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NAS PENSACOLA
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LETTER AND COMMENTS FROM THE U S EPA REGION IV REGARDING TECHNICAL EVALUATIONS AT OPERABLE UNIT 13 AND SITES 8, 24, 30 AND 31 OF OCTOBER 2002
NAS PENSACOLA FL
11/20/2002
U S EPA REGION IV

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303

November 20, 2002

4WD-FFB

Commanding Officer,
Southern Division, NAVFACENGCOM
Attn: Mr. Bill Hill (code 1851)
P.O. Box 190010
North Charleston, South Carolina 29419-9010

SUBJ: Technical Evaluations
Operable Unit 13, Sites 8 & 24
Naval Air Station Pensacola
EPA Site ID No.: FL9170024567

Dear Mr. Hill:

The U. S. Environmental Protection Agency, (EPA), has completed its review of the above subject documents, dated October 30 & 31, 2002. It is with understanding that the intent of the technical evaluation was to delineate contaminants and define the extent for soil excavation. However, these documents went a step further, and reassessed the remedial goals, which resulted in a proposal for a no action alternative. In light of this fact, comments are enclosed that address issues that could possibly be out of scope for this task.

If you have any questions please contact me at (404) 562-8538.

Sincerely,

Gena D. Townsend
Senior Project Manager
Federal Facilities Branch

Enclosure

cc: Greg Campbell, NAS Pensacola
Amy Twitty, CH2MHill
Tracie Vaught, FDEP

Comments

Site 8

1. EPA is in agreement with the site 8 delineation, however, groundwater should be re-sampled in the areas of the Cadmium contamination. With the pending no action alternative, on the soils, there should be verification of the present groundwater conditions. The original proposal identified soils as the potential source of groundwater contamination, and with a source removal, the groundwater, overtime, would return to its natural condition. If this source removal is not warranted, what is the groundwater remedy?

2. A Land Use Control (LUC) would be required for the identified areas of soil contamination. The text has identified the building structure and pavement as a protective barrier that will prevent infiltration and direct exposure. It also states, in the event, of future actions that would remove the paved areas and building structure, the exposure point concentrations are below the commercial /industrial target levels. This implies that the levels are above the residential target levels, therefore, a restriction would be required.

   The LUC should state that the cover would be maintained for a residential scenario and to prevent infiltration or that the site is designated as an Industrial Area.

Site 24

1. EPA is in agreement with the Site 24 delineation and supports the alternative outlined within the tree area.

2. Page 13, second paragraph – Correct this statement: "…. they are not applicable in this case because the groundwater is not a drinking water source." The State of Florida has classified this aquifer as a drinkable aquifer. Although, it is not used as a drinking water aquifer, we are required to meet the drinking water standards. The point can be made that the present aquifer conditions are not conducive for drinking water usage and is not a source of drinking water for NAS Pensacola.

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Response to EPA Comments

~~Site 8~~Operable Unit 13, Sites 8 & 24
Naval Air Station Pensacola
EPA Site ID No.: FL9170024567

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1. **EPA is in agreement with the s~~S~~ite 8 delineation, however, groundwater should be re-sampled in the areas of the Cadmium contamination. With the pending no action alternative, on the soils, there should be verification of the present groundwater conditions. The original proposal identified soils as the potential source of groundwater contamination, and with a source removal, the groundwater, overtime, would return to its natural condition. If this source removal is not warranted, what is the groundwater remedy?**

   Response: The data interpretation in the RI~~earlier~~ reports looked at elevated cadmium in groundwater ~~cadmium~~ in amonitoring wells ~~alone, and~~but did not ~~connect between~~correlate the cadmium in groundwater to the cadmium in -soil ~~cadmium versus groundwater cadmium~~ at the site. Upon further data analysis ~~during~~of OU-13 ~~soil and groundwater sampling analysis results~~, it was concluded that proposed soil removal actions cannot achieve reduction in the groundwater cadmium levels due to spatial separation and lack of connection between historically observed soil cadmium and groundwater cadmium areas.

   During the RI, t~~T~~he groundwater at the site ~~has been~~ was monitored using temporary monitoring wells, which are not ideal for monitoring inorganic chemicals due to commonly recognized presence of particulate interference/introduction of metals into water samples. However, the team had agreed to use ~~such~~the data for site management decisions. The ~~more recent~~ groundwater cadmium levels from samples collected from four temporary monitoring wells on site, 08GR01 located within the source area, 08GR02 located 200 feet northeast (downgradient) of the source area, 08GR03 located 250 feet east-southeast of the source (cross gradient) of the source area, and 08GR05 located 500 feet east-northeast (cross gradient) were all above the remediation goal (RG) of 5 µ~~u~~g/L during the RI phase (1995-1996)~~, however only one well exceeded the RG (Amy: true? Vijaya)~~. It should be noted the pH levels in the groundwater samples collected during the RI in these four temporary wells ranged from 5.39 to 6.41. No turbidity results were recorded in the RI report.

   The highest reported level of cadmium in groundwater samples collected during the RI ~~(???give the concentration and is it above MCL, has it been monitored agan? If so what were the levels, also the turbidity and pH, if you have the info, can help arguing that it is not in the dissolved form etc. I do not have the RFI GW data to interpret here. Vijaya)~~(32 µg/L) was detected in the well farthest ~~(~~ feet~~)~~ from(500 feet) -and cross gradient ~~from~~of where elevated cadmium was detected in soil, indicating there is no relationship between soil and groundwater cadmium levels. Thus any proposed actions for soils will not affect groundwater in all areas where cadmium was detected. Also, no cadmium was detected from the DPT groundwater sample from well 08GR01 collected during the recent investigation conducted by CCI 50 feet downgradient of the cadmium-impacted soil ~~with~~

~~highest detected cadmium during the recent investigation~~. During this sampling event, the pH in the DPT groundwater sample was 5.71 and the turbidity was 129 NTU.

Due to low detection limits in groundwater (<5 µ~~g~~g/L) compared to those in soils (50 to >1000 µ~~g~~g/kg), groundwater may show positive analytical results if soil particulates are present due to these low analytical detection capabilities.

If the elevated cadmium detected in the one soil sample location is due to presence of a piece of scrap metal, which is more likely as observed by presence of other metals in the same soil sample (~~AMY: True? Vijaya~~soil from same sample location also exceeded aluminum, arsenic, barium, iron and lead RGs), exceedance of the cadmium ~~SSL~~RG is not particularly relevant because cadmium in metallic form is not leachable, thus can not contaminate groundwater. Solubility of certain forms of cadmium (e.g. chloride or sulfate salts of cadmium) has been reported under favorable conditions such as low pH (=<6.8). Any dissolved cadmium will precipitate within a short distance when the acidic pH reaches neutral conditions (Toxicological Profile for Cadmium, ATSDR, 1998). Thus it is unlikely to have cadmium groundwater contamination over wide enough area ~~like~~ such as a 'plume' at ~~a site like~~ Site 8 where there no 'source' of cadmium release identified.

Of the 25 samples collected and analyzed for cadmium during early investigations, only 6 had detections from the site. Subsurface soil exceedances of cadmium were detected in only one location (08S01) from two depths, 4 to 6 feet and 7 to 9 feet bls. None of the delineation samples collected 25 feet to the north, south and west or 18 feet east of former sample 08S01 contained elevated cadmium levels ~~The additional sampling conducted to define extent of cadmium surrounding the one detected samples were all below criteria or non-detects~~ indicating elevated cadmium is not widely distributed, and may even be limited to that one sample location. ~~Subsurface soil exceedances of cadmium were detected in only one isolated location (08S01) from two depths, 4 to 6 feet and 7 to 9 feet bls. None of the delineation samples collected 25 feet to the north, south and west or 18 feet east of former sample 08S01 contained elevated cadmium levels. Of the 25 samples collected and analyzed for cadmium, only 3 had detections from the site during early investigations (Amy: I got this from the EPC tables Larry Hilscher created, make sure you agree. Vijaya)~~

The EPA's "Soil Screening Guidance" states that for subsurface soils, the individual unit for decision making is called the source area and is defined by the horizontal and vertical extent of contamination. The conservative estimate for likely source area for cadmium at Site 8 is an area 50 x 43 feet and 12 feet deep. The guidance also states that the sample results in the source area should provide data to estimate the mean contaminant concentration within a source area (EPA 1996). The ~~average~~ mean concentration in this source area is 2.~~92~~ 28 mg/kg~~.~~ compared to an SSL based RG of 8 mg/kg. Since the mean of cadmium concentrations in the source area is below the remedial goal of 8 mg/kg, no further investigation or cleanup for soil is warranted.

The Navy ~~agrees shall~~ will install ~~that~~ permanent wells ~~should be installed~~ at the site and collect samples ~~should be collected~~ to verify the ~~contaminant~~ cadmium levels across the

site. If the results of these wells indicate absence of cadmium contamination at the site, no long term monitoring may be required. Results will be presented to the team for such decisions.

~~*Why would we have to clean up soil for Cd in gw if there is already Fe, Mn and Pb that we'll be monitoring with LUCs? No, we don't have to, also there is enough indication that you have unique geochemical conditions. Literature says when have high sulfides you will have more dissolved forms on Cd, Fe and Mn, and we have successfully argued against having to do anything to address iron and manganese at other sites. I do not have enough of your groundwater data, location info to say anything more here. At least you should say something more about that. Why can't the argument be leave the Cd in place and monitor? Yes, I think what we said above should get us there, hopefully).*~~

2. **A Land Use Control (LUC) would be required for the identified areas of soil contamination. The text has identified the building structure and pavement as a protective barrier that will prevent infiltration and direct exposure. It also states, in the event, of future actions that would remove the paved areas and building structure, the exposure point concentrations are below the commercial /industrial target levels. This implies that the levels are above the residential target levels, therefore, a restriction would be required.**

   The LUC should state that the cover would be maintained for a residential scenario and to prevent infiltration or that the site is designated as an Industrial Area.

   Response: Comment noted. The LUCs will include the maintenance of the asphalt/concrete cap.

Site 24

1. **EPA is in agreement with the Site 24 delineation and supports the alternative outlined within the tree area.**

   Response: Comment Noted.

2. **Page 13, second paragraph – Correct this statement: "…. they are not applicable in this case because the groundwater is not a drinking water source." The State of Florida has classified this aquifer as a drinkable aquifer. Although, it is not used as a drinking water aquifer, we are required to meet the drinking water standards. The point can be made that the present aquifer conditions are not conducive for drinking water usage and is not a source of drinking water for NAS Pensacola.**

   Response: The text has been modified in accordance with the comment. The groundwater concentrations are below the FDEP GCTLs.