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***Tinker***  
***Restoration Advisory Board***  
***Meeting via Teleconference***  
**29 October, 2009**



## ***RAB Agenda***



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- **Welcome/Open Meeting**
    - » *Ms Cathy Scheirman, Community Co-Chair*
    - Roll Call (Brantner)*
  - **Approval of 14 April 09, Meeting Minutes**
  - **Old Business**
    - » *Working Group Status*
      - Executive Committee (Janacek)*
      - Technical Committee (Lippert)*
      - Community Relations Committee (Beasley)*



## ***RAB Agenda (cont'd)***

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- **New Business**
  - » *Environmental Restoration Update (Aguilar)*
  - » *April 2010 Meeting Date*
- **Open Discussion**
- **Adjourn**

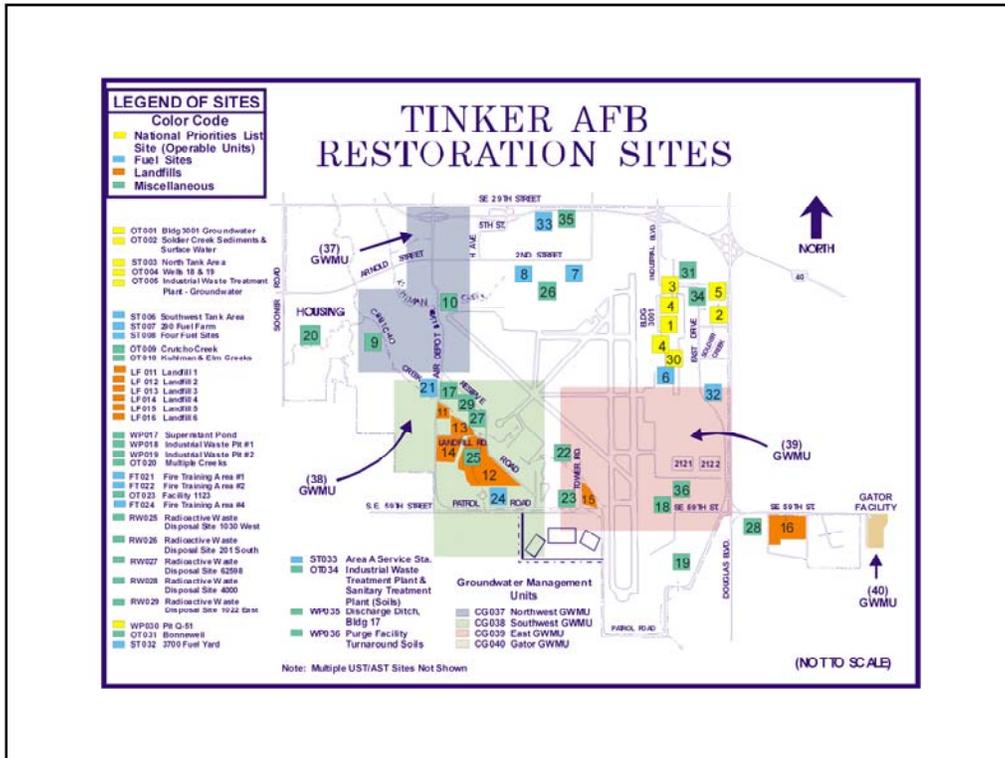


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# ***ENVIRONMENTAL RESTORATION UPDATE***

**Mr. Albert Aguilar  
72 ABW/CEPR  
29 October 2009**

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Standard figure of Tinker AFB's original Installation Restoration Site (IRP) locations.



# Restoration Program Site Status



Blue: Active Remediation | Green: LTM/MNA | Red: Site Closed

Site ID	Site Name	Site ID	Site Name
OT001	Building 3001 Groundwater	FT021	Fire Training Area #1
OT002	Soldier Creek Sediments and Surface Water	FT022	Fire Training Area #2
ST003	North Tank Area (NTA)	OT023	Facility 1123
OT004	Wells 18 & 19	FT024	Fire Training Area #4
OT005	Soldier Creek Groundwater	RW025	Radioactive Waste Disposal Site 1030 West
ST006	Southwest Tank Area	RW026	Radioactive Waste Disposal Site 201 South
ST007	290 Fuel Farm	RW027	Radioactive Waste Disposal Site 62598
ST008	Four Fuel Sites	RW028	Radioactive Waste Disposal Site 4000
OT009	Crutcho Creek	RW029	Radioactive Waste Disposal Site 1022 East
OT010	Kuhlman and Elm Creeks	WP030	Pit Q-51
LF011	Landfill 1	OT031	Bonnewell
LF012	Landfill 2	ST032	3700 Fuel Yard
LF013	Landfill 3	ST033	Area A Service Station
LF014	Landfill 4	OT034	IWTP and STP Soils
LF015	Landfill 5	WP035	Discharge Ditch, Building 17
LF016	Landfill 6	WP036	Purge Facility Turnaround Soils
WP017	Supernatant Pond	CG037	Northwest Groundwater Management Unit
WP018	Industrial Waste Pit #1	CG038	Southwest Groundwater Management Unit
WP019	Industrial Waste Pit #2	CG039	East Groundwater Management Unit
OT020	Multiple Creeks	CG040	Gator Facility Groundwater Management Unit

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Standard Tinker AFB IRP site status chart. All sites have completed their study phase and remedy has been selected via a decision document.

Sites listed in blue font indicate an active remedy on-going. Usually treating contaminated groundwater or fuel (vapor) related recovery activities.

Sites listed in green font indicate sites with passive remedy on-going. Natural attenuation with long term monitoring.

Sites listed in red font indicate site with no further action required.



## *Fiscal Year (FY) 2010 Projects*



- **Recurring projects in FY2010**
  - » *Continue operations & maintenance (O&M) of active sites*
  - » *Continue Landfills cap O&M*
  - » *Groundwater well maintenance (Plug & Abandon)*
- **Other projects in FY2010**
  - » *Site CG038 – complete remedial process optimization (RPO)*
  - » *Landfills 1-4 & 6 Reuse Master Plan*
  - » *Install Hexavalent Chrome Plume source reduction remedial action*
  - » *RPO for sites NTA, 290 Fuel Farm, Industrial Waster Treatment Plant - soils (new)*
  - » *Site CG037 Feasibility Study (FS) hot spot removal (new)*
- **Administrative Projects**
  - » *Travel, Supplies & Manpower, Computer & RAB support*
- **Total program cost: ~ \$6M**

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Slide repeated and updated from Spring RAB meeting. The submitted projects were all validated and approved for funding for FY2010.

Tinker added two new projects to the FY2010 Environmental Restoration program as indicated on the slide.

The Remedial Process Optimization (RPO) project for North Tank Area (NTA), 290 Fuel Farm and the vapor enhanced pumping system (VEP) for the Industrial Wastewater Treatment Plan (IWTP) soils will re-evaluate each system's cleanup performance.

The report may provide recommendations to improve the remedy system and update the estimated response complete date.

The CG037 site focused Feasibility Study project will evaluate the potential remedy system to best treat the chlorinated solvent plume (hot spot) underneath the old BX service station.



## Potential New Restoration Sites



- **AF “One Cleanup” initiative**
  - » *AF Center for Engineering & Environment (AFCEE)  
Survey held last 9-12 Feb 09*
  - 13 proposed sites moved from Compliance funding to  
Environmental Restoration Account (ERA) funding*
  - » *Final approval expected 1<sup>st</sup> Quarter of FY2010*
- **AF Munitions Response Program (MMRP)**
  - » *AFCEE Survey 17-19 Feb*
  - 5 sites proposed for additional investigation  
(down from 6)*
- **First projects funded by ERA in FY2011**

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Recurring slide from Spring RAB meeting.

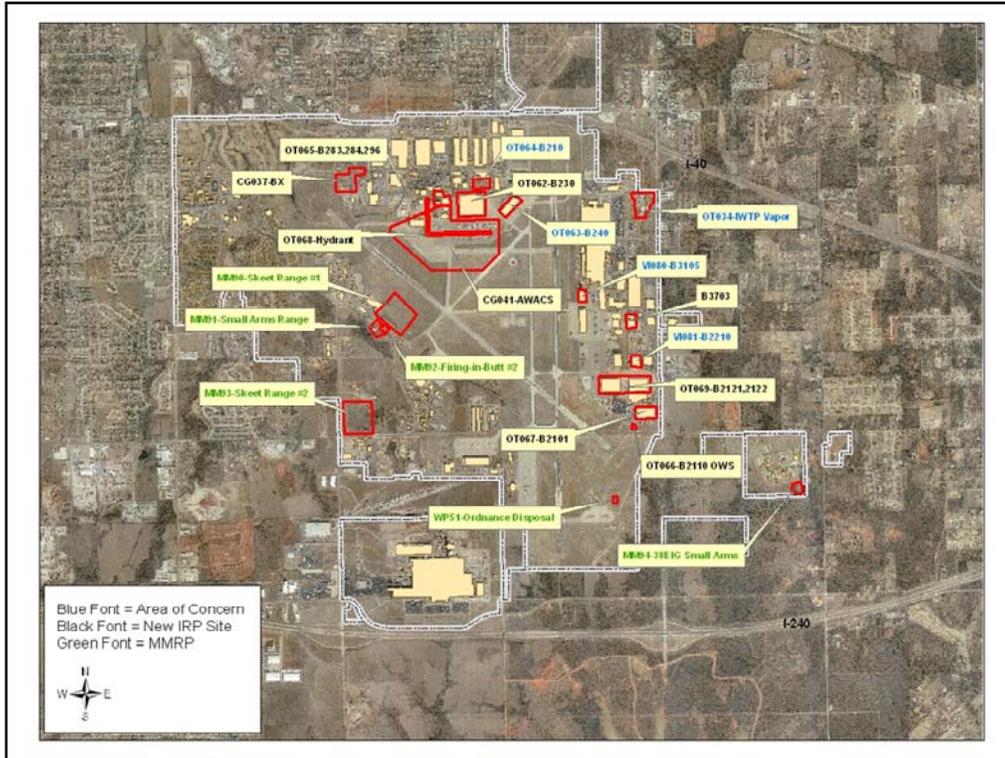
Remember that both these efforts are centrally managed by AFCEE through the Corps of Engineers (by contractors).

The latest draft report submitted to AFCEE indicated 13 compliance RCRA-CA sites qualified to be moved to Restoration Program under the AF's One Cleanup initiative.

AFCEE's final approval of sites is expected in early FY2010. Once approved, programming and submittal of projects will occur in time to validate and fund projects by FY2011.

The final phase investigation report submitted to AFCEE recommended 5 identified past military munitions response (MMR) sites for phase II further confirmation/investigation. Down one from previous working documents.

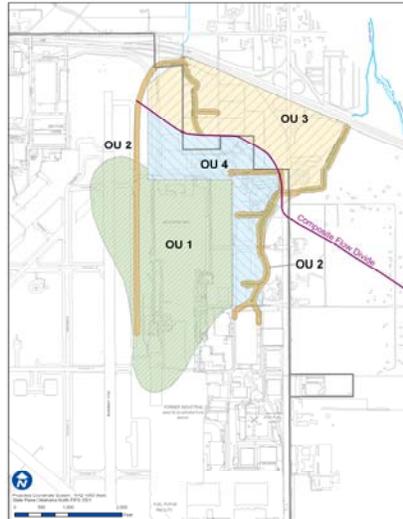
Suspected site did not have sufficient documentation/evidence that a release and/or weapons lingered at the site.



Updated figure with proposed new restoration sites and MMRP sites.



## Building 3001/Soldier Creek NPL Site Location of OUs



### National Priorities List (NPL) Location of Operable Units (OUs) with Composite Flow Divide

**OU 1** → Building 3001. ROD 1990

**OU 2** → Soldier Creek Sediment and Surface  
Water Operable Unit. Certificate of  
Completion on January 19, 2006

**OU 3** → Soldier Creek Groundwater  
Operable Unit. ROD Dec, 2007

**OU 4** → Industrial Wastewater Treatment  
Plant Groundwater Operable Unit

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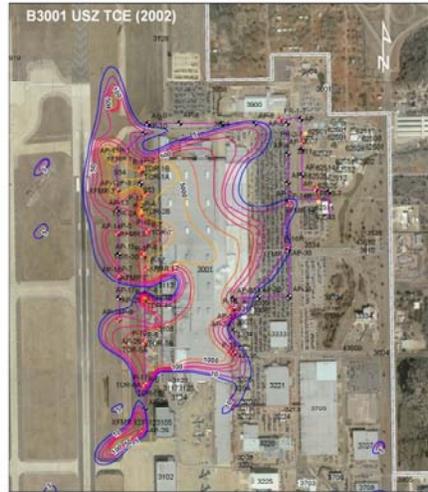
Recurring slide describing Tinker AFB's location and status of the Building 3001/Soldier Creek National Priorities List (NPL) Operable Units.



## **Groundwater Treatment Plant (GWTP) Temporary Shutdown**



- **GWTP shutdown extended through March 2010.**
- **Focused RI - characterize Production Zone (PZ) Aquitard & contaminant source rock.**
- **All studies and Record of Decision (ROD) contract awarded 2009**
- **New ROD and/or ROD Amendment may be required.**



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Recurring B3001 Op Unit slide. No update from last spring's RAB meeting. Updated Focused Remedial Investigation (RI) work is still on-going. Focused Feasibility Study (FS) contract awarded and beginning administrative work. Overall schedule towards the anticipated new and/or amended Record of Decision(s) is being worked with US EPA Region VI. Schedule will be published/shared once approved by all.



## *Focused RI Objectives*



- **Refine GW flow & transport model.**
- **Collect Upper Saturated Zone (USZ) cores to determine contaminant partitioning coefficients.**
- **Collect PZ Aquitard cores to measure properties and characterization Aquitard.**
- **Install multi-port monitoring wells to gather water samples and pressure gradients above, below and through PZ Aquitard.**

Repeat of Focused Remedial Investigation slide from spring RAB meeting – no updates; no changes.



## *FS Evaluation Tasks*



- **Combine OU1 and OU4 remedial activities.**
- **Evaluate and Update 1990 ROD list of indicator contaminants .**
- **Evaluate multiple technical approaches to remediation of Building 3001 GW.**
- **Optimization of current GWTP configuration.**

Repeat of Focused Feasibility Study slide from spring RAB meeting – no updates; no changes.

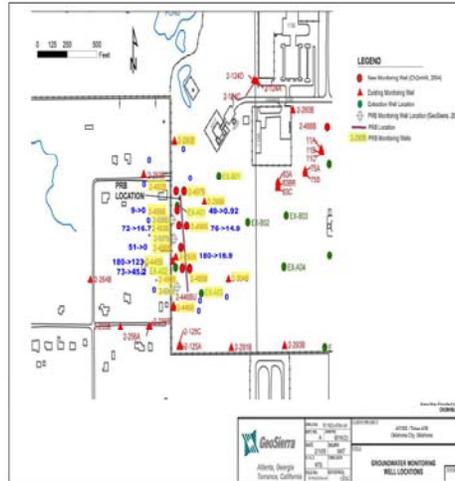


# Permeable Reactive Barrier (PRB) Update Trichloroethylene (TCE)



1 of 3

- Wells along north ½ of PRB remain clean. Middle and south wells still show TCE; highest value now 62 ug/l down gradient of PRB (2-493B) – down from 89.6 ug/l in 2007. Original high 250 ug/l (2-292B). PRB being evaluated by contractor “expert” (SAIC).
- Extraction well EX-A02 continues on to increase flow through south ½ of PRB and to pull back contamination in TVA area.
- Ross & Ezell wells (TVA) sampled for volatile organics by ODEQ early 2009. Ezell is @ Below Detection of ½ ppb. Ross well is @ 5.4ppb.



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Repeat of Permeable Reactive Barrier slide from spring RAB meeting – no updates; no changes.



***PRB Update for  
Methyl Ethyl Ketone (MEK), Acetone,  
1,1 – Dichloroethene (DCE)***



2 of 3

- **Contractor evaluating formation of MEK & Acetone. Preliminary report indicates associated with construction of PRB and use of guar gum. Highest MEK down gradient 620 ug/l (2-498B) and 92 ug/l (EX-A02). Waiting on final report.**
- **DCE began to appear in 2005 – slowly increasing; highest concentration is 71 ug/l (2-496B, up gradient); 70 ug/l down gradient Non-detect in 2003 all PRB wells. Also part of evaluation.**
- **New Basewide Sampling contract awaiting funding. Sampling for these parameters to continue at PRB.**

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Repeat of Permeable Reactive Barrier slide from spring RAB meeting – no updates; no changes.



## PRB Update (TCE)



3 of 3



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Repeat of Permeable Reactive Barrier slide from spring RAB meeting – no updates; no changes.



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The End