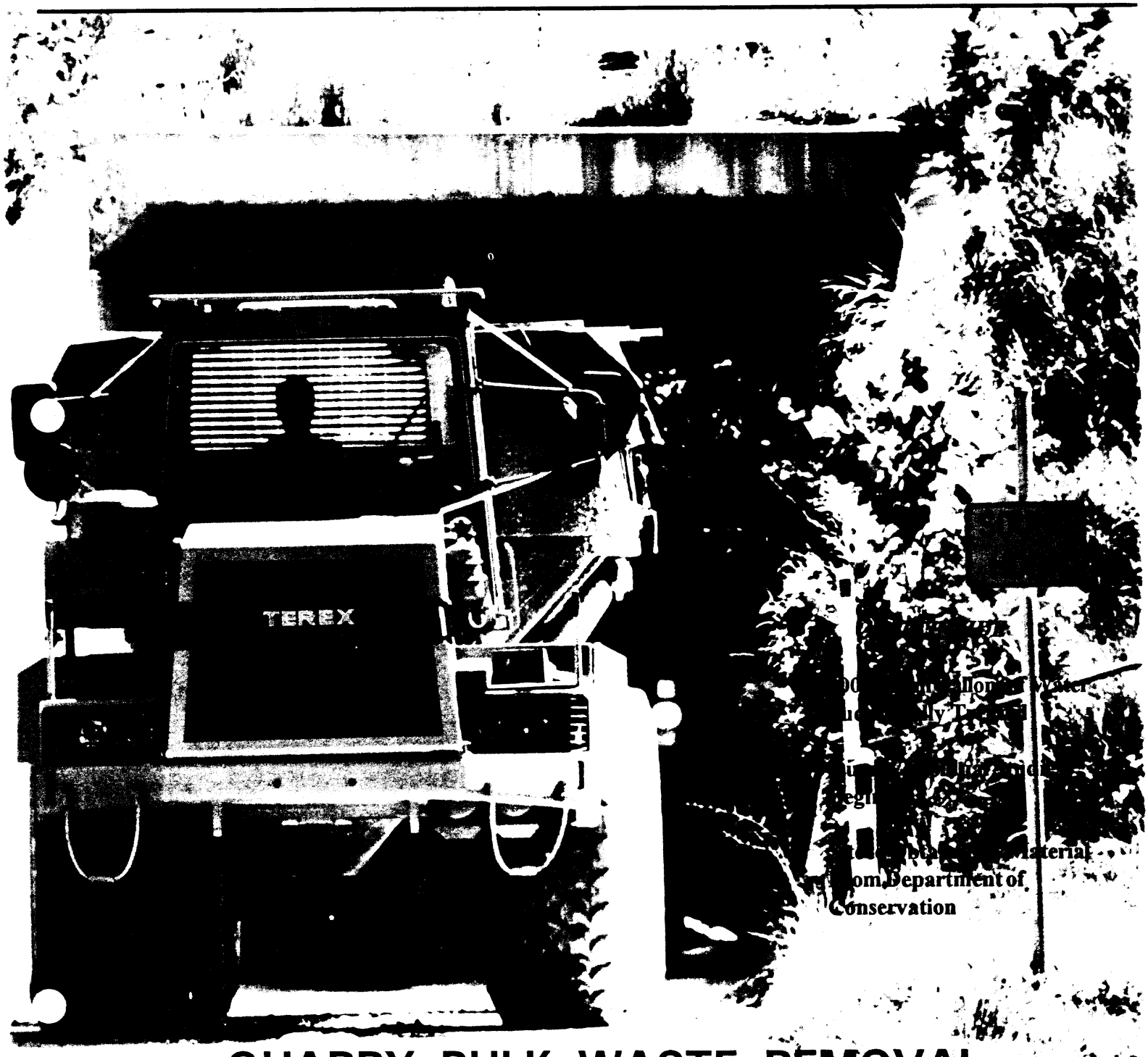
# WSSRAP

## UPDATE

VOL. 7 NO. 1

SUMMER/FALL '95

*Distributed to residents of St. Charles County to report on the progress of the Weldon Spring Site Remedial Action Project*




# QUARRY BULK WASTE REMOVAL ESSENTIALLY COMPLETE

# Quarry Bulk Waste Removal Complete

Probably by the time this is distributed, the Weldon Spring Site will have completed removal of contaminated bulk waste from the Weldon Spring Quarry, a major milestone in the cleanup of the Weldon Spring Site.

Once used as a dump site for chemical and radiological waste, the quarry is one of the more critical projects of the Weldon Spring restoration program.

Destined for a temporary waste storage area at the plant site, trucks have carried some 112,000 cubic yards of contaminated soil, metal, rock and building rubble from the quarry pit.

*Bulk waste excavation activities, April, 1994.*

The excavation of the quarry waste left an empty basin, with a floor area covering more than two acres and highwalls reaching upward 60 feet. The nine acre quarry site is located near a well field that serves much of St. Charles County. Although no contamination had migrated from the quarry to the drinking water wells, it was imperative that the possibility of such an occurrence be eliminated. Removal of the bulk waste took away the major source of contamination, thus removing potential health and environmental risks associated with these materials. In this respect, the milestone event will mark a huge step toward meeting one of the primary goals of the project -- to eliminate potential hazards to the public and environment.

**Cover Photo: Shows the final Quarry Bulk Waste as it is transported to the Temporary Storage Area (TSA).**

According to Quarry Project Manager Gene Valett, painstaking care is required to ensure that production is accomplished without compromising the goals of safety and environmental protection. "Through inspections and monitoring no contaminated material left the controlled quarry site except in containers or securely covered truck beds," says Mr. Valett. "No contamination has been lost along the haul road en route to its destination. And no truck has left the storage area without first being thoroughly cleaned and inspected to ensure a contamination-free return trip."

Approximately 11,000 round trips totalling 88,000 miles, without incident, represents an accomplishment attributable to a hard-nosed and very effective safety awareness program.

The haul road from the quarry to the chemical plant is dedicated solely to waste hauling. The route is nearly four miles long and includes an underpass to take waste haulers beneath Highway 94 near the quarry site, thus avoiding any crossing of this winding stretch of road with contaminated material.

Bulk waste removal at the quarry began on May 27, 1993. Excavation required not only unearthing the burried material, but also segregation of bulk metal and drums from mixed wastes

that included soils and sediments, pond sludges, rubble, rock and concrete and nitroaromatic contaminated soils.

Initially, waste was removed and transported from the quarry in rolloff boxes. Midway through the program, pilot studies and experimentation showed that haul trucks with tarp covers securing the loads, would contain contamination and result in a more efficient operation. This method was adopted for the remainder of the work.

A potentially large problem will be reduced to manageable proportions with the completion of quarry bulk waste removal.

*Contaminated soil carefully placed in haul trucks*

# 100 Million Gallons of Water Treated

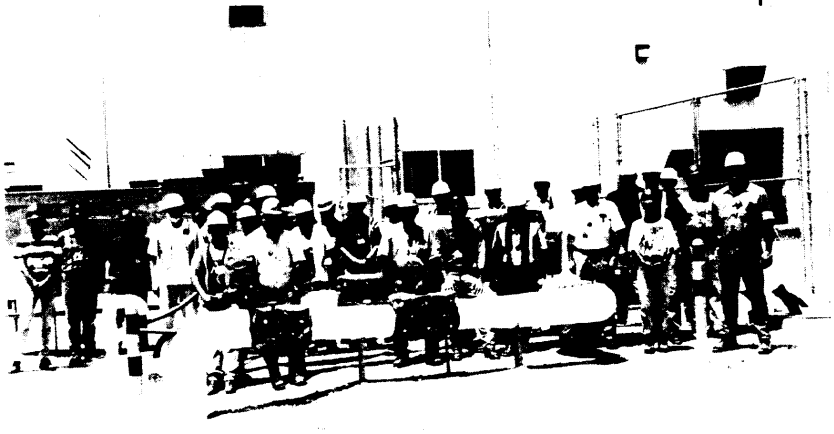
On August 13, 1995, the WSSRAP Water Treatment team celebrated the successful treatment of 100 million gallons of water at the project's two water treatment plants.

Reaching this total is significant in that it also represents over 100 batches of water treated to levels better than with the State required permit.

The WSSRAP operates two water treatment plants, one at the Weldon Spring Quarry, and a second located at the Chemical Plant Site.

The first batch of water from the Quarry Water Treatment Plant was released in January of 1993. The first batch from the Site Water Treatment Plant was released in May of the same year.

Ed Valdez, DOE Project Engineer, says the milestone represents great teamwork by many individuals over a two year period of time.



*Water Treatment Plant Team members*

# WE'RE GETTING

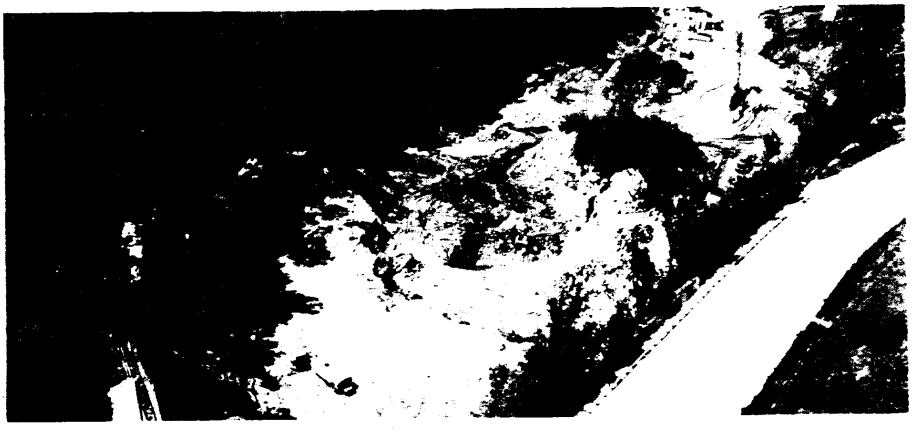
1993

*From 1942 to 1969, contaminated debris from various operations were dumped into the Weldon Spring Quarry.*

*May, 1993: The first load of material was transported up the dedicated haul road to the chemical plant site.*

*January 7, 1993: The first batch of treated water from the Weldon Spring Quarry was successfully treated and released. The water treatment operation was part of a larger effort to remove bulk waste from the quarry.*

# THE JOB DONE

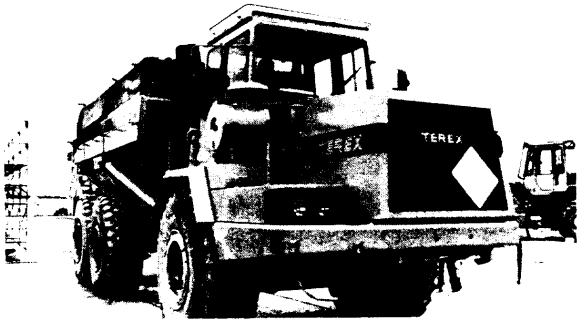


1995

*Nearly 3,000 barrels were excavated from the quarry.*

*The bulk wastes are stored in a temporary, secure storage area at the chemical plant site awaiting final disposal.*

*The original haul method utilized a roll-off box design (upper right). This proved to be an inefficient method to transport waste. The redesigned plan used a more conventional "dump truck" design (lower right).*



# Clay Soil for Disposal Facility to be "Borrowed" from Neighboring Land

The Department of Energy plans to excavate approximately two million cubic yards of clay soil material to be used in construction of the Weldon Spring Site Disposal Cell.

Specific uses for this material will be foundation backfill, clay liners, and clean fill perimeter dikes. The clay soil will also be utilized for site regrading following waste excavation.

***The term "borrow area" is used by engineers to describe a source of soil to be transported to another area for construction purposes.***

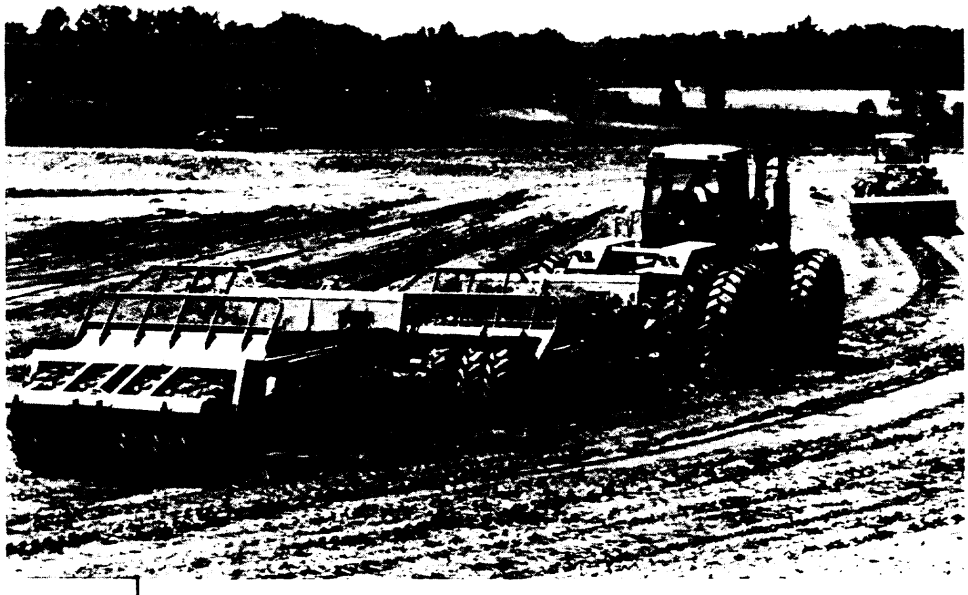
The Missouri Department of Conservation (MDC) has approved a plan for removal of this material from a portion of the Weldon Spring Conservation Area, approximately 1000 feet east of Francis Howell High School.

The material will be transported on a dedicated haul road to be constructed from the borrow area to the Chemical Plant site. The term "borrow area" is used by engineers to describe a source of soil to be transported to another area for construction purposes.

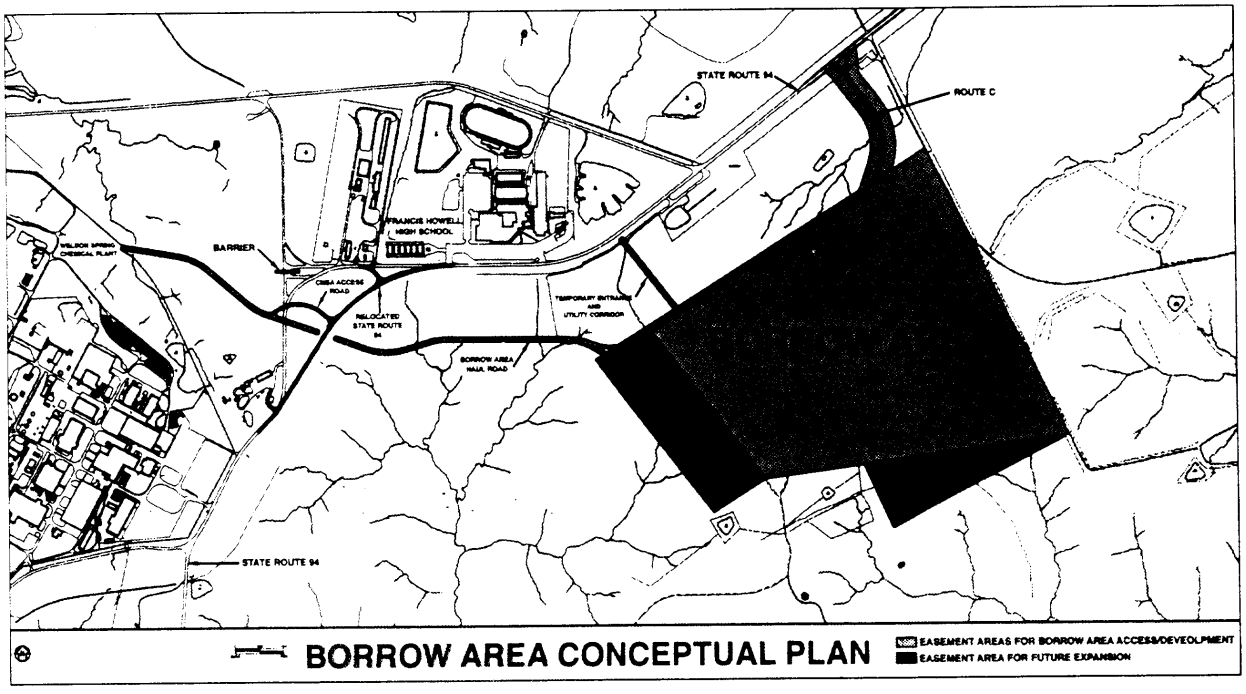
Kenyon Warbritton, Borrow Area Project Manager, says extensive tests on compactability of the clay soil were made during the past year. "We were looking for a clay material that is highly impervious to water when compacted," Mr. Warbritton explains, "and we found the right quality and quantity of material within two miles of the site."

Much of the material will be taken from a ridge in the area of the borrow easement. At completion, the area will be smoothed over and graded to drain. Topsoil, mulch and seed will be added and all borrow facilities will be removed as outlined in the agreement with MDC.

Mr. Warbritton says the area was surveyed last year to determine if any archaeological sites or historical resources would be affected by disturbing or removing the soil. No significant sites were identified and the project has received clearance from the State Historic Preservation Officer for this proposed work. The area was also surveyed from an ecological standpoint to check for threatened or endangered species and wetland areas. No threatened or endangered species were identified, and an agreement with MDC was signed to mitigate any loss of wetlands by creation of a wetlands area on MDC property."



*Earthmoving operations at the Borrow Area*




The borrow area comprises over 190 acres of land that includes 150 acres for borrow development and operations. The remaining acreage will be used as a dedicated haul road leading from the Borrow Area, underneath a relocated segment of Highway 94, and enter the chemical plant at the northern portion of the site.

DOE is working with the Missouri Highway and Transportation Department and Missouri Department of Conservation to reach agreement on relocating a portion of Highway 94, with an underpass structure included in order for the borrow haul road to pass beneath the relocated highway.

This underpass will enable safe crossing of Highway 94 by borrow operations traffic. An added benefit for St. Charles County will be the elimination of a 90 degree curve in Highway 94 that has been the scene of numerous accidents. An access from the relocated highway segment to the borrow haul road will enable truck traffic from commercial material sources such as sand and gravel to enter the site, says Mr. Warbritton. It is expected that trucks will be hauling material from the Borrow Area for several years on an eight hour day, five days a week basis. This haul operation will take place from the spring to fall for a total of about six months each year during the Borrow Area operation.

"We will compensate the Conservation Department at a rate determined by U. S. Corps of Engineers real estate specialists," Mr. Warbritton says. "Also, we will provide funding of $30,000 to MDC for construction of the wetlands area on the Busch Conservation Area. The wetlands area will provide mitigation for the loss of wetlands in the borrow area and will provide for the loss of aquatic habitat on the chemical plant site."

# Quarry Residual Work To Commence

With excavation and removal of the contaminated bulk waste from the Weldon Spring Quarry nearly complete, follow-up studies assessing the effectiveness of the cleanup and the possible need for further remediation have begun as part of the Quarry Residuals Operable Unit.

In addition to field work, WSSRAP's Environmental Documentation Department and Argonne National Laboratories have started preparation of the environmental documentation required under Environmental Protection Agency (EPA) regulations.

According to Jean Pier, who supervises this work for the WSSRAP, a number of field studies are currently in progress or are scheduled to begin in the early fall. These studies include examining the surface water, rock and soils remaining inside the quarry and groundwater and surface water features adjacent to the quarry.

Pier states, "A primary focus of this activity is to refine the boundary of contaminated groundwater downhill from the quarry and to model the proximity of the St. Charles County Wellfield to the quarry. We need to get a firm understanding of the groundwater system and its potential to adversely impact the wellfield."

Pier adds that the flooding of the Missouri River has been a particular problem for these investigations. Many studies have been delayed and some will have to be modified to meet documentation deadlines or to adjust to changes in the condition of flooded areas. The ecological studies have been particularly hard-hit because the floods have altered or destroyed much of the natural habitat on the Missouri flood plain.

The first step in the decision process for the Quarry Residuals will be the Remedial Investigation Report, which is expected to be available to the public in early 1997.

## WSSRAP Information Available To Public

**The Department of Energy (DOE) at the Weldon Spring Site Remedial Action Project (WSSRAP) announces the availability of the WSSRAP Public Information Line, an informational telephone recording of updates on site progress and activities.**

**The WSSRAP Public Information Line can be reached 24 hours a day at (314) 926-7027. Site representatives are also available at (314) 441-8086 Monday through Friday, during regular business hours, to provide further information.**

*WSSRAP Update*

Published by the
Community Relations Department
of WSSRAP,
a U.S. Department of Energy Project in
St. Charles County, Missouri

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