01.02-05/03/91-00216

Baker

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May 3, 1991

Commanding Officer
Atlantic Division
Naval Facilities Engineering Command
Building N-26, Naval Station
Norfolk, Virginia 23511-6287

Attn: Ms. Laurie Boucher, P.E.
Code 1822

Re: Contract N62470-89-D-4814
Navy CLEAN, District III
Site Visit Report: Camp Lejeune

Dear Ms. Boucher:

Attached is a copy of the Site Visit Report for the Camp Lejeune Military Reservation. If you have any questions or comments, please feel free to call me or Mr. John Mentz at (412) 269-6000.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Raymond P. Wattras

Raymond P. Wattras
Project Manager

RPW/rw
Enclosure

cc: Mr. Daniel A. Boucher, P.E. (Code 09A2)

SITE VISIT REPORT

Description: Site Visit to Camp Lejeune, North Carolina

Dates: April 10, 11, 1991

Attending: LANTDIV 09A2 - Dan Boucher
LANTDIV 18 - Laurie Boucher
Camp Lejeune - Stephanie Del Re' Johnson, Col. Linda Nighthammer, Bob Lassapal
Baker - John Mentz, Rick Aschenbrenner, Jeff Iman

Introductory Meeting

1. Met Stephanie Del Re' Johnson - Base Environmental Coordinator and staff

   - Brief introduction of Baker personnel, purpose of trip, etc. in EMD (Environmental. Management Dept.)

   - Left for site tour - Sites 69, 6 and 48 will be included in upcoming RI/FS; Sites 43, 44, 63 and 65 are included in upcoming SI; Hadnot Point is site of Interim Remedial Measure.

Visits to RI/FS Sites

1. Site 69 - Rifle Range Chemical Dump

   - Fenced, readily visible trenches.

   - Potential for explosives, mustard gas, and "lab waste" exotic (?) chemicals.

   - Make sure analytical program includes wet chemistry inorganics (which can impact treatment).

   - Dioxin breakdown suggested

   - Analyses unique to explosives will be researched

   - Additional round of groundwater analytical data should be forthcoming for this site soon (samples already collected).

   - Lt. Col. Norman Chandler patrols this area - communicate!

   - Groundwater contours by previous consultant are wrong. They reflect contaminants in upgradient well. Site is on a watershed divide, likely drains in two directions (surficial - there is a ditch on "upgrade" side). Groundwater also likely flows in >1 direction from the site. Original speculation that this site might have to be expanded (to examine upgradient contaminant source) was dropped after second visit confirmed physical/surficial configuration.

- EPA apparently requires what Stephanie referred to as "seven point justification" to use PVC, instead of stainless for groundwater monitoring wells. Laurie Boucher has provided those requirements to Baker.

2. Site 6 - Storage Lots 201 and 203

"Recycling storage and disposal" of wide variety of unknowns, including DDT, pesticides, PCBs. Sites still have material stockpiled (including shredded tires and drums of DDT - contaminated soils); particularly Lot 203. It's likely that material was also buried in unknown locations. Reviewed field program requirements (first impressions) with LANTDIV. Laurie Boucher recorded this information to incorporate into SOW; subsequently provided a copy to Baker.

- Surface Geophysics - EM and GPR to define metal and trench/pit existence/locations. Initially suggested a broad grid, like 200' centers; Stephanie Johnson later suggested that because of great likelihood of burial in Lot 203, in particular, a tighter grid might be better there.

- EOD unlikely

- Soil sampling - initially suggest fairly large number borings to water table with 3 samples per, but backed off to much reduced number, like 20 or 30 borings, due to high cost of broad range of analytical requirements.

- Discussed possibility of various screening techniques in field.

- Surface Water/Sediment Sampling

  - Drainage channel exiting Lot 203 obviously contaminated, not flowing, but extensive discolored sediment; drums/cans/debris dumped into "ravine" along this drainage wherever a truck could back to it. Also, obvious washing of similar debris from the site itself.

  - Groundwater - There are a few wells here now, suggested additional number.

3. Site 48 - MCAS Mercury (Hg) Dump

- 2-3 Ac area in back of photo lab, grass and a 20-30' wide strip of trees and brush right on New River shoreline. New River has sport and commercial fisheries and shellfish.

- Series of sediment samples recently collected by ESE along the river to determine if contaminant has moved through soils or by erosion/transport into New River.

- Small quantities of Hg were periodically disposed in shovel-dug holes behind lab. The few soil samples collected to date did show Hg.

- No wells yet at this site

- Preliminary suggestions for RI field program

  - Series of six wells, 2 upgradient - 4 downgradient

  - Soil/sediment samples on grid <u>and</u> in all swales and drainage areas

- Stephanie noted that no one has yet analyzed for "methyl" Hg, the mobile form.

Visits to SI Sites (SOW currently in our possession)

1. Site 43 - Agan Street Dump

   - Very large; very heavily wooded; areas of disposal (mounds) readily visible.
   - Cost to run geophysics (for clearing lines) would not be cost effective here, given size, density of undergrowth, ready visibility of disposal areas.
   - Program as proposed looks okay.
   - Specify that all points - wells and borings will be sited for this SI along access roads and trails.

2. Site 44 - Jones Street Dump

   - Larger open (grass and small pines) area with dumped material outslopes.
   - Expand geophysics called for in SOW.
     - 1 line along "loop trail"
     - grid in cleared area

     (It was later determined that geophysics would not be required for this site inspection.)
   - Numbers of samples okay as proposed.
   - Make sure wells are at front of slope of dumped material, not in dump itself.

3. Site 63 - Verona Loop Dump

   - Expand dump area - its 15-20 Ac, not 3 or 4.
   - Stephanie Johnson will provide air photos covering this site; Baker to reproduce and return.
   - Review number of wells and borings suggested.
   - Do include geophysics grid - run lines in from road - these are necessary for scaling in to various surface features - trenches, debris areas, trails, etc. - also define a site boundary. (It was later determined that geophysics would not be required for this site inspection.)
   - Appeared to be no surface water/sediment sampling points in central portion of site, as planned. There is a stream adjacent to the area, however.

4. Site 65 - Engineer Area Dump

   - Includes or is immediately adjacent to what is now a dozer training area.
   - Part of site with large pile soil and debris and with alleged battery acid disposal area readily visible.
   - In general, actual site area bears no resemblance to NUS base map now available.
   - Disturbed area, with drums, containers, debris extends well into woods all around, but without base map, it was impossible to orient. Scale is also off - area is very large.
   - Could not estimate numbers of samples required without better map and orientation. Drop surface water/sediment samples to: increased number borings by 2 or 3 times.
   - Ponds exist, but not where shown.
   - LANTDIV to try to get better site map from NUS
   - Site will need extensive geophysics. (It was later determined that geophysics would not be applicable for site inspections.)

Discussion/Site Visit Regarding Interim Remedial Measure at Hadnot Pt. Industrial Area

1. Large industrial with dual volatile and product (gasoline and diesel) problems and plumes.
2. An UST Interim Remedial (pump and treat) Program will be under construction in May. It will extract groundwater from 2 to 4 wells (4" and 6") at very low pumping rate.
3. Water will be treated via oil/water separator; then air stripper; then to base's largest (of 7) sewage treatment plants. Last step was mandated by State. Direct discharge of treated water was prohibited - politics and shellfish.
4. Strategy (pumping) based on 8 hour pump test Stephanie Johnson feels uncomfortable with.
5. It also appears that the pumping rate may have been backed into after determining what additional volume flow-through the sewage treatment plant could take.
6. Pumping and treatment currently planned is actually an interim measure for both product and volatiles but. . . .

   - UST and IR people have not communicated, thus system is being considered a product recovery interim measure. Base is now looking on IR side for pump and treat system to address volatiles (these contaminants do cover a larger portion of the area).
   - Stephanie Johnson and LANTDIV to meet with regulators week of 4/16; will inquire again regarding mandate to run treated effluent through STP rather than direct discharge.
   - We pointed out, base is aware, that effluent monitoring at any frequency desired by state, can be provided.

- Stephanie will also check with STP people regarding how much additional capacity they have, particularly in light of base intention to (in a year or so) reroute flow from one (or more) of the other base STPs to this one. This information is important in case we are forced to design to a flow maximum (backing into pumping/treatment rate).

- It was indicated by LANTDIV that DERA funds could also go toward expansion of STP in event that it was again mandated that all effluent must go through an STP.

- Idea of overdesigning pump and treat system to allow for future expansion and increase of pumping/treatment rates when STP capacity changes was also discussed.

* Most immediate Baker activity here (Hatnot Pt.) will be 1 (or more) 72-hour pump tests - either from existing 4 or 6" wells or from 1 installed specifically for this.

- Stephanie Johnson to confirm need to handle/treat pump test water. This was <u>not</u> required in past, but probably will be now.

- Idea of pumping pump test water to empty UST for later disposal with remaining UST product/sludge at time of their removal was also discussed with LANTDIV.

<u>General Information</u>

1. Regarding SI and RI Sites

   - Stephanie Johnson will provide air photos for <u>all</u> sites on loan for Baker to reproduce.

2. Information Stephanie sent with Baker:

   - Current existing condition maps (1989) - copied and returned
   - Initial assessment study maps (1979) - copied and returned
   - USGS groundwater study for base - has excellent information on base and its <u>many</u> (160) production wells
   - Soil survey of base - copied and returned
   - General maps of base with sites
   - Air photos for Verona Loop Dump - copy and return

3. Information Laurie Boucher sent with Baker:

   - Baseline Risk Assessment (BRA) guidelines
   - ROD requirements for Interim Remedial Actions

4. Reconfirmed dates for upcoming trips to Norfolk, Puerto Rico, Louisville

<u>Site Specific Action Items</u>

1. Regarding Site 69

   - Inquire regarding EOD survey needs,

   - Explosives analytes,

   - Constituents of mustard gas, and how likely packaged.

   - Inquire - should we include anything else for unknown array of lab wastes?

- Look into reactivity of PVC with various chemicals, in particular with explosives-derived, mustard gas-derived, or unknown lab wastes? (There are already 8 PVC wells at this site).

2. Regarding Site 6 Storage Lots - Any potential contaminants from unburned shredded tires stockpiled?

3. Regarding Site 48 Hg Dump:

   - Is there any screening method regarding Hg (field screening) - any geophysics?

   - Research forms of Hg - methyl vs. others

4. Regarding Hadnot Point Interim Measures

   - Baker to develop decision tree regarding what LANTDIV/Base must do to advance interim measure question/process.

   - Jeff Iman - Review design document regarding product pump and treatment. Any excess capacity there we could use? Any other comments?

General To Do List

1. Hydropunch

   - Roy F. Weston (RFW) will be hydropunching at Camp LeJeune - field effort to begin in 1st week of May

   - State will be present to watch

   - Good opportunity for Baker to both observe the technique and to meet state regulators.

   - RFW (Raleigh Office) PM is Bill Morris

2. In current SI SOW response - Include unit costs for optional additional well and optional additional soil boring, including analysis, surveying, Baker time to incorporate data into report, validate data, etc.

3. Baker to look into field screening alternatives:

   - GC/MS direct charged (lease) to LANTDIV (in total or on unit rate) - How usable on Site 6 Storage Lots given contaminants there?

   - Hach test kits including Hg for the Hg dump - look into range available.