United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Wednesday, May 12, 2004
From: Steven Renninger

To: Andrew Steele, Dayton Fire Department

Subject: Area 1 - POLREP #3
Valleycrest Landfill
950 Brandt Pike, Dayton, OH
Latitude: 39.7872000
Longitude: -84.1522000

POLREP No.:	3	**Site #:**	B543
Reporting Period:	Dec 2002 through Apr 2004	**D.O. #:**	
Start Date:	6/23/1998	**Response Authority:**	CERCLA
Mob Date:	6/23/1998	**Response Type:**	Time-Critical
Demob Date:		**NPL Status:**	NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:		**Contract #**	
RCRIS ID #:			

Site Description
SITE DESCRIPTION

The Valleycrest Landfill Site is located at 950 Brandt Pike. The site consists of an area of approximately 100 acres that is separated into eastern and western portions by north-south-trending Valleycrest Drive. The eastern portion of the site consists of approximately 35 acres, and the western portion of the site consists of 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, 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 hazardous waste 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 western portion of the site (Area 5) and continued until approximately 1975.

COMPLETED REMOVAL ACTIVITIES

Area 5 Drum Removal

From November 1998 through July 2001, a removal action involving the removal of subsurface hazardous waste drums, drummed contents, and industrial waste was completed. The work was conducted pursuant to a U.S. Environmental Protection Agency (EPA) Administrative Order by Consent (AOC) signed by the Valleycrest Removal Action Coalition (VRAC), and dated September 10, 1998.

In Area 5, a total of 26,986 subsurface drums were removed by VRAC contractors from the 82 50- by 50-foot grids, identified as removal action areas based on geophysical anomalies. Drums containing hazardous waste solids (containing combinations of polychlorinated biphenyls [PCB], 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) accounted for the majority of the total drums removed in Area 5. 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 nondrummed material was conducted throughout the Area 5 removal to characterize the material and determine the appropriate disposition. Material below RCRA and Toxic Substances Control Act 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 40,000 cubic yards of TCLP VOC-impacted soil and debris (greater than TCLP regulatory limits for TCE and PCE) were stockpiled into 7 stockpiles on site for pending VE treatment or backfilling. 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 3,790 tons of PCB soil/debris were transported for off-site hazardous waste disposal.

Area 1 Drum Removal

From February 25 through November 15, 2002, a removal action involving the removal of subsurface hazardous waste drums and drummed contents was completed in Area 1. The work was conducted pursuant to a U.S. EPA AOC signed by the VRAC dated September 10, 1998. On December 12, 2001, U.S. EPA approved the Final Area 1 Drum Removal Work Plan.

In Area 1, a total of 15,622 subsurface drums were removed by VRAC contractors from the 62 50- by 50-foot grids, identified as removal action areas based on geographic anomalies. Drums containing hazardous waste solids (containing combinations of PCBs, ignitable waste, and/or TCLP TCE, PCE, MEK, benzene, lead, vinyl chloride, 2,4-D, cadmium, and chloroform) accounted for 95 percent of the total drums removed in Area 1. In addition, drums defined as RCRA empty drums totaled 4 percent. Drums containing any measurable liquid (containing combinations of flammable liquid, PCBs, and/or TCLP TCE, PCE, MEK, or lead) accounted for less than 1 percent of the total drums (totaling approximately 2,250 gallons collected). The excavated drums not containing liquids were shredded and placed into rolloff boxes for disposal. A total of 77 rolloff boxes were filled with shredded drums and sent for off-site disposal.

Excavation, backfilling, and sampling of all nondrummed material was conducted throughout the Area 1 removal to characterize the material and determine the appropriate disposition. A total of 52 grids were sampled by the VRAC contractor. A total of 17 grids showed TCLP TCE contamination and one grid showed a combination of PCBs and TCLP TCE contamination. The TCLP TCE contaminated material was left in situ for on-site treatment. During intrusive work activities, VRAC contractors conducted perimeter air monitoring using real-time gas chromatographs (Scentograph Plus II units) at three downwind and one upwind locations.

Landfill Gas System

Due to subsurface landfill gas levels at the property perimeter exceeding 5 percent methane (methane is explosive between 5 and 15 percent) and pursuant to an U.S. EPA AOC dated September 10, 1998, 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 northern, eastern, southern, and southeastern site perimeters) and manifolded into an enclosed flare. VRAC contractors have conducted 2 emission stack testing events, the last one in October 2002. The LFG abatement system is operated on a daily basis (currently 4 cycles of 3 hours ‘on’ and 3 hours ‘off’) and monitored on a weekly basis. All property perimeter compliance gas probes are less than 5 percent methane. The operation of the landfill gas system is written in the EPA-approved Landfill Gas Operation and Maintenance (O&M) Plan dated September 30, 2003.

Area 5 Soil/Debris Stockpiles

In March 2002, the seven original stockpiles, (stockpiles 1, 2, 3, 4, 7, 8, and 11) were broken up into 44 cells for pre-treatment sampling and analysis for TCLP VOCs. The sample from each cell consisted of a 5-point composite, with two aliquots collected at a depth of approximately 2 to 4 feet and three aliquots collected at a depth of approximately 8 to 10 feet. All sample results representing the material from stockpiles 1, 2, 7, and 11 were below regulatory criteria. Four cells from stockpile 3, three cells from stockpile 4, and six cells from stockpile 8 were also below TCLP criteria. The clean portions, excluding an 8-foot buffer of clean soil and debris adjacent to impacted cells, were subsequently backfilled on site. The remaining cells, including two from stockpile 3, six from stockpile 4, and two from stockpile 8 were subjected to VE treatment.

Operation of the VE treatment system was initiated on August 8, 2002. A stack test was conducted on the VE treatment system acid scrubber in October 2002, and the data were reviewed by an U.S. EPA technical team. VE treatment was initiated in all three stockpiles at the same time and operated a total of 1,555 hours during 11 weeks of operation up to the point of post-treatment sampling in late January 2003. Sampling was performed on the ten cells that exceeded TCLP regulatory criteria for VOCs. Consistent with the March 2002 pre-treatment sampling, each cell consisted of a 5-point composite sample, with two aliquots collected at a depth of 3 feet and three aliquots collected at a depth of 9 feet. Analytical results showed two cells from stockpile 3 and six cells from stockpile 4 still exceeding TCLP regulatory criteria for TCLP TCE. In addition, three of the stockpile 4 cells also exceeded for TCLP vinyl chloride. The two cells in stockpile 8 below TCLP regulatory criteria were backfilled on site.

Dewatering and additional VE treatment activities were conducted from March through August 2003 on the impacted cells in stockpiles 3 and 4. A second round of post treatment sampling was conducted in August 2003, following the same sampling protocols as in January 2003. Post treatment analytical results showed the remaining two cells in stockpile 3 having TCLP concentrations below TCLP regulatory criteria. Stockpile 4 resampling showed 4 of the 6 resampled cells having TCLP concentrations below TCLP regulatory criteria. The six cells having below TCLP regulatory criteria were backfilled on site. The soil/debris within the two cells having above TCLP TCE regulatory criteria (approximately 3,300 cubic yards) were loaded onto trucks for off-site disposal.

Current Activities

● During December 2002, VRAC contractors completed a tanker investigation in the southern part of Area 5. A total of 10 trenches were excavated to a depth of about 20 feet below ground surface and a trench length of approximately 30 feet. No tanker was observed, but a total of 80 subsurface drums and drum fragments were excavated and properly disposed, in accordance with the Area 5 removal procedures.

VRAC contractors completed backfilling Area 1 to grade. Thermocouple temperature probes within Area 1 grids remained less than 90°F. Empty overpack drums were crushed and buried in Grid I-11. VRAC contractors completed final liquid drum bulking. Various volatile organic concentrations observed in liquid drum composites, such as TCLP TCE at 76,000 ppm, MEK at 9,600 ppm, PCBs at 400 ppm, and flash points of 61°F.

U.S. EPA submitted comments to the VRAC on the results of the VE treatment system on the three Area 5 stockpiles. The VE system operated approximately 1,060 hours before the system was suspended in October 2002. VRAC contractors continued thermocouple monitoring of the three on-site Area 5 soil/debris stockpiles. VRAC contractors observed stockpiles with temperatures less than 95°F. VRAC contractors installed a 6-foot tall fence around the VE treatment system and installed a wooden building around the acid scrubber for weather protection.

The LFG enclosed flare operated at 4 cycles per day (averaging between 8 and 17 hrs per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent, except for TGP-76, TGP-75, and TGP1b-c. TGP-75 showed greater than 5 percent methane for one day and then showed 0 percent methane during the 10-day monitoring period following the exceedence. TGP1b-c showed 22% methane for one day due to an air leak in the line. The air lead was repaired and methane readings immediately reduced to less than 5 percent. The corrective action to reduce methane concentrations in TGP-76 was completed. Two additional extraction wells (EW-10 and SW-3) were installed near TGP-76 and tied into the main LFG header line. The enclosed flare was retrofitted to accommodate a mobile generator in the event of a loss of electricity.

● During January 2003, VRAC contractors submitted the non-VOC and the VOC-impacted material work plans to U.S. EPA for review. Thermocouple temperature probes within Area 1 subsurface grids remained less than 53°F.

On January 2, 2003, VRAC contractors turned the VE treatment system back ‘on’ and ran the system for about 400 hours during the month. Two weeks of perimeter air monitoring was conducted using real-time gas chromatographs (Scentograph Plus II units). The readings were compared to MAGLC action levels. No air exceedences were observed. VRAC contractors continued thermocouple monitoring within the three stockpiles and observed temperatures less than 82°F.

On January 27, 2003, VRAC contractors initiated post treatment sampling of the Area 5 stockpiles. Samples were analyzed for TCLP VOCs and data is due back early February 2003. Perimeter air monitoring was conducted during the sampling event using real-time gas

chromatographs (Scentograph Plus II units). No air exceedences were observed.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent, except for TGP-75, TGP1b-c, CP2-4R, and TGP-75. TGP-75 and CP2-4R showed greater than 5 percent methane for one day and then showed 0 percent methane during the 10-day monitoring period following the exceedence. TGP1b-c showed greater than 5 percent methane due to ice blockage in the lateral line from extraction well EW-3. Ice was formed from condensation in piping near the drainage traps and was removed. Methane readings then showed 0 percent following the 10-day monitoring period. During the period TGP1b-c was out of compliance, the closest probe to TGP1b-c, TGP 22, showed 0 percent methane. In addition, soil erosion around EW-3 also caused TGP1b-c to read out of compliance. The berm will be rebuilt in February 2003. U.S. EPA reviewed the VRAC stack test report from the enclosed flare. VRAC contractors completed installing a fence around the enclosed flare. VRAC contractors submitted the draft Landfill Gas O&M for review.

● During February 2003, U.S. EPA continued reviewing the non-VOC and the VOC-impacted material work plans submitted by the VRAC. Thermocouple temperature probes within Area 1 subsurface grids remained less than 47°F. A public meeting was conducted on February 25th.

Analytical results from the Area 5 stockpile post treatment sampling showed 2 of the 3 stockpiles having TCLP TCE and vinyl chloride concentrations greater than the TCLP regulatory limits. Temperatures in the Area 5 stockpiles remained less than 72°F.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. VRAC contractors built up the berm around extraction well EW-3 to correct erosion problems which caused TGP1b-c to go out of compliance in January 2003. U.S. EPA continued its review of the draft Landfill Gas O&M Plan.

● During March and April 2003, U.S. EPA and VRAC contractors continued to negotiate work activities and comments to the non-VOC and VOC-impacted work plans. U.S. EPA and VRAC contractors negotiated a work plan to address the LNAPL in leachate well NSL-55L located in Area 1.

VRAC contractors began dewatering Area 5 stockpiles 3 and 4. Water was determined to be saturating the bottoms of the stockpiles which prevented VE treatment of the VOC contamination. VRAC contractors attempted to remove the water from the two stockpiles and then plan to conduct additional VE treatment in the previously saturated zones of the stockpiles. Approximately 2,000 gallons of water was removed by the end of April 2003. VRAC contractors submitted a protocol to U.S. EPA to backfill stockpile 8 since post treatment samples collected in January 2003 showed no VOC concentrations greater than TCLP regulatory levels.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. The Group is reviewing U.S. EPA comments to the draft Landfill Gas O&M Plan.

● During May 2003, U.S. EPA approved a work plan to address the non-VOC impacted grid in Area 1. Grid G14 was the only grid in Area 1 that showed a soil/debris post backfill sample with a non-VOC exceedence (PCB = 55.3 ppm). VRAC contractors conducted sampling within Grid G14 for PCB analysis. A total of 8 samples were collected from two depths within the grid. One soil/debris sample showed a PCB concentration of 50.1 ppm.

VRAC contractors conducted an LNAPL removal in leachate well NSL-55L. A total of 4 gallons of LNAPL was recovered and containerized on site. Negotiations were initiated between U.S. EPA, Ohio EPA and VRAC to install 3 additional leachate wells in Area 1 to delineate the LNAPL plume.

VRAC contractors continued dewatering activities in Area 5 stockpiles 3 and 4. Approximately 7,000 gallons ofwater has been recovered, sampled, and disposed off site. VE treatment system was turned ‘on’ in the beginning of May 2003. VRAC contractors estimated that resampling of stockpiles 3 and 4 would occur late July 2003. U.S. EPA continued to review the stockpile 8 backfill protocol dated May 14, 2003.

U.S. EPA began reviewing the draft Area 1 In-Situ VE Work Plan Addendum.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5

percent. The Group continued reviewing U.S. EPA comments to the draft Landfill Gas O&M Plan. The Group's resubmittal date for the O&M Plan is June 12, 2003.

● During June and July 2003, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.7 feet. The Group stated that it is wanting to begin delineating the plume in Area 1. Four additional delineation wells will be installed in Area 1 within the next 1 to 2 months.

VE treatment in Area 5 stockpiles 3 and 4 continued, with resampling of the two stockpiles scheduled for early August 2003.

U.S. EPA continued to review the draft Area 1 In-Situ VE Work Plan Addendum..

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. U.S. EPA continued reviewing the latest revision of the draft Landfill Gas O&M Plan.

● During August 2003, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.75 feet. Four additional delineation/recovery wells will be installed in Area 1 within the next 3 to 4 months.

VRAC contractors completed resampling Area 5 stockpiles 3 and 4 following dewatering and additional VE treatment activities. Analytical results showed the remaining two cells in stockpile 3 having TCLP TCE concentrations below TCLP regulatory levels. Stockpile 4 resampling showed only 4 of the 6 resampled cells having TCLP TCE concentrations below TCLP regulatory levels. VRAC contractors completed backfilling all of stockpiles 3 and 8 into the northern portion of Area 5, and submitted a protocol to backfill the non-TCLP impacted cells of stockpile 4. The Group intends to transport the TCLP TCE impacted soil/debris from the two stockpoile 4 cells for off-site disposal.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. U.S. EPA continued reviewing the latest revision of the draft Landfill Gas O&M Plan.

● During September 2003, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.9 feet.

VRAC contractors began transporting the impacted soil/debris from Area 5 stockpile 4 for off-site disposal and completed backfilling the non-impacted cells from stockpile 4. Initiated soil cover above the backfilled soil/debris from stockpiles 3 and 8. The empty overpack containers were crushed and backfilled with non-VOC impacted stockpile 4 material just east of where stockpiles 3 and 8 material was backfilled at the north end of Area 5. Thermocouple monitoring in Area 1 grids showed temperatures less than 75°F.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. U.S. EPA and the Group continued to negotiate final comments to the Landfill Gas O&M Plan.

● During October 2003, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.91 feet. The Group submitted recommendations for the placement of the 4 additional leachate wells around NSL-55L. The new wells will be 4-inches in diameter. Thermocouple monitoring in Area 1 grids showed temperatures less than 73°F.

VRAC contractors completed off-site shipment and disposal of TCLP TCE-impacted soil/debris from Area 5 stockpile 4. Completed installation of clean soil cover above the backfilled non-hazardous stockpile material at the north end of Area 5. The Group submitted a revised Area 1 In-Situ VE Work Plan Addendum to U.S. EPA.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. A total of 15 additional compliance probes were installed at various locations around the perimeter of the site. The final Landfill Gas O&M Plan was submitted to and approved by U.S. EPA.

● During November 2003, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.97 feet. VRAC contractors conducted another LNAPL removal from NSL-55L. Approximately one gallon of LNAPL was recovered and containerized. The 4

additional leachate recovery/piezometer wells will be installed 15 feet in all four directions around NSL-55L in early December 2003. Thermocouple monitoring in Area 1 grids showed temperatures less than 68°F.

Completed re-grading the former stockpile 4 base and installing fill in the area following receipt of analytical results indicating the base is below criteria. The U.S. EPA and the Group continued negotiations about the Area 1 In-Situ VE Work Plan Addendum.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. Conducted quarterly compliance probe water level monitoring in accordance with the approved Landfill Gas O&M Plan.

● During December 2003, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.41 feet. Thermocouple monitoring in Area 1 grids showed temperatures less than 64°F. Installed the 4 additional piezometers by NSL-55L.

On December 4, the Group submitted the revised Area 1 In-Situ V E Work Plan Addendum. On December 24, U.S. EPA submitted conditional approval of the work plan.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. TGP1b-e showed a methane concentration of 3.8 percent and TGP1b-f showed a methane concentration of 3.4 percent.

● During January 2004, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.6 feet. Thermocouple monitoring in Area 1 grids showed temperatures less than 57°F.

VRAC contractors completed installation of the vapor extraction and passive wells associated with Area 1, Groups 1 and 2. Completed construction of the In-Situ VE header line and wellhead piping for Groups 1 and 2.

VRAC contractors completed vertical delineation sampling in 8 locations within Area 1 having VOC and/or PCB exceedences at the bottom of the excavation areas.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. TGP1b-f showed a methane concentration of 4.0 and 3.7 percent. To improve system efficiency, two new extraction wells (EW-11 and EW-12) were installed along the northern portion of Area 1 as part of the landfill gas abatement system.

● During February 2004, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.7 feet. Thermocouple monitoring in Area 1 grids showed temperatures less than 56°F.

VRAC contractors submitted the validated analytical data from the vertical delineation sampling from 8 locations in Area 1. The soil samples were analyzed for TCLP VOCs and PCBs, per the approved work plan. The results indicated the first (ie., uppermost) sample at each location was below criteria, and therefore no additional analyses of the other samples that were collected were required.

Initiated the start-up process of the In-Situ VE system. The stack test for the week of February 23 was rescheduled. Initiated pre-startup monitoring of various constituents at In-Situ VE wellheads.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent.

● During March 2004, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.7 feet. Thermocouple monitoring in Area 1 grids showed temperatures less than 55°F. VRAC contractors initiated quarterly check of combustible gas indicators at applicable structures.

During the week of March 1st, restarted the In-Situ VE treatment system in accordance with protocols approved by U.S. EPA. Start-up operation of the ISVE treatment system continued through March

18th. The system was temporarily shut down on an interim basis after reaching full-scale operation. During the week of March 15th, monitored extraction wells within the area of the ISVE Group 1 grids associated with methane recharge and during the week of March 22nd, VRAC contractors restarted the ISVE system for a two-day period to reduce methane concentrations within the Group 1 grids, then continued monitoring extraction wells within the area of the ISVE Group 1 grids associated with methane recharge.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent. Performed quarterly groundwater level monitoring of the landfill gas system compliance probes.

● During April 2004, VRAC contractors continued weekly monitoring within leachate well NSL-55L. The LNAPL thickness was observed at 0.72 feet. A second LNAPL removal event was performed on April 23rd. Removal of LNAPL was also conducted from piezometer NSL-55A. Less than 1 gallon of LNAPL was removed from the two locations and total cumulative LNAPL removed to date remains at approximately 5 gallons. Thermocouple monitoring in Area 1 grids showed temperatures less than 61°F.

VRAC contractors initiated full-scale In-Situ VE start-up within Area 1 grids Group 1, subgroup 1A. A stack test was completed on the VE treatment system the week of April 5th. VRAC contractors will continue operation and monitoring of VE treatment system.

The LFG enclosed flare operated at 4 cycles per day (averaging about 12 hours per day). All site perimeter landfill gas compliance probes were in compliance with methane percentages less than 5 percent.

Planned Removal Actions

1. VRAC contractors will continue operation of the enclosed flare LFG extraction system, per the EPA-approved O&M Plan. All LFG system vents and piping have been manifolded into the enclosed flare.

2. VRAC contractors to use In-Situ VE to treat soil/debris in 17 Area 1 grids contaminated with TCLP VOC concentrations above TCLP regulatory criteria. In-Situ VE treatment in Area 1 tentatively expected to be completed within 2 years.

3. VRAC contractors to conduct LNAPL removal in leachate well NSL-55L and the four adjacent leachate wells on an as-needed basis. A total of 6 gallons of LNAPL have been removed and containerized to date.

4. Continue monthly update meetings with state and local agencies and quarterly update meetings with representatives of the VNCC.

5. VRAC contractors will continue to monitor temperatures within the Area 1 VE treatment grids.

Key Issues

1. A total of 15,622 subsurface drums have been removed to date from Area 1. Approximately 95.3 percent of the subsurface drums contained solid or liquid hazardous waste. TCLP TCE levels in drums bulked into rolloff boxes have been documented at greater than 1,700 times the regulatory level of 0.5 ppm. A total of 107 rolloff boxes were transported for off-site hazardous waste disposal.

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

3. Ex-situ VE treatment was used to treat a majority of the TCLP VOC-contaminated soil/debris from Area 5. A total of 3,300 cubic yards of TCLP TCE-contaminated soil/debris was transported for off-site disposal.

4. Public meetings were conducted on February 25, 2003 and May 6, 2004.