United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Thursday, September 24, 2009
From: Steven Renninger, On-Scene Coordinator

Subject: Initial POLREP
Rumpke Landfill Subsurface Reaction
10795 Hughes Road, Cincinnati, OH
Latitude: 39.2768150
Longitude: -84.5922230

POLREP No.:	1	**Site #:**	
Reporting Period:	09/01/2009 to 09/15/2009	**D.O. #:**	
Start Date:	9/4/2009	**Response Authority:**	CERCLA
Mob Date:	9/4/2009	**Response Type:**	Emergency
Demob Date:		**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	
CERCLIS ID #:		**Contract #**	
RCRIS ID #:			

Site Description

The Rumpke Sanitary Landfill (RSL) Site is located at 10795 Hughes Road, Colerain Township, Hamilton County, Ohio, 45251.

RSL is a municpial solid waste and construction demolition debris landfill owned and operated by Rumpke Consolidate Companies, Inc. The landfill is regulated under Subtitle D of the Resource Conservation Recovery Act. The facility is permitted and licensed by the Ohio Environmental Protection Agency (Ohio EPA). The facility has been in operation since 1945.

The landfill was designed and constructed with engineered systems to protect the environment, including a clay and synthetic liner system, leachate collection system, and landfill gas collection and control system (GCCS).

The RSL facility is over 500 acres in size with more than 330 acreas permitted for waste disposal. RSL is permitted to recieve up to 10,000 tons of watse per day. Rumpke reported that it accepted a total of 2,063,558.08 tons of waste in 2008.

GSF Energy, LLC (GSF) has continuously operated a landfill gas (LFG) to high Btu processing facility at RSL since the mid 1980's. A total of approximately 200 landfill gas wells on 275 acres are routinely monitored for temperature and LFG quality by GSF well field technicians to assure gas plant inlet specifications and NSPS regulatory requirements are maintained. In 2009, GSF implemented a program of systematic water pumping from designated wells in the north end of the landfill in an effort to increase the capture of LFG from RSL. A total of 30 wells were equipped with dewatering pumps and began operating in May, 2009.

NSPS monitoring on August 13, 2009 indicated that W135 wellhead temperatures were 156 F, exceeding RSL's permitted temperature limit of 149 F. GSF's effort to tune the well to reduce temperatures were ineffective and on August 20, 2009 Tedlar Bag samples were collected from wells W135, W124R, DW2, W157R, Wl28R. The samples were submitted to AtmAA, Inc. laboratories and analyzed for carbon monoxide (CO) and hydrogen. The laboratory results were reported to RSL on August 31, 2009 and the high CO results for WI35 led RSL to suspect subsurface oxidation was occurring in the vicinity of WI35 and W122R2. RSL immediately contacted Ohio EPA, Hamilton County Public Health Department (HCPHD) and Hamilton County Department of Environmental Services (HCDOES) to report the conditions and implemented the facility's contingency plan.

On September 4, 2009, Ohio EPA and HCDOES requested U.S. EPA Region V Emergency Response Branch assistance with air monitoring around the perimeter of the site and the surrounding neighborhoods.

On a daily basis, RSL monitoring data has been submitted to all involved agencies and a conference call has been convened to summarize daily activities and review monitoring results. Perimeter and off-site air

monitoring has been conducted by USEPA and HCDOES, and results indicate air quality standards have not been exceeded offsite.

Current Activities

On September 1, 2009 Rumpke began implementing the following response measures:

1. Adjust all impacted and immediately adjacent wells to a free flow gas setting
a. Minimum, controlled flow from each stressed well eliminating any venting to the atmosphere – no vacuum on wells

2. Monitor all wells twice per day with portable GC
a. Monitoring will be for a minimum of five (5) gases, CH4, N2, O2, H, CO2

3. Monitor each well for CO levels within the capability of on-site instruments
a. Provide samples for outside, lab analysis if CO levels are beyond the range of site devices. There will be verification samples drawn and sent to the lab for backup analysis

4. Tedlar bag gas samples will be taken and sent to a laboratory for additional analysis
a. This will ensure the accuracy of the data collected
b. CH4, N2, O2, H, CO2 and CO testing will be completed

5. Daily temperatures will be collected for the gas space from each well and down well temperatures to and including any liquid, if present. This will provide a comparison of top and bottom well temperatures. Temperatures will be taken twice per day, as well, if physically possible

6. Liquid samples will be drawn from each well and the immediate surrounding wells for analysis of pH and related products of combustion

7. The surface area will be surveyed to determine if there is any loss of landfill elevation in the area of the wells in the subject area of the landfill

8. Inspection of the troubled well area is to be conducted for any sign of abnormal activity or conditions, smoke, odor or soot deposits

9. Reduction in pumping of anywells that are stressed and showing rising temperatures. This reduction of pumping will include immediately adjacent wells

On September 4, 2009, U.S. EPA OSC Steve Renninger, Ohio EPA and HCDOES conducted a site visit to RSL to assess the current response effort. OSC Renninger, Ohio EPA and HCDOES met with RSL representative and collected one air sample from the site. HCDOES collected 3 air samples. The samples were collected from well W122, a distance of 99 yeards away from well W122, and at 11170 Hughes Road. The air samples are to be analyzed for TO-15, CO, Methane, and a Sulfur Scan.

On September 8, 2009, U.S. EPA START and HCDOES conducted air monitoring of the perimeter and surrounding neighborhoods utilizing the Rapid Assessment Tool (RAT). Air quality pararmeters monitored were Hydrogen Sulfide, Volatile Organc Compounds, and Carbon Monoxide. All air quality parameters monitored were found to be below the action levels established for the response effort. See documents for RAT monitoring data summary map. Daily updates via conference call with USEPA, OEPA, HCDOES, HCPHD, and RSL were initiated and a daily well temperature and air quality log was established for 18 wells in the area of the elevated temperatures. Of the wellheads being monitored, wells W122R2, W135, W137, and W216 have elevated temperatures reported as high as 188.4 *F. However, air quality parameters for all 18 wells remains stable. Response activities, as outlined in the RSL Action Plan continue.

On September 9, 2009, a daily update was held with USEPA, OEPA, HCDOES, HCPHD, and RSL via conference call. The daily well temperature and air quality data was presented. Of the wellheads being monitored, wells W122R2, W135, W137, and W216 have elevated temperatures reported as high as 188.8 *F. Air quality parameters for all 18 wells continues to remain stable. Response activities, as outlined in the RSL Action Plan continue.

On September 10, 2009, a daily update was held with USEPA, OEPA, HCDOES, HCPHD, and RSL via conference call. The daily well temperature and air quality data was presented. Of the wellheads being monitored, wells W122R2, W134, W135, W137, and W216 have elevated temperatures reported

as high as 188.2 *F. The wellhead temperature of well W134 increased from 129.9 *F to 146.3 *F. Air quality parameters for all 18 wells continues to remain stable. Response activities, as outlined in the RSL Action Plan continue. RSL recommended pumping water from wells believed to have water levels above slot piping.

On September 11, 2009, a daily update was held with USEPA, OEPA, HCDOES, HCPHD, and RSL via conference call. The daily well temperature and air quality data was presented. Of the wellheads being monitored, wells W122R2, W134, W135, W137, and W216 have elevated temperatures reported as high as 189.8 *F. Air quality parameters for all 18 wells continues to remain stable. Response activities, as outlined in the RSL Action Plan continue. However, an updated Action Plan is being prepared and will be submitted to OEPA the week of September 14, 2009. A meeting was established for OEPA, HCDOES, HCPHD, and RSL on September 15, 2009 at the landfill facility to discuss the progress of the response effort and the updated Action Plan.

On September 14, 2009, a daily update was held with OEPA, HCDOES, HCPHD, and RSL via conference call. The daily well temperature and air quality data was presented. Of the wellheads being monitored, wells W122R2, W134, W135, W137, and W216 have elevated temperatures reported as high as 198 *F. All 5 wells had an reported an increase in wellhead temperature. Air quality parameters for all 18 wells continues to remain stable. Response activities, as outlined in the RSL Action Plan continue. 3 air samples were collected:

- Sample 090409-15-01 (collected from Well W122).

- Sample 090409-5-02 (collected 99 yards away from Well W122)

- Sample 090409-14-03 (collected at 11170 Hughes Road) was ND for Methane and all TO-15 parameters.

On September 15, 2009, a meeting was held with OEPA, HCDOES, HCPHD, and RSL at the landfill facility. The daily well temperature and air quality data was presented. Of the wellheads being monitored, wells W122R2, W134, W135, W137, and W216 have elevated temperatures reported as high as 199 *F. Air quality parameters for all 18 wells continues to remain stable. Response activities, as outlined in the RSL Action Plan continue. An updated Action Plan was submitted for OEPA approval.

Planned Removal Actions

An updated Action Plan was submitted to OEPA on September 17, 2009. The following actions will be implemented upon OEPA approval:

1. Adjust all impacted wells (W-122R2 & W-135) and immediately adjacent wells (DWl, DW2, PH5ACO, W120R2, W121R2, W123R2, W124R2, W125R2, W128R, W134R, W136, W137R, W215, W216, and W219R) to a free flow gas setting. The gas from these wells is being routed to the utility flare.

2. Minimum, controlled flow from each stressed well eliminating any venting to the atmosphere - no vacuum on wells

3. Monitor all impacted and adjacent wells as listed in number I once per day with portable GC for a minimum of five (5) gases, CH4, N2, O2, H, and CO2. Shift to monitor gases twice per week based on a well-by-well evaluation of the relative stability of the data obtained to date. Decision to shift to twice per week will be made on a case by case basis in close consultation with the review group that participates in the conference call.

4. Monitor each impacted and adjacent wells as listed number I for CO levels within the capability of on-site instruments. Same test frequency as number 3, above.

5. Tedlar/mylar bag gas samples will be taken from impacted wells and adjacent wells listed in number 1 and sent to an outside lab to confirm field testing of CH4, N2, O2, H, CO2, and CO on a weekly basis and ensure the accuracy of the data collected. The frequency of confirming field data with an outside lab and which the well locations will be adjusted based on a case by case basis in close consultation with the review group that participates in the conference call.

6. Down well temperatures will be collected from each impacted and adjacent well head until a total of 10 readings have been obtained. After 10 readings have been collected, Down hole temperature monitoring data will be evaluated for any significant trend and will only be resumed based on professional judgment

and in close consultation with the review group that participates in the conference call.

7. The surface area will be visually assessed on a daily basis for evidence of slope movement or surface subsidence in the subject area of the landfill. The affected area will be surveyed weekly to detect any surface settlement. If substantial settlement is detected and confirmed the Action Plan will be reevaluated and modified as appropriate.

8. Daily inspection of the impacted well area for any sign of abnormal activity or conditions such as smoke, odor or soot deposits. If these conditions develop the Action Plan will be reevaluated and modified as appropriate.

9. RSL proposes restarting limited pumping of landfill leachate/gas condensate from within the gas extraction well on those wells where the water in the well is above or close to the section of the well that is screened. During the time of pumping, well head temperatures will be carefully monitored. Pumping of liquids will cease if well head temperatures exceed 149 F. RSL's proposal to resume pumping of liquids is to promote gas flow in the wells so as to reduce the potential for pressure build-up and gas emissions. Details of well pumping activities/decision will be made on a case by case basis in close consultation with the review group that participates in the conference call.

10. Any future additions of wells, pumps or well field modifications will be controlled and in limited areas to better predict the impact of these actions on the gas production.

RSL believes the above action items will provide for additional monitoring of the affected area and to provide relief of gas and water pressure currently building up in the landfill. Should temperatures at any of the data points in the affected area rise in excess of the 149 degree permit limit, water pumping in those areas will cease and the Action Plan modified as appropriate.

Next Steps

- Rumpke will continue with monitoring, sampling, and capping activities pursuant to the Action Plan.

- U.S. EPA is prepared to respond to conduct off-site air monitoring if conditions change including visible smoke.

response.epa.gov/rumpkelandfill