



FIGURE 6

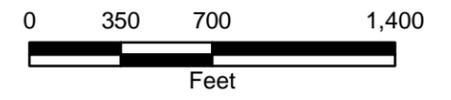


LEGEND

- LOCATION TYPE**
- SURFACE WATER/SEDIMENT
 - SEEP WATER/SEDIMENT (sampled)
 - BIKE TRAIL
 - SITE BOUNDARY
 - APPROXIMATE WASTEBED BOUNDARY
- EXPOSURE AREA**
- SITE DITCH
 - DITCH A - SOUTH

HONEYWELL
WASTEBEDS 1 - 8
HUMAN HEALTH RISK ASSESSMENT
GEDDES, NEW YORK

**EXPOSURE UNIT 5 -
SAMPLING LOCATIONS**



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FIGURE 7

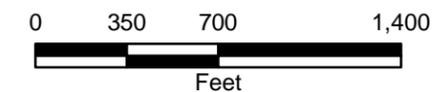


LEGEND

- LOCATION TYPE**
- SURFACE SOIL
 - SURFACE WATER/SEDIMENT
 - SEEP/WATER/SEDIMENT (sampled)
 - SOIL SAMPLE (Cr SPECIATION)
 - BIKE TRAIL
 - SITE BOUNDARY
 - APPROXIMATE WASTEBED BOUNDARY
- EXPOSURE AREA**
- LAKESHORE AREA
 - DITCH A - SOUTH

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**EXPOSURE UNIT 6 -
SAMPLING LOCATIONS**



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FIGURE 8

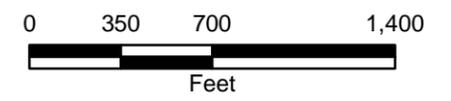


LEGEND

- LOCATION TYPE**
- MONITORING WELL
 - GROUND WATER SCREENING
 - BIKE TRAIL
 - SITE BOUNDARY
 - APPROXIMATE WASTE BED BOUNDARY
- EXPOSURE AREA**
- BIOSOLIDS AREA
 - NEW YORK STATE FAIR PARKING AREAS
 - LAKESHORE AREA
 - UPLAND OLD FIELD SUCCESSIONAL AREA
 - PONDED AREA
 - SITE DITCHES
 - DITCH A - SOUTH

HONEYWELL
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GEDDES, NEW YORK

**EXPOSURE UNIT 7 -
SAMPLING LOCATIONS**



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Exposure Frequency

Issue

Honeywell seeks agency concurrence on the proposed method for adjusting the exposure frequency for Wastebeds 1-8 receptors exposed to surface soil, seep sediment, and aquatic sediment via the ingestion and dermal exposure routes.

Background

Honeywell's February 25, 2008 RAGS 1-6 submittal for the Wastebeds 1-8 Site proposed the adjustment of two parameters to account for the fact that certain receptors are simultaneously exposed to surface soils, seep sediments, and, in some cases, aquatic sediments (Ditch and Pondered Area). Honeywell believes that this exposure scenario overestimates the risk obtained through the incidental ingestion and dermal exposure routes. Honeywell proposed to adjust the fraction ingested parameter (FI) for the ingestion exposure route and to add an area correction factor for the dermal exposure route to account for this issue. In response, the NYSDEC and USEPA suggested that Honeywell modify the exposure frequency of the receptors that are exposed to these media. NYSDEC's April 1, 2008 comment on this issue and Honeywell's response are provided below.

Specific Comment 12 (from NYSDEC's April 1, 2008 letter)

Page A-10, fraction ingested: Apportioning soil and sediment ingestion using the fraction ingested adjustment is not typically performed at Superfund sites. However, the rationale for doing so seems logical provided that exposure to sediment occurs in the same way as exposure to soil (e.g., it is as readily available for contact as soil and would be encountered with the same frequency). Another way to consider exposure to sediments without adjusting the fraction ingested factor would be to modify the exposure frequency with which a receptor has contact with this medium. If this were done, the fraction ingested for both soil and sediment would be 1, but the exposure frequency for sediment could be reduced to the number of days seep sediment is available for contact. More information on the presence of seep sediment (e.g., do the seeps flow year-round or only during wet weather events?) would help inform the decision of which approach would be more appropriate. Please explore further. If the later approach of adjusting the exposure frequency is used, the same concept could be applied to the Area Correction Factor for dermal exposure.

Honeywell's Response (May 9, 2008 revised response based on the conference call between NYSDEC, EarthTech, USEPA, and O'Brien & Gere on May 9, 2008)

The exposure frequency for soil will not be adjusted for any receptor and it will be assumed that receptors coming in contact with soils will do so 100% of the time they are on the Site. For seep sediment, however, the EF will be adjusted to reflect the aerial extent of the seep sediment in a given exposure unit. For instance, if seep sediment accounts for 10% of the surface area within an Exposure Unit a hypothetical overall exposure

frequency of 100 days would be adjusted to 10 days to reflect the lower potential to come in contact with seep sediment instead of soil in a given Exposure Unit.

Proposal

Honeywell proposes to adjust the exposure frequency to seep and aquatic sediment to reflect the aerial extent of the media. Table 1 presents the percentage of each media type (seep, aquatic sediment, and soil) for each Exposure Unit where receptors are exposed to two or three of these media types. Table 2 uses these percentages to adjust the previously approved exposure frequencies. Note the soil exposure frequency was not adjusted, and aquatic sediment exposure frequency was rounded up to one. Honeywell proposes to apply these new RME exposure frequencies to the receptor populations listed on Table 2 for the dermal and ingestion exposure routes for soil, seep sediment, and aquatic sediment. The exposure frequencies for the Central Tendency scenario will be adjusted in a similar manner. Honeywell seeks agency concurrence with this issue prior to the production of the RAGS Table 1-10 series for this Site.

APPENDIX C, TABLE 1
 CALCULATION OF EXPOSURE FREQUENCY FOR RECEPTORS EXPOSED TO
 SOIL, SEEP SEDIMENT AND/OR AQUATIC SEDIMENT
 Honeywell Wastebeds 1 through 8 Site, Geddes, New York

Exposure Unit	Exposure Areas	Area of EA (acres)	Area of Media Type within EA (acres)			
			Seep	Aquatic Sediment	Soil	
1	NY State Fair Parking Area ¹	80.68	---	---	80.68	
	Upland Old Field Successional Area ²	174.82	8.74	---	166.10	
	Biosolids Area ¹	19.45	---	---	19.45	
	Ponded Area ³	0.14	---	0.14	---	
	Ditch A - South ³	0.13	---	0.13	---	
Total		275.22	8.74	0.27	266.23	
Percent of Total		---	3%	0.1%	97%	
2	NY State Fair Parking Area ¹	80.68	---	---	80.68	
	Upland Old Field Successional Area ²	174.82	8.70	---	166.1	
	Biosolids Area ¹	19.45	---	---	19.45	
	Total		274.95	8.70	0.0	266.23
	Percent of Total		---	3%	0%	97%
3	NY State Fair Parking Area ¹	80.68	---	---	80.68	
	Upland Old Field Successional Area ²	174.82	8.74	---	166.10	
	Biosolids Area ¹	19.45	---	---	19.45	
	Lakeshore Area ⁴	36.05	9.0	---	27.0	
	Total		311.00	17.8	0.0	293.3
Percent of Total		---	6%	0%	94%	
6	Lakeshore Area ⁴	36.05	9.0	---	27.0	
	Ditch A - South ³	0.13	---	0.13	---	
	Total		36.18	9.01	0.13	27.04
Percent of Total		---	25%	0.4%	75%	

Notes:

- (1) exposure area is comprised of 100% soil
- (2) Upland Old Field Successional Area estimated as 5% seep sediment and 95% soil
- (3) Ponded Area and Ditch A are considered 100% aquatic sediment
- (4) Lakeshore Area estimated as 25% seep sediment and 75 % soil.
- media type not found in indicated expoure area

APPENDIX C, TABLE 2
 CALCULATION OF EXPOSURE FREQUENCY FOR RECEPTORS EXPOSED TO
 SOIL, SEEP SEDIMENT AND/OR AQUATIC SEDIMENT
 Honeywell Wastebeds 1 through 8 Site, Geddes, New York

Exposure Unit	Receptor Population	RME Total Exposure Frequency (days)	Proposed RME Exposure Frequency		
			Seep Sediment ¹	Aquatic Sediment ²	Soil ³
EU1	Transient Trespasser	94	3	1	94
EU2	Lunchtime trespasser	95	3	---	95
	Utility/sewer worker	20	1	---	20
EU3	Trespasser/ATV recreator (12-18 yrs)	94	5	---	94
	Trespasser/ATV recreator (18-30 yrs)	42	2	---	42
	Construction worker	125	7	---	125
EU 6	Trespasser/Fisherperson	42	10	1	42

Notes:

- (1) Proposed exposure frequency for seep sediment was determined by multiplying the total exposure frequency by the percentage (aerial extent) of the Exposure Unit that is comprised of this media type.
- (2) Aquatic sediment exposure frequency was rounded up to 1 day.
- (3) Proposed exposure frequency for soil is set at 100% of the original exposure frequency

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file 1163/39642 #2

September 29, 2008



Alexander B. Grannis
Commissioner

John McAuliffe
Honeywell International
5000 Brittonfield Parkway
Suite 700
East Syracuse, NY 13057

Re: Wastebeds 1 through 8 Site, Geddes, New York, NYSDEC Comments on the HHRA Risk Assessment Interim Deliverable, dated July 31, 2008

Dear Mr. McAuliffe:

The New York State Department of Environmental Conservation has reviewed the Wastebeds 1-8 document named above and have comments as detailed below.

Chromium Speciation Analysis

1. In order to be consistent with the HHRA for the Wastebeds 1-8, the historically collected chromium data (adjusted using the hexavalent chromium (Cr⁺⁶) to total chromium (Cr) ratios) should also be considered in developing the chromium EPCs for the Bike Trail HHRA. Once final ratios are agreed upon, EPA will revise the HHRA for the Bike Trail appropriately.
2. A review of the speciated chromium data by statisticians in EPA's Technical Support Center, which is housed in the Office of Research and Development, National Exposure Research Laboratory, confirmed (using the Wilcoxon Mann Whitney test) that Cr⁺⁶ and Cr concentrations from the Biosolids Area are statistically higher than those from the rest of the site and therefore should not be used in developing the site-wide Cr⁺⁶/Cr ratio. A calculation of the 95% confidence interval on the slope of the regression line when the Biosolids data are removed from the dataset yields an upper bound value of 0.0097 (1%) for the Cr⁺⁶/Cr ratio. The upper bound estimate for data from the Biosolids Area only yields a value of 0.1124 (11%) for the Cr⁺⁶/Cr ratio. It is recommended that these ratios be applied to the historically collected data.
3. There are a number of issues that impact the calculation of the site-wide ratio of Cr⁺⁶/Cr that should be discussed in the uncertainty section of the Wastebeds 1-8 HHRA. These include the anomalous subsurface result from the State Fair Parking Lot (WB18-SB-134)

the anomalous subsurface result from the State Fair Parking Lot (WB18-SB-134) that has a Cr⁺⁶/Cr ratio of 0.57 and the high number of non-detects in the site-wide data (70%).

4. The narrative text should have made it clear that the values in the tables include substitution of 1/2 the RL (i.e., 0.2 mg/kg) for the ND Cr+6 results. (However, the 95% UCL calculations do not necessarily do so).
5. The ProUCL output, from which the 95% UCL of 30.2 mg/kg (Cr+6) is derived by the KM(t), also provides a second recommendation of 39.49 mg/kg by KM(bootstrap) (Table A1). Please explain why the 39.49 mg/kg value is not used.

Appendix B

6. In Appendix B, it appears that there are a number of soil samples at depths much greater than those to which any receptor would be exposed are marked "yes" for "included in HHRA." This should be explained or corrected.

Appendix C – Surface Soil, Seep Sediment, and Aquatic Sediment Exposure Frequencies

7. The proposed methodology for adjusting the exposure frequency to seep and aquatic sediment based on aerial extent of the media is acceptable.

Overall, the approach taken and results are reasonable. Please incorporate information contained in the above comments when submitting HHRA Tables and narratives. If you have any questions, please call me at 518-402-9676.

Sincerely,



Susan Edwards
Project Manager

Copy: D.Crawford., OBG