

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

B164636161

FACILITY: RIETH RILEY CONSTRUCTION CO., INC.		SRN / ID: B1646
LOCATION: 4150 S. GREYTS RD., LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: EATON
CONTACT: Tom Harris, Area Manager		ACTIVITY DATE: 08/15/2016
STAFF: Michelle Luplow	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled, unannounced inspection to determine compliance with PTI 97-03A.		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow

Personnel Present: Tom Harris (tharris@rieth-riley.com), Area Manager

John Berscheit (jberscheit@rieth-riley.com), Technical Services Coordinator

Purpose: Conduct an unannounced, scheduled, partial compliance evaluation (PCE) inspection by determining compliance with Rieth-Riley's Opt-Out Permit No. 97-03A. This inspection was done as part of a full compliance evaluation (FCE).

Facility Background/Regulatory Overview: Rieth-Riley is a hot mix asphalt facility that uses both recycled asphalt (RAP) and virgin aggregate. They specialize in parabolic curve paving for proving grounds.

Tom Harris said that Rieth-Riley generally fires up the plant around April 1st and operates the plant through November 15th. T. Harris said they have 12-hr days for operation, where employees will start working around 3 – 4 a.m. and work until 8 – 9 p.m, but asphalt is not continuously being produced during these times. T. Harris said portable Rieth-Riley crushers (predominantly from Petoskey) will come to the site once per year to crush RAP.

T. Harris said Rieth-Riley has not used crumb rubber in approximately 2 years.

With regard to the odor complaints, T. Harris said that none of the mixes they produce are any more or less odorous. He said that the Antistrip PG 64-28 has a different odor than the rest of the liquid asphalt, but this does not mean it is more odorous than the other liquid asphalt mixtures they use. The most common mixes Rieth-Riley produces are Ascro, 13A (driveways, parking lots), 3E10,4E10, LVSP (low volume super pave), 5E10, 4E1, 5E1 and 3E3,4E3 and 5E3.

Rieth-Riley is an opt-out facility for HAPs.

Inspection:

At approximately 8:20 a.m. on August 15, 2016, I arrived at Rieth-Riley and met with Tom Harris, Area Manager. Later during the inspection John Berscheit, Rieth Riley's Technical Services Coordinator, was also present. I provided T. Harris with a DEQ "Environmental Inspections: Rights and Responsibilities" brochure and a Boiler MACT outreach brochure. Table 1 provides a list of equipment located onsite.

Table 1. Equipment

<u>EU</u>	<u>EU Description</u>
EU001	Hot mix asphalt facility, aggregate conveyors, 400 ton/hr counterflow triple drum mixer with fabric filter dust collector Currently only operate burning natural gas Equipped with "blue smoke package" (scrubber) where exhaust from asphalt loadout and the silos is captured and sent through stainless steel wool Equipped with baghouse to capture particulate from the HMA mixing process prior to exhausting to ambient air
EUACTANKS	Two liquid asphalt tanks
EUSILOS	Four silos, all installed in 2003: 3 200-ton and 1 150-ton storage silos for finished product

EUYARD	Fugitive dust sources: -all plant roadways -plant yard -material storage piles -material handling operations
--------	--

EU001Material Limits

J. Berscheit provided me with January 2015 – July 2016 records of the average monthly percent recycled asphalt material (RAP) used. Rieth-Riley is allowed a maximum of 50% RAP in the processed asphalt mixture on a monthly average basis. Rieth-Riley keeps track of the total Hot Mix Asphalt (HMA) produced that contains RAP and the Total RAP aggregate used both on a monthly basis; I used these numbers to calculate the average percent RAP used monthly. The highest monthly average percent RAP between January 2015 and July 2016 was 51% (50.9%) in May 2015. I will not cite a violation at this time, but advise Rieth Riley that future exceedances of this limit will likely result in a violation.

Rieth-Riley is not allowed to use any asbestos tailings or waste materials containing asbestos in their HMA. T. Harris said that they use aggregate mined from pits between Battle Creek, Marshall and Ovid and use a little bit of slag produced at steel mills (slag is used to increase friction on paved surfaces). He said they currently do not use slag. Asbestos tailings are not used here. Rieth-Riley is in compliance with requirement not to use asbestos in raw materials at this time.

Rieth-Riley is in compliance with all material limits at this time.

Process/Operational Restrictions

The total tons of HMA produced is limited to 895,000 per 12-month rolling time period. From August 2015 – July 2016 the 12-month rolling total of HMA produced was 237,511 tons.

There is a 400 ton/hr HMA limit, based on a daily average. For the purposes of this permit, compliance of this condition is checked by averaging the daily production of HMA over the operating hours for the day to determine if Rieth-Riley is in compliance with the hourly limit. J. Berscheit provided me with snapshots of daily total HMA produced and total hours the plant was in operation for 8/14/16, 6/20/16, 5/17/16. The highest hourly HMA production rate was 8/14/16 at 389.29 tons per hour. Rieth-Riley is in compliance with this process limit.

Rieth-Riley is only allowed to fire any hazardous waste, blended fuel oil or specification recycled used oil (RUO) containing any contaminant in PTI 97-03A condition 1.6 at lower than the specified ppm by weight, and Rieth-Riley must also have records of the % sulfur, specific gravity, flash point, higher heating value of all fuel oils combusted on a monthly basis. T. Harris said they only burn natural gas; therefore Rieth-Riley is in compliance with the requirement not to burn any of these compounds that exceeds the specified concentrations of contaminants in the permit and all other RUO/fuel oils conditions in the PTI are not applicable at this time (this includes the Compliance Monitoring Plan for RUO in Appendix B of the PTI).

Rieth-Riley is in compliance with all process/operational limits at this time.

Equipment

The Preventative Maintenance Program for the fabric filter dust collector (Appendix A in permit) is required to be implemented and maintained if Rieth-Riley wishes to operate the plant.

The following is an evaluation of whether the Preventative Maintenance Program for the fabric filter control system was adhered to:

BAGHOUSE OPERATING PRESSURE DROP

The fabric filter dust collector pressure drop is required to be recorded once per day, but continuously measured. The acceptable pressure drop range should be no less than 2 in H₂O and no greater than 8 in H₂O. During the inspection, the pressure drop was reading at 4.6 in H₂O. Additionally, records of pressure drop are required to be taken once per day. J. Berscheit also provided me with snapshot daily pressure drop readings for 5/17/2016, 6/20/2016 and 8/14/201 at 4.2, 4.5 and 4.9 inches of water, respectively. The pressure drop is monitored continuously via computer program.

BAGHOUSE/PLANT ALARM SYSTEM

A high temperature sensor and alarm system should be equipped on the fabric filter dust collector that is designed to set off an alarm when the high temperature set-point has been violated, which should begin immediate sequential shut-down if the situation is not resolved in a short time period. T. Harris said that the set-point is 425°F, at which point the flame on the drum mixer is shut off. He said anything above this temperature would result in the system catching on fire (oil on bags in baghouse could catch on fire).

HANDLING AND STORAGE OF FABRIC FILTER DUST

Fabric filter dust is required to be disposed of in a manner that minimizes introduction of the particulate to the outer air. T. Harris explained that the fines are collected and then dropped into a conveyor that is fed back into the system. They do not dispose of any particulate.

VISIBLE EMISSIONS AND ACTIONS TO BE TAKEN

On July 1, 2016, at approximately 10:14 a.m. while doing a survey of the area, I noted opacity being emitted from Rieth Riley's stack. I sat and observed the emissions for 6+mins adjacent to Rieth Riley, east of Vondell Parkway, at the entrance of a pallet company, but did not conduct a Method 9 observation due to prior commitments for field activities that day. For that 6+ minute time period opacity was exceeding the 20% standard. I did not inform Rieth Riley of this opacity. On July 5, 2016, while out conducting an odor survey, Dan McGeen also noticed opacity being emitted from Rieth Riley's stack, which he concluded was 25% opacity. Dan entered Rieth Riley and according to his 7/5/16 activity report, he spoke with Hank Grifka of Rieth Riley, who was made aware of the issue at that time. D. McGeen's report stated that H.Grifka would investigate the baghouse issue that following Thursday (July 7, 2016) when they were not expected to operate due to rain. T. Harris had also acknowledged during D. McGeen's visit that he had noticed opacity coming from the stack a few days prior and had mentioned the issue to H. Grifka. J. Berscheit said that no Method 9 tests had been conducted the entire operating season via email correspondence post-8/15/16 inspection.

BLACK LIGHT INSPECTIONS

A black light test is required to be conducted at least once per year before operations for the paving season begin. A black light test is a test where black light-reactive dust is injected into the system, and using a black light, operators are able to determine if the black light-reactive dust is escaping the baghouse, thus detecting any baghouse leaks. J. Berscheit provided me with Rieth-Riley's "Failed Bag Location Chart" (attached) which contains a pictorial view of the baghouse, the bags that were changed, and which section of the baghouse had black light inspections conducted on it. On 4/7/16 and 4/8/16 the baghouse had black light inspections in which 19 bags were replaced as the result of the inspection. Another black light test was conducted 6/23/16 in which 13 additional bags were replaced. The bags at row 1, columns Q, R and S were replaced during both the April and June black light checks. According to production records, Rieth Riley's production started in March 2016 with 1,331 tons produced over a period of approximately 6 hours. Rieth Riley will receive a violation notice for failure to conduct black light inspections prior to operations for the paving season begins (Black light conducted in April 2016, production of HMA started in March 2016).

BAGHOUSE INSPECTION RECORD

A written record of the following is required to be kept per Appendix A of PTI 97-03A:

- Visual inspections of the interior components of the baghouse, including date, time and findings
- Number of filter bags installed as a result of each inspection to replace filter bags already in use in the baghouse, including date, time location, and whether the replacement filter bag was brand new or cleaned, previously used filter bag
- An explanation (i.e., a description of the damage found) for each filter bag removed from the baghouse and confirmation that another filter bag was installed to replace it
- Each observation of visible emissions at the stack discharge point and description of response to the observed visible emissions, including date and time of visible emission occurrence and results of EPA Method 9 observation if any. A visible emission record sheet will be made available.

J. Berscheit said that the 3 baghouse inspection records he provided me that cover 4/7/16, 4/8/16, and 6/23/16 are the only records Rieth Riley has for baghouse visual inspections, including the number of bags installed as a result of the inspection (including date, time, location, and whether replacement bags were new or used, and a description of the condition of the bags being replaced). T. Harris said that the baghouse is internally inspected every 10 days. There are no records that document these inspections and therefore Rieth Riley will receive a violation notice for failure to keep records of visual inspections of the interior components of the baghouse (date, time, findings).

Additionally, records were not kept for the inspection of the baghouse and changing of the bags in the baghouse for the 7/5/16 opacity event that D. McGeen made H. Grifka and T. Harris aware of. On 8/15/16, during the inspection, T. Harris said that 10 bags had been replaced for the opacity observations back on 7/5/16. Observations of visible emission are required to be recorded, including the response to visible emissions, and the date and time the visible emissions occurred. These were also not recorded for the 7/5/16 opacity event, nor were they recorded pre-7/5/16 although T. Harris said he was aware of the opacity issue a few days prior to D. McGeen's visit on 7/5/16. Rieth Riley will be sent a violation notice for failure to keep visual inspection records of the baghouse, failure to keep records of bag replacement date, time, and location of the bags being replaced, and the visible emissions that were observed pre-7/5/16 and 7/5/16 and the associated response to seeing these visible emissions. A violation will be cited for condition 1.9 of PTI 97-03A and Rule 910 for failure to maintain and operate an air-cleaning device in a satisfactory manner based on the findings on 7/1/16 and 7/5/16.

INVENTORY OF FILTER BAGS

A minimum of 15 fabric filter bags are required to be maintained in inventory onsite at all times. T. Harris confirmed that they currently have 75 bags in inventory onsite.

Rieth-Riley is currently in non-compliance with the PMP for the baghouse at this time.

Testing

In 2004 a stack test was conducted to verify and quantify emissions of various TACS and criteria air pollutants using recycled used oil as the fuel oil at a rate of 300 tons/hour. See table below for the pollutant, emission limit, and stack test results. SO₂, NO_x, VOC, and PM emissions tests are not required in the PTI. All are in compliance and/or verified with their emission limits.

Table 2: 2004 Stack Test Results

Pollutant/TAC	Stack Test Result (lb/ton HMA material produced)	Emission Limit (lb/ton HMA material produced)	Verified/Compliant?
Lead	4.84E-7	1.5E-5	Yes
Manganese	3.52E-6	5.0E-5	Yes
Nickel	1.02E-6	1E-4	Yes
Benzene	4.0E-5	1.2E-3	Yes
Ethyl benzene	1.3E-4	0.0012	Yes
Toluene	1.4E-4	0.006	Yes
Xylene	Non-detect	0.0012	Yes
Acrolein	5.0E-5	1.0E-3	Yes
Formaldehyde	4.4E-4	0.01	Yes
Naphthalene	1.8E-5	1.0E-3	Yes
Sulfuric Acid	1.7E-4	6.2E-3	Yes
Hydrochloric Acid	Non-detect	0.006	Yes
Carbon Monoxide	0.095	0.20	Yes
Arsenic	1.10E-7	1E-6	Yes

Monitoring

Rieth-Riley is required to continuously monitor the virgin aggregate feed rate and RAP feed rate to EU001 and keep intermittent records for these rates. Instantaneous readings can be directly taken from their computer program which continuously monitors the virgin aggregate and RAP feed rates. The instantaneous feed rates were 218 tons per hour and 52.6 tons per hour for the virgin aggregate feed rate and RAP feed rate, respectively, during the inspection. RAP feed rates on a ton per hour basis are recorded daily. J. Berscheit provided me records showing that the virgin aggregate feed rate is recorded on a monthly ton/hour average.

In addition to the feed rates, Rieth-Riley must also keep an intermittent record of the asphalt paving material product temperature and keep information sufficient to identify all components of the asphalt mix. This includes recording the initial mix design and time upon initial start-up, and the time and new mix design whenever the mix design changes. Rieth-Riley keeps spreadsheets that are used to record the date, mix name, and the time of mix start. Attached are 7/8/2016 – 7/15/2016 records of daily mix changes. During the inspection, temperature of the mix currently being produced was 290°F. While the temperature is continuously monitored, intermittent records of the asphalt product temperature were not provided. I will inform J. Berscheit and T. Harris of this permit requirement in order for Rieth-Riley to intermittently record the product temperature in the future. Failure to do so for future compliance inspections could result in a violation.

Operating hours are also required to be kept on a daily basis. Monthly operating hours are recorded on a monthly basis under the "MDEQ Record Keeping – Monthly Report." I will inform J. Berscheit that if they don't have these records on a daily basis they should start keeping this as part of compliance with PTI 97-03A, condition 1.22(d).

CO monitoring is required to be conducted via hand-held CO monitor upon start-up of each paving season, upon a malfunction of the drum dryer/mixer or its associated burner, and after every 500 hours of operation. For each CO monitoring occurrence the production data associated with the time the emissions data were collected should be recorded, and each data set shall contain at least 8 separate CO readings over a period of 30+ minutes. J. Berscheit provided me with records of the date the CO tests were conducted (April 20, 2016 and August 15, 2016). Although there are no CO limits in the PTI for the CO tests, we require they conduct this test. J. Berscheit has records for the 8 readings that were taken throughout a period of 35 minutes (attached) on 4/20/16. Typical asphalt plant permits will allow an average maximum of 500 ppm CO; as a reference point, the records indicate that the 8-reading average CO concentration was 706 ppm. At the end of July 2016, Rieth Riley had operated a total of 513.03 hours for the paving season (March – July). The second CO test for the paving season was conducted on August 15, which is sufficient for meeting the requirement to test CO concentration every 500

hours of operation. J. Berscheit did not provide me with the production data associated with the CO testing. I will remind him that production data needs to be recorded during future CO monitoring.

Fuel usage rate is required to be monitored and recorded on a daily basis in gallons or cubic feet per day. Rieth-Riley keeps this record in at least 2 different documents: "MDEQ Record Keeping – Daily Report" and "MDEQ Record Keeping – [Month] Daily Records." The daily reports cover 5/17/16, 6/20/16, and 8/14/16; the daily records per month cover May, June, and July 2016 daily records. Rieth Riley is in compliance with this requirement at this time.

Recordkeeping

The tons of virgin hot mix asphalt and tons of hot mix asphalt containing RAP produced (including percent RAP per ton of this HMA produced), and total amount of asphalt paving materials produced is required to be recorded on a daily basis. The daily reports contain this information and Rieth-Riley is therefore in compliance with this recordkeeping requirement

Calendar year emissions of CO, SO₂, NO_x, VOC and PM are required to be calculated, using stack test data as the emission factor, or the Emission Limits in PTI 97-03A if stack test data is not available. J. Berscheit said they use "factors determined by various relevant agencies. In order to ensure compliance, the highest factor published for any particular reemissions component is used." I will inform J. Berscheit that according to PTI 97-03A, only stack test results (if available) or the emission factors present in the Emission Limits table are allowed to be used to calculate emissions. There are no tpy emission limits on SO₂, NO_x, VOC, or PM in PTI 97-03A, yet Rieth-Riley is still required to calculate these. The calendar year emissions can be found on the December 2015 "MDEQ Record Keeping – Monthly Report," which calculates totals for the previous 12 months. Table 3 contains the 2015 calendar year emissions.

Table 3. Criteria Pollutant Calendar Year Emissions

Pollutant	2015 Calendar Year (tons)	Emission Limit (Calendar year tpy)	Compliant
CO	20.9	89.9	Yes
SO ₂	8.72	NA	NA
NO _x	12.5	NA	NA
VOC	6.72	NA	NA
PM	4.15	NA	NA

Stack Restrictions

Rieth-Riley is required to have a stack that is at least 44.3' above ground level. J. Berscheit explained that the stack is assembled from 2 sections that are each 14.5' long. These two sections, in addition to the fan and damper assembly he said measures about 16.5', total 45.5' from ground level. Rieth-Riley appears to be in compliance with the stack height requirement at this time.

EUYARD

EUYARD consists of 3 piles of RAP (recycled RAP millings, sized RAP, and large irregularly shaped RAP leftovers from jobs) and other storage piles containing only aggregate.

Fugitive dust emissions from the plant roadways, plant yard, material storage piles, and material handling operations are required to be calculated annually for MAERS. Based on the 2015 MAERS emission year, Rieth-Riley is in compliance with this condition. (Emissions reported under "cold aggregate handling," "storage piles," and "haul roads.")

Rieth-Riley is also required to follow the Fugitive Dust Management Plan in Appendix C. The following is an evaluation of whether the requirements in Appendix C have been met:

SITE MAINTENANCE

Dust suppressant application, sweeping and/or vacuuming or other approved activity is required to be conducted at least twice per month or more frequently as dictated by weather conditions and vehicular activity. T. Harris that they use a CaCl₂ brine solution to control dust on unpaved areas, but also will sweep on the paved ground on the main runway after it has rained. Records of the dust control activities are also required, including the date, time, and reason for the activity, and which activity was taken. J. Berscheit provided me with Rieth-Riley's dust control records entitled "MDEQ Record Keeping – Dust Control" for April 2016 – July 2016 which contains the date (daily records are kept), whether the plant was operating that day, and the dust control used for that day. The time of the activity was not recorded, nor was the reason for the dust control activity recorded. Additionally, rain was claimed for some dust control activity when weatherunderground.com documented clear skies for that day. The records for rain activity is important for MAERS reporting, as the model Rieth-Riley uses for calculating particulate emissions from fugitive incorporates the days when it rained. Despite the inaccurate record of rain days for each month, I verified that there were at least two valid rain days which would allow Rieth-Riley to meet the Site Maintenance requirements for fugitive dust. I will inform J. Berscheit of the need to keep adequate dust control records, but also inform J. Berscheit and T. Harris of the alleged inaccuracies in their rain day recordings and to be careful of this in the future.

Rieth-Riley is required to have speed limit signs of 10 MPH or less posted. Truck traffic enters and leaves the Rieth-Riley plant through the road just north of the office driveway. There is a 10 MPH speed limit sign posted where the truck traffic enters and exits.

MANAGEMENT OF ON-SITE ROADWAYS

The unpaved portions of the site are required to have dust control as needed. During the inspection, opacity from vehicular traffic exceeded 20% in the unpaved plant yard near the storage piles. Opacity on unpaved surfaces is allowed to be 5% or less. I did not conduct a Method 9 to verify that opacity remained above 5% during the inspection, but will conduct a Method 9 at a future inspection to determine if the 5% opacity standard has truly been exceeded. Additional dust control may be necessary for the unpaved plant yard.

All spillage on roads must also be removed immediately. I saw no material spillage on any of the roads.

ON-SITE MANAGEMENT OF HAUL VEHICLES

All trucks entering the site to deliver loads and all trucks leaving the site with HMA paving materials are required to cover the loads. A sign for the trucks leaving the site is also required to remind them to tarp the loads prior to leaving the site. T. Harris verified that Rieth-Riley does not have these signs posted. I will not site a violation for not having this sign at this time, but will expect it to be present at the next inspection. All trucks leaving with loads during the inspection covered the loads.

MANAGEMENT OF FRONT-END LOADER OPERATIONS

While there are requirements in place to avoid the overfilling of the bucket of the loader and the feed hoppers to prevent spillage and to also minimize the drop height of the material when loading the feedhoppers or transferring material to stockpiles, none of these operations were occurring during the inspection to verify compliance.

Rieth-Riley is currently in compliance with their Fugitive Dust Program and EUYARD conditions at this time.

EUACTANKS

The two AC tank vapor condensation and recovery systems are required to be maintained and operated in a satisfactory manner. T. Harris said that they have condensers that are used to control odors. I did not smell any odors while onsite during the inspection.

Rieth-Riley is in compliance with EUACTANKS conditions at this time.

EUSILOS

During the inspection I watched the loading of multiple trucks through the loadout area and did not see any signs of opacity or detect any odors. Both sides of the loadout area are completely enclosed, as required for this emission unit. The asphalt odors/fumes from loadout, as well as from the loadout silo are captured via a "blue smoke package" which send the fumes to a scrubber which condenses the fumes at the top of the scrubber. The liquid is collected at the bottom of the scrubber unit. T. Harris said there is not much liquid that collects in the bottom of the scrubber. T. Harris said they check this/clean out the bottom of the scrubber less than annually.

Rieth-Riley is in compliance with all EUSILOS conditions at this time.

FGFACILITY

FGFACILITY takes into account all emissions sources and restricts HAP emissions to 8.9 tpy for each individual HAP and 22.49 tpy for aggregate HAPs. The HAPS regulated under this permit are all pollutants listed in the emission unit summary table, except for the criteria air pollutants. The 12-month rolling time period is from August 2015 – July 2016.

HAP	Individual (tpy, 12-month rolling)	Compliance with HAP 8.9 tpy limit?
Benzene	0.118	Yes
Ethyl benzene	0.118	Yes
Xylene	0.115	Yes
Toluene	0.708	Yes
Naphthalene	0.115	Yes
Formaldehyde	0.118	Yes
Acrolein	0.0721	Yes
Arsenic	0.000756	Yes
Nickel	0.0115	Yes
Hydrochloric acid	0.00	Yes
Manganese	0.000756	Yes

Total Aggregate HAPs (tpy, 12-month rolling)	1.38	Compliance with 22.49 tpy limit
--	------	------------------------------------

There is no requirement for choosing the emission factors that are to be used to calculate these HAPs from the process.

Rieth-Riley is in compliance with all conditions under FGFACILITY at this time.

As a result of this inspection and review of records Rieth-Riley is found to be in non-compliance with EU001's baghouse PMP. A violation notice will be sent to address these deficiencies.

NAME M. L. Lyles DATE 9/26/16 SUPERVISOR R. M.

