

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT**

I. HEADING

DATE: February 21, 2002

SUBJECT: **POLREP for the Valleycrest (North Sanitary) Landfill Site Removal Action, Dayton, Montgomery County, Ohio.**

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POLREP #: POLREP #17 (FINAL for Area 5) with attached photographs of: (1) view of completed Area 5; (2) view of stockpiles to be treated using vapor extraction; and (3) view of Area 2 landfill gas extraction wells as part of the Area 2 Corrective Action Plan.

II. BACKGROUND

Site Number	B543
Response Authority	CERCLA Time Critical Removal, PRP-funded (AOC)
NPL Status	NPL listed 1994, Currently in RI phase with Ohio EPA
Latitude	39°47'14" North
Longitude	84°09'08" West
State Notification	Ohio EPA requested removal - RI/FS concurrent
Start Date	June 23, 1998 (Landfill Gas Abatement System) November 11, 1998 (Area 5 Drum Removal) February 25, 2002 (Area 1 Drum Removal)
Completion Date	July 11, 2001 (Area 5 Drum Removal) January 2003 (Projected for Area 1 Drum Removal)

III. SITE INFORMATION

A. Incident Category

CERCLA incident category: PRP Time Critical Removal at an NPL site

B. Site Description

1. Site location and background

The Valleycrest Landfill site is located at 950 Brandt Pike. The site comprises an area of approximately 100 acres that is separated into east and west portions by north-south trending Valleycrest Drive. The eastern portion of the site comprises approximately 35 acres and the western portion of the site comprises approximately 65 acres. The site is located above the Great Miami Aquifer, which is a sole-source aquifer for the city of Dayton.

The site is located in a mixed urban, industrial, and residential area. The site is bordered on the east and northeast by a residential neighborhood, on the north by several residences. The site is bordered on the southeast by commercial and residential structures and Valley Pike, and on the southwest by the CSX railroad property and residences. The site is bordered on the west by two residences and several industrial facilities, including the Brandt Pike petroleum terminals, Van Dyne Crotty Inc. industrial cleaner facility, and the Hotop demolition landfill.

The site is currently owned by the Keystone Gravel Company of Dayton, Ohio, and was operated as a sand and gravel quarry from before 1935 until the 1970s. In 1966, the site began accepting solid waste and later industrial waste including drums in the eastern portion of the site (Area 1). Filling in the eastern portion of the site continued until approximately 1970. In 1970, the site began accepting waste in the eastern part of the western portion of the site (Area 5) and continued until approximately 1975.

IV. REMOVAL INFORMATION

A. Situation

1. Current situation

Area 5 Drum Removal

In November 1998 a removal action involving the removal of subsurface drums and drum carcasses, drummed contents, and industrial waste was initiated. The work was conducted pursuant to an EPA Administrative Order by Consent (AOC) dated September 10, 1998.

Approximately 26,986 subsurface drums were removed from the eighty-two 50-foot by 50-foot grids identified as removal action areas based on geophysical anomalies. Drums containing hazardous waste solid (containing combinations of polychlorinated biphenyls [PCBs], ignitable waste, sulfides, and/or Toxicity Characteristic Leaching Procedure [TCLP] trichloroethylene [TCE], vinyl chloride, lead, tetrachloroethylene [PCE], benzene, methyl ethyl ketone [MEK], and heptachlor epoxide) and solid waste accounted for 67 percent of the total drums removed in Area 5. In addition, drums defined by the Resource Conservation and Recovery Act (RCRA) as RCRA empty drums totaled approximately 33 percent. Drums containing any measurable liquids (containing combinations of flammable liquids, PCBs, and/or TCLP TCE, vinyl chloride, PCE, benzene, MEK, arsenic, barium, cadmium, chromium, and lead) accounted for less than 3 percent of the total drums (totaling approximately 6,700 gallons collected). Liquid waste from an underground storage tank and rinse water used to aid pumping drummed liquids accounted for 2,845 gallons and approximately 4,500 gallons, respectively.

Excavation, stockpiling, and sampling of all non-drummed material was conducted throughout the works to characterize the material and determine the appropriate disposition. Material below RCRA and Toxic Substances Control Act (TSCA) regulatory limits was backfilled, TCLP volatile organic compound (VOC)-impacted material was maintained on site (pending on-site treatment), and other TCLP-impacted soil and debris was sent for off-site disposal. An estimated 36,000 cubic yards of TCLP VOC-impacted soil and debris (greater than TCLP regulatory limits for TCE and PCE) are currently stockpiled on site pending vapor extraction (VE) treatment. In addition, approximately 6,900 tons of TCLP TCE soil/debris, 280 tons of TCLP chlordane soil/debris, 320 tons of TCLP lead soil/debris, and 3,110 tons of PCB soil/debris were shipped for off-site disposal.

Landfill Gas System

Pursuant to an EPA AOC dated September 10, 1998, the Valleycrest Removal Action Coalition (VRAC) contractors initiated work on the installation of a perimeter landfill gas (LFG) abatement system in June 1998. Seven perimeter LFG extraction systems have been installed (along the north, east, south, and southeast site perimeter) and manifolded into an enclosed flare. VRAC contractors are conducting stack testing of the enclosed flare in 2002 and have completed Phase 1 of 2 of the source emission retest event.

2. Drum Removal and Landfill Gas System Activities since last POLREP

- During the month of **September 2001**, VRAC contractors completed sending out remaining rolloff boxes containing hazardous waste for off-site disposal. Four Seasons Environmental, VRAC environmental contractor, officially demobilized from the site. Conestoga Rovers & Associates (CRA), VRAC environmental contractor, representatives began collecting three Summa canister air samples at the site perimeter, once per week, and analyzing the air samples for Method T0-14 analysis. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives.

On September 14, 2001, CRA submitted the Draft of the Area 1 Drum Removal work plan for EPA review. On September 28, 2001, CRA submitted analytical results for the eighth interim groundwater monitoring event.

VRAC continued to work on the Area 2 Corrective Action Plan. EPA approved the Area 2 Corrective Action Plan to address concerns with explosive levels of methane (between 5% and 15%) migrating off site in Area 2. VRAC contractors installed eight extraction wells in Area 2 (as part of the Area 2 Corrective Action Plan) and tied in the extraction well piping into the main header line of the landfill gas system leading into the enclosed flare. Five additional perimeter compliance probes (TGP-65 through TGP-69) were installed in Area 2 as part of the Area 2 Corrective Action Plan. The landfill gas enclosed flare combustor operated at cycles of approximately 3 hours "on" and 5 hours "off". All perimeter compliance probes showed methane concentrations less than 5% except for TGP-68, which showed a methane concentration as high as 25.6% during the month. VRAC conducted a 10-day monitoring and evaluation period for assessing TGP-68.

On September 6, 2001, VRAC submitted the Final work plan for Phase I Source Emission Retest. The first draft Phase I work plan was submitted to EPA on July 3, 2001, with EPA comments to the draft Phase I work plan submitted to VRAC on August 16, 2001.

On September 21, 2001, VRAC submitted the Final work plan for the Phase II Source Emission Retest. The first draft Phase II work plan was submitted on July 30, 2001, with EPA comments to the draft Phase II work plan submitted to VRAC on September 6, 2001.

- During the month of **October 2001**, CRA representatives continued collecting three Summa canister air samples at the site perimeter, once per week, and analyzing the air samples for Method T0-14 analysis. No elevated VOC concentrations were observed. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. EPA stated to the VRAC that a driller would be needed to be used when sampling the Area 5 stockpiles and the completed backfilled removal grids in Area 1. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives. VRAC began to interview environmental contractors to perform the Area 1 drum removal action. CRA submitted the summary of analytical results collected from Area 5 drum removal activities.

On October 10, 2001, EPA submitted comments to VRAC for the Area 1 Drum Removal Action work plan. On October 25, 2001, EPA Remedial Project Manager (RPM) Dion Novak submitted comments to the Disposal Area 5 Stockpile Treatment work plan submitted by VRAC on September 14, 2001. On October 31, 2001, VRAC requested an extension of time to submit the work plan for the Disposal Area 1 Drum Removal Action until November 13, 2001.

The landfill gas enclosed flare combustor operated at cycles from 2 to 6 hours "on" and 4 to 2 hours "off". The flow rate of the system was approximately 220 to 230 scfm with a vacuum of approximately 0.1 inches. The methane concentration in TGP -68 varied throughout the month. Readings greater than 5% were seen in the beginning of the month and then were reduced to less than 5% once an increase in vacuum was applied in the area close to TGP-68. VRAC stated that there would be a delay in the Phase I Source Emission Retest due to the problems associated with TGP-68. The other compliance probes remained in compliance with perimeter methane percentages consistently reading less than 5%. On October 10, 2001, EPA approved the Revised Phase I work plan for the Source Emission Retest.

- During the month of **November 2001**, CRA representatives continued collecting three Summa canister air samples at the site perimeter, once per week, and analyzing the air samples for Method T0-14 analysis. No elevated VOC concentrations were observed. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F.

Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives.

On November 13, 2001, VRAC submitted comments and revisions to the Draft Area 1 Drum Removal Action work plan. On November 21, 2001, EPA submitted comments and revisions to the November 13, 2001 Area 1 Drum Removal Action work plan. On November 21, 2001, EPA RPM Novak submitted comments for VRAC to revise and resubmit the Area 5 Stockpile Treatment work plan.

The landfill gas enclosed flare combustor operated 16 to 18 hours a day. All compliance probes remained in compliance with perimeter methane percentages consistently reading less than 5% at the site perimeter. On November 20, 2001, VRAC conducted the Phase 1 Source Emission Retest. The objective of the retest was to identify VOCs in the landfill gas before reaching the enclosed flare and once the gas goes through the enclosed flare. Summa canisters were used to collect the air samples. The air samples were then analyzed for Method T0-14 analysis.

On November 29, 2001, EPA submitted comments and modifications to VRAC on the Phase II Source Emission Retest work plan.

- During the month of **December 2001**, CRA representatives continued collecting three Summa canister air samples at the site perimeter, once per week, and analyzing the air samples for Method T0-14 analysis. No elevated VOC concentrations were observed. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives. In addition, EPA and Ohio EPA began meeting every Wednesday with representatives of the Valleycrest Neighborhood Concerned Citizen (VNCC) group for an update on site activities.

On December 4, 2001, a public meeting, moderated by EPA Office of Public Affairs Rafael Gonzalez, was conducted at Stebbins High School. Approximately 150 residents were in attendance. On December 10, 2001, VRAC submitted the Final Area 1 Drum Removal Action work plan. On December 12, 2001, EPA conditionally approved the Final work plan. EPA wants VRAC to monitor the temperature within each complete removal grid by installing temperature probes at the mid-depth of the excavated cell.

The landfill gas enclosed flare combustor operated at cycles from 2 to 3 hours “on” and 4 to 5 hours “off”. Compliance probes remained in compliance with perimeter methane percentages consistently reading less than 5% at the site perimeter.

On December 14, 2001, VRAC submitted the Revised Phase II Source Emission Retest work plan from EPA comments dated November 29, 2001. On December 30, 2001, VRAC submitted the Phase I Source Emission Evaluation Test Final Report.

- During the month of **January 2002**, CRA representatives continued collecting three Summa canister air samples at the site perimeter, once per week, and analyzing the air samples for Method T0-14 analysis. No elevated VOC concentrations were observed. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. CRA proposed removal of the empty soil/debris stockpile pad #s 6, 9, and 10 because they are not in use. CRA submitted ENTACT as their choice for removal contractor in Area 1 for EPA approval. CRA decided to purchase four Scentograph Plus II units (manufactured by Sentex Systems, Inc., www.sentexinc.com/scentograph.html) instead of using Photovac Voyager units to conduct perimeter air monitoring. The Scentograph Plus II (argon ionization detector) units will provide lower detection limits than the Photovac Voyager real-time gas

chromatograph units. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives. In addition, EPA and Ohio EPA met every Wednesday with representatives of the VNCC group for an update on site activities. CRA stated that approximately 150 cubic yards of PCB soil/debris remain on site and will be resampled and properly disposed once ENTACT personnel are mobilized. CRA estimated Area 1 excavation activities to begin late February 2002.

The landfill gas enclosed flare combustor operated at cycles of 3 hours “on” and 3 hours “off”. VRAC stated that the enclosed flare was using more supplemental fuel (propane) for operation than in the past. VRAC stated that the landfill, at times, was not supplying enough methane to keep the enclosed flare operational. Compliance probes remained in compliance with perimeter methane percentages consistently reading less than 5% at the site perimeter except for CP3B-9, which showed a methane concentration of 6.7%. A 10-day monitoring and evaluation period was conducted, and after 10 day monitoring period, the methane concentration in CP3B-9 was less than 5%.

EPA continued to review the Revised Phase II Source Emission Retest work plan submitted by VRAC on December 14, 2001.

- During the month of **February 2002**, CRA representatives continued collecting three Summa canister air samples at the site perimeter, once per week, and analyzing the air samples for Method T0-14 analysis. No elevated VOC concentrations were observed. CRA continued bi-weekly thermocouple monitoring of the on-site soil/debris stockpiles. CRA did not observe any soil/debris stockpiles having temperatures greater than 110°F. CRA sampled empty soil/debris stockpile pad #s 6, 9, and 10 for TCLP parameters and did not observe any TCLP concentrations above TCLP regulatory levels. On February 4, 2002, an emergency horn test was conducted. The lines to the emergency horn apparently froze and the horn did not operate. The test was subsequently rescheduled for March 4, 2002. Weekly on-site meetings were conducted every Wednesday with EPA, Ohio EPA, VRAC contractors, Dayton Hazmat, and City of Riverside and City of Dayton fire department representatives. In addition, EPA and Ohio EPA met every Wednesday with representatives of the VNCC group for an update on site activities. VRAC representatives stated that February 25, 2002 would be the start-up date for Area 1 drum removal activities.

The landfill gas enclosed flare combustor operated at four 3-hour cycles per day. Site perimeter compliance probes remained in compliance with methane percentages consistently reading less than 5%. On February 11, 2002, EPA submitted modifications and comments to the Phase II Source Emission Retest submitted by the VRAC on December 14, 2001.

B. Next Steps

1. VRAC contractors will continue operation of the enclosed flare landfill gas extraction system. All LFG system vents and piping have been manifolded into the enclosed flare. Seasonal changes including temperature and moisture fluctuations have caused perimeter methane concentrations to exceed the action level of 5%. Corrections to the LFG extraction system vacuum levels and moisture traps have corrected the problems to date.
2. Continue weekly update meetings with state and local agencies and the VNCC every Wednesday at 1300 and 1500 hours, respectively.
3. VRAC contractor to transport and dispose off site approximately 150 yd³ of soil/debris contaminated with PCBs.
4. VRAC contractors to continue monitoring temperatures and liner maintenance of soil/debris stockpiles pending proposed on-site treatment activities.
5. EPA Office of Public Affairs will mail out a site update news letter. In addition, the Valleycrest Landfill site webpage (www.epa.gov/region5/valleycrest/) has been updated.
6. Area 1 drum removal activities to begin on February 25, 2002, and scheduled to be completed by January 2003.
7. Area 5 stockpile remediation work to be initiated on February 25, 2002, with stockpile sampling.

C. Key Issues

1. A total of 26,986 subsurface drums have been removed to date from Area 5. Approximately 66% of the subsurface drums contained solid or liquid hazardous waste. TCLP TCE levels in drums bulked in rolloff boxes has been documented at greater than 34,000 times the regulatory level of 0.5 ppm. Area 5 was completed on July 11, 2001.

V. COST INFORMATION (estimated as of January 2002)

Personnel	Budget	Used to Date	Remaining
START I (TDD #S05-9806-005)	\$208,864	\$208,864	\$ 0
START II (TDD #S05-0012-016)	\$117,000	\$ 98,400	\$ 18,600
EPA	\$300,000	\$210,000	\$ 90,000
EPA ERT/REAC	\$156,158	\$156,158	\$ 0
TOTALS	\$782,022	\$673,422	\$108,600