Appendix B – ERAGS Checklist for Ecological Assessment/Sampling

Checklist for Ecological Assessment/Sampling

I. SITE DESCRIPTION

1. Site Name: Honeywell Wastebeds 1 through 8 Site (Site)

   Location: South Shore of Onondaga Lake

   County: Onondaga City: Geddes State: New York

2. Latitude: 43°4'58" Longitude: 76°12'58"

3. What is the approximate area of the site? 315 acres

4. Is this the first site visit? ☐ yes ☑ no If no, attach trip report of previous site visit(s), if available.

   Date(s) of previous site visit(s): multiple [see Remedial Investigation (RI), O'Brien & Gere, 2008b, currently under revision in accordance with NYSDEC comments.]

5. Please attach to the checklist USGS topographic map(s) of the site, if available.

   See Figure 1 of the site RI and Figure 1-1 of this Baseline Ecological Risk Assessment (BERA) report

6. Are aerial or other site photographs available? ☑ yes ☐ no If yes, please attach any available photo(s) to the site map at the conclusion of this section.

   See Figure 1 of the site RI and Figure 1-1 of this Baseline Ecological Risk Assessment (BERA) report

7. The land use on the site is:

_____% Urban

30 % Rural (waste bed)

0 % Residential

15 % Industrial (☑ light ☐ heavy) (Landfill)

0 % Agricultural

(Crops:_____)

40 % Recreational

(Describe; note if it is a park, etc.)

New York State (NYS) Fair Parking Lot

0 % Undisturbed

15 % Other (Biosolids Area)

The area surrounding the site is:
0.5 _____ mile radius

5 % Urban (roads)

_____% Rural

10 % Residential

15 % Industrial (☑ light ☑ heavy) Wastebeds, Crucible Industries, Honeywell Water Treatment Plant.

0 % Agricultural

(Crops:_____)

20 % Recreational

(Describe; note if it is a park, etc.)

NYS Fairgrounds

Popes Grove Golf Course

0 % Undisturbed

50 % Other (Onondaga Lake)

8. Has any movement of soil taken place at the site? ☑ yes ☐ no. If yes, please identify the most likely cause of this disturbance:

_____ Agricultural Use

x Heavy Equipment

_____ Mining

_____ Natural Events

x Erosion

x Other

Please describe:

Earthwork associated with the Crucible Landfill and Biosolids Area. Erosion along lakeshore and steeper unvegetated areas near lakeshore.
Wastebeds are the result of industrial activity. Earthwork (i.e., grading, fill) has occurred to create the NYS Fair parking facilities.

9. Do any potentially sensitive environmental areas exist adjacent to or in proximity to the site, e.g., Federal and State parks, National and State monuments, wetlands, prairie potholes? *Remember, flood plains and wetlands are not always obvious; do not answer "no" without confirming information.*

Yes. Federal wetlands exist on and near the Site and New York State Freshwater wetlands exist in the vicinity of the site.

Please provide the source(s) of information used to identify these sensitive areas, and indicate their general location on the site map.

Sensitive environmental areas are described in Section 2 and shown on Figures 5 through 9 of the Site RI, and Figures 4 and 5 of the Final Wetland Delineation and Floodplain Assessment Report (O'Brien & Gere 2009a)

10. What type of facility is located at the site?

☐ Chemical ☐ Manufacturing ☐ Mixing ☑ Waste disposal (settling basin, Crucible Landfill, biosolids disposal)

☑ Other (specify) NYS Fair Parking

11. What are the suspected contaminants of concern at the site? If known, what are the maximum concentration levels?

Chemical parameters of interest (CPOIs) and their maximum concentration levels are identified in the Site RI and Section 4 of this BERA report.

12. Check any potential routes of off-site migration of contaminants observed at the site:

☑ Swales ☐ Depressions ☑ Drainage ditches

☑ Runoff ☐ Windblown particulates ☐ Vehicular traffic

☐ Other (specify)_____

13. If known, what is the approximate depth to the water table? Lakeshore = 0.5' = 3' bgs lower wastebed tiers= 10-18' bgs; upper wastebed tiers= 20-35' bgs.

14. Is the direction of surface runoff apparent from site observations? ☑ yes ☐ no If yes, to which of the following does the surface runoff discharge? Indicate all that apply.

☑ Surface water ☑ Groundwater ☐ Sewer ☐ Collection impoundment

15. Is there a navigable waterbody or tributary to a navigable waterbody? ☑ yes ☐ no

Site adjacent to Onondaga Lake.

16. Is there a waterbody anywhere on or in the vicinity of the site? If yes, also complete Section III: Aquatic Habitat Checklist -- Non-Flowing Systems and/or Section IV: Aquatic Habitat Checklist -- Flowing Systems.

☑ yes (approx. distance adjacent) ☐ no

Ninemile Creek; Onondaga Lake

17. Is there evidence of flooding? ☑ yes ☐ no *Wetlands and flood plains are not always obvious; do not answer "no" without confirming information.* If yes, complete Section V: Wetland Habitat Checklist.

18. If a field guide was used to aid any of the identifications, please provide a reference. Also, estimate the time spent identifying fauna. [Use a blank sheet if additional space is needed for text.]

Discussion of on-site vegetative communities is provided in the following:
-"O'Brien & Gere. 2009a. "Final Wetland Delineation and Floodplain Assessment Report. Wastebeds 1 through 8. Geddes, New York." and associated response to comments (2008).
- Section 2 of this BERA report

19. Are any threatened and/or endangered species (plant or animal) known to inhabit the area of the site? ☐ yes ☑ no *If yes, you are required to verify this information with the U.S. Fish and Wildlife Service.* If species' identities are known, please list them next.

The potential presence of RTE species on-site is addressed in Section 2.2 of this BERA report.

20. Record weather conditions at the time this checklist was prepared:

DATE: 7/1/2008

85 F Temperature (°C/°F) 80 F Normal daily high temperature

West/ 5 mph Wind (direction/speed) none Precipitation (rain, snow)

light Cloud cover

IA. SUMMARY OF OBSERVATIONS AND SITE SETTING

See Section 1 of the RI and Section 2 of this BERA report.

Completed by Stephen E. Mooney Affiliation O'Brien & Gere

Additional Preparers

Site Manager John P. McAuliffe, P.E., Program Director, Honeywell

Date 8/27/2008

II. TERRESTRIAL HABITAT CHECKLIST

IIA. WOODED

1. Are there any wooded areas at the site? ☑ yes ☐ no If no, go to Section IIB: Shrub/Scrub.

2. What percentage or area of the site is wooded? (35 % 110 acres). Indicate the wooded area on the site map which is attached to a copy of this checklist. Please identify what information was used to determine the wooded area of the site. Determined through site investigation.

3. What is the dominant type of vegetation in the wooded area? (Circle one: Evergreen/ Deciduous/ Mixed) Provide a photograph, if available.

   Dominant plant, if known: Eastern cottonwood, Box elder

4. What is the predominant size of the trees at the site? Use diameter at breast height.

   ☐ 0-6 in. ☑ 6-12 in. ☐ > 12 in.

5. Specify type of understory present, if known. Provide a photograph, if available.

   Herbaceous, dominated by garlic mustard.

IIB. SHRUB/SCRUB

1. Is shrub/scrub vegetation present at the site? ☑ yes ☐ no If no, go to Section IIC: Open Field.

2. What percentage of the site is covered by scrub/shrub vegetation? (5 % 16 acres). Indicate the areas of shrub/scrub on the site map. Please identify what information was used to determine this area.

   Determined through site investigation.

3. What is the dominant type of scrub/shrub vegetation, if known? Provide a photograph, if available.

   Common buckthorn and honeysuckle.

4. What is the approximate average height of the scrub/shrub vegetation?

   ☐ 0-2 ft. ☑ 2-5 ft. ☐ > 5 ft.

5. Based on site observations, how dense is the scrub/shrub vegetation?

☑ Dense ☐ Patchy ☐ Sparse

IIC. OPEN FIELD

1. Are there open (bare, barren) field areas present at the site? ☑ yes ☐ no If yes, please indicate the type below:

☐ Prairie/plains ☐ Savannah ☑ Old field ☑ Other (specify) eroded bed material along shoreline

2. What percentage of the site is open field? (20 % 63 acres). Indicate the open fields on the site map.

3. What is/are the dominant plant(s)? Provide a photograph, if available.

Garlic mustard, goldenrod species, common reed

4. What is the approximate average height of the dominant plant? 2-4'

5. Describe the vegetation cover: ☐ Dense ☐ Sparse ☑ Patchy

IID. MISCELLANEOUS

1. Are other types of terrestrial habitats present at the site, other than woods, scrub/shrub, and open field? ☑ yes ☐ no If yes, identify and describe them below.

Portions of the wastebeds are relatively bare and unvegetated, due in part to elevated pH levels. Gravel parking area.

2. Describe the terrestrial miscellaneous habitat(s) and identify these area(s) on the site map.

See response to IID.1 above and Section 2 of this BERA report.

3. What observations, if any, were made at the site regarding the presence and/or absence of insects, fish, birds, mammals, etc.?

   Biotic communities are described in Section 2 of this BERA report.

4. Review the questions in Section I to determine if any additional habitat checklists should be completed for this site.

III. AQUATIC HABITAT CHECKLIST -- NON-FLOWING SYSTEMS

Note: Aquatic systems are often associated with wetland habitats. Please refer to Section V, Wetland Habitat Checklist.

1. What type of open-water, non-flowing system is present at the site?

   ☐ Natural (pond, lake)
   ☑ Artificially created (lagoon, reservoir, canal, impoundment)

   As shown on Figure 1-3 of this BERA the Ponded Area exists on this site east of Ninemile Creek and north of Ditch A.

2. If known, what is the name(s) of the waterbody(ies) on or adjacent to the site?

   Onondaga Lake and Ninemile Creek are adjacent to the site.

3. If a waterbody is present, what are its known uses (e.g.: recreation, navigation, etc.)?

   The Ponded Area is not used for recreation. Onondaga Lake and Ninemile Creek are used for recreation and navigation.

4. What is the approximate size of the waterbody(ies)? 0.03 acre(s). (Ponded Area)

5. Is any aquatic vegetation present? ☐ yes ☑ no If yes, please identify the type of vegetation present if known.

   ☐ Emergent ☐ Submergent ☐ Floating

6. If known, what is the depth of the water? _____

7. What is the general composition of the substrate? Check all that apply.

   ☐ Bedrock ☐ Sand (coarse) ☐ Muck (fine/black)
   ☐ Boulder (>10 in.) ☐ Silt (fine) ☐ Debris
   ☐ Cobble (2.5-10 in.) ☐ Marl (shells) ☐ Detritus
   ☐ Gravel (0.1-2.5 in.) ☐ Clay (slick) ☐ Concrete
   ☑ Other (specify) Solvay Waste

8. What is the source of water in the waterbody?

   ☑ River/Stream/Creek ☑ Groundwater ☐ Other (specify)_____
   ☐ Industrial discharge ☑ Surface runoff

9. Is there a discharge from the site to the waterbody? ☑ yes ☐ no If yes, please describe this discharge and its path.

Surface water runoff from the wastebeds discharges to the Ponded Area.

10. Is there a discharge from the waterbody? ☑ yes ☐ no If yes, and the information is available, identify from the list below the environment into which the waterbody discharges.

☑ River/Stream/Creek	☐ onsite	☑ offsite	Distance adjacent
☐ Groundwater	☐ onsite	☐ offsite	
☐ Wetland	☐ onsite	☐ offsite	Distance_____
☐ Impoundment	☐ onsite	☐ offsite	

11. Identify any field measurements and observations of water quality that were made. For those parameters for which data were collected provide the measurement and the units of measure below: Ponded Area - data recorded 12/21/2004

_____	Area
_____	Depth (average)
7.8°C	Temperature (depth of the water at which the reading was taken) _____
12.4	pH
2.8 mg/L	Dissolved oxygen
_____	Salinity
_____	Turbidity (clear, slightly turbid, turbid, opaque) (Secchi disk depth _____)
77.6 ug/mL	Other (specify) Conductivity

12. Describe observed color and area of coloration.

13. Mark the open-water, non-flowing system on the site map attached to this checklist.

See Figures 1-3 and 1-4 of this BERA report.

14. What observations, if any, were made at the waterbody regarding the presence and/or absence of benthic macroinvertebrates, fish, birds, mammals, etc.?

No specific observations were made at the Ponded Area. However, Section 2 and associated tables of this BERA report describe species observed at and in the vicinity of the Site.

IV. AQUATIC HABITAT CHECKLIST -- FLOWING SYSTEMS

Note: Aquatic systems are often associated with wetland habitats. Please refer to Section V, Wetland Habitat Checklist.

1. What type(s) of flowing water system(s) is (are) present at the site?

☐ River	☐ Stream	☐ Creek
☐ Dry wash	☐ Arroyo	☐ Brook
☑ Artificially created (ditch, etc.)	☐ Intermittent Stream	☐ Channeling
	☐ Other (specify)_____	

2. If known, what is the name of the waterbody? Commonly referred to as Ditches A, B, C, D, and E.

3. For natural systems, are there any indicators of physical alteration (e.g., channeling, debris, etc.)?
☐ yes ☐ no If yes, please describe indicators that were observed.

NA

4. What is the general composition of the substrate? Check all that apply.

☐ Bedrock	☐ Sand (coarse)	☐ Muck (fine/black)
☐ Boulder (>10 in.)	☑ Silt (fine)	☐ Debris
☐ Cobble (2.5-10 in.)	☐ Marl (shells)	☐ Detritus
☑ Gravel (0.1-2.5 in.)	☐ Clay (slick)	☐ Concrete
☑ Other (specify) Solvay waste		

5. What is the condition of the bank (e.g., height, slope, extent of vegetative cover)?

Ditch banks are generally steep, approximately 8 feet high, and densely vegetated (dominated by common reed).

6. Is the system influenced by tides? ☐ yes ☑ no What information was used to make this determination?

The Site is well inland and not influenced by tides.

7. Is the flow intermittent? ☑ yes ☐ no If yes, please note the information that was used in making this determination.

Multiple site investigations.

8. Is there a discharge from the site to the waterbody? ☑ yes ☐ no If yes, please describe the discharge and its path.

Surface water runoff from the Site upland areas discharge to each of the ditches.

9. Is there a discharge from the waterbody? ☑ yes ☐ no If yes, and the information is available, please identify what the waterbody discharges to and whether the discharge is on site or off site.

Water conveyed through the ditches ultimately discharges to Ninemile Creek or Onondaga Lake which are both adjacent to the Site.

10. Identify any field measurements and observations of water quality that were made. For those parameters for which data were collected, provide the measurement and the units of measure in the appropriate space below:

Ditch A - Data collected 7/26/2005

_____	Width (ft.)
_____	Depth (ft.)
_____	Velocity (specify units):_____
21°C	Temperature (depth of the water at which the reading was taken_____)
11.6	pH
6.2 mg/L	Dissolved oxygen
_____	Salinity
_____	Turbidity (clear, slightly turbid, turbid, opaque) (Secchi disk depth _____)
31.0 ms/mL	Other (specify)Conductivity

11. Describe observed color and area of coloration.

12. Is any aquatic vegetation present? ☑ yes ☐ no If yes, please identify the type of vegetation present, if known.

☑ Emergent ☐ Submergent ☐ Floating

Common reed observed in and along ditches.

13. Mark the flowing water system on the attached site map.

See Figure 1-4 of this BERA report.

14. What observations were made at the waterbody regarding the presence and/or absence of benthic macroinvertebrates, fish, birds, mammals, etc.?

Biotic communities for the site are described in Section 2 of this BERA report and applicable tables.

V. WETLAND HABITAT CHECKLIST

1. Based on observations and/or available information, are designated or known wetlands definitely present at the site?
   ☑ yes ☐ no

   Please note the sources of observations and information used (e.g., USGS Topographic Maps, National Wetland Inventory, Federal or State Agency, etc.) to make this determination.

   Delineated wetlands are identified and described in the "Final Wetland Delineation and Floodplain Assessment Report" (O'Brien & Gere, 2009a). Additional information sources are also provided.

2. Based on the location of the site (e.g., along a waterbody, in a floodplain) and site conditions (e.g., standing water; dark, wet soils; mud cracks; debris line; water marks), are wetland habitats suspected?
   ☑ yes ☐ no If yes, proceed with the remainder of the wetland habitat identification checklist.

3. What type(s) of vegetation are present in the wetland?

   ☐ Submergent ☑ Emergent
   ☐ Scrub/Shrub ☐ Wooded

   ☐ Other (specify)_____

4. Provide a general description of the vegetation present in and around the wetland (height, color, etc.). Provide a photograph of the known or suspected wetlands, if available.

   Delineated site wetlands are dominated by common reed that averages approximately 7' in height.

5. Is standing water present? ☐ yes ☑ no If yes, is this water: ☐ Fresh ☐ Brackish
   What is the approximate area of the water (sq. ft.)? NA
   Please complete questions 4, 11, 12 in Checklist III - Aquatic Habitat -- Non-Flowing Systems.

6. Is there evidence of flooding at the site? What observations were noted?

   ☐ Buttressing ☐ Water marks ☐ Mud cracks

   ☑ Debris line ☐ Other (describe below)

7. If known, what is the source of the water in the wetland?

☐ Stream/River/Creek/Lake/Pond ☐ Groundwater

☐ Flooding ☑ Surface Runoff

8. Is there a discharge from the site to a known or suspected wetland? ☑ yes ☐ no If yes, please describe.

Surface water runoff from Site upland areas discharge to the site wetlands.

9. Is there a discharge from the wetland? ☑ yes ☐ no. If yes, to what waterbody is discharge released?

☐ Surface Stream/River ☑ Groundwater ☐ Lake/Pond ☐ Marine

10. If a soil sample was collected, describe the appearance of the soil in the wetland area. Circle or write in the best response.

Color (blue/gray, brown, black, mottled) Solvay waste

Water content (dry, wet, saturated/unsaturated) saturated

11. Mark the observed wetland area(s) on the attached site map.

See the "Wastebeds 1 through 8 Wetland Delineation and Floodplain Assessment Report" (O'Brien & Gere, 2009).

Appendix C – Photograph Log

Photo 1. Looking north at Lakeshore Area from the northern edge of the beds.

Photo 2. Looking northwest at eastern *Phragmites* stand at mouth of Ninemile Creek.

Photo 3. Looking southwest from boat launch area at the mouth of Ditch A and eastern border of Site.

Photo 4. Looking east at Lakeshore Area from the north-central portion of the Site.

Photo 5. Looking northwest at Lakeshore Area from the north-central portion of the Site.

Photo 6. Looking south at Ninemile Creek and Route I-690.

Photo 7. Fill piles on top of beds on the east-central portion of site.

Photo 8. Looking south (upstream) at Ditch A from its discharge into Onondaga Lake. Photo was taken following precipitation event.

Photo 9. Looking downstream at Ditch A from the eastern Site entry gate (April 18, 2008).

Photo 10. Looking north at a scrub/shrub/forested portion of the Site viewed from center of Wastebed 5.

Appendix D – NYNHP and USFWS Response Letters

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

July 22, 2010

Alfred J. Labuz
Honeywell
301 Plainfield Road, Suite 330
Syracuse, NY 13212

Dear Mr. Labuz:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment of the proposed Baseline Ecological Risk Study of the 404-Acre Honeywell Wastebeds 1-8 Site, area as indicated on the map you provided, including a 2-mile radius, located in the Town of Geddes, Onondaga County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.
PLEASE NOTE: This Project is located NEAR the NY State Park at the State Fairgrounds.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g. regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Tara Salerno

Tara Salerno, Information Services
New York Natural Heritage Program # 762

Enc.
cc: Reg. 7
Tom Lyons, NYS OPRHP – Empire State Pl, Agency Bldg #1, 17th flr, Albany, 12238

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

~The information in this report includes only records entered into the NY Natural Heritage databases as of the date of the report. This report is not a definitive statement on the presence or absence of all rare species or significant natural communities at or in the vicinity of this site.
~Refer to the User's Guide for explanations of codes, ranks and fields.
~Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

COMMUNITIES

Inland salt pond

This occurrence of Inland Salt Pond is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status: Unlisted
NYS Rank: S1
Federal Listing:
Global Rank: G2
Last Report: 1998-08-12
EO Rank:
County: Onondaga
Town: Salina
Location: [redacted]
General Quality and Habitat: Severely degraded; no salt marsh left. A pool fed by salt springs.

9355

SL

VASCULAR PLANTS

Bolboschoenus maritimus ssp. paludosus

Seaside Bulrush

Office Use 11786

NY Legal Status: Endangered
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: G5T5 - Secure
Last Report: 1999-09-22
EO Rank: Fair
County: Onondaga
Town: Salina
Location: [redacted]
General Quality and Habitat: There are tens to thousands of plants in poor to fair habitat. The plants are in a roadside ditch in a former saltmarsh area and in an artificial salt pond in a mowed park.

Potamogeton strictifolius

Straight-leaf Pondweed

Office Use 12316

NY Legal Status: Endangered
NYS Rank: S1 - Critically imperiled
Federal Listing:
Global Rank: G5 - Secure
Last Report:
EO Rank: Unassigned
County: Onondaga
Town: Geddes, Salina, Syracuse - City
Location:
General Quality and Habitat:

Symphyotrichum subulatum var. subulatum

Office Use 11799

Saltmarsh Aster

NY Legal Status: Threatened
Federal Listing:
Last Report: 1999-09-22
County: Onondaga
Town: Salina
Location: [redacted]

NYS Rank: S2 - Imperiled
Global Rank: G5T5 - Secure
EO Rank: Fair

General Quality and Habitat: There are 460 plants in fair to poor habitat. The plants are on the border of an artificial salt pond in a roadside park that is mowed.

4 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

More detailed information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org. For descriptions of all community types, go to http://www.dec.ny.gov/animals/29384.html and click on Draft Ecological Communities of New York State.

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

HISTORICAL RECORDS

The following plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier.
There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown and therefore location maps are generally not provided.
If appropriate habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there.

Natural Heritage Report on Rare Species and Ecological Communities

VASCULAR PLANTS

Chenopodium rubrum

					Office Use
Red Pigweed	**NY Legal Status:**	Threatened	**NYS Rank:**	S2 - Imperiled	4823
	Federal Listing:		**Global Rank:**	G5 - Secure	
	Last Report:	1940-08-30	**EO Rank:**	Failed to find but search more	
	County:	Onondaga			M
	Town:	Salina			
	Location:	[redacted]			
	Directions:	[redacted]			
	General Quality and Habitat:	Failed to find in degraded saltmarsh. Shores.			

1 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • FAX: (518) 402-8925

Denise M. Sheehan
Commissioner

January 30, 2007

Abby K Morton
O'Brien & Gere
5000 Brittonfield Pkwy, Bx 4873
Syracuse, NY 13221

Dear Ms. Morton:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Honeywell Wastebeds Fish and Wildlife Impact Analysis Project, File 1163/39642, located on the Western Shoreline of Onondaga Lake, area as indicated on the map you provided, including a 2 mile radius, Town of geddes, Onondaga County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and should not be released to the public without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Tara Seoane

Tara Seoane, Information Services
NY Natural Heritage Program

Enc.
cc: Reg. 7, Wildlife Mgr.
Reg. 7, Fisheries Mgr.

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

HISTORICAL RECORDS

The following plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier.
There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown.
If appropriate habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there.

Natural Heritage Report on Rare Species and Ecological Communities

VASCULAR PLANTS

Chenopodium rubrum

Red Pigweed

				Office Use
NY Legal Status:	Threatened	**NYS Rank:**	S2 - Imperiled	4823
Federal Listing:		**Global Rank:**	G5 - Demonstrably secure	M
Last Report:	1940-08-30	**EO Rank:**	Failed to find but search more	

County: Onondaga
Town: Salina
Location: [redacted]
Directions: [redacted]

General Quality and Habitat: Failed to find in degraded saltmarsh. Shores.

1 Records Processed

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

~This report contains **SENSITIVE** information that should not be released to the public without permission from the NY Natural Heritage Program.
~Refer to the User's Guide for explanations of codes, ranks and fields.
~Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

COMMUNITIES

Inland salt pond

This occurrence of Inland Salt Pond is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status: Unlisted
NYS Rank: S1 -
Federal Listing:
Global Rank: G2 -
Last Report: 1998-08-12
EO Rank:
County: Onondaga
Town: Salina
Location: [redacted]
Directions: [redacted]
General Quality and Habitat: Severely degraded; no salt marsh left. A pool fed by salt springs.

9355
SL

VASCULAR PLANTS

Bolboschoenus maritimus ssp. paludosus

Seaside Bulrush

Office Use
11786

NY Legal Status: Endangered
NYS Rank: S2 - Imperiled
Federal Listing:
Global Rank: GNRQ - GNRQ
Last Report: 1999-09-22
EO Rank: Fair
County: Onondaga
Town: Salina
Location: [redacted]
Directions: [redacted]
General Quality and Habitat: There are tens to thousands of plants in poor to fair habitat. The plants are in a roadside ditch in a former saltmarsh area and in an artificial salt pond in a mowed park. Associated species: Phragmites, Alisma, and Stuckenia pectinata.

Symphyotrichum subulatum var. subulatum

Office Use
11799

Saltmarsh Aster

NY Legal Status: Threatened
Federal Listing:
Last Report: 1999-09-22
County: Onondaga
Town: Salina
Location: [redacted]
Directions: [redacted]

NYS Rank: S2 - Imperiled
Global Rank: G5T5 - Demonstrably secure
EO Rank: Fair

General Quality and Habitat: There are 460 plants in fair to poor habitat. The plants are on the border of an artificial salt pond in a roadside park that is mowed. Associated species: Potentilla anserina, Brachyactis ciliata ssp. angusta, Scirpus acutus, and Juncus gerardii.

3 Records Processed

USERS GUIDE TO NY NATURAL HERITAGE DATA

New York Natural Heritage Program, 625 Broadway, 5th Floor, Albany, NY 12233-4757 phone: (518) 402-8935

NATURAL HERITAGE PROGRAM: The NY Natural Heritage Program is a partnership between the NYS Department of Environmental Conservation (NYS DEC) and The Nature Conservancy. Our mission is to enable and enhance conservation of rare animals, rare plants, and significant communities. We accomplish this mission by combining thorough field inventories, scientific analyses, expert interpretation, and the most comprehensive database on New York's distinctive biodiversity to deliver the highest quality information for natural resource planning, protection, and management.

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-house use and should **not** be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

EO RANK: A letter code for the quality of the occurrence of the rare species or significant natural community, based on population size or area, condition, and landscape context.

A-E = Extant: A=Excellent, B=Good, C=Fair, D=Poor, E=Extant but with insufficient data to assign a rank of A-D.
F = Failed to find. Did not locate species during a limited search, but habitat is still there and further field work is justified.
H = Historical. Historical occurrence without any recent field information.
X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.
U = Extant/Historical status uncertain.
Blank = Not assigned.

LAST REPORT: The date that the rare species or significant natural community was last observed at this location, as documented in the Natural Heritage databases. The format is most often YYYY-MM-DD.

NY LEGAL STATUS – Animals:

Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

E - **Endangered Species:** any species which meet one of the following criteria:
- Any native species in imminent danger of extirpation or extinction in New York.
- Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

T - **Threatened Species:** any species which meet one of the following criteria:
- Any native species likely to become an endangered species within the foreseeable future in NY.
- Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.

SC - **Special Concern Species:** those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).

P - **Protected Wildlife** (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.

U - **Unprotected** (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license to take may be required.

G - **Game** (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NY LEGAL STATUS – Plants:

The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservation Law section 9-1503.

E - **Endangered Species:** listed species are those with:
- 5 or fewer extant sites, or
- fewer than 1,000 individuals, or
- restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or
- species listed as endangered by U.S. Dept. of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

T - **Threatened:** listed species are those with:
- 6 to fewer than 20 extant sites, or
- 1,000 to fewer than 3,000 individuals, or
- restricted to not less than 4 or more than 7 U.S.G.S. 7 and ½ minute topographical maps, or
- listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

R - Rare: listed species have:

- 20 to 35 extant sites, or
- 3,000 to 5,000 individuals statewide.

V - Exploitably vulnerable: listed species are likely to become threatened in the near future throughout all or a significant portion of
their range within the state if causal factors continue unchecked.

U - Unprotected; no state status.

FEDERAL STATUS (PLANTS and ANIMALS): The categories of federal status are defined by the United States Department of the Interior as part of the 1974 Endangered Species Act (see Code of Federal Regulations 50 CFR 17). The species listed under this law are enumerated in the Federal Register vol. 50, no. 188, pp. 39526 - 39527. The codes below without parentheses are those used in the Federal Register. The codes below in parentheses are created by Heritage to deal with species which have different listings in different parts of their range, and/or different listings for different subspecies or varieties.

(blank) = No Federal Endangered Species Act status.
LE = Formally listed as endangered.
LT = Formally listed as threatened.
C = Candidate for listing.
LE,LT = Formally listed as endangered in part of its range, and as threatened in the other part; or, one or more subspecies or varieties is listed as endangered, and the others are listed as threatened.
LT,PDL = Populations of the species in New York are formally listed as threatened, and proposed for delisting.

GLOBAL AND STATE RANKS (animals, plants, ecological communities and others): Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Infraspecific taxa are also assigned a taxon rank to reflect the infraspecific taxon's rank throughout the world. ? = Indicates a question exists about the rank. Range ranks, e.g. S1S2, indicate not enough information is available to distinguish between two ranks.

GLOBAL RANK:

G1 - Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.

G2 - Imperiled globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.

G3 – Vulnerable: Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.

G4 - Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 - Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH - Historically known, with the expectation that it might be rediscovered.

GX - Species believed to be extinct.

NYS RANK:

S1 - Critically imperiled: Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.

S2 – Imperiled: Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.

S3 - Vulnerable: Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.

S4 - Apparently secure in New York State.

S5 - Demonstrably secure in New York State.

SH - Historically known from New York State, but not seen in the past 15 years.

SX - Apparently extirpated from New York State.

SxB and SxN, where Sx is one of the codes above, are used for migratory animals, and refer to the rarity within New York State of the breeding (B)populations and the non-breeding populations (N), respectively, of the species.

TAXON (T) RANK: The T-ranks (T1 - T5) are defined the same way as the Global ranks (G1 - G5), but the T-rank refers only to the rarity of the subspecific taxon.

T1 through T5 - See Global Rank definitions above.

Q - Indicates a question exists whether or not the taxon is a good taxonomic entity.

Revised April, 2005

DIVISION OF ENVIRONMENTAL PERMITS REGIONAL OFFICES

January 2006

REGION	COUNTIES	REGIONAL PERMIT ADMINISTRATORS
1	Nassau & Suffolk	John Pavacic NYS-DEC BLDG. 40 SUNY at Stony Brook Stony Brook, NY 11790-2356 Telephone: (631) 444-0365
2	New York City (Boroughs of Manhattan, Brooklyn, Bronx, Queens, & Staten Island	John Cryan NYS-DEC One Hunters Point Plaza 47-40 21st Street Long Island City, NY 11101-5407 Telephone: (718) 482-4997
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster & Westchester	Margaret Duke NYS-DEC 21 South Putt Corners Road New Paltz, NY 12561-1696 Telephone: (845) 256-3054
4	Albany, Columbia, Greene, Montgomery, Rensselaer & Schenectady	William Clarke NYS-DEC 1150 North Wescott Road Schenectady, NY 12306-2014 Telephone: (518) 357-2069
4 (sub-office)	Delaware, Otsego & Schoharie	Kent Sanders NYS-DEC Route 10 HCR#1, Box 3A Stamford, NY 12167-9503 Telephone: (607) 652-7741
5	Clinton, Essex, Franklin & Hamilton	Thomas Hall NYS-DEC Route 86, PO Box 296 Ray Brook, NY 12977-0296 Telephone: (518) 897-1234
5 (sub-office)	Fulton, Saratoga, Warren & Washington	Thomas Hall NYS-DEC County Route 40 PO Box 220 Warrensburg, NY 12885-0220 Telephone: (518) 623-1281
6	Jefferson, Lewis & St. Lawrence	Brian Fenlon NYS-DEC State Office Building 317 Washington Street Watertown, NY 13601-3787 Telephone: (315) 785-2245
6 (sub-office)	Herkimer & Oneida	J. Joseph Homburger* NYS-DEC State Office Building 207 Genesee Street Utica, NY 13501-2885 Telephone: (315) 793-2555

7	Cayuga, Madison, Onondaga & Oswego	John Feltman NYS-DEC ~~615 Erie Blvd. West~~ (Env.Permits Room 206) Syracuse, NY 13204-2400 Telephone: (315) 426-7438
7 (sub-office)	Broome, Chenango, Cortland, Tioga & Thompkins	Michael Barylski* NYS-DEC 1285 Fisher Avenue Cortland, NY 13045-1090 Telephone: (607) 753-3095
8	Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne & Yates	Peter Lent NYS-DEC 6274 East Avon Lima Road Avon, NY 14414-9519 Telephone: (585) 226-2466
9	Erie, Niagara & Wyoming	Steve Doleski NYS-DEC 270 Michigan Avenue Buffalo, NY 14203-2999 Telephone: (716) 851-7165
9 (sub-office)	Allegany, Cattaraugus, Chautauqua	Ken Taft* NYS-DEC 182 East Union, Suite 3 Allegany, NY 14706-1328 Telephone: (716) 372-0645

* Deputy Regional Permit Administrator

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925
www.dec.state.ny.us

Alexander B. Grannis
Commissioner

July 31, 2008

Abby K. Morton
O'Brien & Gere
5000 Brittonfield Parkway, Bx 4873
Syracuse, NY 13221

Dear Ms. Morton:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Baseline Ecological Assessment for 21.8 acres - Ballfield Area, site indicated on the map you provided, including a 2-Mile Radius, located in Geddes and Syracuse, Onondaga County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and should not be released to the public without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environment impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,
Tara Seoane /jp
Tara Seoane. Information Services
New York Natural Heritage Program

Enc.
cc: Reg. 7, Wildlife Mgr.

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

~This report contains **SENSITIVE** information that should not be released to the public without permission from the NY Natural Heritage Program.
~Refer to the User's Guide for explanations of codes, ranks and fields.
~Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

COMMUNITIES

Inland salt pond

This occurrence of Inland Salt Pond is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status: Unlisted
NYS Rank: S1
9355

Federal Listing:
Global Rank: G2
Last Report: 1998-08-12
EO Rank:
County: Onondaga
SL
Town: Salina
Location: Onondaga Salt Marsh
Directions:
General Quality and Habitat: Severely degraded; no salt marsh left. A pool fed by salt springs.

VASCULAR PLANTS

Bolboschoenus maritimus ssp. paludosus

Office Use

Seaside Bulrush
NY Legal Status: Endangered
NYS Rank: S2 - Imperiled
11786

Federal Listing:
Global Rank: G5T5 - Demonstrably secure
Last Report: 1999-09-22
EO Rank: Fair
County: Onondaga
Town: Salina
Location: Onondaga Salt Marsh
Directions:

General Quality and Habitat: There are tens to thousands of plants in poor to fair habitat. The plants are in a roadside ditch in a former saltmarsh area and in an artificial salt pond in a mowed park. Associated species: Phragmites, Alisma, and Stuckenia pectinata.

Potamogeton strictifolius

Straight-leaf Pondweed

Office Use 12316

NY Legal Status: Endangered

NYS Rank: S1 - Critically imperiled

Federal Listing:

Global Rank: G5 - Demonstrably secure

Last Report:

EO Rank: Unassigned

County: Onondaga

Town: City Of Syracuse, Geddes, Salina

Location:

Directions:

General Quality and Habitat:

Symphyotrichum subulatum var. subulatum

Saltmarsh Aster

Office Use 11799

NY Legal Status: Threatened

NYS Rank: S2 - Imperiled

Federal Listing:

Global Rank: G5T5 - Demonstrably secure

Last Report: 1999-09-22

EO Rank: Fair

County: Onondaga

Town: Salina

Location: Onondaga Salt Marsh

Directions:

General Quality and Habitat: There are 460 plants in fair to poor habitat. The plants are on the border of an artificial salt pond in a roadside park that is mowed. Associated species: Potentilla anserina, Brachyactis ciliata ssp. angusta, Scirpus acutus, and Juncus gerardii.

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4 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

More detailed information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org. For descriptions of all community types, go to http://www.dec.ny.gov/animals/29384.html and click on DRAFT--Ecological Communities of New York State.

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

HISTORICAL RECORDS

The following plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier.
There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown and therefore location maps are generally not provided.
If appropriate habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there.

Natural Heritage Report on Rare Species and Ecological Communities

VASCULAR PLANTS

Chenopodium rubrum

Office Use

Red Pigweed

NY Legal Status: Threatened
Federal Listing:
Last Report: 1940-08-30

NYS Rank: S2 - Imperiled
Global Rank: G5 - Demonstrably secure
EO Rank: Failed to find but search more

4823

County: Onondaga
Town: Salina
Location:
Directions:

M

General Quality and Habitat: Failed to find in degraded saltmarsh. Shores.

---

1 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New York Field Office
3817 Luker Road, Cortland, NY 13045
Phone: (607) 753-9334
Fax: (607) 753-9699

Long Island Field Office
3 Old Barto Rd., Brookhaven, NY 11719
Phone: (631) 776-1401
Fax: (631) 776-1405

Endangered Species Act List Request Response Cover Sheet

This cover sheet is provided in response to a search of our website* for information regarding the potential presence of species under jurisdiction of the U.S. Fish and Wildlife Service (Service) within a proposed project area.

Attached is a copy of the New York State County List of Threatened, Endangered, and Candidate Species for the appropriate county(ies). The database that we use to respond to list requests was developed primarily to assist Federal agencies that are consulting with us under Section 7(a)(2) of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.). Our lists include all Federally-listed, proposed, and candidate species known to occur, as well as those likely to occur, in specific counties.

The attached information is designed to assist project sponsors or applicants through the process of determining whether a Federally-listed, proposed, or candidate species and/or "critical habitat" may occur within their proposed project area and when it is appropriate to contact our offices for additional coordination or consultation. You may be aware that our offices have provided much of this information in the past in project-specific letters. However, due to increasing project review workloads and decreasing staff, we are now providing as much information as possible through our website. We encourage anyone requesting species list information to print out all materials used in any analyses of effects on listed, proposed, or candidate species.

The Service routinely updates this database as species are proposed, listed, and delisted, or as we obtain new biological information or specific presence/absence information for listed species. If project proponents coordinate with the Service to address proposed and candidate species in early stages of planning, this should not be a problem if these species are eventually listed. However, we recommend that both project proponents and reviewing agencies retrieve from our online database an *updated* list every 90 days to append to this document to ensure that listed species presence/absence information for the proposed project is *current.*

Reminder: Section 9 of the ESA prohibits unauthorized taking** of listed species and applies to Federal and non-Federal activities. For projects not authorized, funded, or carried out by a Federal agency, consultation with the Service pursuant to Section 7(a)(2) of the ESA is not required. However, no person is authorized to "take**" any listed species without appropriate authorizations from the Service. Therefore, we provide technical assistance to individuals and agencies to assist with project planning to avoid the potential for "take**," or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Additionally, endangered species and their habitats are protected by Section 7(a)(2) of the ESA, which requires Federal agencies, in consultation with the Service, to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all Federal actions that may affect listed species.

For instance, work in certain waters of the United States, including wetlands and streams, may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended;16 U.S.C. 661 *et seq.*), the Service may concur, with or without recommending additional permit conditions, or recommend denial of the permit depending upon potential adverse impacts on fish and wildlife resources associated with project construction or implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s).*

For additional information on fish and wildlife resources or State-listed species, we suggest contacting the appropriate New York State Department of Environmental Conservation regional office(s) and the New York Natural Heritage Program Information Services.*

Since wetlands, ponds, streams, or open or sheltered coastal waters may be present in the project area, it may be helpful to utilize the National Wetlands Inventory (NWI) maps as an initial screening tool. However, they may or may not be available for the project area. Please note that while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Online information on the NWI program and digital data can be downloaded from Wetlands Mapper, http://wetlands.fws.gov/mapper_tool.htm.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. After reviewing our website and following the steps outlined, we encourage both project proponents and reviewing agencies to contact our office to determine whether an accurate determination of species impacts has been made. If there are any questions about our county lists or agency or project proponent responsibilities under the ESA, please contact the New York or Long Island Field Office Endangered Species Program at the numbers listed above.

Attachment (county list of species)

*Additional information referred to above may be found on our website at:
http://www.fws.gov/northeast/nyfo/es/section7.htm

** Under the Act and regulations, it is illegal for any person subject to the jurisdiction of the United States to ***take*** (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

Onondaga County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status
American hart's-tongue fern	*Asplenium scolopendrium* var. *americanum*	T
Bald eagle [1]	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Eastern massasauga	*Sistrurus catenatus catenatus*	C
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophea*	T
Indiana bat (W/S)	*Myotis sodalis*	E
Small whorled pogonia *(Historic)*	*Isotria medeoloides*	T

Status Codes: E=Endangered, T=Threatened, P=Proposed, C=Candidate, D=Delisted.

W=Winter S=Summer

[1] The bald eagle was delisted on August 8, 2007. While there are no ESA requirements for bald eagles after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act (BGEPA). Please follow the Service's May 2007 Bald Eagle Management Guidelines to determine whether you can avoid impacts under the BGEPA for your projects. If you have any questions, please contact the endangered species branch in our office.

Information current as of: 3/2/2010

Print Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Field Office
3817 Luker Road
Cortland, NY 13045
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo

Project Number: 70283

To: Abby Norton Date: 12-21-06

Regarding: Honeywell Mathews Avenue Site

Town/County: Geddes and Camillus / Onondaga

We have received your request for information regarding occurrences of Federally-listed threatened and endangered species within the vicinity of the above-referenced project/property. Due to increasing workload and reduction of staff, we are no longer able to reply to endangered species list requests in a timely manner. In an effort to streamline project reviews, we are shifting the majority of species list requests to our website at http://www.fws.gov/northeast/nyfo/es/section7.htm. Please go to our website and print the appropriate portions of our county list of endangered, threatened, proposed, and candidate species, and the official list request response. Step-by-step instructions are found on our website.

As a reminder, Section 9 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) prohibits unauthorized taking* of listed species and applies to Federal and non-Federal activities. Additionally, endangered species and their habitats are protected by Section 7(a)(2) of the ESA, which requires Federal agencies, in consultation with the U.S. Fish and Wildlife Service (Service), to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all Federal actions that may affect listed species. For projects not authorized, funded, or carried out by a Federal agency, consultation with the Service pursuant to Section 7(a)(2) of the ESA is not required. However, no person is authorized to "take"* any listed species without appropriate authorizations from the Service. Therefore, we provide technical assistance to individuals and agencies to assist with project planning to avoid the potential for "take," or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. If you have any questions or require further assistance regarding threatened or endangered species, please contact the Endangered Species Program at (607) 753-9334. Please refer to the above document control number in any future correspondence.

Endangered Species Biologist: Robyn A. Niver RAN

*Under the Act and regulations, it is illegal for any person subject to the jurisdiction of the United States to *take* (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

March 31, 2004

Mr. Stephen Mooney
Senior Project Scientist
O'Brien & Gere Engineers, Inc.
P.O. Box 4873
Syracuse, NY 13221-4873

Dear Mr. Mooney:

This responds to your letter of March 16, 2004, requesting information on the presence of endangered or threatened species in the vicinity of the Honeywell Wastebeds 1 to 8 Site Remedial Investigation/Feasibility Study in the Town of Geddes, Onondaga County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no further Endangered Species Act coordination or consultation with the U.S. Fish and Wildlife Service (Service) is required. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of Federally listed and proposed endangered and threatened species in New York* is available for your information.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s),* and:

New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233-4757
(518) 402-8935

We are not aware of any Federally designated wild, recreational, or scenic rivers at or in the vicinity of the project site. Since wetlands may be present, you are advised that National

Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
(607) 255-4864

Work in certain waters of the United States, including wetlands, may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without recommending additional permit conditions, or recommend denial of the permit depending upon potential adverse impacts on fish and wildlife resources associated with project construction or implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s).*

If you require additional information or assistance please contact Michael Stoll at (607) 753-9334.

Sincerely,

Mark W. Clough
Acting For

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at: http://nyfo.fws.gov/es/esdesc.htm.

cc: NYSDEC, Syracuse, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage Program)
COE, Buffalo, NY

Appendix E – Comparison of Soil and Sediment Depth Intervals

Appendix E
Honeywell - Wastebeds 1-8 Site
Baseline Ecological Risk Assessment

A Comparison of Depth Intervals for the Wastebeds 1 - 8 BERA (originally presented in BERA Work Plan)

The New York State Department of Environmental Conservation (NYSDEC) requested a comparison of soil and sediment depth intervals to assess if exposure to constituents of concern (COCs) in different intervals represents increased risk to ecological receptors. This request was in response to Honeywell's proposed use of the of the top 12 inches of soil to characterize potential risk to terrestrial ecological receptors (Response 20 in the NYSDEC's September 8, 2008 comment letter) and their proposed use of sediment in the 0-6 inch interval to evaluate potential risks to aquatic receptors (Response 25).

The following sections summarize Honeywell's rationale and approach, results, and conclusions relative to these comparisons.

Rationale

Honeywell proposed to evaluate the ecological risks to terrestrial upper trophic level receptors based on data collected from surface soil at the Site, defined as the interval between 0 and 1 foot (ft) below ground surface (bgs). This interval was selected primarily because of the biological relevance of this depth range compared to depths below one foot. Terrestrial upper trophic level receptors are predominately exposed to constituents in surface soil through ingestion of affected prey, which includes both invertebrate and vertebrate organisms. A brief discussion of the typical depth ranges that these organisms inhabit is presented below.

Terrestrial invertebrates are generally found between 0 and 1 ft bgs. For example, earthworms that build permanent burrows are found at depths less than one foot outside of winter months and during foraging activities (Lee 1985). Burrow depths for earthworms that build nonpermanent burrows typically are no deeper than four to six inches below the soil surface (Tsai *et al.* 2001). Therefore, the depth range where terrestrial invertebrates such as earthworms typically occur is in the upper one foot of the soil column.

Burrowing small mammals are most often found in the top one foot of the soil profile and typically do not venture below two feet from the surface. For example, typical average burrow depths for the deer mouse are approximately nine inches bgs (Reynolds and Wakkinen 1987). Voles nest at even shallower depths than mice but at least two inches below the surface (Klatt and Getz 1987). Shrews can occupy subterranean runways found from just below the leaf mold to a depth of approximately four inches (Jameson 1943). Other burrowing species such as the least weasel use burrows typically located 5 to 6 inches below the surface (Fagerstone 1987). Therefore, the depth range where small mammals typically occur is in the upper one foot of the soil column.

Approach

As noted above, the NYSDEC has requested that the 12 to 24-inch soil and sediment horizons be included in the evaluation of potential ecological risks. For sediment, this was not feasible because of the absence of data within this depth range. It was also indicated in the NYSDEC comments that a comparison should occur within the distinct depth intervals (0-6, 6-12, 12-24

inches) rather than overlapping intervals (0-6, 0-12, 0-24). Honeywell has chosen to compare the overlapping intervals here since, from a realistic standpoint, actual exposure will occur in the broader overlapping ranges, not the distinct intervals that the NYSDEC requested.

Constituents selected for the depth interval comparison are drawn from the list of COCs in **Table 2-3** (Direct Contact Screen) of the Final BERA Work Plan. In such instances when all of the samples in an interval are non-detects or when only one detect occurs, these chemicals are excluded from the depth interval comparison.

For each depth interval, mean concentrations were calculated and are presented in **Table E-1** and **Table E-2**. For Site soils, a three-way comparison was necessary (0-6 vs. 0-12, 0-12 vs. 0-24, and 0-6 vs. 0-24). For aquatic habitat sediment, the 0 to 6-inch and the 0 to 12-inch range were compared. Assuming a null hypothesis of no difference between the depth interval means, a one tailed p-value (alpha = 0.05) was calculated for each comparison. The lower p-value result, the less likely the null hypothesis is true, and consequently the more significant the result is. A p-value less than alpha requires rejecting the null hypothesis (*i.e.*, a difference between sample set means exists). Ratios of the means for each constituent for each depth interval comparison were also calculated.

Results

Site Soils
The three soil depth intervals compared were 0-6 inches, 0-12 inches, and 0-24 inches. Fifty COCs were evaluated for this comparison. For two COCs (Aroclor 1248 and endosulfan sulfate) there were insufficient data to conduct the statistical test. Methyl mercury was also listed as a COC but was not analyzed in Site soils thus a statistical test was not performed for this compound. Therefore, a total of 47 p-values and ratios were derived for Site soil (**Table E-1**).

Of the 47 comparisons completed for the 0-6 inch to the 0-12 inch interval, no p-value was less than the alpha value. When comparing the 0-6 inch to the 0-12 inch interval, sixteen constituents had higher means in the 0-6 inch range and 31 had higher means in the 0-12 inch range. No significant difference between intervals was identified between the 0-6 inch and 0-24 inch interval. Since only a small number of additional samples were included in the 0-24 inch range compared to the 0-12 inch range, the results were almost identical to the 0-6 inch and 0-12 inch interval comparison. Consequently, there is also very little difference between the 0-12 inch and 0-24 inch range. In fact, no ratios deviated from 1.0 by more than 0.03.

Aquatic Sediment
The two depth intervals compared in sediment were 0-6 inches and 0-12 inches. Forty-two COCs were evaluated for this comparison. For eight COCs (4-4-DDT, 2-methylnaphthalene, anthracene, carbazole, dibenzofuran, 4-methyl-2-pentanone, ethylbenzene, and xylene [total]) there were insufficient data. Methyl mercury was also listed as a COC but was not analyzed in Site sediment. Thus, a total of thirty-three p-values and ratios were derived for Site soil (**Table E-2**).

No significant difference was found for the mean of any constituent when compared statistically (0-6 inch and 0-12 inch). Eighteen of the thirty-three comparisons demonstrated a higher mean in the 0-6 inch interval as compared to the 0-12 inch interval. There were thirteen cases where the

mean obtained from the 0-6 inch interval was greater than that of the 0-12 inch interval by greater than 10%. In fifteen instances the mean obtained from the 0-12 inch interval was greater than that of the 0-6 inch interval.

Conclusions

There is no significant difference between mean values of any depth interval in Site surface soil. Because data between intervals are similar, the selection of the 0-12 inch depth interval for evaluation in the Wastebeds 1-8 BERA is reasonable. There are less constituents that had a higher mean in the 0 to 6-inch interval (16) as compared to the 0-12 inch interval (31) (**Table E-1**). Therefore, the 0-6 inch interval would likely underestimate risk from exposure to site soils for some constituents. Furthermore, to exclude the 6-12 inch interval from the dataset would eliminate a significant quantity of usable data. There is very little difference (3% or less) between the 0-12 inch and 0-24 inch range and would not considerably impact risk.

Analysis of sediment data did not show a significant statistical difference in means between the 0 to 6-inch range and the 0 to 12-inch interval. The 0-6 inch and 6-12 inch intervals each shared a similar number of constituents with a higher mean than the other. However, 93% of the thirteen COCs in sediment with greater than 10% difference occurred in the 0 to 6-inch interval indicating the 0-6 inch interval is suitable for usage in the evaluation of ecological risk. Sediment samples were not collected from the 12 to 24-inch interval, and therefore, no evaluation was performed for data below 12 inches.

References

Fagerstone, K.A. 1987. *Black-footed ferret, longtailed weasel, short-tailed weasel, and least weasel.* In: Novak M., Baker J.A., Obbard M.E., Mallock B., (eds.). Wild furbearer management and conservation in North America. Ontario: Ontario Trappers Association under auspices of the Ontario Ministry of Natural Resources. p 548-573.

Jameson, E.W., Jr. 1943. *Notes on the habits and siphonapterous parasites of the mammals of Welland County, Ontario.* Journal of Mammalogy 24:194-197.

Klatt, B.J., and L.L. Getz. 1987. *Vegetation characteristics of Microtus ochrogaster and M. pennsylvanicus habitats in east-central Illinois.* Journal of Mammalogy 68:569-577.

Lee, K.E. 1985. *Earthworms, their ecology and relationships with soils and land use. Academic Press.* New York, NY

Tsai, C.-F., Shen, H.-P., Tsai, S.-C., 2001. *Some new earthworms of the genus Amynthas (Oligochaeta: Megascolecidae) from Mt. Hohuan of Taiwan.* Zool. Stud. 40, 276–288.

Reynolds. T D . and W L Wakkinen 1987. *Characteristics of the burrows of four species of rodents in undisturbed soils in southeastern Idaho.* Amer. Midi. Nat. 118:245-250.

Table E-1
Honeywell - Wastebeds 1-8 Site
Baseline Ecological Risk Assessment
Soil Depth Interval Comparison

CAS #	CONSTITUENT[a]	Mean (mg/kg)			P-VALUE[b]			RATIOS[c]		
		0-6 inches	0-12 inches	0-24 inches	0-6" vs 0-12"	0-6" vs 0-24"	0-12" vs 0-24"	0-6" vs 0-12"	0-6" vs 0-24"	0-12" vs 0-24"
7440-36-0	ANTIMONY	1.38	1.35	1.35	0.49	0.49	0.50	1.02	1.02	1.00
7440-38-2	ARSENIC	8.44	9.05	9.03	0.27	0.28	0.49	0.93	0.93	1.00
7440-39-3	BARIUM	147	170	169	0.26	0.27	0.49	0.86	0.87	1.00
7440-41-7	BERYLLIUM	0.47	0.54	0.54	0.14	0.14	0.49	0.86	0.86	1.00
7440-43-9	CADMIUM	20.40	26.74	26.31	0.26	0.27	0.48	0.76	0.78	1.02
7440-70-2	CALCIUM	230,538	227,894	228,525	0.44	0.45	0.48	1.01	1.01	1.00
7440-47-3	CHROMIUM	305	265	263	0.39	0.39	0.50	1.15	1.16	1.00
7440-48-4	COBALT	21.28	18.65	18.51	0.43	0.42	0.49	1.14	1.15	1.01
7440-50-8	COPPER	130	133	132	0.48	0.49	0.49	0.98	0.99	1.01
57-12-5	CYANIDE	5.19	5.88	5.85	0.23	0.24	0.48	0.88	0.89	1.01
7439-92-1	LEAD	139	135	134	0.47	0.46	0.49	1.03	1.03	1.00
7439-96-5	MANGANESE	385	397	396	0.44	0.44	0.49	0.97	0.97	1.00
7439-97-6	MERCURY	0.84	0.88	0.87	0.45	0.46	0.49	0.96	0.96	1.00
22967-92-6	METHYL MERCURY	NOT SAMPLED	NOT SAMPLED	NOT SAMPLED	NA	NA	NA	NA	NA	NA
7440-02-0	NICKEL	171	154	153	0.45	0.45	0.50	1.12	1.12	1.01
7782-49-2	SELENIUM	2.06	2.06	2.04	0.50	0.49	0.49	1.00	1.01	1.01
7440-23-5	SODIUM	1,078	1,121	1,119	0.39	0.39	0.50	0.96	0.96	1.00
7440-28-0	THALLIUM	1.38	1.43	1.43	0.41	0.41	0.50	0.97	0.97	1.00
7440-62-2	VANADIUM	30.13	26.82	26.70	0.39	0.39	0.49	1.12	1.13	1.00
7440-66-6	ZINC	446	425	422	0.46	0.45	0.49	1.05	1.06	1.01
12672-29-6	AROCLOR 1248	ONE DET	ONE DET	ONE DET	NA	NA	NA	NA	NA	NA
11097-69-1	AROCLOR 1254	47.13	61.72	61.72	0.21	0.21	0.50	0.76	0.76	1.00
11096-82-5	AROCLOR 1260	1,498	2,793	2,793	0.13	0.13	0.50	0.54	0.54	1.00
11100-14-4	AROCLOR 1268	24.00	24.00	24.00	0.50	0.50	0.50	1.00	1.00	1.00
50-29-3	4-4-DDT	0.01	0.01	0.01	0.24	0.24	0.50	0.74	0.74	1.00
60-57-1	DIELDRIN	0	0	0	0.25	0.25	0.50	0.78	0.78	1.00
1031-07-8	ENDOSULFAN SULFATE	ALL ND	ONE DET	ONE DET	NA	NA	NA	NA	NA	NA
5566-34-7	GAMMA-CHLORDANE	0.11	0.15	0.15	0.16	0.16	0.50	0.76	0.76	1.00
91-57-6	2-METHYLNAPHTHALENE	0.72	1.69	1.65	0.13	0.14	0.49	0.43	0.43	1.02
83-32-9	ACENAPHTHENE	0.27	0.25	0.24	0.48	0.46	0.48	1.05	1.08	1.03

Table E-1
Honeywell - Wastebeds 1-8 Site
Baseline Ecological Risk Assessment
Soil Depth Interval Comparison

CAS #	CONSTITUENT[a]	Mean (mg/kg)			P-VALUE[b]			RATIOS[c]		
		0-6 inches	0-12 inches	0-24 inches	0-6" vs 0-12"	0-6" vs 0-24"	0-12" vs 0-24"	0-6" vs 0-12"	0-6" vs 0-24"	0-12" vs 0-24"
208-96-8	ACENAPHTHYLENE	0.32	0.46	0.45	0.17	0.18	0.48	0.70	0.71	1.02
120-12-7	ANTHRACENE	0.58	0.62	0.61	0.43	0.45	0.48	0.93	0.94	1.02
56-55-3	BENZO(A)ANTHRACENE	1.27	1.24	1.23	0.48	0.47	0.49	1.03	1.04	1.01
50-32-8	BENZO(A)PYRENE	1.21	1.22	1.21	0.49	0.50	0.49	0.99	1.00	1.01
205-99-2	BENZO(B)FLUORANTHENE	1.17	1.15	1.14	0.48	0.47	0.49	1.02	1.03	1.01
191-24-2	BENZO(G,H,I)PERYLENE	0.76	0.78	0.77	0.45	0.47	0.47	0.97	0.98	1.01
207-08-9	BENZO(K)FLUORANTHENE	1.22	1.25	1.25	0.47	0.47	0.50	0.97	0.97	1.00
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	0.59	0.51	0.51	0.35	0.35	0.50	1.17	1.17	1.00
85-68-7	BUTYL BENZYL PHTHALATE	0.45	0.45	0.45	0.50	0.50	0.50	1.00	1.00	1.00
86-74-8	CARBAZOLE	0.22	0.21	0.21	0.47	0.47	0.50	1.04	1.04	1.00
218-01-9	CHRYSENE	1.15	1.17	1.16	0.48	0.49	0.49	0.98	0.99	1.01
132-64-9	DIBENZOFURAN	0.25	0.35	0.34	0.27	0.29	0.48	0.73	0.75	1.02
206-44-0	FLUORANTHENE	1.85	1.80	1.78	0.47	0.46	0.49	1.03	1.04	1.01
86-73-7	FLUORENE	0.42	0.64	0.64	0.27	0.27	0.50	0.65	0.65	1.00
193-39-5	INDENO(1,2,3-CD)PYRENE	0.70	0.69	0.68	0.47	0.45	0.48	1.02	1.03	1.01
91-20-3	NAPHTHALENE	2.41	8.85	8.71	0.16	0.17	0.49	0.27	0.28	1.02
85-01-8	PHENANTHRENE	1.26	1.40	1.38	0.40	0.41	0.49	0.90	0.91	1.01
129-00-0	PYRENE	1.75	1.79	1.77	0.48	0.49	0.49	0.98	0.99	1.01
75-15-0	CARBON DISULFIDE	0.003	0.01	0.01	0.14	0.14	0.50	0.37	0.37	1.00
1330-20-7	XYLENE (TOTAL)	0.711	3.18	3.08	0.20	0.19	0.49	0.22	0.23	1.03
Number of comparisons where the 0-6 inch interval was the highest								16	18	NA
Number of comparisons where the 0-12 inch interval was the highest								31	NA	33
Number of comparisons where the 0-24 inch interval was the highest								NA	29	14

NOTES:
a) Constituent list was taken from Table 2-3 (soil direct contact) of the Final BERA Work Plan.
b) One tailed p-value calculated at an alpha value of 0.05.
c) Ratios represent the mean for the shallowest interval (0-6 inches or 0-12 inches) divided by the mean for the deepest soil interval (0-12 inches or 0-24 inches).

Table E-2
Honeywell - Wastebeds 1-8 Site
Baseline Ecological Risk Assessment
Sediment Depth Interval Comparison

CAS #	CONSTITUENT[a]	Mean (mg/kg)		P-VALUE[b]	RATIO[c]
		0-6 inches	0-12 inches	0-6" vs 0-12"	0-6" vs 0-12"
7440-38-2	ARSENIC	4.58	4.61	0.49	0.99
7440-41-7	BERYLLIUM	0.44	0.47	0.40	0.93
7440-70-2	CALCIUM	181,478	157,129	0.34	1.15
7440-47-3	CHROMIUM	20.21	21.86	0.41	0.92
7440-48-4	COBALT	6.63	6.55	0.49	1.01
7440-50-8	COPPER	12.49	13.71	0.37	0.91
57-12-5	CYANIDE	0.80	0.93	0.38	0.86
7439-92-1	LEAD	20.09	20.29	0.49	0.99
7439-96-5	MANGANESE	415	369	0.34	1.13
7439-97-6	MERCURY	0.72	0.71	0.49	1.02
22967-92-6	METHYL MERCURY	NOT SAMPLED	NOT SAMPLED	NA	NA
7440-02-0	NICKEL	18.78	21.54	0.28	0.87
7782-49-2	SELENIUM	0.89	0.79	0.37	1.12
7440-23-5	SODIUM	1,324	1,428	0.42	0.93
7440-28-0	THALLIUM	1.06	0.98	0.45	1.09
7440-62-2	VANADIUM	16.00	17.24	0.37	0.93
7440-66-6	ZINC	51.04	51.36	0.49	0.99
11097-69-1	AROCLOR 1254	0.02	0.03	0.25	0.60
11100-14-4	AROCLOR 1268	0.02	0.09	0.19	0.18
50-29-3	4-4-DDT	ONE DET	ONE DET	NA	NA
91-57-6	2-METHYLNAPHTHALENE	ONE DET	ONE DET	NA	NA
120-12-7	ANTHRACENE	NA	ONE DET	NA	NA
56-55-3	BENZO(A)ANTHRACENE	0.19	0.14	0.31	1.38
50-32-8	BENZO(A)PYRENE	0.22	0.15	0.30	1.43
191-24-2	BENZO(G,H,I)PERYLENE	0.14	0.11	0.33	1.28
207-08-9	BENZO(K)FLUORANTHENE	0.22	0.15	0.29	1.44
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	0.17	0.20	0.41	0.85
86-74-8	CARBAZOLE	ALL ND	ALL ND	NA	NA
218-01-9	CHRYSENE	0.24	0.17	0.29	1.41
132-64-9	DIBENZOFURAN	ONE DET	ONE DET	NA	NA
206-44-0	FLUORANTHENE	0.29	0.27	0.46	1.07
193-39-5	INDENO(1,2,3-CD)PYRENE	0.13	0.10	0.32	1.28
91-20-3	NAPHTHALENE	0.07	0.06	0.17	1.23
85-01-8	PHENANTHRENE	0.20	0.18	0.33	1.14
129-00-0	PYRENE	0.35	0.31	0.42	1.13
591-78-6	2-HEXANONE	7.40	7.40	0.50	1.00
108-10-1	4-METHYL-2-PENTANONE	ALL ND	ALL ND	NA	NA
67-64-1	ACETONE	0.05	0.05	0.16	1.14
75-15-0	CARBON DISULFIDE	0.002	0.01	0.19	0.29
100-41-4	ETHYLBENZENE	ONE DET	0.001	NA	NA
108-88-3	TOLUENE	0.01	0.01	0.41	0.89
108-88-3	XYLENE (TOTAL)	ONE DET	0.01	NA	NA
Number of comparisons where the 0-6 inch interval was the highest					18
Number of comparisons where the 0-12 inch interval was the highest					15

NOTES:
a) Constituent list was taken from Table 2-3 (sediment direct contact) of the Final BERA Work Plan.
b) One tailed p-value calculated at an alpha value of 0.05.
c) Ratios represent the mean for the 0-6 inch interval divided by the mean for the 0-12 inch interval.