

Environmental Monitor

April 2010

State Regulators Identify Remedies for Depot Sites

by Ann Mead, PCD Project Manager

The Colorado Department of Public Health and Environment (CDPHE) proposed modifications to the Pueblo Chemical Depot (PCD) hazardous waste permit to change the remedy at Solid Waste Management Unit (SWMU) 28, to add remedies for three other SWMUs, and to reassign compliance wells.

SWMU 28 (Eastern Mid-Plume Area): The remedy at SWMU 28 is changed from monitored natural attenuation to enhanced reductive dechlorination, a process that uses nutrients to stimulate growth of naturally occurring bacteria that break down contamination.

SWMU 45 (Disposal Area North of the Disassembly Plant): SWMU 45, a 50-acre area along the western boundary of PCD, was used for open burning/open detonation of munitions and disposal activities. Contaminants include munitions debris (MD) and explosives. The remedy for SWMU 45 includes collection of MD at one area, excavation and mechanical separation of MD at a second area, surveying to determine whether any munitions and explosives of concern are present, quality assurance/quality control checks of these activities, and the use of land use controls (LUCs).

SWMU 50 (Sandblast Bldg. 546): SWMU 50 in the Industrial Reuse Area was used for paint removal operations (sandblasting) and as a vehicle maintenance shop. The remedy, no further action (NFA) with LUCs restricting the area for industrial use, is described in a Justification Document for NFA, which PCD prepared and modified in late 2009 and CDPHE recently approved

SWMU 56 (Building 543): A 60 x 80-foot enclosure at this general storage warehouse in the southern Industrial Reuse Area was used until 1970 to stockpile several hundred metric tons of mercury. The remedy for SWMU 50 is a combination of debris removal, vacuuming of mercury-contaminated concrete and soil, building demolition, excavation, and off-site disposal of contaminated soil, with LUCs.

Compliance Wells: Changes were made to reassign compliance wells in the South Central Terrace area to various SWMUs or segments of the groundwater plume to ensure that contaminated groundwater does not bypass treatment. CDPHE uses the data from these wells to verify that treatment works.

CDPHE held a public comment period on the draft permit modifications from December 27, 2009 to February 3, 2010. Following review of all comments,

CDPHE finalized these permit modifications March 8, 2010. ♦



SWMU Locations

Modifications to PCD's Hazardous Waste Permit

CDPHE periodically modifies the PCD hazardous waste permit to add or change remedies for different areas on the Depot or to change compliance requirements. PCD's hazardous waste permit is a dynamic document, which is modified by the State as cleanup considerations change at each SWMU.

During the cleanup process, PCD and CDPHE work together in the investigation and cleanup of each SWMU. The state may change cleanup approaches as more information is received, cleanup work progresses, or contamination is reduced. All modifications to PCD's hazardous waste permit are issued by CDPHE. Some minor modifications are made without public comment and others are made following a public comment period after consideration of comments received.

The *Environmental Monitor* is published quarterly by Pueblo Chemical Depot for the citizens of Pueblo County and surrounding communities. Editorial views and opinions expressed in this publication are not necessarily those of the Department of the Army.

The *Environmental Monitor* encourages comments, questions, and suggestions. Please direct all correspondence to the Public Affairs Office, Pueblo Chemical Depot, 45825 Hwy. 96E, Bldg. 1, Pueblo, CO 81006-9330, or call 719-549-4135.

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Depot Submits Biennial Hazardous Waste Report

by Shawn Weary, PCD Environmental Protection Specialist

Federal and state regulations govern how facilities manage, transport, and dispose of hazardous waste. For specific Resource Conservation and Recovery Act (RCRA) facilities, these rules include reporting hazardous waste activities every other year in odd-numbered years. Both the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) receive information on how PCD generates and manages hazardous waste. This information shows trends and changes in quantity and management of waste types. The regulators supply this information to the public by publishing the National Biennial RCRA Hazardous Waste Report.

PCD, a large quantity generator, submitted its 2009 Biennial Hazardous Waste Report in February 2010. The report is a compilation of data for all hazardous waste that PCD shipped in 2009. PCD reports waste by specific types and includes information such as EPA and state hazardous waste codes, quantities, treatment facility information, and management method codes.

Most of PCD's waste comes from remediation work, such as used filters, filter media (spent carbon), purge water, and remediation-derived waste soil. PCD also generates waste from normal operations, such as paint-related materials and laboratory wastes.



Hazardous waste drums in storage at PCD

Also in February 2010, PCD submitted its 2009 Annual Tier II Emergency and Hazardous Chemical Inventory in compliance with Emergency Planning and Community Right-to-Know Act requirements. PCD distributes this report annually to the Pueblo Office of Emergency Preparedness, the Colorado Emergency Planning Commission, and the PCD Fire Department. The reports keep these organizations up to date on quantities and storage locations of PCD's hazardous materials. Report information includes gasoline and diesel tanks and chemical tanks at PCD's groundwater treatment plants. ◇

PCD Receives Additional Cleanup Funds

by Ann Mead, PCD Project Manager

For the past few years, most work at the PCD solid waste management units (SWMUs) has focused on the South Central Terrace and Southwest Terrace. For 2010, however, PCD received additional funding, and plans to increase work at 11 other SWMUs to move each closer to completion. Work planned at each SWMU varies depending on the current stage of cleanup. For example, at SWMUs 34 and 38, PCD will conduct a supplemental Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) and prepare a report. A supplemental RFI is necessary if the original investigation did not adequately define the nature and extent of contamination.

When PCD has defined the nature and extent of contamination, the next step depends on whether potential risk exists. If the RFI did not identify contamination above established risk criteria, PCD prepares a No Further Action (NFA) petition. SWMUs 21, 35, and 41 are at the NFA petition stage. If state regulators approve the petitions, they will modify PCD's hazardous waste permit to designate work at these SWMUs as complete. (See **Additional Funds**, page 3)



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--PUBLIC NOTICE--

U.S. ARMY PUEBLO CHEMICAL DEPOT

PCD RECEIVES CLASS 1 PERMIT MODIFICATION

Pueblo Chemical Depot (PCD) received the following Class 1 permit modification to its Colorado Department of Public Health and Environment (CDPHE) Hazardous Waste Permit # CO-02-08-08-01.

Modification: Removal of the Satellite Accumulation Point in Building 45.

Due to a change in process, the waste stream of spent battery acid associated with the Satellite Accumulation Point in Building 45 is no longer being produced. A modification request to remove this Satellite Accumulation Point was approved on March 12, 2010.

Questions or comments regarding these public notices may be directed to the permittee's contact personnel:

Kathryn Cain
Environmental Management Office
Pueblo Chemical Depot
Telephone: (719) 549-4201

Chuck Sprague
Public Affairs Office
Pueblo Chemical Depot
Telephone: (719) 549-4135

Or the Department's contact personnel:

Deb Anderson
(303) 692-3379
Colorado Department of Public Health and Environment
HMWMD-B2, 4300 Cherry Creek Drive South
Denver, CO 80246-1530
Toll-Free: 1 (888) 569-1831

This notice is published in accordance with 6 Code of Colorado Regulations (CCR) 1007-3, Section 100.63(a), requiring notice of Class 1 permit modification approval, to all individuals on PCD's mailing list.

The modification can be reviewed at the repositories located at the Boone Fire Station, Avondale Water & Sanitation District, Pueblo Chemical Depot Document Tracking Center, and the Robert Hoag Rawlings Library.

Additional Funds (continued from page 2)

If contamination exists above established risk criteria, PCD must complete a corrective measures study (CMS) to develop and evaluate various remedial alternatives. If additional data are needed to adequately compare different remedies, PCD prepares a CMS work plan for gathering the data. Six SWMUs require a CMS. Four of these (SWMUs 25, 39, 40, and 43) require CMS work plans. State regulators already approved work plans for SWMUs 19 and 57, so PCD will implement these plans. Additional funding will also be used at SWMU 57 to implement a remedy and close the site when the State selects a remedy through the CMS process.

Look for future issues of the *Monitor* to keep you updated on progress at these sites. ◇

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Earth Day Still Going Strong at 40!

By Kathryn Cain, PCD Environmental Manager

Earth Day, which celebrates its 40th birthday this year, had its origins almost 50 years ago. In 1962, Senator Gaylord Nelson of Wisconsin had a dream for lawmakers in Washington D.C. to get on board with the growing environmental agenda. That year, author Rachel Carson published *Silent Spring*, a book documenting the disastrous effects of pesticides on the environment. Public environmental awareness grew after several environmental disasters, such as the 1969 Santa Barbara oil spill in California and the burning Cuyahoga River in Cleveland, Ohio. These types of events alarmed many Americans, who began to support environmental efforts coast to coast.

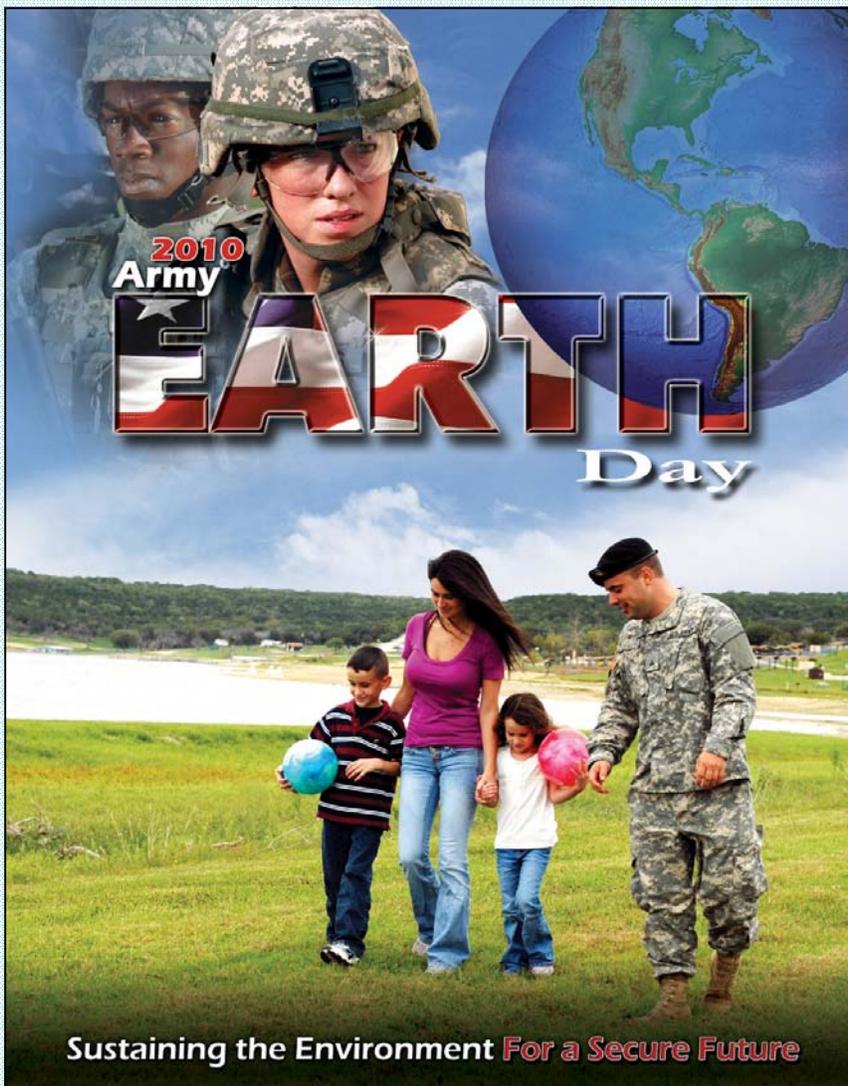
Noting the success of “teach-ins” held on college campuses, Nelson worked tirelessly for more than seven years to raise awareness at colleges and universities. With his encouragement, college students helped organize the first Earth Day celebration on April 22, 1970, which saw 20 million Americans celebrating nationwide. That same year, President Nixon created the U.S. Environmental Protection Agency. The next ten years saw more environmental disasters, such as Love Canal and Three Mile Island, as well as environmental legislation including the Safe Drinking Water Act, Resource Conservation and Recovery Act, and the Clean Air Act passed into law.

In the 40 years since the first Earth Day, the Great Lakes have been cleaned up significantly; Lake Erie is no longer considered a dying lake. Throughout the country and the world, lawmakers and regulators have made great strides in cleaning up our environment. Lives are being saved, people are healthier, and the environ-

ment is safer. Americans recognize the need to recycle, save energy, and reduce health risks. We can thank those early pioneers like Nelson and Carson, who recognized a dire need for awareness and action.

Although Nelson did not intend Earth Day to become an annual event, we’ve been celebrating it ever since. In fact, by 2000, an estimated 184 countries held formal Earth Day celebrations. For more information about Earth Day or to find out how you can celebrate, go to www.nelsonearthday.net, search “Earth Day” on the internet, or visit the public library.

PCD will celebrate Earth Day 2010 with fun and educational opportunities for our workforce and for Avondale Elementary School Students. ♦





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SWMU 17 Remedy Construction Completed

By Tim Kilgannon, PCD Project Manager

Cleaning up the contamination source areas at the TNT Washout Facility (Solid Waste Management Unit [SWMU] 17) is a top priority for Pueblo Chemical Depot (PCD) to shorten the time the boundary treatment systems must operate. PCD hired Shaw Environmental, Inc. (Shaw) in 2008 to design and construct the remedy and to clean up the source areas as quickly as possible. Shaw has now completed the construction.

The SWMU 17 site was a former explosives washout facility used to reclaim the explosives. The washout water containing explosives contamination was released into ponds and traveled in ditches to holding and overflow areas. These ponds and ditches were unlined; thus contamination reached groundwater, which eventually traveled off PCD. Treatment has occurred at the boundary since 2000, but now treatment is occurring at the source, which will speed up the overall cleanup timeframe.

The remedy for SWMU 17 includes in-situ (in-place) bioremediation that uses sodium lactate, which, when mixed with the groundwater, stimulates the naturally occurring bacteria to breakdown the explosives-related contaminants. In other words, the bacteria digest the contaminants as their food source!

The remedy uses two cleanup methods. The first one, used in some of the source areas,

requires a series of extraction and injection wells. When the system pumps water out of the ground, the water mixes with sodium lactate and then is injected back into the groundwater aquifer. The second method, used in other areas, uses infiltration galleries that are like leach fields used in common household septic systems. Extraction wells pull the water out of the aquifer, the sodium lactate mixes with the water, and then it is sent out to the infiltration gallery, which is a series of pipes with holes in them that allow the water to percolate into the lower groundwater.



Installed infiltration gallery at SWMU 17 following excavation of explosives contaminated soil. This area will be backfilled with clean soil.

All wells, infiltration galleries, and piping are now in place, so treatment is underway. During the next few months PCD and Shaw will gather data to assess the remedy's effectiveness, so stay tuned for future news about cleanup at SWMU 17. ♦



Installation of the infiltration gallery at SWMU 17 leach bed

Calendar of Events

April 8: Restoration Advisory Board Tour of Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP)

April 12: Restoration Advisory Board (RAB) Meeting

April 22: PCD Earth Day Celebration

May 5: Annual Chemical Stockpile Emergency Preparedness Plan (CSEPP) Readiness Exercise

May: Annual RCRA Inspection



CONTACT US If you have questions about the environmental restoration projects or base reuse, please call: Chuck Sprague, Pueblo Chemical Depot (PCD) Public Affairs Officer, 719-549-4135 • Kathryn Cain, Chief, PCD Environmental Management Office, 719-549-4201

Or return this form to: U.S. Army Pueblo Chemical Depot, 45825 Hwy. 96E, Building 54, Pueblo, CO 81006-9330

Would you like to be added to our mailing list? Yes No

Please complete the following: Name _____ Address _____
City/State/Zip _____ Phone (optional) _____ Email (optional) _____

The PCD Environmental Program schedules presentations that can be given to community groups, clubs, and schools. If you know of a group that might be interested, please complete the following:

Name _____ Address _____
City/State/Zip _____ Phone _____ Email _____



U.S. ARMY PUEBLO CHEMICAL DEPOT

Environmental Monitor

ENVIRONMENTAL MANAGEMENT OFFICE

45825 Highway 96 East, Building 54
Pueblo, Colorado 81006-9330

Information Repositories

Boone Fire Station: 421 E. 1st St, Boone, CO, (719) 947-3311
Hours: 8 a.m. to 2 p.m. M-Th

Robert Hoag Rawlings Public Library: 100 East Abriendo, Pueblo, CO, (719) 562-5600
Hours: 9 a.m. to 9 p.m. M-Th; 9 a.m. to 6 p.m. F-Sat;
1 p.m. to 5 p.m. Sun

Avondale Water & Sanitation District: 321 3rd St,
Avondale, CO, (719) 947-3186
Hours: 8 a.m. to 5 p.m. M-F (closed 12:00 to 1:00 p.m. for lunch)

Pueblo Chemical Depot Document Tracking Center
Environmental Management Office, (719) 549-4268
Hours: 6:30 a.m. to 5 p.m. M-Th

Additional Contacts

Deb Anderson, Project Manager, (303) 692-3379 or (888) 569-1831, ext. 3379
Jeannine Natterman, Public Information Officer, (303) 692-3303 or (888) 569-1831, ext. 3303
Hazardous Materials and Waste Management Division,
Colorado Department of Public Health and Environment

Vera Moritz, Program Manager, U.S. Environmental Protection Agency, (303) 312-6981

Heather Maio, Environmental Health Director, Pueblo City-County Health Department, (719) 583-4321