MARYLAND DEPARTMENT OF ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

FACT SHEET AND TENTATIVE DETERMINATION
JOSEPH SMITH AND SONS, INC.

PERMITTING OF SCREENING OPERATIONS, AN ALUMINUM PROCESS, A 6050 HAMMERMILL PROCESS, A WATER MEDIA SEPARATION PROCESS, AND A BALL MILL PROCESS

I. INTRODUCTION

The Maryland Department of the Environment (the "Department") received an After-the-Fact application from Joseph Smith and Sons, Inc. (Joseph Smith or JSS) on May 1, 2018 for a Permit to Construct for installations comprising of: screening operations; an aluminum process; a 6050 hammermill process; a water media separation process; and a ball mill process. The installations are located at 4516 S. Street and 2001 Kenilworth Avenue in Capitol Heights, Prince George's County, Maryland.

A notice was placed in the Prince George's Sentinel Newspaper on September 6, 2018 and September 13, 2018 announcing a scheduled informational meeting to discuss the permit to construct application. The informational meeting was held on September 17, 2018 at the Cheverly Executive Office (gymnasium), 6401 Forest Road in Cheverly, MD. As required by law, all public notices were also provided to elected officials in all State, county, and municipality legislative districts located within a one mile radius of the facility's property boundary.

The Department has reviewed the application and has made a tentative determination that the proposed installations are expected to comply with all applicable air quality regulations. A public hearing has been scheduled for May 15, 2019 at 7:00 PM at the Cheverly Executive Office (gymnasium), 6401 Forest Road in Cheverly, MD to provide interested parties an opportunity to comment on the Department's tentative determination and draft permit conditions, and/or to present other pertinent concerns about the proposed facility. Notices concerning the date, time and location of the public hearing will be published in the legal section of a newspaper with circulation in the general area of the facility. Interested parties may also submit written comments.

If the Department does not receive any comments that are adverse to the tentative determination, the tentative determination will automatically become a final determination. If adverse comments are received, the Department will review the comments, and will then make a final determination with regard to issuance or denial of the permit. A notice of final determination will be published in a newspaper of general circulation in the affected area. The final determination may be subject to judicial review pursuant to Section 1-601 of the Environment Article, Annotated Code of Maryland.

II. CURRENT STATUS AND PROPOSED INSTALLATION

A. Current Status

Table 1 below shows currently registered installations at the premises with their registration numbers and installation dates.

Table 1

Registration #	Description	Date of Installation
6-0309	One (1) automotive and metal shredding equipment comprising of a shredder rated at 5000 HP, magnetic separator, water separator and a conveyor system	1988*
9-1479, 9-1480, 9-1481 & 9-1482	Non-ferrous fines separation processes comprising of: Three (3) identical units utilizing Sweco sizing screens (with throughputs of less than 5 tons per hour), magnetic separation, and two (2) Positive Pressure Systems (PPS) G9 equipped with material recovery cyclones; and One (1) unit utilizing Sweco sizing screens (with throughputs of less than 5 tons per hour), magnetic separation, and a Vacuum Pressure System (VPS) P8 equipped with material recovery cyclones	2012
5-1536	One (1) Starjet dryer rated at 49.3 MMBtu/hr. for drying wet non-ferrous auto shredder residue	2013

* 1988 replaced 1969, which has been the date presented as the installation date, but is actually the date of initial operation at the site

As shown in the table above, Joseph Smith currently operates one electric powered 5000 HP automotive and metal shredder described above. The primary purpose of the operation is to shred metals, auto parts and old automobiles for the recovery of recyclable parts such as ferrous and non-ferrous metals. The automobiles shredded are ones that have reached the end of useful lives (EOL). These automobiles are recycled in four steps: dismantling, crushing, shredding, and resource recovery. In the dismantling step, handlers recover the fluids, and disassemble useful parts and components such as batteries, wheels and tires, steering columns, fenders, engines, radios, starter, transmission, catalytic converters, and other components based on aftermarket demand. In the second step the vehicle is crushed and loaded in the shredder. During the third step, the shredder shreds the vehicle into various sizes. In the final step, the bits and pieces are separated into ferrous and non-ferrous metals. The finer material remaining is auto shredder residue (ASR), which typically is land-filled.

In October 2011, Joseph Smith expanded its operation with the addition of a non-ferrous ASR fines separation process to further separate ferrous and non-ferrous fines. As part of this expansion, JSS now receives ASR fines from Recovermat - one of its auto shredding and recovery facilities located in Baltimore County, Maryland as well as from Allegany Scrap, Inc - auto scrap metal shredding and processing company, which it also owns, located in Allegany County, Maryland. To this end, JSS obtained an After-the-Fact permit to construct for the non-

ferrous fines separation equipment comprising of: (1) three identical fines separation units utilizing sizing screens (of unknown design throughputs but presumed to be less than 5 tons per hour), magnetic separation, and two Positive Pressure Systems (PPS) G9 equipped with material recovery cyclones; and (2) one fines separation unit utilizing sizing screens (of unknown design throughputs, also presumed to be less than 5 tons per hour), magnetic separation, and a Vacuum Pressure System (VPS) P8 equipped with material recovery cyclones.

Following the permitting of the non-ferrous ASR fines separation process, in 2013, JSS applied for and obtained a permit to construct for installation of one (1) Starjet dryer rated at 49.3 MMBtu/hr. for drying wet non-ferrous auto shredder residue.

B. Proposed Installation

The current application from Joseph Smith was received on May 1, 2018 is an After-the-Fact application to permit equipment already installed at the premises. The equipment comprises of screens, Bivi-Tecs and trommels for screening operations, an aluminum process, a 6050 hammermill process, a water media separation process, and a ball mill process. The installations are located at 4516 S. Street and 2001 Kenilworth Avenue in Capitol Heights, Prince George's County, Maryland. The installed equipment provides Joseph Smith an added capacity to further extract metal fines (particulates) from the ASR thereby reducing the volume of materials that would otherwise end up in the landfill along with the attendant problems.

Table 2 below shows the already installed (After-the- Fact) equipment, which requires construction Permits with the registration numbers and installation dates.

Table 2

Registration #	Description	Date of Installation
6-1573	Screening Operations	October 2013
6-1574	Aluminum process	2013
6-1575	6050 Hammermill process	August 2014
6-1576	Water Media Separation - Two (2) Super Screens	2015 and 2017
6-1578	Ball Mill Process	2017

III. APPLICABLE REGULATIONS

(1) This source is subject to all applicable federal and local air pollution control requirements.

(2) This source is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following:

(a) **COMAR 26.11.01.04A(1) -** Requirements for Testing.

"The Department may require any person to conduct or have conducted testing to determine compliance with this subtitle. The Department, at its option, may witness or conduct these tests. This testing will be done at a reasonable time, and all information gathered during a testing operation will be provided to both parties."

(b) **COMAR 26.11.01.07C** - Report of Excess Emissions.

(i) "In the case of any occurrence of excess emissions, expected to last or actually lasting for 1 hour or more, from any installation required by COMAR 26.11.02.13 to obtain a State permit to operate, the owner or operator shall report the onset and shall report the termination of the occurrence to the Department by telephone.

(ii) Telephone reports of excess emissions shall include the following information:

(a) The identity of the installation and the person reporting;

(b) The nature or characteristics of the emissions (for example, hydrocarbons, fluorides);

(c) The time of occurrence of the onset of the excess emissions and the actual or expected duration of the occurrence; and

(d) The actual or probable cause of the excess emissions."

(c) **COMAR 26.11.02.04B** - Duration of Permits - Permits to Construct and Approvals.

"A permit to construct or an approval expires if, as determined by the department:

(1) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;

(2) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or

(3) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval."

(d) **COMAR 26.11.02.09A** - Sources Subject to Permit to Construct and Approval

"A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation .10 of this chapter--permit to construct required."

(e) **COMAR 26.11.06.02C(2)** - "In Areas III and IV a person may not cause or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which is visible to human observers."

General Exceptions. COMAR 26.11.06.02(A)(2)
"The visible emissions standards in §C of this regulation do not apply to emissions during start-up and process modifications or adjustments, or occasional cleaning of control equipment, if:

(1) The visible emissions are not greater than 40 percent opacity; and
(2) The visible emissions do not occur for more than 6 consecutive minutes in any 60-minute period."

(f) **COMAR 26.11.06.03B(2)(a)** - Particulate Matter from Confined Sources.
"A person may not cause or permit to be discharged into the outside atmosphere from any other installation, particulate matter in excess of 0.03 gr/scfd."

(g) **COMAR 26.11.06.03D** - Particulate Matter from Materials Handling and Construction.
"A person may not cause or permit any material to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, but not be limited to, the following when appropriate as determined by the control officer:

(1) Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.

(2) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts.

(3) Installation and use of hoods, fans, and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations.

(4) Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering the vehicles.

(5) The paving of roadways and their maintenance in clean condition.

(6) The prompt removal from paved streets of earth or other material which has

been transported there by trucks or earth moving equipment or erosion by water.

(3) This source is subject to all applicable State-only enforceable air pollution control requirements including, but not limited, to the following regulations:

(a) **COMAR 26.11.06.08 -** Nuisance
"An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

(b) **COMAR 26.11.06.09 -** Odors
"A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

(c) **COMAR 26.11.15.05 -** Control Technology Requirement
"New or Reconstructed Installations. A person may not construct, reconstruct, operate, or cause to be constructed, reconstructed, or operated, any new installation or source that will discharge a toxic air pollutant to the atmosphere without installing and operating T-BACT."

(d) **COMAR 26.11.15.06** - Requirements for New Installations, Sources, or Premises
"A(1) Except as provided in §A(2) of this regulation, a person may not construct, modify, or operate, or cause to be constructed, modified, or operated, any new installation or source without first demonstrating to the satisfaction of the Department using procedures established in this chapter that total allowable emissions from the premises of each toxic air pollutant discharged by the new installation or source will not unreasonably endanger human health."

IV. GENERAL AIR QUALITY

The U.S. Environmental Protection Agency (EPA) has established primary and secondary National Ambient Air Quality Standards (NAAQS) for six (6) criteria pollutants, i.e., sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead. The primary standards were established to protect public health, and the secondary standards were developed to protect against non-health effects such as damage to property and vegetation.

The Department utilizes a statewide air monitoring network, operated in accordance with EPA guidelines, to measure the concentrations of criteria pollutants in Maryland's ambient air. The measurements are used to project statewide ambient air quality, and currently indicate that the Washington DC metropolitan area, including Prince George's County, complies with the NAAQS for sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, and lead.

Ground level ozone continues to present a problem for the entire Washington, DC metropolitan area, which is classified as marginal non-attainment area for ozone. The primary contributors to the formation of ozone are emissions of oxides of nitrogen, primarily from combustion equipment, and emissions of Volatile Organic Compounds (VOC) such as paint solvents and gasoline vapors. Prince George's County is included in the non-attainment area for ozone.

On December 16, 2014, EPA published a Final Rule in the Federal Register approving the State of Maryland's request to re-designate to attainment the Central Maryland Non-Attainment area for the annual $PM_{2.5}$ national ambient air quality standard (NAAQS). Per the notice, "EPA has determined that the Central Area attained the standard and that it continues to attain the standard." The Central area includes Prince George's County. Effective December 16, 2014, the major source threshold level for $PM_{2.5}$ is 100 tons per year for a listed source and 250 tons per year for unlisted source for PSD review. The proposed installation will not trigger Prevention of Significant Deterioration for $PM_{2.5}$ or any other regulated criteria pollutant.

With regard to toxic air pollutants (TAPs), screening levels (i.e., acceptable ambient concentrations for toxic air pollutants) are generally established at 1/100 of allowed worker exposure levels (TLVs)[1]. The Department has also developed additional screening levels for carcinogenic compounds. The additional screening levels are established such that continuous exposure to the subject TAP at the screening level for a period of 70 years is expected to cause an increase in lifetime cancer risk of no more than 1 in 100,000.

V. COMPLIANCE DEMONSTRATION AND ANALYSIS

The proposed installation must comply with all State imposed emissions limitations and screening levels, as well as the NAAQS. The Department has conducted an engineering and air quality review of the application. The only criteria pollutant emitted from the installations currently being permitted at the facility is particulate matter and is presented in Table 3 below. The emissions are based on the maximum throughput of each installation on a 24 hour per day and 365 days a year operating schedule.

The installations do not have air toxics emissions associated with their operation in any significant amount since they are downstream of the automobile and metal shredder. Toxic air pollutants associated with automobile and metal shredding operation are emitted during the shredding operation and during processes immediately following the shredding process such as magnetic separation of ferrous from non-ferrous fines.

Joseph Smith and Sons conducted a premises-wide air toxics analysis in 2013 to demonstrate the facility's compliance with the Maryland Air Toxics regulations. This demonstration was conducted

[1] TLVs are threshold limit values (exposure limits) established for toxic materials by the American Conference of Governmental Industrial Hygienists (ACGIH). Some TLVs are established for short-term exposure (TLV – STEL), and some are established for longer-term exposure (TLV – TWA), where TWA is an acronym for time-weight average.

during the Permit to Construct review of the Starjet dryer rated at 49.3 tons/hr.

The facility-wide air toxics compliance demonstration is presented in Table 4 below. The emissions were projected based on the concentration of toxics in the materials processed at the facility. The materials are typically white goods and motor vehicles that have reached the end of their useful life. The emissions factors used in the analysis can be found in Table D -11.F, Emissions Test for Mills with No Controls, of the Title V Applicability Workbook Prepared for the Institute of Scrap Recycling Industries. The particulate matter emission factor was obtained from the EPA AP- 42 Table 11.19.2-2, Emission Factor - Screening Controlled and Uncontrolled. The quantified emissions from the installations being permitted are presented in Appendix B - Potential to emit Calculation 2018 - Table 1 in the application package and also in Table 3 below.

A screen model (typically, the conservative U.S. EPA's Screen 3 or AERSCREEN model) is used to project the maximum ground level concentrations from the proposed facility, which are then compared to the screening level(s) and the NAAQS. However, this model was not used because of the mode of operation of the screens and the peculiar configuration of the multiple area sources and as detailed below:

1. The particulate matter processed at these sources is very wet and saturated with the water used to control particulate matter from becoming airborne during the operation of the shredder and to prevent incidents of shredder fires and explosions owing to the extreme heat generated by the shredder during operation; and

2. The particulate matter emissions are not continuous and are a function of meteorological conditions. Particulate matter is hauled from point to point by trucks or front end loaders. If any particulate matter momentary becomes airborne, it will quickly fall down because of gravity and the absence of counteracting upward force.

A. Estimated Emissions - The maximum projected emissions of criteria pollutant(s) from the proposed installations, in this case, particulate matter is listed in Table 3.

B. Compliance with National Ambient Air Quality Standards - The installations being permitted were installed between 2013 and 2017. The emissions from these installations have now become part of background concentration for modeling demonstration purposes and which confirms that Prince George's County remains compliant with the NAAQS for particulate matter (PM_{10} and $PM_{2.5}$).

C. Compliance with Air Toxics Regulations - As stated earlier in this document, JSS's facility-wide air toxics analysis presented in Table 4 below, demonstratives the facility's compliance with the Maryland Air toxics regulations

VI. TENTATIVE DETERMINATION

Based on the above information, the Department has concluded that the proposed installation will

comply with all applicable federal and State air quality control requirements. In accordance with the Administrative Procedure Act, the Department has made a tentative determination to issue the Permit to Construct. Enclosed with the tentative determination is a copy of the draft Permit to Construct.

TABLE 3
PROJECTED MAXIMUM EMISSIONS FROM THE PROPOSED INSTALLATIONS

	POLLUTANT Particulate Matter (PM_{10})	PROJECTED MAXIM0UM EMISSIONS FROM PROPOSED INSTALLATION		
Process		lbs/hr	lbs/day	tons/year
	PM_{10}			
Screening Operations	PM_{10}	0.32	7.68	1.40
Aluminum Process	PM_{10}	2.16	51.84	9.46
6050 Hammermill Process	PM_{10}	0.10	2.40	0.44
Water Media Separation Process	PM_{10}	2.88	69.12	12.61
Ball Mill Process	PM_{10}	2.97	71.28	13.01
Total		8.43	202.33	36.92

Based on 24 hours per day and 365 days per year

TABLE 4

Table 4.1 - VOC/HAP Emissions Calculations (PTE)

Joseph Smith and Sons

Capitol Heights, MD

Reference: Versar, Inc. Title V Applicability Workbook Prepared For Institute of Scrap Recycling Industry (ISRI), 1998

Emission Source[1]		E[2]	Design Throughput	Annual Throughput	Uncontrolled Emissions (Short Term)	Uncontrolled Emissions (Annual)		Dust-Buster	Controlled Emissions (Short Term)	Controlled Emissions (Annual)	
No.	Pollutant	lb/ton	(ton/hr)[3]	(tons/yr)[3]	(lb/hr)	(lb/hr)	(tons/yr)	Control Eff.[4]	(lb/hr)	(lb/hr)	(tons/yr)
6.	Methylene Chloride	6.00E-05	240	1,051,200	0.014	0.007	0.032	0%	0.014	0.01	0.03
6.	1,1-Dichloroethane[5]	1.33E-05	240	1,051,200	0.003	0.002	0.007	0%	0.003	0.002	0.01
6.	2-Butanone (MEK)	5.33E-06	240	1,051,200	0.001	0.001	0.003	0%	0.001	0.001	0.00
6.	1,1,1,-Trichloroethane	2.00E-04	240	1,051,200	0.048	0.024	0.105	0%	0.048	0.02	0.11
6.	Benzene	4.00E-04	240	1,051,200	0.096	0.048	0.210	0%	0.096	0.05	0.21
6.	Tetrachloroethene	2.67E-06	240	1,051,200	0.001	0.000	0.001	0%	0.001	0.000	0.001
6.	Trichlorethene	6.67E-05	240	1,051,200	0.016	0.008	0.035	0%	0.016	0.01	0.04
6.	Toluene	3.33E-04	240	1,051,200	0.080	0.040	0.175	0%	0.080	0.04	0.18
6.	Ethlybenzene	6.67E-05	240	1,051,200	0.016	0.008	0.035	0%	0.016	0.01	0.04
6.	Styrene	1.33E-05	240	1,051,200	0.003	0.002	0.007	0%	0.003	0.002	0.01
6.	O-Xylene	6.67E-05	240	1,051,200	0.016	0.008	0.035	0%	0.016	0.01	0.04
6.	M-P-Xylene	1.33E-04	240	1,051,200	0.032	0.016	0.070	0%	0.032	0.02	0.07
6.	Total PCBs[6]	8.73E-05	240	1,051,200	0.021	0.010	0.046	85%	0.003	0.002	0.01
6.	Cadmium[6]	1.16E-06	240	1,051,200	0.0003	0.0001	0.001	85%	0.00004	0.00002	0.0001
6.	Chromium[6]	1.28E-06	240	1,051,200	0.0003	0.0002	0.001	85%	0.00005	0.00002	0.0001
6.	Lead[6]	7.89E-06	240	1,051,200	0.002	0.001	0.004	85%	0.0003	0.0001	0.001
6.	Ethanol[5,7]	7.51E-04	240	1,051,200	0.180	0.090	0.395	0%	0.180	0.0901	0.395
6.	Total VOCs			1,051,200	0.507	0.25	1.11	0%	0.507	0.16	0.72
6.	Total HAPs			1,051,200	0.347	0.17	0.76	0%	0.327	0.25	1.11

(1) Numbers correspond to "Transfers/Emission Sources" identified on the schematic entitled, *Process Flow Diagram for Scrap Metal Processing Operations.* Loading of scrap metal, wind erosion of the scrap metal pile, and wind erosion of the saturated "fluff" piles assumed to have negligible emissions.

(2) Emissions Factors provided by Title V Applicability Workbook, Table D-11.F, Emissions Test for Mill with No Controls.

(3) Design throughput of shredder is 240 tons per hour.

Annual throughput for the shredder was conservatively estimated based on a processing rate of 120 tons per hour, 24 hours/day, and 365 days/year.
The shredder's actual processing rate depends on the density of the scrap material being processed, with lower density scrap materials having higher processing capacities.
The actual shredder's processing rate is expected to be significantly less as a result of high density scrap material (tightly packed with little air pockets) being processed at the facility.

(4) HAP/VOC Emissions factors based on uncontrolled system. Dust-Buster Foam Suppressant dust control efficiency of 85% or more can be applied to metals.

(5) Not a HAP.

(6) Not a VOC. Non-VOC materials (PCBs, Metals) controlled by PM Dust Suppression.

(7) Ethanol use based on a Dust-Buster rate of 120 TPH. The emission factor is based on the 0.018 GPT chemical input rate. 10% chemical injection is Febreze (remaining 90% is Dust Suppressant) and the Febreze contains 5% Ethanol.

Table 4.2 -TAPS Screening Analysis (PTE)

Joseph Smith and Sons

Capitol Heights, MD

Reference: Versar, Inc. Title V Applicability Workbook Prepared For Institute of Scrap Recycling Industry (ISRI), 1998

Emission Source[1]			Emissions			Screening Levels (ug/m^3) [2]			Small Emitter	26.11.16.02 Allowable [4]			Below	Ambient Concentrations (ug/m^3) [5]			Below
No.	Pollutant	CAS No.	lb/hr (1-hr)	lb/hr (Annual)	(tons/yr)	1 hour	8 hour	Annual	Exempt? [3]	1 hour (lb/hr)	8 hour (lb/hr)	Annual (tpy)	26.11.16.02?	1 hour[5]	8 hour [6]	Annual [7]	Screen3?
6.	Methylene Chloride	75-09-2	0.014	0.007	0.032	-	1736.81	2.00E+00	**Yes**	-	6.23	0.365		-	4.02	0.17	
6.	Acetone	67-64-1	0.003	0.002	0.007	17806.75	11871.17	-	**Yes**	63.8	42.55	-		0.89	0.89	-	
6.	1,1-Dichloroethane	75-34-3	0.003	0.002	0.007	-	4047.85	-	**Yes**	-	14.51	-		-	0.89	-	
6.	2-Butanone (MEK)	78-93-3	0.001	0.001	0.003	8846.63	5897.75	-	**Yes**	31.7	21.14	-		0.36	0.36	-	
6.	1,1,1,-Trichloroethane	71-55-6	0.048	0.024	0.105	24555.83	19098.98	-	**Yes**	88.0	68.46	-		13.39	13.39	-	
6.	Benzene	71-43-2	0.096	0.048	0.210	79.87	15.97	1.30E-01	No	0.29	0.057	0.02	No	3.07	3.07	0.122	**Yes**
6.	Tetrachloroethene	127-18-4	0.001	0.000	0.001	6781.19	1695.30	-	**Yes**	24.3	6.08	-		0.18	0.18	-	
6.	Trichlorethene	79-01-6	0.016	0.008	0.035	1343.56	537.42	-	**Yes**	4.8	1.93	-		4.47	4.47	-	
6.	Toluene	108-88-3	0.080	0.040	0.175	-	753.62	-	No	-	2.70	-	**Yes**	-	22.30	-	
6.	Ethlybenzene	100-41-4	0.016	0.008	0.035	-	868.38	-	**Yes**	-	3.11	-		-	4.47	-	
6.	Styrene	100-42-5	0.003	0.002	0.007	1704.05	852.02	-	**Yes**	6.1	3.05	-		0.89	0.89	-	
6.	Xylenes	1330-20-7	0.048	0.024	0.105	6512.88	4341.92	-	**Yes**	23.3	15.56	-		13.37	13.37	-	
6.	Total PCBs	1336-36-3	0.0031	0.0016	0.007	-	26.60	1.00E-02	No	-	0.10	0.002	No	-	0.88	0.004	**Yes**
6.	Cadmium	7440-43-9	0.00004	0.00002	0.0001	-	0.02	6.00E-04	No	-	0.0001	0.0001	**Yes**	-	0.012	0.001	
6.	Chromium	7440-47-3	0.00005	0.00002	0.0001	-	5.00	-	No	-	0.02	-	**Yes**	-	0.013	-	
6.	Lead	7439-92-1	0.0003	0.0001	0.0006	-	0.50	-	No	-	0.002	-	**Yes**	-	0.08	-	
6.	Ethanol	64-17-5	0.180	0.090	0.395	18842.54	3768.51	-	No	67.5	13.507	-	**Yes**	50.29	50.29	-	

[1] Numbers correspond to "Transfers/Emission Sources" identified on the schematic entitled, *Process Flow Diagram for Scrap Metal Processing Operations*. Loading of scrap metal, wind erosion of the scrap metal pile, and wind erosion of the saturated "fluff" piles assumed to have negligible emissions.

[2] Screening levels were taken from MDE's 2012 list.

[3] Small quantity emitter exemption must have: short term rate < 0.5 lbs/hr; annual rate < 350 lb/yr; short term screening level > 200 ug/m^3; and annual screening level > 1 ug/m^3.

[4] Allowable Emissions were calculated using the 1-hr and 8-hr screening levels divided by 279 and Annual levels divided by 0.00274.

[5] Ambient concentrations:
For compounds passing by the allowable rate, concentrations are determined by multiplying the screening value concentration by the ratio of the actual to allowable emission rate.
For compounds not passing by the allowable rate, 1-hr concentration determined using the SCREEN3 Model (based on hourly lb/hr).

[6] For compounds not passing by the allowable rate, 8-hr concentrations calculated using 1-hr SCREEN3 value (based on hourly lb/hr).

[7] For compounds not passing by the allowable rate, Annual concentrations calculated using 1-hr SCREEN3 value (based on annual lb/hr) multiplied by 0.08.