

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N600833700

FACILITY: Oakland Heights Development, Inc.		SRN / ID: N6008
LOCATION: 2350 Brown Road, AUBURN HILLS		DISTRICT: Southeast Michigan
CITY: AUBURN HILLS		COUNTY: OAKLAND
CONTACT: Robb Moore , Environmental Manager		ACTIVITY DATE: 02/17/2016
STAFF: Rebecca Loftus	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On February 17, 2016, I, Rebecca Loftus, Department of Environmental Quality (DEQ), Air Quality Division (AQD), conducted an inspection of Oakland Heights Development, Inc. (Oakland Heights), SRN: N6008, located at 2350 Brown Road, Auburn Hills, Michigan. The purpose of this inspection was to determine the facility's compliance with the Federal Clean Air Act, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, Michigan's Air Pollution Control Rules, Renewable Operating Permit (ROP) No. MI-ROP-N6008-2015, and Permit to Install (PTI) No. 11-15.

Upon arriving at the facility, I met with Mr. Rob Moore, Environmental Engineer for Republic. Below is a summary of my findings during my inspection and records review.

Facility Contacts

ROP Section 1: Mr. Rob Moore, Environmental Engineer, Republic, 810-655-6906, moore@rebulicservices.com

ROP Section 2: Mr. Adam Stough, Gas Plant Manager/Pipeline Operator, WMRE, 248-393-5591, astough@wm.com

Facility Overview

Oakland Heights (operated by Republic Services) is a municipal solid waste landfill located at 2350 Brown Road in Auburn Hills, Oakland County, Michigan.

As a Type II Sanitary Landfill, Oakland Heights accepts and landfills municipal solid waste (MSW) and inert wastes such as construction debris, demolition debris, foundry sand, ash, and low-level contaminated soils. The landfill formerly accepted wastes containing asbestos.

After waste is transported to the facility, it is placed in one of the active working areas (cells) and is covered daily with soil or other cover materials. Oakland Heights has two distinct sections: Phase I is the old clay line cell and the remainder of the landfill is divided into six cells: cells A through F (see attached site map). Beginning in 2015 and at the time of my inspection, waste was being placed in cell F.

The LFG is collected through an active landfill gas collection system, which consists of wells, headers, and gas mover equipment. During my inspection, I noted Oakland Heights now has approximately 97 extraction wells and is collecting LFG at flow rates between 3000-3500 scfm.

The collected LFG goes to the on-site blower building and can be routed to the new open flare located on-site or the LFG can be sold off-site to the General Motors Orion Assembly Plant (GM) for use as fuel in their boilers and/or reciprocating internal combustion engines.

Oakland Heights is subject to the National Standards of Performance for Municipal Solid Waste Landfills, 40 CFR, Part 60, Subpart WWW, and is therefore permitted under ROP No. MI-ROP-N6008-2015.

The ROP has enforceable limits/conditions for the following emission units: EULANDFILL, EUALGCS, EUPERENNIALFLARE, EULFG&EFLARE, and EUASBESTOS. In the 2015 ROP renewal, Section two was added for EUTREATMENTSYS. This treatment system is owned and operated by Waste Management Renewable Energy (WMRE) and is used to further treat the LFG before it is used as fuel at GM.

The flares conditions listed in the ROP are now obsolete. In 2015, Republic applied for a permit to replace the enclosed flares listed in the ROP with one 3,000 cfm utility (open) flare. PTI No 11-15 was issued to Oakland Heights on March 9, 2015 and contains enforceable limits/conditions for EUFLARE1.

Although the landfill is operated by Republic, the wellfield and flares are monitored by Monitoring Control and Compliance, Inc. (MCC) and testing/calibrations/records are completed by Air Quality Specialist Inc. (AQSI). Most records were available on-site at the time of my inspection; Mr. Moore emailed me the remainder of the requested information on February 25, 2016 (see attached emails).

A significant change to the LFG treatment system occurred in 2014/2015. Waste Management's Renewable Energy Division (WMRE) installed and is currently operating a LFG treatment system to further treat the LFG before it is sold off-site to GM. Mr. Adam Stough, WMRE Gas Plant Manager/Pipeline Operator, provide me with the record keeping for EUTREATMENTSYS via email on February 22, 2016.

Summaries of the permit/federal requirements, the records reviewed, and my inspection observations are provided in each section below.

Landfill/Gas Collection System

The Oakland Heights ROP has two sections covering the landfill and gas collection system, EULANDFILL and EUALGCS. During my inspection, Mr. Moore provided me with copies of the surface methane monitoring reports, monthly integrity checks, waste acceptance rates/design capacity, and the "Monthly LFG Reports" for December 2015 and January 2016 (these include NSPS parameters). The records provided are needed to demonstrate compliance with conditions in the ROP and federal landfill regulations. During my inspections, I noted the monthly reports for all of 2014 and 2015 were available on-site as required by the ROP.

The 3rd and 4th quarterly methane surface scans were conducted on September 21, 2015, and December 2, 2015 (see attached reports). Both reports indicate that there were no locations at Oakland Heights with a measured surface concentration of methane greater than 500 part per

million above background. Each report indicates all areas of the landfill except active cell F are traversed in the quarterly scans. In addition to the quarterly reports, a copy of the 4th quarter methane probe log was reviewed. The report indicates no (0%) methane was detected at each of the (20) probes.

Integrity checks of the landfill cover are conducted on a monthly (see attached). These records indicated where the landfill cover material needs corrective actions. During my inspection, I noted many of the integrity check summaries had the same corrections from month to month; e.g. the slope near 8R. Upon discussing this with Mr. Moore, I was told the slope near 8R is not final cover and is where Republic keeps a clean soil stock pile; although corrections are made monthly to the slope near 8R, slope erosion continues because soils are constantly being moved from the stock pile. Looking at the integrity reports, one has no way of knowing this information, so I suggested to Mr. Moore that MCC add an additional column for Notes/Correct Actions Taken to capture this information.

Oakland Heights accepts approximately 800 tons of waste per day. In 2015, Oakland Heights accepted 153,442 tons of waste and by the end of 2015 estimated 16,800,000 cubic yards of waste in place. The most recent permitted design capacity was approved by staff in DEQ's Waste Division in December 2009; this expansion (cell F) brought Oakland Height's design capacity to 18.9 million cubic yards. Given this information, Mr. Moore expects another 10 years of capacity.

Currently, Oakland Height's wellfield consists of 97 collectors (including some dual extraction wells). The most recent wells were installed in the fall of 2015. At the time of my inspection, the well field vacuum was at approximately 22 in water column.

On a monthly basis, MCC monitors temperature, oxygen, and pressure for each NSPS subject well; Attachment K of the December 2015 Monthly LFG Report has NSPS well data for all of 2015 (see attached reports). According to these records and Oakland Height's semi-annual reports, they appear to be documenting instances in which wells have temperature, oxygen, and/or pressure exceedances. In the instances in which an exceedance cannot be corrected within 15 days, Republic has requested higher operating variance, alternative timelines, and/or to decommission wells (see file for individual request). During my inspection, I discussed the timeliness of the alternate timeline request with Mr. Moore. Because MCC conducts the field work and AQSI compiles the data/reporting information, a delay in the request can occur and corrective actions may be completed before the alternate timeline request is received. To decrease the information lag time, Mr. Moore stated he will have AQSI send an email to me as soon as it is determined additional time will be needed for corrective actions.

Mr. Moore also provided a list of wells currently operating under oxygen, pressure, and/or temperature variances (see attached). Currently, Oakland Heights has (6) wells operating under oxygen/pressure variances and (2) out of waste collectors operating at higher oxygen levels. These requested were sent to the AQD in 2011 and still remain in effect.

Oakland Heights also has dual extraction wells located along the south slope in Phase I. Because of PCB contamination, leachate from these dual extraction wells is sent to

an activated carbon treatment system and is then discharged to DWSD (permitted through the City).

As required by the ROP, Oakland Heights has a Startup, Shutdown, and Malfunction Abatement Plan (SSM) for the gas collection and control system (GCCS). Mr. Moore provided a copy of the SSM plan during my inspection; the plan was last revised in April 2014. Upon review of the SSM plan, I noted a few sections that needed to be updated. Mr. Moore provided a revised SSM plan via email on February 25, 2016 (see the SSM file for the revised plan).

In addition to the above mentioned records, the Monthly LFG Reports contain information on the flare, blower station, O and M discussions/concerns, and additional gas system monitoring data (see attached). This information is discussed more in the sections below.

Flares, Blowers, and PTI No. 11-15

On January 14, 2015, Oakland Heights submitted a permit application to remove the two existing enclosed flares and replace them with one 3000 scfm utility flare (open flare) and on March 15, 2015, the AQD issued PTI No. 11-15. The permit contains enforceable limits and conditions for EUFLARE1 including the following: a Visible Emissions limit of 0% opacity, a net heating value of LFG ≥ 200 btu/scf, flare operating requirements, and heat-in/pilot flame record keeping.

The old flares, EUPERENNIALFLARE and EULFG&EFLARE, were dismantled on June 30, 2015, and July 14, 2015. On July 28, 2015, Oakland Heights completed the installation of the utility flare and on September 28, 2015, AQSI conducted a performance evaluation test on the utility flare to demonstrate compliance with the permit limits and 40 CFR Part 60, Subpart WWW. The reported results indicate the flare is in compliance with the permit limits and 40 CFR Part 60, Subpart WWW (see details of the report in the 2015 Stack Test File).

The flare is continuously monitored for flow and continuous pilot flame; these records are included in the Monthly LFG Reports. Any flare downtime is reported in the Annual/Semi-Annual reports. PTI No. 11-15 also requires monthly records of the average btu of the LFG and 12-month rolling heat input calculations. Based on the records provided (see attached), the average methane content of the LFG ranged from 46-52%, the average btu/cf ranged from 469-525 btu/cf, the heat input ranged from 31,506-37,735 MMBtu, and the 12-month rolling heat input was 212,506 MMBtu in January 2016.

Mr. Moore explained that GM typically requires 1500-1700 scfm of LFG to operate their engines and 2000 scfm for engines and boilers (Note: Eagle Valley Landfill provides the remaining LFG needed to fuel GM's engines).

At the time of my inspection, the vacuum of the wellfield was at 22 inches water column and the flow meter indicated the flow was at 3500 scfm; Mr. Moore noted the flow meter needs to be calibrated as he believes it has reached its maximum. The flare flow was approximately 1750 scfm, the temperature was at 1100°F, and I did not observe any visible emissions. Note: If the flow meter is at its maximum and the total flow is above 3500 scfm, Oakland Heights will not have enough flare capacity (max 3000 scfm) if GM's engine plant goes off-line.

During the flare testing, Republic noted issues with high temperature alarms for the new blowers. At the inspection, Mr. Moore explained the investigation of the high temperature alarms indicated an issue with amperage between the two new blowers. As a remedy, operators were able to adjust the inlet value and balance the amps between the two new blowers. Also, the old large blower remains in the building near the flare and is designated as back up to the two new blowers.

Asbestos

At this time, Oakland Heights does not accept friable asbestos waste. The flexible group conditions are listed in the ROP because in the past asbestos waste was accepted. Mr. Moore explained that because of old records and waste settling/movement, Oakland Heights is conservative when it comes to drilling new wells and submits an asbestos notification for all well drilling projects.

EUTREATMENTSYS (ROP - Section 2)

Previously, Republic sent unprocessed LFG to GM as it was only used in GM's boilers. In July 2014 GM installed five LFG fueled engines. To achieve compliance with federal regulations and ensure proper combustion, the LFG must be treated before using it as fuel in the engines. Based on discussions with GM and Oakland Heights, WMRE installed and is currently operating the new LFG treatment system. The system is located next to the blower station and removes particulate to at least the 10 micron level, compress the landfill gas, and remove enough moisture to ensure good combustion of the landfill gas when used as fuel off-site.

At this time, WMRE is responsible for operating and maintaining the treatment system and the system is permit under Section 2 of the ROP. The ROP requires a SSM Plan and records of maintenance activities.

On February 17, 2016, WMRE provided the AQD with a copy of the SSM Plan for the treatment system (see attached).

On February 22, 2016, Mr. Stough, WMRE, emailed me copies of the maintenance schedule and dates of the weekly checks of the system/maintenance activities conducted (see attached).

WMRE did not submit the semi-annual monitoring and deviation report for January 1 - June 30, 2015 for their portion of the ROP (Section 2). A violation notice was issued to WMRE on February 11, 2015, and the AQD received a response and the reports on March 2, 2016 (see reports in file). The semi-annual report for July 1, 2015 - December 31, 2015 and the 2015 annual report were received on time, on March 14, 2016. WMRE appropriately reported the late submittal of the first semi-annual report as a deviation.

MAERS

For 2013, 2014 and 2015, Oakland Heights reported the following emissions:

2013	
Pollutant	Tons
CO	21.9
NMOC	10.7
NOx	13.1
PM10	21.7
PM2.5	3.7
SO2	2.4
VOC	<0.5

2014	
Pollutant	Tons
CO	22.5
NMOC	10.5
NOx	13.5
PM10	22.2
PM2.5	3.8
SO2	2.5
VOC	0.6

2015	
Pollutant	Tons
CO	41.5
NMOC	19.9
NOx	10.9
PM10	19.6
PM2.5	1.6
SO2	3.9
VOC	0.9

The reported emissions appear to be consistent with the records reviewed. The increase in CO emissions is consistent with the change in flares.

Other Equipment

At this time, there are no reciprocating internal combustion engines at the landfill.

There is one cold cleaner located in the garage. The cold cleaner appears to be exempt from obtaining a PTI pursuant to Rule 285(r)(iv). Based on my observations, the cold cleaner appears to be meeting the conditions listed in the ROP under FGCOLDCLEARNERS.

The landfill also three 10,000 Btu/hr natural gas heaters located in the buildings on-site (these are not listed in the ROP). This equipment appears to be exempt from obtaining a Permit to Install pursuant to Rule 282(b)(i).

A 300 gallon gasoline tank and 500 gallon diesel tank are located near the garage; this fuel is used to fill on-site vehicles and heavy equipment.

The gasoline fueling/storage tank appears to be subject to 40 CFR Part 63 Subpart CCCCCC, the National Emission Standards for Hazardous Air Pollutants for Gas Dispensing Facilities at Area Sources. From January 2015 through January 2016, Oakland Heights used a total of 950 gallons of gasoline. Based on my observations and the monthly usage data, Oakland Heights appears to meet the following requirements (see attached emails and records):

§63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.

(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

- (1) Minimize gasoline spills;*
- (2) Clean up spills as expeditiously as practicable;*
- (3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;*

- (4) *Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.*
- (b) *You are not required to submit notifications or reports as specified in §63.11125, §63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.*
- (c) *You must comply with the requirements of this subpart by the applicable dates specified in §63.11113.*
- (d) *Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.*

Additional Information

During my inspection, I discussed the 2010 GCCS design plan submittal and DEQ's review/response letter dated December 28, 2010 (see attached). Since the letter was issued, staff changes have occurred at Republic and the AQD. Mr. Moore said he would look into Republic's response to the DEQ letter.

Mr. Moore also mentioned that Oakland Heights was briefly (August 2015 only) accepting sludge from Pontiac. Due to the odors, Oakland Heights is no longer accepting sludge.

Conclusions

Based on information gathered during the inspection and records reviewed, Oakland Heights and WMRE appear to be in compliance with the Federal Clean Air Act, Michigan's Air Pollution Control Rules, and the conditions of ROP No. MI-ROP-N6008-2015 and PTI No. 11-15.

NAME Rebecca Jettis

DATE 3/16/16

SUPERVISOR CJE