

ENVIRONMENTAL HAPPENINGS AT PICATINNY ARSENAL

VOLUME 6, ISSUE 2 SUMMER 2008

BRING IT ON: ARMY AND EPA STANDOFF

The more things change the more they stay the same. The current dispute between the Army and the USEPA is based on a familiar theme that has cropped up periodically during the long period of time that Picatinny Arsenal has been a Superfund site. The center of the maelstrom is the Feasibility Study (FS) for Mid-Valley groundwater. The Army and the USEPA engaged in numerous discussions at various technical meetings aimed at refining an approach for the FS. The revised FS submitted by the Army in November 2007 included a different approach than what had apparently been expected by the USEPA. The first discussions regarding the dispute took place at a routine technical meeting in January 2008. At that point the issue of dispute resolution was broached but mentioned only as a possibility if the matter could not be handled at the project manager level. A second meeting was held on February 19th although details regarding the meeting were not made available; however, it was eventually revealed that a resolution had not been reached. The USEPA laid out the grounds for the dispute in a letter dated June 27, 2008 to LTC Stack of



Picatinny Arsenal and Mr. George Pavlou, Acting Director of USEPA Region II Emergency and Remedial Response Division. A dispute resolution position paper accompanied the letter. In that position paper the USEPA detailed the nature of the dispute. The USEPA does not believe that the “radically new approach” is protective of public health and the environment. The USEPA states that “the Army no longer intends to apply ARARs to ground and surface water contamination at Picatinny unless risk levels are unacceptable for a restricted use scenario (industrial research worker).” As mentioned in the Spring 2008 newsletter the USEPA requires that groundwater be restored to its “designated or beneficial use.” In the case of Picatinny Arsenal the site is underlain by a sole source aquifer. In addition the Army contends that there are no ARARs that apply to surface water because there are no “unacceptable human health or ecological risks.” Further discussion on the dispute from each side is presented in the following sections.

POINTS OF INTEREST:

- A meeting was held at the offices of the NJDEP to discuss the remedial approach at Area B on June 24, 2008.
- Representatives of the USEPA and the Army met on July 24, 2008 as part of their ongoing effort to resolve their dispute.
- Arcadis conducted a technical meeting with representatives of Picatinny, the USEPA, and the NJDEP on May 29, 2008.
- The last RAB meeting was held on May 29, 2008.
- The next RAB meeting will begin at 6:30 pm on October 23, 2008 at Bucky's in the Arsenal. It will be preceded by a site tour beginning at 4:30 pm. Notify Mr. Ted Gabel by 2 pm on October 22 to request a pass : 973-724-6748.

IN THE FIELD.....

Recent field activities for April through July of 2008 included the following:

Site 180: Sampling for lead in soil. (June)

CDC Footprint: Construction support for stump removal. (June)

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A VIEW OF FIELD WORK AT THE RCI AREA



Demolition setup from July 25, 2008.



Engineering controls for demolition on July 25, 2008; see above.

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A VIEW OF FIELD WORK AT THE RCI AREA (CONT'D)

Engineering controls after demolition.

GREEN POND BROOK WITH NEW LEVEL OF PROTECTION

The NJDEP originally proposed to upgrade approximately 910 miles of rivers and streams to Category One. After considering comments from the public, the NJDEP ultimately upgraded approximately 686 river miles to Category One. Green Pond Brook was one

of the waterways that was included in the upgrade. Green Pond Brook was included by virtue of it being a natural tributary of the Boonton Reservoir and having not already been designated as Category One. The amendments were adopted on June 16, 2008. Green Pond Brook is a prominent

waterway at Picatinny. The effects of the upgrade will probably be less significant to the remedial efforts underway at the base than to proposed development at the southern portion of the base.



UXO REMOVAL EFFORT IN RCI AREA

The removal effort within the Residential Communities Initiative (RCI) which started in January 2008 is still underway. The project schedule for completion at the start of the project had been March 31, 2008.

The website established by Picatinny (<http://www.Pica.army.mil/UXO/>) had been listing daily reports on the activities. Recently that effort was suspended and the last report cited was for May 6, 2008. Details of the suspension were related in the Spring 2008 newsletter. As of July 28, 2008 daily reporting appears to have resumed. A schedule for August shows work planned for August 1st through August 4th. According to the Army and Arcadis a formal report on the removal action, similar to that for the initial Tilcon Quarry removal action, will be issued in the future.

A second removal action was also conducted at Tilcon

Quarry in an area smaller than that in which previous removal actions had been conducted. A final report on the Tilcon removal action is not yet

available to the public.



Five-inch common high explosive found on July 25, 2008 at Flag 29

TRAINING OPPORTUNITIES



The Interstate Technical Regulatory Council (ITRC) has scheduled the following on-line courses:

- "Decontamination and Decommissioning of Radiologically-Contaminated Facilities," August 5th from 11 am to 1:15 pm
- "Performance-based Environmental Management," August 26th and December 2 from 2 to 4:15 pm
- "In Situ Bioremediation of Chlorinated Ethene – DNAPL Source Zones," September 9th from 2 to 4:15 pm and on November 13th from 11 am to 1:15 pm
- "Enhanced Attenuation of Chlorinated Organics : A Site Management Tool," September 11th and November 6th. from 11 am to 1:15 pm
- "Planning and Promoting Ecological Land Reuse of Remediated Sites," September 23rd from 2 to 4:15 pm

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AREA B REMEDIATION GETS UNDERWAY

A revised draft final remedial design for Area B was submitted to regulators on July 17, 2008. The revised design was also the topic of a meeting held in Trenton, New Jersey to review the remedial design. This meeting was reportedly held at the request of the NJDEP. The original proposed plan for the area was finalized in September 2005. This plan called for two alternatives as follows: 5B – enhanced bioremediation to address volatile organic compounds and 8 – enhanced

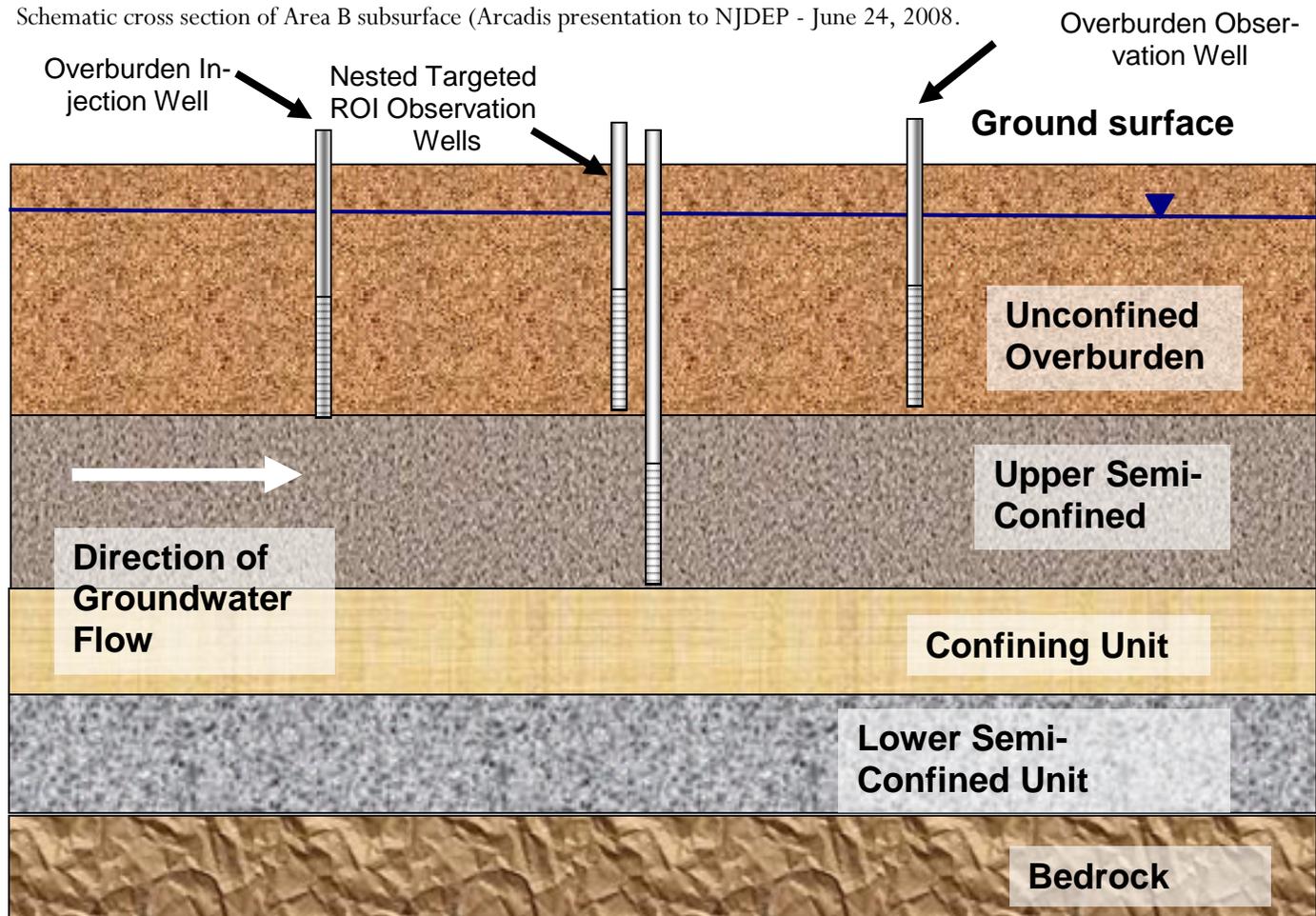
bioremediation with ORC to address xylenes. The proposed plan was formulated prior to the implementation of the performance-based contract between the Army and Arcadis and also before changes in cleanup levels for two of the contaminants of concern. The groundwater quality standard for xylenes went from 40 ug/L to 1,000 ug/L and that for vinyl chloride decreased from 2 ug/L to 1 ug/L. The road to a final remedial design in Area B got off to a rocky start with drilling of pre-design wells temporarily suspended due to the detection of UXO. Obstacles to the well installation were overcome and installation was

finally completed in April 2008. The wells were sampled immediately after installation. Although sampling prior to two weeks after well installation is contrary to NJDEP guidelines the NJDEP appears to have accepted the results. The Army and Arcadis explain that these results were used to assist design efforts rather than to achieve legal compliance. The Army and Arcadis elaborated further with the explanation that a full round of data samples was collected in accordance with all NJDEP protocols in May of 2008 and that the results were consistent. Based on those results Arcadis concluded that

Alternative 5B was still appropriate but that Alternative 8 is no longer necessary due to the increased cleanup level for xylenes and the decreases in groundwater concentrations that have occurred since 1998. Arcadis proposes three injection barriers requiring the installation of at least nine more injection wells. They propose to complete three injection events per year utilizing a number of tanker trucks to deliver the estimated 3,300 gallons of 2 percent molasses

Continued on page 7

Schematic cross section of Area B subsurface (Arcadis presentation to NJDEP - June 24, 2008).



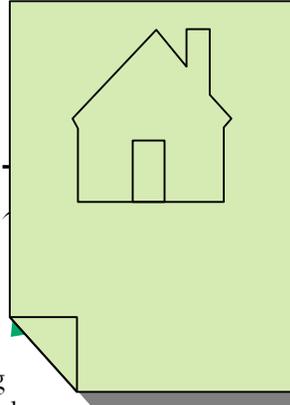
DISPUTE RESOLUTION: THE USEPA POSITION

As stated in the USEPA June 27, 2008 position paper, the disputed issues are as follows:

If a Class IIA aquifer is contaminated, is the reasonably foreseeable use of the groundwater relevant in determining whether action, and evaluation of ARARs, is necessary? In other words, if the reasonably foreseeable use is by an industrial research worker and the risk to such user is acceptable, would remedial action be necessary, and would ARARs (such as MCLs) need to be evaluated?

The USEPA cites the basis for their position. The groundwater classification comes from the National Contingency Plan (NCP) which utilizes the USEPA's 1986 Classification Guidelines wherein Class IIA is defined as currently used drinking water source. The USEPA states that the "groundwater under Picatinny is recognized as Class IIA groundwater. The

primary designated use of Class IIA groundwater is potable water. Therefore, the EPA expects that the contaminated groundwater underlying Picatinny will be rendered potable in a reasonable time frame." The concluding statement includes a passage that succinctly summarizes the nature of the disagreement: "The Army appears to hold out hope that in a limited exposure scenario (i.e., industrial/commercial) a contaminated Class IIA aquifer would not have to be restored to its beneficial use (i.e., satisfy ARARs such as MCLs) because there is no unacceptable risk. However, the designated use of Class IIA groundwater is potable water. If intake of such water must be restricted in order for risks to be acceptable, then it is not being protected



to levels appropriate to its use as a drinking water source and does not satisfy the

requirement in Section 12(a)(2) of CERCLA that the Army comply with EPA guidelines, rules and regulations."

If there are no unacceptable human health or ecological risks identified with

Mid-Valley surface water, are there chemical-specific surface water ARARs?

The dispute is centered on the Army's statement that "no unacceptable human health or ecological risk has been identified associated with exposure to Mid-Valley surface water. Therefore, there are no chemical-specific surface water ARARs associated with the Mid-Valley area." The Army apparently does not accept the New Jersey Surface

Water Quality Criteria (NJSWQC) "as threshold requirements that each remedial alternative must meet, as required by the NCP." The USEPA contends that risk is comprised of multiple exposure pathways; in this case, both groundwater and surface water contribute to the risk and therefore, surface water ARARs must be taken into account. The USEPA concludes that "because the risks posed by various exposure pathways should be added to determine total site risk, and because chemical-specific standards, such as the NJSWQC, may determine whether remedial action is warranted, EPA Region [sic] requests that the Dispute Resolution Committee direct the Army to determine whether each alternative complies with the NJSWQC."

THANK YOU FOR YOUR VOTE OF CONFIDENCE

During the May 29, 2008 public meeting of the PAERAB the assembled members of that august body expressed their approval of the services of the TAPP Contractor on their behalf, especially her efforts in the preparation of the quarterly

newsletter. The board reaffirmed its confidence in the TAPP Contractor by unanimously voting to approve and retain the services of the TAPP Contractor : Ms. Barbara Dolce.

The creator of this newsletter wishes to avail herself of this opportunity to express her sincere appreciation to the PAERAB. Thank you for your gratifying vote of confidence in my service to the RAB of providing

unbiased technical advice to the PAERAB. Thank you!

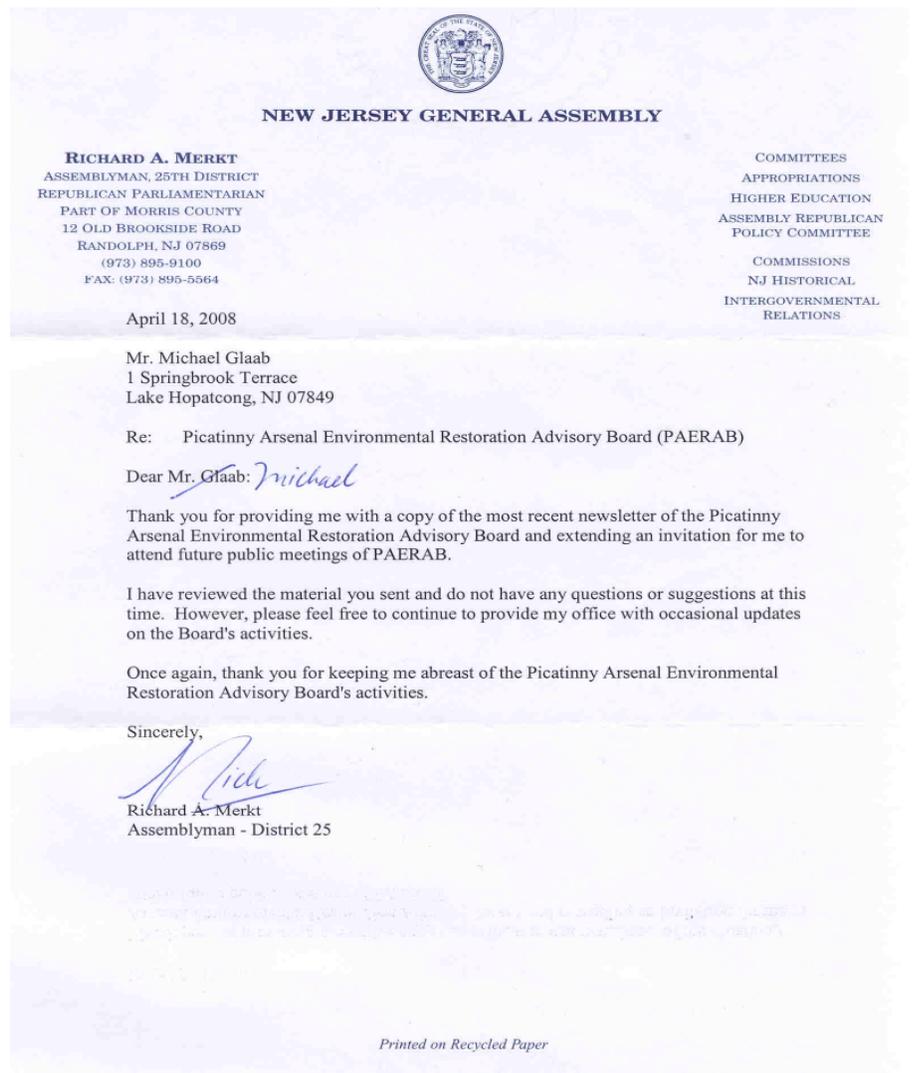
ASSEMBLYMAN RICHARD A. MERKT RESPONDS TO RAB

In the ongoing effort to keep local and state officials informed about activities at Picatinny Arsenal, the RAB community co-chair, Michael Glaab, sent a copy of the spring 2008 newsletter to New Jersey Assemblyman Richard A. Merkt.

Assemblyman Merkt, a Republican, is the representative to the state assembly of New Jersey for its 25th district. His local office is at 12 Old Brookside Road in Randolph. Assemblyman Merkt is a member of the following committees:

- Appropriations
- Higher Education
- Assembly Republican Policy.

He is also a member of the NJ Historical and Intergovernmental Relations Commissions. The representative's response to the RAB is provided in the adjacent column:



AREA B REMEDIATION GETS UNDERWAY (CONT'D FROM P. 5)

solution that will be required for each injection well. In contrast to other applications of an injection scenario, this plan does not call for the installation of permanent injection hardware. According to the Army and Arcadis, the use of temporary injection hardware is common—as is the use of

permanent injection hardware: both methods are commonly used. Although formal approval is pending, the design was apparently tentatively approved by the NJDEP at the June 24, 2008 meeting.

DISPUTE RESOLUTION: THE ARMY POSITION

The Army sent a letter dated July 16, 2008 to George Pavlou, Acting Director of the USEPA Region II Emergency and Remedial Response Division; the letter was a response to the USEPA's earlier submitted position paper and was sent just prior to the July 24, 2008 meeting between the Army and the USEPA. In the letter, the Army stated that they had "agreed that risk at this site [Mid-Valley] does warrant remedial action for the groundwater and has agreed to restore the groundwater to meet drinking water standards." In the position paper, the Army stated that their "reviewers were disappointed by the apparent lack of acknowledgement of the Army's agreement to restore groundwater to MCLs" – both at the February 19, 2008 informal dispute resolution meeting and in the April 14, 2008 Army response to USEPA comments. The Army stated that they indicated that "the FS will be revised to include the MCL [Maximum Contaminant

Level] as an ARAR for the proposed groundwater remedial action."

In the letter the Army further states that their position is that "the trigger for remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") is a determination of unacceptable risk based on a baseline risk assessment that considers reasonable maximum exposure." The Army notes that "if the baseline risk assessment concludes that the risk is unacceptable – based on the current and reasonably foreseeable uses – a response action is required. During that step, the lead agency develops a response action that identifies and complies with all ARARs, including MCLs for groundwater." The Army also questions EPA's determination of reasonable maximum exposure scenario and reiterates that EPA defines 'reasonable maximum' to include 'only potential exposures that are likely to occur.' The Army

cites various guidance including the EPA Risk Assessment Guidance for Superfund (RAGS) in which the Army notes that according to RAGS: "Because residential land use is most often associated with the greatest exposures, it is generally the most conservative choice to make when deciding what type of alternate land use may occur in the future. However, an assumption of future residential land use may not be justifiable if the probability that the site will support residential use in the future is exceedingly small."

The Army states that they have accepted the EPA's "programmatic expectation to return groundwater to beneficial use and strives to achieve that expectation within a reasonable timeframe considering site specific factors" but that the USEPA has failed to recognize that.

Finally on the issue of a surface water ARAR the Army states that "any

incremental risk associated with surface water exposure is insignificant based on the concentrations in the surface water. The only possible way surface water exposure would result in elevated risk would be to assume use of the surface water body as a drinking water supply at the location where groundwater daylight into surface water." The Army notes that such a scenario is unreasonable. Using a youth visitor as a current and likely future receptor for surface water exposure the Army calculated the cancer risk to be 1.4×10^{-9} to 1.2×10^{-7} (compare to 10^{-4} to 10^{-7}) with a hazard index range of 0.002 to 0.01 (compare to 1.0). The Army concludes that the "groundwater remedy will reduce concentrations discharging to Robinson Run to levels below the New Jersey Surface Water Criteria ('NJSWC'). However, because there is no unacceptable risk associated with surface water the NJSWC cannot be an ARAR."

PUBLIC HEARING FOR PROPOSED PLAN

A public hearing for Site 61/104 (PICA 102) was held on April 17, 2008 at the Hilton Garden Inn in Rockaway, New Jersey. Representatives of the Army coordinated the presentation which was given by Arcadis. Bill Roach of the USEPA and

Jim Kealy of the NJDEP were in attendance. Mr. Roach noted that the Proposed Plan for Site 61/104 had been approved for release for public comment but had not yet been formally approved by the USEPA. Mr. Kealy

commented that the NJDEP had reviewed the plan and was in favor of it. The proposed plan addressed soil, sediment, and surface water at the subject site; groundwater in the area is being handled as part of the Mid

-Valley study area. The Army's preferred alternatives are as follows: soil – alternative S-5A: excavation and off-site disposal of selected impacted soils from Site 104 and LUCs (land use controls)

CONT'D ON P. 9

PUBLIC HEARING FOR PROPOSED PLAN (cont'd)

with maintenance of existing ECs (engineering controls) at Site 104 and 61; sediment – alternative D-2: land use controls. Michael Glaab, the RAB community co-chair, was in attendance at the meeting. He commented that he found the removal effort “encouraging.” In addition he requested that two weeks notice be provided for public meetings. In the case of the public meeting for Site 61/104 the notice was not the normal two weeks. Mr. Glaab elaborates with the following: “...personally, I and probably most - if not all -

of the community RAB representatives would prefer to have all of the contaminants either removed expeditiously from the Arsenal or rendered harmless onsite. However, the excavation of some of the more contaminated soil is reassuring. It seems to be a reasonable and conservative premise that emphasis be placed on the removal of that soil which is the most seriously contaminated and that soil which is contaminated with contaminants that readily migrate via water. Therefore soil contaminated with water soluble contaminants that is also in close proximity to water should be prioritized for removal.

In addition, once contaminated soil has been excavated it will hopefully be physically removed from the Arsenal for proper disposal elsewhere. However, if excavated contaminated soil is instead retained on the Arsenal then it will be incumbent on the U.S. Army, the NJDEP and the USEPA to assure that this soil will be carefully disposed to prevent contaminant migration. Institutional and/or engineering land use controls (LUCs) will presumably be applied to the remaining contaminated sections of Sites 61 and 104. Hopefully where contaminants remain such relatively low cost remediation

measures as phytoremediation will be implemented - where, when and if practicable - to reduce the remaining onsite contaminants. Where fast and effective remediation actions are currently cost prohibitive the application of less effective— but low cost - remediation measures in conjunction with LUCs is preferable to merely permitting contaminants to remain onsite until nature slowly renders those contaminants relatively harmless. Low cost remediation measures can supplement typical LUCs until and if cost effective remediation measures become available”.

Highlights of the FINAL PROPOSED PLAN for Sites 61 and 104 (PICA 102) by Michael Glaab

The public hearing conducted on April 17, 2008 concerning contaminants at sites 61 and 104 at Picatinny Arsenal was intended to both inform the general public about the selection of environmental remediation actions for these sites and to also serve as a venue for the public to submit comments during the official public comment period.

The firm of Arcadis was contracted to prepare the following report to provide pertinent environmental remediation information regarding these sites to those responsible for the selection of appropriate remedial actions :

Final Proposed Plan — Sites 61 and 104 (PICA 102) , U.S. Army Garrison Picatinny Arsenal, New Jersey — April 2008.

This report provides quantified values and analyses. It describes the physical sites, their contaminants, the determination of remedial action

objectives (RAOs), several possible alternative remediation options, the criteria for evaluating these options, and the conclusions of its authors. The report was provided to the RAB and it is available to the general public. Brief, but useful and informative, excerpts of it are provided verbatim in this article.

For example, the following definition of RAOs is provided on page 11 of the proposed plan :

“Remedial Action Objectives (RAOs) are based on human health and environmental factors, which are considered in the formulation and development of response actions. Such objectives are developed based on the criteria outlined in Section 300.430(e) (2) of the NCP and Section 121 of SARA”.

According to the report Sites 61 and 104 are in Area F. The region comprising Picatinny Arsenal has been subdivided into 16 separate areas on the basis of their potential for

environmental contamination. These consist of areas A through P. Area A includes sites having the greatest potential for contamination and Area P includes those with the least potential for contamination.

Both sites are located immediately to the east of Green Pond Brook (GPB). Site 61 encloses approximately 3 acres that include Buildings 171 and 176. Site 104 is south of Site 61 and it occupies an area of approximately 0.96 acres. Site 104 includes former Building 161 and Building 162.

The final proposed plan depicts the extent of contamination in the following statement on page 3 :

“Impacts have been identified in surface and subsurface soil, surface water, sediment, and groundwater, potentially due to historical releases and past disposal practices that occurred at both sites”.

CONTINUED ON P. 10

Highlights of the FINAL PROPOSED PLAN for Sites 61 and 104 (PICA 102) - continued

According to page 3 "...chemical contamination at Sites 61 and 104 (PICA 102) mainly has been detected in close proximity to site buildings, former disposal areas, and within and along the banks of GPB and Robinson Run".

The following physical descriptions of Green Pond Brook (GPB) and Robinson Run are provided on page 4:

"GPB is located adjacent to Sites 61 and 104 (PICA 102) and flows to the southwest. GPB forks into two branches just north of Site 61 and rejoins as one segment just south of Site 104. The stretch of the brook closest to Sites 61 and 104 (PICA 102) is approximately 15 feet wide and 2 to 3 feet deep. The brook eventually discharges to the Rockaway River, approximately one mile southeast of the Picatinny boundary.

Robinson Run flows northwest from the unnamed ridge in Area L and cuts through the southern end of Area F at Site 61 where it eventually drains into GPB. The western edge of Area F, along GPB, is low-lying and swampy. Robinson Run is approximately 3 feet wide and 2 feet deep in the area of Site 61".

The proposed plan refers to the presence of semi-volatile organic compounds (SVOCs) in surface soil on page 6:

SVOCs

A total of six SVOCs were identified at levels exceeding LOCs in surface soil samples collected at Site 61. Two SVOCs were identified at levels exceeding the LOCs in Site 104 surface soil.

The SVOCs detected at Site 61 included the polynuclear aromatic hydrocarbons (PAHs) benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene,

and indeno(1,2,3-c,d)pyrene...

The SVOCs detected at Site 104 included the PAHs benz(a)anthracene and benzo(b)fluoranthene".

The detection of metals is referred to in the following statements on page 6 :

TAL Metals

Arsenic, beryllium, and thallium were identified at Sites 61 and 104 (PICA 102) at levels in excess of LOCs. The highest concentrations of arsenic ranged from 23.8 mg/kg at Site 104 to 83.0 mg/kg at Site 61. These were the only arsenic exceedances identified at Sites 61 and 104 (PICA 102). The highest beryllium concentration at Site 61 was observed at sample location SS61-1A (6.52 mg/kg); at Site 104 the highest concentration was at sample location SS104-4A (4.65 mg/kg). Thallium concentrations ranged from 0.0340 mg/kg to 131 mg/kg at Site 61 sample location TP61-3c and from 0.0440 mg/kg to 181 mg/kg at Site 104 sample location SS104-1A.

Copper, lead, mercury, and zinc were detected at Site 104 at levels in excess of LOCs. Mercury was detected at the maximum concentration of 2,700 mg/kg in sample SS104-3A. However, this concentration is considered to be an anomaly, as the result could not be duplicated through additional sampling and analysis of an additional eight surface soil samples from this same location. The maximum concentration of mercury detected in the additional eight samples was 2.68 mg/kg.

Copper concentrations ranged from 13.7 mg/kg to 2,900 mg/kg. The only LOC exceedances for copper were identified in samples SD104-2 (2,900 mg/kg) and 104SD-6 (849 mg/kg). Lead concentrations ranged from 32 mg/kg to 3,100 mg/kg. The only LOC exceedances for lead were identified in

samples SD104-2 (3,100 mg/kg) and 104SD-6 (647 mg/kg). Zinc concentrations ranged from 55.7 mg/kg to 4,700 mg/kg in Site 104 surface soil samples. The only LOC exceedance for zinc was identified in sample SS104-2A (4,700 mg/kg)".

On page 7 the report elaborates further on the presence of arsenic and thallium :

TAL Metals

Arsenic and thallium were identified at Site 61 at levels exceeding LOCs in subsurface soil. No metals were identified at levels exceeding the LOCs in Site 104 subsurface soil. The highest detected concentration of arsenic was 23.9 mg/kg (LOC = 20 mg/kg) in sample TP61-1C. This was the only sample in which arsenic concentrations exceeded the LOCs. Thallium concentrations ranged from 0.0380 mg/kg to 470 mg/kg. Only two samples (TP61-3D and TP61-2D) had exceedances for this metal".

PCBs were detected and discussed accordingly on page 8 as per the following:

PCB

The PCB compounds Aroclor 1016 and Aroclor 1260 were identified at levels exceeding the LOC in surface water sample 104SW-5, which was collected from the area of GPB adjacent to Site 104. Aroclor 1016 was identified at a concentration of 0.320 ug/L and Aroclor 1260 was detected at a level of 0.274ug/L. The LOC for both PCB compounds is 0.000064 ug/L".

Explosive compounds were detected and discussed on page 8 :

Explosives

One of five explosive compounds

CONTINUED ON P. 11

Highlights of the FINAL PROPOSED PLAN for Sites 61 and 104 (PICA 102) - continued

detected in surface water was identified at a concentration exceeding the LOC. Cyclotrimethylenetrinitramine or RDX, which was identified in two surface water samples, was detected at its highest concentration (3.06 ug/l) in sample SWGP-7”.

Groundwater contamination was discussed on page 12:

“Groundwater contamination at both sites will be addressed separately under the Mid-Valley Groundwater Operable Unit. The RAOs are as follows:

- *Manage soils with calculated risk in the risk range of 10^{-6} to 10^{-4} following NCP guidance and the Geis Memorandum;*
- *Maintain current land use (industrial) and current institutional controls;*
- *Control disturbance and exposure to site soils that could lead to unacceptable human health risks”.*

The proposed plan further elaborates on page 12 about groundwater with the following statement:

“This Proposed Plan does not address groundwater at Sites 61 and 104 (PICA 102); therefore, COCs were not identified for groundwater at either site”.

An underlying tenet influencing the Army’s selection of remedial actions at Picatinny Arsenal is the Geis Memorandum. This memorandum refers to an agreement concluded by the NJDEP and the U.S. Army. It is attributed to General Geis a former commandant of Picatinny Arsenal. The Geis Memorandum is alluded to in the following statement on page 2 :

“Per the Geis Memorandum, the Army agreed with NJDEP to control exposure to soils using technologies such as engineering controls and institutional

controls rather than removal or treatment actions for sites where risks to human health fall within the generally acceptable risk range of 1×10^{-4} to 1×10^{-6} . Decisions regarding remedial actions at sites in this range are made on a site by site basis under both the NCP and the Geis Memorandum. The excavation of AA_{104SS-1} and AA_{104SS-2} at Site 104 was considered appropriate based on contaminant concentrations and proximity to Green Pond Brook”.

According to the proposed plan an area of attainment (AA) is the area over which remedial action objectives are to be obtained. The determination of an AA is based on site cleanup level (SCL) exceedances. AAs were determined for both soil and sediment in Sites 61 and 104. In Site 61 soil exceedances were identified at levels of 4 feet bgs. Therefore consideration was given to surface and subsurface soil at Site 61.

The proposed plan provides the following human health summary on page 9 regarding soil :

“Unacceptable risks to human health and the environment under the current and reasonably anticipated future use were not identified in soil or sediments at Site 61 and 104 (PICA 102)”.

The plan clarifies its human health risk assessment on page 9 with the following human health summary regarding surface water and sediment :

“Human health risks were not quantified for exposures to surface water and sediments at either Site 61 or 104 as exposure to these media was not expected. However, concentrations of chemicals in surface water were compared to Region 3 Risk-Based Concentrations (RBCs) for tap water and New Jersey Water Quality Criteria. The maximum concentration of four chemicals exceeded a respective screening concentration based on

drinking water exposure. However, because Green Pond Brook and Robinson Run are not used as a drinking water supply, exposure to surface water does not result in an unacceptable risk to human health”.

The proposed plan elaborates further on page 12 regarding surface water contaminants :

“Six surface water contaminants (TCE, PCE, RDX, Aroclor 1016, Aroclor 1260, and lead) were initially determined to be a potential human health concern if surface water was used as a drinking water supply. However, as surface water is not used as a drinking water supply, these six contaminants are not considered a concern for human health, even taking into account potential incidental surface water ingestion. Swimming is prohibited within GPB, and swimming by a trespasser also is unlikely”.

The Army’s currently recommended response action as delineated on page 16 :

“...would involve excavation of contaminated soil from AA_{104SS-1} and AA_{104SS-2} at Site 104, including confirmatory sampling at the limits of the excavation. Excavated soil would be transported off-site for disposal. Based on existing data, it is estimated that approximately 54 CY of contaminated soil would be excavated comprising an area of approximately 1,242 square feet. Sites 61 and 104 (PICA 102) would be subject to maintenance of existing ECs to prevent disturbance of the existing vegetative cover at AA_{104SS-3} and exposure to contaminated soil.

Because some contamination above residential standards would remain at the site, LUCs will be required even after completing active remedies to control use of the site that may lead to unacceptable risk”.

PROMULGATED STANDARDS AT LAST: NEW DEP REGULATIONS

The NJDEP adopted new soil remediation standards on June 2, 2008. A number of regulated constituents now have more stringent standards. Other constituents have been deleted from the list. The standards for some constituents have increased and over 30 constituents have been newly added to the list. The format for soil standards still retains the division between residential land use and non-residential land use. However, an additional bifurcation in the choice of standards has been added. The choice for the standard is based on the dermal/ingestion pathway or the ingestion pathway – the applicable standard of which is the more stringent (but not less than the Practical Quantitation Limit [PQL]). Impact to groundwater soil remediation standards were not adopted. Applicability of the new rule is determined by the site status – whether or not a remedial action work plan (RAWP)

or remedial action report (RAR) is submitted before December 2, 2008. The sites having an RAWP or RAR in by the December date

standard has been lowered by an order of magnitude (factor of 10) or greater. Provided below are selected compounds that

Naphthalene
1,1,2-Trichloroethane

Standard increased

Acetone
Beryllium
1,2-Dichlorobenzene
Nickel
Phenol
Selenium
Silver



can utilize the soil cleanup criteria in existence prior to June 2, 2008. Interestingly, if a responsible party subsequently receives a notice of violation they will then not be permitted to utilize the lower concentration soil cleanup standards that were in effect prior to the June 2, 2008 rule proposal. As with the prior guidance the protectiveness of a remedy already in place at a site that has been cleaned up must be re-evaluated if the cleanup

have been detected at Picatinny Arsenal (in soil and/or groundwater) that have had notable changes in the newly adopted standard.

Standard decreased by an order of magnitude or more

Chloroform
Chloromethane
4-Methylphenol (p-cresol)

Newly added

Carbon disulfide
Chloroethane
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Heptachlor epoxide
Methyl tertiary butyl ether
Tertiary butyl alcohol
Trichlorofluoromethane

The full text of the rule adoption can be found at <http://www.state.nj.us/dep/rules/adoptions.html>.

TRAINING (CONTINUED FROM P. 4)

4:15 pm and November 20th from 11 am to 1:15 pm

- “Perchlorate Remediation Technologies,” October 9th from 11 am to 1:15 pm

The courses are free. Register online at www.itrcweb.org/ibt.asp.

The USEPA Technology Innovation Program has an internet course scheduled as follows:

- “A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems,” October 8th from 1 to 3 pm

Register for free classes at <http://clu-in.org/training>.

Internet courses may be archived at the respective websites for reference at the user’s convenience.



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PICATINNY ARSENAL IS ON
THE WEB

<http://www.pica.army.mil>

PICATINNY ARSENAL ENVIRONMENTAL RESTORATION ADVISORY BOARD

Community Representatives

Mr. Wesley Ackerson, dec.— Jefferson Twp. Rep.
Mr. Louis Correale – Rockaway Twp. Rep.,
Rockaway Township Health Department
Mr. Don Costanza – Town of Dover Rep.,
Dover Health Department
Mr. Robert Crothers – Twp. of Denville Rep.
Mr. David Forti, PE, CHMM – Community Rep.
Mr. Michael Glaab – RAB Community Co-Chair
Mr. Mark Hiler – Community Rep., Rockaway
Twp. Environmental Commission
Ms. Courtenay Huff – Community Rep.
Dr. Peter Lederman, PE, DEE – NJIT Rep.
Mr. Pat Matarazzo — Community Rep.,
Rockaway Twp. Environmental Comm.
Mr. Paul McGinley – Borough of Wharton Rep.
Mr. Cliff Morris - Community Rep.,
Tilcon NY, Inc.
Ms. Virginia Michelin – County of Morris Rep.
County of Morris Planning,
Development and Technology
Dr. Raymond Westerdahl – Union Rep., NFFE

Exofficio Members

Mr. Ted Gabel – Project Manager for
Environmental Restoration,
RAB Co-Chair: DoD, US Army
Mr. William Roach – U.S. Environmental
Protection Agency
Mr. Gregory Zalaskus – New Jersey Department
of Environmental Protection

If you have any questions or require additional information on any of the subjects in this newsletter, please contact Barbara Dolce at Subsurface Solutions LLC. Subsurface Solutions LLC is the Technical Assistance for Public Participation (TAPP) contractor for the Picatinny Arsenal Environmental Restoration Advisory Board (PAERAB).

In accordance with federal regulations PAERAB meetings are open to the public and attendance by the community is encouraged. The date and time of an upcoming PAERAB meeting are advertised in local newspapers. For further information please contact Michael Glaab (PAERAB Community Co-Chair) at 973-663-9605 (michaelglaab@worldnet.att.net) or the Environmental Affairs office at Picatinny Arsenal (Ted Gabel, PAERAB Army Co-Chair at 973-724-6748).

The TAPP - Technical Assistance for Public Participation program is a DOD program that provides a mechanism for community members of Restoration Advisory Boards and Technical Review Committees to obtain technical assistance. Its purpose is to provide citizen and/or community groups with professionals to assist them in their review of environmental issues at military installations. For example, a TAPP process may involve helping the public understand environmental remediation alternatives by providing an unbiased technical analysis and recommendation.

The newsletter is intended to provide an update on newly drafted documents, field activities at Picatinny Arsenal, upcoming events related to environmental issues at the site, and discussions at technical meetings. In addition, notice of new or revised Federal or State regulations may also be included.

The PAERAB also maintains a website at <http://www.pacerab.us>.

HOT OFF THE PRESS....

- Final Engineering Evaluation/Cost Analysis Investigative Work Plan Residential Community Initiative Military Housing Project Area (Part of PICA-003-R-01), Final, June 20, 2008
- Area E Groundwater Remedial Design Workplan, Final, June 27, 2008
- Record of Decision – Area C Groundwater, Draft Final, July 2008
- Remedial Design for Area D Groundwater, Final, July 2008
- Land Use Control Addendum of the Remedial Design for Area D Groundwater, Final, July 2008
- Remedial Design Revision 1 Area B (PICA 205) Groundwater, Draft Final, July 2008
- Remedial Action Report Green Pond Brook/Bear Swamp Brook (PICA 193), Draft, July 2008



Documents can be reviewed by the public at the Rockaway Township Library and Morris County Library. Both sites maintain a repository of Proposed Plans and Records of Decision. Other documents and final reports are in the Administrative Record which is maintained in Building 319 at Picatinny Arsenal. Call ahead to schedule to review the record.