Technical Review Committee Meeting #12 was held at NAS Willow Grove in the conference room of Building 78. The meeting convened at 1:15 PM. A copy of the agenda distributed at the meeting and an attendance list are attached.

1. **TRC Welcome and Introductions**

   A. Frank Klanchar, Remedial Project Manager from Northern Division, Naval Facilities Engineering Command (NORTHDIV) began the meeting by welcoming the TRC members to the meeting. Introductions followed.

2. **Comments/Questions on TRC Meeting Minutes**

   A. Frank Klanchar asked the TRC members if there were any comments, errors, or omissions from the minutes of the last TRC meeting. None were offered.

3. **Sites Undergoing Remedial Investigations**

   A. Don Blackert, Project Manager from Halliburton NUS Environmental Corporation, presented a brief overview of the RI fieldwork which took place last fall.

   1) Fieldwork consisted of the following:
      a) Install 18 wells
      b) 28 Soil Borings
      c) 16 hand auger borings
      d) 4 test pits

   2) Sampling effort consisted of the following:
      a) 139 soil samples
      b) 40 groundwater samples
      c) 43 surface water and sediment samples
      d) Total of 222 samples

   3) Samples were analyzed for the following:
      a) Volatile organics
      b) Semivolatile organics
      c) Pesticides/PCBs
      d) Inorganics/Cyanide
B. Amy Hubbard, Risk Assessment Specialist from Halliburton NUS Environmental Corporation presented the Remedial Investigation findings.

1) Site #1: Privet Road Compound
   a) Summary of the Site Inspection:
      1. Groundwater contained PCE, TCE > MCLs.
      2. Aroclor-1260, dieldrin was found in off-site soil samples and sediment.
      3. No samples were collected from on-site.
      4. There is evidence of offsite migration.

   b) Findings of the soil investigation:
      1. The soil investigation consisted of 16 soil borings in a grid pattern.
      2. Volatiles were detected at low concentrations, possibly from blank contamination.
      3. Aroclor-1260 was detected in 13 of 71 samples, at a maximum concentration of 230,000 ug/kg.
      4. Two metals (cobalt and selenium) were detected at levels greater than background.

   c) Findings of the groundwater investigation:
      1. All shallow and intermediate depth wells were sampled.
      2. The intermediate wells generally contained higher concentrations of volatile organics.
      3. Tetrachlorehethene (TCE) was the volatile organic chemical found at the maximum concentration (120 ug/l in well PRW-2).
      4. Several metals were detected in the unfiltered groundwater samples at notable concentrations (Sb, Pb, Be).

   d) Findings of the Pump Tests:
      1. Navy supply wells were sampled before and after pumping.
      2. NW-1 contained PCE and TCE greater than MCLs. PCE was not found in monitoring wells during RI.
      3. NW-2 contained TCE greater than MCL prior to pump test, and equal to MCL after pump test.
      4. Total and dissolved metals were less than MCLs.

   e) Findings of the surface water investigation:
      1. No PCBs or pesticides were found.
      2. Ketones were detected in one upstream sample.
      3. No patterns of contamination were noted.

   f) Findings of the sediment investigation:
      1. No volatile organics were found.
      2. Dieldrin was found in one upstream sample.
      3. Maximum metals concentration was found at the confluence of the two ditches (Cd, Co, Cu, Mn, Ni); Maximum As, Pb, V, and Zn upstream.
g) Fate and transport:
   1. No significant source of volatile organics identified for contamination noted in groundwater.
   2. PCBs and pesticides adsorb to soil; erosion.

h) Potential human receptors:
   1. Recreational users (limited exposure).
   2. Construction workers; adolescents playing; future residents.

i) Recommendations:
   1. No soil source areas identified; focus future efforts on volatile organics in groundwater.
   2. Install deeper well near PRW-7B.
   3. Additional sampling/evaluation of ESI for Washrack to define lateral extent of contamination.
   4. Reevaluate nature and extent; risk assessment; proceed to feasibility study.

2) Site #2: Antenna Field Landfill
   a) Summary of the Site Inspection:
      1. Few volatiles in groundwater (first round) less than MCLs.
      2. Pb in unfiltered samples greater than action level.
      3. PAHs in sediment samples; maximum near landfill.
      4. Dieldrin concentrations similar to background soil.
      5. Dieldrin in surface water at maximum concentration of 0.30 ug/l.

b) Findings of the groundwater investigation:
   1. Sampled the three (3) existing wells.
   2. No organic chemicals were detected.
   3. All metals concentrations were less than MCLs.

c) Findings of the surface water investigation:
   1. Phthalate esters at low concentrations; possible blank contaminants.
   2. Dieldrin found during SI, not during RI.
   3. Metals concentrations were lower in 1991.
   4. Maximum metals concentrations in Pennypack Creek, unnamed creek (downstream), and the upstream sample in the swale.

d) Findings of the sediment investigation:
   1. PAHs most frequently detected and at highest concentrations (SS-4); other notable concentrations along Horsham Road.
   2. Phthalate esters, dieldrin found frequently; dieldrin was less than maximum background concentration.
   3. Few volatile organics were found at low concentrations.
   4. Maximum metals concentrations at SS-4 and lowest
in Pennypack Creek; no other patterns noted.

e) Fate and transport:
1. Erosion of soil by runoff and transport via
drainage swales to unnamed creek.
2. Effects appear to be localized.

f) Potential human receptors:
1. Maintenance personnel; unauthorized trespassers.
2. Future residents.

g) Recommendations:
1. Collect surface soil samples to define exposures
and potential for offsite migration.
2. Install at least one shallow well/temporary
sampling point in landfill to evaluate source area.
3. Reevaluate nature and extent; risk assessment;
proceed to feasibility study if necessary.

3) Site #3: 9th Street Landfill
a) Summary of the Site Inspection:
1. PCE, TCE greater than MCLs; upgradient source
indicated.
2. Pattern inconsistent in shallow and deep wells.
3. Dieldrin up to 0.02 ug/l.
4. Dissolved Cd and total Pb greater than MCLs.
5. Soil contained PAHs, dieldrin, and cyanide.
6. PAHs, dieldrin, and PCB in sediment.

b) Findings of the soil investigation:
1. 16 Borings on the baseball diamond; 7 test pit
samples.
2. Infrequent, low concentrations of volatile
organics.
3. PAHs highest in subsurface samples.
4. Mean dieldrin concentration os less than
background.
5. Maximum Aroclor-1254 found was 810 ug/kg.
6. Sb, As, Cu, and Ti were found greater than
background in test pits.

c) Findings of the groundwater investigation:
1. PCE was found in the additional upgradient well
at 7 ug/l.
2. No soil source was identified, upgradient source?
3. Some low concentrations of organics were found in
the deep wells, possibly from blank contamination.
4. Metals concentrations were generally higher in
unfiltered samples; some of the highest were in the
upgradient wells.

d) Findings of the surface water investigation:
1. No organic chemicals were detected.
2. No patterns of metals occurrence were noted.
e) Findings of the sediment investigation:
1. PAHs were found in the recreational pond at levels less than found during the site investigation.
2. As, Cd, Cr, Co, Cu, Pb, Ni, V, Zn maxima in pond, at levels greater than background.

f) Fate and transport:
1. Erosion of soil containing PAHs; not active.
2. Groundwater transport of soluble chemicals; No sources identified.
3. Wind erosion from unvegetated areas.

g) Potential human receptors:
1. Persons playing baseball; surface soils clean.
2. Persons with access to pond; maintenance or construction personnel; future residents.

h) Environmental receptors:
1. Aquatic life in pond; bottom feeding organisms.

i) Recommendations:
1. Collect additional soil and groundwater samples to define source and extent of TCE contamination in groundwater.
2. Focus analysis on volatile organics.
3. Reevaluate nature and extent of contamination; risk assessment; proceed to feasibility study if necessary.

4) Site #4: Fire Training Area
a) Summary of the Site Inspection:
1. FTAW-1 contained the maximum volatile organics (aliphatics and benzene) greater than MCLs.
2. Soil samples from this boring also contained aliphatics.
3. Samples collected near the burn area contained lower concentrations.

b) Findings of the soil investigation:
1. Low concentrations of ketones, benzene, toluene, etc. were found at a maximum concentration of 9 ug/kg.
2. The soil does not appear to be a source of downgradient groundwater contamination observed in FTAW-1 during the site investigation.

c) Findings of the groundwater investigation:
1. 3 shallow and 3 deep wells installed during the remedial investigation.
2. FTAW-1 contained the highest concentrations of aliphatics, with lower concentrations in deeper well (FTAW-1B).
3. Benzene, PCE, TCE, etc. were greater than MCLs.
4. The next downgradient cluster - lower concentrations (less than MCLs).
d) Fate and transport:
   1. Migration of soluble chemicals through soil to groundwater; downgradient transport.
   2. Some erosion from unvegetated areas.

e) Potential human receptors:
   1. Personnel involved in fire training exercises and site maintenance; minimal surface contamination.
   2. Construction personnel, future residents.

f) Environmental receptors:
   1. Transient wildlife.

g) Recommendations:
   1. Collect additional soil and groundwater samples to define lateral and vertical extent of soil and groundwater contamination.
   2. Risk assessment, proceed to feasibility study.

4. Other IR Sites

A. Mr. Klanchar then discussed the status of the other IR Sites.

1) At Site #10, the Navy Fuel Farm, we intend on using the Navy's Remedial Action Contract (RAC) for design and construction of a pump and treat system. Award of the RAC contract is not possible for this fiscal year. However, we anticipate that the RAC can be utilized for next fiscal year. A scope of work will also be prepared for the fieldwork recommended in the Interim Report on Investigations at the Navy Fuel Farm (Nov 1991).

2) For Site #7, the Abandoned Rifle Range #2, we will be preparing a Decision Document for No-Further Action. Basically, the same type of document that was prepared for the other sites which required no action. A copy will then be forwarded to EPA Region III and PADER.

5. IR Program Schedule

A. Mr. Klanchar discussed the IR Program schedule for the RI Sites. The Navy wants to proceed with the Phase II Remedial Investigation/Feasibility Study and Risk Assessment in early FY93.
6. General Comments and Open Discussion

A. Comments were made regarding the status of the barrels which were staged in Privet Road Compound from the Fuel Farm drill cuttings. Mr. Klanchar responded that the drums had been sampled early this summer and a report was due from EA Engineering in a couple of days. The report will make recommendations as to what should be done with the barrels.

B. CDR Strand stated that since the PCB contaminated soils appear to be the major issue at the Privet Road site, we may want to expedite the clean up effort. Mr. Klanchar stated that the Navy would still want to complete the RI/FS and Risk Assessment before any action should be taken. Afterward, we could then expedite the Privet Road Compound from the other three sites.

C. Comments were made regarding the soil samples taken from the 9th Street Ballfield. The Navy may want to take samples from the soils which were scraped from the ballfield and stockpiled beyond the outfield.

D. The next TRC was tentatively scheduled for Thursday, November 19, 1992 at 1 P.M. The actual date will be confirmed in the TRC memorandum which distributes the meeting minutes.