U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Bank Avenue Landfill Site - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #1**
Initial POLREP
Bank Avenue Landfill Site

St. Bernard, OH
Latitude: 39.1685362 Longitude: -84.5036060

To:
From: Steven Renninger, On-Scene Coordinator
Date: 6/4/2010
Reporting Period: December 2009 through May 2010

1. Introduction

1.1 Background

Site Number:	B5VK	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	PRP Oversight
Response Lead:	PRP	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:		**Start Date:**	4/27/2010
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	Ohio EPA
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

PRP Oversight / Voluntary action with US EPA. In April 2010, the City of St. Bernard agreed to conduct three additional rounds of residential vapor intrusion sampling including April 2010, July 2010, and October 2010. A sampling work plan was submitted to US EPA in April 2010. US EPA will oversee the residential vapor intrusion sampling activities.

On April 21, 2010, the Ohio EPA, pursuant to the September 16, 2009 Ohio EPA Director's Final Findings and Orders, received the Remedial Action Plan - Landfill Gas Abatement work plan submitted by the City of St. Bernard. The Landfill Gas Abatement work was initiated in May 2010 and includes:

1. Installation of an enhanced condensate management system
2. Extension of the current vacuum extraction system (additional 500 feet) adjacent to residential yards.
3. Installation of four additional monitoring probes

1.1.2 Site Description

According to the Ohio Environmental Protection Agency's (Ohio EPA) Director's Final Findings and Orders dated September 16, 2009, the Bank Avenue Landfill is a former "solid waste disposal facility" and a "sanitary landfill facility." The landfill stopped accepting waste during the 1970s and closed in 1985. The City of St. Bernard (City) owns the former landfill.

In 1989, Ohio EPA ordered the City to monitor explosive gas levels at the closed landfill and to submit written reports of the monitoring results to Ohio EPA and the local board of health. Ohio Revised Code (ORC) Section 3734.041(C) defines explosive gas as follows:

> "Explosive gas shall be considered to endanger human health or safety or the environment if concentrations of methane generated by a landfill at the landfill boundary exceed the lower explosive limit (LEL), which means the lowest percent by volume of methane that will produce a flame in air at twenty-five degrees centigrade and atmospheric pressure."

On February 5, 1991, Ohio EPA informed the City of its obligations to submit an explosive gas monitoring

plan (EGMP) to the Ohio EPA for the landfill. On October 4, 1991, the City submitted an EGMP to Ohio EPA. On April 21, 1993, the Ohio EPA Director approved the EGMP. The EGMP states that the action level for methane at the landfill property boundary is 5 percent methane by volume in air. If this level was exceeded, the City would be obligated to implement contingency procedures to reduce the percentage of methane in air at the property boundary.

Between 1994 and 1995, the City performed annual sampling of explosive gas at monitoring probes MW1 through MW6 at the landfill in accordance with the approved EGMP. During annual explosive gas monitoring events in August 1994 and June 1995, the City reported that methane sample results for probes MW2 through MW6 exceeded the action level.

In August 2000, the City installed eight new probes (MP-7 through MP-14). During the August monitoring event, methane sample results for the following probes exceeded the action level: MP-7 (37 percent), MP-9 (5 percent), MP-11 (33 percent), MP-12 (20 percent), MP-13 (19 percent), and MP-14 (12 percent).

On November 1, 2000, Ohio EPA informed the City that it was in violation for having methane levels greater than the action level at the property boundary of the landfill and for failure to submit a remediation plan and implementation schedule for the landfill to Ohio EPA. On December 5, 2000, Ohio EPA met with the City and reiterated the need for a remediation plan to prevent explosive gas migration toward occupied structures next to the landfill.

In the spring of 2001, the City installed a passive venting system at the former landfill to intercept and redirect methane from the property boundary. To address the potential discharge of non-methane organic compounds that often accompany landfill gas and to determine if air permits would be required, individual air samples were collected from four of the five extraction wells included in the passive gas venting system (MP-3 through MP-6). The extraction wells are located along the property boundary and were chosen based on historically elevated methane concentrations. Volatile organic compounds (VOC) were detected in the extraction well air samples, including benzene, trichloroethylene (TCE), chlorobenzene, and methyl ethyl ketone (MEK). In well MP-4, benzene was detected at up to 97 parts per billion by volume (ppbv), TCE was detected at up to 6.8 ppbv, chlorobenzene was detected at up to 1,100 ppbv, and MEK was detected at up to 600 ppbv. Table 1 summarizes the VOCs detected in the extraction well air samples.

TABLE 1 - PASSIVE VENTING SYSTEM EXTRACTION WELL SAMPLING - 2001

Chemical	Extraction Well No.			
	MP-3 (ppbv)	MP-4 (ppbv)	MP-5 (ppbv)	MP-6 (ppbv)
TCE	3.3	6.8	ND	ND
PCE	57	ND	16	12
cis-1,2-DCE	ND	25	13	ND
Vinyl chloride	ND	68	35	7.8
Benzene	ND	97	ND	ND
Chlorobenzene	ND	1,100	ND	ND
Toluene	1.8	35	ND	ND
2-Butanone (MEK)	120	600	ND	380
Hexane	ND	94	270	100
Trimethylbenzene	ND	5.8	ND	ND

Notes:
DCE = Dichloroethylene
MEK = Methyl ethyl ketone
ND = Not detected at concentration exceeding laboratory reporting limit
PCE = Perchloroethylene
ppbv = Part per billion by volume
TCE = Trichloroethylene

In a correspondence dated April 10, 2001, to Ohio EPA, the City stated, “To date, migration of combustible gas has been confirmed at the northern Landfill property boundary….Potentially impacted residences along this Landfill boundary have been provided with in-building combustible gas indicators (CGIs) as a precautionary measure.”

In August 2001, the City upgraded the existing passive venting system to an active explosive gas extraction system by converting probes MW2 through MW6 to extraction wells and installing a blower and a vent. In the November and December 2001 explosive gas monitoring reports, the City reported that methane sample results for probes MP-7 and MP-8 exceeded the action level (48 and 11 percent, respectively).

In January 2002, Ohio EPA informed the City that based on the November and December 2001 explosive gas monitoring reports, the current active explosive gas extraction system did not appear to be remediating the problem.

On April 11, 2002, the City reported that methane sampling results for probes MW-11 (11 percent) and MP-7 (6 percent) exceeded the action level on February 22 and 28, 2002, respectively. On June 18, 2002, the City reported that methane sampling results for probe MP-7 showed the highest reading of 35 percent on May 28, 2002, and 5 percent on May 20, 2002.

In July 2002, the City converted MP-7 to an active explosive gas extraction well and installed two new probes, MP-7A and MP-7B, for additional monitoring. During the August 2002 explosive gas monitoring event, the City reported that the methane sampling result for probe MP-7A exceeded the action level of 5 percent methane by volume.

On August 23, 2002, the City submitted a revised EGMP to Ohio EPA. In September 2002, Ohio EPA informed the City of deficiencies in the revised EGMP. Because of these deficiencies, Ohio EPA did not approve the revised EGMP.

During the September 2002 explosive gas monitoring event, the City reported that methane results for probe MP-7A exceeded the action level (23 to 31 percent) on four separate dates.

In October 2002, the City installed two additional probes near MP-7A, MP-7C, and MP-7D. During the December 2002 explosive gas monitoring event, the City reported that methane sampling results exceeded the action level for three probes in October, three probes in November, and one probe in December.

On January 15, 2003, the City reported substantial accumulation of condensate in the extraction piping of the active explosive gas extraction system in December 2002.

On May 14, 2003, the City reported that it had installed combustible gas indicators (CGI) in six residential homes next to the landfill.

In November 2003, the City reported that since July 2003, methane results for probe MP-7C routinely exceeded the action level of 5 percent methane by volume. The City also reported that results for probes MP-8 and MP-7D also periodically exceeded the 5-percent action level.

On January 22, 2004, Ohio EPA met with the City to discuss outstanding non-compliance issues at the landfill.

In January 2004, the City submitted a request to Ohio EPA to perform additional activities to identify explosive gas sources and migration pathways at the landfill, including the installation of exploratory gas probes and excavation.

In correspondence dated March 26, 2004, the City reported to Ohio EPA that methane results for probe MP-7C routinely continued to exceed the action level of 5 percent methane by volume. Probe MP-7C is located less than 2 feet from a residential property.

In April 2004, the City reported that methane results for MP-7C exceeded the action level.

On May 18, 2004, Ohio EPA approved an authorization for the City to perform an additional exploratory investigation of explosive gas migration at the landfill.

During the May through July 2004 explosive gas monitoring events, the City reported that methane results exceeded the action level for seven probes (MP-7C, MP-7D, T-1, T-2, T-3, T-11, and T-12) in May, two probes (MP-7C and MP-7D) in June, and two probes (MP-7C and T-8) in July.

In correspondence dated July 2004 to Ohio EPA, the City states the following:

> "As you are aware, a series of temporary gas monitoring probes were installed at the landfill…and data compiled since that time suggests that a gas source or migration pathway exists in the immediate vicinity of monitoring probes 7C, 7A and T-1…The mitigation plan proposed for this area includes targeted excavations, and removal of potential gas sources if found."

In August 2004, the City installed a 48-foot-long cutoff trench near monitoring probes MP-7C and MP-7D. Both probes were removed as part of the trench installation. In September 2004, the City installed two additional probes, MP-7E and MP-7F, to replace removed probes MP-7C and MP-7D.

During the September through December 2004 explosive gas monitoring events, the City reported that methane results exceeded the action level for probe T-8 in September, probes MP-7E and T-8 in October, and probe MP-7E in November and December.

On December 8, 2004, Ohio EPA met with the City to discuss ongoing concerns regarding explosive gas migration off site at the landfill, current data, past and proposed remediation efforts, and the revised EGMP.

In correspondence dated January 14, 2005, the City updated the EGMP and stated that it did not propose to extend the gas extraction system beyond City property. However, the City stated that if probes MP-7E and MP-7F indicated increasing gas concentrations, extension of the gas extraction system to a residential property located on Bank Avenue would be discussed with the property owner and Ohio EPA.

On February 4, 2005, the City reported that the methane result for probe MP-7E was 5 percent on January 4, 2005. During the May 2005 explosive gas monitoring event, the City reported that methane results exceeded the action level in probes MP-12 and MP-13. During the June 2005 explosive gas monitoring event, methane results exceeded the action level for probes MP-11, MP-12, and MP-13.

In correspondence dated November 21, 2005, the City reported that the methane result for probe MP-8 (9 percent) exceeded the action level. The City reported that it believed that a source of gas was located south of two properties located on Bank Avenue.

In correspondence dated December 28, 2005, the City reported that methane results exceeded the action level for probe MP-8 on October 20 (6 percent), November 17 (9 percent), and November 20 (6 percent).

In correspondence dated April 17, 2006, the City reported a loss of vacuum in the explosive gas extraction well network because of high condensate levels in the system in March 2006.

In 2006 and January through May 2007, the City's monthly monitoring reports indicated that relatively low levels of explosive gas (less than 5 percent) were observed at the property boundary.

During the June through September 2007 explosive gas monitoring events, the City reported that methane results exceeded the action level for probes MP-8 and MP-13 in June; probes MP-8 and MP-11 in July; probes MP-8, MP-11, and MP-13 in August; and probes MP-8 and MP-9 in September. During the October 2007 explosive gas monitoring events, the City reported that the methane result for probe MP-8 exceeded the action level. Later that month, the City converted probe MP-8 to extraction well EW-8B and installed another probe, MP-8R.

On December 17, 2007, the City submitted a revised EGMP to Ohio EPA.

During the June 2008 explosive gas monitoring events, the City reported that methane results exceeded the action level for probes MP-11, MP-12, and MP-13.

In a correspondence dated July 21, 2008, the City stated, "as monitoring probes are currently located at the facility boundary, access to private property will be required to further define gas migration in the vicinity of MP-12."

During the October, November, and December 2008 explosive gas monitoring events, the City reported that methane results exceeded the action level for probe MP-8 in more than 20 separate samples, with results ranging from 9 to 50 percent methane by volume in air.

On December 20, 2008, the City installed another probe, MP-8, to replace the original probe MP-8, which was converted to an extraction well in October 2007.

During the January and February 2009 explosive gas monitoring events, the City reported that methane results exceeded the action level for probe MP-8 on numerous occasions, with results ranging from 31 to 86 percent methane by volume in air.

In correspondence dated February 5, 2009, the City states, "Data gathered from probe MP-8 through the month of January 2009 indicate that it is installed in a location more proximal to the source of gas generation than the previously installed MP-8 series probes. Gas concentrations of approximately 80% methane by volume have been recorded consistently throughout January 2009."

In February 2009, Ohio EPA met with the City twice to discuss ongoing concerns with the high explosive gas results at the landfill property boundary.

In March 2009, the City converted extraction well EW-8B back to a monitoring probe and converted the new probe MP-8 to an extraction well by applying vacuum to it in an attempt to address high explosive gas levels. Extraction wells EW-8B and EW-8A are located near the property boundary, and sample results for these wells exceeded the methane action level. Newly installed probe MP-8 is located farther from the property boundary than EW-8B. The City reported that between April 2 and May 1, 2009, methane sample results exceeded the action level for EW-8A (5 to 20 percent) and EW-8B (29 to 38 percent). Ohio EPA viewed these results as an indication that explosive gas levels likely exceed the action level at the property boundary.

During the June 12, 2009, explosive gas monitoring events, the City reported that methane results exceeded the action level for probe MP-8 (6 percent methane by volume in air) and continued to exceed the action level for probe EW-8B (7 percent methane by volume in air).

In the summer of 2009, Ohio EPA stated concerns regarding (1) exceedances of the methane action level at the property boundary despite remedial efforts taken by the City, (2) CGIs in adjacent residences sounding on at least five occasions, and (3) lack of delineation of the full extent of waste at the landfill.

In November 2009, Ohio EPA requested assistance from U.S. EPA to conduct a vapor intrusion investigation to determine if VOCs or methane are accumulating beneath and potentially within the breathing zone of residential properties next to the landfill.

In November 2009, U.S. EPA requested the Ohio Department of Health (ODH) review historical site air sampling data. ODH observed that concentrations of TCE, benzene, and chlorobenzene in the extraction wells exceeded the ODH's sub-slab screening values for each chemical. In a letter to U.S. EPA and Ohio EPA, ODH concluded that it would be prudent from a public health perspective to collect sub-slab samples for methane and VOC analysis from adjacent residential homes as soon as possible. On December 4, 2009, ODH submitted a letter to U.S. EPA suggesting screening values for both indoor air and sub-slab air samples. Table 2 summarizes these screening values.

TABLE 2 - SUB-SLAB AND INDOOR AIR SCREENING LEVELS

<><><><><><>

Chemical	Sub-Slab Screening Value (ppbv)	Indoor Air Screening Value (ppbv)
TCE	4.0	0.4
PCE	120	12
cis-1,2-DCE	88	8.8

Vinyl chloride	110	11
Benzene	30	3.0
Chlorobenzene	130	13
Toluene	800	80
2-Butanone (MEK)	3,400	340
Hexane	570	57
Trimethylbenzene	12	1.2

Notes:
DCE = Dichloroethylene
MEK = Methyl ethyl ketone
PCE = Perchloroethylene
ppbv = Part per billion by volume
TCE = Trichloroethylene

The chemicals included in the list in Table 2 are those detected in the extraction wells at the property line in 2001. The screening values are conservative numbers developed for a long-term chronic exposure scenario. ODH also recommended that methane should be included as one of the chemicals to be sampled for because the explosive range for methane is 5 to 15 percent by volume. ODH recommended that a methane sample result of 25 percent or higher of the lower explosive limit (LEL) in a sub-slab or indoor air sample should trigger an interim action as soon as possible.

On December 10, 2009, U.S. EPA met with eight property owners that live next to or near the landfill property boundary. U.S. EPA explained that it would be conducting a vapor intrusion investigation to determine if VOCs or methane are migrating from the landfill and accumulating beneath adjacent residential properties. U.S. EPA requested that each property owner would have to sign an agreement granting permission to U.S. EPA and WESTON START to access the property to conduct sampling. All eight property owners signed the access agreement.

1.1.2.1 Location

The Site is located on Bank Avenue, in St. Bernard, Hamilton County, Ohio. The geographical coordinates for the site are 39.16796° N and 84.50432° W. The Site is bordered by Interstate 75 to the west-northwest and residential properties to the northeast, east and south.

1.1.2.2 Description of Threat

Due to the proximity of residential properties adjacent to the former landfill, U.S. EPA is concerned that:

1) Methane may be migrating from the former landfill and acculating beneath the properties; and
2) Volatile organic compounds may be accumulating beneath the properties by way of vapor intrusion.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

SOIL GAS SAMPLING

On December 11, 2009, EPA START met with Ohio EPA and Civil and Environmental Consultants (CEC), the City's environmental consultant. EPA START collected soil vapor samples from four locations. Before the collection of each soil gas sample, CEC used a meter to check the methane concentration and a vacuum gauge to check the vacuum in each probe and extraction well. The table below summarizes the sampling locations, sample numbers, methane concentrations, and vacuum readings for the samples.

Sampling Location	WESTON START Sample No.	Methane by Volume in Air (%)	Vacuum Reading (inches of water column)
Extraction Well EW-3	EW3-121109	11	16
Extraction Well EW-8B	EW8B-121109	3	12.5
Monitoring Probe MP-8	MP8-121109	0	0
Monitoring Probe MP-10	MP10-121109	0	0

Each soil gas sample was collected as a grab sample using a 6-liter (L) SUMMA canister. The four soil gas samples were submitted to ALS Laboratory of Cincinnati, Ohio, for analysis for VOCs using U.S. EPA Method TO-15 and for percent methane analysis using ASTM D1946.

TCE, benzene, and chlorobenzene were detected in samples collected from extraction wells EW-8B and EW-3 at concentrations exceeding the sub-slab screening values provided by ODH. TCE was detected at 10 ppbv in extraction well EW-3. Benzene was detected at 120 ppbv in extraction well EW-3. Chlorobenzene was detected at 290 and 2,400 ppbv in extraction wells EW-8B and EW-3, respectively. In addition, methane was detected at 2.2 and 10 percent in extraction wells EW-8B and EW-3, respectively.

VAPOR INTRUSION SAMPLING

Two rounds of vapor intrusion sampling activities were conducted at the residential properties whose owners provided signed access agreements as discussed below.

Round 1

U.S. EPA conducted the first round of vapor intrusion sampling from December 14, 2009, through January 13, 2010. U.S. EPA installed six sub-slab probes and collected six sub-slab samples and two indoor air

samples (from crawl spaces) from eight residential properties at the Site. The sub-slab vapor probes were installed and the samples collected in accordance with the "Standard Operating Procedures for the Construction and Installation of Permanent Sub-Slab Soil Gas Wells, #2082," (Standard Operating Procedure [SOP] No. 2082) dated March 29, 2007, under the U.S. EPA Response Engineering and Analytical Contract (REAC).

The sub-slab vapor probes were installed in residences having basements with concrete slab floors. Indoor air samples were collected within the crawl spaces of two residential homes that did not have basements. All sub-slab and indoor air samples were collected using pre-cleaned, laboratory-supplied, 6-L SUMMA canisters. The SUMMA canisters were fitted with flow regulators to allow sample collection over a 24-hour period and were connected to the stainless-steel probes with Teflon tubing. All fittings and connections were stainless steel.

Round 2
In early February 2010, U.S. EPA conducted a second round of vapor intrusion sampling at the eight residential properties when there was snow cover on the ground. In early February, approximately 10 inches of snow covered the ground. From February 9 through March 9, 2010, U.S. EPA collected eight sub-slab samples and three indoor air samples from the eight residential properties. Two of the indoor air samples were collected from crawl spaces, and one indoor air sample was collected from the basement of one of the properties at a height of 2 to 3 feet above the floor of the basement over a 24-hour period.

Sample Analysis
The 14 sub-slab and 5 indoor air samples collected during both rounds were submitted to ALS Laboratory of Cincinnati, Ohio, for analysis for VOCs using U.S. EPA Method TO-15 and for percent methane analysis using ASTM D1946.

VAPOR INTRUSION SAMPLING RESULTS
Two rounds of vapor intrusion sampling activities were conducted at the residential properties whose owners provided signed access agreements. Vapor intrusion sampling results for each round are discussed below.

Round 1
No VOCs were detected at concentrations exceeding the sub-slab or indoor air screening values provided by ODH. Methane was not detected in any of the eight samples. Notable VOC detections are summarized below.

- The sub-slab TCE sample results were as high as 3.8 ppbv, which is less than the sub-slab screening value of 4 ppbv.
- The sub-slab benzene sample results were as high as 7.3 ppbv, which is less than the sub-slab screening value of 30 ppbv.
- The sub-slab 1,2,4-trimethylbenzene sample results were as high as 7.5 ppbv, which is less than the sub-slab screening value of 12 ppbv.
- The sub-slab 1,3,5-trimethylbenzene sample results were as high as 2.2 ppbv, which is less than the sub-slab screening value of 12 ppbv.

Round 2
No VOCs were detected at concentrations exceeding the sub-slab or indoor air screening values provided by ODH. Methane analysis was conducted on 10 of the 11 samples collected, but methane was not detected at a percentage exceeding 0.03 percent . Notable VOC detections are summarized below.

- The sub-slab TCE sample results were as high as 3.8 ppbv, which is less than the sub-slab screening value of 4 ppbv.
- The sub-slab benzene sample results were as high as 8.6 ppbv, which is less than the sub-slab screening value of 30 ppbv.
- The indoor air benzene sample results were as high as 2.4 ppbv, which is less than the indoor air screening value of 3 ppbv.
- The sub-slab 1,2,4-trimethylbenzene sample results were as high as 11 ppbv, which is less than the sub-slab screening value of 12 ppbv.
- The indoor air 1,2,4-trimethylbenzene sample results were as high as 1.1 ppbv, which is less than the indoor air screening value of 1.2 ppbv.
- The sub-slab 1,3,5-trimethylbenzene sample results were as high as 2.9 ppbv, which is less than the sub-slab screening value of 12 ppbv.
- The indoor air 1,3,5-trimethylbenzene sample results were as high as 0.31 ppbv, which is less than the indoor air screening value of 1.2 ppbv.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On March 30, 2010, US EPA, Ohio EPA, and Ohio Department of Health met with residents to discuss Round 1 and Round 2 residential vapor intrusion sample results. Property owners received a sample results letter from US EPA.

On April 16, 2010, the City of St. Bernard agreed to collect three additional rounds of vapor intrusion sampling at the properties adjacent to the landfill. Sampling will be conducted in April 2010, July 2010, and October 2010 with US EPA oversight.

On April 21, 2010, CEC (on behalf of the City of St. Bernard) submitted a revised Draft Remedial Action Plan (RAP) to Ohio EPA for review. The RAP details how the City of St. Bernard will mitigate landfill gas migration at the property boundary. The RAP, according to the Director's Final Findings and Orders, must provide for the following:

- Proposed remedial measures designed to abate or minimize explosive gas levels at the facility Property Boundary such that levels are maintained below the LEL (5% methane in air by volume); and
- Conversion of the facility's current condensate collection system to provide continuous automated removal of liquid from the system so as to prevent excessive condensate from impacting the effectiveness of the current active explosive gas extraction system.

2.1.2 Response Actions to Date

US EPA actions: On April 27 and 28, CEC (on behalf of the City of St. Bernard) collected the first round of vapor intrusion sampling at six properties that are located adjacent to the former landfill. The six samples were analyzed for Method TO-15 VOC analysis.

Ohio EPA actions: On May 27 and 28, 2010, CEC began installing four new montoring probes and reconstructing extraction wells EW-6, EW-3 and EW-2.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

In April 2010, the City of St. Bernard agreed to conduct three additional rounds of residential vapor intrusion sampling including April 2010, July 2010, and October 2010. A sampling work plan was submitted to US EPA in April 2010. US EPA will oversee the residential vapor intrusion sampling activities.

On April 21, 2010, the Ohio EPA, pursuant to the September 16, 2009 Ohio EPA Director's Final Findings and Orders, received the Remedial Action Plan - Landfill Gas Abatement work plan submitted by the City of St. Bernard. The Landfill Gas Abatement work was initiated in May 2010 and includes:

1. Installation of an enhanced condensate management system
2. Extension of the current vacuum extraction system (additional 500 feet) adjacent to residential yards.
3. Installation of four additional monitoring probes

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

2.2.1 Anticipated Activities

US EPA actions: City of St. Bernard will conduct additional residential vapor intrusion sampling in July 2010 and October 2010 with US EPA oversight.

Ohio EPA actions: City of St. Bernard will conduct:
1) Installation of an enhanced condensate management system providing for increased storage capacity and decreasing the need for attended operation;
2) Installation of a gravity sewer providing for enhanced condensate management including long-term disposal via the sanitary sewer;
3) Extension of the current vacuum extraction (aditional 500 feet) through placement of extraction piping within the proposed gravity sewer corridor;
4) Reconstruction of extraction wells EW-2, EW-3 and EW-6 to increase vacuum extraction capacity in this sector of the landfill; and
5) Addition of four additional monitoring probes at the facility property line for the purpose of enhancing data collection within specific areas exhibiting historically elevated combustible gas concentrations.

2.2.1.1 Planned Response Activities

1) Conduct two additional rounds of vapor intrusion sampling once the RAP is completed.
2) Replace existing 200-gallon condensate tank with a gravity-fed 1,500-gallon condensate tank.
3) Approximately 514 linear feet of additional extraction piping will be installed to provide a continuous vacuum "barrier" between the landfill and the adjacent residences.

2.2.1.2 Next Steps

1) Mobilize contractor to being trenching operations.
2) Preparation for the next round of vapor intrusion sampling (July 2010).

2.2.2 Issues

None.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

U.S. EPA OSC - Steve Renninger
Ohio EPA - Holly Hillyer
US EPASTART John Sherrard
Ohio Department of Health Bob Frey and Greg Stein

City of St. Bernard - PRP
CEC - PRP Environmental Consultant

3.2 Cooperating Agencies

4. Personnel On Site

No information available at this time.

5. Definition of Terms

VOCs - volatile organic compounds

6. Additional sources of information

6.1 Internet location of additional information/report

For additional information, please refer to “Documents” on www.epaosc.org/.bankavenuelandfill

6.2 Reporting Schedule

The next POLREP will be issued in July 2010.

7. Situational Reference Materials

No information available at this time.