



**Environmental
Protection Agency**

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

September 13, 2012

RE: GEAUGA COUNTY
MERCURY PLASTICS
NPDES # 3IQ00027

Mr. Charles Currey
Mercury Plastics, Inc.
15760 Madison Road
Middlefield, Ohio 44062

Dear Mr. Currey;

On September 5, 2012, I met with you and Mr. Chuck Hayes to conduct an inspection of Mercury Plastics and the wastewater treatment plant (WWTP) serving the facility. The intent of the inspection was to review operations and maintenance of the treatment system and gather information required to issue the National Pollutant Discharge Elimination System (NPDES) permit.

Mercury Plastics is a supplier of custom thermoplastic extrusions, extruded plastic profiles and specialized fabrications primarily for the appliance industry. The manufacturing facility includes general office space, production, warehouse, and maintenance.

The facility currently discharges treated wastewater from an extended aeration treatment system located onsite. The discharges from the facility include sanitary wastewater, once through non-contact cooling water, storm water and sand filter backwash from the chiller system. The final effluent from the WWTP discharges to an unnamed tributary of Swine Creek, at outfall 006.

INSPECTION

Below are the findings and recommendations from the inspection:

The WWTP is monitored at internal monitoring station 601, prior to being combined with storm water effluent flows. Outfall 001, which includes chilled water tank and chiller water sand filter backwash water, discharges to a catch basin along S.R. 528, located in front of the facility. Outfall 004 includes storm water only and discharges to a catch basin along S.R. 528, located in front of the facility. Outfall 005, which includes the chiller once pass through non contact cooling water, discharges to the fire pond located west of the facility. Monitoring for outfall 005 is at a sampling pit located prior to discharging at the fire pond.

The wastewater treatment system consists of a grinder, trash trap, flow equalization tank, an extended aeration treatment system with a clarifier, dosing station, surface sand filters divided into two equal compartments, and ultra violet disinfection. All solids removed from the system are hauled by Tim Frank Septic.

The trash trap was nearly full at the time of the inspection. The trash trap is pumped out quarterly. The grinder was in operation and appeared to be in satisfactory condition.

At the time of the inspection, all treatment units were in operation and appeared to be in satisfactory condition. The aeration tank portion of the system appeared to be in satisfactory condition. The contents of the aeration tank appeared brown and the air circulation within the tank appeared to be satisfactory with adequate rollover noted. Some foam was present in the tank. The sludge return line and skimmer return line were in operation. The returned sludge was a dark brown color. The clarifier portion of the treatment system appeared to be in satisfactory condition. The surface of the tank had minimal solids present and the skimmer was visible. The influent baffle was full of solids. The effluent weir was clean and the tank effluent appeared clear. It is understood the clarifier is scraped down approximately three days per week. In addition to scraping down the sidewalls of the clarifier, the operator checks for sludge blanket depth and sludge settleability.

The dosing station appeared to be in satisfactory condition and the pumps were operational. There were some solids noted visually in the dosing chamber. This office requests the facility check the dosing chamber for any solids buildup. Solids may be passing over from the extended aeration treatment system if solids build up in the system and are not removed as needed.

The sand filters appeared clogged at the time of the inspection. During the inspection, it was mentioned the heavy rains that took place in the previous two days were the cause of the sand filters flooding. At the time of the inspection, the sand filters were raked on the unflooded filter. The rakings were not removed from the filter bed and were placed along the perimeter of the filter. All solids must be raked off the media and removed from the filter bed routinely to ensure effective operation of the sand filters and effective treatment of the effluent. This office is concerned with the sand filterbed flooding. Flooding of a filter bed could be cause by clogged underdrains. This office recommends the facility complete an engineering evaluation of the sand filters with emphasis on the underdrains.

The ultraviolet filtration system was in operation and in satisfactory condition at the time of the inspection. The effluent from the tank appeared clear and free of solids and foam. The final outfall at 006 appeared clear and the receiving stream appeared to be in satisfactory condition.

The storm water outfalls (001 and 004) were inspected and found to be in satisfactory condition. Storm water is collected at the old outfall 005 (in the north parking lot). The effluent from this storm drain discharges at the roadside ditch along S.R. 528, in front of the building. This is a storm outfall and will not be included in the NPDES permit as it collects runoff from the parking areas only.

NPDES PERMIT

Discharge monitoring reports from January 1, 2009 through August 1, 2012 were reviewed for compliance with the current NPDES permit. The violation summary was reviewed during the inspection and has been attached for your records. Please review the violation summary and notify this office if any errors are noted.

The NPDES permit for this facility contains a limit at Station 005 for Iron. The sampling station for outfall 005 is prior to the fire pond. As such, the impact to the water quality of any Waters of the State is limited.

After further review by this office, it has been determined the Iron limit will be withdrawn from the draft renewal NPDES permit.

Operator Certification

The WWTP is currently classified by the Ohio EPA as a Class I wastewater treatment works. The renewal NPDES permit will include language in Part II that will update the classification of the WWTP to a Class A wastewater treatment works.

Storm Water

The NPDES permit for the facility includes Parts IV, V & VI which address the storm water permitting for the site. In accordance with the NPDES permit, Parts IV, V & VI, the facility is required to complete a Storm Water Pollution Prevention Plan (SWP3) for the site. The SWP3 must include the entire facility and show any areas of runoff, outdoor storage of product and equipment, and an implementation of controls to be used. Information on the SWP3 can be found at the storm water section of our web page at:

<http://www.epa.ohio.gov/dsw/storm/index.aspx>

SUMMARY

In summary, the following items must be completed within the provided deadline:

- 1) Check the dosing chamber for solids accumulation. Depending on the results, solids may need to be removed from the system. This should be done no later than October 15, 2012.
- 2) Complete an engineering assessment of the sand filters with emphasis on the underdrain system. This must be done no later than November 2, 2012.
- 3) Complete a SWP3 for the entire site as soon as possible but no later than November 15, 2012.

Your NPDES permit will be public noticed in the near future. Once the permit is public noticed, you will have 30 days to make any comments. If you have any questions or comments regarding this letter, please contact this office at (330) 963-1299.

Respectfully,



Laura A. Weber, P.E.
Environmental Engineer
Division of Surface Water

LAW/cs

Attachment: Violation summary

cc: Chuck Hayes, Operations Manager, Mercury Plastics
Geauga County Health Department

File: Industrial/Mercury Plastics 3IQ00027

NPDES Permit Violations

Discharge Violations

Reporting Period	Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
January 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	6000.	1/13/2009
January 2009	005	01045	Iron, Total (Fe)	1D Qty	17.0	2246632	1/13/2009
February 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	5630.	2/10/2009
February 2009	005	01045	Iron, Total (Fe)	1D Qty	17.0	2172188	2/10/2009
March 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	7000.	3/17/2009
March 2009	005	01045	Iron, Total (Fe)	1D Qty	17.0	2538247	3/17/2009
April 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	6370.	4/13/2009
May 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	7400.	5/12/2009
June 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	5450.	6/9/2009
July 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	7650.	7/7/2009
August 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	6330.	8/28/2009
September 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	5480.	9/15/2009
October 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	6780.	10/15/2009
December 2009	005	01045	Iron, Total (Fe)	1D Conc	5000	5451.	12/17/2009
February 2010	005	01045	Iron, Total (Fe)	1D Conc	5000	5240.	2/25/2010
April 2010	005	01045	Iron, Total (Fe)	1D Conc	5000	5670.	4/20/2010
May 2010	005	01045	Iron, Total (Fe)	1D Conc	5000	5820.	5/28/2010
June 2010	005	01045	Iron, Total (Fe)	1D Conc	5000	5260.	6/18/2010
September 2010	005	01045	Iron, Total (Fe)	1D Conc	5000	6290.	9/14/2010
November 2010	005	01045	Iron, Total (Fe)	1D Conc	5000	5290.	11/9/2010
December 2010	005	01045	Iron, Total (Fe)	1D Conc	5000	6620.	12/20/2010
January 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	5806.	1/18/2011
February 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	5970.	2/16/2011
April 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	5933.	4/26/2011
May 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	7300.	5/24/2011
June 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	6786.	6/21/2011
August 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	6720.	8/23/2011
September 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	5943.	9/20/2011
October 2011	005	00400	pH	1D Conc	6.5	6.12	10/25/2011
October 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	6130.	10/25/2011
November 2011	005	01045	Iron, Total (Fe)	1D Conc	5000	7530.	11/22/2011
January 2012	005	01045	Iron, Total (Fe)	1D Conc	5000	6100.	1/17/2012
February 2012	005	01045	Iron, Total (Fe)	1D Conc	5000	5590.	2/14/2012
April 2012	005	01045	Iron, Total (Fe)	1D Conc	5000	7177.	4/27/2012
May 2012	005	01045	Iron, Total (Fe)	1D Conc	5000	6180.	5/22/2012
June 2012	005	01045	Iron, Total (Fe)	1D Conc	5000	6540.	6/19/2012
July 2012	005	01045	Iron, Total (Fe)	1D Conc	5000	7090.	7/17/2012
January 2009	601	00400	pH	1D Conc	9.0	9.2	1/7/2009
June 2009	601	00400	pH	1D Conc	6.5	6.3	6/19/2009
August 2009	601	00400	pH	1D Conc	6.5	5.6	8/14/2009
August 2009	601	00400	pH	1D Conc	6.5	6.	8/21/2009

MERCURY PLASTICS
 SEPTEMBER 13, 2012
 PAGE 5 OF 6

August 2009	601	00400	pH	1D Conc	6.5	6.1	8/28/2009
September 2009	601	00530	Total Suspended Solids	30D Conc	12	14.5	9/1/2009
October 2009	601	00400	pH	1D Conc	6.5	6.4	10/15/2009
October 2009	601	00400	pH	1D Conc	6.5	6.2	10/22/2009
October 2009	601	00400	pH	1D Conc	6.5	6.1	10/28/2009
November 2009	601	00530	Total Suspended Solids	30D Conc	12	23.	11/1/2009
November 2009	601	00400	pH	1D Conc	6.5	5.8	11/3/2009
November 2009	601	00400	pH	1D Conc	6.5	6.4	11/16/2009
November 2009	601	00530	Total Suspended Solids	7D Conc	18	30.	11/22/2009
November 2009	601	00400	pH	1D Conc	6.5	6.1	11/24/2009
December 2009	601	00610	Nitrogen, Ammonia (NH3	30D Conc	3.0	26.3	12/1/2009
December 2009	601	00610	Nitrogen, Ammonia (NH3	30D Qty	0.038	.10751	12/1/2009
December 2009	601	00400	pH	1D Conc	6.5	5.8	12/3/2009
December 2009	601	00610	Nitrogen, Ammonia (NH3	7D Conc	4.5	26.3	12/15/2009
December 2009	601	00610	Nitrogen, Ammonia (NH3	7D Qty	0.057	.10751	12/15/2009
December 2009	601	00400	pH	1D Conc	6.5	6.4	12/17/2009
December 2009	601	00400	pH	1D Conc	6.5	6.1	12/24/2009
April 2010	601	00530	Total Suspended Solids	30D Conc	12	13.5	4/1/2010
April 2010	601	00530	Total Suspended Solids	7D Conc	18	22.	4/15/2010
May 2010	601	00530	Total Suspended Solids	30D Conc	12	13.	5/1/2010
May 2010	601	00400	pH	1D Conc	6.5	6.1	5/11/2010
May 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	5.05	5/13/2010
May 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	5.5	5/25/2010
May 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	4.9	5/29/2010
June 2010	601	00530	Total Suspended Solids	30D Conc	12	24.	6/1/2010
June 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	4.98	6/2/2010
June 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	4.77	6/4/2010
June 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	4.13	6/7/2010
June 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	4.36	6/11/2010
June 2010	601	00530	Total Suspended Solids	7D Conc	18	24.	6/15/2010
June 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	4.38	6/16/2010
June 2010	601	00400	pH	1D Conc	6.5	6.4	6/23/2010
June 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	3.67	6/23/2010
June 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	4.22	6/29/2010
July 2010	601	00530	Total Suspended Solids	30D Conc	12	24.	7/1/2010
July 2010	601	00300	Dissolved Oxygen	1D Conc	6.0	5.82	7/2/2010
July 2010	601	00530	Total Suspended Solids	7D Conc	18	24.	7/22/2010
September 2010	601	00610	Nitrogen, Ammonia (NH3	30D Conc	1.0	7.1405	9/1/2010
September 2010	601	00610	Nitrogen, Ammonia (NH3	30D Qty	0.013	.02863	9/1/2010
September 2010	601	00610	Nitrogen, Ammonia (NH3	7D Conc	1.5	13.3	9/8/2010
September 2010	601	00610	Nitrogen, Ammonia (NH3	7D Qty	0.019	.05437	9/8/2010
January 2011	601	00610	Nitrogen, Ammonia (NH3	30D Conc	3.0	5.17	1/1/2011
January 2011	601	00610	Nitrogen, Ammonia (NH3	7D Conc	4.5	5.17	1/15/2011
May 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.6	5/27/2011
June 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.24	6/2/2011
June 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	4.36	6/9/2011
June 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.64	6/14/2011

June 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.68	6/20/2011
June 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.46	6/28/2011
July 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.76	7/28/2011
August 2011	601	31616	Fecal Coliform	30D Conc	1000	1160.	8/1/2011
August 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.7	8/5/2011
September 2011	601	00300	Dissolved Oxygen	1D Conc	6.0	5.77	9/2/2011
February 2012	601	00300	Dissolved Oxygen	1D Conc	6.0	4.46	2/17/2012
March 2012	601	00530	Total Suspended Solids	30D Conc	12	41.5	3/1/2012
March 2012	601	00530	Total Suspended Solids	30D Qty	0.15	.26378	3/1/2012
March 2012	601	00530	Total Suspended Solids	7D Conc	18	69.	3/15/2012
March 2012	601	00530	Total Suspended Solids	7D Qty	0.23	.45443	3/15/2012
March 2012	601	00300	Dissolved Oxygen	1D Conc	6.0	5.97	3/23/2012
April 2012	601	00400	pH	1D Conc	6.5	6.1	4/18/2012
May 2012	601	00530	Total Suspended Solids	30D Conc	12	22.	5/1/2012
May 2012	601	00400	pH	1D Conc	6.5	5.6	5/4/2012
May 2012	601	00400	pH	1D Conc	6.5	6.3	5/11/2012
May 2012	601	00300	Dissolved Oxygen	1D Conc	6.0	2.72	5/11/2012
May 2012	601	00400	pH	1D Conc	6.5	6.2	5/18/2012
May 2012	601	00530	Total Suspended Solids	7D Conc	18	22.	5/22/2012
May 2012	601	00400	pH	1D Conc	6.5	5.3	5/25/2012
May 2012	601	00400	pH	1D Conc	6.5	5.9	5/31/2012
June 2012	601	00400	pH	1D Conc	6.5	6.1	6/6/2012
June 2012	601	00400	pH	1D Conc	6.5	6.1	6/14/2012

Frequency Violations

Reporting Period	Station	Reporting Code	Parameter	Sample Frequency	Expected	Reported	Violation Date
June 2009	601	00300	Dissolved Oxygen	1/Week	1	0	6/8/2009
September 2009	601	00400	pH	1/2Weeks	1	0	9/15/2009
September 2009	601	00300	Dissolved Oxygen	1/Week	1	0	9/1/2009
October 2009	601	00300	Dissolved Oxygen	1/Week	1	0	10/8/2009
May 2010	601	31616	Fecal Coliform	1/Month	1	0	5/1/2010
July 2010	601	00010	Water Temperature	1/Week	1	0	7/22/2010
July 2010	601	00300	Dissolved Oxygen	1/Week	1	0	7/22/2010
November 2010	601	00010	Water Temperature	1/Week	1	0	11/22/2010
November 2010	601	00300	Dissolved Oxygen	1/Week	1	0	11/22/2010
April 2011	601	00010	Water Temperature	1/Week	1	0	4/22/2011
April 2011	601	00300	Dissolved Oxygen	1/Week	1	0	4/22/2011
May 2012	601	31616	Fecal Coliform	1/Month	1	0	5/1/2012
June 2012	601	00010	Water Temperature	1/Week	1	0	6/15/2012
June 2012	601	00300	Dissolved Oxygen	1/Week	1	0	6/15/2012
June 2010	005	00610	Nitrogen, Ammonia (NH3)	1/Quarter	1	0	6/1/2010
June 2012	005	00010	Water Temperature	1/Month	1	0	6/1/2012
June 2012	005	00400	pH	1/Month	1	0	6/1/2012