

Arctic Surplus  
Fairbanks, Alaska

# Partnering to Reach Optimum Environmental Solutions



Secretary of Defense-Environmental Award Nominee for 2003  
**Environmental Restoration Team Category**



## Secretary of Defense Environmental Award for 2003

**Category:** Environmental Restoration – Team Award

**Submission:** Arctic Surplus Salvage Yard, Fairbanks, Alaska

**Nominee POC:**

Bruce Noble

Environmental Protection Specialist

DRMS-BE

Federal Center, 74 N. Washington Ave

Battle Creek, MI 49017-3092

Phone Number (269)961-7412 DSN 932-7412

Fax Number (269) 961-5766

Email: Bruce.Noble@dla.mil

Genuine team work and dedication to complete cleanup as efficiently and effectively as possible, resulted in millions of dollars saved at the Department of Defense's Third-Party Site, Arctic Surplus Salvage Yard, Fairbanks, Alaska. As the lead agency, the Defense Logistics Agency (DLA) assisted by a team of Air Force staff and contractors, Environmental Protection Agency and Alaska state and local personnel, successfully transformed a privately owned scrap-yard contaminated with lead, polychlorinated biphenyls, solvents, ordnance material, and radiation wastes into a viable industrial site. DLA's exemplary efforts began in 2002 with their performance based management strategy and the selection of an expert team of remediation specialists to review the Environmental Protection Agency's (EPA's) 1995 Record of Decision (ROD). The specialists, referred to as the Remediation Program Optimization (RPO) team, recommended changes to the ROD that will eventually save the Department of Defense nearly \$34 million while cutting the cleanup time in half. Today, as the site nears remedial action completion with regulator concurrence, all parties agree that the site is more protective of human health and the environment than earlier, more costly decisions allowed.



**An aerial shot of the Arctic Surplus Salvage Yard before cleanup commenced**

## INTRODUCTION

The Defense Logistics Agency (DLA) is proud to nominate the members of the Arctic Surplus Remediation Program Optimization Team for the 2003 Secretary of Defense Environmental Restoration Team Award. The four principal members of the team are Lieutenant Colonel Daniel Welch, DLA Headquarters; Javier Santillan, Air Force Center for Environmental Excellence (AFCEE); and Bruce Noble and Judy Malmquist from the Defense Reutilization and Marketing Service (DRMS). Other critical team members that were essential to the team's success include Dennis Lillo (DLA/HQ), Mary Jo Boldt (AFCEE), Greg Light (Alaska Department of Environmental Conservation [ADEC]), Robert Edwards, Ronald Porter, and Patrick Haas (Mitretek Systems), and an onsite crew of contractors from Earth Tech, led by Scott Newcomer, Don Shosky, and Manish Joshi.

## BACKGROUND

Arctic Surplus is a privately owned salvage yard located 6 miles southeast of Fairbanks, Alaska. The site occupies approximately 24 acres, including 6.5 acres of a Formerly Used Defense Site ("FUDS"). A portion of the FUDS area was formerly used as a military landfill.

The salvage yard has been the site of piles of assorted old cars, military vehicles, and other metal-containing material—such as batteries and transformers—for more than 50 years. The owner purchased the excess military material at public auctions, including those held by the Air Force and DRMS in the 1950s through the 1980s in hopes of selling the metal recovered from the items. How-

ever, battery cracking and transformer burning by the site owners to recover metals caused extensive PCB and lead contamination of the soil at the salvage yard.

After a site inspection in 1988, the ADEC identified the yard as a significant risk to human health and the environment. The soil was contaminated with significant levels of polychlorinated biphenyls (PCBs) and lead. Piles of bulk asbestos and thousands of drums of liquid waste were also found. Echoing the state's concern, the Environmental Protection Agency (EPA) declared the yard a Superfund Site in 1990, placing it on the National Priorities List and naming the

Department of Defense (DoD) as a potentially responsible party (PRP).

After an extensive site study in 1995, the EPA developed a plan to clean up the polluted site. The remedy called for washing the contaminated soil free of high-level PCBs. The soil contaminated with low-levels of PCBs and the remaining soil would be combined and stabilized in a concrete mixture. The resulting solidified concrete was to be placed over an old landfill at the site as a containment cell or "cap." By 1996, more than \$13.5 million had been spent on site studies and cleanup activities. However, work on the cleanup came to a halt from 1996 through 2002.

After years of agency disagreement and delays due to budget obstacles, the Department of Defense tasked DLA as the lead agency in the site cleanup. DLA began their efforts in 2002 with the selection of an expert

remediation team tasked with visiting the site and reviewing the 1995 EPA prepared Record of Decision (ROD). The Remediation Program Optimization (RPO) team was asked to review the ROD to determine if there were cost-effective and risk-protective remedial action (RA) alternatives available for the site. The RPO Team evaluated the ROD-selected RAs and recommended several modifications. The new proposal recommended solidifying and stabilizing of all waste soils contaminated with PCBs and lead and placing the mixture as a cover over the "Old Army Landfill".

By implementing these recommendations, the RA cost has been reduced from \$38 million to under \$3.5 million; the remediation time was shortened from four years to just over one year. In addition, the original proposal rendered the property unusable for the foreseeable future, while the RPO proposal allowed for unlimited industrial use



**Team members at the site – Lt Col Dan Welch, Bruce Noble and Greg Light, ADEC**

of the land with the exception of the landfill that will have land-use controls and institutional controls.

Because the site is a third-party site, no DLA employees are permanently located at the site. Lt Col Dan Welch represented DLA Headquarters at the site and was responsible for overall management of the site, including ensuring the necessary project funding and reporting back to Headquarters on project compliance status. Javier Santillan was the AFCEE project team leader responsible for contractor selection and direction as well as identifying innovative technology opportunities for the site. Bruce Noble, was the senior project manager tapped by DLA to oversee the management and technical decisions of the cleanup. Judy Malmquist, a DLA attorney with years of experience in settling cases involving third-party site liability, was selected to oversee the regulatory requirements, including all negotiations with the regulators and landowners. All four individuals spent countless hours in Alaska, overseeing the cleanup, negotiating with the landowners and regulators, and seeing the projects to their completion.

"Our experience with the Arctic Surplus cleanup was one of true teamwork. From day one, regulators, consultants, and DLA personnel worked together in a concerted effort to ensure that the cleanup went forward in a manner that was protective of Alaskans and met the expedited schedule. The team approach used at Arctic Surplus streamlined the usual 'submit, review, resolve' loop that slows down many projects."  
*Jennifer Roberts, Director, ADEC Contaminated Sites Program, DoD Oversight Section.*

## POSITION DESCRIPTIONS OF KEY INDIVIDUALS

Lt Col Dan Welch is the Environmental Restoration Branch Chief at DLA Headquarters overseeing all goals, commitments and strategies specific to cleanup at active and closing installations. Dan is responsible for issuing and complying with DLA remediation policies as well as those of DoD's Environmental Restoration Program (DERP). Dan was the overall manager and coordinator of the team's efforts at Arctic Surplus.

Javier Santillan, is a senior Environmental Engineer at AFCEE. He is responsible for promotion of remediation technology transfer through the evaluation, demonstration and application of innovative processes and technologies at Air Force and DLA sites. Javier is responsible for coordinating and leading all of DLA's performance management and optimization teams. Javier selected and led the RPO team at the Arctic Surplus site.

Bruce Noble, a civilian Environmental Protection Specialist at DRMS, oversees DLA's cleanup responsibilities at the Arctic Surplus site. Bruce serves as a technical expert with responsibility for executing DLA response actions at third-party sites where a local agency, the state, or EPA has named DLA as a PRP. Bruce coordinates with other DoD and EPA personnel in performing site visits and research studies, identifying the most efficient and cost-effective remediation strategies, and providing litigation support to the Department of Justice (DOJ) on Superfund settlement agreements involving DRMS.

In this capacity, Bruce develops work plans, statements of work, and budgets for cleanup of hazardous waste sites where DLA is the lead agency. He is also responsible for en-

sure that DERA funds are expended properly and efficiently. In addition, Bruce serves as a technical expert on cleanup and allocation amounts for DLA's third-party program.

Judy Malmquist is an attorney on the staff of DRMS' Office of General Counsel. She is responsible for overseeing the third-party sites program. Judy assists and negotiates with federal, state, and local officials, and private parties regarding RAs at third-party sites involving DLA. In her position, Judy researches, analyzes, interprets, and applies federal, state, and local environmental laws and regulations relative to the storage, handling, sale, and disposal of hazardous property. Judy also ensures compliance with DoD and DLA environmental policies and procedures.

Judy was responsible for the difficult negotiations with the land owners of the site, as well as the agreements with the state and federal regulators required to modify the ROD.

## AWARDS AND SERVICES

Each of the lead team members have received recent recognition for their outstanding performance related to their optimization efforts and the related successes at Arctic Surplus, as well as other environmental cleanup sites.

Bruce recently was invited by ADEC officials to provide a presentation at the Alaska Forum, the largest environmental conference in the state, highlighting Arctic Surplus as a 2003 environmental success story. This is a tribute to the success of the cleanup and is indicative of how favorable the state views DLA's efforts at this site.



**Lt Col Welch meeting with the Fairbanks Fire Battalion Chief at the site**

Javier recently was recognized with a Performance Award by the Air Force Real Property Agency (AFRPA) for his performance management and optimization expertise that helped the Agency reach its final remediation goals.

Dan was also part of the Environmental Data Quality Workgroup that received the 2001 DoD Environmental Special Recognition Award. This team received special recognition for improving the Department's environmental quality reporting requirements and established the current data standards.

Javier and Dan are also members of the Interstate Technology Regulatory Council (ITRC), Remediation Process Optimization

Team working with States, regulators and other stakeholders to promote knowledge of optimization benefits and techniques.

The whole team's efforts at spending time with the local citizens and fire department officials and voluntarily agreeing to remove the unsightly scrap metal from the site to make it more attractive to the community went a long way towards gaining local trust and regulator approval. These gestures of goodwill paved the path for all to embrace the final RA plans.



**Former ownership of the waste and debris was never in question**



**Working through an Alaskan winter was part of the challenge**

## ACCOMPLISHMENTS

### **Accelerating Cleanup While Reducing Risks to Human Health and the Environment**

#### *Streamlining the Process*

The RPO team that arrived at the site in June 2002 included a group of engineers and scientists from the Air Force, DLA, EPA, and ADEC redefined the concept of “streamlining the process.” The dedicated group worked as one team under DLA’s leadership to find the optimum solutions to cleaning up the site as efficiently and effectively as possible.

After reviewing project records, the team made several suggestions that resulted in reducing the original estimate of remediation costs from \$38 million to \$3.5 million and reducing by half the amount of time needed to complete the cleanup. An additional \$5.5 million was spent on removal actions that were not scoped in the original cleanup program, which included unexploded ordnance (UXO) and radioactive items. The RPO team recognized that PCB solvent extraction was not necessary and also recommended changing the design of the landfill containment cap to a flat design. The new cap allows the area to be used in the future for parking or storage of vehicles and equipment. Under the leadership of Dennis Lillo, DLA Division Chief, Environmental Quality, DLA was instrumental in securing the funding from the multi-service Defense Environmental Restoration Accounts (DERA). Both the Army and Air Force recognized their responsibilities for the site and supported Mr. Lillo’s \$9 million funding proposal.

#### *Management and Oversight*

The unexpected discovery of spent munitions and low-level radioactive parts—such as shell casings, training rockets, and in-

strument dials—in some of the scrap piles was initially a setback for the cleanup team. However the team pushed ahead through the winter months to keep the delays to a minimum. Of the more than 100,000 individual pieces of spent munitions inspected, 334 energetic items were found, including small arms, cartridge primers, cartridges with propellant and incendiary devices, and a fragmentation bomb with a live fuse. After finding the items, UXO technicians from Eielson AFB were called in to dispose of the unexploded items promptly and at minimum costs to the site. Spent munitions were also properly demilitarized as required by current DoD regulations.

The Alaskan climate proved to be another management and operational challenge that was overcome. Even though the winter of 2002–2003 was considered to be a moderate winter, the temperatures sometimes reached –40° F. Most mornings, work started in total darkness at 6 a.m., sunrise occurred at 10 a.m., and darkness fell again by 2 p.m. The technicians used large lights to continue working in the dark. The tedious work consisted of breaking down each pile with a backhoe and segregating the scrap. More than 70,000 cubic yards—about 3,500 truck loads—of scrap had to be screened outside at the site.

The site was broken into 100-foot grids. Soil remediation included removing 70 cubic yards of PCB hot-spot soils above 50 mg/kg. More than 10,000 cubic yards of lead (>1000 mg/kg) and PCB- (between 10 and 50 mg/kg) contaminated soil was stabilized and solidified on site using a combination mixture of 10 percent cement and 0.5 percent tri-sodium phosphate to reduce leaching. The cleanup or leaching standard for lead was 5 mg/kg. More than 430 confirmation samples were taken to ensure that all contaminated soil had been removed. At the request of EPA, an extra ar-

mor layer was added on the top surface of the monolith, by adding extra cement. The layer's compressive strength of 100+ p.s.i. should prevent any future intrusion into the stabilized soils. The multilayer cap included a 0.25-inch geosynthetic clay liner, an 18-inch layer of soil, a structural geogrid, a 4-inch layer of compacted road base, and a 4-inch layer of asphalt. The additional asphalt layer will allow the cap to be used in the future for storage of vehicles or other equipment.

In addition, a small amount of PCB soil was removed from a residential backyard. DLA was able to obtain an access agreement from homeowners to restore the backyard to its original condition.

More than 130 compressed gas cylinders were found at the site. Refrigerant gases or ozone-depleting substances found in eight compressed gas cylinders on site were shipped to the Defense Supply Center Richmond for recycling.

Eight drums of low-level radioactive wastes were removed from the site. This waste included radium dials from vehicles, check sources, and contaminated soil.



**Example of an unexpected discovery**

## Stakeholder Involvement

### *Efforts to Increase Community Involvement*

Although EPA was responsible, under CERCLA, for the community involvement related to the cleanup of the site, the DLA team attended many public meetings, presented information on the progress of the cleanup, and apprised the community of the technical options and challenges they were facing.

DLA, along with other regulatory agencies, held a public meeting in June 2003 to inform the public about the proposed RA starting in the summer of 2003. The meeting was not required by law, but it demonstrated DLA's commitment to inform the local community of what was going to happen at the site.



**Stakeholders preparing to tour the site**

### *Efforts with Site Owners*

This site is unusual because it is owned by two private parties, who owned all of the scrap metal and land property. DLA avoided costly litigation and delays by including the site owners in decisions regarding the proposed project actions. Several of these actions involved a win-win situation, such as making a useful cap design over the old landfill. DLA also reached agreements with

the site owners about removing items from the site, such as scrap metal. Most importantly, after lengthy and complex negotiations, DLA obtained signed agreements with the site owners on deed restrictions for institutional controls for groundwater and the stabilized soil monolith. These agreements will ensure that the remedy will be protective and maintained in the future by current owners or new owners. Both the EPA and ADEC recognized this as a major accomplishment by DLA to protect the site.

## Regulatory Coordination

### *Teaming with State, Federal, and Local Government Agencies to Improve Restoration*

The Arctic Surplus cleanup team included not only the DLA cleanup team but also team members from the state of Alaska (ADEC), EPA Region X, and the local Fairbanks fire departments. Mr. Greg Light, Supervisor of ADEC's Contaminated Sites Program, DoD Oversight Section, summed it up recently when he said, "I am proud to be part of a team that worked so well together to accomplish our common goals of efficiently and effectively remediating this Superfund site, while ensuring health protection for Alaskans. I wish all my projects would run as smooth as Arctic Surplus."

In October 2002, DLA had a detailed meeting with the North Star Borough Emergency Operation Office, North Star Fire Department, Eielson AFB EOD, and other local emergency response personnel to explain proposed site work. Concerns included moving live UXO near residential homes that were near the site. First responders were extremely satisfied with the proposed work plan and outlined actions to take if an emergency would have occurred. During the project, DLA had several follow-up meetings with first responders to keep them apprised of site activities. Because of the excellent planning, DLA and their contractors work-



**Arctic Surplus before and after cleanup**

ing at the site had no safety accidents at the site related to any site activities. It not only provided the local firemen with the opportunity to observe and feel satisfied that the site would be safe once the DLA team completed their efforts and returned home, but it also educated them on the hazards of UXO while saving them scarce training resources.

### **Cost Avoidance**

#### *Minimized Costs through Optimization and Innovative Technologies*

The cleanup at the site was conducted using a fixed-price remediation contract through AFCEE. This opportunity enhanced the use of innovative thinking and options. One example that the team proposed included inviting the local fire departments to conduct fire-training exercises at the site to help neutralize pressurized tanks. That one proposal reduced by 90 percent the original estimate for neutralizing the tanks. Inviting the local fire departments to train at the site was also a gesture of partnership for the local community, resulting in enhanced relationships.

The RPO team also recommended re-sampling the soils at the site to provide a better

delineation of PCB hot-spots soils. This recommendation reduced the amount of original ROD estimate from 5,200 cubic yards to just 70 cubic yards for soils with high levels of PCBs.

### **Other Benefits**

#### *Perseverance in a Sub-Arctic Environment*

The Arctic Surplus team is being nominated not only because of the millions of dollars they saved American taxpayers, but because their keen ideas and perseverance in a setting that most others would shy away from produced results for which the federal government is immensely proud and grateful. Project manager Bruce Noble summed it up for the team, “We went beyond what was required by the EPA and took extra steps to make the site better for Alaskans. We did it for the community.”

Additional benefits from the team’s efforts include development of the site as an RPO case study for use in training other states, federal agencies, and stakeholders in the benefits of conducting a successful optimization process. The case study will be published by the ITRC later this summer.

## CONCLUSION

Working as a unified team, with goals to complete cleanup efficiently while focusing on protection of human health and the environment, the DLA staff and its regulatory partners surpassed everyone's expectations. The completed RAs will now allow the EPA to delist the site from the National Priorities List next year. The whole teams' perseverance and outstanding achievements truly qualify for the Department of Defense Environmental Remediation Team Award for 2003.