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MINUTES FROM 28 JANUARY 2003 RESTORATION ADVISORY BOARD MEETING NAS
CECIL FIELD FL
1/28/2003
TETRA TECH NUS INC



Minutes

Cecil Commerce Center and Cecil Field Airport Restoration Advisory Board (RAB) Meeting Minutes Tuesday, January 28, 2003

The quarterly meeting of the Cecil Field Restoration Advisory Board (RAB) was held on Tuesday, January 28, 2003 in the Conference Room of Building 82 at the Cecil Field Airport.

The following RAB members were present:

Community Members

Richard Darby, Community Co-Chair
Diane Peterson, Alt. Community Co-Chair

Navy, Regulators, and Officials

Mark Davidson, New Navy Co-Chair
David Grabka, FDEP
Debbie Vaughn-Wright, EPA
John Flowe, RESD City of Jacksonville

The following RAB members were absent:

Community Members

Lisa Chelf
William Dike
Margaret Day Julian
Iran Maisonet
Edward Renckley
David Scott

Navy, Regulators, and Officials

Lewis Murray, USGS
William C. Wilson, SJRWMD

The following support personnel and guests were present:

Izzy Bonilla (JAA), Harold Bullington (J.A. Jones), David Dunlevy, Jr. (JAA Engineering), Andy Eckert (JEDC), Art Grady (Trilegacy), Mark Jonnet (TtNUS), Jim Kelly (Clay Today/Argyle Today), Ron Kotun (TtNUS), Paul Malewicki (J.A. Jones), Ralinda Miller (TtNUS), Mike Sadler (Trilegacy Group), Bob Simpson (JAA), Mark Speranza (TtNUS).

Administrative

Mark Davidson called the meeting to order at 7:00 PM. The October RAB Meeting Minutes were approved with no changes. It was announced that Scott Glass has taken another position at SOUTHDIV, and Mark Davidson will be taking over as Navy Co-Chair.

Q: Who will be the Base Environmental Coordinator (BEC)?

A: SOUTHDIV is thinking of hiring one BEC for all Base Realignment and Closure (BRAC) bases. The majority of property at these bases has been transferred, and there is not enough work for a full-time person at each base.

Site 15 Update

Ron Kotun of TtNUS gave an update on the progress at Site 15. Site 15 consists of 85 acres in the southwestern section of Yellow Water Weapons Area. The site, which is currently heavily forested, was used for ordnance disposal and as a trap and skeet shooting range. Based on investigations at the site, lead and polynuclear aromatic hydrocarbons (PAHs) are the main contaminants of concern (COCs). The Reuse Plan states that Site 15 is to be maintained as a green space, meaning that there is to be no formal development at the site.

Site cleanup levels were developed to be protective of recreational receptors assuming infrequent, site-wide exposure. Recreational users of the site would be exposed to the entire site, not just to a particular area. To develop ecological cleanup levels, surrogate species were used to represent site receptors. Risks to the shrew, which is used to represent mammals at the site, were calculated based on a 2-acre exposure area because this is the estimated size of its home range. The average concentration in a random 2-acre unit at the site is to be less than the cleanup level determined for the shrew. Risks to mockingbirds, which were used to represent avian species (birds) at the site, were evaluated based on site-wide exposure because it is expected that birds will be exposed to the entire site.

The exposure assumptions for the hypothetical recreational user are somewhat conservative and include the following:

- Use of the site (exposure frequency) is assumed for 50 days per year, or approximately 1 day per week, over a period (exposure duration) of 20 years.
- Soil is assumed to be ingested at a rate of 50 milligrams per day (the corresponding residential exposure assumption is 100 milligrams per day).
- The amount of skin surface (surface area) exposed to site soil and associated contaminants is assumed to be 3,000 square centimeters.
- The amount of air inhaled (rate of inhalation) by a site user is assumed to be 15 cubic meters per day.
- The site user is assumed to weigh 70 kilograms (154 pounds).

Polynuclear Aromatic Hydrocarbons (PAHs)

Concentrations of non-carcinogenic PAHs at the site were all less than Florida Department of Environmental Protection Agency (FDEP) Soil Cleanup Target Levels (SCTLs). The site-wide cleanup level for carcinogenic PAHs using site concentrations and recreational assumptions for site-wide exposure is 4,500 micrograms per day [parts per billion (ppb)]. This is the maximum average concentration across the site that can remain and still be protective of the recreational receptor. To get to this average concentration across the site, soil with concentrations of carcinogenic PAHs greater than 84,630 ppb expressed in terms of benzo(a)pyrene equivalents must be removed. After this removal takes place, there will be no need to remediate the site further to be protective of ecological receptors based on carcinogenic PAH concentrations.

Lead

To evaluate lead exposure, the United States Environmental Protection Agency (EPA)'s adult lead model was used. This model determines a person's blood lead level based on lead exposure at a particular concentration. The cleanup level was chosen so that the concentration does not cause a blood lead level of concern based on the model. For human health, the cleanup level (average concentration across the site) for the hypothetical recreational user is 3,281 milligrams per kilogram [parts per million (ppm)]. For birds, the site-wide cleanup level is 1,149 ppm, and for mammals it is 2,512 ppm based on the 2-acre exposure unit for the shrew.

Acute Toxicity Value for Lead

In addition to the evaluation using the EPA's adult lead model, it was decided that an acute toxicity level should be developed for the site. This is a not-to-exceed level or maximum concentration that can remain on site and is based on acute exposure to lead. The lead acute toxicity value is to be protective of a small child based on a one-time, high-level exposure to lead from ingesting a large quantity of soil (10 grams). This value was generated to be protective of children because they are more sensitive to lead than adults and takes into account their higher soil ingestion rate, smaller body weight, greater ability to absorb lead, and more sensitive developing nervous systems.

Chronic (long-term, low-level exposure) to lead is evaluated based on the EPA's Integrated Exposure Uptake Biokinetic (IEUBK) Model. The target blood lead concentration is 10 micrograms per deciliter; this is the level that prevents behavior effects in children. The IEUBK develops a soil lead concentration that is projected to result in a blood lead level of less than 10 micrograms per deciliter.

To develop an acute toxicity cleanup concentration, a target blood concentration for acute exposure needed to be established. The evaluation of acute exposure is based on lead poisoning studies. Acute exposures can result in a neurological disorder called acute encephalopathy, which can result in seizures and coma. Acute encephalopathy is associated with blood lead concentrations greater than 100 micrograms per deciliter, but it can occur at blood lead levels as low as 70 micrograms per deciliter. Gastrointestinal effects from acute lead exposure are observed at 60 micrograms per deciliter. Based on this information, EPA, FDEP through the University of Florida, and Battelle Laboratories generated a conservative, acute toxicity, not-to-exceed value of 6,500 ppm for lead at Site 15. To develop this number, several models were reviewed for applicability to children, and the Leggett Model developed by Oak Ridge National Laboratories was selected. This model is most suitable to acute exposure because it is capable of generating a blood lead concentration versus time for a single dose (exposure).

The Leggett Model is based on a 2-year-old child because this is the approximate age when a soil pica (ingestion) event is likely. A baseline blood level of 4.1 micrograms per deciliter was assumed due to normal environmental exposure (not as a result of exposure to contamination). To be conservative, the lead bioavailability, or the likelihood of lead in the soil getting into the blood, was assumed to be 100 percent. In other studies, bioavailability values used ranged from 10 to 90 percent. Absorption of lead was estimated at 2 percent. This is based on the fact that the rate of lead absorption decreases with increased lead concentrations; saturation is assumed to be reached at 2 percent, and no more lead can be absorbed. The Leggett Model estimates uptake into red blood cells using two processes, linear and non-linear, based on the level of saturation. The lead acute toxicity value calculated based on the linear process, assuming no saturation, was 7,450 micrograms per deciliter, and the level based on the non-linear process, assuming some saturation, was 6,500 micrograms per deciliter. The lower number – 6,500 micrograms per deciliter – was chosen because there is uncertainty regarding the saturation process with single exposures. A scientific paper was generated based on this work, and it is currently being peer reviewed.

Proposed Remediation

To protect recreational receptors, concentrations of carcinogenic PAHs greater than 84,630 ppb will result in a site-wide average concentration of 4,177 ppb, which is less than the calculated cleanup level of 4,500 ppb.

The average concentration of lead across the site (site-wide average) currently (before any remediation takes place) is 1,074 ppm, and the maximum current concentration is 41,400 ppm. Based on these values, there is no need for remediation to protect the adult recreational user or birds. However, lead concentrations in 2-acre grids associated with shrew exposure are still too high with no cleanup, and the lead acute toxicity number is not met. Soil with lead at concentrations greater than 6,500 micrograms per kilogram must be removed to protect children from acute exposure to lead. This will result in a site-wide average lead concentration of 577 ppm and a maximum 2-acre concentration of 2,069 ppm. This concentration is less than the 2-acre shrew exposure area cleanup level, so no further remediation to be protective of the shrew is required.

The proposed extent of remediation is still under review.

Q: How is it to be cleaned up?

A: Soil dig and haul at hot spots is the most likely cleanup method.

Q: Was the potential for surface water contamination from leachate investigated at any time?

A: This issue was addressed in the Remedial Investigation (RI) and the Base-Wide Ecological Assessment Report (BEAR).

Golf Course Update

Ron Kotun of TtNUS discussed recent supplemental sampling at PSC 51, the active golf course. EPA conducted this supplemental sampling to facilitate transfer of the property by confirming the way that the data

was used to demonstrate that the site is protective of human health and ecological receptors. Primary COCs at the golf course based on previous soil sampling results are pesticides and arsenic (arsenic was a component of some pesticides). As part of the PSC 51 investigation, the golf course was divided into 1-acre units, and one sample was collected from the center of each unit and analyzed for pesticides and arsenic. Additionally, one sample was collected from the center points of each tee and each green because these areas receive more maintenance, including pesticide application, than other areas of the course. These samples were also analyzed for pesticides and arsenic.

Human health COCs, determined by comparing soil sample results to SCTLs, included 4,4'-DDE, 4,4'-DDT, arsenic, chlordane, dieldrin, and heptachlor epoxide (all of these are pesticides or are contained in pesticides). A residential exposure unit, the area to which a resident is exposed, was assumed to be one-quarter of an acre. The soil sample data collected from the 1-acre grids was then used to estimate risks in these one-quarter-acre exposure units. Each sample collected was categorized as to whether it was collected on a tee, green, or fairway or in rough or wooded areas. To evaluate risk, it was assumed that each exposure unit is made up of 100 percent of one of the categories. Greens had the highest contaminant concentrations and so the highest risks.

As part of the data evaluation process, it was assumed that each category (tees, greens, etc.) had been treated with a similar application of pesticides over the operating life of the golf course. For example, the samples from all of the greens were used to represent individual greens in the risk evaluation. Data from all of the 31 samples collected from 18 greens and practice greens were used to represent each individual green at the course.

There was significant variability (a large range of detected concentrations) in the data from the greens for all of the detected constituents. This variability created doubt as to whether data from all of the greens are representative of individual greens, in other words, if all 31 greens samples should be used to represent each individual green in the risk analysis. EPA conducted additional sampling, consisting of 36 samples from two greens, to determine if the concentrations from a single green have similar ranges and variability as the combined data set from all of the greens.

Statistical analysis of the variability of the additional data for individual greens compared to the variability of the dataset including results from all of the greens began with the development of predicted ranges of concentrations for COCs. To validate the assumption that all of the greens data can be used to represent each green, the variability, represented by the predicted ranges of contaminants, in the additional sampling data had to be shown to be statistically similar to the variability of the existing data. Predicted ranges were developed for the four primary contributors to risk at the site (arsenic, chlordane, dieldrin, and heptachlor epoxide) using the 10th and 90th percentile concentrations from the existing greens dataset. The concentration for which 10 percent of the detected concentrations is greater than is the 90th percentile concentration, and the concentration for which 90 percent of the concentrations is greater than is the 10th percentile concentration. So the predicted range to be used in the statistical analysis was defined as the concentrations between the 10th percentile to the 90th percentile of the existing concentrations. Because the issue is whether the data have similar variabilities (or similarly large ranges of concentrations), it is expected that the data from the additional sampling *will* exceed the predicted ranges, or in other words, will have a high degree of variability. Exceeding the range means having a concentration less than the low value of the range (10th percentile concentration) and greater than the high value of the range (90th percentile concentration).

EPA selected two greens for additional sampling, Green 8, which had the highest concentration of arsenic and Green 15, which had the lowest concentration of arsenic. If the ranges of concentrations detected in the samples from these greens are similar to the range in our original dataset, in other words, if the amount of variability in the two datasets is similar, then our assumption is valid. Thirty-six samples were collected from each of the two greens and analyzed for arsenic, chlordane, dieldrin, and heptachlor epoxide. The statistical criterion used was that there was a 95 percent probability that at least 1 of 36 samples would exceed the predicted range on both the high and low ends for all of the constituents analyzed for. If a 95 percent probability is achieved, it means that the assumption is correct 95 percent of the time.

The decision rule was as follows: If the data for the four constituents from both greens have concentrations outside both ends of the predicted range, then the greens data collected from the initial investigation can be used to determine the exposure point concentration for the greens. The exposure point concentration is the concentration to which a receptor is exposed and is used to calculate risk. If the above condition is not met, another statistical test will be used to test variability (Brown & Forsythe test). If the variability between the greens is not similar, additional evaluation or investigation may be necessary. EPA has collected the additional samples from the greens, but the data have not yet been reviewed.

NPL Partial Delisting Update

Debbie Vaughn-Wright of EPA provided an update on the progress of the delisting of portions of Cecil Field from the EPA's National Priorities List (NPL). The delisting information is in the Federal Register starting tomorrow (January 29, 2003), and this marks the start of the 30-day public comment period for the partial delisting. An announcement of the public comment period is in today's (January 28, 2003) Florida Times-Union on page B-3. The public comment period ends March 1.

For a site or part of a site to be deleted from the NPL, the following conditions must be met:

- All appropriate response actions have been implemented.
- The response financed by Superfund under CERCLA has been implemented, and no further action is required.
- The Remedial Investigation (RI) shows no threat to public health and the environment.

NPL partial deletion procedures include the following:

- All responses under CERCLA have been implemented, and no further action is required.
- State of Florida concurs.
- Notice of Intent to delete is published in a major local newspaper and in the Federal Register.
- Publication of Notice of Intent marks the start of the 30-day comment period.
- If any comments are received, EPA prepares a response to comments.
- A final Notice of Partial Deletion is published in the Federal Register.

When Cecil Field was put on the NPL, the entire site, approximately 17,200 acres fence line to fence line, was listed. The partial deletion will remove approximately 16,527 acres from the NPL. A docket with partial delisting information is being set up in Building 907 with a map showing the areas to be deleted. Installation Restoration (IR) Program Sites 10, 14, 42, 44, and Old Golf Course are included as are more than 250 buildings/parcels evaluated under the BRAC Program.

Partial deletion from the NPL was requested by the City of Jacksonville. It was hoped that by removing the stigma associated with being on the NPL, the property would be easier to market to developers. The RAB was briefed in April 2002, and FDEP concurred in July 2002. Any comments that RAB members may have can be forwarded to Debbie.

Q: Why is it just a partial deletion?

A: The entire site can't be deleted from the NPL until all cleanup occurs. The sites that are being removed are ones where no contamination was found or where contamination has been cleaned up. Also, petroleum sites, even if contaminated, are excluded under CERCLA because they are addressed under State law.

Q: How many other bases have been delisted?

A: Cecil Field is the only one in Region 4 to go through this process. It is one of five nationally.

Day Tank 1 Supplemental Soil Sampling Update

Mark Jonnet of Tetra Tech NUS provided an update on the supplemental soil investigation at Day Tank 1. Day Tank 1 was 200,000-gallon earth-mounded tank located along the north-south runways that supplied the North-South High Speed Refuelers. Numerous past spills resulted in the contamination of soil and groundwater at the site. A soil excavation took place in 1999 with the goal of removing the tank, free product, and contaminated soils. The area was excavated to 1 foot below the water table, approximately 11 feet below ground surface, resulting in the removal and off-site disposal of approximately 24,000 tons of contaminated soil. In addition, approximately 42,500 gallons of petroleum-impacted groundwater and free product were also removed and disposed off site. A biosparge groundwater remediation system has been in operation at the site since February 2000.

Confirmation samples, which were collected prior to the start excavation activities, had concentrations less than the criteria established in the Remedial Action Plan (RAP) completed in 1997; however, concentrations in several of these samples exceeded current FDEP Soil Cleanup Target Levels (SCTLs). Because some confirmation sample results exceed current standards, a supplemental investigation was required to delineate contamination to the new criteria. This supplemental soil investigation was conducted in three phases from August to November 2002. In addition, the free-product plume under Building 846, identified during the RI was re-baselined at this time.

Phase I of the supplemental soil investigation was conducted in August 2002 and included the collection of 59 samples for field screening and 4 samples for laboratory analysis. Samples sent to the laboratory were analyzed for volatile organic compounds (VOCs), PAHs, and total recoverable petroleum hydrocarbons (TRPH). To confirm the field results with laboratory data, Phase II was conducted in October 2002 and included the collection of 99 samples from 46 soil borings and the laboratory analysis of these samples for VOCs, PAHs, and TRPH. Some of these samples were collected at deeper levels to vertically delineate the contamination. During this field effort, free product levels in existing temporary wells were measured.

To further refine the delineated area of soil contamination, Phase III sampling was conducted in November 2002, and included the collection of 41 samples from 34 soil borings. Synthetic Precipitation Leaching Procedure (SPLP) and TRPH subclassification analyses were conducted on selected samples. SPLP results can sometimes be used to determine site-specific leachability criteria, and TRPH subclassification analysis gives concentrations of individual subgroups of TRPH constituents. These subgroups also have FDEP criteria.

Conclusions of the supplemental soil investigation are as follows:

- Contamination was fully delineated.
- The highest concentrations were generally found beneath Building 846, where the free product plume is located.
- Most of the contamination is located at depths from 4 feet below the ground surface to the water table.
- Contaminants detected at concentrations in excess of FDEP SCTLs include PAHs (1- and 2-methylnaphthalene, naphthalene, and benzo(a)pyrene), VOCs (ethylbenzene, toluene, and xylenes), and TRPH.
- SPLP results were used to establish site-specific leachability criteria for TRPH and ethylbenzene.
- TRPH subclassification results indicated that concentrations of individual subgroups did not exceed their industrial or leachability criteria, but did exceed residential criteria.
- The extent of contamination is generally defined by PAH leachability exceedances.
- The free-product plume increased in areal extent but decreased in thickness from the time of the RI in October 2001 to this investigation in October 2002. This spreading out of the free-product plume may be associated with the drop in the water table that has occurred during this time.

Remedial alternatives were developed for the site for free product and for contaminated soil. The free-product alternatives being evaluated include:

- Excavation

- Installation and operation of recovery wells
- Recovery wells with enhancement – hot steam injection
- Recovery wells with enhancement – vapor extraction
- Recovery wells with enhancement – air sparging/vapor extraction

For contaminated soils, the following alternatives are being evaluated:

- Excavation
- Vapor extraction

Under the soil excavation option, approximately 4,475 cubic yards of soil would require removal to allow for residential reuse of the site, and approximately 4,150 cubic yards would be required for industrial reuse. The BCT will evaluate the options for both soil and free product during their meeting tomorrow. After the alternatives are selected, the next step is to prepare a Site Assessment Report (SAR) Addendum. The SAR Addendum will document the results of the supplemental soils and free-product investigation and propose remedial actions, and if an alternative other than removal is selected, the SAR Addendum will recommend the preparation of a RAP.

Q: Will the building have to be torn down?

A: The building may have to be demolished to clean up the soil and free product.

Q: How long would the excavation take?

A: It is currently estimated to take about 1 month to 6 weeks.

Q: How long of a delay would there be before the area could be paved over? The long range development plan calls for a taxiway/tow way in that area.

A: It could be repaved right away after the excavation is complete. The biosparge system needs to be preserved, and it was not designed to withstand airplane traffic. It would need to be upgraded with vaults like those used at Sites 36 and 37.

Q: Does the Navy have enough funding to do the excavation?

A: They can probably get enough to do it.

Sites Update

Installation Restoration (IR) Sites

As discussed tonight, an acute toxicity number for lead was agreed upon for Operable Unit (OU) 5, Site 15. Vertical delineation of soil contamination is still required before cleanup can begin. The excavation at OU 5, Site 49 is still being postponed by wet weather.

OU 6 Site 11 had the pesticide 1,2-dibromo-3-chloropropane (DBCP) in one well. The July data indicated that the concentration had decreased to less than the FDEP groundwater cleanup target level (GCTL). The well was resampled in October 2002, and the concentration was still less than the GCTL. The site can now be closed out as no further action. A closeout report is in progress. At OU 7, Site 16 and OU 8, Site 3, the air sparging (AS) systems are still off; the source area trichloroethene (TCE) concentrations remain less the GCTL.

For OU 9, Sites 57 and 58, a draft Proposed Plan recommending monitored natural attenuation was submitted in October 2002. At Site 57, pigging of the old pipelines to make sure no fuel is left in them is scheduled to begin at the end of February and take approximately 1 month. Over the last few months, resolution of the land use control (LUC) issues associated the Record of Decision (ROD) for OU 11, Site 45 has been getting closer.

Petroleum Sites

At North Fuel Farm (NFF), existing wells were sampled in December 2002. Installation of additional wells began in December 2002 and is expected to be completed in January 2003. At South Fuel Farm (SFF), system evaluation and permeability testing were conducted in November 2002 following repairs to the remediation system. The system is working fairly well now after the repairs, and the RAP is in preparation. At the Jet Engine Test Cell (JETC) site, a Remedial Action Plan (RAP) to address groundwater contamination was submitted in September 2002. The RAP calls for installation of an AS system.

At the 103rd Street Pipeline site, the Navy is still negotiating with the City to have them excavate contaminated soils at the Wesconnett Street Site. Planned road widening to be conducted by the City is to be combined with the soil removal effort.

At Building 46, the old gas station, lab data from the new wells indicated that the downgradient extent of the plume needed further delineation. Two additional intermediate wells were installed and sampled by January 2003, and data are pending. At Building 81, Tanks 81 ABC, the 1st quarterly sampling event was completed in January 2003, and results are pending. At the BP Wells site, the in-situ oxygen curtain (ISOC) treatment system began operations in October 2002, and the 1st quarterly monitoring event was conducted in January 2003. Results are pending.

Base Realignment and Closure Sites

At Building 605, the old Marine barracks, chloroethane concentrations were less than the FDEP GCTL in the last two consecutive events, and the final Sampling and Analysis Report (SAR) recommending no further action was submitted in December 2002.

Finding of Suitability to Transfer (FOST) documents for the EDC Phase III and JPA Phase III Parcels were signed in the last couple of weeks by the Navy, and the deeds should be coming out soon. FOSTs for EDC Phase IV and JPA Phase IV are scheduled for June 2003.

Conclusion

The April meeting is tentatively cancelled because there is a lack of things to discuss (see Steering Committee Minutes). The next meeting is tentatively scheduled for July 21, 2003 at the same location. If anyone has any suggestions as to future RAB agenda items, contact one of the BCT members. If the location changes, a public notice will be placed in the Florida Times-Union announcing the new location. The meeting was adjourned at 8:30 PM.