 2 were used to identify exceedances of hot spot criteria. The baseline post-removal depth was first defined at each sample location, and the concentration in the 1-meter interval immediately below the baseline removal depth was then conservatively defined based on the maximum concentration of all sections within that interval. This concentration was then compared to the hot spot criteria. Locations having any portion of their sampling interval within the underlying 1-meter interval were included in the analysis, with a few exceptions. Small differences between the specified base removal depths and segmentation of cores/borings resulted in small “slivers” of a core/boring section remaining in the 1-meter interval below the base removal elevation in some areas. Adjustments were made in one such case to avoid having the small fraction of segment influence the analysis. As a result, the “sliver” section was excluded from the calculation of the maximum concentration within the 1-meter interval below the base removal depth. The one location where such an adjustment was made is HB-T-1-2; the thickness of the “sliver” sections excluded from the analysis was approximately one inch. Based on this analysis, dichlorobenzene and xylene were the only chemicals that were found to exceed their hot spot criteria in the depth interval of interest. Sampling locations that exceeded the hot spot criteria are listed in Table D-2 and shown in Figures D-1 through D-3.

Table D-2
Outboard Area Sample Locations with Hot Spot Criteria Exceedances in the 1-Meter Interval Below the Base Removal Depth

Sample Locations

HB-SB-227
HB-SB-229
HB-SB-231
HB-STA-196
HB-STA-200
HB-TP-03B

Once locations with hot spot exceedances were identified, an interpolation procedure was used for the areal delineation of hot spot removal. The same concentrations used for identification of hot spot locations described above (i.e., maximum concentration of any core/boring segment within the 1-m interval beneath the baseline removal depth) were used in the interpolation procedure, subject to the manual exclusions of “slivers” of segments at the two locations previously mentioned.
The concentration data for each CPOI were interpolated over a 10-ft grid within the Outboard Area using the Inverse Distance Weighted (IDW) method. With the IDW method, the interpolated concentration at a given point is calculated as a weighted average of the nearby measured concentrations, with the weighting factors defined by the distance between the calculation point and each measurement location raised to a power (a power of 4 was used in this case, consistent with that used for Remediation Area D of the Lake). The resulting interpolated concentrations for dichlorobenzene and xylene are shown in Figures D-5 and D-6, respectively. For both chemicals, the individual hot spot areas were defined by the interpolated concentration isopleths corresponding to its hot spot criteria. The isopleths corresponding to the hot spot criteria for the two contaminants were then merged and the resulting boundary was further modified so that no hot spot removal would occur in areas where such removal would compromise the stability of the barrier wall, as shown in Figure D-7. Based on this approach, six individual hot spot areas were delineated covering a total combined area of approximately 1.2 acres. The six hot spot locations were grouped based on location as either East Flume Hot Spot Area or DSA #2 Hot Spot Area. The northern-most location in the DSA #2 Hot Spot Area was the only exception to the boundary delineation process described above. This hot spot is based on a sample location that did not have a data point below the baseline removal depth for use in krieging. Therefore, the boundary was established based on adjacent sample locations that do not exceed hot spot criteria.

4.0 References

Parsons, 2010a. *Wastebed B/Harbor Brook IRM Work Plan Addendum - Proposed Outboard Area Additional Investigation.* Prepared for Honeywell, Morristown, New Jersey. Syracuse, New York. October, 2010.

Parsons, 2011. *Sediment Capping, Dredging, and Habitat Intermediate Design Report.* Prepared for Honeywell, Morristown, NJ. Syracuse, NY. January 2011.

Figures:

Figure D-1: Outboard Area Chlorobenzene Concentrations in Sediment

Figure D-2: Outboard Area Total Dichlorobenzene Concentrations in Sediment

Figure D-3: Outboard Area Total Xylenes Concentrations in Sediment

Figure D-4: Hot Spots Exceedence Locations within the 1-Meter Interval Below the Removal Depth in the Outboard Area

Figure D-5: Interpolation of Dichlorobenzene Concentrations within the 1-Meter Interval Below the Removal Depth in the Outboard Area and Associated Hot Spot Exceedences

Figure D-6: Interpolation of Xylene Concentrations within the 1-Meter Interval Below the Removal Depth in the Outboard Area and Associated Hot Spot Exceedences

Figure D-7: Boundaries of Combined Hot Spot Exceedences within the 1-Meter Interval Below the Removal Depth in the Outboard Area