FY 2013

Contaminated Sites Program
Division of Spill Prevention and Response
Annual Report

Foreward

This report is primarily intended for use by Department of Environmental Conservation (DEC) Spill Prevention and Response Division management and staff. A working knowledge of the Contaminated Sites Program is assumed. More detailed information about the program and its mission can be found at http://dec.alaska.gov/spar/csp/index.htm.

Dedication to Tamar

This report is dedicated to Tamar Stephens, an exemplary project manager in the Federal Facilities & Restoration section in Fairbanks. Tamar passed away suddenly on March 21, 2013, a loss to all.

Tamar joined the Contaminated Sites Program in 1995. She managed remote Department of Defense sites in the Interior, on the Seward Peninsula, and on the North Slope. Her wealth of experience working with rural communities, and on cross-cultural, subsistence and tribal rights issues was invaluable.

She served on five Restoration Advisory Boards, helping found four. She also helped develop Contaminated Sites' eroding landfills policy, and was instrumental in creating what we fondly term the "Friday Training Sessions." Tamar's commitment to passing on her extensive knowledge to staff in an entertaining manner will be hard to outdo.

"She was such a great resource," said Melody Debenham, a Fairbanks project manager who took over some of Tamar's sites. "She was always willing to share her insights and knowledge. I definitely still miss being able to ask for her guidance. She had so much experience."

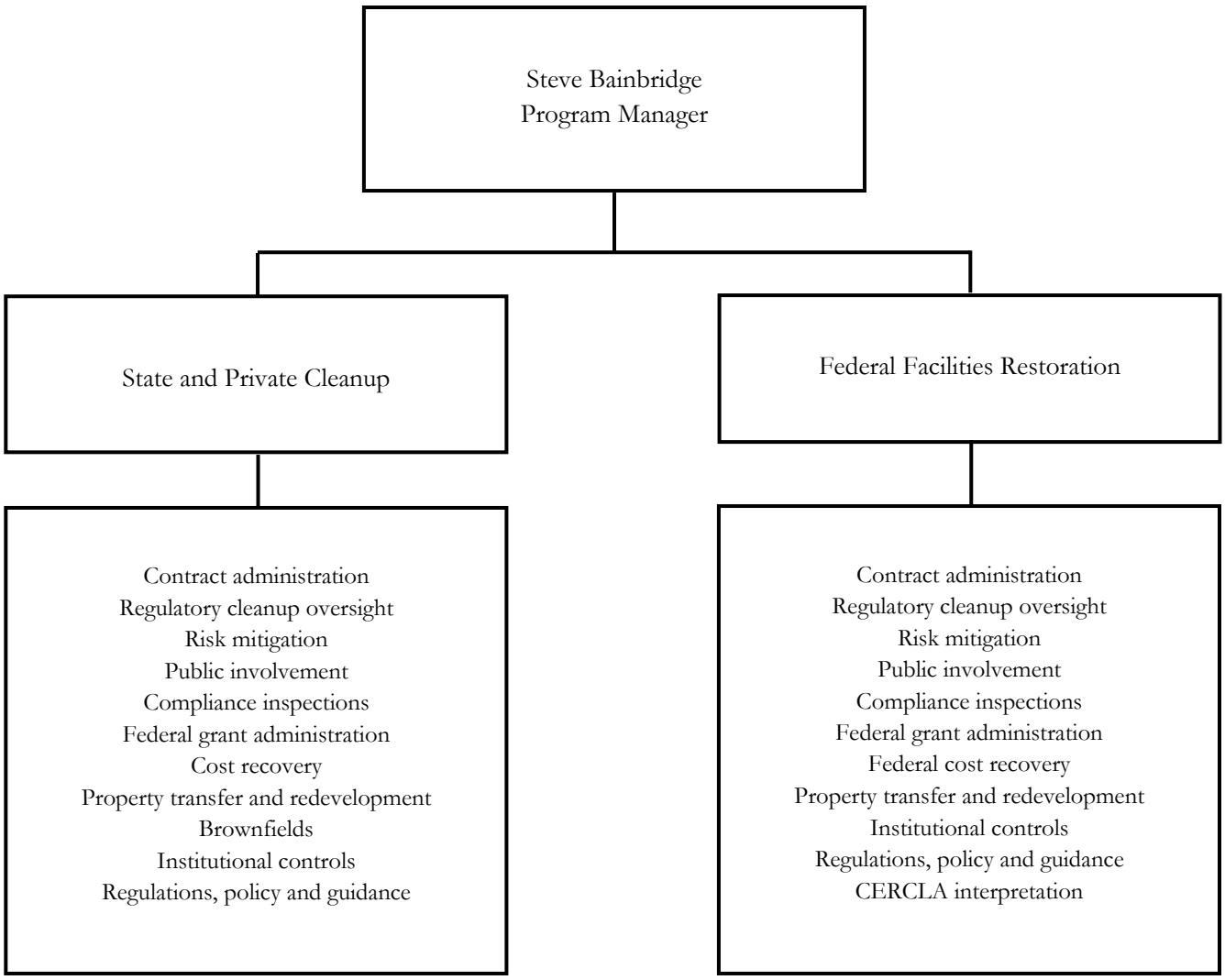
Melody said she's found that the people who worked with Tamar on projects had a tremendous amount of respect for her. Melody said she saw it a few weeks ago when she was in Nuiqsut, a traditional village on the North Slope where Tamar worked on the Umiat project: an elder came up to her, saying how much he'll miss working with Tamar.

"In every village she went to, she developed very good relationships with people. She took the time to listen to people – to validate their concerns, to make sure they were heard, that they were listened to and responded to," Melody said.

Kim DeRuyter, another project manager in Fairbanks, said, "It's hard to put Tamar in a capsule. She was intelligent, and very invested in what she was doing. She really believed in the mission. But she was also very human. She cared about the RP (responsible party), she cared about her sites and she cared about her co-workers. She saw the good in everyone. It was clear that she came to work every day dedicated to do her best."

"Tamar's work was excellent," said Larry Dietrick, former director of the Spill Response and Prevention Division, in an email after her death to the Commissioner that he later forwarded to Contaminated Sites statewide. "She is one of those exceptional individuals who effectively manages complex situations and gets the job done without fanfare or notoriety."

"She was genuinely a nice person," Melody said. "We all miss her."



Program Authorities	
Statutes	AS 46.03, AS 46.04, AS 46.08, AS 46.09, AS 46.13
Regulations	18 AAC 75, 18 AAC 78

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EXECUTIVE SUMMARY

The Contaminated Sites Program (CSP), headed by program manager Steve Bainbridge for the past 13 years, is charged with protecting human health and the environment by regulating the cleanup of contaminated soil and groundwater in Alaska. The program is divided into two sections: Federal Facilities Restoration (21 positions) and State and Private Cleanup (30 positions). The semi-independent Reuse and Redevelopment group is housed within the State and Private Cleanup section and constitutes four of the 30 total positions.

The CSP's FY2013 budget was $8.397 million (78% salaries and benefits, 18.5% contractual services; 3% travel; and less than 1% supplies and equipment). A variety of federal funding sources constituted about 54% of the budget, with state funds covering the remainder.

We are proud of our staff and management team. Many CSP employees have been with the program for a decade or longer, but it has been exciting to experience an influx of young and motivated individuals over the last several years. In FY2013 we hired a new chemist, promoted one of our project managers to management and one to the position of Quality Assurance Officer, and hired new project managers in both sections. We are expecting this trend to continue as senior CSP leadership reaches retirement age.

The collective energy of our staff made it a busy and successful year. We met or exceeded our two performance measures. We made significant progress on numerous high profile sites, as well as state-lead and state-owned sites. Staff conducted over 200 field inspections, many in rural areas. On the policy front we completed a draft groundwater injury assessment model for natural resource damages, and crafted a detailed initiative proposing solutions for Alaska's home heating oil tank spills. We emphasized compliance and enforcement by issuing Inspector and Enforcement Officer Credentials to most technical staff and managers.

We finalized and published the long-awaited Vapor Intrusion Guidance. We developed an internal technical memorandum that provides supplemental guidance to CSP project managers regarding trichloroethene (TCE) toxicity exposure to sensitive populations. Finally, we completed substantive development work on the most complex regulations package in over 15 years, including updated cleanup levels based on the most recent science in the country.

Our FY2013 successes contributed to our overall mission to provide effective oversight of soil and groundwater investigation/cleanup in Alaska. To date, we have addressed about two-thirds of all known contaminated properties in Alaska. These sites have been thoroughly investigated and cleaned up, whether as a responsible party lead or through state action. For those sites unable to meet cleanup levels, the rigorous application of institutional controls ensures there is no ongoing risk.

DATA REVIEW

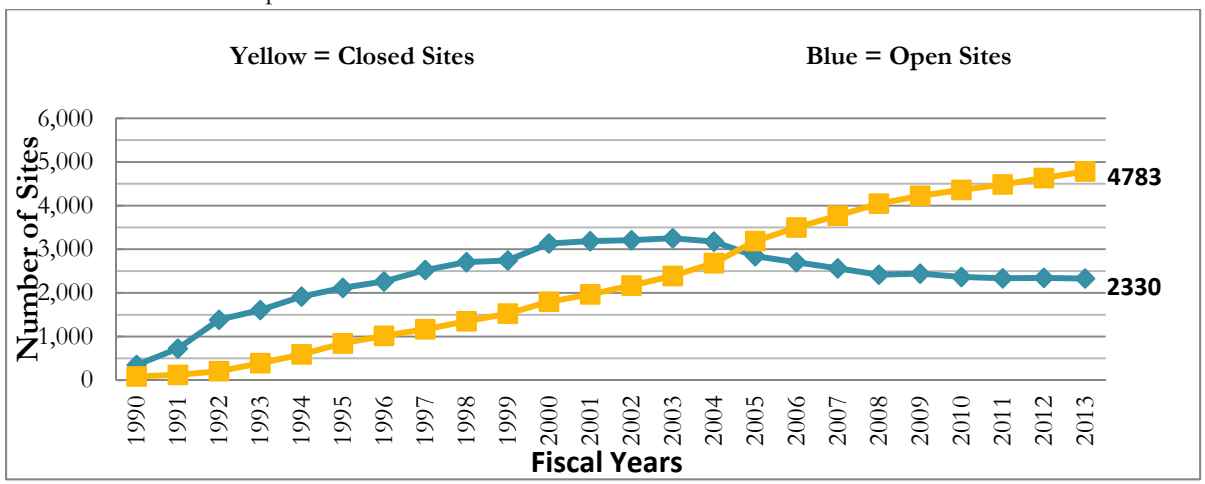
More than 7,000 contaminated properties in Alaska have been documented to date. Of the total number of sites placed on the contaminated sites database over approximately 25 years, 67% have been closed.

As of June 30, 2013, there were 2,330 open sites listed on the contaminated sites database, approximately a 28% reduction over the last 10 years. This reduction occurred even while 1,549 newly discovered sites were added to the contaminated sites database during this 10-year timeframe.[1]

Military installations, airfields, maintenance facilities, bulk fuel storage, and gas stations are the five most common types of open contaminated sites. Federal military and federal civilian agencies are responsible for over half the remaining open sites as of the end of FY2013. About one-third of open sites are in private ownership, while state and local government combined are less than one-fifth. By area, slightly more than half the open sites are located in South Central Alaska; 40% in the Interior and North Slope; and less than 10% in Southeast.

Chart 1 depicts the open and closed sites trend since 1990. The milestone year was 2005, when the number of closed sites initially exceeded the number of open sites. The gap has been steadily widening since 2005, indicating measurable progress toward cleaning up the thousands of legacy contaminated properties in Alaska.

Chart 1: Cumulative Open and Closed Sites



The program exceeded its site closure performance measure and met its risk reduction performance measure in FY2013. In addition, the program met the federal leaking underground storage tank (LUST) site closure performance measure (10% of the total inventory of open LUST sites at the beginning of the fiscal year).

Performance Measure	Goal	Number Achieved in FY2013
Total Site Closures	150	153
Exposure Pathways Closed	700	700
LUST Closures	40	40

[1] Database Search: Action with Action Date where action = site added to database and date range = 7/1/03 – 6/30/13; export to Excel and subtract informational, non-qualifying, unconfirmed, site intake.

As in FY2012, about 58% of the total FY2013 closures were state and private sites and 42% were federal facilities. Nearly 65% of the closures were issued without institutional controls, down from 82% the previous year. Of the 4,783 total closed sites as of June 30, 2013, about 77% are without any land use restrictions (no institutional controls).

Chart 2 depicts the site closure trend over the past five years. A concerted effort to meet or exceed the closure performance measure in FY2012 and FY2013 has stabilized the declining closure trend. The stabilization of the declining site closure trend is at least partially the result of the program's ongoing effort to bring stalled sites back into the cleanup process. This initiative began in earnest part way through FY2012 and continued through this past fiscal year. Measures included assigning lower priority, languishing sites to new staff as a training opportunity; issuing liens; encouraging large property managers to enforce environmental conditions with leaseholders; increasing our field presence and face-to-face interactions with responsible parties; rewarding action with the promise of a cleanup complete determination; and identifying funding sources for sites without viable responsible parties.

Chart 2: Site Closures

Risk reduction is an important measure of progress because site closure may not occur for years. Risk reduction is measured using the program's Exposure Tracking Model, designed to evaluate contaminant exposure across individual "exposure pathways." Exposure pathways are how contaminants reach human or ecological receptors. A "closed" exposure pathway is a measure of risk reduction. Closing a pathway means response actions modified the relative risk of exposure – from current, high potential, low potential or future exposure – to either de-minimis contamination or residual contamination managed through the use of institutional controls. A pathway may also be closed if it is determined to be "incomplete," meaning there is no possibility of the receptor being exposed any longer as a result of response actions. One example is

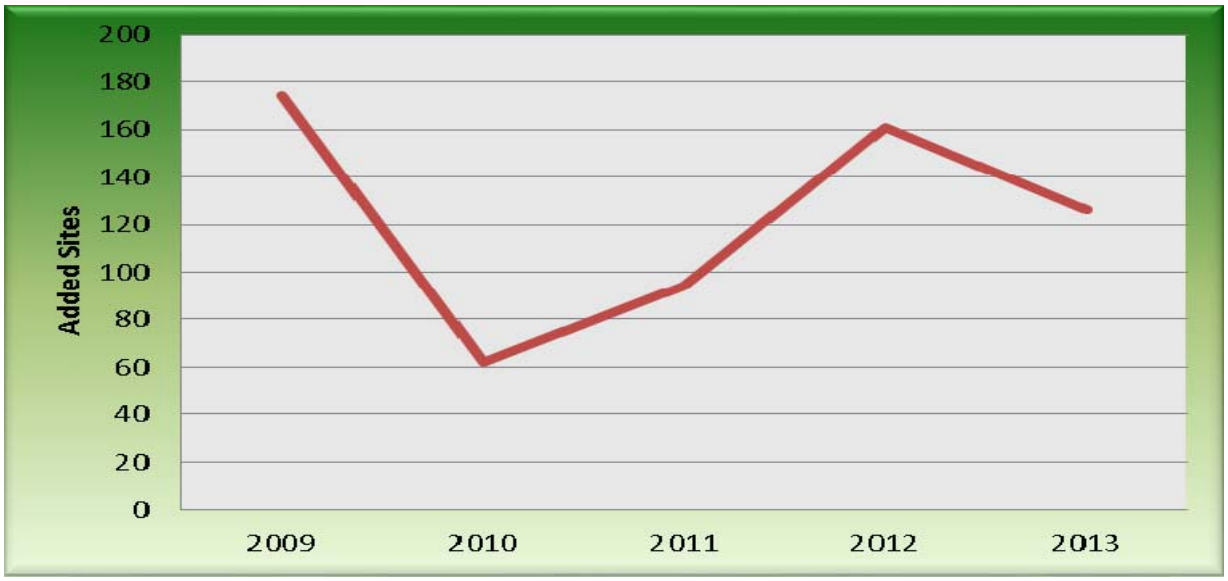
drinking contaminated groundwater. The groundwater ingestion pathway would be shown to be incomplete if concentrations are below regulatory cleanup levels.

The FY2013 number of closed exposure pathways was down slightly from FY2012.

A total of 140 sites were added to the contaminated sites database in FY2013, including 40 sites transferred from PERP.[2] Of the 140 new sites, 14 were later found to be either unconfirmed, non-qualifying (as defined by the CSP database inclusion criteria), informational, or still in "site intake" status. Of the remaining 126 sites, 46% were state and private and 54% were federal.[3] Twelve newly added sites were closed during the fiscal year and 114 remained open as of June 30, 2013.

Chart 3 illustrates the new sites trend over the last five years, while chart 4 illustrates the age distribution of sites closed during FY2013. Of significant note is that about 31% of the sites closed during the fiscal year were added to the database at least 21 years ago. This statistic is an indicator of the success of the program's stalled sites initiative.

Chart 3: New Sites



[2] Database Search: Action with Action Date where action = site added to database and date range = 7/1/12 – 6/30/13; second search: Action with Action Date where action = site transferred from PERP and date range = same.
[3] Database Search: Action with Action Date where action = site added to database and date range = 7/1/12 – 6/30-13; export to Excel and evaluated by assigned PM.

Chart 4: Closed Sites Age Distribution in Years

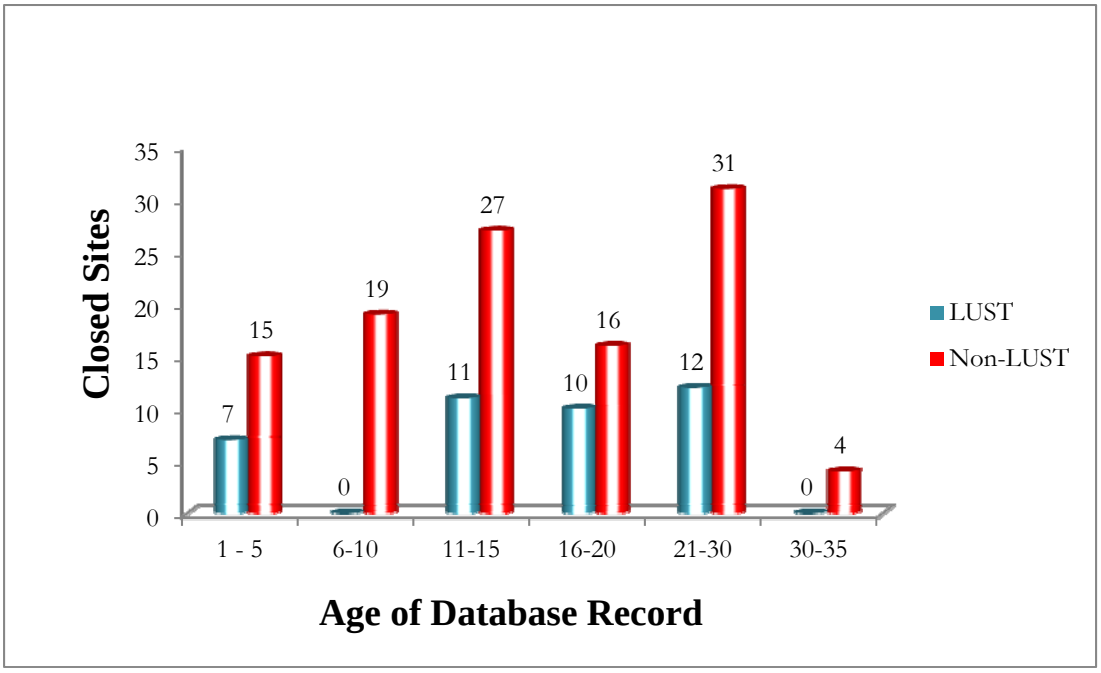
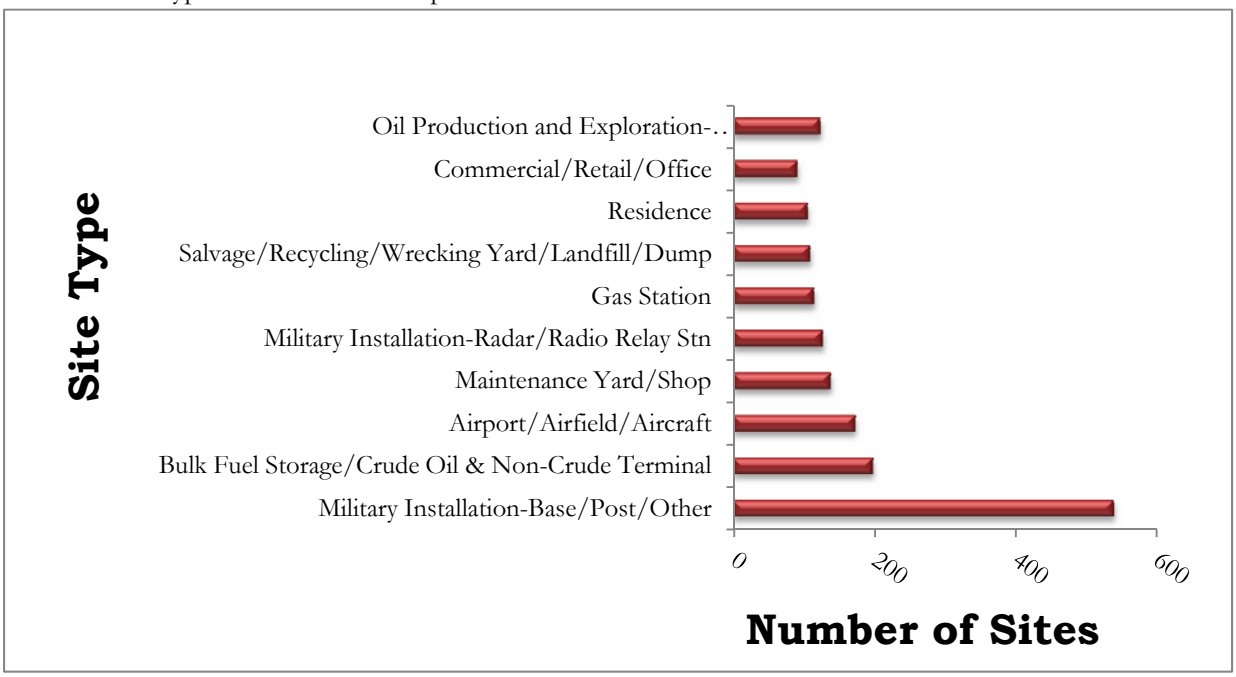


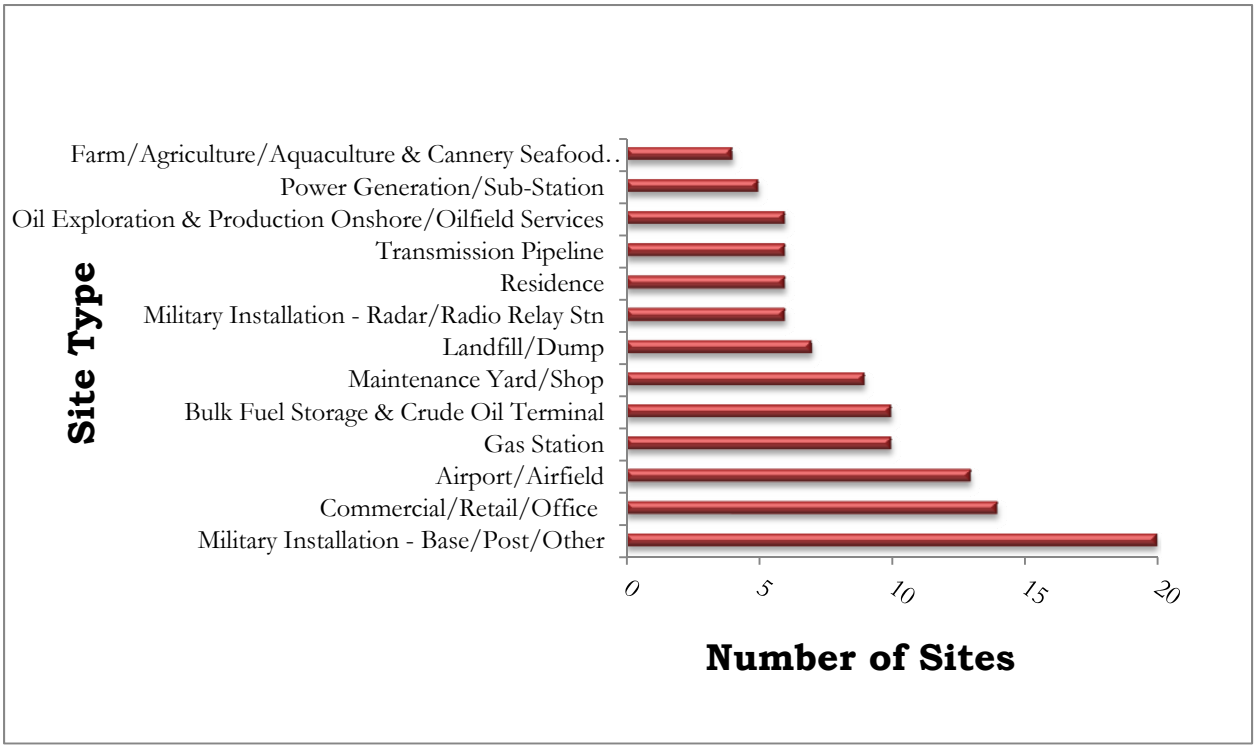
Chart 5 shows active site types.[4] A variety of military installations is the largest category, comprising close to one-third of the 2,330 open sites at the end of FY2013. Military installations were also the largest category of sites closed in FY2013 (Chart 6).

Chart 5: Site Type Distribution for Open Sites



[4] Database Search: Site Type = (select from drop down menu) and Status = Active. Several oil production site types are combined, as are bulk fuel storage and crude and non-crude terminals.

Chart 6: Site Type Distribution for Sites Closed in FY2013.



PROGRAM ACCOMPLISHMENTS

PROGRAMMATIC

- Met or exceeded performance measures
- Promoted a State and Private section EPS IV, Bill O'Connell, to management following the retirement of one of the program's long-term employees
- Promoted a State and Private section EPS III, Todd Blessing, to EPS IV to become the CSP Quality Assurance Officer
- Conducted numerous director-level briefings on the most complex regulations package in 15 years
- Participated on numerous Interstate Technology and Regulatory Council and Association of State and Territorial Solid Waste Management Officials work groups
- Completed a draft groundwater injury assessment model for natural resource damages
- Completed a detailed initiative proposing solutions for Alaska's home heating oil tank spills
- Completed a high level briefing on NRDA for PERP and CS with outside experts from NOAA and the legal community
- Issued Inspector and Enforcement Officer Credentials to most staff and managers

TRAINING

- Developed a major training initiative that includes monthly updates to training calendar, invites to relevant webinars, schedule of staff presentations during the winter months on key topics, identification of top training priorities for staff, and a strategy to bring those trainings to Alaska
- Training sessions that were identified and executed or negotiated during FY2013 included: Compliance and Enforcement training, Risk Assessment Guidance for Superfund, Chemistry for Environmental Professionals, Public Records Requests, The EPA Regional Screening Levels Calculator and the Risk Assessment Information System, and Collaborative Negotiations and Facilitation for Environmental Professionals, in addition to literally dozens of webinars on technical and policy issues related to site characterization, remediation, risk assessment and emerging contaminants

POLICY AND GUIDANCE

- Finalized the Compliance and Enforcement Guidance and the Dredge Material Guidance
- Finalized a staff technical memorandum on potential acute risk from short-term TCE exposure to sensitive populations; led discussion on this topic at the annual Region 10 Cleanup Programs meeting in Lacey, Washington
- Finalized and published the Vapor Intrusion Guidance
- Substantially revised and updated the following "adopted by reference" documents: Risk Assessment Procedures Manual, Procedures for Calculating Cumulative Risk, and Procedures for Calculating Cleanup Levels

SITE MANAGEMENT

- Reviewed nearly 1,300 work plans and reports
- Conduced 238 site inspections (annual goal is to exceed 200)
- Completed long-term monitoring at 61 sites
- Completed site characterization on 40% of the sites at Galena Airport, and started cleanup work at four of the most heavily contaminated areas
- Worked with EPA and Eielson Air Force Base to add more than 40 partially remediated sites to their cleanup program
- Worked cooperatively with FAA to complete over 20 major cleanups at numerous airports and facilities
- Excavated landfills threatened by erosion at four Arctic sites
- Made cleanup progress at eight state-lead and 17 state-owned sites
- Conducted a detailed institutional controls compliance review at 140 sites
- Removed institutional controls at 115 sites

STATE AND PRIVATE CLEANUP

The State and Private Cleanup section is comprised of 30 staff and managers, including Reuse and Redevelopment staff, the Capital Improvement Project coordinator, the Institutional Controls Unit, a technical and policy manager, and two administrative positions that also support the Federal Facilities section. Twenty-one positions are assigned a cleanup oversight caseload.

Rich Sundet, an Environmental Program Manager in the State and Private section, retired late in the fiscal year. Rich began his DEC career in 1986, working in the on-lot water and sewer program, placer mining program, and hazardous waste program over the next 10 years. Rich was involved in some of our biggest projects during his 17 years with Contaminated Sites. His intimate knowledge of the Resource Conservation and Recovery Act (RCRA) was invaluable to all staff. Expertise aside, what we all may miss most is Rich's capacity to embellish a good story. His standard lead-in was to bait the unwitting CS staffer with a sound-bite. When the staffer appeared baffled, Rich would incredulously ask, "What, I never told you that story before?" Best of luck in your retirement, Rich!

In FY2013, State and Private staff documented substantive work (any work that moves a project forward in the cleanup process and not strictly administrative in nature) at 615 sites.[5] This is 57% of the State and Private open sites work load as of the beginning of FY2013.

The selected project summaries presented below provide a cross-section of the variety of work State and Private project managers were involved with over the course of the fiscal year.

ALASKA GOLD COMPANY NEW GOLD HOUSE, NOME

High levels of mercury and arsenic contamination exist in and around the footprint of a former gold ore processing facility that utilized mercury amalgamation and retort. A significant amount of characterization work has been under DEC oversight, and additional characterization is underway in order to close data gaps and work toward a remedial plan. Public interest in this site has been high historically, and NovaGold is continuing to work with DEC and the City of Nome to address public concerns. Challenges include assessment of ecological risk to the nearby Dry Creek, an anadromous stream in which mercury has been detected; co-contamination with petroleum attributed to the Former Power Plant; and designing a final remedial plan that is protective of human and environmental health, acceptable by the public, and feasible to implement. The site is managed by one of our new employees, Robert Burgess, out of the Fairbanks office.

[5] Site Actions Report: Assigned staff = (project manager name); ActionStaffID = All; date range = 7/1/12 – 6/30/13; Status = All. Qualitative review of database actions by individual site.

Alaska Real Estate Parking Lot, Anchorage

Alaska Real Estate Parking Lot is contaminated with tetrachloroethylene (PCE) above DEC soil/groundwater cleanup levels and above screening levels for vapor intrusion risks. The primary zone of soil contamination falls in an area of approximately 28,000 square feet around the former C&K Dry Cleaners, which operated at the site from 1968 to 1970. The vertical extent of PCE contamination is known to extend to at least a depth of 50 feet below ground surface (bgs), but the total extent is unknown. The PCE plume extends northeasterly across 3rd Avenue and down the bluff towards the Alaska Railroad Corporation's Anchorage Terminal Reserve and Ship Creek.

From 2009 to 2012, vapor intrusion (VI) assessments were conducted at the four buildings located on Block 26A: Lot 2, Lot 5, and Lot 6A. In 2012, indoor air samples collected from the crawlspace of duplexes located at Block 26A: Lot 2 contained PCE concentrations exceeding indoor air target levels. A mitigation system had previously been installed in these two duplexes in efforts to mitigate the risk in 2009. However, as indicated by the 2012 sampling event, PCE vapors are still entering the crawlspace. This project is led by Grant Lidren in our Anchorage office.

Bentley Trust Property Tax Lot 201, Fairbanks

Installation of sewer and water upgrades during 2012-13 in this rapidly expanding section of Fairbanks prompted DEC to coordinate with the City of Fairbanks and its contractors to ensure worker health and safety and proper handling of contaminated soils. Portions of this former tax lot are contaminated with chlorinated solvents from activities associated with the 1970s Trans-Alaska Pipeline construction era, and former chemical and pipe coating industries. Construction activities in early summer resulted in discovery of a previously unknown underground tank containing contaminated waste. The tank is undergoing removal and additional site assessment activities will occur in the near future. This site is led by Fairbanks project manager Jim Fish.

CHARLIE'S SPORT SHOP, KING SALMON

Charlie's Sport Shop, assigned to Anchorage project manager Katrina Chambon, has been a languishing site with no communication with the responsible party or any information regarding the contamination since it was first identified in 2001. This site is a good example of how CSP provides compliance assistance and helps property owners implement sound best management practices. Recently, CSP staff conducted a site visit and began working with the owner to address his contamination issues. Contaminated soil is collected each spring from areas behind commercial fishing vessels that overwinter on the property. The owner informed staff that boat owners are no longer allowed to remove their drain plugs over the winter since impacted water from the boats is the source of recurring contamination on his property. For several years the property owner has been making efforts to minimize, remove, and remediate contaminated soil on his property. The CSP is working with the property owner so that an annual log of excavated soils will be reported.

CHIGNIK BAY SCHOOL AND CHIGNIK BAY CITY TANK FARM

DEC coordinated with the Lake and Peninsula School District (LPSD) and the Mayor of Chignik and conducted a site visit in May 2013. During the site visit, DEC collected soil samples from the Chignik Bay City Tank Farm, the Chignik Bay School, and from the Chignik Bay School stockpile. After sampling, the stockpile was spread from 20 feet to 10 feet above ground surface and amendments were spread into the pile to promote remediation. These amendments and heavy equipment were provided by LPSD. Project manager Grant Lidren in our Anchorage office is currently working with LPSD to plan future work. *(Photo: DEC's Rick Bernhardt adding soil amendments to stockpile.)*

Cornerstone Marketplace, Soldotna

This property, located in mid-town Soldotna, was a coin operated dry-cleaning and laundry facility from the 1960s to 1999. In 1999, the structure was converted to retail space. In 2011, a Phase I Environmental Site Assessment (ESA) was conducted in anticipation of a property transaction. The ESA identified several potential issues, including former drum storage and multiple collapsed septic cribs. Chlorinated solvent contamination, as with many old dry cleaner facilities in Alaska, has affected groundwater and indoor air.

More comprehensive assessment in anticipation of the property sale has been proceeding. The development company intends to continue the assessment work, then broker a deal with a nationwide chain that has experience dealing with properties impacted with chlorinated solvents. Construction could potentially begin in the spring of 2014. Pete Campbell in DEC's Soldotna office heads this project.

Cottonwood Creek Former Shooting Area, Wasilla

Anchorage project manager Bill O'Connell continues to work with ADF&G on this site to address the extent of lead contamination in soil from unauthorized shooting activities that occurred over many years. ADF&G placed gravel over lead-impacted areas to construct additional parking, and constructed a fence with warning signs in front of the former backstop to restrict access. The former backstop was then planted with additional vegetation. Restrooms and a bridge were installed at the site between 2011 and 2013 as improvements to promote use of the site as an access point to the Palmer Hay Flats State Game Refuge, a popular location for hiking, birding, hunting, fishing and limited off-road vehicle use.

Cross Program Coordination for Waste Erosion Assessment and Review (WEAR) Inspections

CSP coordinated with the DEC Solid Waste Program (SWP) and the DEC Drinking Water Program (DWP), for Waste Erosion Assessment and Review (WEAR) inspections and contaminated site inspections. DEC traveled to Napaskiak, Oscarville, Chefornak, Kipnuk, St. Mary's, Pitka's Point, Mt. Village, and Kwigillingok in September 2012. The inspections included: coordinating with the villages; coordinating with the DEC Prevention and Emergency Response Program (PERP); inspecting landfills; inspecting active contaminated sites; and inspecting new sources of contamination. These new sources of contamination, which were reported to PERP, include petroleum sheening into the river at Kipnuk and the Mountain Village City waste oil storage.

DeBarr Walmart, Anchorage

This is a successful redevelopment story in the heart of Anchorage. Walmart continued to move toward completion of the requirements of the 2005 Prospective Purchaser Agreement (PPA) between the state and Walmart. The approximately 28-acre site was heavily contaminated by petroleum hydrocarbons and volatile organic compounds, including chlorinated industrial solvents, as a result of its use as a heavy equipment storage and maintenance company from the 1950s through 2005. Another phase of characterization and remedial work remains to be completed using the remainder of Walmart's PPA funds prior to close-out of the PPA and site closure with institutional controls. This phase is expected to be complete prior to freeze-up in October or November of 2013. Seasoned project manager Eileen Olson in our Anchorage office leads this effort.

Flint Hills Refinery, North Pole

This complex site is managed by Tamara Cardona in our Fairbanks office. Flint Hills continues to monitor groundwater throughout the 3.5 mile by 2.5 mile groundwater contaminant plume. Meanwhile, public concerns over health and property damages have increased. Although residents have been offered alternate water supplies, keeping the public informed as the investigation moves into its 4th year presents a continued need for communication from the state and stakeholders. In FY2013 three newsletters were issued, and two open houses were held to provide stakeholders the opportunity to meet with technical personnel from the state, DHSS as well as DEC, and Flint Hills.

Alternate water supplies are currently in place for over 300 affected homes and businesses. Litigation between the two responsible parties and the expense of cleanup, however, has stalled forward progress toward aggressive source cleanup and remediation. However, DEC continues to work with UAF to investigate the existence of potential "daughter" products, which could be toxic in some way, resulting from the breakdown of sulfolane. These could be produced in the pump and treat treatment system, the point of entry water treatment systems, or air sparging treatment. Legislative interest in the state's actions to remedy public concerns and continue aggressive cleanup is growing. DEC has been negotiating with the Flint Hills legal team to pursue a legally binding agreement to bring about compliance.

Former Texaco Service Station, Anchorage

DEC project manager Robert Weimer issued a "corrective action complete" letter that helped facilitate the property transfer and development of a vacant property that was the site of a former Texaco service station. Located at the busy intersection of Lake Otis and Tudor in Anchorage, the Texaco service station operated from 1986 until 2005 when the property was acquired by the Municipality of Anchorage for a planned road widening at the intersection. The remaining portion of the property is being sold to a developer to construct a commercial building.

During a facility upgrade in 1996, petroleum contamination was identified in the soil and groundwater associated with the gasoline, diesel, and used oil underground storage tank systems. Texaco excavated the petroleum contaminated soil and had it thermally treated. A drinking water well search was conducted in the area, and the nearby drinking water wells were sampled and found to be free of contamination. The groundwater sampling of the site's monitoring wells demonstrated that after the removal of the contaminated soil source the groundwater at the site naturally remediated itself within several years.

Mendenhall Waste Water Treatment Plant, Juneau

The City and Borough of Juneau (CBJ) operates the Mendenhall Wastewater Treatment Plant which borders the Mendenhall River and the Mendenhall Wetlands State Game Refuge. In 2008, the CBJ notified DEC of the possible loss of up to 30,000 gallons of diesel fuel from buried power plant supply pipelines. With CSP oversight under Juneau project manager Bruce Wanstall, product recovery and groundwater monitoring continue.

Sani-Klean Service Station, Moose Creek

The Fairbanks North Star Borough foreclosed on this contaminated property in 2000 and sought assistance from the Reuse & Redevelopment (Brownfield) Program, led by John Carnahan, in 2004. DEC initiated an investigation that eventually removed five regulated underground storage tanks and two heating oil tanks, along with approximately 400 cubic yards (cy) of petroleum contaminated soil. Site characterization confirmed the groundwater was contaminated, and estimated that approximately 1,000 cy of additional contaminated soil remained.

In 2012-2013, DEC obtained EPA funding and contractors successfully removed an additional 900 tons of contaminated soil for treatment at a local remediation facility.

The contractor also installed and sampled six groundwater monitoring wells, and tested the drinking water well on the adjacent downgradient property. An additional round of groundwater sampling is being scheduled to confirm that the contaminant levels have stabilized or continue to drop. The site will be closed with institutional controls if sampling results confirm a stable contaminant plume and a decreasing concentration trend. A closure decision on this property would move it toward reuse after decades of languishing. *(Photo: Sani-Klean site graded and ready for reuse after 2012 removal action.)*

White Pass Rail Yard, Skagway

Maintenance operations have been centered near the current shop area since the White Pass and Yukon Railroad was constructed in 1898 during the Klondike Gold Rush. Contamination from both chlorinated and non-chlorinated organic compounds as well as dissolved and free phase petroleum hydrocarbons has been identified in the soil and groundwater at the facility. Although White Pass has conducted substantial work at the site over the years, there have been long periods where little action occurred. In FY2013, Juneau project manager Denise Elston began working with company management to step-up the cleanup efforts.

Wrangell Sawmill

The former Wrangell Sawmill located on Shoemaker Bay in this Southeast community began operating in the mid-1950s, processing lumber for shipment to Japan, and carrying on the legacy of Wrangell's sawmill operations that had begun in 1889. The facility was operated by the Alaska Pulp Corporation until 1995, and employed as many as 240 workers and 32 longshoremen during its peak. In 1995, due to declining timber sales, the facility was sold to Richard Buhler of Silver Bay Logging, which carried on limited operations until 2008. Following demolition of the mill in 2011, environmental assessment and cleanup commenced to prepare the property for sale and redevelopment. Contamination at the site was primarily petroleum, but was heavy and widespread at 11 source areas across the facility. Cleanup activities throughout 2012 and 2013 resulted in the excavation of 9,360 cubic yards of contaminated soil. Bioremediation of this material and final confirmatory sampling are planned for the fall of 2013. A strong and cooperative relationship between Silver Bay Logging and DEC resulted in a cleanup that was both expeditious and thorough and that is expected to attract potential buyers and spur beneficial reuse of this prime commercial-industrial location in Wrangell. This project is managed by Denise Elston in the Juneau office. *(Photo: by Frank Roppel, Alaska Pulp Corp.)*

ZIPMART STORE, STERLING

A broken pipe in the underground fuel storage system at this former gas station led to the release of more than 50,000 gallons and created one of the largest groundwater contaminant plumes in the state. The plume is currently estimated to be about 3,000 feet long by 600 feet wide. Vicinity drinking water wells, however, have not been impacted to date by the shallow contamination. DEC took the lead on this project in 2002 when the responsible party was unable to continue. In FY2013, a feasibility test indicated that Chemical Oxidation (such as RegenOx) would not effectively treat the source area as originally thought. Instead, a low volume pump and treat system that draws water from the UST vent and removes hydrocarbon mass was installed. Further expansion of the existing remediation system was also completed, which included installation of 14 additional air sparge wells downgradient of the source. This complex site is led by long-time manager Linda Nuechterlein in our Anchorage office.

State and Private – Capital Improvement Projects

An annual Capital Improvement Project (CIP) legislative appropriation of between $2 million and $4 million addresses contaminated state-owned properties and sites where no responsible party is available to conduct cleanup. There are currently 116 state-owned contaminated sites identified where DEC has either used CIP funds, or may expend CIP funds in the future. There are currently 25 DEC-lead sites.

In FY2013, work progressed on the following CIP sites.

DEC-Lead

314 WENDELL AVENUE, FAIRBANKS – Operated a soil vapor extraction and sub-slab depressurization remediation systems under pulsed conditions. Continued to collect and analyze indoor air and soil gas for remedial system evaluation, and collected groundwater, aquifer microbiology, and compound-specific isotope analysis (CSIA) samples as part of the Chena River Monitoring Plan. Data indicates a stall in the degradation of PCE to cDCE, instead of further transformations to ethene. A groundwater cleanup plan was developed.

ESKIMO CREEK – EDDIE'S FIREPLACE INN – Monitored and recovered free product from existing recovery wells and the interception trench; sampled existing monitoring wells and the drinking water well.

GAFFNEY ROAD WEST (ROYAL MASTERS LAUNDERETTE) – Operation and maintenance of the soil vapor extraction system and the sub-slab depressurization system was continued full time in accordance with the existing Long term Monitoring and Maintenance Work Plan for the Gaffney Road Area-West. In addition, several wells were added to expand the vertical resolution of the monitoring network. Compound

specific isotope analysis was completed for a total of 8 wells. Resulting data revealed that two sources of chlorinated solvents are potentially affecting the Gaffney West area.

M&M Enterprises – Completed drainage improvements, retaining wall, and new cap for lead contamination.

Prescott Equipment – Rampart Drive – Determined groundwater flow direction and gradient; characterized groundwater contamination levels.

River Terrace RV Park – Installed three additional treatment wells; injected treatment compounds in 13 of the site treatment wells; conducted long-term groundwater and surface water sampling to evaluate dissolved chlorinated solvent trends.

Six Mile Groundwater – Continued long-term monitoring of groundwater for trichloroethene (TCE). Sampled drinking water wells and maintained drinking water treatment systems. Continued investigation of vapor intrusion over the contaminated groundwater plume. Vapor intrusion investigation included sampling indoor air and sub-slab soil gas in three buildings.

Tesoro – Sandens Peters Creek – Sampled groundwater from existing and newly installed monitoring wells.

State-Owned

ADEED Chefornak Former BIA School Tanks – Conducted soil sampling to further characterize and delineate historic contamination.

ADEED Kaltag – Continued to conduct treatability studies to identify approaches to enhance biodegradation of diesel (DRO) and 1-chloro-octadecane (1-COD) contamination in soils targeted for cleanup. The University of Alaska Fairbanks performed this work through an inter-agency RSA. A soil cleanup plan was developed.

ADOT&PF Former Glenn Highway Maintenance and Fish and Game Facilities – Conducted additional site characterization, groundwater investigation, and limited corrective action.

ADOT&PF Former Napa Auto Car Care Center – Site closed with institutional controls in August 2012.

ADOT&PF Kotzebue Airport Maintenance Station – Conducted groundwater, surface water, pore water, and sediments sampling with both passive and active sampling methods. Evaluated ecological exposure pathways and developed ecological conceptual site model (CSM).

ADOT&PF Livengood Maintenance Facility – Continued groundwater monitoring for petroleum contamination. Characterized soil in two areas where spills from aboveground storage tanks occurred.

ADOT&PF Manley Hot Springs Gravel Pit – Began consolidation and cap of contaminated soil; collected confirmation soil samples.

ADOT&PF MarkAir – King Salmon – Conducted free product recovery test and continued to recover free product from monitoring wells at the King Salmon Airport**.**

ADOT&PF Northway Airport Lease Lots Block 8 – Conducted historic records research to ascertain previous land use and potential sources of petroleum and chlorinated solvent contamination.

ADOT&PF Peger Road Maintenance Facility – Collected groundwater samples from monitoring wells and analyzed for chlorinated solvent and petroleum contamination. Evaluated groundwater plume stability and trends, and partially delineated new sources of chlorinated solvent-contaminated soils discovered at the eastern property boundary.

ADOT&PF Quinhagak Airport – Completed reporting on the removal of petroleum contaminated soil to eliminate environmental hindrances and enable transfer of the site.

ADOT&PF Tudor Road Maintenance Facility – Conducted a vapor intrusion assessment based on revised TCE toxicity data at the Materials Lab and prepared a cost estimate for installation of a vapor intrusion mitigation system.

ADOT&PF Yakutat Airport – Completed work started in late FY2012 on the Phase I Environmental Site Assessment of 60 parcels.

ADOT&PF Yute Air Dillingham – Closed-out land farming activities, paving the way for site closure in FY 14.

ADEED Kasigluk-Akiuk Old BIA School Tank Farm – Prepared the site for cleanup by removing tanks and debris, clarified the extent and magnitude of contamination present, and prepared a corrective action plan.

Former Togiak School Sampling – Completed a vapor intrusion evaluation of the remaining buildings at the Former Togiak School property and evaluated the potential for contamination to migrate to the surface water and sediments of Togiak Bay.

Hughes School & Community Tank Farm CAP – Created an analysis of brownfield cleanup alternatives (ABCA) and a corrective action plan (CAP) for both properties. These documents are necessary before a cleanup of the subject properties can be initiated.

Huslia Huntington School Cleanup – Inspected and conducted sampling of stockpiles of contaminated soil located at the former landfill to determine if their contaminate concentrations allow for spreading at the former landfill.

State of Alaska Dimond Courthouse and Community Buildings – Conducted additional groundwater monitoring to determine whether these sites have been successfully remediated and can be closed.

State and Private – Reuse and Redevelopment

Alaska State & Tribal Response Program Annual Workshop

The 5th Annual Alaska State & Tribal Response Program (STRP) Workshop was hosted in Fairbanks by Reuse and Redevelopment (R&R) staff in December 2012. The workshop brought together representatives from 16 Alaskan tribal response programs (TRPs), DEC's state response program, and the U.S. Environmental Protection Agency. This annual workshop is the only one of its kind in the country, and provides a valuable venue for Alaskan TRPs to network, share information, and discuss challenges that are unique to Alaskan brownfield projects, such as work in rural locations with no road access and short field seasons. *(Photo: Many of the attendees at the 5th Annual Alaska STRP Brownfields Workshop.)*

Alaska Tribal Conference on Environmental Management Brownfield Track

R&R staff coordinated with the Alaska Native Tribal Health Consortium to facilitate the first Brownfield Track at the Alaska Tribal Conference on Environmental Management in Anchorage, resulting in two days of focused tribal-based sessions associated with reuse and redevelopment initiatives. *(Photo: Classroom case studies; discussion and instruction were the primary focus at the ATCEM Conference Brownfield Track in 2012.)*

Cold Climate Housing Site, Buckland

DEC was informed by the EPA Region 10 brownfield coordinator that the Cold Climate Housing and Research Center (CCHRC), located in Fairbanks, was seeking emergency assistance to clarify environmental concerns at a property that was part of their new energy-efficient pilot housing project – apparently, more than $500,000 in supplies was currently stalled. The project was a multi-agency endeavor involving the CCHRC, the Native Village of Buckland, the City of Buckland, the University of Alaska Fairbanks-Chukchi Campus, the Northwest Inupiat Housing Authority, and funding through the U.S. Department of Housing and Urban Development (HUD). The perception or stigma that may surround a property can be devastating to development planning, and often at the most inopportune times. In this instance, it became apparent after the fact that a former community fuel depot was located close to the selected housing project site, which itself was an untouched piece of land. The nearly abandoned fuel facility had historical spills and one significant

release that resulted in the site being listed on the DEC database of contaminated sites. Although cleanup after the spill had occurred, it was later established that residual contamination existed in the vicinity of the old spill. While this would not typically appear to be a significant problem, the timing of the requirement was such that a very brief window of time existed to hire a contractor, review available information, visit the site, and document the findings. The project was completed in only fifteen days which included a site visit and reporting. The property assessment report and letter from DEC were submitted to CCHRC and HUD allowing the vital community project to move forward. *(Photo: New Cold Climate research house during construction in Buckland.)*

Collaborative Partnerships: Yukon River Inter-Tribal Watershed Council Generator Site Cleanup, Hughes

Reuse and Redevelopment staff combined resources with the Yukon River Inter-Tribal Watershed Council (YRITWC) to address cleanup activities in Hughes at the location of a former generator facility, in close proximity to the Hughes water supply. The R&R group completed a preliminary assessment and obtained site-specific data, completed an analysis of brownfield cleanup alternatives, facilitated a public meeting, and developed a corrective action plan for multiple sites in Hughes, including this site. The YRITWC was then able to apply some of its Tribal Response Program (brownfield) grant funding to complete a focused cleanup beneath the footprint location of the new water storage tank, to be installed by the Alaska Native Tribal Health Consortium (ANTHC). R&R staff provided technical guidance to YRITWC and ANTHC throughout the successful project. DEC will be completing additional complimentary cleanup activities in Hughes in 2013 and 2014. *(Photo: Workers compact backfill in excavation area where future water storage tank will be constructed.)*

Glenn Highway Maintenance Facility

The community of Glennallen has a long desire to see the former DOT Maintenance Facility put into productive use. The property currently houses the Glennallen Volunteer Fire Department, which has plans for substantial upgrades that are currently not possible. There are also designs to establish a community medical clinic on the site. Buried tanks were removed several years ago, but did little to clarify the site conditions or evaluate the overall risk of exposure.

The Reuse & Redevelopment group has been overseeing site-wide assessment and cleanup designed to clarify the risks of exposure presented by the site, and addressing remedial actions that will expedite reuse of the site sooner rather than later. To date, more than 17 individual source areas have been investigated, 450 cubic yards of contaminated material removed and managed, and 20 monitoring wells installed and tested. *(Photos: top right – Monitoring point installation using Geo-probe at former Glenn Highway DOT Maintenance Facility; bottom left – Excavation of contaminated soil from former Glenn Highway DOT facility, 2012.)*

Joseph Guy Community Center, Kwethluk

In 2012, R&R spearheaded the cleanup of the former Joseph Guy Community Center, located in the heart of Kwethluk, after it burned more than 5 years previous. The R&R cleanup activities were at the request of EPA as they too were seeking assistance to address this site on behalf of the community, after having completed an EPA Targeted Brownfield Assessment. Staff coordinated with all parties, including EPA, the Native Village of Kwethluk, the City of Kwethluk, and DEC's Solid Waste Program to make this project successful. Spanning two fiscal years and three field seasons, this work was completed in June 2013, rendering the site ready for reuse by the community. Their hope is to identify sufficient resources to rebuild the Joseph Guy Center, which was once the focal point for nearly all social activities in their community.

(Photos: top right – Demolition of former Joseph Guy Community Center prior to site cleanup; bottom left – removing metals contaminated soil from near surface.)

SPENARD ROAD – CIHA DEVELOPMENT

Reuse & Redevelopment staff was able to assist Cook Inlet Housing Authority in completing assessment on a lingering contaminated property that is a pinnacle of redevelopment opportunity in the Spenard area in Anchorage. Using DEC Brownfield Assessment and Cleanup funding, R&R was able to clarify outstanding environmental concerns that assisted CIHA in completing a property transfer. R&R also coordinated with CIHA and EPA to retain Targeted Brownfield Assessment services estimated at $75,000, to further determine remedial action requirements. CIHA was able to obtain $1.9 million in legislative funding designed to complete property procurement and cleanup of the site. With the procurement of additional and adjacent property, CIHA will be positioned to move forward with nearly $40 million in economic development in the coming years. *(Photo: Cook Inlet Housing has incorporated this type of multi-use building construction in other priority redevelopment areas in Anchorage.)*

Miscellaneous R&R

Alaska Tribal Brownfield Funding – R&R staff coordinated with 21 Alaska Tribal Response Programs in managing their response programs, resulting in an estimated $3.5 million in federal financial assistance to the state to fund environmental program development, training, and assessments.

Annual Alaska Tribal Conference on Environmental Management – R&R staff facilitated the first two-day track at the well-attended ATCEM conference in Anchorage, focused entirely on brownfield issues, training, and education.

Annual STRP Workshop – Held the fifth Alaska STRP Brownfield Workshop attended by more than 40 participants, with representatives from 16 Alaska tribal grant recipients, EPA Anchorage, and other DEC programs.

DEC Assessments and Project Coordination – Initiated nine site investigation and cleanup projects in 2012 with an estimated budget of nearly $1 million.

Increase in Grant Funding – During a time of continued decreasing nationwide federal grant funding, R&R again obtained an annual budget increase. Since R&R's inception in 2005, funding has increased by more than 100%, with an FY2014 funding increase of an additional 4%.

Triad Systematic Planning Facilitation – R&R provided significant support and assistance to the City of Palmer in obtaining US Army Corps support for a Triad facilitation specific to the Matanuska Maid Block project. Staff coordinated the request to EPA on behalf of the City of Palmer, and was successful in bringing together all stakeholders, property owners, regulatory agencies and the City to clarify project goals and objectives.

Tribal Response Program Cleanup – Aided and assisted the first Alaska tribe in their cleanup project using solely tribal response program funding, a first for Alaska. DEC provided substantial technical support and direct coordination amongst all parties to ensure the project stayed on track throughout completion.

FEDERAL FACILITIES RESTORATION

The Federal Facilities section of CSP consists of 21 staff and managers. Fifteen of these positions are assigned to oversee environmental investigation and cleanup activities for statewide civilian federal agencies and Department of Defense installations and activities. In addition, a Technical Services and Program Support unit provides risk assessment, chemistry, quality assurance and community involvement support for both the Federal Facilities and State and Private sections. Throughout FY2013, the Federal Facilities staff documented substantive work at 524 sites. This is 40% of the Federal Facilities' open sites work load as of the beginning of FY2013.

The costs and logistics of assessing and cleaning up remote contaminated sites in the arctic are particularly daunting. For example, the federal government has spent over $70 million to date cleaning up Cold War era wastes and contamination left behind on Saint Lawrence Island, and work at the site continues. Over the past ten years, DEC has worked with federal agencies in responding to old dumpsites in coastal areas that are now subject to erosion. Seventeen such dumpsites have been removed or properly capped and contained; work on other sites continues. A landfill constructed at Umiat during a 1973 Navy cleanup project is an exceptionally complex example. It was built in an inactive channel of the Colville River that now floods annually, which scours away sand, gravel cover material used to close the landfill. The landfill contains roughly 85,000 empty 55-gallon drums, two abandoned oil drilling rigs, heavy equipment, construction debris, batteries, PCB-containing electrical equipment and other potential contaminant sources. The U.S. Army Corps of Engineers is evaluating methods to stabilize the site, along with long-term solutions. Initial estimates indicate the cost to remove and properly dispose of the wastes could exceed $300 million.

ADAK – FORMER NAVAL STATION

During FY2013, Guy Warren of the Anchorage DEC/CSP office, along with the Navy and EPA (the project team) completed work plans for a Non-Time Critical Removal Action (NTCRA) for Operable Unit B-2 (OUB-2) at Adak. The Navy elected to address explosive risk at OUB-2 through their Removal Action authority under CERCLA. This will allow the team to prepare a "No-Action" Record of Decision (ROD) following the removal action. The NTCRA began in April of 2013, and by the end of FY2013, the Navy's contractor had recovered over 600 munitions and explosives of concern. The project team meets weekly to discuss the progress of the NTCRA and address challenges as they are being encountered in the field. The NTCRA is scheduled to continue through FY2015.

Air Force Galena Base Realignment and Closure

Fairbanks Project Managers Dennis Shepard and Fred Vreeman manage the former Air Force Station in Galena for CSP. Spring flooding in Galena, Alaska delayed the start of planned remediation activities at the site until August 1 for the 2013 field season. The US Air Force issued three contracts in 2013 for completing removal actions, groundwater monitoring, landfarm operations, site characterization and remedial investigations at their former forward operating base. The 2013 contract work is planned to complete work at nine petroleum-contaminated sites that had been characterized in 2011-2012. Remedial investigations and risk assessments will be completed for eight sites which have identified non-petroleum contaminants including trichloroethene (TCE). Groundwater contamination at Galena affects much of the former air base and soil contamination affects many of the developed areas. Groundwater monitoring is ongoing, and a soil removal action is planned to remove up to 8,700 cubic yards of petroleum-contaminated soil during 2013. The contaminated soil will be placed in treatment cells at the DEC-approved Galena landfarm. Landfarm operations will treat up to 5,200 cubic yards of petroleum contaminated soil and transport 2,100 cubic yards of treated petroleum contaminated soil to the City of Galena landfill for use as cover material. *(Photo: Galena Landfarm prepared for winter.)*

Aniak White Alice Communications Site

John Halverson of the CSP Anchorage office manages the Aniak site. John and the CSP staff, in conjunction with the Department of Law, negotiated an interim settlement agreement with the responsible parties for the site. These parties are taking responsibility for the operations, maintenance and monitoring of the sub-slab depressurization (SSD) system to minimize trichloroethene (TCE) vapor migration from contaminated soil and groundwater into the Joe Parent School building. Indoor air monitoring had not been conducted over the past year and the Kuspuk School District ceased using the building until monitoring data is collected that demonstrates the indoor air does not pose a potential unacceptable risk to building occupants. Polychlorinated-biphenyl (PCB) contaminated soil and TCE contaminated soil and groundwater remains at the site and additional cleanup is necessary. The responsible parties scheduled non-binding mediation for September 2013 to assist in determining cost allocation for past and future environmental contamination at the site that will be utilized in a final settlement agreement.

BLM Red Devil Mine, Bethel Area

This site is managed by CSP Project Manager Anne Marie Palmieri. Anne Marie continued her tireless work with the Bureau of Land Management (BLM) and Environmental Protection Agency (EPA) to resolve technical differences and finalize the site characterization and risk assessment reports. Although the documents remained in draft form, the BLM provided a Draft Feasibility Study (FS) to the CSP and EPA. CSP staff coordinated the review of the draft FS with other DEC Divisions and State agencies, and provided comments to BLM. The FS will require extensive revision, including the addition of new alternatives. CSP and EPA renewed discussions with BLM regarding an early action to stop the migration of sediment contamination through erosion and mass-wasting from Red Devil Creek, which bisects the mine, to the Kuskokwim River. BLM now plans to conduct a Non-Time Critical Removal Action in 2014 to remove contaminated sediment from the creek and pull back the creek walls to prevent further sloughing.

Eielson Air Force Base

Although significant challenges remain, Project Managers Kim DeRuyter and Eric Breitenberger from the Fairbanks office have made considerable progress in working with EPA and the Air Force to bring Eielson Air Force Base into compliance with state and federal regulations. The highest priority issues during the past year have been 1) preparing for the mandatory Five Year Review with EPA; 2) continuing the field investigations at high priority sites, to include one with comingled benzene/TCE plumes as well as PCBs in Garrison Slough; 3) re-establishing the installation-wide groundwater monitoring well network; 4) restarting languishing investigations at more than forty state-regulated petroleum sites; and 5) establishing a meaningful base-wide program for managing and implementing required institutional controls (IC) and land-use controls (LUC). The Five Year Review is currently nearing completion, and Kim and Eric, along with the CSP staff, have invested considerable effort to ensure that it will contain meaningful protectiveness determinations and site recommendations, along with well-defined schedules.

Additionally, considerable fieldwork was performed during the past year to better characterize TCE in groundwater, fish tissue sampling for PCBs, more aggressive investigation into petroleum contamination, and installation of 124 new groundwater monitoring wells in support of the installation-wide monitoring program. Institutional and land-use controls were the focus of a number of separate efforts. Following protracted

negotiations, the Air Force, EPA, and DEC entered into a settlement agreement in April 2013 addressing the many identified deficiencies in the Eielson IC/LUC program. The agreement establishes requirements for a comprehensive IC/LUC management plan, and also includes provisions for a Site Management Plan which sets an enforceable schedule for remediation activities. In addition to the settlement agreement, CSP staff focused attention on construction work plans, which in the past had not been submitted for agency review, resulting in unauthorized movement of contaminated soil and the potential for construction workers to be exposed to hazardous substances. *(Photo: previous page – Eielson Air Force Base, Garrison Slough in the area of the PCB release.)*

Kotzebue Former Indian Health Service (IHS)/Bureau of Indian Affairs (BIA) Hospital-School Pipeline Release

The historic pipeline release of petroleum is believed to have been ongoing during the late 1950s through the mid-1980s. An exhaustive and extremely comprehensive effort by the site's former project manager, Kim DeRuyter, to establish the factual basis of technical cleanup required as well as to identify the potentially responsible parties (PRP) paved the way for the resumption of face-to-face meetings between DEC and PRPs in November of 2012. Under the management of Kevin Gardner, teams were established to begin determining the allocation of site costs and the technical environmental needs for the site. A series of monthly meetings throughout the remainder of FY2013 led to IHS and BIA successfully obtaining site characterization funding. Both agencies have been engaged with the Maniilaq Association in Kotzebue to obtain the services of an environmental consultant to begin that investigation later in 2013 or as soon as possible in 2014.

NORTHEAST CAPE (ST. LAWRENCE ISLAND) FORMERLY USED DEFENSE SITE

During 2012, Anchorage-based Project Manager Curtis Dunkin worked closely with the Army Corps of Engineers on site cleanup work at the Northeast Cape Formerly Used Defense Site (FUDS) on Saint Lawrence Island. Tremendous progress was made at the site, and work during FY2013 included proper removal, treatment, and disposal of more than 12,000 tons of petroleum-contaminated soil, 6,400 tons of PCB-contaminated soil, 140 cubic yards of sediment contaminated with PCBs, metals, and petroleum, 100 tons of arsenic-contaminated soil, and 35 tons of metal and other solid wastes. Surface and groundwater monitoring was conducted at numerous sites. Curtis also participated in semi-annual Restoration Advisory Board meetings in Savoonga to inform residents about the 2012 and 2013 cleanup activities and to obtain community input and respond to questions and concerns. *(Photo: by DEC; Northeast Cape FUDS, Saint Lawrence Island: PCB-contaminated soil excavated at site 13, July 1, 2012.)*

Staff conducted two days of site inspections in 2012 to ensure that remedial activities were being implemented in accordance with the approved work plan and state and federal requirements. Over the past four field seasons (2009-2012), contractors working for the Army Corps of Engineers have removed and disposed offsite of more than 80,000 tons of contaminated soils and sediments and more than 75,000 tons of debris and solid waste from Northeast Cape. *(Photo: by USACE; DEC-CSP Project Manager Curtis Dunkin inspects removal activities at one of the petroleum-contaminated soil excavations at the former Main Operations Complex, August 1, 2012.)*

NUVAGAPAK POINT DEW LINE

Project Manager Deb Caillouet of the Anchorage office oversees remedial work at the Nuvagapak site. The Army Corps of Engineers removed an eroding landfill at the mouth of the Kogotpak River that is associated with the former Nuvagapak DEW Line Site. The two phase effort was conducted in the summer of 2012 and the winter of 2013. During the initial phase of excavation and characterization, approximately 90 cubic yards of polychlorinated biphenyl (PCB) and lead contaminated soil, along with 30 tons of debris were removed from the Kogotpak River Landfill Site. Debris included partial drums, battery plates, electrical cables, vehicle parts, building timbers, metal pipes, wood pilings, a transformer, and general household debris. The amount of contaminated soil exceeded estimated quantities so additional excavation continued during April 2013, with approximately 104 cubic yards of PCB and lead contaminated soil removed during this second phase of excavation. Potentially hazardous waste was segregated for appropriate disposal; soil and debris was staged on-site for disposal utilizing a barge during the summer of 2013. *(Photo: Kogotpak River Landfill, Nuvagaoak Point DEW Line Site.)*

PORT HEIDEN

Louis Howard of the Anchorage CSP office provided close oversight on the Air Force's continued cleanup efforts at the former Radio Relay Station Site located at Port Heiden. During FY2013, approximately 23,000 cubic yards of PCB-contaminated soil were removed and disposed of at a permitted disposal facility in the lower 48. An estimated 20,000 cubic yards of PCB-contaminated soil remain on-site for future cleanup/removal. *(Photo: Supersacks of PCB-contaminated soil being stockpiled following excavation at Port Heiden.)*

UMIAT FUDS LANDFILL AND ROAD CONSTRUCTION, NORTH SLOPE BOROUGH

Progress continued at the complex Umiat site under the management of Tamar Stephens and Melody Debenham. Following Tamar's unexpected passing in March, Melody assumed responsibility for all Umiat sites and continued Tamar's superb project management. The US Army Corps of Engineers conducted a site inspection of the Landfill in August 2012 to visually inspect the Landfill for signs of recently exposed potential hazardous waste sources such as transformers containing PCBs or lead batteries. The team collected Global Positioning System data of photographic vantage points and site landmarks during the first site inspection, and returned to the same locations to document physical changes due to seasonal flooding. No hazardous waste sources were observed during any of the site inspections. The Remedial Investigation Report was finalized in March 2013 so the next step is the development of a Feasibility Study to evaluate interim erosion control measures and permanent remediation alternatives for the Umiat Landfill. The draft Feasibility Study is anticipated in winter 2013.

UMIAT TEST WELL NO. 9, NORTH SLOPE BOROUGH

In the early 1950s, polychlorinated biphenyls (PCBs) were used as a tracer in Umiat Test Well No. 9 during well drilling and testing operations. Site investigations in 1997 and 1998 confirmed that soil was heavily contaminated with both petroleum and PCBs. The US Army Corps of Engineers conducted an interim removal action in winter of 2009, and remedial actions in winters of 2011, 2012, and 2013. Over 10,000 cubic yards of PCB-contaminated soil have been removed from the site to date. Additional removal actions are anticipated to occur in February and March of 2014. Erosion control measures have been implemented to prevent runoff of contaminated soil from the Test Well #9 site, including placement of jute matting over the entire excavation. A site investigation in summer of 2011 identified PCBs in sediment in the main drainage channel below the well head, confirming PCB contamination up to 2,000 feet from the site. Cleanup of the main drainage channel below the site will be addressed in a future action. Melody Debenham from the Fairbanks office also manages this site.

USFS SALT CHUCK MINE, THORNE BAY

The Salt Chuck Mine is also managed by Anne Marie Palmieri. Anne Marie and the CSP staff spent considerable time coordinating with staff from the Department of Natural Resources (DNR) and the

Department of Fish & Game (DF&G) to provide a foundational knowledge of the Superfund process and what activities had previously occurred at the Salt Chuck site. Anne Marie participated in a two-day Remedial Investigation scoping meeting with EPA, DNR, DF&G, Department of Health and Social Services, and US Fish and Wildlife. Under Anne Marie's management, she and CSP staff reviewed and provided comments on sampling, risk assessment, and treatability study work plans. CSP conducted public outreach regarding subsistence use of the area at the Organized Village of Kasaan's Mining Symposium and also participated in EPA public meetings in Thorne Bay and Kasaan.

LOOKING AHEAD: FY 2014 PROGRAM PRIORITIES

1. Develop formal agreements with other state agencies responsible for contaminated sites. Define roles and procedures for prioritizing sites, securing funding, implementing site characterization and cleanup, and long-term site management.

2. Make measureable progress on investigation and cleanup at the following high-priority sites:

   Aniak White Alice Communications Site
   BLM Red Devil Mine
   Eielson Air Force Base
   Flint Hills Refinery
   Galena Air Station
   IHS/BIA Hospital-School Kotzebue
   Sterling Zipmart
   Umiat FUDS
   USFS Salt Chuck Mine

3. Use the Exposure Tracking Model and Workload Prioritization Report to ensure high-priority sites are adequately addressed and to support review of languishing sites to determine if a strong reuse and redevelopment component exists.

4. Develop GIS enhancements that ensure correct site locations and accurate delineations of contaminant source areas, groundwater plumes and areas subject to institutional controls that can be displayed on the Contaminated Sites Web Map.

5. Complete the 18 AAC 75 regulations update, release for public comment, and adopt the changes.

6. Evaluate other states' approaches and develop an Alaska-unique Uniform Environmental Covenants Act methodology; seek a method by which to introduce such legislation (tentatively known as the Alaska Safe Lands Act).

7. Implement $3 million FY2014 Capital Improvement request; finalize and submit $4 million FY2015 request.

8. Make necessary adjustments and continue implementing the languishing sites initiative.

9. Emerging Contaminants – Develop a structured format to deal with PFOS and PFOAs.

10. Vapor Intrusion – Focus on TCE sub-chronic exposure.

11. Compliance and Enforcement – Update program guidance to reflect substantive revisions to DEC Enforcement Manual.

12. PERP Site Transfers – Continue ongoing coordination efforts with PERP.

13. Home Heating Oil Tanks – Continue with possible development of legislation.

APPENDIX – EFFECTIVENESS AND EFFICIENCY MEASURES

Effectiveness measures equate site closures and exposure pathway closures with the number of sites reopened, cumulative site closures, and the total universe of open sites.

Site Closures

$$\frac{sites\ reopened\ each\ year}{cumulative\ site\ closures} \times 100$$

Goal – No more than 1% of cumulative sites closed, as of the end of a given fiscal year, shall have been reopened during that fiscal year.

Nine sites were reopened In FY2013; as of June 30, 2013 there were 4,783 cumulative site closures, meaning that approximately 0.2% of total closed sites were reopened.[6]

This measure shows the permanency of site cleanups relative to an ever-larger universe of closed sites. *Staying at or below 1% is an effectiveness indicator.*

Exposure Pathway Closures

$$\frac{number\ of\ sites\ with\ closed\ exposure\ pathways}{total\ number\ of\ open\ sites} \times 100$$

Goal – Exposure pathways shall have been closed at a minimum of 5% of total open sites remaining at the end of a given fiscal year.

Exposure pathways were closed at 235 sites in FY2013, or 10% of the total universe of open sites as of June 30, 2013.[7]

This measure illustrates how many sites were evaluated for contaminant pathway exposure relative to the total number of open sites. *Meeting or exceeding 5% is an effectiveness indicator.*.

Efficiency measures equate the program's two performance measures (site closures and exposure pathway closures) to how efficiently the program uses its full time equivalent (FTE) positions.

Individual Staff Site Closures

$$\frac{total\ site\ closures}{total\ project\ manager\ FTE}$$

Goal – Thirty positions are dedicated to site management (excluding EPM I managers who do some site work). The site closure performance measure is 150.

[6] Query – Action with Action Date – Site Reopened; Report – Closed Sites.
[7] Reports – ETM Updated Pathways Report and Open Sites Report.

$$\frac{150}{30} = average\ of\ 5\ closures\ per\ FTE$$

In FY2013 the program closed 153 sites, meaning the efficiency measure was slightly exceeded. *Meeting or exceeding 5 closures per FTE indicates the program is efficiently using its staff resources.*

Individual Staff Exposure Pathway Closures

$$\frac{total\ exposure\ pathway\ closures}{total\ project\ manager\ FTE}$$

Goal – Thirty positions are dedicated to site management. The exposure pathway closure performance measure is 700.

$$\frac{700}{30} = average\ of\ 23.3\ exposure\ pathway\ closures\ per\ FTE$$

In FY2013, 700 exposure pathways were closed, meaning this efficiency measure was achieved. *Meeting or exceeding 23.3 pathway closures per FTE indicates the program is efficiently using its staff resources.*