



Florida Department of Environmental Protection

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Secretary

December 4, 2008

Mr. John Schoolfield, P.E.
Department of the Navy
Naval Facilities Engineering Command Southeast
Building 903
Yorktown/Langley
Jacksonville, Florida 32212-0030

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RE: Post Source Removal Site Monitoring Plan for AOC 2, Letter from John Schoolfield, P.E., Naval Support Activity Panama City, Panama City Beach, Florida (NAVFAC SE, November 21, 2008)

Dear Mr. Schoolfield:

I have reviewed the above document dated November 21, 2008 (received November 21, 2008). This letter outlines a plan designed by Naval Facilities Engineering Command Southeast (NAVFAC SE) that proposes monitoring only, in conjunction with soil gas venting wells in the source area, at the AOC 2 site following the recent remedial actions conducted by CH2M Hill Constructors, Inc. (CH2M Hill) (please see attached letter from Mr. John Schoolfield). FDEP has the following comments pertaining to this post excavation site monitoring plan.

- Comment #1:** This is a different path forward for AOC 2 than was originally agreed upon by the Naval Support Activity (NSA) Panama City (PC) Partnering Team (NAVFAC SE, NSA Panama City, FDEP, and Tetra Tech NUS). The original path forward was outlined in the Alternative Procedure Remedial Action Plan (RAP) (Tetra Tech NUS, June 2007) and the Work Plan Addendum No. 2 for the Implementation of the Alternative Procedure Remedial Action Plan for Area of Concern 2 (CH2M Hill, November 2007). Subsequent changes to this work plan were proposed to the FDEP by the Partnering Team through the NAV FAC SE Remedial Project Manager (RPM) in an email on March 14, 2008 (see attached email from Bill Gates, NAVFAC SE RPM). This change in scope was due to the discovery of the utility corridor that runs through the eastern portion of the originally planned excavation area. FDEP verbally concurred with this change in scope at that time.
- Comment #2:** FDEP is of the opinion that Long Term Monitoring (LTM), or Natural Attenuation Monitoring (NAM), has not been discussed with or agreed upon by the Partnering Team. The full Partnering Team should be involved in future discussions pertaining to the path forward at AOC 2. Also, it is FDEP's opinion that several NAM criteria in Chapter 62-770 Florida Administrative Code (FAC) have not been met that would allow NAM to be used as a remedial alternative at AOC 2. The following criteria need to be met before FDEP can approve this site for NAM under Chapter 62-770 FAC: 1) 62-770(1)(a) free product cannot be present (please see attached email from Bill Gates, NAVFAC SE RPM), 2) 62-770(1)(b) contaminated soil is not present in the unsaturated

zone, except that applicable leachability-based soil CTLs may be exceeded if it is demonstrated to the Department or to the FDEP local program that the soil does not constitute a continuing source of contamination to the groundwater at concentrations that pose a threat to human health, public safety, and the environment, 3) 62-770(1)(d) contaminants of concern are conducive to natural attenuation. Please review this section of Chapter 62-770 FAC for future reference.

3. **Comment #3:** FDEP welcomes any additional assessment activities at AOC 2 (i.e. soil sampling and respiration tests) as long as the appropriate steps have been followed before conducting the work (i.e. access to a particular part of the base has been granted by the NSA PC base personnel, all appropriate legal documents and permits have been issued to the Navy and/or their contractor, etc.). Data collected from these types of activities should only enhance the Team's view of the site.
4. **Comment #4:** It is FDEP's opinion that, if soil samples are to be collected in the near future according to the Post Source Removal Site Monitoring Plan Letter, then they should be collected at all four locations listed in the letter presented by NAVFAC SE. Also, they should be collected as close to the water table as possible. The previous confirmatory soil samples collected by CH2M Hill after the excavation were collected between 4 and 4.5 feet below land surface (bls) (please review CH2M Hill's the Source Removal Report for AOC 2, October 2008). However, groundwater at this site is reported to be at approximately 6 feet bls. Future soil samples should be collected within the unsaturated zone as close to the water table as possible. FDEP defines the unsaturated zone as the dry portion of sediment above the water table elevation at the time that soil samples are collected. The two previous soil samples collected by CH2M Hill that are mentioned in this Post Source Removal Site Monitoring Plan Letter, and possibly all four samples, may have been collected at an elevation that was within, not at the bottom of, the unsaturated zone. Hence, the low concentration of TRPH that was found in them.

Thank you for the opportunity to review this document. If you require additional clarification or other assistance please feel free to contact me at 850/245-8999.

Sincerely,



John Winters, P.G.
Remedial Project Manager

Cc Tim Bahr, FDEP, Tallahassee

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by
ESN



DEPARTMENT OF THE NAVY
Naval Facilities Engineering Command Southeast
Jacksonville, FL 32212-0030

Code OPG6

November 21, 2008

John Winters
Florida Dept. of Environmental Protection
2600 Blair Stone Road, Office 471E
Tallahassee, FL 32301

Re: Panama City NAS AOC-2 Post Source Removal Site Monitoring Plan

Dear Mr. Winters:

This letter is being provided for information purposes. Per our recent phone call and email of 11/13/08, the following monitoring is planned for the utility corridor and source removal areas at AOC-2:

Three fence line soil gas monitoring wells (wells 1-3) and one (well 4) just east of the abandoned well adjacent to the utility lines (Figure 1 & 2) are planned for installation. During installation the soil gas monitoring well will go to the water table to measure for presence of residual petroleum product.

Soil Samples: Soil samples will be collected at the time of soil gas well installation. Location 2 is between two previous sample locations (14.3 and 33.4 mg/kg TPH) and does not need to be sampled. Soil samples will be collected at location 1, 3 & 4, in the same fashion as those recently collected by CH2M Hill for AOC-2 confirmation sampling; from 6 to 10 inches above the groundwater table. Samples will be analyzed for TRPH per the FL-PRO Method. Any samples exceeding Florida PRO TRPH criteria will be further analyzed by the Total Working Group (TWG) Method, and then SPLP TRPH.

Soil Gas Monitoring (SGM) Wells: The SGM wells will be used to perform a respiration test to measure bioactivity. For a respiration test, one pulls air from a subsurface with a small air pump, and measures O₂ and CO₂ levels. If O₂ is down (from 22%) and CO₂ levels are up, this means active bioremediation is occurring. If O₂ and CO₂ drops to zero and the vapor levels are high, this indicates the vapor levels have displaced oxygen and concentrations are too high for bioactivity. If O₂ levels are 22% and CO₂ levels are ambient, this indicates bioremediation has been completed.

If we measure zero levels for O₂ at one or more of the SGM wells, this is likely to improve over time because of the source area removal that had recently been completed, base on my previous experience with similar sites. However, if this condition is measured and does not improve, then some form of active remediation, such as bioventing, may be warranted to get bioremediation going.

Long Term Monitoring

Long term monitoring will include groundwater monitoring and SGM well monitoring. Land use controls for the utility corridor will be evaluated based on the analytical results from the soil data.

For baseline monitoring purposes, the following groundwater monitoring wells were sampled in January, 2008, with no exceedances.

BASELINE SAMPLING, JANUARY, 2008	
New Wells	Existing Wells
PCY-AOC2-MW31	PCY-AOC2-MW10
PCY-AOC2- MW31D	PCY-AOC2-MW11
PCY-AOC2-MW32	PCY-AOC2-MW13
PCY-AOC2-MW33	PCY-AOC2-MW25
PCY-AOC2-MW35	PCYAOC2- MW34
PCY-AOC2-MW36	PCY-307-MW01
	PCY-307-MW4D
	PCY-307-MW03
Analyze for BTEX, MTBE, PAHs, and FL-PRO	

The list above will be evaluated to select the most efficient set of wells for long-term monitoring purposes. The proposed list of longterm monitoring wells will be submitted to you for discussion and review. The next round of sampling is anticipated for January, 2009.

Please contact me at (904) 542-6828 if you have any questions.

Sincerely,

John D. Schoolfield

JOHN D. SCHOOLFIELD, PE
Remedial Project Manager

Encl: Figures 1 & 2

Copy to:
NAS Panama City – Arturo McDonald
NAVFAC SE OPG6 - John Schoolfield

EV Circ

OPG6BG

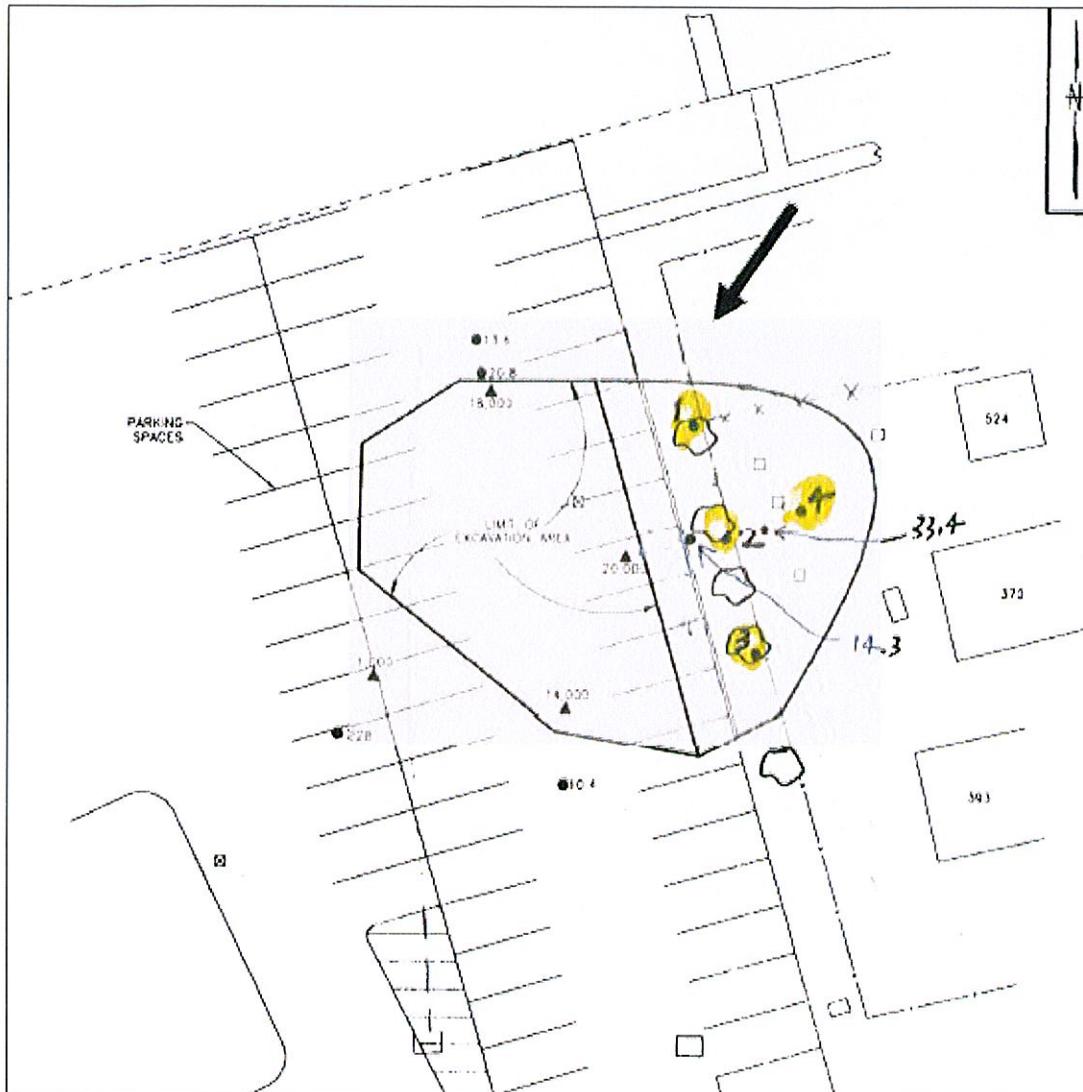


Figure 1: Vent Well and Sample Locations 1-4

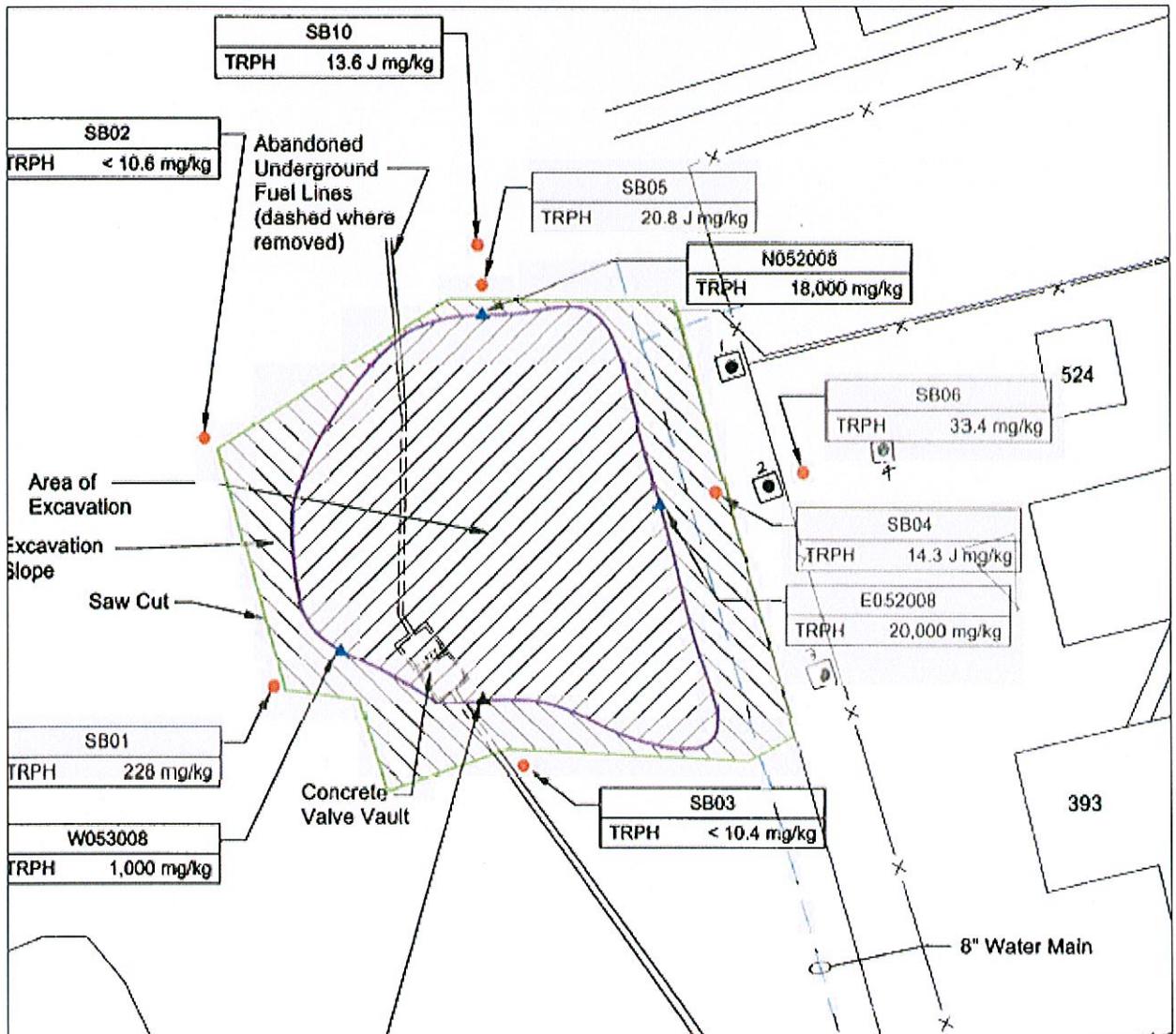


Figure 3: Proposed Vent Well Locations and Previous Confirmation Sample Locations.

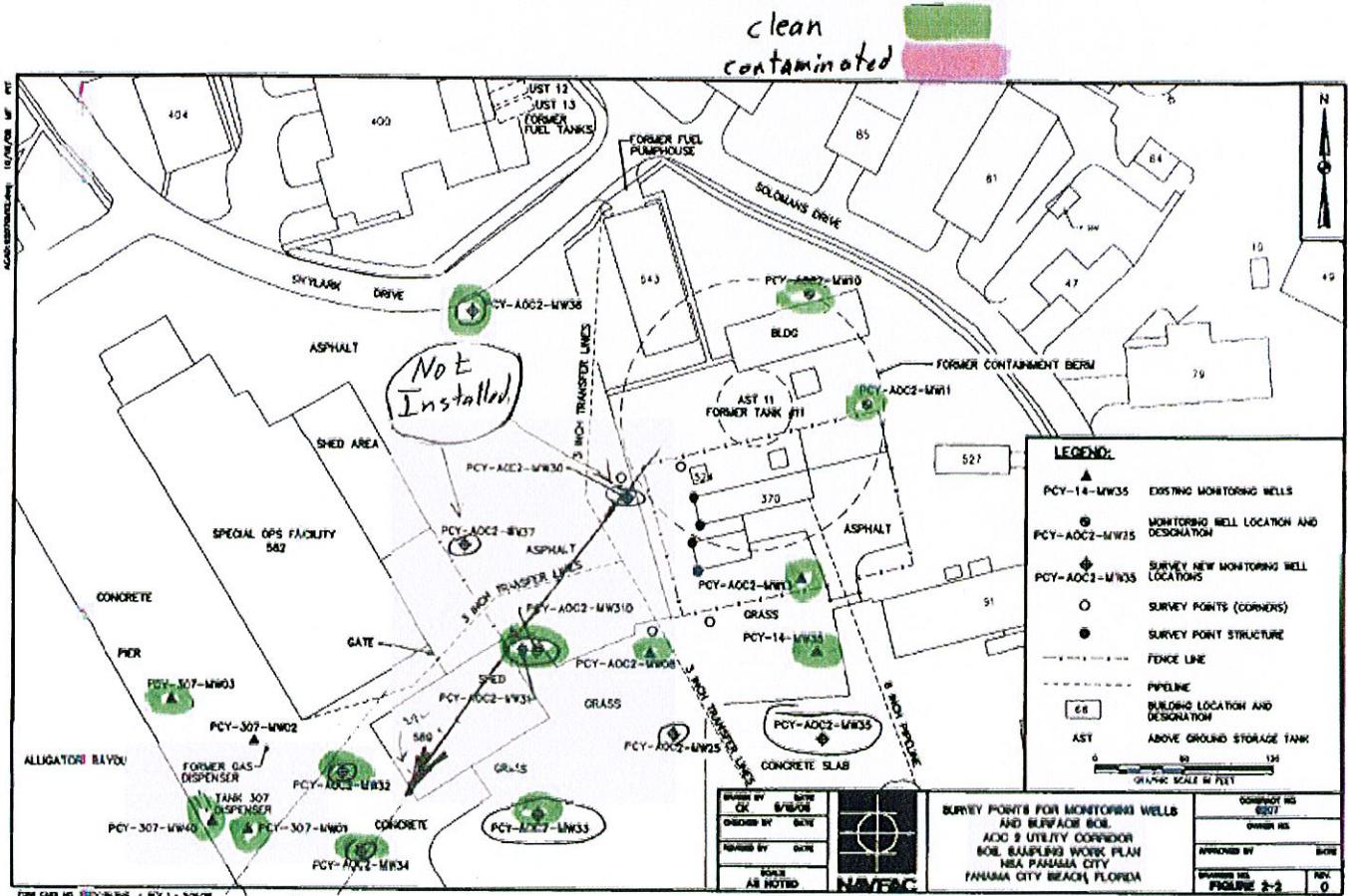


Figure 4: AOC-2 Groundwater Monitoring Wells, Baseline Sampling, January, 2008