

# Lake City Environmental Newsletter

## Environmental Compliance

The Lake City Army Ammunition Plant Industrial Wastewater Treatment Plant (IWTP) will be upgraded as part of a Department of the Army funded 12 million dollar project. The project will include the following improvements:

- 2 new equalizations tanks (increase equalization basins by 200%)
- 2 Parallel Plate Clarifiers
- 2 additional gravity filters
- New Building for the Parallel Plate Clarifiers and gravity filters
- 2 new lime reactors
- 2 new stabilization tanks
- New solids contact clarifier

The existing IWTP treats oil/grease and heavy metals (copper, zinc and lead) before discharging to the Little Blue Valley Sewer District (LBVSD). This project will increase the detention time or allow more time for the wastewater to be treated. The project is scheduled to break ground in July and the scheduled completion date is July 2012.



## **Environmental Remediation**

The Department of the Army has is investigating new and innovative methods to treat waste streams at Lake City. A phytoremediation system was installed in 2007 by ARCADIS (Department of the Army Remediation Contractor) to treat the chlorinated Volatile Organic Compounds (VOC's) at an area located near the east gate. In additions to the treatment of VOC's, the phytoemediation system helps reduce surfacing of groundwater and provides hydraulic control of groundwater.

Phytoremediation (from the Ancient Greek (phyto, plant) and Latin remedium (restoring balance or remediation) describes the treatment of environmental problems through the use of plants that mitigate the environmental problem without the need to excavate the contaminated material and dispose of it elsewhere. Phytoremediation is a passive treatment approached that uses plants and trees to clean up contaminated soil and water.

Phytoremidation uses one basic concept: the plant takes the pollutant, in this case VOC's through the roots. The pollutant can be stored in the plant (phytoextraction), volatized by the plant (phytovolatization), metabolized by the plant (phytodegradation), or any combination of the above.

At Lake City, we are using the phytovolatzation method. This mechanism takes a solid or liquid and transfers it to an airborne vapor.

Phytoremediation is more than just planting and letting the foliage grow; the site must be engineered to prevent erosion and flooding and maximize pollutant uptake. Poplar trees were selected because they are fast growing and have a shallow root system (3 to 6 feet) the depth of the VOC's in this area.

The Phytoremediastion system can be seen on the east side of Buckner Road in between gates 52 and 51 near the East gate.



Phyto Area – Location 1



Phyto Area – Location 3

## **Awards**

For the ten consecutive year, the Missouri Water Environment Association (MWEA) presented to ATK Small Caliber Systems, a Industrial Wastewater Pretreatment Compliance Award. The MWEA is a non-profit organization dedicated to the preservation and enhancement of water quality and water resources, and the relationship of these resources to the total environment.

This award is presented to industries in the State of Missouri that are in compliance with wastewater discharges and reporting requirements, with no more than minor violations and must have a good working relation with the nominating sewer district (Little Blue Valley Sewer District). The award was presented at the annual MWEA meeting held in April 2011.



## Green Projects

The Lake City drinking water plant produces a little over 1 million gallons of water per day to supply water for plant process operations, steam generation, and drinking water. The drinking water plant also produces approximately 2500 cubic yards of drinking water plant sludge annually. The sludge is comprised primarily of lime and the naturally occurring metals found in ground water.

Until two years ago the Lake City Army Ammunition Plant would remove sludge from the drinking water plant lagoons and land apply this sludge to grassland areas on the plant property. This activity was fully permitted and authorized by the Missouri Department of Natural Resources. With changing government restrictions, this practice was stopped and ATK needed to find an alternate method to dispose of this significant quantity of sludge. Typical industrial practice for this type of material would be to place this sludge in a land fill, but through innovative thinking and an opportunity for landfill avoidance, the ATK Production Enterprise System (PES) Team and Environmental Engineering coordinated with Lafarge Sugar Creek Cement Plant to develop this sludge for reuse instead of a waste.

Lafarge typically uses crushed lime stone from its quarry as the primary feed stock to the cement kiln. The drinking water plant's sludge has a high lime content that makes it a satisfactory feed stock supplement for Lafarge's cement plant. Starting in August 2011, the vegetation will be cleared from the lagoons and Lafarge will perform an initial test run on 200 tons of sludge. The initial test run will help Lafarge establish all of its feed rates and material handling needs. If this test run is successful, Lafarge will use approximately 2500 tons of sludge from the lagoons. This project is an example of innovative thinking that offers ATK Small Caliber Systems a landfill avoidance and Lafarge a feed stock savings opportunity.



## Around the Community

ATK Small Caliber Systems was once again represented at the City of Blue Springs Missouri Household Hazardous Waste event that was held on April 16, at the Pink Hill Park Maintenance Garage in north Blue Springs.

This event accepted household products such as automotive products, antifreeze, batteries, CFL light bulbs, fertilizers, flammables, fuels, hazardous cleaners, hazardous liquids, hazardous cleaners, lawn and garden products, paint, pesticides, photographic chemicals, pool chemicals, solvents and used oil. The materials that were not accepted were explosives, yard waste, commercial wastes, pressurized gas cylinders, asbestos, tires and appliances.

For more information on these activities, check out the Mid-America Regional Council Household Hazardous Waste (HHW) Program at [WWW.RECYCLESPO.TORG](http://WWW.RECYCLESPO.TORG) or call 816-474-TEAM.



ATK members include left to right:(George Abbott, Environmental Engineer, Tonya Aggson, Environmental Engineer and Pam Lyon, Quality Engineer).

## The City of Blue Springs Recycling Center

The city of Blue Springs recently opened the Pink Hill Park Municipal Recycling Center. It is located at 1201 NW Park Road at the northwest corner of Pink Hill Park. Park Road is 1/3 mile south of Pink Hill Road, on the west side of 7 Highway. There is no cost to use the facility; it is open to residents, non-residents and businesses.

### Hours of operation:

- Wednesdays 10 a.m.-6 p.m.
- Saturdays 8 a.m. -4 p.m.
- Sunday 8 a.m. – 4 p.m.

### The recycling center will accept:

- Office, shredded paper & magazines
- Cardboard, paperboard
- Plastics #1 (bottles)
- Plastics #2 (containers)
- Plastics #3-7 (containers)
- Aluminum
- Steel/tin cans
- Glass



## **ISO14001:2004 Certification**

ATK Small Caliber Systems is pursuing ISO 14001 Certification through an independent registrar, BSI. ISO stands for the International Organization for Standardization. ISO promotes the development and implementation of voluntary standards for environmental management issues. The ISO 14001 Standard requires that an organization put in place and implement a series of practices and procedures that, when taken together, result in an Environmental Management System.

One of the main parts of the EMS is the policy statement which includes commitments to prevent pollution, continue improvement of the EMS leading to improvements in overall environmental performance, and compliance with all applicable statutory and regulatory requirements.

Some of the potential benefits of the EMS include the following:

- Improvements in overall environmental performance and compliance
- Provide a framework for using pollution prevention practices to meet EMS objectives
- Increased efficiency and potential cost savings when managing environmental obligations
- Promote predictability and consistency in managing environmental obligations
- More effective targeting of scarce environmental management resources
- Enhance public posture and outside stakeholders

ATK has completed both the Stage 1 and 2 Audits and we are anticipating receiving the ISO 14001:2004 certification process within the next several weeks.

The ISO 14001 certification process began in 2002 and it has taken the work of a lot of dedicated ATK employees to accomplish this task. ATK Small Caliber Systems is one of only two ATK facilities that has applied for this certification.

