

Lake County General Health District  
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## An Update From the Diamond Shamrock Community Relations Team

### Shoreline Improvements in Progress

The Diamond Shamrock Community Relations Team (DSCRT) was established in October 1995 to inform the public about the Diamond Shamrock Painesville Works Site. The team, made up of representatives from Ohio EPA, Lake County General Health District, Lake County Utilities, the Painesville PRP Group, Hemisphere Corporation, public officials from the City of Painesville, Painesville Township and Fairport Harbor, and citizens from each of those communities, meets on a quarterly basis.

The Lakeview Bluffs Lake Erie shoreline erosion protection construction is well underway. The 2,300 feet of former coke plant shoreline is due to be completed by the end of October 2007. Next year, the last project phase, consisting of the remaining 1,200 feet of Lake Erie shoreline, should be completed. Once completed, the project will provide erosion protection for the site's entire 5,900 feet of Lake Erie shoreline, making the Lakeview Bluffs project one of the largest and most comprehensive shoreline protection projects on Lake Erie.

The Lake Erie shoreline erosion protection construction consists of three engineered layers: first, a layer of small bedding stone; second, a layer of larger stone; and third, a top layer of 3 to 6 ton armor stone. Each piece of armor stone is individually marked and placed by the lakefront engineer, JJR of Ann Arbor, Michigan. The structure works by dissipating wave energy within the armor stone structure. The new design incorporates areas of historical sheet pile protection, where appropriate, and removes damaged sheet pile consistent with the lakefront plan, in an aesthetically appealing design.

In addition to the Lake Erie shoreline improvements, extensive work has been completed to enhance the scenic Grand River corridor through the site. This work has improved both the appearance and stability of the Grand River along OU7. As part of this project, the first phase of a major trail section anticipating public access along the entire Grand River corridor, which transverses the Site, was constructed. During the construction of these improvements, a thick (3 to 8 feet) layer of hard, stabilized Solvay process solids was removed from the dike face along the river. In addition, the dike was re-graded to provide a stable slope. The new dike face was planted with native grass, trees and bushes, with advice from both Ohio EPA and Ohio Department of Natural Resources, on the best types of vegetation to enhance the Grand River corridor. Approximately 12,000 individual tree stakes were hand planted along the Grand River's new bank.

The material removed from the dike face was placed within OU7 to form part of the new base required for the planned development, including golf holes and baseball, tennis and soccer fields. The OU7 Feasibility Study will address the balance of outstanding environmental issues in this area.

# The Diamond Shamrock COMMUNITY RELATIONS TEAM

Issue 11 • FALL 2007

The Diamond Shamrock Community Relations Team is a responsive community team dedicated to communicating information and addressing public concerns regarding the investigation of the Diamond Shamrock Painesville Works Site.

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## Golf Course Redevelopment Begins

After years of extensive design, engineering and permitting approvals involving local, state and federal regulatory authorities, golf course grading work will commence in August in OU16. This work will form the foundation for the golf holes and facilities designed on OU16. Approximately 500,000 cubic yards of additional clay cap material will be added to the existing cap surface, to create the base grading for the golf course. The new finished golf course construction on top of this base is planned to begin in early 2008, with the addition of an 18-24 inch sand cap and final seeding. This work should be completed in late 2008/early 2009. The balance of the golf course throughout the site also should be completed within this timeframe.

The new construction will maintain and substantially improve existing environmental controls currently in place, in accordance with detailed plan approvals from both U.S. EPA and Ohio EPA. In 1983, pursuant to an agreement reached with U.S. EPA, Tierra capped the historical chromium ore processing residue ("COPR") landfill in OU16. The historical cap was constructed utilizing three primary design features: (1) a layer of fly ash designed to preclude any potential upward contaminant migration; (2) a clean clay cap; and (3) a seeded topsoil layer.

The new golf course, however, will provide a creative recreational end-use, while at the same time providing the opportunity to pro-actively improve the ex-

isting remedy, already approved by U.S. EPA. These improvements will be made through several major enhancements: (1) the addition of approximately 500,000 yards of new clean clay material; (2) compacting the entire landfill cap to meet a strict design specification; and (3) the installation of an elaborate new cap drainage system.

After lengthy consideration and securing formal approvals from both Ohio EPA and U.S. EPA, this adaptive reuse project will provide a sophisticated drainage system to decrease potential rainfall and golf course irrigation migration into the cap. Supplementing the existing cap with substantial new, compacted clay material also will decrease cap permeability, in accordance with a detailed engineering design. Cap maintenance also will be enhanced to meet the golf course's needs.

These improvements are designed to use the best available and most reliable technology to achieve the project team's goal of permanently meeting applicable environmental standards on all areas of the site. Groundwater monitoring in OU16 has been performed in compliance with existing regulatory requirements, as part of the same U.S. EPA Order, for the past 24 years. When the chromium plant closed in 1971 (36 years ago), chromium concentrations downstream from OU16 were significantly reduced. In 1983, when the landfill was formally closed in accordance with U.S.

EPA's requirements, significant additional improvements toward reaching water quality standards in the Grand River have been evident.

In 2004, a sheet pile wall was installed to cut-off groundwater flow under the landfill in the southeast corner of OU16. These improvements were expanded to the west in 2005. Also in 2005, a groundwater collection system was installed to capture groundwater flow under the cap before reaching the Grand River.

Due to the remedial design and improvements over the past years, extensive groundwater monitoring in the Grand River has demonstrated that groundwater flow to the Grand River from OU16 now meets stringent surface water standards, an accomplishment that would have been hard to imagine in 1971. Due to these remedial activities, based on EPA required sampling conducted along the OU16 boundary, concentrations of both hexavalent chromium and total chromium in the Grand River have met human health drinking water standards since the year 2000. Total chromium concentrations in the Grand River also have met aquatic water quality standards for the past 7 years (since 2000). Nonetheless, a comprehensive groundwater monitoring system still will be maintained, subject to state and federal oversight, to ensure that any potential water quality exceedances are promptly addressed. (cont. on next page)

## Improvements on Operable Unit 4

Operable Unit 4 (OU4), located on the western portion of the Site, south of the Grand River, was used for brine storage during the operation of the Diamond Shamrock Painesville Works. OU4 contained a two-acre pond, which was used to store brine as back-up for the facility. The brine was removed after the facility closed and the pond filled with rain water and became a favorite swimming hole for Canadian geese.

In May, 2007, through an Interim Action under the 1995 Orders for the Site, the Painesville PRP Group tested the pond water and sediments, then removed the rain water and demolished the pond, in preparation for site redevelopment activities. Redevelopment plans include the location of a winery and vineyard in this portion of the Site.

During pond demolition activities, three drums and several drum fragments were discovered on the south-western portion of OU4, outside the limits of the pond and proposed winery and vineyard. Two of the drums contained liquid wastes. The Painesville PRP Group immediately addressed the situation by containerizing the drums found to contain liquid waste and installing test trenches to identify the extent of the disposal area. Based on preliminary data, it appears that the drum disposal was related to activities at the former Painesville Township Landfill.

Ohio EPA recently issued a request for information to the Lubrizol Corporation, which disposed of industrial wastes in the landfill. Based on Lubrizol's responses, due to the Agency in late-September, Ohio EPA, the Painesville PRP Group

and Painesville Township will be working together to develop a plan to determine the types and amounts of chemicals present in the area and decide how to best address the contamination.

## Golf Course (cont.)

The additional clay material to be used for these improvements is available from an existing clean clay borrow area located south of OU14 in the City of Painesville. Approximately 1 million cubic yards of clean clay will be used over the next 2 years. This borrow area will be expanded into part of the Site already evaluated and approved without the need for remedial activities by Ohio EPA. In order to use this clean clay on OU16, an existing trail from the borrow area will be improved.

Working with leaders from the City of Painesville, a revised Conditional Use Permit was secured earlier this year to move the clean soil on-site, keeping this truck traffic off the streets of Painesville. A new bridge across the Grand River from OU4 to OU16 is under construction to complete this haul route, and is scheduled to be complete in early October 2007. The expanded borrow area is planned to become part of a new trout pond planned for a later development phase and is being designed with wildlife habitat experts from JJR and Lake Metroparks.

## Vineyard Expansion Taking Shape

Ohio State University, in cooperation with Hemisphere Corporation, is in the process of turning an additional fifteen acres of land within Operable Unit 14 (OU14) into a vineyard. The test plot located on the south eastern portion of the Site has been so successful, that OSU has agreed to assist Hemisphere in developing what will eventually be one of the largest vineyards in northeast Ohio.

The vineyard expansion is lo-

cated in the northwestern corner of OU14, on the surface of the former soup pond. The soils in this area have been determined to be uncontaminated, as they were in the area of the test plot.

OSU is currently preparing soils for planting. Five additional acres of grapes will be planted in the area this coming spring.

Although the test plot was located in a clean area, OSU

tested the grapes, grape vines and the finished wine from the plot in a laboratory, in order to make sure that they would be safe for human consumption. The sampling results were compared to samples of grapes, grape vines and wine collected from other wineries in northeastern Ohio. Based on this comparison, it has been determined that the plants and wine from the Site are no different that those from other wineries.

## Get involved and learn more!

Visit [www.dsart.com](http://www.dsart.com) for more information.

Specific Questions about the DSCRT can be emailed to

[LKUNS@LCGHD.ORG](mailto:LKUNS@LCGHD.ORG)

DSCRT meetings are held quarterly at the Painesville Township Hall at 2:00 p.m.

Meetings scheduled thus far are:

- December 4, 2007

- March 4, 2008

## Well Plugging to Begin

Plugging the last operational natural gas well and an old brine disposal well are scheduled for August/September 2007. The natural gas well produced gas for the Dominion East Ohio distribution system. The historical brine disposal well accepted salt water (brine) generated during the course of production or exploration for oil and natural gas. The brine was disposed of by injecting the brine in deep underground formations, thousands of feet below the ground surface. Both of these wells were owned and operated by others most recently, but were re-acquired to facilitate closure in connection with redevelopment plans.

Tierra Solutions and Hemisphere Corporation have worked with both Ohio EPA and the Ohio Department of Natural Resources (ODNR),

which runs the permitting program for these wells in Ohio. The well closures will be conducted by a licensed contractor with oversight by both the project's environmental consultant and the ODNR. In each case, the permanent well closures will involve setting a deep steel plug and cementing the well casing from the plug to the surface.

## Operable Unit 19 Released

On December 28, 2007, the Decision Document for Operable Unit 19 (OUI9) was signed by the Director of Ohio EPA. Due to the results of sampling during the Remedial Investigation, this property was released from the Site with no remedial action required. This brings the total number of parcels released from the Site to four (4).

## Clean-Ohio Fund Update

The Round One Clean Ohio Fund (CORF) Project has been completed on Operable Unit 15 (OU15). Ohio EPA is in the process of reviewing the final Construction Certification Report for the filling and grading activities on the property. It is anticipated that the document will be approved by mid-September.

Ohio EPA is also in the process of reviewing the draft Feasibility Study Report for OU15. This report takes into account the activities performed on the Site under the Round One CORF activities.

Once both the Construction Certification Report and Feasibility Study have been ap-

proved, Ohio EPA will be preparing a Preferred Plan for OU15 and issuing the document for public comment. It is anticipated that a public hearing for the Preferred Plan will be held in late-Fall 2007.

Once they are finalized, copies of the Construction Certification Report, Feasibility Study and Preferred Plan will be available for public review at Morley Library in Painesville and Fairport Public Library in Fairport Harbor. These documents, as well as the remainder of the Diamond Shamrock public files, are also available for review at the Ohio EPA Northeast District Office in Twinsburg.

Reach us at: [www.dsart.com](http://www.dsart.com)

