

Hazardous Waste Management Commission Report

April through June 2011

Quarterly Report



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Hazardous Waste Management Commissioners

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Elizabeth Aull

Michael R. Foresman

Charles "Eddie" Adams

Deron Sugg

"The goal of the Hazardous Waste Program is to protect human health and the environment from threats posed by hazardous waste."

For more information

Missouri Department of Natural Resources

Hazardous Waste Program

P.O. Box 176, Jefferson City, MO 65102-0176

dnr.mo.gov/env/hwp/index.html

Phone: 573-751-3176

Fax: 573-751-7869



**Missouri Department of Natural Resources
Hazardous Waste Program**

June 2011 Program Update

This quarterly report covers the start of the summer months here in the Hazardous Waste Program. On any given day, we have staff traveling throughout the state inspecting underground storage tanks, overseeing superfund and drycleaner site cleanups and helping businesses with their hazardous waste issues.

Yes, we put in the miles during the summer months. It's what we do. Sure, we spend time at desks, analyzing results, writing reports. But we also get out and see these sites firsthand. We meet with city leaders, business representatives and private citizens. Sometimes we're the ones taking samples and sometimes we're functioning in an oversight role. But even with oversight, we have a responsibility to make sure consultants or contractors are doing exactly what they told us they would do and that they are doing what they should be doing.

It's our duty. We are expected to protect Missourians from hazardous waste. The advent of summer also means one other thing: the Missouri Waste Control Coalition Conference. This annual conference, held at the Lake of the Ozarks, has become the place to be if you deal with waste – solid or hazardous – in Missouri. Because of that, the Hazardous Waste Program has long played an active role in supporting and participating in the conference.

Hazardous Waste Program staff hosts information sessions covering topics such as plume stabilization, Brownfields assessments and underground storage tank closure. It's an important conference and we're glad to be part of it. Every year we see value in our presence at the conference and that's why we keep going back.

In this quarterly report, our Brownfields Program, Compliance and Enforcement and Tanks Sections explain their involvement with the conference and some topics they covered during their sessions.

Other highlights in this report include an explanation from the Permits Section on groundwater monitoring reports sent from facilities to the program. As they say in their write-up, groundwater monitoring represents the last line of defense of detecting hazardous waste releases and measuring the effectiveness of cleanup efforts. These monitoring reports are our porthole to what's happening underground.

And, in continuing the educational opportunities for our staff, the Federal Facilities Section highlights an unexploded ordnance training they helped coordinate. The types of hazardous waste and issues we deal with vary greatly – from petroleum contaminated soil, to flakes of lead-based paint on an old hotel's walls to old bazooka rounds, half buried in the countryside. Another interesting part of this report is the fiscal year budget information included in Budget and Planning's section. Included are several charts showing the overall Department of Natural Resources operating budget and a couple of Hazardous Waste Program specific budget charts.

Sincerely,



David J. Lamb

Table of Contents

Budget and Planning Section.....5
Brownfields/Voluntary Cleanup Section.....8
Compliance and Enforcement Section.....16
Permits Section.....21
Superfund Section.....26
Federal Facilities.....27
Tanks Section.....29

Fiscal Year 2012 Budget

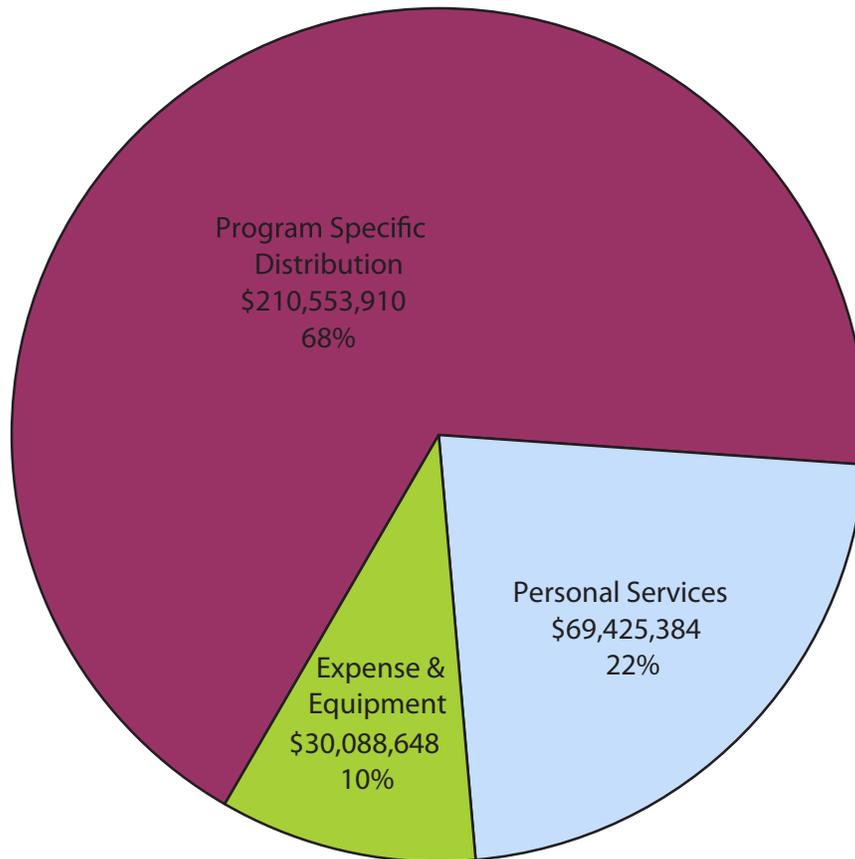
The Budget and Planning Section is responsible for the financial management of the Hazardous Waste Program. It is the section's responsibility to coordinate the program's budget requests each fiscal year. The state is currently operating in fiscal year 2012, which began on July 1, 2011 and runs through June 30, 2012. The process to establish the fiscal year 2012 budget began in July 2010 when the state budget director issued budget preparation instructions.

The Budget Program within the Division of Administrative Support coordinates the overall Department of Natural Resources' operating, leasing and capital improvements budgets. The department's operating budget is available online at oa.mo.gov/bp/budreqs2012/DNR/DNR.pdf.

Each state agency is required to submit its completed budget request to the state budget director annually by Oct. 1. The budget requests must be presented to the general assembly within 30 days of the start of the legislative session. This generally occurs in conjunction with the governor's State of the State address in January.

The department's fiscal year 2012 operating budget is in House Bill 6, which had to be truly agreed and finally passed by May 6, 2011. The governor signed the appropriations bill on June 10, 2011. Preparations have already started for the FY 2013 budget.

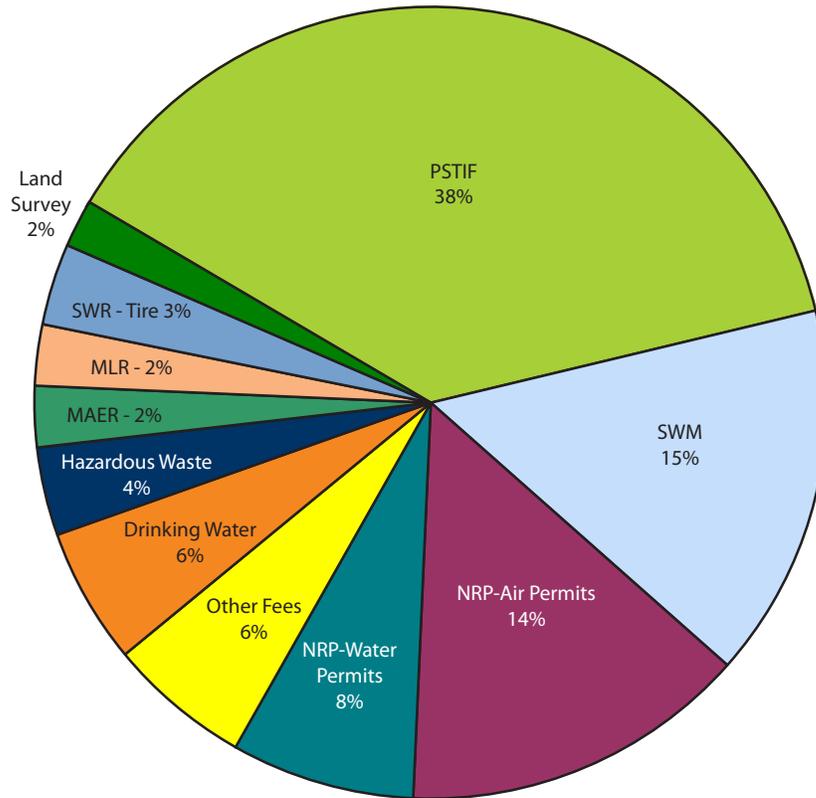
FY 2012 Department of Natural Resources Truly Agreed and Finally Passed Operating Budget (HB6)*
\$310,067,942



*Does not include appropriated transfers
 July 26, 2011

Missouri Department of Natural Resources - Hazardous Waste Program Budget and Planning Section

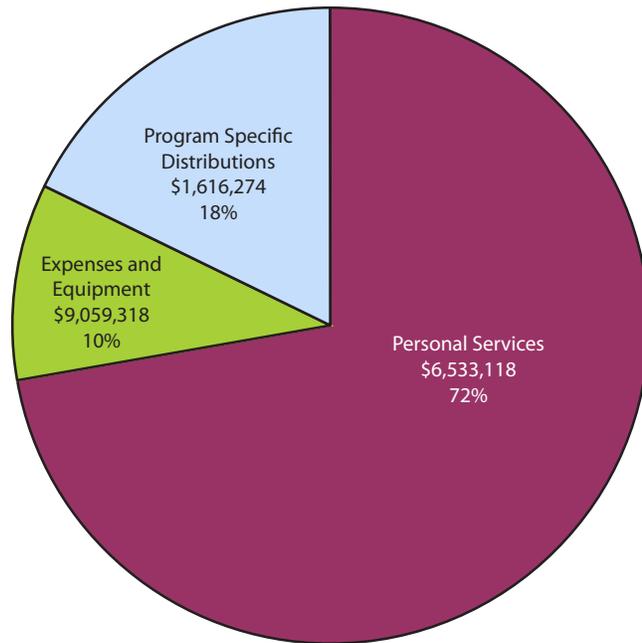
FY 2012 Truly Agreed and Finally Passed Environmental Fee Appropriations \$59,213,059



Division	Amount
PSTIF	\$ 22,391,039
SWM	\$ 9,088,180
NRP - Air Permits	\$ 8,259,665
NRP - Water Permits	\$ 4,489,278
Other Fees	\$ 3,424,299
Drinking Water	\$ 3,308,709
Hazardous Waste	\$ 2,233,777
MAER	\$ 1,422,626
MLR	\$ 1,505,623
SWM - Tire	\$ 1,869,389
Land Survey	\$ 1,220,474

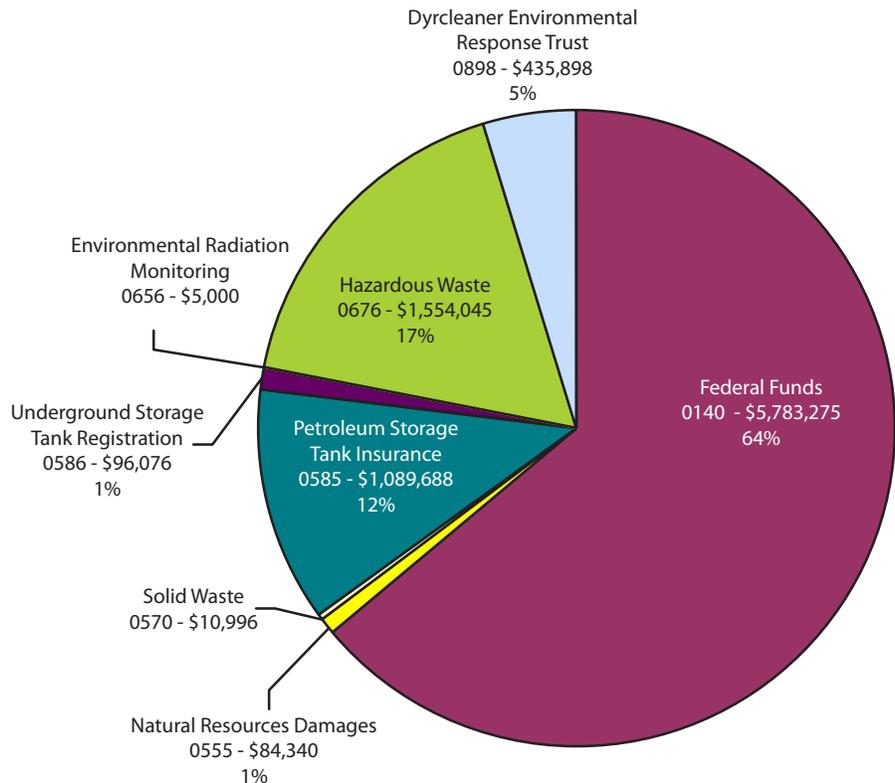
**Missouri Department of Natural Resources - Hazardous Waste Program
Budget and Planning Section**

**Hazardous Waste
Program and Petroleum
Related Activities
FY2012 Truly Agreed
and Finally Passed
Operating Budget
(HB6)*
TOTAL: \$9,059,318**



*Does not include appropriated transfers
July 26, 2011

**Hazardous Waste
Program and Petroleum
Related Activities
FY2012 Truly Agreed
and Finally Passed
Operating Budget
(HB6)*
TOTAL: \$9,059,318**



Missouri Department of Natural Resources - Hazardous Waste Program

Brownfields/Voluntary Cleanup Section

The Missouri Department of Natural Resources issued certificates of completion for six Brownfields/Voluntary Cleanup Program sites during April through June. Brownfields are real property, the expansion, redevelopment or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant.

Through the Brownfields/Voluntary Cleanup Program, private parties agree to clean up a contaminated site and are offered some protection from future state and federal enforcement action at the site in the form of a "No Further Action" letter or "Certificate of Completion" from the state.

Bix Service (former) – St. Joseph

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Bix Service (former) site located at 521 S. 6th St. in St. Joseph. Since approximately 1883, commercial and residential use has existed at the site. Past businesses include a radiator repair shop, battery service shop, paint and auto body repair and furniture stripping and refinishing. Currently the site is mostly abandoned. Adjacent properties include Cookman Instant Printing and Western Chemical Company. The property owner intends to develop the area as a parking lot.



The former Bix Service Station in St. Joseph.

The Tier 1 risk assessment indicated surface soil concentrations of arsenic exceeded Missouri Risk Based Corrective Action (MRBCA, June 2006) risk-based target levels (outdoor inhalation, ingestion and dermal contact) for residential land use; however, these concentrations are within naturally occurring background ranges. The department determined the site is safe for its intended use.

A.P. Green 2 - Mexico

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the A.P. Green 2 site located at 1 A P Green Boulevard in Mexico. The former plant has 250,000 square feet of warehouse space; 250,000 square feet of manufacturing space; 48,000 square feet of out-building space; and 50,000 square feet of office space. The property has been used for brick manufacturing since its development in 1908. A.P. Green operated a brick manufacturing plant that employed hundreds of workers. A building materials manufacturer is redeveloping the site and will reuse the kiln areas for the manufacturing of house brick. The department helped facilitate a Phase II Environmental Site Assessment. Asbestos-containing materials were identified to be remediated prior to reuse of the property.

Site assessments revealed the presence of asbestos-containing materials throughout the plant, the presence of certain hazardous substance containers found and stockpiled at the property and the presence of hydraulic fluid throughout the plant. Remedial actions included the characterization and repackaging of those containers found on-site for proper disposal and collecting of nonpolychlorinated Biphenyl containing hydraulic fluids throughout the plant. Mid America Brick's contractor performed the removal and disposal of asbestos-containing materials known throughout the site that would have impacted the development of the new brick plant. Some asbestos-containing materials remain on-site, such as asbestos-containing materials encapsulated

on the #8 kiln's roof since removal and replacement of the entire length is cost-prohibitive. An Asbestos Operations and Maintenance Plan has been developed to properly manage the remaining asbestos-containing materials at the site. The department determined the site is safe for its intended use.

Production began this spring at Mid America Brick. The manufacturing plant will produce brick for residential and commercial construction. When fully operational, Mid America Brick will create up to 75 jobs and initially produce more than 60 million bricks per year. The new plant, site of the former A.P. Green plant, was unveiled on the 100th anniversary of the A.P. Green's first year of business in 1910.

Loughborough Commons - Outparcel D – St. Louis

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Loughborough Commons - Outparcel D site located at 950 Loughborough Avenue in St. Louis. Outparcel D of The Loughborough Commons site was formerly the location of the Phelen Faust Paint Manufacturing Company. Several oil and gasoline tanks were identified in historical information. A Nordyne Inc. facility was also in close proximity to Outparcel D, and manufactured heating and cooling machinery.

Initial site characterization of the Loughborough Commons Site identified the presence of petroleum and lead contamination in the soil above the Missouri Risk-Based Corrective Action, or MRBCA, default target levels. Groundwater analysis identified the presence of petroleum hydrocarbons in excess of the default target levels.

Site investigations showed levels of petroleum products, lead and mercury above the default target levels in soil and groundwater at the Loughborough Commons site. Because of this a risk assessment was conducted. The results of the risk assessment are that subsurface soil on Outparcel D of the Loughborough Commons site contains gasoline-range organics that exceed risk-based target levels for residential use and lead that exceeds risk-based target levels for construction workers. The remedy is to place an environmental covenant on the property restricting use of property to non-residential purposes and establishing a Soil Management Plan governing construction on the property. The department determined the site is safe for its intended use.

Outparcel D is part of the larger Loughborough Commons site now developed into a retail center.

Washington Laundry (former) – Kansas City

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Washington Laundry (former) site located at 2405-2407 Troost Ave in Kansas City. The site consists of two parcels known as 2401-2403 Troost Ave. and 2405-2407 Troost Ave. Historically there were two vacant, commercial structures on the site. Historic use of the 2405 Troost property consists of a steam laundry and dry cleaner between 1937 and 1952. Various other businesses operated after the laundry/dry cleaner operations until about 1987, including metal plating, metal polishing, chainsaw sales/service and auto repair and restoration.

Environmental site assessments revealed petroleum and volatile organic compounds in the soil and groundwater of the site and the presence of an unregistered underground storage tank. The two buildings that occupied the site were demolished in August 2010. Prior to demolition, asbestos-containing material was removed and properly disposed of off-site at a permitted facility.

An oil-water separator was excavated and removed from the basement floor of the 2405 building. The oil-water separator consisted of an approximately 50-gallon sump connected through a manifold to an approximately 3,000-gallon underground storage tank. The underground storage tank was removed, cleaned and properly disposed of at Advantage Metal Recycling in Kansas City. A Missouri Risk-Based Corrective Action Tier 1 Risk Assessment was performed for current and potential future exposure pathways. The representative concentrations do not exceed the residential Tier 1 Risk-Based Target Levels. Lead was detected in soil and groundwater at concentrations above the MRBCA Default Target Levels in all locations, but within the regional background levels for lead. The department determined the site is safe for its intended use.

The site lies within the boundaries of the Beacon Hill Redevelopment Project, a multi-block neighborhood redevelopment project. The City of Kansas City has directed planning and invested public funds and assistance in support of the Beacon Hill project. Private developers have entered into agreements with with the Housing and Economic Development Finance Corporation and the city to develop the Beacon Hill Project, including the site. The city funded and completed the remediation of the site through the Voluntary Cleanup Program to render the site safe and appropriate for multi-family residential or mixed-use development that will be completed by the designated master development team for this project.

Linn County Jail - Linneus

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Linn County Jail site located at 102 N. Main Street, Highway 5 in Linneus. The jail was reportedly built by the county around 1871. A storage shed built around the same time was demolished before 1925. The jail was shut down in 1970 when a new jail was built by the county. In 1975, the Jail Museum Historical Association operated a jail museum there, although the county retained ownership. In 2009 the property ownership was transferred to the Linn County Historical Museum.

Site investigations revealed the presence of lead-based paint and asbestos within the building. Lead-based paint was removed and encapsulated on interior trim, jail area walls, upstairs landing and stairs. Asbestos-containing material was identified in the floor tiles but was in good condition and remains in the building. An Operation and Maintenance Plan was required for the lead-based paint left in place on the interior and the asbestos-containing material remaining in the building.

The Operation and Maintenance plan includes regulatory information, forms and instructions for annual inspections. The department determined the site is safe for its intended use.

Based on the fragile structural condition of the historic site, particularly the doors and windows, attempts at complete lead abatement would likely have caused structural damage to the historic property. Instead, all loose peeling and flaking paint was removed to the extent possible without causing damage, and the project was re-classified as a renovation. The renovation of the former jail is in support of its continued use as a museum.



The Linn County Jail in Linneus.

Laclede Power Building – St. Louis

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Laclede Power Building site located at 1246 Lewis Street in St. Louis. This building was constructed in the early 1900s by Union Electric Power and Light as an electric power conversion facility. The building housed equipment used to power down electricity to a level safe for use throughout the city of St. Louis. In the 1980s the building was sold to Trigen and was decommissioned.

The Phase II Environmental Site Assessment revealed the presence of lead-based paint, asbestos-containing materials throughout the building and sediments in the basement containing polychlorinated biphenyls. The polychlorinated biphenyls in the basement soils were found to be below appropriate target levels. The soils were removed and the basement was subsequently powerwashed in accordance with an approved remedial action plan. The lead-based paint and asbestos-containing materials were completely removed from the building, also in accordance with the remedial action plan. The department determined the site is safe for its intended use.

Future use of the building will include a trailhead for the Riverfront Trail, office space and an indoor night club.



Exterior and Interior of the Laclede Power Building in St. Louis.



Missouri Brownfields Conference - June 20-21, 2011

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program held its 7th annual Brownfields Conference in conjunction with the Missouri Waste Control Coalition's 39th Environmental Conference. The Brownfields Conference provided a platform to celebrate the positive effects, economically, environmentally and aesthetically, the Brownfields/Voluntary Cleanup Program has had on Missouri and the continued positive effects the program will have in the future.

The Brownfields Conference brought together more than 100 participants from five states, made up of city and community representatives, consultants and other stakeholders including several state and federal agencies. For the first time, the conference was expanded to two days. The second day was added to test out the new concept of having an Information café. The Brownfields/Voluntary Cleanup Program also hosted a display providing information about the program in the exhibit hall along with many other sponsors.

The focus of the Brownfields conference was to provide essential information about the identification, remediation and redevelopment of contaminated properties in Missouri. Workshop sessions held on the first day included:

- Information about the various forms of assistance available to cover the costs associated with remediating Brownfield sites.
- A step-by-step approach to successful assessments.
- The importance of managing projects with the assistance of the Brownfields/Voluntary Cleanup Program project managers and with liability insurance.

The favorite of many participants was the Information Café held on the morning of the second day. The Information Café provided an opportunity to discuss topics, tools and information resources as well as to build networks around topical areas of interest. The Café was loosely fashioned after the increasingly popular "World Café" sessions seen at other meetings. The Café session had 15 conversation tables where a topic host briefly presented information and invited discussion. There were six successive 30-minute sessions with a 30 minute break in the middle. The Café format was used to provide an opportunity for free-form discussions around specific ideas, tools or resources. It was also an opportunity to extend discussions that began with the presentation sessions held the day before.

Conference planners offered scholarships to participants interested in attending yet were not capable of providing the financial means to attend. Fifty-five city and community officials accepted the scholarships to attend the Brownfields Conference. Outreach staff is in the process of contacting several of the attendees regarding their needs for future brownfields assistance.

The annual conference provides a valuable opportunity for staff to share information with consultants, communities, and other stakeholders as well as learn about new advances in technology.

Sites in Brownfields/Voluntary Cleanup

	Active	Completed	Total
APRIL	264	624	888
MAY	265	626	891
JUNE	262	629	891

New Sites Received

April

- Bailey Property, Canton
- Lewis County Intermodal Transportation and Storage, Canton
- Steel Frame and Wood Frame Building, Canton
- Train Depot, Canton
- Tri-State Fertilizer, Canton
- Vacant Lot and Quonset Building, Canton
- Columbus Park Redevelopment, Kansas City
- Missouri Department of Transportation - District 8 Office, Springfield

May

- A.P. Green, Mexico
- Washington Laundry, Kansas City

June

- Van Brunt Street Car Barn (former) tract 2, Kansas City

Sites Closed

April

- Linn County Jail, Linneus
- Bix Service (former), St. Joseph

May

- U.S. Ink Facility (former), St. Louis
- River Roads Shopping Center - Boatman's Bank/Lots 2 and 3, Jennings
- Adelaide Business Campus, St. Louis
- Becker Metals, St. Louis
- River Roads Shopping Center - Outlot C, Jennings

June

- Laclede Power Building, St. Louis
- Loughborough Commons - Outparcel D, St. Louis
- Peterson Manufacturing Company, Kansas City

Missouri Department of Natural Resources - Hazardous Waste Program

Brownfields/Voluntary Cleanup Section

Drycleaning Environmental Response Trust Fund

The department's Drycleaning Environmental Response Trust, or DERT, Fund provides funding for the investigation, assessment and cleanup of releases of chlorinated solvents from dry cleaning facilities. The two main sources of revenue for the fund are the dry cleaning facility annual registration surcharge and the quarterly solvent surcharge.

Gov. Jay Nixon signed Senate Bill 135 on June 22, 2011 and a part of that bill extended the Drycleaning Environmental Response Trust Fund sunset date to Aug. 28, 2017.

Registrations

The registration surcharges are due by April 1 of each calendar year for solvent used during the previous calendar year. The solvent surcharges are due 30 days after each quarterly reporting period.

Calendar Year 2010	Active Dry Cleaning Facilities	Facilities Paid	Facilities in Compliance
Jan - Mar 2011	223	113	50.67%
Apr - June 2011	223	186	83.41%

Calendar Year 2010	Active Solvent Suppliers	Facilities Paid	Suppliers in Compliance
Jan - Mar 2011	11	10	90.91%
April - June 2011	11		

Cleanup Oversight

Calendar Year 2011	Active	Completed	Total
Jan - Mar 2011	23	9	32
April - June 2011	23	9	32

New Sites Received 0

New Sites Closed 0

Missouri Department of Natural Resources - Hazardous Waste Program

Brownfields/Voluntary Cleanup Section

Reimbursement Claims

The applicant may submit a reimbursement claim after all work approved in the work plan is complete and the fund project manager has reviewed and approved the final completion report for that work. The fund applicant is liable for the first \$25,000 of corrective action costs incurred.

	Received	Under Review	Paid/Processed
April	2	5	0
May	7	6	4
June	3	2	0

	Received	Under Review	Paid/Processed
April	\$46,715.24	\$73,094.50	\$0.00
May	\$61,231.78	\$131,708.83	\$129,951.40
June	\$37,066.25	\$23,523.00	\$0.00

Reimbursement Claims Processed:

American Cleaners (Southroads Shopping Center)	St. Louis	\$6,529.40
Busy Bee Laundry	Rolla	\$57,572.59
Colonial Cleaners (Arsenal St.)	St. Louis	\$2,624.00
Tri-States Service Company Springfield	Springfield	\$63,225.41

Total reimbursements as of June 30, 2011: \$1,509,959.50

DERT Fund Balance as of June 30, 2011: \$1,686,358.63

Operational Tanks Day at the Missouri Waste Control Coalition Conference

Day one of the department's Tanks presentations at the Missouri Waste Control Coalition Conference focused on operational compliance issues. Speakers came to discuss corrosion control mechanisms such as interior lining and cathodic protection, the proper installation of flexible connectors, case studies of new tank installations and the proposed rule changes. Additionally, a new equipment installation roundtable discussion was held.

Steel tank systems either need to have interior lining applied to the inside of the tank or a cathodic protection system must be installed to control the corrosion of the steel tank system. Tony Rieck with TR Consulting discussed the use of interior linings as a corrosion control mechanism in steel underground storage tanks. The linings must be inspected within 10 years of installation and every five years thereafter. After an inspection, the linings often need to be repaired or replaced. Rieck discussed recommended practices and requirements for installing interior linings. He also provided tips and techniques contractors and owners could use to verify the interior lining was being installed or repaired in accordance with the requirements.

Ed Bethel with the department's Southwest Regional Office discussed cathodic protection. Bethel discussed key pieces of information that must be on every cathodic test report to accurately record the site conditions, observations, data and results of the test.

Flexible connectors are braided flexible pipes used to connect pieces of equipment and piping at the tank top as well as piping at the dispensers. Ryan Riggs with Hose Master Inc. explained how Hose Master

manufactures their flexible connectors and the importance of proper installation. The hands-on session contained examples of the varieties of flexible connectors Hose Master manufactures as well as a beneficial discussion among the attendees regarding the use and installation of flexible connectors.

Installing new underground storage tank systems is complex. Jim Harris, an underground storage tank inspector with the department, outlined key aspects of new tank installations. The session included planning tips and other techniques installers can use in future installations. A large portion of this session focused on proper planning: ensuring the latest version of the manufacturers installation instructions are followed; tanks will be air and soap tested; enough backfill is on hand to fill the tank pit; and appropriate equipment is available (e.g. a large enough crane to safely move the tank).

Harris provided the group with examples of things that went right at installations the department has attended, as well as instances when the day's events did not go as planned.



Ed Bethel presents on cathodic protection.

Several tank, piping, automatic tank gauge and other tank system equipment manufacturers participated in a roundtable discussion. This was an opportunity for the attendees to ask questions regarding proper installation of their equipment. Some of the topics discussed included preparing for a flood, necessary actions after flood waters recede, actions necessary following a tornado and the most common mistakes installers make when installing the equipment.

The day finished up with a presentation from department employee Heather Peters about the proposed underground storage tank rule changes. She provided a brief overview of the proposed changes and how these changes could affect owners, operators and installers.

Presentations from the conference are available online at dnr.mo.gov/env/hwp/enf/OperationalTanksMWCC.htm.

Inspections and Assistance

Regional Office Hazardous Waste Compliance Efforts

- Conducted 210 hazardous waste generator compliance inspections:
 - 28 at large quantity generators.
 - 73 at small quantity generators.
 - 101 at conditionally exempt small quantity generators.
 - Four at E-waste recycling facilities.
 - Four at resource recovery facilities.
- Issued 79 letters of warning and five notices of violation requiring actions to correct violations.
- Made nine compliance assistance visits. Compliance assistance visits are on-site visits with a representative of a facility. The visits are intended to improve the understanding of a permit, registration, certification, report or other similar requirement. Compliance assistance visits provide an opportunity to enhance compliance with environmental regulations.
- Received 54 citizen concerns regarding hazardous waste, 37 of which resulted in a field investigation.

Hazardous Waste Compliance and Enforcement Efforts

- Conducted 14 inspections of commercial hazardous waste treatment/storage/disposal facilities, two of which resulted in the issuance of a notice of violation.
- Conducted one case development inspection.
- Issued one penalty negotiation letter.
- Worked with the Attorney General's Office to prepare two settlement agreements.
- Resolved and closed seven hazardous waste enforcement cases.
- Received eight new enforcement cases and issued four letters of intent to initiate enforcement action.

Complete Roofing Company Inc. - Imperial

Complete Roofing Company Inc. is a commercial roofing installer whose waste was illegally disposed on another person's private property.

The company:

- Failed to determine if waste was hazardous.
- Failed to use a licensed transporter.
- Failed to use a permitted treatment storage and disposal facility.
- Failed to use a hazardous waste manifest for shipment.

As a result of the department's actions:

- Eight drums of hazardous waste were properly disposed.
- 18 drums of nonhazardous waste were properly disposed.
- All areas of contamination were excavated (three areas down to bedrock).
- All solid waste was removed from the site.
- A locking cable was installed across the driveway to prevent further dumping.

The penalty was \$43,582.26, of which \$16,000 was suspended contingent on the facility not committing any repeat or Class I violations for two years following the effective date of the settlement agreement. Twenty-thousand dollars will be paid in four quarterly payments (\$5,000 each) to the Jefferson County School Fund. Of the remaining settlement, the company spent \$4,000 for a supplemental environmental project to clean up all solid waste at the site and to install a locking mechanism to prevent further dumping. In addition, the company paid \$3,582.26 to the department for sampling and oversight costs it incurred related to the cleanup.

Solvent Recovery, LLC - Kansas City

Solvent Recovery, LLC is a commercial hazardous waste management facility.

In September 2009, the facility:

- Failed to operate permitted machinery in a manner to protect human health and the environment.
- Failed to obtain permit modifications before altering permitted storage areas.
- Failed to have adequate secondary containment for liquid waste in permitted storage.
- Blended hazardous waste fuel components in a tanker truck instead of a permitted tank.

In September 2010, the facility failed to have operational overfill prevention controls on a permitted hazardous waste storage tank.

As a result of the department's actions, the facility modified its procedures for training employees and operating the involved equipment, properly modified its storage areas and tank system and ceased unpermitted blending. In addition, Solvent Recovery, LLC paid a penalty of \$8,860 to the Jackson County School Fund.

AM Pyrotechnics - Buffalo

AM Pyrotechnics is a fireworks manufacturer and display company. The company failed to make a hazardous waste determination for solid wastes they generated.

As a result of the department's actions, the facility began operating within the confines of the Missouri Hazardous Waste Management Law and Regulations and paid for the rental of a backhoe used to confirm they were not burying hazardous waste.

The penalty of \$280 was paid to the Dallas County School Fund.

Paul Mueller Company - Springfield

Paul Mueller Company is a large quantity generator.

The company:

- Failed to update its hazardous waste generator notification with Missouri.
- Failed to make a hazardous waste determination.
- Stored hazardous waste in excess of the 90 day storage time limit.
- Failed to use containers in good condition.
- Failed to keep containers of hazardous waste closed while in storage.
- Did not clearly mark, label and date containers in storage according to hazardous waste requirements.
- Failed to inspect the facility on a weekly basis.
- Failed to provide adequate aisle space in storage areas.
- Failed to have placards available for transporters.
- Failed to post "No Smoking" signs near ignitable waste.
- Failed to keep satellite accumulation containers closed.
- Failed to mark satellite accumulation containers with beginning date of accumulation.
- Failed to have a device capable of summoning emergency assistance in the hazardous waste operations area.
- Failed to have emergency coordinator on-site or on-call identified.
- Failed to have contact information for emergency coordinators listed in plan.
- Failed to designate primary emergency coordinator.
- Failed to have the contingency plan list emergency equipment.

As a result of the department's actions, the facility currently has all hazardous waste go through the safety department before going to storage, has its hazardous waste transporter on a regular pickup interval to prevent any hazardous waste from being stored on-site for longer than 90 days, reclaims oil from all its absorbents including rags and floor dry, sends its oil-contaminated absorbents to Circle Environmental, has switched one parts washer to a new water-based solvent and plans to switch the remaining four parts washers to the water-based solvent.

The penalty was \$5,760 of which \$2,260 is suspended contingent on the facility's not committing any Class I violations for two years following the effective date of the settlement agreement. The remaining penalty of \$3,500 shall be paid to the Greene County School Fund.

Tanks Compliance and Enforcement Unit

The Tanks Compliance and Enforcement Unit has worked with the regulated community, the Missouri Petroleum Storage Tank Insurance Fund and the Missouri Petroleum Marketers and Convenience Store Association to draft rule changes pertaining to the operational aspects of underground storage tanks. With the rapid development of new equipment in recent years, this effort is geared toward updating the underground storage tank regulations to better align with the industry of today and help prevent future releases. These changes also include expanded oversight authority for new installations, required closure for all out of use tank systems, better assessments for steel tanks to remain in use, more detailed reporting of underground storage tank system tests and evaluations, and clarification of vague or ambiguous language.

Missouri Department of Natural Resources - Hazardous Waste Program

Compliance and Enforcement Section

The Missouri Legislature recently passed a bill that initiates action by the Petroleum Storage Tank Insurance Fund for underground storage tank operator training. A member of the Tanks Compliance and Enforcement Unit will be serving as the liaison with the Petroleum Storage Tank Insurance Fund on this project, with staff from the Tanks Compliance and Enforcement Unit, the Tanks Section and other department sections providing input and support.

The department began inspecting every new tank installation in 2009. Not only has this effort been very successful in confirming and documenting the equipment installed, but has made great strides in ensuring tanks are installed in accordance with manufacturer requirements and industry standards.

In addition to compliance and operational issues, the Tanks Compliance and Enforcement Unit continues to use the expedited referral process previously approved by the Hazardous Waste Management Commission. The dedicated efforts of those involved with this procedure have reduced the number of facilities without a documented financial responsibility mechanism.

During April through June 2011, the Tanks Section referred seven facilities with financial responsibility violations to the Tanks Compliance and Enforcement Unit for enforcement action. Tanks Compliance and Enforcement Unit staff resolved 16 enforcement cases, nine of which had financial responsibility violations. The unit also referred three facilities to the Attorney General's Office for enforcement action, two of which had a financial responsibility violation.

Polychlorinated Biphenyl Inspector

The Polychlorinated Biphenyl inspector conducted 32 compliance inspections at various types of facilities throughout the state. The reports are forwarded to the U.S. Environmental Protection Agency Region 7, which has authority for taking any necessary enforcement action regarding PCBs according to the Toxic Substances Control Act.

Hazardous Waste Transporter Inspector

The Hazardous Waste Transporter inspector conducted five commercial vehicle inspections, during which two vehicles were placed out of service. As part of the Commercial Vehicle Safety Association's protocol, the department sends the reports to the Missouri Highway Patrol. The transporter must certify to the patrol the violations were corrected.

The inspector also inspected three commercial transporter facilities during this quarter. The inspector joined a hazardous waste inspector from Kansas City Regional Office to inspect an unlicensed transporter hauling used oil and hazardous waste and burning it for fuel. The transporter inspector also visited two facilities that had obtained an EPA identification number to haul used oil or hazardous waste but had not finished the process to obtain a transporter license. One of these facilities was no longer in business and the other chose not to continue hauling used oil or hazardous waste.

As of June 2011, there were 218 licensed hazardous waste transporters in Missouri.

The Annual Groundwater Monitoring Report

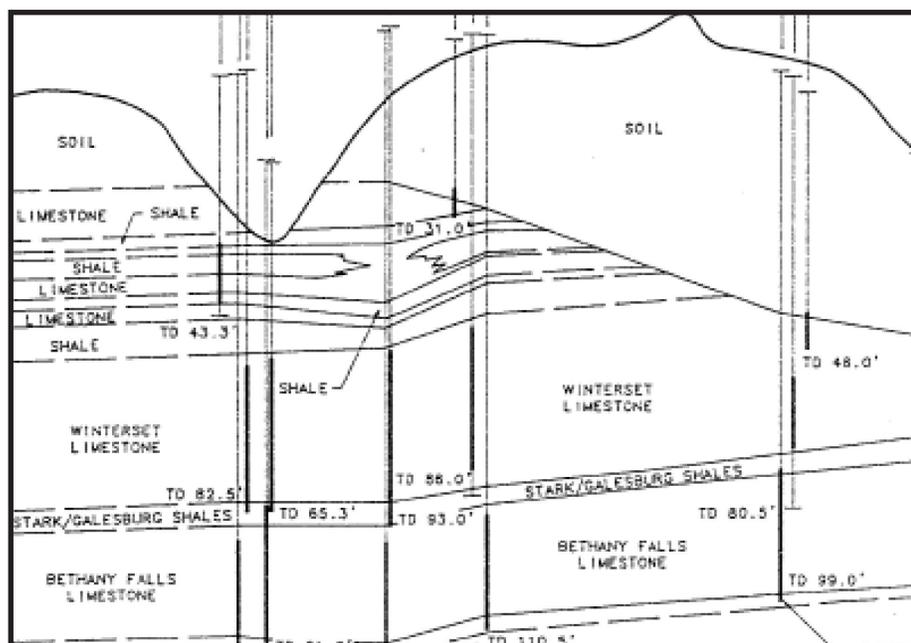
Missouri's Hazardous Waste Program is substantively equivalent to and authorized by the U.S. Environmental Protection Agency to operate in place of EPA under the Resource Conservation and Recovery Act, also known as RCRA. Missouri's RCRA-equivalent hazardous waste law and regulations require interim status and permitted hazardous waste facilities that currently or formerly treat, store or dispose of hazardous waste in land-based units such as landfills, surface impoundments, land treatment units and some waste piles to carry out a groundwater monitoring program.

Monitor

Groundwater monitoring programs represent the last line of defense by ensuring any hazardous wastes and hazardous constituents released to groundwater are discovered and cleaned up in a timely manner. The program at each facility is designed to detect and measure releases to the environment from current and formerly active land-based units. The facility is required to periodically sample monitoring wells strategically placed around the site and test the groundwater for specific chemicals based on the waste they manage. A statistically significant increase in the amount of any of the chemicals monitored would indicate a release might have occurred. If additional monitoring shows the chemical levels exceed the groundwater protection standards specified in the facility's permit, the facility is required to clean up the release. These activities, known as corrective action, reduce risks to human health and the environment. If the facility is performing corrective action, the groundwater monitoring program is used to measure the extent of the release, the contaminant concentrations, whether or not the contamination is moving and, if active cleanup is underway, the cleanup progress, or whether the clean up efforts are capturing the contaminated groundwater or reducing the contamination level.

Report

As part of its groundwater monitoring program, each facility is required to submit groundwater monitoring reports to the department on an established schedule. Most facilities are required to submit one comprehensive report per year. Some facilities are also required to submit one, or even three, abbreviated versions of the yearly report. The purpose of the Annual Groundwater Monitoring Report is to document groundwater sampling events that occurred at the facility during the previous calendar year and evaluate the facility's groundwater monitoring program. The scope of the report should include the operating goals of the monitoring system, the monitoring results and whether the monitoring system is adequate for the intended use.

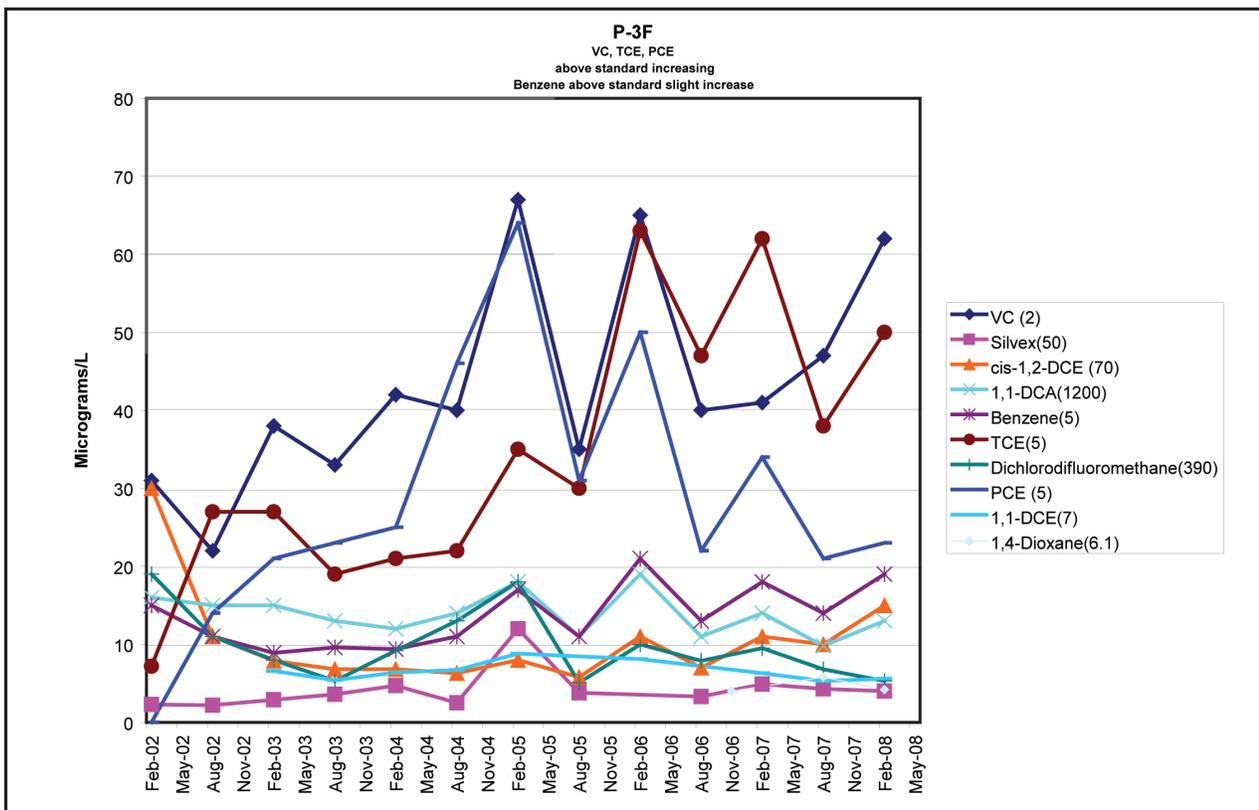


Illustrated cross section of underlying geologic conditions and monitoring wells.

Wells grouped closely together, but at varying depths, are used to estimate the vertical gradient, vertical flow rate and direction. The water level between two wells is divided by the distance between the mid-points of the two screened intervals, giving the vertical gradient. This is also used to estimate the groundwater's vertical flow rate and direction.

As previously mentioned, the facility must also document groundwater sampling events that occurred at the facility during the previous calendar year. The facility must discuss the sampling frequencies and methods used to analyze the samples, as well as any changes in methods or equipment. The facility must include copies of the original laboratory reports in addition to any data tables.

The facility must analyze the sampling results. If the facility is just monitoring the groundwater for evidence of a possible release, it is required to statistically evaluate the sample results to determine if any statistical evidence of a release exists. If the facility is performing corrective action, it is also required to show the horizontal and vertical extent of the contamination. Lines representing locations with equal contaminant concentrations are drawn on maps and then evaluated to determine the direction of contaminant movement. Contaminant trend graphs for each well are evaluated to determine if the contamination concentrations are increasing, decreasing or remaining stable. Facilities performing corrective action must also discuss the effectiveness of its corrective action activities, including contaminant removal, control of water movement, trend graphs in selected wells, etc. The facility should also identify any need for additional monitoring wells. For example, if contaminants are present in sufficient amounts at the down-gradient edge of the monitoring system, similar to "downstream" for surface water, additional wells may be required.



Trend graph of contaminant concentrations at a single well.

Review

With the help of a checklist, the permits section reviews and evaluates each annual groundwater monitoring report submitted by the facility. The checklist, designed by the permits section, is based on the required elements in Code of Federal Regulations 40 CFR 264, which is incorporated by reference in Code of State Regulations 10 CSR 25-7.264. The checklist also includes elements based on the technical expertise and historical experiences of the permits section's groundwater and corrective action unit. On average, the section completes about 20 reviews per year.

The permits section reviews the facility's contour maps for proper contouring and to determine if the downgradient direction(s) have remained the same. If questions surface during this part of the review, the section may choose to prepare its own maps for comparison. The quality assurance and quality control data from each sampling event is reviewed to assure consistent, reliable and representative data.

The permits section then reviews the facility's statistical analysis. The reports from facilities performing detection monitoring are reviewed for evidence of a release. The permits section has a computer program that can perform statistical analyses of the groundwater data. This program can also compare a well against a performance standard or against the well's own history. The reports from facilities performing corrective action are reviewed to determine if the corrective action activities occurring at the site are effective.

Follow-Up

The permits section completes the annual groundwater report review checklist and forwards a copy to the facility. The checklist may contain comments, recommendations or suggestions the section believes will help improve the quality of future reports. The section also notifies the facility about any inadequacies significant enough to cause concern regarding the extent of contamination, the ability to detect contamination, or lack of representative data to support knowledge of site conditions. The section requires the facility to address these issues within a specified time frame and assists the facility with any questions.

Litton Systems Site Tour

On May 4, a field trip was conducted to the former Litton Systems site in Springfield. The trip was hosted by Northrop Grumman Guidance and Electronics Company Inc., current owner of the former Litton Systems site, Stantec Consulting Corp., primary consultant for site investigation and remediation efforts and TRS (Thermal Remediation Services), the electrical resistive heating contractor for soil cleanup at the site. The purpose of the trip was for state project managers and other interested persons to learn about the application of electrical resistive heating to the cleanup of soils contaminated with volatile organic compounds.

Formal presentations were given about:

- Site contamination.
- Electrical resistive heating.
- Site remediation efforts.

Afterward, attendees traveled to the site to see the application of electrical resistive heating at the original acid pit area

of concern. This treatment area is approximately two acres in size. Approximately 277 electrodes are being used to treat an estimated 150,000 pounds of contamination in tight clay soils, mostly trichloroethylene. Electrical current is being used to vaporize the contamination, which is then captured through a vapor extraction system and incinerated. It is anticipated the current treatment area will be heated for about six months, reaching a site-wide average temperature above 90 degrees centigrade. After soil cleanup goals have been obtained, natural microorganisms will multiply from the heat that remains in the subsurface. This provides a "polishing" effect and continues to remediate any remaining contamination through reductive dechlorination. Northrop Grumman has enhanced this process through the injection of food grade emulsified vegetable oil into the treatment area.



Litton site in Springfield.



The electrical resistive heating treatment area of the Litton site.

Missouri Department of Natural Resources - Hazardous Waste Program Superfund Section

Superfund Section

A total of 27 people attended the field trip. Representatives from the Department of Health and Senior Services, Springfield Regional Office, Division of Geology and Land Survey (Wellhead Protection and Underground Injection Control staff) and from the Hazardous Waste Program attended.



The tour of the Litton site included several presentations.

Environmental Council of the States Tour and Meeting

On April 12 and 13, 2011, Aaron Schmidt, Division of Environmental Quality Deputy Director; David Lamb, Hazardous Waste Program Director; Branden Doster, Hazardous Waste Program, Federal Facilities Section and Raymond Franson, Hazardous Waste Program, Federal Facilities Section; attended the Environmental Council of the States, or ECOS, Federal Facilities Forum in Henderson, Nevada.

ECOS is a national non-profit, non-partisan association of state and territorial environmental agency leaders. The purpose of ECOS is to improve the capability of state environmental agencies and its leaders to protect and improve human health and the environment of the United States. The Federal Facilities Forum works closely with the Department of Energy Office of Environmental Management on hazardous waste cleanup issues including decommissioning, clean up and restoration of sites within the nuclear weapons complex.

Twenty-six people attended the meeting, which included state environmental regulatory personnel from nine states. The regulatory personnel represented states where Department of Energy Office of Environmental Management cleanups are occurring. Missouri was invited because of recent cleanups in the St. Louis and Kansas City areas and the State's experience with transitioning long-term stewardship sites from Department of Energy Office of Environmental Management to the Department of Energy Office of Legacy Management.

The first day of the meeting was devoted to a tour of the 1,360 square mile Nevada National Security Site, formerly the Nevada Test Site. The tour covered only a portion of the site including the:

1. Frenchman Flat and Yucca Flat where aboveground nuclear tests were conducted.
2. Area-5 Low-Level Radioactive Waste Management Site where low-level radioactive waste is being entombed.
3. ICECAP site where a below-ground test was in preparation when below-ground testing ceased in 1992.
4. Sedan Crater, which was created by a below-ground nuclear device test.
5. Site where the Weapons of Mass Destruction and Radiation/Nuclear Course for Hazardous Materials is conducted.

The tour provided an important point of reference for the regulatory personnel. All of the regulatory personnel that attended the tour work on cleanup of Department of Energy sites used to develop and construct weapons tested at the Nevada National Security Site. In the past, the department has also sent Environmental Emergency Response personnel to the Weapons of Mass Destruction emergency training at this site.

The morning of the second day was devoted to a Federal Facilities Forum meeting, which focused on main issues at Department of Energy sites where attendees currently work. Matthew Jones, ECOS Senior Project Manager specifically requested submission of issues that can be addressed by the Federal Facilities Forum. Shirley J. Olinger, Associate Principal Deputy for Corporate Operations at the Office of Environmental Management, spoke to the Federal Facilities Forum after lunch. Her presentation focused on how 110 sites in 35 states in 1989 has been reduced to 18 sites in 11 states as of 2010 and the Office of Environmental Management vision to reduce this to one large site

and eight small sites by 2020. The reduction in sites over time means the sites were or will be completely cleaned up or transferred to long-term stewardship in the Department of Energy Legacy Management. The Weldon Spring Site near St. Louis is one of the sites moved from active Office of Environmental Management cleanup to long term stewardship in the Legacy Management program.

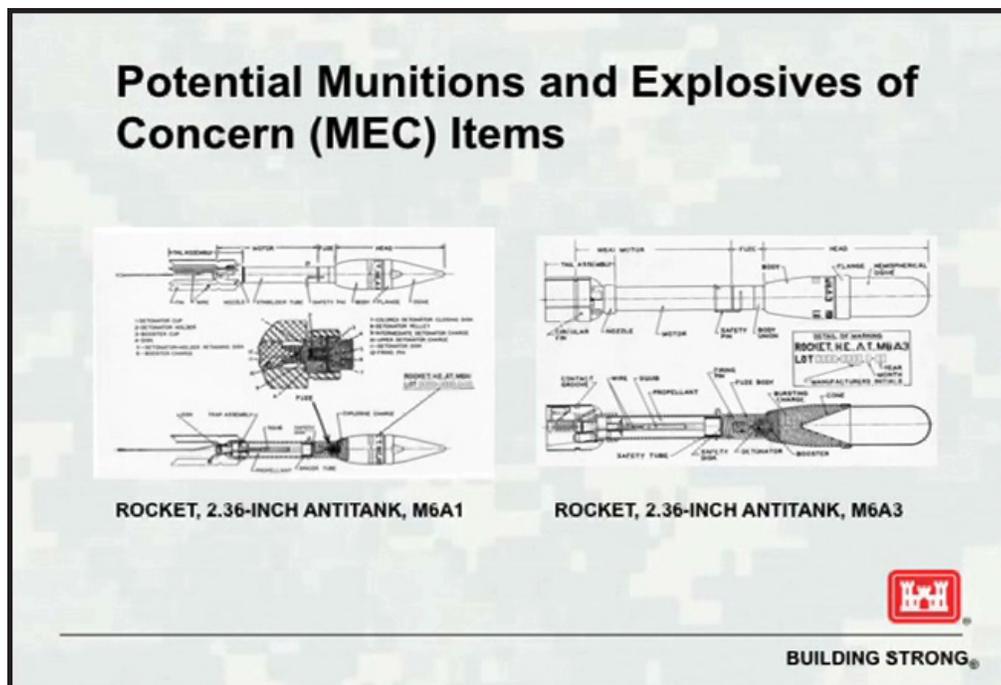
Unexploded Ordnance Training for Department Staff

It was no April Fools joke when James Mars provided an Unexploded Ordnance Safety Training to department staff on April 1. Mars is a Safety and Occupational Health Specialist with the U.S. Army Corps of Engineers - Omaha District and is trained in finding unexploded ordnance and safely disposing of it. The training was provided for department staff, including Missouri State Parks staff. Some of Missouri's state parks have history associated with military training. These parks may have the potential for unexploded ordnance to remain in the area.



James Mars provided an Unexploded Ordnance Safety Training to department staff.

Especially during World War II, areas throughout Missouri were used to train soldiers to use various weapons. However, these properties may not have been thoroughly cleared of ammunition, bazooka rounds and other types of munitions. The presentation was recorded and will be used as a future training resource for staff.



A slide showing possible unexploded ordnances.

Tanks Section holds workshop at the Missouri Waste Control Coalition Conference

The Hazardous Waste Program's Tanks Section held a Tanks Workshop as part of the Missouri Waste Control Coalition Conference at the Lodge of the Four Seasons Hotel at Lake of the Ozarks. This was the fourth annual workshop in conjunction with the Missouri Waste Coalition events. This conference was targeted toward environmental consultants who provide services to tank owners and operators and provided consultants with information and training regarding groundwater plume stability evaluation methodologies.

The full-day workshop included presentations from department staff along with private consultants, private laboratories and others. The tanks section also hosted an information booth as part of the conference.

The workshop incorporated a fully interactive training about how to analyze plume stability.

Attendees worked alongside Joe Ricker as he explained his method of calculating plume stability. The Tanks Section has been using his method and it has greatly helped the section's ability to accurately and timely analyze plume stability.

Plume stability, or knowing where contamination is in groundwater, how contaminated the groundwater is and where the contamination is going, is an essential part of the Missouri Risk-Based Corrective Action process. The training better informed the consulting world about Ricker's method of plume stability analysis and its application as it applies to tank remediation sites.

Some of the other topics presented during the workshop include:

- Delineation of soil and groundwater contamination.
- Information needed for evaluation of groundwater for domestic use.
- Justifying the exposure model.
- Compliance procedure.

Presentations from the workshop are available on the Tanks Section's website at dnr.mo.gov/env/hwp/tanks/conftrainings.htm.

Closure Inspections

Closure inspections have been conducted by department inspectors since the 1990s. In 2005, budget issues resulted in all tank inspections, including closure inspections, being put on hold.

Nearly three years ago, the tanks section began conducting closure inspections again. These inspections play an important role in ensuring adherence to the closure guidance. Each tank site offers different challenges. With tanks section staff available challenges can be addressed first hand. This allows the closure work to progress with little



Tank closure inspections give department first-hand knowledge about the site.

interruption. These inspections can help speed up the review process. This first hand knowledge of the site means there should be no surprises when it comes to reviewing the closure report.

The tanks section strives to make it to every closure.

Consultants have come to expect and want tanks section staff on hand for situations just like that. Working hand in hand with consultants and owner/operators on these compliance issues make for an improved underground storage tank program in Missouri.



The Tanks Section strives to make it to every closure.

At present, the tanks section's closure and technology unit is down one person. Mike Washburn who used to handle release responses has moved to the Brownfields Voluntary Cleanup Program. Brett Bottomley has taken over his duties and Hillary Clark has taken over Brett's closure notice duties.

23rd National Tanks Conference in St. Louis

The 23rd National Tanks Conference and Expo conference will be held March 19 through 21, 2012 in St. Louis.

The Annual National Tanks Conference and Exposition is produced by the New England Interstate Water Pollution Control Commission, in conjunction with the U.S. Environmental Protection Agency's Office of Underground Storage Tanks, the Association of State and Territorial Solid Waste Management Officials and Missouri.

The purpose of this event is to provide learning and networking opportunities for federal, state and tribal colleagues in the underground storage community. The focus is about progress, priorities and plans for the pursuit of a common goal, to find new and better ways to work together to protect human health and the environment from tank releases.

Missouri Department of Natural Resources - Hazardous Waste Program
Tanks Section

Petroleum Storage
Tanks Regulation
June 2011

Staff Productivity	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	TOTAL
Documents received for review	183	230	165	178	168	170	193	165	184	166	179	150	2,131
Remediation documents processed	194	151	164	128	207	171	133	124	170	152	127	110	1,831
Closure reports processed	14	14	14	15	11	7	10	10	7	8	7	6	123
Closure notices approved	8	2	4	10	7	8	8	13	9	8	11	9	97
Tank installation notices received	3	2	6	6	5	6	2	3	2	3	9	5	52
New site registrations	4	3	7	3	0	3	4	2	2	0	4	2	34
Facility Data													
Total active and closed USTs	40,065	40,072	40,075	40,094	40,108	40,124	40,150	40,169	40,176	40,189	40,206	40,216	
Total permanently closed USTs	30,539	30,571	30,595	30,617	30,646	30,667	30,688	30,708	30,732	30,757	30,772	30,795	
USTs active and temporarily closed	9,526	9,501	9,480	9,477	9,462	9,457	9,462	9,461	9,444	9,430	9,432	9,419	
USTs in temporary closure	918	889	883	890	850	863	866	863	851	851	846	838	
Total hazardous substance USTs	394	394	395	395	395	395	395	395	395	395	395	395	
Facilities with active USTs	3,606	3,592	3,587	3,586	3,581	3,578	3,580	3,579	3,576	3,574	3,577	3,578	

Closures

Underground Storage Tanks	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	TOTAL	All Yrs
Closure Reports Reviewed	14	14	14	15	11	7	10	10	7	8	7	6	123	
Closure Notices Approved	8	2	4	10	7	8	8	13	9	8	11	9	97	
Number of Tanks Closed (Closure NFA)	12	61	56	24	59	20	32	39	25	15	24	18	385	

Cleanup

Underground Storage Tanks	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	TOTAL	All Yrs
UST release files opened this month	6	10	10	7	6	7	8	2	4	4	5	0	69	6,279
UST cleanups completed this month	8	16	21	4	14	6	8	5	22	5	5	7	121	5,412
Ongoing UST cleanups	911	905	900	903	895	895	895	891	874	873	873	867		
Aboveground Storage Tanks														
AST release files opened this month	0	1	1	0	1	0	2	2	1	1	0	0	9	440
AST cleanups completed this month	2	1	0	0	0	1	0	1	3	1	0	1	10	270
Ongoing AST cleanups	166	166	167	167	168	167	169	170	168	168	168	170		
Both UST and AST														
Total release files-both UST & AST	0	0	0	2	0	1	0	1	0	0	0	0	4	74
Cleanups completed-both UST & AST	0	1	0	0	0	0	1	0	0	0	0	0	2	43
Ongoing cleanups-both UST & AST	28	27	27	29	29	31	30	31	31	31	31	31		
Unknown Source														
Total release files-unknown source	1	1	3	2	5	2	0	0	2	1	3	3	23	299
Cleanups completed-unknown source	1	1	5	1	6	3	1	0	1	1	2	0	22	193
Ongoing cleanups-unknown source	126	122	110	109	110	109	108	108	107	103	103	106		
Documents Processed	194	151	164	128	207	171	133	124	170	152	127	110	1,831	

Effective December 2008 tanks with unknown substance will be included in total figures. Some measures are re-calculated each month for all previous months to reflect items added or edited after the end of the previous reporting period.