

March 26, 2008

FINAL REVISED RESPONSE TO COMMENTS
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY COMMENTS
SEPTEMBER 27, 2007
DRAFT REMEDIAL INVESTIGATION AND RISK ASSESSMENT REPORT
SITE 1 – GOLF COURSE LANDFILL
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- 1) **Sections 2.1.2, 4.1, and 4.2** – While reviewing the *Draft Final Preliminary Assessment Naval Station Great Lakes, Illinois NTC Lakefront and TSA Ranges*, which pertains to munitions response sites, it was noticed that a figure from an historical document identified a trap shooting range very near the Fire Fighter Training Unit and on the site of the golf course. It appeared to be located on the western portion of the current golf course. This information should be researched and potentially added here for informational purposes. Obviously, if the trap shooting range existed, lead contamination from the lead shot would be expected.

Response: *The Preliminary Assessment report was reviewed and the report only identified Building 3310 as an archery and trap shooting facility. No other information about this building and facility was noted in the report. The historical aerial photos were reviewed again and what was thought to be a construction laydown area can be identified as a trap shooting range that operated from after 1953 to some time between 1964 and 1972 (see the attached aerial photos). We agree that lead contamination as well as PAH contamination from the clay pigeons would be expected in this area. Since the operation of the trap facility, this area has been converted to the back 9 of the Willow Glen Golf Course in 1968 and was reconstructed in the early 2000s by adding fill to many areas. This area of the trap facility is located at the end of the practice driving range, southwest of the golf course maintenance building, with the northern end of the trap facility approximately due west of the golf course maintenance building. No soil samples were collected in this area however; sediment samples were collected in Skokie Ditch in the area that abutted the trap facility. PAH and lead were detected in the sediment samples but the results were not significantly different than the concentrations in other parts of Skokie Ditch. Additionally, groundwater samples from the perimeter downgradient monitoring wells and surface water samples from downgradient surface water locations did not show concentrations of lead and PAHs greater than the TACO criteria. Historical information about the trap facility will be added to these sections based on the Preliminary Assessment report and aerial photographs but no additional sampling will be conducted.*

- 2) **Section 2.3.2** – In the last paragraph on page 2-6 it states that for the 10 subsurface soil samples collected in March 2004, there were no VOC, SVOC, or RCRA Metals detections that exceeded the screening objectives and then references Table 2-3. In Table 2-3, there are a couple of compounds which have been highlighted to identify exceedances that appear to be identified by sample IDs attributed to the 2004 sampling effort. Please review the table and revise the text and/or table as necessary. The figures also identify exceedances and list those same sample IDs.

Response: *The text will be changed as follows: "According to the ToITest Delivery Order Closure Report for split-spoon sampling and soil disposal, no VOCs, SVOCs, or RCRA metals were detected in the soil samples at concentrations that exceeded their respective screening objectives; however, laboratory data included in Appendix F of the*

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report did not concur with this statement. The data provided by Suburban Laboratories, Inc. reported detections of nine SVOCs from SB4, some of which were at concentrations that exceeded their respective screening objectives.”

- 3) **Table 2-3 (4 of 4)** – The criteria listed in the fourth column of this table are identified as being TACO migration to groundwater soil remediation objectives. It should be specified in this table that comparisons to these values must be made using environmental results based on extraction analysis and that the units are mg/L. Milligram/kilogram migration to groundwater soil remediation objectives for some of the listed parameters are available in 742.Appendix B/Table D; however, Table D objectives are dependent upon soil pH and can thus vary between soil borings.

Response: The soil analysis for Site 1 did not include extraction analyses (TCLP or SPLP) for direct comparison to the TACO migration to groundwater soil remediation objective. Therefore the TACO soil to groundwater remediation objectives with units of mg/L are not applicable and will be removed from the table. The values will be replaced by NA (Not Applicable). The table includes the USEPA Region 9 soil to groundwater criteria in units of mg/kg that will be used for comparison. The pH dependent criteria will not be included in the table because, as pointed out by the reviewer, they vary between soil borings.

- 4) **Section 3.1** – The third bullet states an extra sediment sample was collected because the lithology was unique compared to other sediment sampling locations. Which sediment sample was that? The Quality Assurance Project Plan (QAPP) listed 5 sediment sampling locations. They were identified as the origination point of Skokie Ditch, the bend in Skokie Ditch, the sediment trap located near the split in Skokie Ditch, equidistant between the origination point and the split, and the point where Skokie Ditch flows off-site. Section 4.5 of this Remedial Investigation lists those same 5 locations as having been sampled and the results tables list 5 sediment sample results, both surface and subsurface. Please explain this apparent discrepancy.

Response: The bullet is ambiguous in that an additional sediment sampling point was not actually collected; rather, additional laboratory analysis was conducted on an existing sediment sampling location. The QAPP required the collection and submission of grain size analysis at two sediment locations, but as stated in the bullet, since the lithology encountered at one location was unique compared to the other locations, it was also analyzed for grain size to provide a more comprehensive understanding of sediment lithology. The bullet will be corrected as follows “The sediment sample at location NTC01SD0201 was also analyzed for grain size because the lithology was unique compared to other sediment sampling locations.”

- 5) **Section 3.2.6** – On page 3-6 it lists 5 water quality parameters that were measured and recorded at each well during purging. These all had stabilization parameters (listed) that

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were to be met prior to sample collection. There were actually 6 parameters, in accordance with the QAPP. Oxidation-Reduction Potential (ORP) was also measured as is verified in Appendix A.7. Please revise this section to be consistent with what actually occurred during the investigation.

Response: The text in this section will be revised to include ORP according to the comment.

- 6) **Section 3.2.8** – The water level in the ditch at the time of sample collection is not reported here or in Appendix A.8 (Surface Water Sample Log Sheets). Was the creek at flood stage? Was it at base flow? Was it at a seasonal low (drought)? This type of information should be provided. The resultant data could be interpreted differently depending on the answer to these questions. There is also no mention of flow velocity of the creek. That information might be useful as well. Please include such information, if it exists.

Response: No water levels, stage data, or flow velocities were collected during this investigation. However, based on observations made by the site geologist and field technician during the sediment and surface water sampling, it can be assumed that the water level in the ditch at the time of sampling was above base flow since modest thicknesses of snow melt (approximately 6 inches of snow on ground) were discharging into the ditch prior to, during, and after sample collection. During this snow melt period, the water level did not reach heights to breach the stream banks indicative of flooding conditions. In general, the flow velocity could be considered to be average to slightly above average with respect to base flow conditions. Pictures (attached) from late 2005 and from the field work show that the water level in Skokie Ditch during the field investigation was lower than when the work was scoped in 2005 – the stream flow during the field investigation in 2006 would be considered base flow for Skokie Ditch. Text will be added to this section to indicate that the samples were collected when the flow in Skokie Ditch was at base flow.

- 7) **Section 3.2.8** – The QAPP and Table 3-2 of this document both indicate that the “Secondary Parameters” were to be evaluated for surface water. The text in this section does not mention those analyses. Please determine if samples for those parameters were or were not collected and analyzed. If they were, please include that information. If not, an explanation of why the QAPP was not followed will be required.

Response: Secondary Parameters were collected for the surface water samples, as shown in Table 4-5. The text in Section 3.2.8 will be updated to reflect that the secondary parameters were collected for the surface water samples. The first sentence of the third paragraph will be revised as “Surface water samples were analyzed for VOCs, PAHs, metals, cyanide, dioxins/furans, SVOCs, PCBs, Pesticides, Herbicides, TOC and pH.”

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- 8) **Tables 3-3** – The last four numeric water level values reported for the 3/8/07 column are inaccurate. Please review and revise as necessary.

Response: After review of Table 3-3, it was concluded that Note 1 was not accurately represented on the table for water levels on 3/8/07 for the permanent monitoring wells (NTC01MW01 to NTC01MW10). As outlined in Note 1, the water levels were based on ground surface elevations; however, the temporary stick-up measurements were also used in the determinations of the water levels. The table will be revised to accurately reflect how the water levels were determined for 3/8/07.

- 9) **Table 3-4** – Units of measure should be added to this table of sieve analysis results.

Response: For the four lithologies listed (clay, gravel, sand and silt), the unit percentage (%) will be added. For the inch based and the No. 4 to No. 200 sieve sizes listed, the unit percent (%) passing will be added.

- 10) **Figure 3-3** – The sample IDs are confusing when compared to Table 3-1 and it appears there may be a couple of sediment samples missing from the figure. Please review the figure for clarity, determine if all samples have been properly identified, and revise as necessary.

Response: The figure will be revised so that each sample type collected as outlined in Table 3-1 are listed on the figure, even when multiple sample types were collected from the same sampling location (such as NTC01SW03 and NTC01SD03). This change will also be made to Figures 4-3 through 4-7 and on Tables 4-5, 4-7, and 4-11.

- 11) **Figure 3-4** – The labels for the cross sections are missing the prime (') character on one end. The subsequent figures show cross sections, for example, from A – A', but on this figure the label is shown as A – A. Please add the prime character where appropriate.

Response: The prime character will be added in accordance with the comment.

- 12) **Figure 3-9** – The groundwater contour lines are shown using a 5 foot contour interval. However, there appear to be several lines missing. The lines on the eastern half of the figure are labeled 690, 695, 700, and then 715. Lines for 705 and 710 need to be added. Please review and revise as necessary.

Response: The 705 and 710 potentiometric groundwater contour elevations were not originally included for easier viewing of the figure. The 705 and 710 lines will be added in the eastern portion of the site.

- 13) **Section 4.2** – Unless there is some reason the data from the previous Fire Fighter Training Unit (FFTU) investigation, specifically, is considered questionable, the known contamination remaining there should be worked into this section also. There were detections/exceedances for several contaminants including benzene, toluene, ethyl

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benzene, xylene, and naphthalene, were there not? Additionally, that data should be worked into the Chemical Fate and Transport Analysis Section and the Human Health Risk Assessment Section as well. It is understood that data was not part of this RI, but the contamination was identified, remains on-site, and will add to the residual risk at this site. If, as noted in the Quality Assurance Project Plan for this site, "because of uncertainties associated with data quality", that data cannot be used to quantitatively assess potential risks at Site 1, then it should at least be used in a qualitative fashion to support the conclusions of the risk analysis. In that case, the FFTU information would tend to make the risk assessment less conservative.

Response: *The laboratory results from several reports for the FFTU were added to the database and tables will be generated (statistics and summary of positive hits) that will be added along with text to provide background information about the FFTU in Section 2 of the RI report. This discussion will also indicate that some remediation of soil had been conducted using biopiles at the site. In addition, a semi-quantitative discussion about the FFTU data will be included in the uncertainty section. It is anticipated that the FFTU be a small risk ratio compared with estimated risks from Site 1.*

14) Section 4.3.1 – Following the first bullet, a concentration range of 0.27 to 0.27 micrograms per liter is listed. Suggest merely listing the concentration and stating that it applies to both samples, which were duplicates anyway.

Response: *The bullet will be changed according to the comment.*

15) Section 4.5.3, Figure 4-4, Section 4.6.3 – Since there are PAH exceedances reported and shown for the surface and subsurface sediment samples collected at the southern-most location within the creek just prior to leaving the site, an additional sample or two should be collected from across the road to the south at the outfall of the creek and/or in the first depositional area to determine whether the extent of contamination has been bounded or if it continues off-site and downstream.

Response: *Four additional samples will be collected across the road from the site. The four samples will be collected from 2 different locations and a surface and subsurface sediment sample will be collected at each location. The samples will be analyzed for the parameters that were exceeded – PAHs, inorganics, pesticides, PCBs, and dioxins/furans. These samples will be collected in November 2007.*

16) Table 4-1 – In the Polynuclear Aromatic Hydrocarbons portion of this table, the entry "BAP EQUIVALENT ZEROND" is included. This entry needs to be explained.

Response: *The parameter "BAP Equivalent Zerond" is used in the HHRA and will be explained in Section 6 on page 6-37. The entry will be removed from the Section 4 Tables.*

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17) **Table 4-2** – Some of the parameters identified in this table as having no TACO soil remediation objective (NA) do have analogous values. These values can be obtained from the Agency web site at the following address:

<http://www.epa.state.il.us/land/taco/chemicals-not-in-taco-tier-1-tables.html>.

Response: *Values for these parameters will be added to the table.*

18) **Tables 4-6 and 4-8** – The source for the surface water “Ecological Screening Level” values should be identified.

Response: *Tables 7-1 and 7-2 provide the sources of the Ecological Screening Levels. The comment will be addressed by adding a footnote in Table 4-6 and 4-8 at the Ecological Screening Level column header referencing Table 7-1 (for Table 4-8) and Table 7-2 (for Table 4-6).*

19) **Section 6.2.3** – The use of exposure units for a site of this size is essential for development of an acceptable risk assessment. The Agency was unable to verify the appropriateness of the environmental samples included in each of the receptor-specific exposure units. Please define the exposure units used for the exposure point concentrations (EPC) and provide the sample identification numbers or plots of sample locations along with contaminant concentration information that were grouped for each exposure unit EPC calculation.

Response: *The exposure units for each media, sample IDs, locations, and concentrations in each sample will be included in the appendix with the EPC calculations (Appendix F-2).*

20) **Section 6.2.3** – The fifth bullet on the subject page identifies the statistical software used to calculate the exposure point concentrations for the risk assessment. The ProUCL software package was significantly upgraded in April 2007 to version 4.0. Version 4.0 accepts up to 70% censored dataset where earlier versions could accept no more than 15% nondetects. Because significant numbers of nondetects are present in the Site 1 data, exposure point concentrations should be recalculated using the current version of ProUCL.

Response: *The software for ProUCL 4.0 was made available only after the risk assessment was completed. In response to this comment, the data were reevaluated using Version 4.0. The results of the recalculations are as follows:*

Sediment -The EPC for one COPC (thallium) in sediment changed from 0.44 mg/kg to 0.55 mg/kg. However, the cumulative hazard indices did not change for the receptors. Therefore, the results and conclusions of the risk assessment for sediment were not affected by the difference in the ProUCL versions.

Subsurface soil – The affected EPCs and impact on risks for the construction worker are shown in the following table.

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Chemical	ProUCL 3 EPC (mg/kg)	ProUCL 4 EPC (mg/kg)	ProUCL 3 (HQ)	ProUCL 4 (HQ)
Antimony	7.1	5.6	0.06	0.05
Silver	94.9	250	0.06	0.16
Thallium	0.82	0.92	0.039	0.044
Naphthalene	1	1.2	0.13	0.15
Total Soil HI for Construction Worker			0.89	1.0

As shown in the above table, the cumulative HI was equal to 1 when using ProUCL 4.0 and target organ-specific HIs were less than 1.

Groundwater – No change. Maximum concentrations were used.

Surface Water – No change. Maximum concentrations were used.

The above discussion will be included in the Uncertainty Section of the risk assessment.

- 21) **Section 6.4.4.5** – In the fourth paragraph, average environmental lead concentrations are discussed. As in the comment for Section 6.2.3, to verify the reported findings, the exposure units need to be identified and which samples were included in the lead groundwater and lead soil exposure units.

Response: *The same information specified in the response to Comment 19 will be supplied for lead in Appendix F-2.*

- 22) **Section 6.5** – The Uncertainty Analysis Section should also discuss the potential for contamination to have been overlooked. As the site was once a trench and burn type landfill, the contamination would not be expected to be homogeneous across the site. It is very possible that the locations chosen for sampling, along the proposed sewer routes, were not in the most highly contaminated areas. This should be discussed as the risks posed at this site are likely under estimated for both the subsurface soil and groundwater within the bounds of the landfill.

Response: *This discussion will be added to the Uncertainty Section. It will also be pointed out that the sampling was biased because some samples were collected in ash where concentrations are expected to be greater than in soil.*

- 23) **Section 6.6.4** – The last sentence states the surface soil at Site 1 consists of clean fill to a depth of 2 feet. Suggest revising it to read to a *minimum* depth of two feet since in many areas of the golf course the depth of fill is significantly more than two feet.

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Response: *The word “minimum” will be added to this sentence in accordance with the comment.*

- 24) **Table 6-4** – The use of an attenuation factor of 0.001 in the vapor intrusion evaluation should be explained and justified. Also, please add the explanation for footnote #8 and add or explain the absence of footnote #7.

Response: *The Target Groundwater Concentrations for Indoor Air were obtained from the USEPA guidance document for evaluating vapor intrusion. The following is the EPA’s rationale for selecting an attenuation factor of 0.001, “ For groundwater, an attenuation factor of 0.001 (generally considered reasonably conservative) is used in combination with the conservative assumption that the partitioning of chemicals between groundwater and soil vapor is assumed to obey Henry’s Law.” (Page 29 of the guidance).*

There are only 6 footnotes in the table. The reference to Footnote #8 will be removed.

- 25) **Table 6-10** – The “Inhalation of Volatile Emissions While Showering” section of this table provides a breathing rate of 0.6 m³/hour. The associated footnote credits Illinois EPA as the source. Please refresh our memory as to the basis of this value.

Response: *This is an error in the reference. The breathing rate while showering was specified in RAGS-Part A. The footnote will be corrected.*

- 26) **Table 6-12** – The Agency has several comments for this table of non-cancer toxicity values. They are as follows:

- For Barium, we ascertained an oral RfD of 2.0E-1 mg/kg-day from the IRIS data source.
- For Manganese, we determined a combined oral RfD of 2.0E-02 mg/kg-day for all non-food sources (soil and water). We read the IRIS record to suggest two separate uncertainty factors; the first being 3 for concerns regarding absorption and the special circumstances relating to neonates and infants, and the second being 2 to focus on the non-dietary fraction of intakes.
- For Thallium, we determined an oral RfD of 8.0E-05 which is the lowest of the Thallium salt RfDs from IRIS.
- For Vanadium, we would select the HEAST RfD value of 7.0E-03 over the NCEA value. This decision is based on OSWER Directive 9285.7-53 regarding a hierarchy of data sources for selection of toxicological values.
- Subchronic toxicity values for the construction worker receptor should be listed when available.

Response:

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- **Barium** – The value recommended in Comment 26 (0.2 mg/kg/day) was the value used in the risk assessment. The problem was that the table had not been updated. The error in the table will be corrected.
- **Manganese** – The report was revised based on the comment and the HI was recalculated
- **Thallium** – The RfD for thallium used in the risk assessment (7.0 E-05 mg/kg/day) is the value currently recommended by USEPA Region 3 and Region 9 in their RBC and PRG tables and is slightly more conservative than the value recommended by the reviewer. Use of value recommended by the reviewer would not affect the calculated risks. No change will be made based on this comment.
- **Vanadium** - The RfD recommended for vanadium in Comment 26 (7.0E-03) is 7 times less conservative than the RfD used in the risk assessment (1.0E-03) and consequently the calculated risks for vanadium might be overestimated by 7 times. A reevaluation of the risks for vanadium indicates that only risks for groundwater would be affected by changing to the less conservative value. Specifically, the HQ for the future child resident for exposure to vanadium in groundwater would decrease from 2.0 to approximately 0.3. However, the cumulative HI for the child would decrease from 27 to 26 and, therefore, the total risk would decrease slightly but would still exceed 1.0. Therefore, it is not necessary to recalculate the risks for vanadium.
- **Subchronic Toxicity Values** – The subchronic toxicity values for construction worker exposures will be listed in the table.

27) **Table 6-13** – Provide subchronic inhalation values when available.

Response: The subchronic inhalation values for construction worker exposures will be listed in the table, if available.

28) **Table 6-14** – Illinois EPA understands that the slope factor presented in this table for “Vinyl Chloride (child)” should be used for any exposures that include receptors in stages of early-life. For this risk assessment, this would include the recreational/trespasser, future military resident, and future civilian resident receptors. Receptors that include no early-life-stage periods would use the “Vinyl Chloride (adult)” cancer slope value. Please confirm this and revise as necessary.

Response: The exposure scenarios that included early life exposures (0-6 years of age) were evaluated using the cancer slope factor for early life. No changes will be made to the table based on this comment.

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29) **Table 6-15** – We determined a unit risk of 3.3E+04 for TCDD TEQ from the HEAST data source.

Response: *The table will be revised to include the unit risk noted by the reviewer. Note that the risk assessment calculations are not affected by this problem because the inhalation cancer slope factor (not the unit risk) was used in the calculations.*

30) **Section 7.1.4.1** – Following the first paragraph, a fourth bullet should be added to include reptiles and amphibians in the ecological risk assessment. This is in agreement with the site conceptual model (Figure 7-2).

Response: *Reptiles and amphibians will not be added as assessment endpoints because potential risks to these receptors are not evaluated in the ERA for reasons presented in Sections 7.1.4.1 and 7.7.1 (which will be modified as described below). The following paragraph will be added at the end of Section 7.1.4.1:*

“USEPA guidance (USEPA, 1997) states “it is not practical or possible to directly evaluate risks to all of the individual components of the ecosystem at a site. Instead, assessment endpoints focus the risk assessment on particular components of the ecosystem that could be adversely affected by contaminants from the site.” Therefore, the ERA will focus on the endpoints tending to yield the highest risks, which should account for endpoints that have lower risks. Although amphibians and reptiles are likely to be present in and along the stream near the site, they were not selected as assessment endpoints because of the general lack of toxicity information and the lack of methods to evaluate their exposure to contaminants.”

Additionally the first sentence in paragraph 2 of Section 7.7.1, “Several endpoints were not quantitatively evaluated in this SERA.” will be changed to “Several receptors were not quantitatively evaluated in this SERA.” This statement was changed so as to not imply that these receptors were chosen as assessment endpoints.

31) **Section 7.6** – The second bullet describes a COPC screening process that uses the frequency of detection of contaminants. Obviously, this process would be meaningless to receptors having small home ranges such as soil or benthic invertebrates. Any frequency of detection screening process must be appropriate for each receptor’s home range and the extent of the applicable ecological exposure units.

Response: *The last sentence in the first paragraph in Section 7.6 indicates that the Step 3A evaluation includes a consideration of the topics in the bulleted list. For this site, because there were only five surface water and five surface sediment samples, frequency of detection did not play a role in refining the list of COPCs. However, the COPC screening process in the Step 3A portion of the Baseline Ecological Risk Assessment includes the frequency of detection as described in the Department of the Navy’s (1999)*

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Navy Policy For Conducting Ecological Risk Assessments which states, "Chemicals that are infrequently collected may be artifacts related to sampling or analytical problems, or may be reflective of a contaminant hot spot (i.e., discrete area of very high contaminant concentration) rather than of widespread contamination. In such an instance, a decision to delete the COPC from further evaluation or to initiate a very selective cleanup may be appropriate." Typically, frequency of detection is not the only reason for eliminating a chemical as a COPC because the data are reviewed to make sure that there is not a hot spot, that the sample is bounded, etc. No change will be made based on this comment.

- 32) Section 7.6.1.1 – In the third paragraph on page 7-19, add the units for the Cabbage et al. probable effects threshold value.

Response: The text will be modified as follows to address the comment: "The maximum fish TEQ (1.6 ng/kg) in sample NTC01SD0200 was significantly less than the probable apparent effects threshold value of 7.2 ng/kg for 2,3,7,8-TCDD (Cabbage et al., 1997), which is the only threshold value available."

- 33) Section 7.6.1.1 – In the last paragraph on page 7-19, the comparisons to Illinois background values were apparently performed using the wrong set of values. Comparisons should be completed using Table 1 of the Evaluation of Illinois Sieved Stream Sediment Data – 1982-1995.

Response: The text will be modified from "The maximum value is only slightly greater than the sediment screening value and the Illinois EPA background concentration (2 mg/kg)." to "The maximum value is only slightly greater than the sediment screening value (2 mg/kg)." Similar to the work that was completed at Site 17, Pettibone Creek and Boat Basin, the sediment samples were not sieved. In order to make a correct comparison to the TACO and other criteria the sediment samples were not sieved and the sediment results were compared to the unsieved values in the above report.

- 34) Tables 7-3 through 7-9 – All of the subject tables include average contaminant concentrations or average exposure factors. Screening level ecological risk assessments typically use maximum detection concentrations and reasonable maximum exposure factors. Please explain and justify the use of averages.

Response: Section 7.5.2 Risks to Terrestrial Wildlife is part of Step 2 of the screening-level risk assessment. This step used maximum concentrations and maximum exposure parameters to select the chemicals as COPCs based on risks to wildlife. Average concentrations and average exposure parameters are listed in Table 7-3 through 7-9 because these values were used in the Section 7.6, Step 3A – Refinement of Chemicals of Potential Concern to calculate risks to wildlife using a less conservative exposure scenario. Step 3a is technically the first step of the baseline ecological risk assessment and consists of a refinement of the conservative exposure assumptions, but it is included in this screening-level risk assessment in accordance with Navy guidance as

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discussed in the second paragraph of Section 7.0. No change will be made based on this comment.

35) **Figure 7-2** – There is a footnote next to the soil exposure medium that has not been defined. Please add the definition to the figure.

Response: *The footnote next to the soil exposure medium was inadvertently outside of the print range for the figure and did not print. The footnote states: “⁽¹⁾ - The soil pathway is incomplete for ecological receptors because the site is covered with soil that has not been impacted by site activities.” The print range will be modified to include the footnote.*

36) **Section 8.1** – The first sentence following the second bullet on page 8-2 is incomplete. Please review and revise as necessary.

Response: *The first sentence will be modified to “The results of the HHRA indicated that HIs for the subsurface soil, sediment, and surface water were less than 1; however HIs for the groundwater for future site residents were greater than 1 (the major contributors to risk were iron, manganese, and vanadium).”*

37) **Section 8.2** – The first bulleted item states that no additional investigation at the site is warranted. As noted previously, Illinois EPA believes a couple of additional sediment samples across Buckley Road to the south should be collected and analyzed to determine if contamination has spread off site.

Response: *See the response to Comment 15.*

38) **Section 8.2** – The last bulleted item suggests incorporating the FFTU into the feasibility study and decision documents. Illinois EPA is in agreement with that statement. However, as a former remediation site itself, closure for the FFTU site will need to be handled carefully and will require substantially more information, both historical and current, be included in those documents than would otherwise be necessary. See previous comment regarding contamination at that site.

Response: *See the response to Comment 13. Changes to this RI report will be made based on Comment 13.*

39) **General** - All questions regarding the disposition of environmental quantities of dioxins and furans must be referred to the Toxic Substances Control Act division of the United States Environmental Protection Agency, Region 5, for approval.

Response: *The final RI report will be submitted to EPA Region 5 for review. No change will be made based on this comment.*

March 26, 2008

FINAL REVISED RESPONSE TO COMMENTS (cont.)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY COMMENTS
SEPTEMBER 27, 2007
DRAFT REMEDIAL INVESTIGATION AND RISK ASSESSMENT REPORT
SITE 1 – GOLF COURSE LANDFILL
NAVAL STATION GREAT LAKES

40) **General** - No contaminant results or evaluation of surface soils risks and hazards are addressed in this report. All surface soils are reported to be imported from uncontaminated sources but no hard proof or documentation is provided. Surface soil can be a major contributor to risk for ecological and human receptors. Both the human health and ecological risk assessments are normally incomplete without an evaluation of current surface soil conditions and assurances that subsurface soils will not be moved to the surface through construction or repair activities on the site. In this case, Illinois EPA will agree that the imported surface soils on the golf course are clean and were imported from uncontaminated sources. However, as part of the final remedy, there must be worker caution notifications and restrictions placed upon the property to ensure subsurface soils will not be moved to the surface through construction or maintenance/repair activities. If, as planned, the presumptive remedy for landfills of capping is selected and implemented, such restrictions will be required for the cap anyway.

Response: The Navy and Illinois EPA have implemented a Land Use Control program using the Land Use Control Memorandum of Agreement (LUCMOA). Several sites in this program are evaluated yearly. Site 1 and the FFTU will be formally added to the Land Use Control Memorandum of Agreement (LUCMOA) between the Navy and Illinois EPA when the ROD is completed. Having them as part of the LUCMOA will require the Navy to conduct the steps discussed therein. The LUCs for the site will address the workers (occupational and construction) for the media of concern and the required restrictions on the property. No change will be made based on this comment.