

NOMINATION FOR AWARD		
AWARD General Thomas D. White Restoration Award	CATEGORY (If Applicable) Installation	AWARD PERIOD 1 Oct 01 - 30 Sep 03
RANK/NAME OF NOMINEE (First, Middle Initial, Last)	SSN (Enter Last 4 Only)	MAJCOM, FOA, OR DRU AFMC
DAFSC/DUTY	NOMINEE'S TELEPHONE (DSN & Commercial)	
UNIT/OFFICE SYMBOL/STREET ADDRESS/BASE/STATE/ZIP CODE Tinker AFB, OK, 73145-9100		
RANK/NAME OF UNIT COMMANDER (First, Middle Initial, Last) /COMMANDER'S TELEPHONE (DSN & Commercial)		
SPECIFIC ACCOMPLISHMENTS (Use single-spaced, bullet format)		
<p>PLANNING TO EITHER CLOSE OR HAVE IN FINAL REMEDIATION ALL SITES BY THE YEAR 2015:</p> <ul style="list-style-type: none"> - All 40 sites will close or have final remedy in place by 2008, seven years ahead of AF and DoD goals! - 80% of all sites have been closed or have remedy in place -- Last of six landfills achieved final remediation - Aggressive cleanup schedule -- All investigation work scheduled to finish in 2005 -- Accelerated cleanup! - Commitment to remediation and closure schedule -- Weekly technical meetings with state regulators -- Sustains excellent working relationship -- No hidden agendas -- Promotes trust -- Fosters agreement -- Keeps even the most challenging of site schedules on track -- Eliminates unnecessary costs and delays - Hosted a remedial action strategy meeting on June 17, 2003 with EPA Region 6 and Oklahoma Department of Environmental Quality -- Meeting focused on regulatory buy-in of planned final remedies -- Early consensus <p>TAKING INNOVATIVE ACTIONS TO LIMIT FURTHER EXPANSION AND SPEED UP FINAL ACTION:</p> <ul style="list-style-type: none"> - Azimuth controlled vertical hydraulic fracturing technology to install 100 ft deep permeable reactive barrier -- Saved \$2M over traditional trenching methods -- Savings redirected to other cleanup efforts -- Will stop contamination migrating into off-base neighborhood -- Made possible by staff geologic expertise - New application of technologies discovered previously undetected contamination at existing site -- Partnered with Oklahoma universities to develop and implement innovative technologies which accelerate site investigation and remediation -- Non-invasive investigation techniques saved \$3M at one site alone -- Required in-house interpretation of soil magnetic susceptibility, cesium-vapor magnetometer, electrical resistivity tomography, and amplitude versus offset ground penetrating radar studies -- Unique combination -- Contamination confirmed through installation of standard monitoring well -- Validated technology -- First time these techniques ever used in conjunction with each other for environmental investigation work -- Conventional delineation methods inadequate to select proper remedy -- No contamination overlooked now - Feasibility study utilized innovative flow sensors -- Used in existing wells to verify flow direction variation -- Provides accurate vertical and horizontal groundwater flow direction --Critical for remedial system design -- Ensures that final action will work as planned -- Optimizes system performance -- Minimizes unknowns - Potassium permanganate injected at two sites -- Destroys groundwater contamination in days versus years -- Treating hot spots accelerates site closure -- Closure will be achieved four years sooner at one site -- Injecting lower than normal concentration at another site achieved desired results at a fraction of usual cost - Vacuum enhanced pumping (VEP) being used at several sites on Tinker; presumptive remedy eliminates study -- 'Two-fisted' approach saves time and money by remediating soil and groundwater simultaneously -- Keeps contaminant plume from migrating and significantly shortens time needed to achieve complete site remediation by up to fifteen years -- Saves \$2M+ in long-term operation costs -- Return on investment - On-site treatment results in 'more bang for the remediation buck' -- Eliminated need to transport waste offsite -- When a \$20M 'dig and haul' solution was proposed to remediate an industrial waste pit, restoration staff researched alternatives to find more efficient treatment technology to treat soil on-site; proactive thinking! -- Equipment was custom built to meet Tinker developed specifications to combine thermal desorption and metals stabilization; 15,000 cubic yards of hazardous waste rendered non-hazardous; lower disposal costs -- Saved \$15M in off-site treatment costs for metals and organic contaminated soils -- Limited liability - Using artificial neural networks for inverse groundwater modeling as non-invasive attempt to locate plume sources instead of traditional forward modeling to estimate where plume is going -- Modeling back in time - Tinker teamed with various regulatory agencies to plan and implement temporary shutdown of groundwater treatment plant at Tinker's NPL site -- Potential to save \$10M in operation and maintenance costs -- Data gathered during shutdown will support the use of monitored natural attenuation as an alternative to the current inefficient and costly 'pump and treat' system -- Also will provide evidence of plume stability 		

NOMINATION FOR AWARD (Continued)

RANK/NAME OF NOMINEE (First, Middle Initial, Last)

SPECIFIC ACCOMPLISHMENTS (Use single-spaced, bullet format) (Continued)

- Tinker saved more than \$50K by developing the proposed shutdown procedures and writing Explanation of Significant Difference in-house -- Personal interest in outcome shows and pays off
- Host site for an innovative technology application utilizing vegetable oil as inexpensive carbon substrate to stimulate reductive dechlorination of TCE -- Accelerates natural biodegradation; Very effective, cheap
- Involvement in Remedial Process Optimization (RPO) predates DoD guidance and direction
- Tinker participated as a trial site when Air Force was developing RPO procedures -- Leads the way!
- Phase I RPO reviewed remedies at all sites, identified innovation opportunities --Tinker open to change
- Tinker implemented a Phase II RPO -- Decreases operation and maintenance costs, optimizes cleanup
- Attacking source of TCE contamination shortens the operational period of pump and treat system
- The entire restoration staff exhibits a high level of skill and professionalism -- Respect for taxpayer funds
- Staff questioned results at one IRP site when the groundwater model indicated that TCE would migrate off-base within 10 years requiring costly interim corrective measures -- Knowledgeable staff
- Millions of dollars were saved when in-house staff performed a technical investigation and found that incorrect and inappropriate data used by the consultant caused erroneous model results
- Actively sharing information critical to success of Air Force restoration efforts -- Crossfeeding success
- Staff presented various topics at five conferences/symposiums & submitted three articles for publication
- Using quasi 3-D seismic at Tinker AFB -- Seismic data collected and processed in less expensive 2-D manner -- Data interpreted in-house as 3-D seismic data -- More cost effective than full blown 3-D

PARTICIPATING IN PUBLIC AFFAIRS ACTIVITIES WITH LOCAL COMMUNITIES:

- Highly respected by community-based Community Advisory Board (CAB) members -- Quarterly meetings
- Brief critical, in-depth information ensuring community concerns are considered in all cleanup activities
- CAB technical committee reviews and provides input on all documents --Strong community involvement
- Monitoring well lease agreements supported by excellent relations with eighteen diverse property owners
- Enthusiastically worked with community when contamination migrated into private drinking water wells
- When TCE was discovered in private drinking water wells, the restoration group acted aggressively to assist residents affected by the contamination until they were supplied with city water -- Supportive!
- Tinker supplied bottled water and filtration systems until city water was available -- Eased concerns
- New contracting record set; four months from problem identification to contract award; neighborhood connected to city water within six months of contract award -- Continually pushed to accelerate project
- Residents participated in decision-making and were updated with current information through a monthly informational pamphlet, website, dedicated e-mail account and quarterly CAB meetings -- Joint effort
- Residents contacted one-on-one by EM/PA team to gather input and ensure they were kept informed
- A potential media nightmare was turned into a good neighbor story -- EM, CAB, PA teamwork!
- Local commander impressed with outcome, AF Civilian Achievement Award given to 8 team members
- Environmental Awareness Day staged by Environmental Management with Public Affairs participation
- OC-ALC/EM set up displays, provided fact sheets and restoration staff answered questions regarding contaminated groundwater on-base and overall cleanup program--benefitted all Tinker AFB employees!
- Handed out information on success of our cleanup program and risk reduction to a large number of employees and restoration staff members answered questions on the spot -- Expert answers with no wait
- Took awareness to the workplace in Building 3001, NPL site and largest facility on Tinker
- Foster a 'good neighbor' policy by keeping public informed -- Information openly shared with everyone
- Over 168 technical documents have been scanned and are available on the EM web server
- Administrative Record (40 documents) is available in the local public library and on the EM web page
- Educate the public on cleanup efforts and commitment to protect human health and the environment
- Provide visiting dignitaries and local high schools/universities tours of remediation facilities such as the groundwater treatment plants and explain the IRP cleanup process -- Spreading the restoration word
- Publish The Environmental Link newsletter -- Mailed quarterly to 350+ private citizens -- No one left out
- In-house production saves \$60K annually -- Innumerable public relation benefits - CAB submits articles
- Staff volunteers for EcoMotion (mobile environmental classroom) -- Environmental ed for school children
- Work with other environmental outreach programs and activities such as storm drain labeling