`Former Williams Air Force Base (AFB)
Restoration Advisory Board (RAB)
Meeting Minutes

August 24, 2010, 7:00 p.m.
Highland High School
4301 E. Guadalupe Rd.
Gilbert, AZ

Attendees:

Ms. Michelle Lewis	**Air Force Center for Engineering and the Environment (AFCEE)/Base Realignment and Closure (BRAC) Environmental Coordinator (BEC)/Air Force Co-Chair**
Mr. Len Fuchs	**RAB Community Co-Chair**
Mr. Andre` Chiaradia	**Arizona Department of Environmental Quality (ADEQ), Remedial Project Manager**
Ms. Felicia Calderon	**ADEQ**
Ms. Beverly Selvage	**RAB Member**
Mr. Tom Zuppan	**RAB Member**
Mr. Dale Anderson	**RAB Member/Gila River Indian Community**
Mr. Scott Bouchie	**RAB Member/City of Mesa**
Ms. Jean Humphries	**RAB Member/Arizona State University Polytechnic**
Mr. Lonnie Frost	**RAB Member/Town of Gilbert**
Mr. Paul Cooper	**Community Member**
Mr. Jeff Schone	**BEM Systems**
Ms. Amber Cargile	**Cargile Communications, LLC**
Mr. Jay Harbin	**URS Corp**
Ms. Teresa Harris	**TetraTech**
Mr. Bill Muir	**TetraTech**
Mr. Charles Helms	**Booz Allen Hamilton**
Mr. Randy Dubiskas	**SAIC**
Mr. Phil Whitmore	**C2HM Hill**
Mr. Doug Ashline	**C2HM Hill**
Mr. Larry Gardiner	**ITSI**

Mr. Fuchs called the meeting to order at 7:00 p.m. and RAB members and attendees introduced themselves. Mr. Fuchs introduced the RAB's new Air Force Co-Chair, Ms. Michelle Lewis, who replaced Mr. Bill Lopp as the BRAC Environmental Coordinator for the former Williams AFB. The RAB approved the May 2010 meeting minutes without changes. Ms. Lewis began the main presentation, which included updates of cleanup activities at several remediation sites.

First, Mr. Schone provided a summary of the Site ST012 Thermal Enhanced Extraction (TEE) Draft Evaluation Report. As discussed at previous RAB meetings, the Air Force conducted a pilot study of the TEE system at site ST012 (former liquid fuel storage area) from October 2008 until December 2009. The Air Force delivered a draft evaluation report of the TEE pilot study to regulators in July 2010. The final report is expected to be complete in November.

Mr. Schone said that due to feedback from the pilot study as well as changing groundwater conditions at the site (and across the East Valley), the Air Force revised its estimate of non-aqueous phase liquid (NAPL) at site ST012. The Air Force estimates that there are approximately 264,000 gallons of NAPL in the upper water-bearing zone (UWBZ) and 783,000 gallons of NAPL in the lower saturated zone (LSZ). These numbers are a reduction of estimates given in 1999 and take into consideration rising groundwater as well as the NAPL removed from soil vapor extraction (SVE) and the TEE pilot study.

Next, Mr. Schone outlined the TEE pilot study evaluation criteria. Three major criteria were assessed in the study: 1) hydraulic containment, which tests whether the steam injection forced NAPL outside the test cell; 2) steam zone growth and soil heating/cooling (also referred to as an "energy balance; and 3) mass removal, which determines how much actual NAPL mass was extracted out of the site.

Mr. Schone explained that the hydraulic containment assessment determined that NAPL mobilized by steam injection was captured, and no significant amounts migrated outside of the TEE test cell area, in both the UWBZ and the LSZ. The energy balance assessment demonstrated that energy did not escape the area of TEE cell in both the UWBZ and LSZ. He said the heating of the vadose zone enhanced the ability to capture petroleum hydrocarbons through the existing SVE system. The mass removal assessment indicates the TEE pilot study decreased jet fuel in the soil and groundwater, with approximately 18,000 gallons of petroleum hydrocarbons and 540 gallons of benzene removed.

Mr. Schone also discussed how the Air Force calculated its estimate of how long it would take to clean up NAPL concentrations to reach the remediation goals established for the site, which include cleaning benzene to levels of 5µg/L or less. Slide 17 of the attached slide presentation outlines the methodology used. Mr. Schone said the study shows that more aggressive treatment at the site or a combination of technologies could yield a bulk NAPL removal as high as 50 percent. No calculations yielded estimated results higher than 50 percent. Slide 18 of the attached slide presentation outlines the estimated time required to achieve a remediation goal of 5µg/L benzene. With a full-scale TEE system at the site working in conjunction with natural attenuation, it is estimated to take 20-30 years to reach 5µg/L for benzene in the LSZ and more than 100 years to reach 5µg/L for benzene in the UWBZ.

Next, Mr. Harbin provided an update on long-term ground water monitoring and the SVE system at site ST012.

He said the Air Force conducted ground water sampling at the site in March and June 2010 and an additional test is scheduled for November. Although the Record of Decision for the site requires annual testing, the Air Force tested quarterly during the TEE pilot study, to ensure no chemicals of concern migrated due to the test. The Air Force has decided to continue to the quarterly sampling through the summer of 2011.

The Air Force continues to operate an SVE system at site ST012. The chart on Slide 23 of the attached slide presentation outlines cumulative gallons of NAPL removed from the site by SVE between April 2005 and March 2010. On average, 265 pounds of NAPL are removed each day, with nearly 225,000 gallons removed from the site to date.

Site ST035 is the former base service station and is part of the Underground Storage Tank (UST) program. As discussed at previous RABs, gasoline leaked into soil and groundwater at the site many years ago due to a leak in the elbow joint of a pipe that ran from one of the USTs to the

dispenser island of the gas station. The Air Force is conducting quarterly long-term ground water monitoring at the site. Ground water sampling occurred in March, June, August, and is scheduled for November. Slide 28 of the attached slide presentation shows benzene contours at the site, as recorded from the results of this quarterly sampling. The plume picture changed slightly for groundwater at the site following the sampling of newly installed sampling wells in June. This change is noted in the plume contour outlined around the two sampling wells at the top right corner of Slide 28.

Mr. Harbin next discussed the new SVE system being installed at site ST035. He said construction of the SVE system is almost complete and is expected to be operational in September. The system is specifically designed to meet noise considerations of ASU Polytechnic, which has an academic complex located at the site. The system uses sound dampening devices to ensure the equipment produces noise below 65 decibels. Ms. Cargile said the Air Force is planning on scheduling a RAB site visit to see the new SVE system in the fall of 2010.

Next, Mr. Harbin provided an update of environmental remediation at site LF004, the former base landfill. Slides 32 and 33 of the attached slide presentation depict a three-dimensional model of perchloroethylene (PCE) and trichloroethylene (TCE) at the site.

Mr. Harbin said the Air Force has completed the Supplemental Remedial Investigation and Feasibility Study (RI/FS) for site LF004. The draft document was submitted to regulators in April. The Air Force received comments from both ADEQ and EPA. A Draft Final RI will be produced to address the regulatory comments. The FS will be performed under the performance-based remediation (PBR) contract.

The Parcel N Debris Area site inspection and Munitions Explosive Concern (MEC) investigation were the final environmental update topics of the evening. As previously discussed at RAB meetings, Air Force and ADEQ representatives first discovered ruptured .50-caliber cartridges on the ground at Parcel N in October 2003. In December 2005, the Air Force performed a Remedial Process Optimization Review that addressed this site. In January 2009, the Air Force conducted a preliminary assessment of the site and recommended additional investigation. Last summer, the Air Force conducted a MEC site investigation at Parcel N.

Mr. Harbin said that Phase 1 of the MEC investigation included a metal detector-aided walk of the area by experts certified in unexploded ordnance recognition and disposition. The team inspected all discovered materials to see if they were munitions-related items. They also expanded the area of investigation to adequately determine the boundary of the site.

Mr. Harbin said the MEC investigation discovered two types of munitions and explosives of concern (MEC) items: one electric blasting cap and 20 small pieces of explosive filler (weighing approximately 10 ounces total). These MEC items were turned over to the Mesa Police Department for disposal.

The investigation also yielded non-energetic munitions debris such as more ruptured .50-caliber cartridges, 5.56mm blank cartridges, pieces of signal flares and other pyrotechnic devices and thermite grenade residue and firing wire. These items were shipped to a specialized recycling facility that handles munitions-related items.

During the investigation, the team also discovered non-munitions-related debris, such as empty 55-gallon drums, wood, aerosol cans, and six empty Chemical Agent Identification Set (CAIS) bottles. These 3.5-ounce bottles were used as training aids during World War 2 to identify chemical agents.

Most of the bottles were broken, but one was found almost intact and was marked "HS Mustard Agent".

Mr. Cooper asked how the team was able to find the electric blasting cap. Mr. Harbin showed Mr. Cooper the photo of the cap on Slide 42 and said that the team saw it on the surface of the ground near the Doppler radar station and turned the cap over to the Mesa Police Department for disposal.

Phase 2 of the MEC investigation involved geophysical mapping (DGM) of where the items were discovered, Mr. Harbin said. He said the team used sensitive instruments with GPS to geolocate the items within 2 cm of accuracy. The team looked at a total of 57 acres with these sensitive instruments. The investigation did not include 8.1 acres of land where rights-of-entry from property owners could not be obtained. Slide 45 of the attached presentation shows the results of the geophysical survey.

Mr. Cooper asked what they found during that survey. Mr. Harbin showed Mr. Cooper photos of the items discovered, which are shown on Slide 46 of the attached presentation. He said the team discovered flattened aluminum from a signal flare canister, burned .50-caliber projectiles (munitions debris), an old fence post, nails, nuts and bolts.

Mr. Harbin said the next step at the site is to erect an additional temporary fence around approximately 4.5 acres, which includes 3 acres where the MEC, chemical and munitions-debris items were located, plus additional room for equipment storage. Next, the remediation contractor will conduct follow-on soil sampling and test pit trenching outside the temporary fence to test for other chemicals of concern. The Air Force will then prepare Site Investigation and MEC Investigation reports and conduct follow-on MEC investigation/removal inside the temporary fenced area.

Mr. Frost asked about the use of 50-foot transects in investigating the area with metal detection equipment. Mr. Harbin said that the equipment measures approximately one meter on each side, and was used to try to detect items below the surface. Mr. Frost asked if the team was looking at probability and hoping to get enough data to formulate a plan, since there would have been areas between the transects that were not covered. Mr. Harbin said that they did use probability, but they also had a strong line of evidence of where most of the debris was located because of where items were found on the surface. He added that he entire surface area will be walked within the delineated fenced area..

Mr. Frost asked what the future of the asphalt/hard fill area is in Parcel N. Mr. Harbin said the investigation did not find anything surrounding the area, so the plan is to leave it alone. Mr. Frost asked if the asphalt is in big pieces. Mr. Harbin said yes, the asphalt is in big pieces, not solid. Mr. Frost asked if the asphalt is a hazardous waste. Mr. Chiaradia said that it is not considered hazardous waste and that the State of Arizona does not regulate disposal of asphalt, although some other states do.

Mr. Zuppan asked if areas 1 and 2 (noted on the map on slide 44 of the attached presentation) were excluded. Mr. Harbin said if the team got no hits, they pulled back in those areas for Phase 3 of the investigation.

Mr. Cooper asked how deep the munitions were found. Mr. Harbin said all energetic material was found on the surface, but the deepest munitions-related item was found approximately 2.5 feet below ground surface.

Mr. Zuppan asked if there was an archaeological survey conducted since the area is known to be a Native American archaeological site. Mr. Harbin said that Gila River Indian Community (GRIC) had a representative with the team during the investigation, and the Air Force notified regulators and GRIC in July about the investigation, including a GRIC archaeologist.

Ms. Lewis next provided RAB members with a contracting update. She said Phase 3 of the investigation for Parcel N is scheduled to begin by the end of September and they are moving immediately to put up signs on the fence around Parcel N. Additionally, the Five-Year Review will be conducted in 2011, and the Air Force will also issue a contract to optimize the SVE system and the storage and maintenance of the Thermal-Enhanced Extraction (TEE) equipment at ST012.

Ms. Lewis also informed RAB members that the Air Force is moving to a Performance-Based Remediation (PBR) contract for Williams. This will put all Williams projects under one single contract, which will allow for faster and more cost-effective remediation, as well as encourage those companies to consider innovative approaches in their proposals. She said the Air Force will still be directly involved in the project as it has been in the past.

Ms. Lewis also updated attendees on the status of property transfer. Currently more than 96% of the property at the former base has been transferred for redevelopment.

Ms. Cargile discussed community involvement activities at Williams. She said the Air Force is planning a tour of site ST035 for RAB members. She also informed RAB members that the information repository has been relocated from the ASU Polytechnic campus to the federal repository at the ASU main campus library in Tempe. She also said that she will be assisting with the community interviews required for the Five-Year Review and will be reaching out to RAB members to participate.

Next, Ms. Cargile noted one action item taken from the meeting:

1. Provide a copy of the RAB charter to Mr. Cooper

Ms. Lewis thanked the RAB for attending. Mr. Fuchs adjourned the meeting at 8:24 p.m. The next Williams RAB meeting date is scheduled for Tuesday, November 16, 2010 at 7:00 p.m., at Highland High School.

Attachment:
August 2010 RAB meeting slide presentation