State Implementation Plan

Lead Non-Attainment
Council Bluffs, Iowa

Iowa Department of Natural Resources
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Executive Summary

Lead is an air pollutant linked to adverse health effects upon IQ, behavior, and learning, particularly among children. To help protect public health and welfare the U.S. Environmental Protection Agency (EPA) establishes and periodically revises National Ambient Air Quality Standards (NAAQS) for six types of air pollutants, known as criteria pollutants. Lead is one of the criteria pollutants and EPA first established a lead NAAQS in 1978.

The 1978 lead NAAQS remained in place until 2008 when EPA tightened the standards, lowering the acceptable ambient lead levels by an order of magnitude, to 0.15 $\mu g/m^3$, never to be exceeded by any three-month rolling average. EPA's revision of the lead NAAQS also required new efforts to evaluate emissions from existing lead sources. An outcome of this process is that the Iowa Department of Natural Resources (DNR) started operating a new lead monitor in Council Bluffs in November 2009. This monitor recorded ambient lead concentrations in 2010 that did not meet the revised standard. As a consequence a portion of Council Bluffs was designated a lead nonattainment area, effective December 31, 2011.

The Iowa DNR is required by the federal Clean Air Act and EPA's associated nonattainment regulations to submit a plan to eliminate the unhealthy ambient lead levels. This document, referred to as a lead nonattainment SIP, constitutes that plan and it is designed to fulfill all associated obligations. Required elements of a nonattainment plan include, for example, an assessment of the lead sources in the area, the identification of control measures needed to bring the area back into attainment, and an attainment demonstration supporting the effectiveness of the control measures.

Two sources within the lead nonattainment area emit lead, Griffin Pipe Products Co., LLC (Griffin Pipe) and Alter Metal Recycling. Griffin Pipe manufactures ductile iron pipe for potable water transmission and other uses. Alter Metal Recycling is a scrap metal recycler. The two facilities are located next to one another near the lead monitor.

The control measures require lead emissions reductions from both facilities. Although operations at Griffin Pipe are temporarily suspended the facility must implement one of two available control strategies when operations resume. Both strategies require haul road sweeping and include new emissions limits on existing lead sources. One option adds limits on the hours of operations while the second option requires the installation of a new baghouse to control existing sources. The control measures for Alter Metal Recycling require roadway sweeping efforts designed to reduce haul road lead emissions by 95%. The sweeping requirements went into effect September 9, 2014.

All lead control measures are federally enforceable and have reduced actual and potential lead emissions within the nonattainment area. The most recent monitored lead NAAQS violation occurred in 2012 during the September through November 3-month rolling average. No new lead NAAQS violations are anticipated. Attainment is expected in an expeditious manner consistent with federal requirements, no later than December 31, 2016.

Contents

1. Introduction

On November 22, 2011, the U.S. Environmental Protection Agency (EPA) issued a final rule (76 FR 72097) designating a portion of Pottawattamie County, Iowa, as a lead (Pb) nonattainment area. The federal Clean Air Act (CAA) requires a state with a lead nonattainment area to submit to EPA a State Implementation Plan (SIP) revision that demonstrates how the area will attain the lead National Ambient Air Quality Standards (NAAQS). The lead NAAQS must be achieved as quickly as possible and no later than 5 years after the effective date of the designation. The nonattainment designation for an area in Council Bluffs became effective on December 31, 2011, and therefore the lead NAAQS must be achieved no later than December 31, 2016. The Iowa Department of Natural Resources (DNR) developed this document and the associated control measures to fulfill those and all other applicable nonattainment SIP requirements.

1.1. National Ambient Air Quality Standards

Lead is a naturally occurring metal that can be harmful to human health and is one of six common air pollutants regulated by the EPA using NAAQS. Primary NAAQS are criteria established by EPA that set limits on air pollution necessary to protect human health with an adequate margin of safety. Secondary NAAQS protect public welfare (public welfare protections consider, for example, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, and visibility). The primary and secondary NAAQS for lead are identical. The CAA requires EPA to review the NAAQS every five years and, if necessary, update the standards to ensure they provide adequate health and welfare protections.

The EPA first established health standards for lead on October 5, 1978 (43 FR 46246). At that time the lead NAAQS were set at a level of 1.5 micrograms per cubic meter of air ($\mu g/m^3$), averaged over a calendar quarter. On October 15, 2008, EPA promulgated a revision to the standard, lowering the level by an order of magnitude, from 1.5 $\mu g/m^3$ to 0.15 $\mu g/m^3$. The averaging period was also revised, from a calendar quarter to a three-month rolling average. To meet EPA's new health standard, no three-month rolling average lead concentrations may exceed 0.15 μg/m3 across a consecutive three-year period. The secondary standard was also revised, to be identical to the new primary standard. The 2008 lead NAAQS are summarized in Table 1-1. For additional information on the 2008 lead NAAQS revision see the preamble and rule language published in the Federal Register on November 12, 2008 (73 FR 66964).

Table 1-1. Summary of the 2008 lead NAAQS. The primary and secondary standards are identical.

Pollutant	Averaging Time	Level	Form
Lead (Pb)	3-month rolling average	0.15 $\mu g/m^3$	Not to be exceeded

1.2. Lead Nonattainment Designation

Following a NAAQS revision, Section 107(d) of the CAA requires the states and EPA to complete a designations process. An area that does not meet the standard, or an area that contributes to a nearby area not meeting the standard, is classified as a nonattainment area. On November 3, 2009, a required source-oriented lead monitor began operation in Council Bluffs, Iowa. In the following year (2010), 6 three-month rolling averages greater than 0.15 $\mu g/m^3$ Pb NAAQS were measured. The highest value, 0.26 $\mu g/m^3$, occurred in the June-August 2010 average. The EPA designated a portion of Pottawattamie County as a nonattainment area in response to the measured lead concentrations.

At approximately 950 square miles, Pottawattamie County is the second largest county in Iowa by geographical area, the 8th largest by population with 93,518 inhabitants[1], and is part of the Omaha (Nebraska)-Council Bluffs (Iowa) metropolitan statistical area. The statewide perspective of the location of Pottawattamie County is depicted in Figure 1-1.

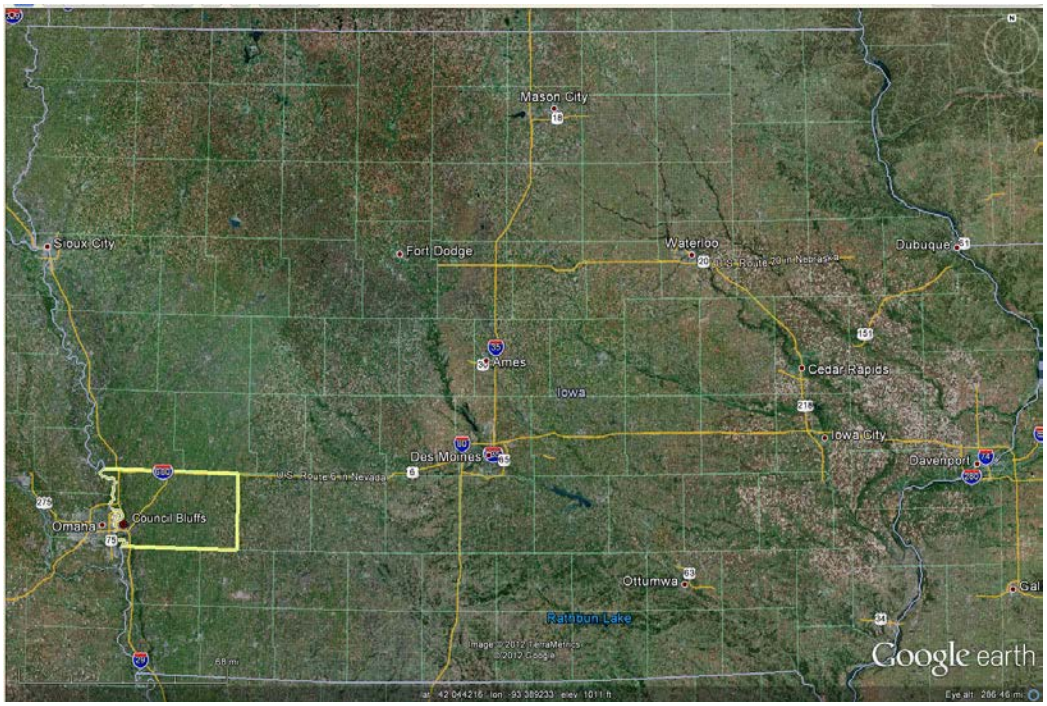

Figure 1-1. Reference map illustrating the location of Pottawattamie County (in yellow) within Iowa.

The nonattainment designation was published in the Federal Register on November 22, 2011 (76 FR 72097) and became effective December 31, 2011. The official definition of the nonattainment boundary is contained in the Code of Federal Regulations (CFR) at 40 CFR 81.316 as the "Area bounded by Avenue G on the north, N 16th/S 16th street on the east, 23rd Avenue on the south, and N 35th/S 35th street on the west." This definition is summarized in Table 1-2.

Table 1-2. Roadway boundaries used to define the lead nonattainment area.

Northern boundary	Avenue G
Eastern boundary	N 16th / S 16th Street
Southern boundary	23rd Avenue
Western boundary	N 35th / S 35th Street

While it is not clear from the CFR the lead nonattainment area is located entirely within the city of Council Bluffs, Iowa. The nonattainment area encompasses about 3.43 square miles within the city and is approximately centered on the locations of the lead monitor and two lead emitting sources, Griffin Pipe Products Co., LLC (Griffin Pipe) and Alter Metal Recycling, which are all near the intersections of 9th Ave and S 27th St as shown in Figure 1-2.

[1]July 1, 2011, US Census Bureau data: http://www.census.gov/popest/data/counties/totals/2011/index.html

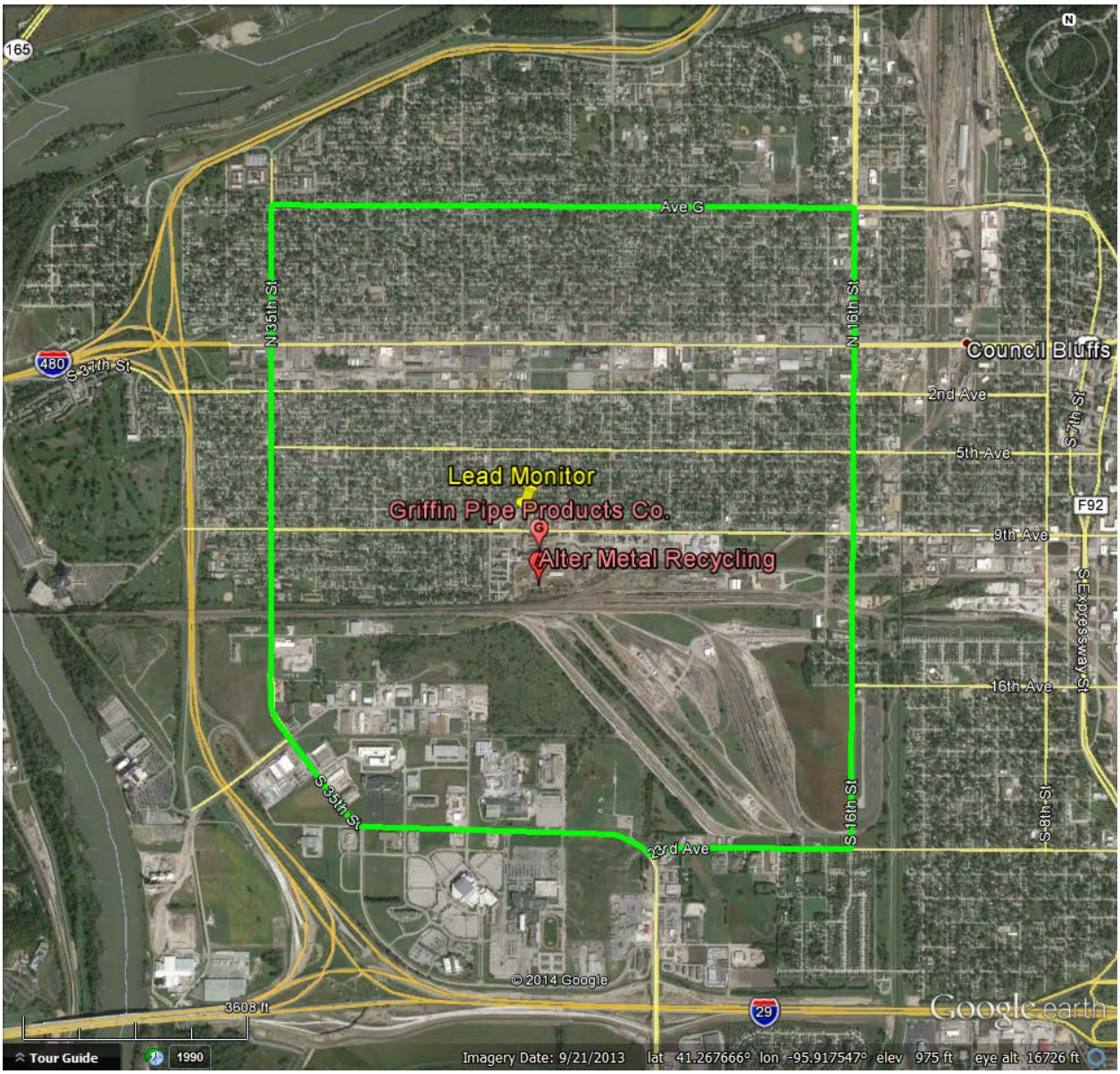

Figure 1-2. Depiction (in green) of the lead nonattainment area within the city of Council Bluffs, Iowa, and the relative locations of Griffin Pipe, Alter Metal Recycling, and the lead monitor.

1.3. Description of the Nonattainment Area

Council Bluffs is located on the western edge of Pottawattamie County, along the Missouri River. The topography of Pottawattamie County consists of flat river bottoms in width from 3 to 10 miles along the Missouri River. Bluffs extending 100 to 300 feet above the river plain demark the extent of the generally level bottomlands. Moving eastward beyond the bluffs the topography transitions into areas of steep ravines and hills, followed by gently rolling prairie.[2] A topographic depiction of the region around the nonattainment area is shown in Figure 1-3.

[2] http://en.wikisource.org/wiki/History_of_Iowa_From_the_Earliest_Times_to_the_Beginning_of_the_Twentieth_Century/3/Counties/Pottawattamie

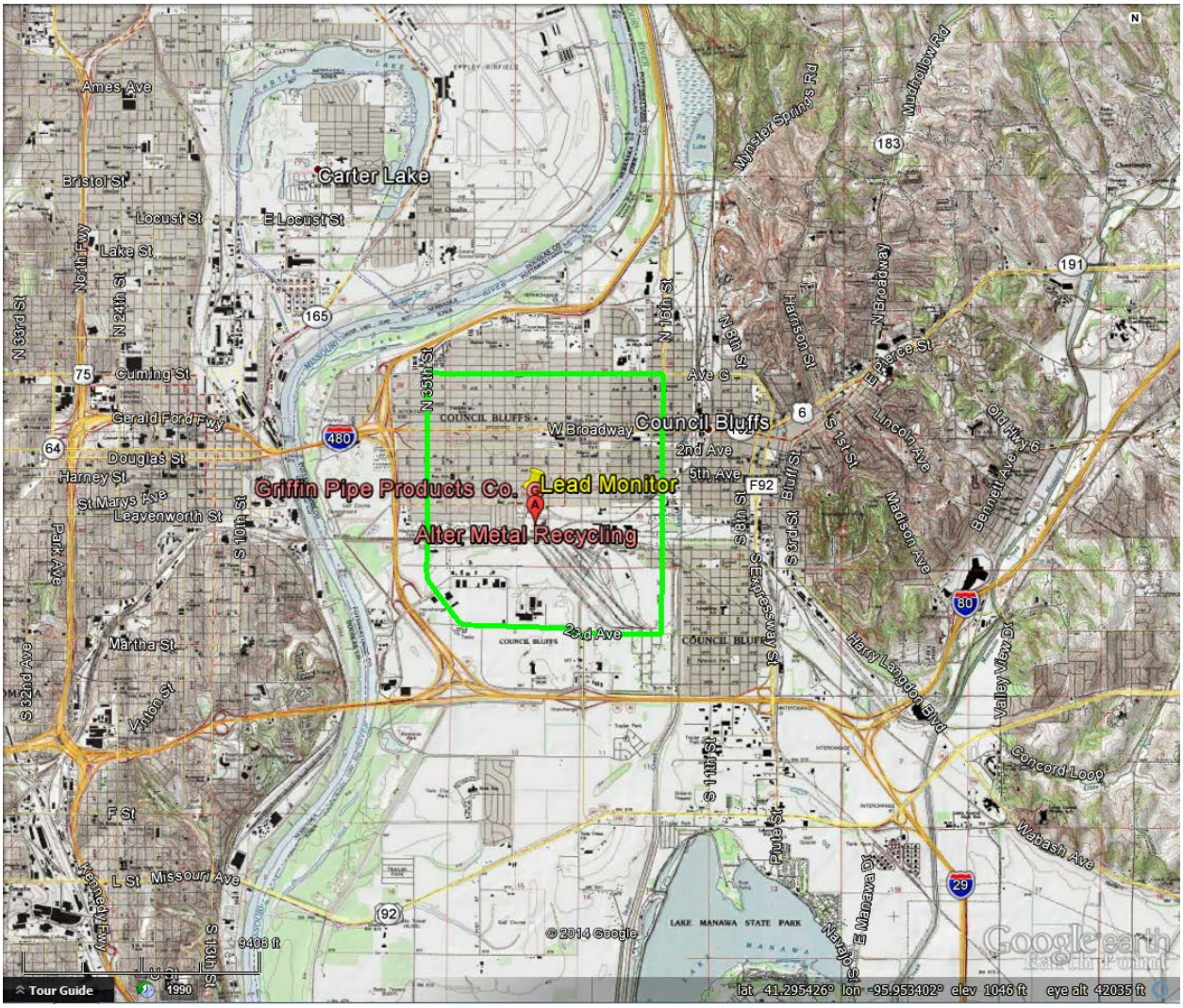

Figure 1-3. Topographic features within the vicinity of the nonattainment area.

The topography within the nonattainment area is comparable to flat river bottoms, displays negligible changes in elevation, and does not exhibit features that would create a consistent barrier capable of segregating the area into distinct airsheds. While river influenced flows are probable in this region they are not expected to significantly influence lead emissions or concentrations not otherwise accounted for in the meteorological data (from Eppley Airfield – the Omaha airport) used in the dispersion modeling.

Griffin Pipe is located just south of the source oriented lead monitor. Lying immediately south of Griffin Pipe is Alter Metal Recycling. The area surrounding the monitor generally consists of a mix of industrial and residential properties. A rail yard occupies much of the land south of Alter Metal Recycling. Residential housing is found in the area immediately west and also near the northern border of Griffin Pipe. Figure 1-4 illustrates the approximate property boundaries of Griffin Pipe and Alter Metal Recycling, relative to the lead monitor (boundary data obtained from: http://gis.pottcounty.com).

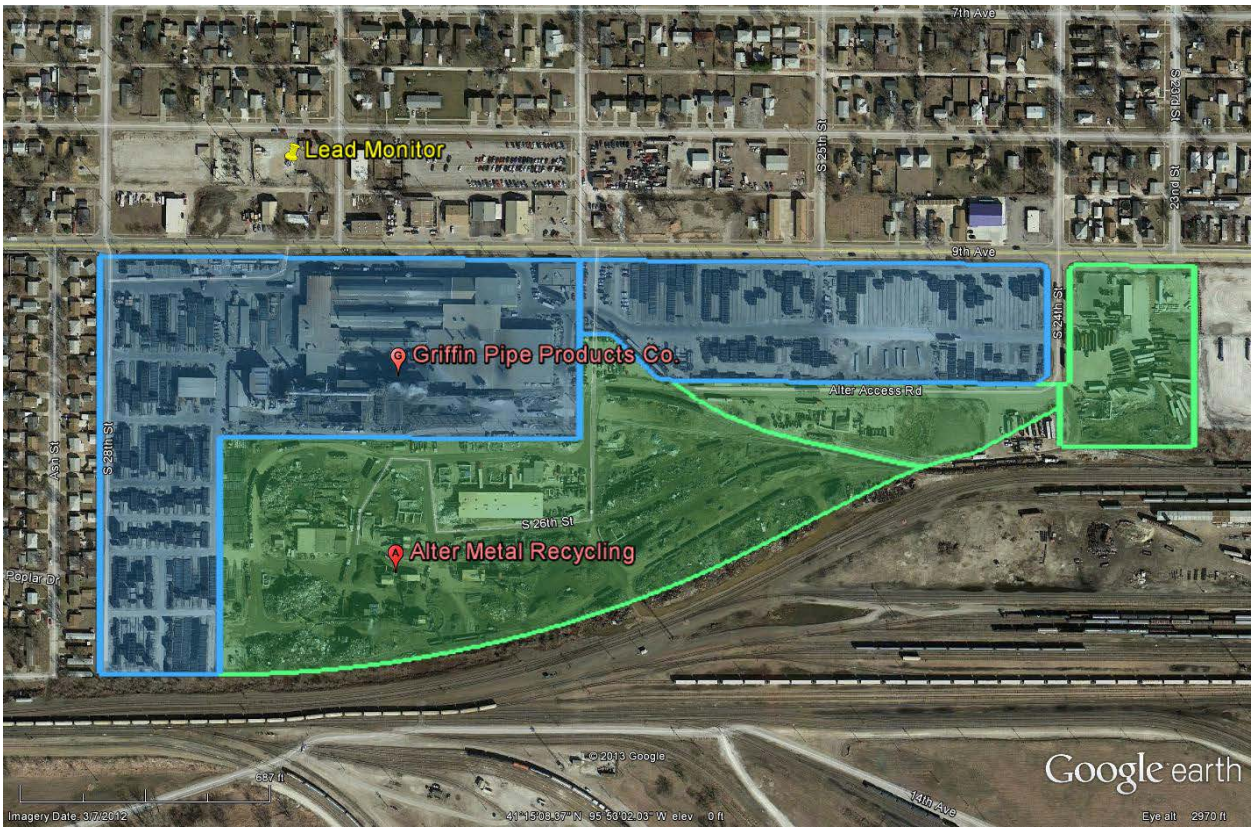

Figure 1-4. Approximate property boundaries for Griffin Pipe (blue) and Alter Metal Recycling (green). The lead monitor is at approximate latitude, longitude: 41.254223, -95.887297.

1.4. Summary of Air Quality Data

In the 2008 lead NAAQS revisions (73 FR 66964, November 12, 2008) EPA included provisions to expand the lead monitoring network. One phase of the expansion required the addition of source oriented monitors located to measure the maximum lead concentrations near sources with lead emissions of 1.0 tons[3] per year or more. Source-oriented monitors not eligible for an exemption based on dispersion modeling were required to be operational by January 1, 2010. The monitoring criteria resulted in one new source-oriented lead monitor being added in the state, sited near the Griffin Pipe facility. The monitor (site ID 191550011) is located approximately 250 feet north of the Griffin Pipe facility, near the intersections of 8th Ave and S 27th St in Council Bluffs. The monitor started operation on November 3, 2009, measuring lead concentrations in total suspended particulate (TSP) and reporting concentrations in local conditions.

Although a lead design value is based on three years of three-month rolling averages, a single three-month average over the standard constitutes a NAAQS violation because the form of the standard does not allow any exceedances. Determining that an area does not attain the standard can therefore be done with three months of data if that average is over 0.15 µg/m^3. The EPA utilized this characteristic of the lead NAAQS to issue a second round of lead designations in 2011, based on 2010 data from newly sited source-oriented monitors. The lead nonattainment designation in Council Bluffs occurred on that schedule.

[3] EPA later reduced the lead emissions threshold from 1.0 to 0.5 tons per year (75 FR 81126, December 27, 2010).

The Council Bluffs lead monitor recorded 6 three-month rolling averages violating the lead NAAQS in 2010. The highest of these 3-month rolling averages occurred over the period June – August and was 0.26 µg/m^3 (see Table 1-3). The latest available certified lead data includes measurements through 2013. While no additional NAAQS violations were recorded in 2011, four occurred in 2012. No new NAAQS violations occurred in 2013. The three-month rolling average lead data are charted in Figure 1-5.

Table 1-3. Three-month rolling average lead concentrations at the Council Bluffs lead monitor. NAAQS violations are indicated in red. The month provided indicates the ending month of the three month-rolling average (averages for January and February include data from the preceding year).

2010	3-Month Rolling Average
Jan	0.10
Feb	0.03
Mar	0.07
Apr	0.12
May	0.14
Jun	**0.17**
Jul	**0.20**
Aug	**0.26**
Sep	**0.24**
Oct	**0.25**
Nov	**0.18**
Dec	0.14

2011	3-Month Rolling Average
Jan	0.05
Feb	0.03
Mar	0.07
Apr	0.07
May	0.11
Jun	0.10
Jul	0.14
Aug	0.12
Sep	0.09
Oct	0.08
Nov	0.09
Dec	0.10

2012	3-Month Rolling Average
Jan	0.08
Feb	0.05
Mar	0.07
Apr	0.07
May	0.10
Jun	0.10
Jul	0.14
Aug	**0.18**
Sep	**0.19**
Oct	**0.20**
Nov	**0.16**
Dec	0.14

2013	3-Month Rolling Average
Jan	0.09
Feb	0.07
Mar	0.05
Apr	0.05
May	0.05
Jun	0.07
Jul	0.09
Aug	0.13
Sep	0.12
Oct	0.10
Nov	0.05
Dec	0.04

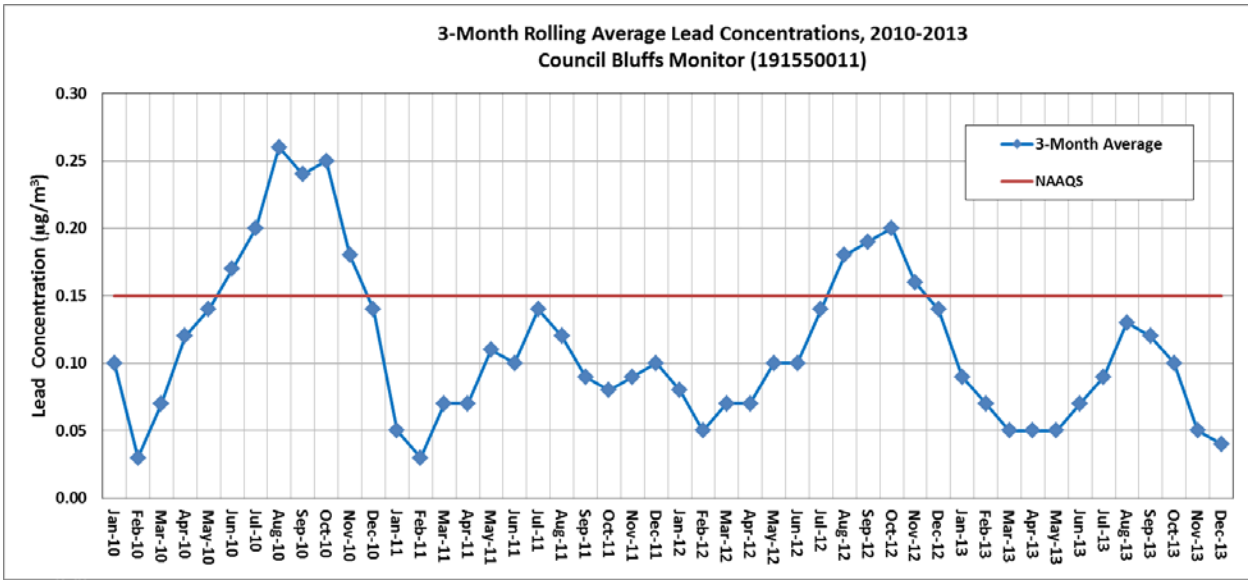

Figure 1-5. Three-month rolling average lead concentrations from the Council Bluffs lead monitor, November 2009 – December 2013 certified data.

1.5. Affected Sources

Two lead sources were identified within the nonattainment area, Griffin Pipe Products Co., LLC, and Alter Metal Recycling. Griffin Pipe is considered a major source for Title V and Prevention of Significant Deterioration (PSD) purposes. Alter Metal Recycling is a minor source.

Griffin Pipe

Griffin Pipe manufactures ductile iron pressure pipe for potable water transmission and wastewater collection. Using North American Industry Classification System (NAICS) descriptions the facility is considered a gray iron foundry associated with NAICS code 331511. The facility in Council Bluffs covers more than 105,000 square feet on a nineteen (19) acre site. The plant produces ductile iron pressure pipe in twenty (20) foot lengths and diameters ranging from 6" through 48".

The hot iron required in the pipe manufacturing process is produced in a cupola. The cupola uses coke, scrap iron, scrap steel, and fluxes as raw materials. After the hot iron leaves the cupola it is treated in a desulfurization process and a magnesium inoculation process. Desulfurization removes undesirable sulfur from the metal and magnesium inoculation uses magnesium to give the metal the physical properties needed to produce the ductile iron pipe.[4] Lead present in the scrap is emitted as the metals are melted in the cupola, treated in the desulfurization and magnesium inoculation processes, and cast.

On February 4, 2014, U.S. Pipe and Foundry Company announced the acquisition of a majority interest in Griffin Pipe. On March 3, 2014, the facility ceased operating the cupola (melting operations were suspended) with finishing operations ending on March 7, 2014. The plant was idled on May 3, 2014.[5] Griffin Pipe does not consider the idling of the plant a permanent shutdown and will resume operations (pipe production) when economic conditions warrant.

Alter Metal Recycling

Alter Metal Recycling is a scrap material processing facility associated with Alter Trading Corporation. Alter Trading is a privately owned company founded in 1898, with trading offices and processing plants across the central United States.[6] The Council Bluffs facility is one of several scrap processing facilities in Iowa. The Council Bluffs facility receives waste metal, for example, used cars, and operates a shredder (hammer mill) that reduces the incoming material into more manageable sizes. The facility is considered a minor source. Lead emissions from Alter Metal Recycling occur predominantly from fugitive emissions associated with vehicle traffic on facility roadways when roadway silt containing lead becomes airborne.

[4] From Griffin Pipe's January 21, 2010 PSD application.
[5] Some pipe storage and pipe shipping actives may occur after that date.
[6] http://altertrading.com/company_history.shtml

2. Nonattainment SIP Requirements

This SIP submittal is intended to fulfill the obligations of a lead nonattainment SIP.[7] As discussed in more detail in the preamble to the final lead NAAQS revisions (73 FR 66964, November 12, 2008), the nonattainment SIP must meet the requirements of subpart 1 of Part D of the Clean Air Act, including those specified in Section 172(c). The required plan elements in CAA §172(c) are summarized (simplified, clarified, and paraphrased) in Table 2-1. Details are provided in later chapters.

Table 2-1. Summary of Clean Air Act §172(c) nonattainment SIP requirements.

CAA §172(c)(1)	Provisions for attainment and the timely implementation of all Reasonably Available Control Measures (RACM) & Reasonably Available Control Technologies (RACT).
CAA §172(c)(2)	Reasonable further progress (RFP) requirements (met by appropriate emission reductions and implementation timelines).
CAA §172(c)(3)	Compile a comprehensive, accurate, and current inventory of actual emissions.
CAA §172(c)(4)	Identify and quantify emissions which will be allowed, in accordance with CAA §173(a)(1)(B), from the construction/operation of major new or modified stationary sources. Demonstrate such emissions will be consistent with RFP and the NAAQS.
CAA §172(c)(5)	Include provisions to implement nonattainment new source review requirements.
CAA §172(c)(6)	Develop a control strategy with schedules and timetables for compliance and enforceable emissions limits or other control measures necessary for the timely attainment of the NAAQS.
CAA §172(c)(7)	Comply with the applicable provisions of CAA §110(a)(2).
CAA §172(c)(8)	This element allows the use equivalent techniques for modeling, emissions inventory, or planning procedures (if no less stringent than any standard methods).
CAA §172(c)(9)	Provide for the implementation of contingency measures if the area does not make RFP or if the area does not attain the standard by the required attainment date.

Compilation of the emissions inventory typically occurs early in the SIP development process to help identify potentially important sources. The various control measures (which incorporate RACT/RACM) included in the control strategy consider implementation timeframes to ensure reasonable further progress (RFP) requirements are met and to ensure the NAAQS are attained as expeditiously as practicable. By law, the area must attain the standard within 5 years of the date of the nonattainment designation. The nonattainment designation became effective December 31, 2011, and thus the attainment date can be no later than December 31, 2016.

An attainment demonstration provides evidence that the overall control strategy is sufficient to achieve the NAAQS within the regulatory timelines. The attainment demonstration is completed using air quality dispersion models in accordance with Appendix W of 40 CFR 51. The control strategy must also contain a description of enforcement methods, including procedures for monitoring compliance and handling violations. Additional information regarding control strategy related requirements can be found in 40 CFR 51 Subpart G.

The state is demonstrating in this lead nonattainment SIP that it has met all applicable obligations, including applicable provisions reviewed in Table 2-1, the necessary public participation requirements, and all applicable administrative requirements in 40 CFR 51.

[7] While technically this document is a SIP revision for simplicity it is often referred to as a lead nonattainment SIP.

3. 2010 Baseyear Lead Emissions Inventory

A comprehensive, accurate, and current inventory of actual lead emissions within the nonattainment area is a required component of the nonattainment SIP per CAA §172(c)(3). Special provisions pertaining to the submittal of lead emissions inventory data are found in 40 CFR 51.117. Among the requirements is 40 CFR 51.117(e): "*Emissions data.* (1) The point source inventory on which the summary of the baseline for lead emissions inventory is based must contain all sources that emit 0.5 or more tons of lead per year."

The baseyear inventory establishes a baseline and is used to evaluate emissions reductions achieved by the control strategy and to assess reasonable further progress requirements. The DNR is selecting calendar year 2010 as the baseyear as it corresponds to the first year in which lead NAAQS violations were measured at the lead monitor. In 2010, two facilities within the nonattainment area emitted more than one pound of lead per year, Griffin Pipe and Alter Metal Recycling.[8] Baseyear lead emissions estimates are provided in Table 3-1 and were calculated by the DNR using stack test results, information submitted by the facility, state review, and engineering estimates.

Table 3-1. Actual lead emissions estimates for the 2010 baseyear. Note, haul road emissions estimates are indicative of worst-case conditions. Due to rounding total emissions in lbs/year may not sum exactly as shown.

Facility [ID]	Source Type	Emission Unit (ID)[+]	Emission Point ID	Pb Emissions (tons/yr)	Pb Emissions (lb/yr)
Griffin Pipe (GP) [78-01-012]	Point	Cupola (EU-1)	EP-2[++]	0.7447	1,489
		Magnesium Inoculation (EU-4)			
		Hot Iron Desulfurization (EU-2)	EP-7A	0.2570	514
		Uncaptured Magnesium Inoculation (EU-4)	EP-7B		
		Small Diameter Casting (EU-6)	EP-6A	0.0018	4
		Building Emissions	EP-6B		
		Large Diameter Casting (EU-29)	EP-29	0.0018	4
			EP-29A		
	Fugitive	Scrap Handling (EU-17)	FUG1	0.0043	9
		Haul Roads	n/a	0.0286	57
			GP Total	**1.0382**	**2,076**
Alter Metal Recycling (AMS) [78-01-043]	Fugitive	Haul Roads	n/a	0.7182	1,436
			AMS Total	**0.7182**	**1,436**
			Total	**1.7564**	**3,513**

[+] For simplicity, all emission units are not always listed if an emission point is associated with more than one unit. This does not affect the lead emissions totals.

[++] The Cupola Wet Scrubber Stack.

[8] One lb/yr was not used as a specific threshold but instead represents a potential screening level to eliminate sources with very small (inconsequential), but non-zero, lead emissions. For example, sources combusting fuel oil or natural gas (or other fuels) may report minute lead emissions due to trace quantities of lead present in the fuel.

3.1. Griffin Pipe

Point source lead emissions from Griffin Pipe occur primarily from melting metal, a hot iron desulfurization process, a magnesium inoculation process, and metal casting. The melting process uses a cupola furnace that is charged with coke, scrap iron, scrap steel, and fluxes as raw materials. As the materials are heated, melted, and move through the casting process, lead content present in the scrap is released and vented through stacks and roof vents. The baseyear lead emissions from Griffin Pipe's point sources were determined using information reviewed or calculated by the DNR. Data sources included stack test results, throughput information, or other facility-specific data. EPA's online compilation of air pollution (AP) emissions factors in AP-42 (Volume I, Fifth Edition) or industry-based emission factors were used only when no other information was available.

The haul road and cupola charging (scrap handling) processes generate fugitive emissions external to the buildings at Griffin Pipe. Lead present in the silt on facility haul roads is re-entrained by facility traffic. Smaller amounts of lead are emitted by handling scrap material before and during the cupola charging process. While minute quantities of lead can be found in other materials used as the facility, such as in cement applied to the cast pipe and the natural gas used to fire the annealing furnaces, these trace quantities are negligible and were not considered in the development of control measures.

3.2. Alter Metal Recycling

Alter Metal Recycling is the other stationary facility within the nonattainment area with lead emissions contributing to monitored lead levels above the NAAQS. Inbound and outbound materials are transported primarily by truck to, from, and within Alter Metal Recycling. Haul road activities are the dominant source of lead emissions at Alter Metal Recycling. Other activities at this facility such as torch cutting and hammer mill operations are estimated to be negligible and were not included in the development of control measures.

3.3. Haul Roads

The baseline haul road emissions estimates (for both facilities) provided in Table 3-1 likely represent worst-case conditions. The emission estimates are derived from the analysis of surface roadway conditions prior to any watering or sweeping of the haul roads. In reality, roadway fugitive dust suppression activities in use in 2010 at Griffin Pipe or Alter Metal Recycling would reduce haul road lead emissions. The effects of this caveat are not readily quantifiable and it is possible the baseyear haul road emission estimates overstate the true values. Details of the baseyear haul road emissions calculation at both Alter Metal Recycling and Griffin Pipe are provided in Appendix A.

3.4. Other Sources

No other stationary sources within the nonattainment area are known to emit lead in quantities relevant to monitored lead values in the nonattainment area.[9] Onroad mobile sources are no longer associated with lead emissions. The latest tool for estimating emissions from onroad sources, the MOtor Vehicle Emissions Simulator (MOVES2014) does not include lead as a pollutant. Similarly, lead is not included as a pollutant in the latest nonroad emissions model (NONROAD2008). The NONROAD model calculates emissions for all offroad sources except commercial marine, locomotives, and aircraft.

[9]Due to trace amounts of lead in many fossil fuels such as natural gas and fuel oil, small quantities can be emitted from various sources. For example, the 2011 NEI (version 1, September 30, 2013) had ~19.5 pounds of lead emitted within all of Pottawattamie County from sources within the EIS Sector "Fuel Comb - Industrial Boilers, ICEs – Oil." This value represents less than 1% of the total from Alter Metal Recycling and Griffin Pipe. Such sources have been screened from further review.

No commercial marine vehicles operate within the nonattainment area. While piston-engine aircraft may use leaded aviation fuel (commercial jet aviation aircraft do not use leaded fuel) no airports are located within the nonattainment area.

The most recent comprehensive triennial National Emissions Inventory (NEI) (2011 Version 1, released September 30, 2013) estimates lead emissions from locomotive activities for all of Pottawattamie county at 0.002936 tons per year (tpy) of lead (~5.87 lbs/year). Locomotive emissions are not pertinent to the development of control measures for the lead nonattainment area. No other lead sources within the nonattainment area have been identified or quantified.

4. RACT/RACM

Section 172(c)(1) of Part D of the CAA requires that the nonattainment implementation plan "…*provide for the implementation of all reasonably available control measures* [RACM] *as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology* [RACT]) *and shall provide for attainment of the national primary ambient air quality standards."*

Identification of lead RACM begins by identifying potential control measures for lead sources within the nonattainment area.[10] EPA's March 2012 *Guide to Developing Reasonably Available Control Measures (RACM) for Controlling Lead Emissions*, EPA-457/R-12-001, identifies factors that should then be considered in determining whether a control measure is RACM:

1. The economic feasibility of the control measure,
2. The capital costs, annualized cost, and cost effectiveness of the control measure; and
3. The extent of adoption of the control measure by state regulations.

Control measures may be excluded from further consideration if it can be shown, both individually and as a group, that the emissions from the affected sources are insignificant (73 FR 66964 p. 67036). The remaining measures should be adopted as RACM if they are economically viable and technically feasible.

EPA's historic description of RACT is the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility (73 FR 66964 p. 67037). A RACT definition is provided in 40 CFR 51.100(o):

> *Reasonably available control technology (RACT)* means devices, systems, process modifications, or other apparatus or techniques that are reasonably available taking into account:
> (1) The necessity of imposing such controls in order to attain and maintain a national ambient air quality standard;
> (2) The social, environmental, and economic impact of such controls.

EPA is recommending a threshold for RACT analyses such that at least all stationary sources emitting 0.5 tpy or more of lead should undergo a RACT review and that smaller sources should also be included if necessary to demonstrate attainment (73 FR 66964 p. 67038). RACT applies to existing sources of lead in the nonattainment area and encompasses stack emissions, fugitive emissions (such as haul roads), and industrial process fugitive emissions (73 FR 66964 p. 67037). The only two facilities with relevant lead emissions within the nonattainment area are Griffin Pipe and Alter Metal Recycling. In the 2010 baseyear both facilities had estimated baseline actual emissions greater than EPA's suggested 0.5 tpy RACT threshold.

From the above discussion it may appear a RACT/RACM determination requires a complex multifaceted analysis involving costs and other factors. In practice, the RACT/RACM evaluation is generally less complex. RACT/RACM determinations are often simply the emission limits or other control measures necessary to achieve the NAAQS. The use of common, simple, or widely available control measures can effectively negate the need for an in-depth analysis, particularly when such techniques are prerequisites for attainment of the NAAQS.

[10] See73 FR 66964 (November 12, 2008), specifically page 67036.

4.1. Griffin Pipe

Griffin Pipe is the largest lead source within the nonattainment area according to the 2010 baseline actual emissions estimates. While the facility idled melting operations on May 3, 2014, Griffin Pipe does not consider the facility permanently shut down and the facility's potential emissions remain unchanged. Sources at the facility must undergo a RACT/RACM review and new emissions limits must be established to ensure the lead NAAQS is attained and maintained when Griffin Pipe resumes operations. A discussion of the RACT/RACM analysis follows the summary in Table 4-1 and the depiction in Figure 4-1 of the point source locations at Griffin Pipe.

Table 4-1. Summary of RACT/RACM conclusions for Griffin Pipe.

Emission Point ID	Emission Point Description	Associated Emission Units (Emission Unit ID)[a,b]	RACT/RACM Summary
EP-2	Cupola Wet Scrubber Stack (point source)	Cupola (EU-1) Magnesium Inoculation (EU-4)	Wet scrubber and stack EP-2 no longer exist
EP-2A	Cupola Baghouse Stack (point source)	Cupola (EU-1)	This replaces the cupola wet scrubber stack. RACT limit based on BACT from PSD project 10-030.
EP-3	Hot Iron Desulfurization and Magnesium Inoculation Baghouse Stack (point source)	Hot Iron Desulfurization (EU-2) Magnesium Inoculation (EU-4)	New baghouse from PSD project (10-030). Lower emission limits added to meet Pb NAAQS.
EP-7A	Rooftop point source	Magnesium Inoculation-Uncaptured (EU-4)	New Pb emission limits to meet NAAQS.
EP-7B	Rooftop point source	Desulfurization-Uncaptured (EU-2)	New Pb emission limits to meet NAAQS.
EP-6A	Rooftop point source	Small Diameter Casting (EU-6)	New Pb emission limit to meet NAAQS.
EP-6B	Rooftop point source	Building Emissions	New Pb emission limits to meet NAAQS.
EP-29	Rooftop point source	Large Diameter Casting (EU-29)	New Pb emission limit to meet NAAQS.
EP-29A	Rooftop point source		
FUG1	Fugitives	Cupola Charge Handling (EU-17)	Work practices to minimize emissions.
Haul Roads	Fugitives	Roadway fugitive emissions	Sweeping of haul roads to reduce fugitive dust emissions.

[a] In the 2010 baseyear, magnesium inoculation and cupola emissions were controlled by the wet scrubber and the wet scrubber did not control hot-iron desulfurization emissions. In 2011 two baghouses were added, one to control cupola emissions and a second to control both the magnesium inoculation and hot iron desulfurization emissions. Uncaptured emissions still occur because the magnesium inoculation and hot-iron desulfurization capture equipment is not 100% effective.

[b] For simplicity, all emission units are not always listed if an emission point is associated with more than one unit, this does not affect the RACT/RACM determination.

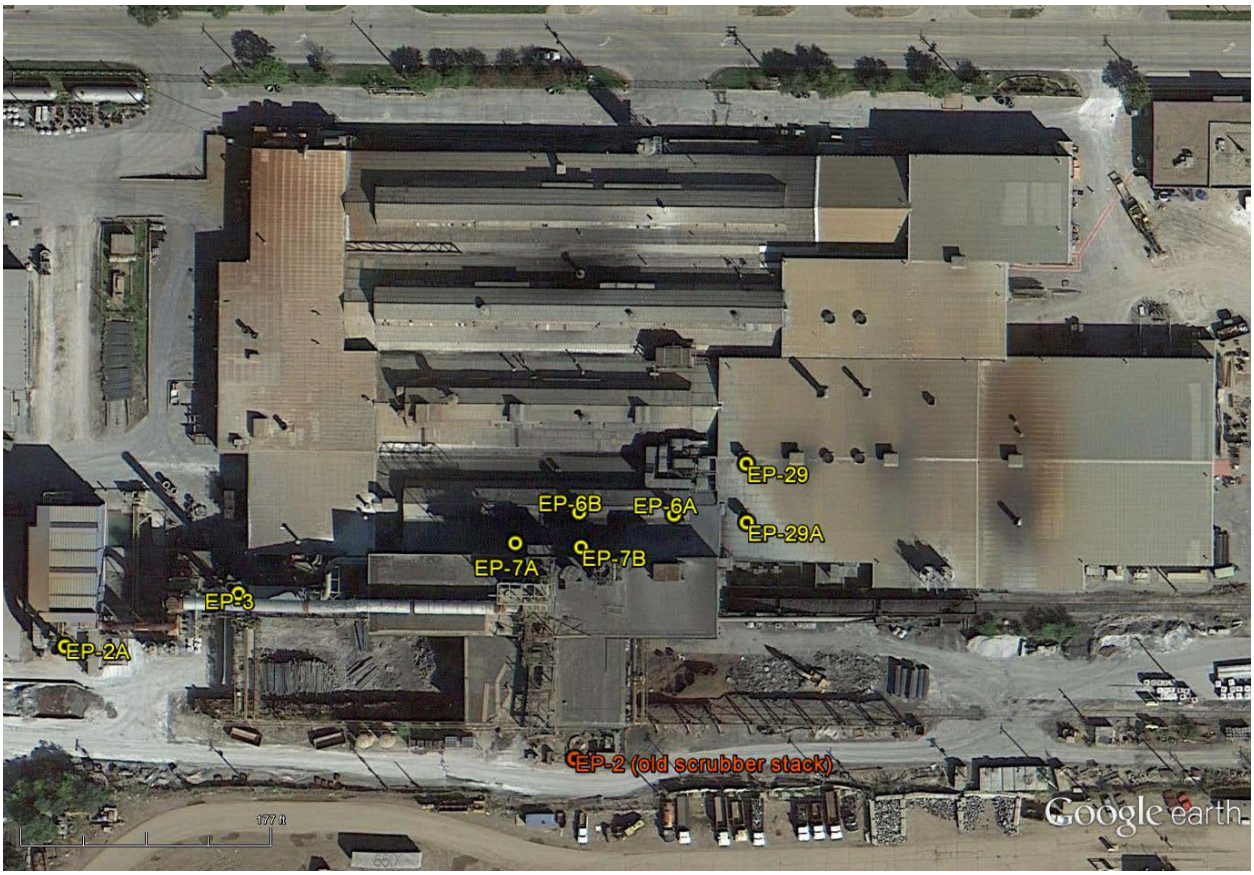

Figure 4-1. Approximate locations of lead emitting point sources at Griffin Pipe. EP-2 no longer exists.

Cupola

In the 2010 baseyear the majority of the facility's emissions, approximately 72%, were attributed to the cupola (and the magnesium inculcation process). EPA's March 2012 *Guide to Developing Reasonable Available Control Measures (RACM) for Controlling Lead Emissions* (EPA-457/R-12-001) suggests there is substantial support for adding control devices (such as filters) to control cupola emissions at iron foundries.

The cupola was constructed prior to September 23, 1970, and was initially grandfathered for the purposes of construction permitting. To reduce cupola emissions a wet scrubber system was installed in 1971. Process modifications made in 1999 expanded the use of the wet scrubber system to control emissions from the plunging (magnesium inoculation) process, which were previously uncontrolled. Before 1971 emissions from the cupola were uncontrolled.

On December 7, 2010, the Iowa DNR issued permits to Griffin Pipe for a project (10-030) that was significant for lead under the PSD program. The PSD regulations and associated permits minimize lead emissions by requiring the installation of the top-level control that satisfies the Best Available Control Technology (BACT) determination. The PSD permit for the cupola (permit number 10-A-270-P) required the addition of a baghouse and the implementation of a scrap management plan to reduce lead emissions. The scrap management plan required that lead containing components of scrap such as batteries, battery cables and wheel weights be removed, to the extent practicable, prior to being

charged (loaded) in the cupola. The DNR concludes a scrap management plan, baghouse, and the associated emissions limits satisfy RACT/RACM for the cupola.

Desulfurization and Magnesium Inoculation

In the baseyear approximately 25% of Griffin Pipe's estimated actual lead emissions were associated with hot-iron desulfurization and uncaptured magnesium inoculation emissions. In early 2011 Griffin Pipe started operating the new cupola baghouse. At the same time, a second baghouse began operation to control emissions from the hot-iron desulfurization and magnesium inoculation processes. The addition of this baghouse was also required as part of the PSD project (10-030) mentioned above. The desulfurization and magnesium inoculation baghouse is separate from the cupola baghouse but otherwise comparable. The installation and operation of the baghouse essentially satisfies RACT/RACM requirements for the desulfurization and magnesium inoculation processes. For purposes of the control strategy, new emission rates were specified to ensure attainment and maintenance of the NAAQS, including limits on roof vents EP-7A and EP-7B.

Haul Roads, Casting, Scrap Handling, and Building Emissions

The remaining baseyear lead emissions, which constitute only a few percent of the total, are attributed to haul roads, the large & small diameter casting processes, building emissions, and cupola charge handling. Despite a low emissions total the haul roads require control to provide for modeled attainment in all areas considered ambient air. Sweeping of the haul roads to control at levels of 90% or more compared to baseline conditions is considered RACM for the haul roads. All travelled roadways at Griffin Pipe are paved and are subject to sweeping requirements to minimize lead-containing fugitive dust emissions. Actual lead emissions from casting and scrap handling activities are expected to be relatively low, but the potential of the sources to emit lead were not previously expressly limited. Emissions limits were developed for attainment of the lead NAAQS in the dispersion modeling demonstration. The new limits are necessary for attainment demonstration purposes and are considered RACT/RACM.

4.2. Alter Metal Recycling

Reducing lead emissions from the haul roads is the only reasonable control measure identified for Alter Metal Recycling. No other lead emissions at Alter Metal Recycling have been identified for RACT/RACM review. Control of the facility haul roads is necessary to demonstrate modeled attainment of the lead NAAQS in ambient air. The facility is required to sweep all paved roadways to achieve a 95% reduction in fugitive dust emissions compared to the baseline, as summarized in Table 4-2.

Table 4-2. Summary of RACT/RACM conclusions for Alter Metal Recycling.

Emission Point ID	Emission Point Description	Associated Emissions Unit(s) (Emission Unit ID)[a]	RACT/RACM Summary
Fugitives	Haul Roads	Fugitive Haul Road Emissions	Sweeping of haul roads to reduce fugitive dust emissions by 95%

5. Control Strategy

5.1. Griffin Pipe

The control strategy to attain the lead NAAQS builds upon the RACT/RACM analysis and incorporates conditions relevant to the idling of plant operations. While actual lead emissions at the facility during the idling are essentially zero, potential emissions remain unchanged unless new limits or other control measures are established. The DNR and Griffin Pipe voluntarily entered into an Administrative Consent Order (ACO) containing enforceable control measures designed to ensure the lead NAAQS is attained and maintained when Griffin Pipe resumes operations. The ACO defines two independent control strategies, designated Option A and Option B. Griffin Pipe must implement a strategy but may choose which strategy to implement. The ACO and its attachments contain the enforceable requirements, are submitted for inclusion in the SIP, and are found in Appendix B. Both strategies are summarized below.

Control Strategy Option A

The control strategy designated Option A contains, for example, new lead emissions limits, haul road control measures, and restrictions on the hours of operations. Requirements include:

- Limiting scrap melting operations to 1,250 hours in any 3-month rolling period.
- Sweeping/cleaning the haul roads to achieve a 95% reduction in Pb emissions.
- Shipping bulk materials and product only from 7 am to 5 pm daily.
- Implementing "good housekeeping" or best management practices (BMP), such as posting speed limit signs and cleaning in appropriate situations to minimize fugitive emissions.
- Meeting new lead emission limits added to existing sources, as shown in Table 5-1.

Table 5-1. Summary of Pb source emission limits for Griffin Pipe under control strategy Option A.

Source Description (Unit ID)	Emission Point ID	Pb Limit (lb/hr)	Control Equipment
Cupola (EU-1)	EP-2A	0.282	Baghouse (CE-10)
Desulfurization (EU-2) Bull Ladle (EU-3) Magnesium Inoculation (EU-4)	EP-3	0.0018	Baghouse (CE-11)
Magnesium Inoculation-Uncaptured (EU-4) Ladle Preheat-Uncaptured (EU-19)	EP-7A	0.0026	None
Desulfurization-Uncaptured (EU-2) Bull Ladle-Uncaptured (EU-3) Small Diameter Casting (EU-6)	EP-7B	0.0372	None
Small Diameter Casting (EU-6)	EP-6A	0.0043	None
Building Emissions	EP-6B	0.0025	None
Large Diameter Casting (EU-29) [a]	EP-29 & EP-29A	0.0025	None
Cupola Charge Handling (EU-17)	FUG1	0.00143	None
Traffic Pathways	N/A	[b]	Sweeping

[a] The large-diameter casting limits are bubbled (cumulative), covering both EP-29 and EP-29A simultaneously.

[b] The lead limit is established at 0.002 tons of lead per rolling 3-month total; that correlates to a lead silt content of 0.00016 g/m^2 and maximum potential operation. The lead limit is based on 95% reduction over baseline lead levels. The haul road surface total silt loading or lead silt loading shall not exceed 0.64 g/m^2 or 0.00016 g/m^2, respectively, based on a 3-month rolling average.

Control Strategy Option B

The control strategy designated option B requires the installation of a baghouse to control emissions from roof vent EP-7B and tightens the emission limit for EP-7B by nearly a factor of 15 compared to Option A. The new baghouse is located approximately 35 feet north of EP-3, as indicated in Figure 5-1. The restrictions on the hours of operations are eliminated and offset by the addition of the baghouse. The frequency of sweeping is also adjusted based on similar considerations. Requirements include:

- Installing a new baghouse to control emissions from EP-7B and meeting a lead limit of 0.0025 lb/hr (see Table 5-2).
- Sweeping/cleaning the haul roads to achieve a 90% reduction in Pb emissions.
- Implementing "good housekeeping" or BMP, such as posting speed limit signs and cleaning in appropriate situations to minimize fugitive emissions.
- Meeting new lead emission limits added to existing sources, as shown in Table 5-2.

Table 5-2. Summary of Pb source emission limits for Griffin Pipe under control strategy Option B.

Source Description (Unit ID)	Emission Point ID	Limit (lb/hr)	Control Equipment
Cupola (EU-1)	EP-2A	0.282	Baghouse (CE-10)
Desulfurization (EU-2) Bull Ladle (EU-3) Magnesium Inoculation (EU-4)	EP-3	0.02	Baghouse (CE-11)
Magnesium Inoculation-Uncaptured (EU-4) Ladle Preheat-Uncaptured (EU-19)	EP-7A	0.0075	None
Desulfurization-Secondary Capture (EU-2) Bull Ladle-Secondary Capture (EU-3) Small Diameter Casting (EU-6)	EP-7B	0.0025	Baghouse (CE-12)
Small Diameter Casting (EU-6)	EP-6A	0.0043	None
Building Emissions	EP-6B	0.0015	None
Large Diameter Casting (EU-29) [a]	EP-29 & EP-29A	0.0025	None
Cupola Charge Handling (EU-17)	FUG1	0.00143	None
Traffic Pathways	N/A	[b]	Sweeping

[a] The large diameter casting limits are bubbled (cumulative), covering both EP-29 and EP-29A.

[b] The lead limit is established at 0.004 tons of lead per rolling 3-month total; that correlates to a lead silt content of 0.00032 g/m^2 and maximum potential operation. The lead limit is based on 90% reduction over baseline lead levels. The haul road surface total silt loading or lead silt loading shall not exceed 1.28 g/m^2 or 0.00032 g/m^2, respectively, based on a 3-month rolling average.

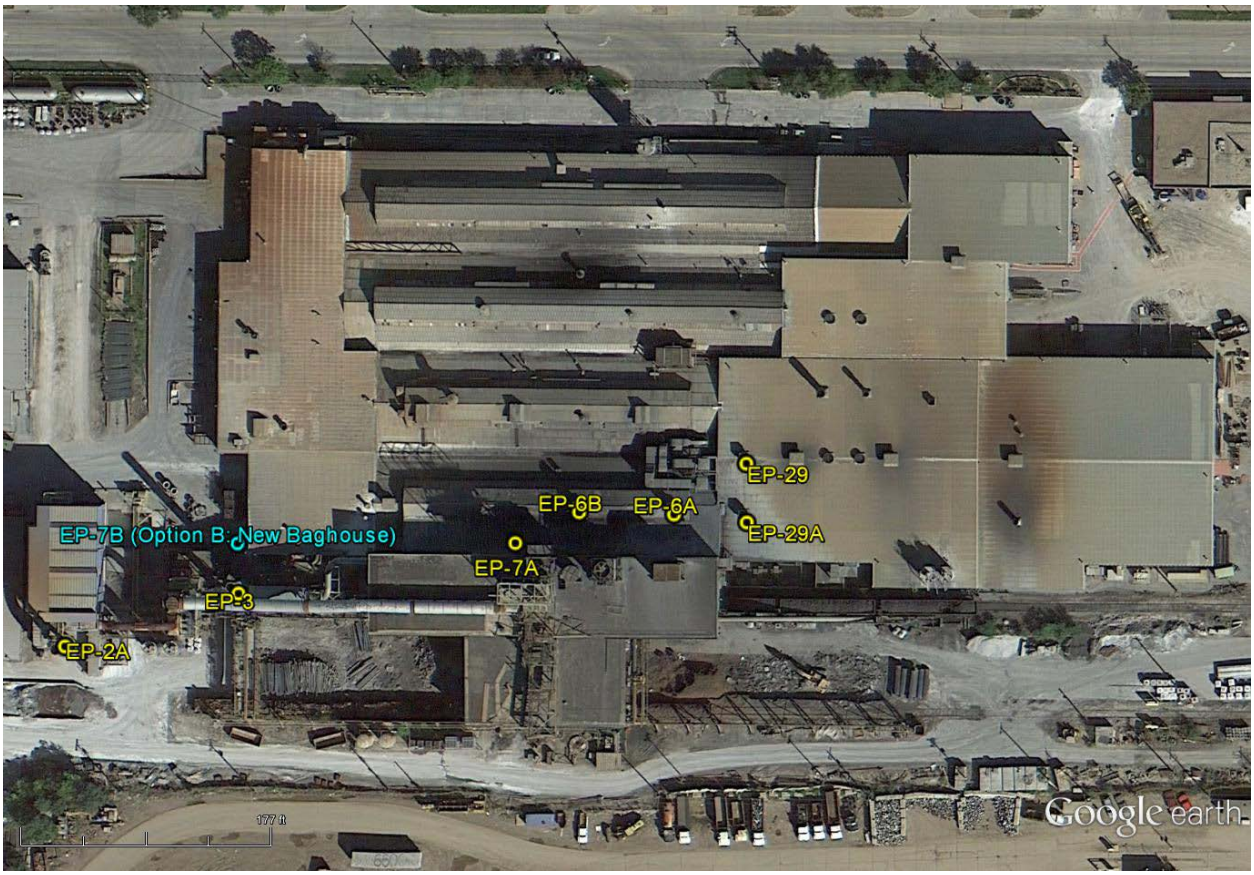

Figure 5-1. Depiction of the existing point sources at Griffin Pipe and the new location of source EP-7B (baghouse stack) under control strategy Option B.

5.2. Alter Metal Recycling

The control strategy requires Alter Metal Recycling to reduce their haul road emissions by sweeping paved roads. Unpaved roads must be paved or their use discontinued. Material shipments are limited to 946,000 tons per rolling 12-month period. Additional review of the control strategy is provided below. The legally enforceable requirements are contained in construction permit number 14-A-521, submitted for inclusion in the SIP, and located in Appendix C.

- New limits restricting fugitive lead emissions from haul road traffic are based on a 95% reduction from baseline levels. Emission reductions are accomplished by sweeping. The lead limit is established at 0.01 tons of lead per rolling 3-month average; that correlates to a lead silt content of 0.00281 g/m^2 and maximum potential operation. A haul road surface silt loading content of 2.7 g/m^2 has been established as a surrogate for total lead silt content.
- All haul roads at Alter Metal Recycling must be paved. The facility shall complete the paving of unpaved haul road segments 7, 14, 15, and 16 by October 31, 2015, and stop using unpaved haul road segment 17 by the same date. A depiction of these unpaved road segments is provided in Figure 5-2.
- The shipping of inbound and outbound materials is restricted to between the hours of 5 am to 8 pm Monday through Friday, and 8 am to 12 pm on Saturday, and cannot exceed 946,000 tons of material per rolling 12-month period. Internal transfers are limited to Monday-Friday.

- Alter Metal Recycling must implement “good housekeeping” or BMP to minimize fugitive emissions, such as posting speed limit signs and cleaning in appropriate situations.

The control measures for Alter Metal Recycling also account for changes since the 2010 baseyear in haul road locations, road segment lengths, and new routes being implemented with the addition of a non-ferrous metal recovery operation at Alter Metal Recycling, discussed in Appendix D.

Figure 5-2. Approximate location of the unpaved road segments in the 2010 baseyear at Alter Metal Recycling. Segment 14 was originally paved but was treated as unpaved due to surface deterioration.

5.3. Implementation

The proposed RACT/RACM measures for the Council Bluffs lead nonattainment area and the associated control strategies are implemented through legally enforceable mechanisms. Griffin Pipe entered into an ACO (number 2014-AQ-??) with the DNR, permanently reducing emissions while the facility is operating. The ACO was signed on <DATE> and requires control measures be implemented when the facility resumes operation. (Placeholders are used until the ACO number and signature date are available.) The ACO is submitted as part of this SIP and is provided in Appendix B.

Construction permit 14-A-521 was issued to Alter Metal Recycling on September 2, 2014. Mandatory implementation of the haul road sweeping requirements became effective 7 days later, on September 9, 2014. The construction permit is a legally enforceable mechanism, results in permanent lead emissions reductions, and is submitted as part of this SIP in Appendix C.

6. Attainment Demonstration

The control measures developed for Griffin Pipe and Alter Metal Recycling will eliminate violations of the 2008 lead NAAQS according to the dispersion modeling results. The dispersion modeling analysis used the current version of EPA's preferred refined dispersion model, the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD, dated 14134). AERMOD was run in the default regulatory mode.

6.1. Source Characteristics

Sources at Griffin Pipe were modeled as point sources or volume sources. Potential emission rates for the point sources were developed from stack test results, process information, engineering assessment, and evaluation of the levels necessary to achieve the NAAQS through the RACT/RACM review. The stack parameters and maximum allowable hourly lead emission rates from point sources at Griffin Pipe are shown in Table 6-1, Table 6-2, and Table 6-3. Table 6-1 includes those point sources with identical characteristics (notwithstanding restrictions on hours of operation) in control strategy Option A and Option B. Table 6-2 and Table 6-3 include the point source parameters which differ under control strategy Option A and Option B, respectively. All stacks are modeled with an unobstructed vertical discharge. Three volume sources were modeled to account for cupola charge handling emissions at Griffin Pipe. Cupola charging emissions are the same in both control strategy options and are shown in Table 6-4.

The haul roads at Alter Metal Recycling and Griffin Pipe Recycling were characterized as volume sources consistent with EPA's Haul Road Workgroup Final Report dated December 6, 2011. This includes appropriate adjustments of the volume source location and/or initial horizontal dimension (sigma y) for nearby receptors. Figure 6-1 indicates the locations of downwash structures (blue rectangles), point sources (light blue dots), and volume sources (red dots) in the model. Figure 6-2 and Figure 6-3 depict the locations of the haul roads sources. Modifications to the facility haul roads incurred due to the addition of a process, referred to as the ZC Plant (to allow the facility to recover non-ferrous materials from shredder fluff previously landfilled or otherwise disposed as waste) are incorporated into the modeling layout and described in Appendix D.

A detailed accounting of the haul road emissions at Griffin Pipe and Alter Metal Recycling is not suited for reproduction in this document due to complexity from temporal variation and the number of haul road segments. In summary, the lead emissions from the haul roads are distributed spatially (by road segment) and in time (by day of week and by hour of day) according to the usage schedule of the haul roads and any applicable restrictions in the control strategies.[11] The haul road emission rates also account for several road segments with shared use by Griffin Pipe and Alter Metal Recycling.

[11] Temporal variations in the haul road emission rates at Alter Metal Recycling occur, for example, across the hours of the day because the inbound/outbound shipping of material is restricted to between 5 am and 8 pm (Monday through Friday; 9 am to noon on Saturdays). Day of week variations occur, for example, because internal transfers are allowed only Monday-Friday while inbound/outbound material may be shipped on Monday-Saturday.

Table 6-1. Hourly emission limits and stack parameters for point sources at Griffin Pipe with identical characteristics in control strategy options A and B.

AERMOD Source ID	Brief Source Description	Emission rate (Pb) (lb/hr)	Stack Height (ft)	Gas exit temp (°F)	Gas exit velocity (ft/s)	Effective Diameter (inches)
GEP2A	Cupola Baghouse	0.282	100	295	52.4	80
GEP6A	Small Diameter Casting	0.0043	49	92	49.6	80
GEP29	Large Diameter Casting	0.0025[+]	48	143	25.2	81.24
GEP29A	Large Diameter Casting		48	128	25.0	81.24

[+] Total emissions from both GEP29 and GEP29A (large diameter casting) cannot exceed 0.0025 lb/hr.

Table 6-2. Hourly emission limits and stack parameters for point sources at Griffin Pipe under control strategy Option A.

AERMOD Source ID	Brief Source Description	Emission rate (Pb) (lb/hr)	Stack Height (ft)	Gas exit temp (°F)	Gas exit velocity (ft/s)	Effective Diameter (inches)
GEP3	Desulf./Inoc. Baghouse	0.0018	100	149	36.1	74
GEP7A	Magnesium Inoculation-Uncaptured	0.0026	49	97	22.3	122.4
GEP7B	Desulfurization-Uncaptured	0.0372	49	110	22.6	122.4
GEP6B	Building Emissions	0.0025	49	92	49.6	80

Table 6-3. Hourly emission limits and stack parameters for point sources at Griffin Pipe under control strategy Option B.

AERMOD Source ID	Brief Source Description	Emission rate (Pb) (lb/hr)	Stack Height (ft)	Gas exit temp (°F)	Gas exit velocity (ft/s)	Effective Diameter (inches)
GEP3	Desulf./Inoc. Baghouse	0.02	100	149	36.1	74
GEP7A	Magnesium Inoculation-Uncaptured	0.0075	49	97	22.3	122.4
GEP7B	Desulfurization-Secondary Capture (New Baghouse)[+]	0.0025	100	110	39.8	96
GEP6B	Building Emissions	0.0015	49	92	49.6	80

[+] The new baghouse to control GEP7B is located 35 feet north of GEP3.

Table 6-4. Volume source parameters at Griffin Pipe.[*]

AERMOD Source ID	Source Description	Emission rate (Pb) (lb/hr)	Release height (ft)	Initial lateral dimension (m)	Initial vertical dimension (ft)
FUG1B_W	Cupola charge handling	0.000477	36	7.25	33.5
FUG1B	Cupola charge handling	0.000477	36	7.25	33.5
FUG1B_E	Cupola charge handling	0.000477	36	4.27	33.5

[*] For brevity, Griffin Pipe haul road sources have been excluded from this table.

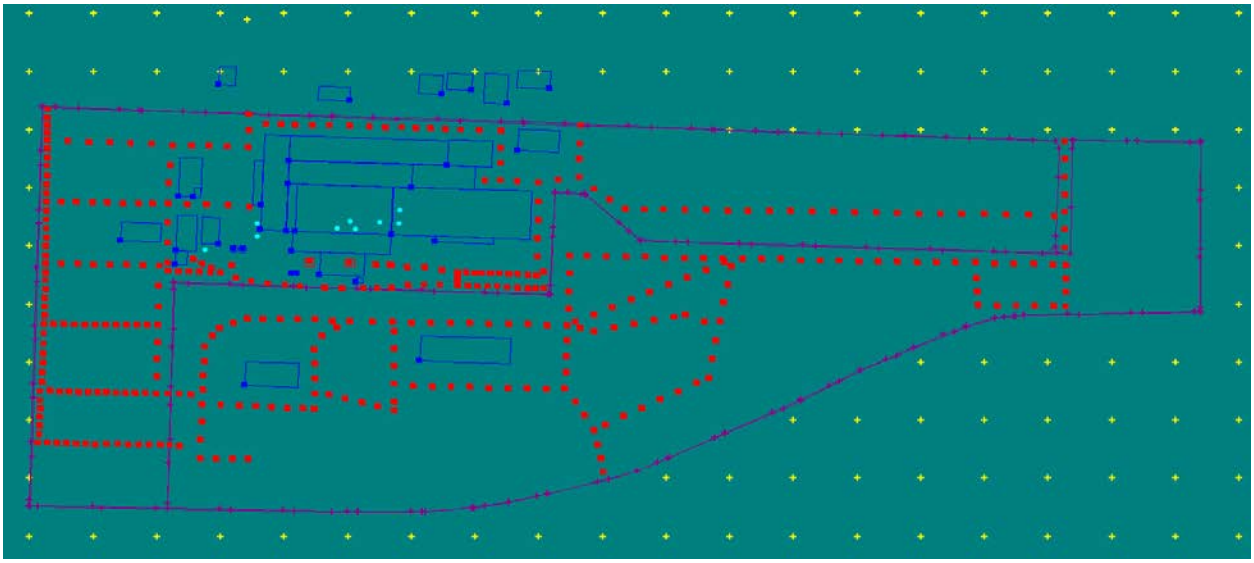

Figure 6-1. Model layout for Griffin Pipe and Alter Metal Recycling in the control strategy modeling.

Figure 6-2. Griffin Pipe roadway segments.

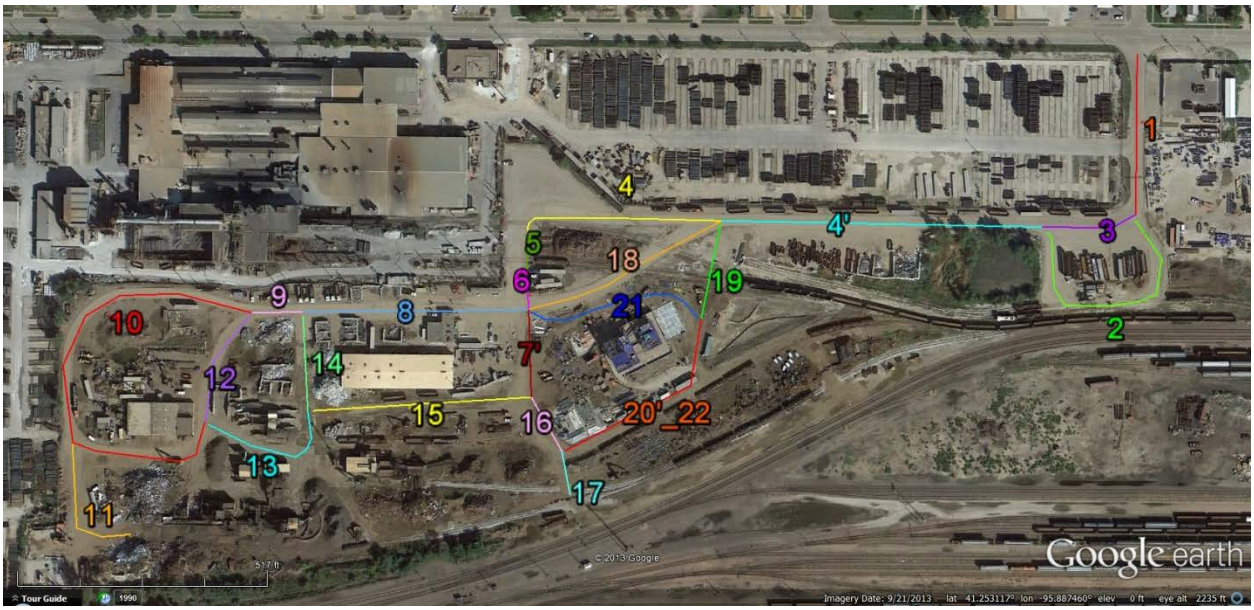

Figure 6-3. Alter Metal Recycling roadway segments (incorporates changes due to the ZC Plant).

6.2. Receptor Grids

The two facilities are adjacent to each other and share a common boundary between them, as shown previously in Figure 1-4. The dispersion modeling evaluated total ambient impact of lead emissions from Griffin Pipe and Alter Metal Recycling combined, as well as their impacts on each other's property to ensure that neither facility is causing NAAQS violations on their neighbor's property.

To determine total ambient impact, the two contiguous facilities were treated as a single entity with one encompassing property boundary (as shown by the purple lines in Figure 6-1). Receptors were spaced 50 m apart on this property boundary. A Cartesian grid of discrete receptors extends out 1.5 km from the boundary. For the first 0.5 km the receptors are spaced at 50 m intervals and from 0.5 to 1.5 km the receptors are spaced at 100 m intervals. The receptor grid covers a combined area of 14 km^2 (3.5 km x 4 km) surrounding Griffin Pipe and Alter Metal Recycling. To determine the facilities' impacts on each other's property, receptors at 50 m intervals were placed along the common boundary between the two facilities and at 50 m intervals on the property of the facility.

6.3. Terrain Elevations

The terrain, source, and building elevations were obtained from the National Elevation Dataset (NED) for Pottawattamie County, Iowa. The domain used for importation of AERMAP data encompasses all terrain that may be at or above a 10% slope from each receptor.

6.4. Building Downwash

All structures potentially contributing to plume downwash were included in the model. Downwash was evaluated using the latest version of the Building Profile Input Program (BPIP-PRIME) after determining the source and building base elevations using the latest version of AERMAP.

6.5. Meteorological Data

The surface and upper air meteorological data are from the Omaha airport (KOMA) for years 2008 – 2012. The base elevation is 299 m. These data are considered representative of the meteorological conditions in the area of Griffin Pipe and Alter Metal Recycling.

6.6. Background Value

An analysis was conducted of the ambient lead concentrations measured during the time period November 2009 through 2012 at the monitor located near the intersection of 8th Avenue and 27th Street in Council Bluffs. The review excluded all concentrations measured on days with an hourly wind direction with a southerly (greater than 90 degrees and less than 270 degrees) component, in an attempt to screen out concentrations potentially influenced by sources at Griffin Pipe or Alter Metal Recycling. Based on EPA's comments and recommendations the background level for lead is assumed to be 0.01 µg/m^3 for the nonattainment SIP modeling.

6.7. Results

Lead NAAQS compliance was evaluated for five cases. The first two cases evaluated cumulative impacts of lead emissions from both facilities on ambient air. One simulation was required for each of Griffin Pipe's two control strategies. Potential (permitted/allowable) emissions from Alter Metal Recycling are identical in both scenarios. The three remaining simulations included two runs to assess Griffin Pipe's lead impacts for both control strategies on Alter Metal Recycling's property and a final simulation to assess the lead impacts from Alter Metal Recycling on Griffin Pipe's property. All five simulations modeled compliance with the lead NAAQS.

Post file analyses were conducted to determine the paired spatial and temporal contributions from each facility at the worse-case receptor location. The AERMOD results were post-processed using the latest version of EPA's executable file "leadpost_13262.exe." When post-processing involved multiple source groups, an equivalent DNR spreadsheet tool was used. The post-processed results were compared with the lead NAAQS of 0.15 $\mu g/m^3$.

Table 6-5 and Table 6-6 show that the results of the two cumulative control strategy modeling runs achieve attainment with the lead NAAQS. The results for Griffin Pipe's Option A strategy are provided in Table 6-5 and the results for the Option B strategy follow in Table 6-6. The modeled predictions are apportioned by source type for the receptor in ambient air with the highest modeled concentration. No NAAQS violations are predicted by the dispersion modeling and each control strategy is expected to yield attainment with the 2008 lead NAAQS. Results for the remaining three cases involving individual facility impacts upon each other all showed attainment of the lead NAAQS. The dispersion modeling data has been transmitted to EPA Region 7 for review.

Table 6-5. Dispersion modeling results showing the receptor in ambient air with the highest modeled concentration attains the lead NAAQS using Griffin Pipe's Option A control strategy. All concentrations are in µg/m^3 calculated using EPA's Leadpost processor or similar techniques.

Location	Total Impact*	Alter Metal Recycling	Griffin Pipe							
		Entire Facility (Haul Roads)	Entire Facility	Haul Roads	Cupola BH (2A)	Desulf. BH (3)	Vents 7A and 7B	Small casting & Building (6A & 6B)	Large casting (29 & 29A)	Charge handling (FUG1)
X= 258192 Y= 4570766	0.149	0.066	0.073	0.007	0.000	0.000	0.045	0.008	0.003	0.010

* Total impact includes a background concentration of 0.01 µg/m^3.
BH=Baghouse

Table 6-6. Dispersion modeling results showing the receptor in ambient air with the highest modeled concentration attains the lead NAAQS using Griffin Pipe's Option B control strategy. All concentrations are in µg/m^3 calculated using EPA's Leadpost processor or similar techniques.

Location	Total Impact*	Alter Metal Recycling	Griffin Pipe							
		Entire Facility (Haul Roads)	Entire Facility	Haul Roads	Cupola BH (2A)	Desulf. BH (3)	Vent 7A and New BH 7B	Small casting & Building (6A & 6B)	Large casting (29 & 29A)	Charge handling (FUG1)
X= 258182 Y= 4570767	0.149	0.069	0.070	0.023	0.000	0.001	0.018	0.010	0.005	0.014

* Total impact includes a background concentration of 0.01 µg/m^3. Due to rounding the numbers may not sum exactly as shown.
BH=Baghouse

7. Reasonable Further Progress

Section 172(c)(2) of the CAA requires nonattainment plans include provisions addressing reasonable further progress (RFP). The CAA defines RFP in Section 171 as "*such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable dat*e."

EPA recognizes that achieving generally linear progress can be difficult or impossible with a small number of sources. According to the discussion in the preamble of the 2008 lead NAAQS revision (73 FR 66964, November 12, 2008, see pages 67038-67039), the RFP requirements for lead nonattainment "should be met by 'adherence to an ambitious compliance schedule' which is expected to periodically yield significant emission reductions, and as appropriate, linear progress."

In January of 2011 Griffin Pipe began operation of two new baghouses to control lead emissions from the cupola and the desulfurization and magnesium inoculation processes. Actual lead emissions from Griffin Pipe are expected to be essentially zero when the facility is idle but this is not used to meet RFP requirements. As of September 9, 2014, Alter Metal Recycling is required to implement the haul road sweeping measures engineered to reduce approximately 95% of their roadway fugitive lead emissions.

A timeline of the recent and anticipated lead emissions from the facilities is provided in Table 7-1. The RFP requirements in the Council Bluffs lead nonattainment area are met by a combination of early lead reductions associated with the PSD permits issued to Griffin Pipe, the expeditious implementation of control measures at Alter Metal Recycling, and Griffin Pipe's requirement to implement control measures when the facility resumes operations.

Table 7-1. Summary of emissions evaluations and components satisfying RFP.

Facility	Actual Annual Emissions Baseyear – 2010 (tpy)	Actual Annual Emissions 2012 (tpy)	Control Measure Reductions & Timeline
Griffin Pipe	1.0382	0.070	Control measures implemented when Griffin Pipe resumes operations.
Alter Metal Recycling	0.7182 (The inter-annual variability in haul road emissions prior to the implementation of controls is not readily calculable, may be negligible, and needs no further consideration.)		Control measures reduce Pb emissions by 95% from baseline. Reductions required by September 9, 2014.

8. Contingency Measures

To comply with CAA §172(c)(9) the DNR developed contingency measures which can be implemented quickly by Griffin Pipe and Alter Metal Recycling if either the applicable attainment date or RFP[12] requirements are not met. The contingency measures for both facilities are similar and can take effect promptly following a simple notification process.

The contingency measures require each facility to essentially double their haul road sweeping/cleaning frequency within seven days after notification by the DNR that a monitored exceedance of the lead NAAQS occurred. Each facility must also submit sweeping data to the DNR and continue the increased cleaning/sweeping frequency until otherwise notified.

If after three months of increased sweeping frequency another NAAQS violations occurs, then each facility is required to submit an emissions evaluation meeting the criteria and timeline specified by the DNR.

For Griffin Pipe the contingency requirements are enforceable through the ACO. Attachment A and Attachment B of the ACO contain slightly different language to tailor the frequency of increased sweeping to the respective control strategy. The contingency measures for Alter Metal Recycling are in place and enforceable through their construction permit.

[12] Early lead reductions at Griffin Pipe from the addition of the baghouses and the timely compliance schedules in the control strategy satisfy RFP requirements.

9. Attainment Date

The effective date for the Council Bluffs lead nonattainment area was December 31, 2011. The CAA requires that the area achieve the lead standards as expeditiously as practicable and no later than five years from the nonattainment designation. Lead nonattainment areas are not eligible for extensions of the attainment date.[13]

Significant lead reductions occurred shortly after the area was designated. These reductions alone were not sufficient to achieve attainment. Three years of 3-month rolling averages below the 0.15 $\mu g/m^3$ standard are required for attainment purposes. Additional lead emissions reductions are being implemented as expeditiously as practicable. The state is identifying December 31, 2016, as the attainment date.

[13] A five-year maximum attainment timeline is specified in CAA §192 and therefore the use of attainment date extensions provisions provided in §172(a)(C) are prohibited by §172(a)(D).

10. Additional Nonattainment SIP Provisions

Three remaining CAA Section 172(c) nonattainment requirements not addressed above are discussed in this chapter.

10.1. Identification & Quantification of Emissions

According to CAA §172(4) the SIP must identify and quantify the emissions which will be allowed from the construction and operation of major new or modified stationary sources in the area. The state must demonstrate that such emissions will be consistent with RFP requirements and will not interfere with attainment of the lead NAAQS. These requirements are met by Iowa's preconstruction permitting program and implementation of nonattainment new source rules in 567 – Iowa Administrative Code (IAC) 31.1, 31.3 – 31.10.

10.2. Nonattainment New Source Review

Section 172(c)(5) of the CAA refers to permits for new or modified major sources located within the nonattainment area. A special permitting process applies to such sources, referred to as a nonattainment new source review (NA NSR) program. NA NSR is mandated by CAA §173 and a SIP approved NA NSR program must meet the minimum criteria defined in 40 CFR 51.165. On May 15, 2014 (79 FR 27763) EPA approved into Iowa's SIP the NA NSR regulations in 567 – IAC 33. The modified administrate rules in Chapter 33 became effective on January 15, 2015, as published on December 11, 2013, in the Iowa Administrative Bulletin Volume XXXVI Number 12, pages 1455-1456.

10.3. CAA §110(a)(2) Requirements

Section 172(c)(7) of the CAA requires nonattainment SIPs to meet the applicable provisions of CAA §110(a)(2). While the provisions of 110(a)(2) address various topics there is ample evidence[14] to suggest that only the §110(a)(2) criteria which are linked with a particular area's designation and classification are relevant to §172(c)(7). This nonattainment SIP submittal satisfies all applicable CAA §110(a)(2) criteria, and evidenced by the state's nonattainment new source review program which addresses 110(a)(2)(I), the included control strategy, and the associated emissions limits which are relevant to 110(a)(2)(A). In addition, on October 31, 2011, the DNR submitted to EPA an infrastructure SIP to demonstrate that the DNR has the necessary plans, programs, and statutory authority to implement the requirements of Section 110 of the CAA as they pertain to the 2008 lead NAAQS.

10.4. Equivalent Techniques

The DNR followed existing regulations, guidance, and standard practices when conducting dispersion modeling, preparing emissions inventories, and implementing planning procedures. The DNR did not use or request approval of alternative or equivalent techniques as allowed under §172(c)(8) of the CAA.

[14] As one example, see a proposal discussing this issue in 76 FR 79579 (December 22, 2011, specifically pages 79583-79584) and the promulgation of those associated positions in the final rule 77 FR 34189 (June 12, 2012).

11. Administrative Materials

State Implementation Plans addressing nonattainment areas must comply with general planning provisions in addition to the special provisions in §172 of the Clean Air Act. For example, Subpart F of 40 CFR 51 identifies procedural requirements and Appendix V of 40 CFR 51 establishes minimum criteria that must be met before a SIP revision can be considered an official submittal. This SIP submittal satisfies all the procedural requirements and addresses all the administrative criteria. The order of materials discussed below generally follows that of Section 2.1 of Appendix V of 40 CFR 51.

11.1. Submittal Letter

A formal letter of submittal from the Governor of the State of Iowa, requesting EPA approval of the proposed revision to the SIP for the State of Iowa, will be included with the SIP submittal.

11.2. Evidence of State Adoption

The Iowa Environmental Protection Commission (EPC) approved on <DATE>[15] this plan for submittal to EPA as a revision of the State Implementation Plan to address lead nonattainment in Council Bluffs. The DNR followed all applicable procedural requirements of the state's laws and constitution in obtaining the adoption of this plan.

11.3. Necessary Legal Authority

The DNR is the regulatory agency with primary responsibility for outdoor air quality permitting and compliance activities in the state of Iowa. The DNR's authority is set forth in chapter 455B of the Code of Iowa and implemented through 567 – IAC chapters 10 and 20-35, and 561 – IAC chapters 2 and 7. The DNR's permitting and compliance programs and associated rules have previously been approved by EPA as part of the State of Iowa's SIP.

The State of Iowa has the necessary legal authority under state statute to adopt and implement this plan. Iowa Code section 455B.133(3) provides that the Iowa Environmental Protection Commission shall "adopt, amend, implement, or repeal emission limitations or standards for the atmosphere of this state on the basis of providing air quality necessary to protect the public health and welfare." The federal NAAQS for lead are adopted by reference at 567 – IAC 28. Iowa Code section 455B.134(9) states that the duties of the director include "issu[ing] orders consistent with rules to cause the abatement or control of air pollution, or to secure compliance with permit conditions."

In combination with the DNR's existing legal authority and associated administrative regulations, the control measures and other components included in this SIP revision are adequate to provide for the timely attainment and maintenance of the 2008 lead NAAQS.

11.4. Evidence of Public Notice & Public Hearing Certification

The DNR's public participation process uses procedures to ensure the requirements in 40 CFR 51.102 and Appendix V are met. The public notice of the proposed action to issue Alter Metal Recycling's construction permit included a 35-day public comment period (from July 22 to August 25, 2014) with an opportunity to request a public hearing. The notice was published on July 20, 2014, in *The Daily Nonpareil*, a periodical based in Council Bluffs published Tuesday-Sunday. A copy of this notice is provided in Appendix E. The DNR also provided notice of the draft permit through our construction permit website (note, the permit is no longer listed as the comment period has ended). The DNR did not

[15] The <DATE> placeholder is used prior to the approval of this plan by the EPC.

receive a request to hold a public hearing nor were any public comments received on Alter Metal Recycling's draft construction permit.

Notice of the DNR's intention to revise the State Implementation Plan for the Council Bluffs lead nonattainment area and notice providing a 33-day public comment period with a public hearing was published on Thursday, November 20, 2014, in *The Daily Nonpareil*. Proof of publication is included in Appendix E. A list serve notice regarding the public comment period and public hearing was transmitted on November 20, 2014, to over 500 Iowa air quality list serve members.

An electronic copy of the nonattainment SIP document was posted on the DNR's Public Input Webpage at http://www.iowadnr.gov/InsideDNR/RegulatoryAir/StakeholderInvolvement.aspx. A copy of the nonattainment SIP was made available to the public at the Council Bluffs Public Library, located at 400 Willow Ave, Council Bluffs, Iowa, 51503. The comment period started on November 20, 2014, and lasted through December 22, 2014. In accordance with the information published in the public notice, a public hearing was conducted at 10:30 am on December 22, 2014, at the Council Bluffs Public Library.

11.5. Compilation of Public Comments and the State's Responses

During the public hearing the DNR received <number> oral comments. <Number> written comments were submitted to DNR by the close of the public comment period on December 22, 2014. Copies of all comments received, including a transcription of the oral comments, are available from the DNR upon request. A summary of the comments and the DNR's responses are provided below.

The public comment responsiveness summary will be added here in the final version of the document.

Appendix A. Baseyear 2010 Haul Road Emissions Calculations

Haul road emissions cannot be directly measured and instead are computed from emission factors and facility traffic data. The DNR estimated the 2010 baseyear haul road lead emission at Griffin Pipe and Alter Metal Recycling using the methods and information discussed in this appendix.

Paved Roads Emission Factors

The paved road emission factors for Griffin Pipe and Alter Metal Recycling were determined using site-specific data and Equation (1) from AP-42, Chapter 13, Section 13.2.1 (dated January 2011): [16]

$$E = k\,(sL)^{0.91} \times (W)^{1.02} \qquad (1)$$

where:
- E = lead emission factor (pounds of lead per vehicle mile traveled, lb/VMT)
- k = particle size multiplier for suspendable particulate (0.011 lb/VMT)
- sL = the amount of lead in the suspendable particulate (g/m^2), and
- W = average weight (tons) of the vehicles traveling the road segment.

The amount of suspendable particulate on the haul roads (the silt-loading) was determined using facility-specific sampling data collected in accordance with Appendix C.1 of AP-42. The collected suspendable particulate (silt) was chemically analyzed to measure its total lead content. The lead loading value (sL) is obtained by multiplying the silt loading (g/m^2) by the mass of lead in each gram of silt. The average vehicle weight reflects the fleet-average vehicle weight for that road segment.[17] To obtain the lead emission rate (in lbs/hr) for a roadway, the lead emission factor is multiplied by the VMT for a given roadway for a given hour. The VMT is derived from the length of the roadway, the amount of traffic, and operating schedules.

Unpaved Roads Emission Factors

The methods for estimating fugitive lead emissions from unpaved roads are similar to those for paved roads. A different equation, as provided in AP-42, Chapter 13, Section 13.2.2 (dated November 2006), is required:

$$E = k\,(s/12)^{0.7} \times (W/3)^{0.45} \qquad (2)$$

where:
- E = lead emission factor (pounds of lead per vehicle mile traveled, lb/VMT)
- k = industrial road suspendable particulate constant (4.9 lb/VMT),
- s = surface material lead content of silt (%), and
- W = average weight (tons) of the vehicles traveling the road.

The empirical constants 0.7 and 0.45 in the above equation were obtained from AP-42 Table 13.2.2-2.

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[16] Additional background information on haul road emission factors can be found in Chapter 13 "Miscellaneous Sources" of AP-42, see: http://www.epa.gov/ttn/chief/ap42/ch13/index.html

[17] This is required by AP-42 13.2.1.3: "For example, if 99 percent of traffic on the road are 2 ton cars/trucks while the remaining 1 percent consists of 20 ton trucks, then the mean weight "W" is 2.2 tons. More specifically, Equation 1 is not intended to be used to calculate a separate emission factor for each vehicle weight class. Instead, only one emission factor should be calculated to represent the "fleet" average weight of all vehicles traveling the road."

Input Data

Calculating the emission factors and VMTs for each haul road is a data intensive process requiring site-specific data. Each facility supplied the necessary haul road route data, roadway segment locations, segment lengths (and widths for modeling purposes), traffic activity data (such as vehicle weights, trip counts, and operating schedules), and roadway silt sampling results.[18] These data are discussed below.

A-1. Griffin Pipe

On August 23, 2012, Griffin Pipe collected 18 samples from their haul roads to be analyzed for surface material loadings. All areas sampled were paved as all routes at Griffin Pipe are paved. The approximate locations where samples were collected are shown in Figure A-1. The laboratory analysis included sieving all samples (see Appendix C.2 of AP-42 for a description of the required procedures). Sieving separates the suspendable particulate (smaller particles likely to become airborne when travelled over, referred to here as "silt") from the larger particles in the sample. The lead content within the silt was analyzed in 10 of the 18 samples. Griffin Pipe chose to analyze the lead content within the pre-sieved (bulk) material (all material collected via vacuuming or sweeping material off the roadway) in the remaining 8 samples. The analytical results from the sampling are shown in Table A-1 and Table A-2.

Griffin Pipe segmented their facility traffic into 61 different roadway sections. The segments are shown in Figure A-2. Fourteen segments were excluded from additional consideration as no haul road activity was reported for those segments. The DNR assigned a lead silt loading value for the remaining 47 segments from the available sampling results. The silt loading values and the lead concentrations for each segment were developed by either averaging the results from different samples or selecting a single representative sample, using engineering judgment as necessary.[19] Table A-3 identifies which samples were used for each road segment.

A detailed accounting of traffic activity was also provided by Griffin Pipe, including vehicle weights, trip counts, roadway segment lengths and widths, and traffic schedules. The DNR reviewed the information and adjusted road lengths based upon aerial imagery of the facility. The traffic data provided by Griffin Pipe accounted for over 2,500 separate (time-variant by hour of day) vehicle trips per week. The average vehicle weight and VMT values calculated for each segment incorporate a large amount of data and each are hour of day dependent. Due to the volume of information accounted for within the baseline emission rates and the associated complexity of the spreadsheets, they are not readily reproducible in this document. Instead, the time-invariant characteristics for the 47 road segments are provided in Table A-4 (this table also provides the road widths and vehicle heights & widths used in the dispersion modeling). The total baseline haul road emissions (see Table 3-1) were calculated by summing the hourly emission rates (not shown) and assuming haul road operations were consistent six days a week and 52 weeks per year. This is a conservative approach.

[18] To accommodate emissions calculations and dispersion modeling requirements, the DNR refined or segmented the supplied haul road routes as necessary. Dispersion modeling techniques and emissions calculations methods require a single emission rate for each segment of roadway. Facility data may be defined according to overlapping routes differentiated by materials hauled, paths travelled, or other internal considerations. Where necessary, the DNR split haul roads or routes into multiple segments to accommodate emissions and modeling needs.

[19] The lead concentrations analyzed from the eight pre-sieved samples were used in this evaluation by assuming their lead concentrations would not vary with sieving.

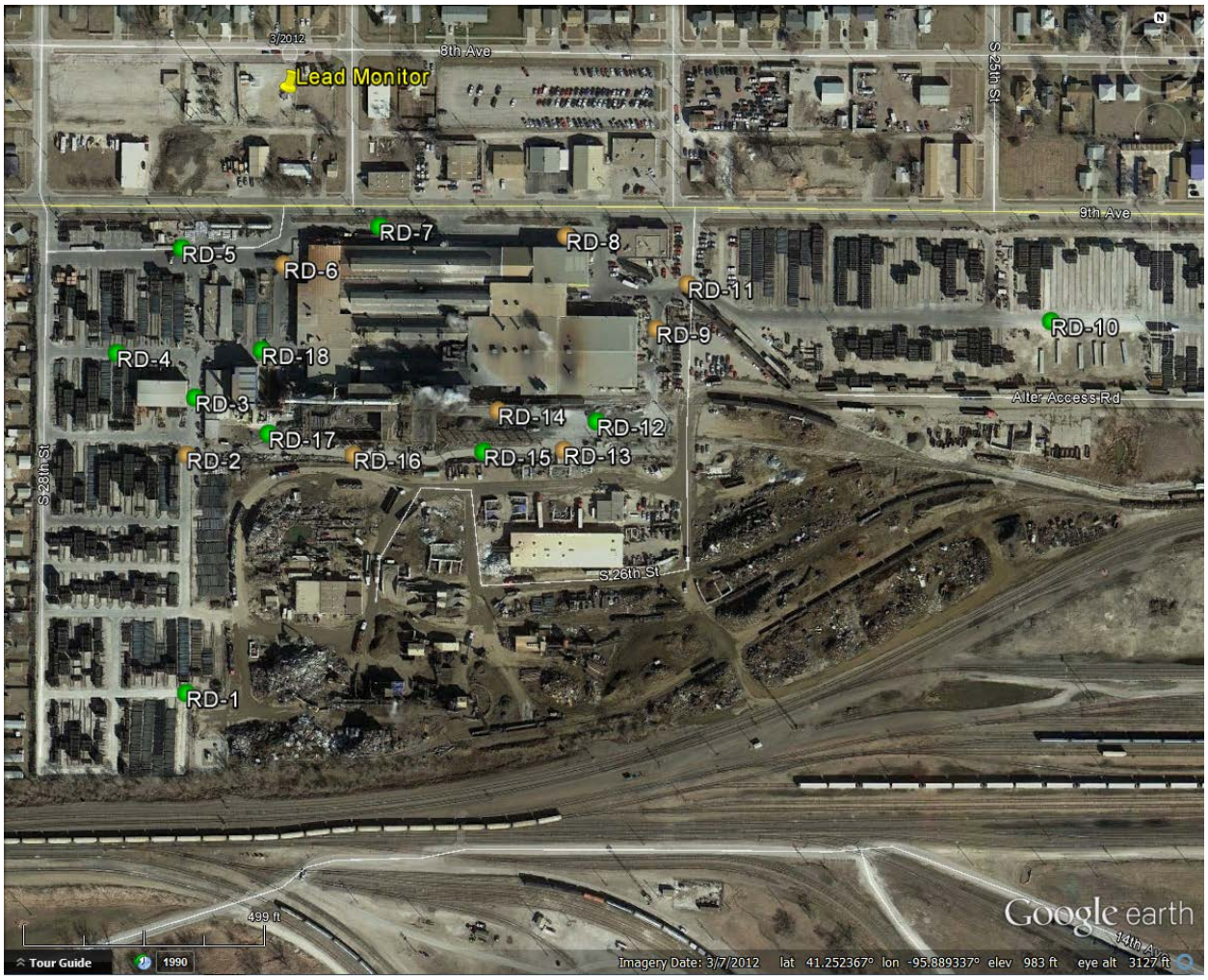

Figure A-1. Approximate locations of the 18 samples collected on August 23, 2012, by Griffin Pipe. Locations in green had the silt analyzed for lead. At locations marked in orange the lead was measured in samples that were not sieved (the bulk sample).

Table A-1. Summary of analytical results for the 10 samples with the lead content measured in the sieved material (silt) from Griffin Pipe.

Sample ID	Sample Area (m^2)	Silt Content (g)	Silt Content (%)	Silt Loading (g/m^2)	Lead Content of Silt (µg/kg)
RD-1	6.50	197.63	18.6	30.40	270,000
RD-3	89.07	147.86	7.3	1.66	450,000
RD-4	132.19	140.52	7.8	1.06	180,000
RD-5	78.04	130.71	11.8	1.67	310,000
RD-7	106.19	271.03	23.0	2.55	340,000
RD-10	143.19	10.22	0.8	0.07	180,000
RD-12	4.79	94.20	17.8	19.67	92,000
RD-15	5.53	145.63	22.5	26.33	850,000
RD-17	9.56	187.70	35.0	19.63	310,000
RD-18	31.16	93.47	12.5	3.00	390,000

Table A-2. Silt loading of the sieved material and the lead content of pre-sieved (bulk) material for the remaining 8 samples collected by Griffin Pipe.

Sample ID	Sample Area (m^2)	Silt Content (g)	Silt Content (%)	Silt Loading (g/m^2)	Lead Content of Pre-Sieved (Bulk) Material (µg/mg)
RD-2	96.99	168.50	21.5	1.74	300,000
RD-6	111.62	81.56	8.5	0.73	92,000
RD-8	126.62	100.01	10.8	0.79	210,000
RD-9	109.63	71.79	7.7	0.65	200,000
RD-11	136.05	41.12	6.0	0.30	300,000
RD-13	18.19	156.73	19.3	8.62	280,000
RD-14	3.98	167.37	20.0	42.05	130,000
RD-16	21.55	158.94	18.7	7.38	570,000

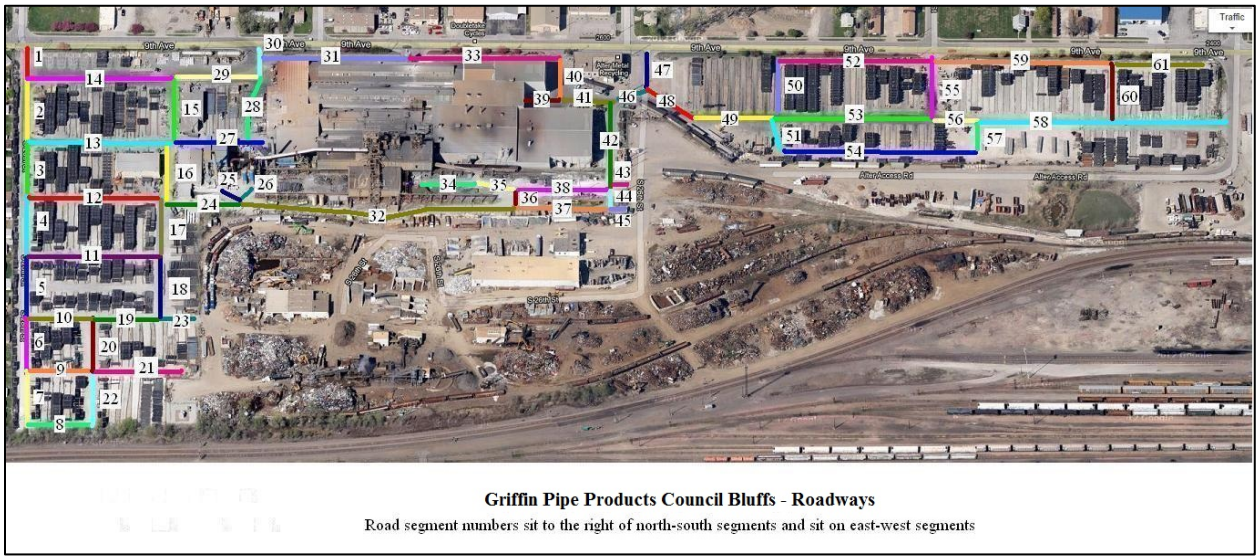

Figure A-2. Depiction of the 61 roadway segments (all paved) identified by Griffin Pipe. Only 47 segments are associated with haul road traffic.

Table A-3. Roadway samples averaged (or assigned) for each road segment and the resultant silt loading, lead, and lead loading values within the silt.

Road Segments	Samples Averaged or Assigned	Silt Loading (g/m^2)	Lead in Silt (µg/kg)	Pb-Silt Loading (g/m^2)
1, 2, 3, 4, 11, 12, 13, 14, 15, 16, 17, 29	RD-2, 3, 4, 5	1.53	310,000	0.000475483
24, 25, 26, 32, 36, 37, 38, 43, 45	RD-12, 15, 17	21.88	417,333	0.009129862
39, 40, 41, 42, 46, 47	RD-8, 9	0.72	205,000	0.0001476
48, 49, 53, 56, 58	RD-10, 11	0.19	240,000	0.0000444
27, 28	RD-18	3.00	390,000	0.00117
34, 35	RD-14	42.05	130,000	0.0054665
5, 6, 9, 10, 18, 19, 21, 23	RD-1	30.40	270,000	0.008208
30, 31, 33	RD-7	2.55	340,000	0.000867

Table A-4. Baseline characteristics of haul road segments at Griffin Pipe. Vehicle height and width values are calculated for dispersion modeling purposes.

Row Number	Segment ID	Length (ft)	Width (ft)	Samples Averaged	Silt Loading (g/m^2)	Pb Silt (µg/mg)	Pb-Silt Loading (g/m^2)	Vehicle Height (ft)	Vehicle Width (ft)
1	**1**	112	14	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	12.91	8.45
2	**2**	177	14	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	9.83	8.50
3	**3**	175	14	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	9.82	8.50
4	**4**	174	14	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	9.50	8.50
5	**5**	190	14	RD-1	30.40	270,000	8.208E-03	9.50	8.50
6	**6**	149	14	RD-1	30.40	270,000	8.208E-03	9.50	8.50
7	**9**	151	14	RD-1	30.40	270,000	8.208E-03	9.50	8.50
8	**10**	151	14	RD-1	30.40	270,000	8.208E-03	9.50	8.50
9	**11**	295	14	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	9.52	8.50
10	**12**	295	21.3	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	12.14	8.50
11	**13**	318	21.3	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	9.67	8.50
12	**14**	321	30	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	9.88	8.09
13	**15**	171	29	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	8.06	5.54
14	**16**	171	29	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	8.27	5.92
15	**17**	164	29	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	9.07	7.63
16	**18**	193	29	RD-1	30.40	270,000	8.208E-03	9.50	8.50
17	**19**	153	14	RD-1	30.40	270,000	8.208E-03	9.50	8.50
18	**21**	216	14	RD-1	30.40	270,000	8.208E-03	9.50	8.50
19	**23**	88	14	RD-1	30.40	270,000	8.208E-03	9.50	8.50
20	**24**	136	14	RD-12, 15, 17	21.88	417,333	9.130E-03	9.79	6.68
21	**25**	78	14	RD-12, 15, 17	21.88	417,333	9.130E-03	8.75	5.50
22	**26**	62	30	RD-12, 15, 17	21.88	417,333	9.130E-03	11.03	8.50
23	**27**	209	30	RD-18	3.00	390,000	1.170E-03	9.04	7.54

Row Number	Segment ID	Length (ft)	Width (ft)	Samples Averaged	Silt Loading (g/m^2)	Pb Silt (µg/mg)	Pb-Silt Loading (g/m^2)	Vehicle Height (ft)	Vehicle Width (ft)
24	**28**	174	26	RD-18	3.00	390,000	1.170E-03	13.00	8.50
25	**29**	198	26	RD-2, 3, 4, 5	1.53	310,000	4.755E-04	10.42	8.08
26	**30**	90	30	RD-7	2.55	340,000	8.670E-04	12.04	7.83
27	**31**	351	22.5	RD-7	2.55	340,000	8.670E-04	11.66	7.53
28	**32**	611	23	RD-12, 15, 17	21.88	417,333	9.130E-03	11.80	7.64
29	**33**	287	22.5	RD-7	2.55	340,000	8.670E-04	11.66	7.54
30	**34**	128	30	RD-14	42.05	130,000	5.467E-03	13.00	8.50
31	**35**	86	30	RD-14	42.05	130,000	5.467E-03	11.97	7.75
32	**36**	37	30	RD-12, 15, 17	21.88	417,333	9.130E-03	11.33	7.29
33	**37**	206	14	RD-12, 15, 17	21.88	417,333	9.130E-03	12.94	8.50
34	**38**	206	12	RD-12, 15, 17	21.88	417,333	9.130E-03	13.00	8.50
35	**39**	63	30	RD-8, 9	0.72	205,000	1.476E-04	9.50	8.50
36	**40**	140	30	RD-8, 9	0.72	205,000	1.476E-04	9.30	6.20
37	**41**	106	30	RD-8, 9	0.72	205,000	1.476E-04	9.42	7.53
38	**42**	262	30	RD-8, 9	0.72	205,000	1.476E-04	9.60	8.50
39	**43**	37	27.7	RD-12, 15, 17	21.88	417,333	9.130E-03	12.97	8.50
40	**45**	36	14	RD-12, 15, 17	21.88	417,333	9.130E-03	13.00	8.50
41	**46**	106	30	RD-8, 9	0.72	205,000	1.476E-04	9.41	7.74
42	**47**	146	26.4	RD-8, 9	0.72	205,000	1.476E-04	10.87	7.43
43	**48**	150	26.6	RD-10, 11	0.19	240,000	4.440E-05	9.49	7.94
44	**49**	100	30.4	RD-10, 11	0.19	240,000	4.440E-05	9.49	8.01
45	**53**	382	30.4	RD-10, 11	0.19	240,000	4.440E-05	10.06	8.50
46	**56**	110	30.4	RD-10, 11	0.19	240,000	4.440E-05	10.29	8.50
47	**58**	514	30.4	RD-10, 11	0.19	240,000	4.440E-05	10.29	8.50

A-2. Alter Metal Recycling

On June 3, 2013, Alter Metal Recycling collected eight silt samples on their haul roads and evaluated each sample for both silt content and the lead content in the silt. The approximate sampling locations are shown in Figure A-3. The analytical results from the silt sampling are shown in Table A-5. Most haul roads were paved and the majority of traffic at the facility used paved roads. A smaller amount of traffic used unpaved roads, and appropriately a smaller number of samples (two of the eight) were collected on unpaved roads.

Alter Metal Recycling identified haul routes (see Figure A-4) using roadway locations, material types transported, and an inbound/outbound distinction. The DNR converted the facility traffic route information provided by Alter Metal Recycling into 17 different segments, as depicted in Figure A-5. The DNR assigned lead-loading values from the available sampling results and segment lengths using Google Earth imagery. The silt loading values and the lead concentrations for each segment were developed by either averaging the results from different samples or selecting a single representative sample. Table A-6 identifies which samples were used for each road segment.

Alter Metal Recycling provided a detailed accounting of their traffic activity. Traffic data included vehicle weights, trip counts, roadway and route locations, route lengths and widths, and traffic schedules. The provided traffic data accounted for time-variant (by hour of day and weekday versus Saturday operations) vehicle trip information. The calculations of the average vehicle weights and the vehicle miles travelled for each segment incorporate a large amount of data due to the complex traffic patterns, overlapping routes, variable vehicle types and weights, and the volume of traffic at Alter Metal Recycling. The spreadsheets that detail the baseline emission rates calculations are not reproducible in a meaningful format in this document because of this complexity. Instead, the time-invariant characteristics for each of the 17 road segments are provided in Table A-7 (this tables also provides the road widths, vehicle heights, and vehicle widths used in the dispersion modeling) and total route lengths with the associated paths are given in Table A-8. The total baseline haul road emissions (see Table 3-1) were calculated by summing the hourly emission rates (not shown) and assuming the facility operated 6 days a week and 52 weeks a year. This is a conservative approach.

Note, a small amount of Griffin Pipe's traffic uses Alter Metal Recycling's road segments 1, 3, 4, and 5. While these emissions are attributed to Alter Metal Recycling in the baseline emissions summary presented in Table 3-1, for modeling purposes these emissions were separated and apportioned to each facility as appropriate.

A-3. Data Caveats

As mentioned above, Griffin Pipe collected and provided lead silt-loading data in 2012. Alter Metal Recycling collected and provided their lead silt-loading data in 2013. The traffic activity information provided by Alter Metal Recycling is based upon calendar year 2012 data. Traffic data from Griffin Pipe is comparably recent. The data are not specific to the 2010 baseyear but are the best available and were used to calculate the baseline inventory. While traffic levels and silt-loadings may not remain constant from year to year the data are not known to be biased.

Another caveat is that the silt sampling conducted by the facilities occurs prior to any haul road sweeping or watering efforts used to mitigate fugitive dust emissions. The lead silt-loading values used to estimate the baseline emissions are thus expected to reflect worse case conditions. Additionally, the estimated actual haul road emissions have not been adjusted (reduced) to account for precipitation. While these assumptions are conservative in nature and are expected to overpredict the true haul road baseline emission rates they represent common practices.

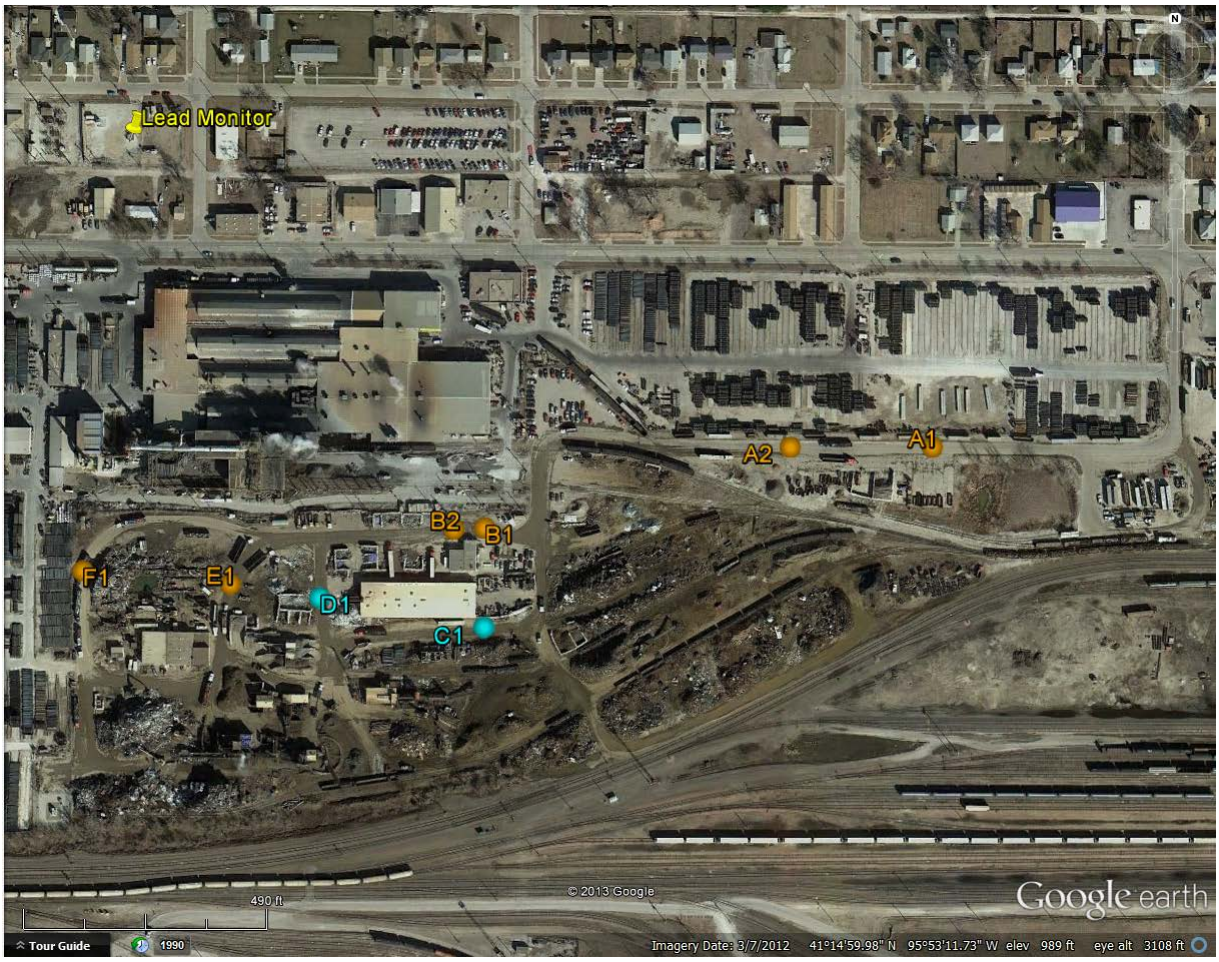

Figure A-3. Approximate locations of the 8 silt samples collected on June 3, 2013, by Alter Metal Recycling. Sample location D1 is shown in blue to differentiate this location as an unpaved road. The roadway under sample D1 was originally constructed as a paved road but was deteriorated and was treated by the DNR as an unpaved road. Sample location C1 was collected from an unpaved road.

Table A-5. Analytical results from the silt sampling conducted by Alter Metal Recycling.

Sample ID	Sample Location	Road Type	Area (m^2)	Silt Content (g)	Silt Content (%)	Silt Loading (g/m^2)	Lead Content of Silt (µg/kg)
A1	Facility access	Paved	18.52	139.14	10.3	7.51	1,000,000
A2	Facility access	Paved	11.02	198.23	9.8	17.99	880,000
B1	Truck scale	Paved	4.02	405.99	26.8	100.99	1,300,000
B2	Truck scale	Paved	3.95	306.83	27.1	77.68	1,000,000
C1	S of Non Ferrous Bldg	Unpaved	4.73	304.32	14.8	64.34	1,700,000
D1	W of Non Ferrous Bldg	Unpaved*	4.10	900.9	21.0	219.73	750,000
E1	E of Maintenance Shop	Paved	5.43	351.39	14.2	64.71	830,000
F1	West property line	Paved	8.45	463.9	38.7	54.90	930,000

*Surface originally paved, but treated as unpaved by the DNR due to deterioration.

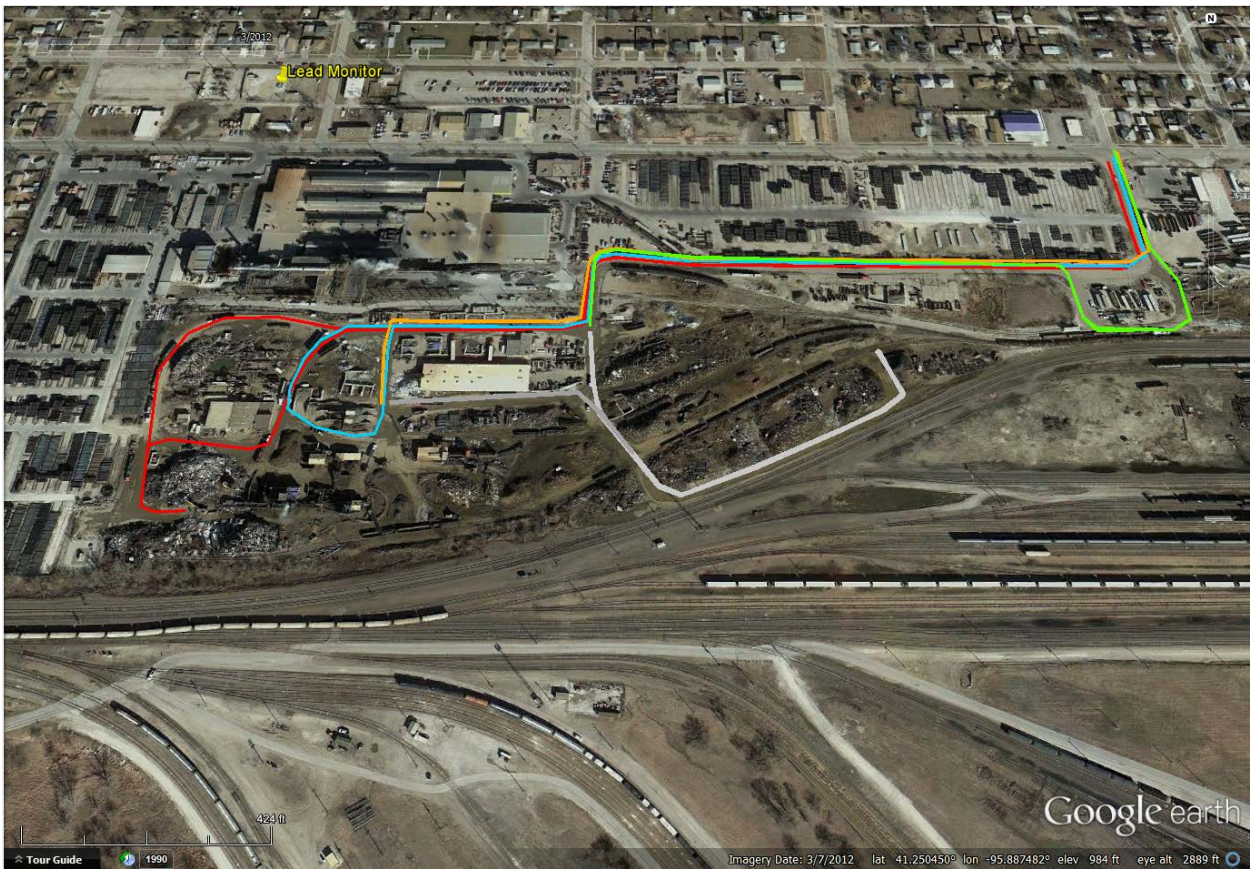

Figure A-4. Approximated depiction of the baseline routes identified by Alter Metal Recycling. Locations in gray indicate sections of roadway originally unpaved.

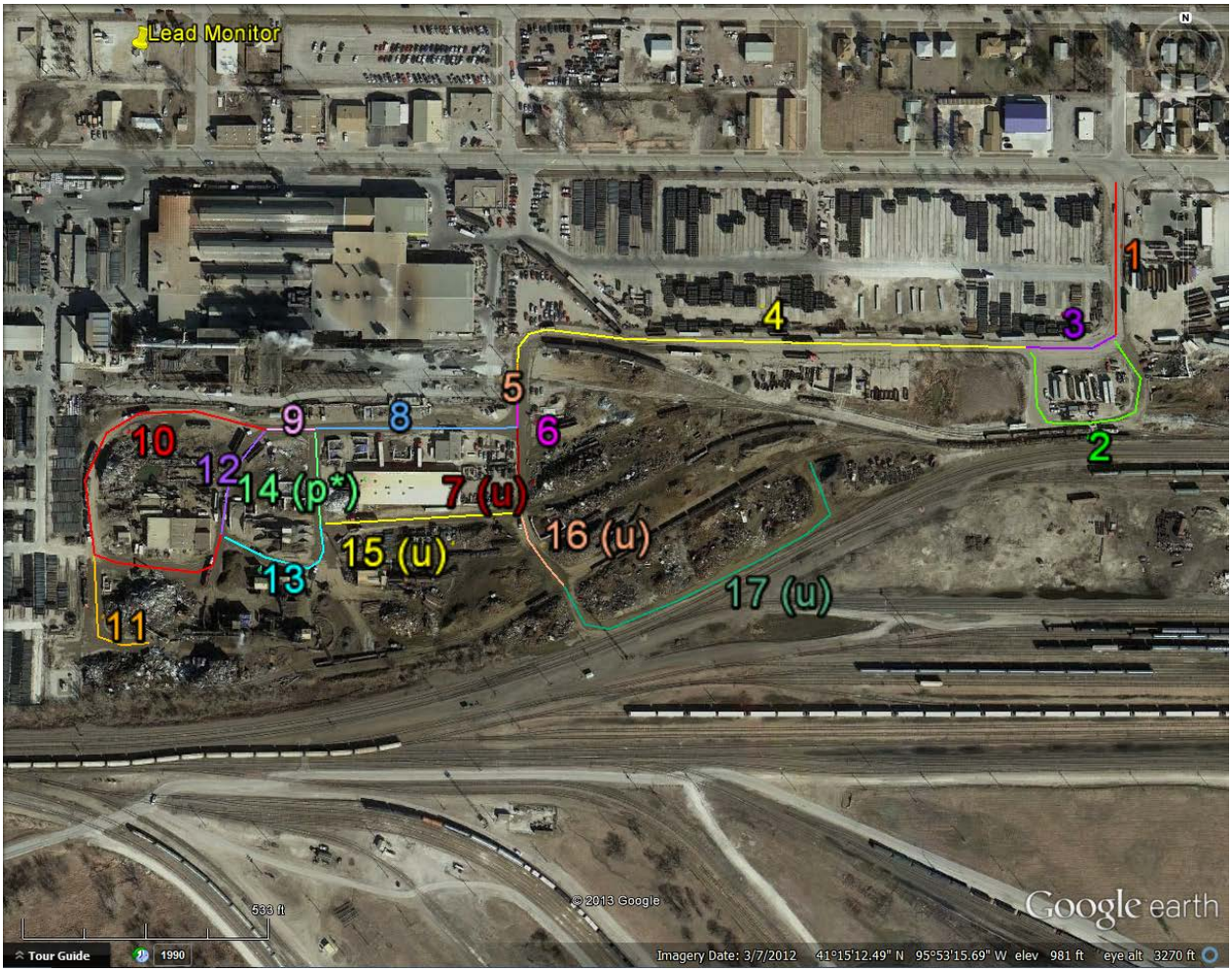

Figure A-5. Approximated depiction of the 17 roadway segments defined for Alter Metal Recycling's baseline traffic routes. Unpaved segments are denoted by an "(u)" after the segment number. Segment 14 (p*) was originally constructed as a paved road but treated as unpaved due to deterioration. All other segments are paved. Segment numbers are color-coded with the segment lines.

Table A-6. Roadway samples averaged (or assigned) for each road segment and the resultant silt loading, lead, and lead loading values within the silt.

Paved Road Segments	Samples Averaged	Silt Loading (g/m^2)	Lead in Silt (µg/kg)	Pb-Silt Loading (g/m^2)
1, 2, 3, 4, 5, 6	A1, A2	12.75	940,000	0.011985546
8, 9	B1, B2	89.34	1,150,000	0.102735836
10, 11, 12, 13	E1, F1	59.81	880,000	0.052629331
Unpaved Road Segments	**Sample Assigned**	**Silt Loading (%)**	**Lead in Silt (µg/kg)**	**Pb Silt Content (%)**
7, 14, 15, 16, 17	C1	14.80	1,700,000	0.02516

Table A-7. Baseline characteristics of each road segment at Alter Metal Recycling. Vehicle height and width values are calculated for dispersion modeling.

Segment ID	Type	Length - meters (feet)	Width (ft)	Silt Samples Averaged	Silt Loading (g/m^2)	Pb Silt (µg/mg)	Pb-Silt Loading (g/m^2)	Vehicle Height (ft)	Vehicle Width (ft)
1	paved	100 (328)	25	A1, A2	12.75	940,000	0.011986	12.9	8.5
2	paved	160 (525)	25	A1, A2	12.75	940,000	0.011986	9.0	8.5
3	paved	61 (200)	25	A1, A2	12.75	940,000	0.011986	13.0	8.5
4	paved	348 (1142)	25	A1, A2	12.75	940,000	0.011986	12.9	8.5
5	paved	22 (72)	25	A1, A2	12.75	940,000	0.011986	12.9	8.5
6	paved	20 (66)	25	A1, A2	12.75	940,000	0.011986	12.9	8.5
8	paved	133 (436)	25	B1,B2	89.34	1,150,000	0.102736	13.0	8.5
9	paved	32 (105)	25	B1,B2	89.34	1,150,000	0.102736	12.9	8.5
10	paved	293 (961)	25	E1,F1	59.81	880,000	0.052629	12.9	8.5
11	paved	88 (289)	25	E1,F1	59.81	880,000	0.052629	12.9	8.5
12	paved	76 (249)	25	E1,F1	59.81	880,000	0.052629	13.0	8.5
13	paved	92 (302)	25	E1,F1	59.81	880,000	0.052629	13.0	8.5
Total Paved:		**1425 (4675)**							
Segment ID	**Type**	**Length - meters (feet)**	**Width (ft)**	**Silt Samples Averaged**	**Silt Loading (g/m^2)**	**Pb Silt (µg/mg)**	**Pb-Silt Loading (g/m^2)**	**Vehicle Height (ft)**	**Vehicle Width (ft)**
7(u)	unpaved	55 (180)	25	C1	14.80	1,700,000	0.02516	9.0	8.5
14(p*)	unpaved	60 (197)	25	C1	14.80	1,700,000	0.02516	13.0	8.5
15(u)	unpaved	128 (420)	25	C1	14.80	1,700,000	0.02516	13.0	8.5
16(u)	unpaved	56 (184)	25	C1	14.80	1,700,000	0.02516	12.8	8.5
17(u)	unpaved	245 (804)	25	C1	14.80	1,700,000	0.02516	9.0	8.5
Total Unpaved:		**544 (1785)**							
Total Length:		**1969 (6460)**							

Table A-8. Route paths and total lengths used in the baseline for Alter Metal Recycling. Routes generally reflect a round trip path through the facility, defined by the segments traversed.

Route	Route Path (Segments)	Route Length (m)
1	1 - 3 - 4 - 5 - 6 - 8 - 9 - 10 - 11 - 11 - 12 - 9 - 8 - 6 - 5 - 4 - 3 - 1	1,977
2	1 - 3 - 4 - 5 - 6 - 8 - 9 - 12 - 13 - 14(p*) - 8 - 6 - 5 - 4 - 3 - 1	1,628
3	1 - 2 - 4 - 5 - 6 - 7(u) - 16(u) - 17(u) - 17(u) - 16(u) - 7(u) - 6 - 5 - 4 - 2 - 1	2,012
4	1 - 3 - 4 - 5 - 6 - 8 - 14(p*) - 15(u) - 16(u) - 16(u) - 15(u) - 14(p*) - 8 - 6 - 5 - 4 - 3 - 1	1,856

Appendix B. Griffin Pipe Administrative Consent Order

IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER

IN THE MATTER OF: **GRIFFIN PIPE PRODUCTS CO., LLC** **Pottawattamie County, Iowa**	ADMINISTRATIVE CONSENT ORDER NO. 2014-AQ-

TO: Griffin Pipe Products Co., LLC
2601 9th Avenue
Council Bluffs, IA 51501

CT Corporation System, Registered Agent
500 East Court Avenue
Des Moines, Iowa 50309

I. SUMMARY

This administrative consent order is entered into between Griffin Pipe Products Co., LLC (Griffin Pipe) and the Iowa Department of Natural Resources (DNR) for the purpose of addressing monitored lead concentrations in Council Bluffs, Iowa, that do not meet the lead National Ambient Air Quality Standards (NAAQS). This administrative consent order shall create enforceable control measures for Griffin Pipe to meet requirements of the State Implementation Plan (SIP) for the lead nonattainment area in Council Bluffs, Iowa. This administrative consent order establishes time schedules for completion of such control measures. The parties have agreed to the provisions below.

Questions regarding this administrative consent order should be directed to:

Anne Preziosi, Attorney
DNR – Legal Services
7900 Hickman Road, Suite 1
Windsor Heights, Iowa 50324
(515) 725-9551

II. JURISDICTION

The administrative consent order is issued pursuant to the provisions of Iowa Code sections 455B.134(9) and 455B.138(1) which authorize the Director to issue orders necessary to secure compliance with or prevent a violation of Iowa Code chapter 455B, Division II, and the rules promulgated or permits pursuant thereto, and to prevent, abate, and control air pollution.

III. STATEMENT OF FACTS

1. Griffin Pipe owns a ductile iron foundry located in Council Bluffs, Iowa (the "Facility"). Griffin Pipe manufactures ductile iron pressure pipe for potable water transmission and wastewater collection.

2. On November 12, 2008, EPA published in the Federal Register (73 FR 66964) a final rule that lowered the level of the lead NAAQS from 1.5 to 0.15 micrograms per cubic meter ($\mu g/m^3$) of air. The revised standard requires that the maximum monitored 3-month rolling average not exceed 0.15 $\mu g/m^3$. DNR adopted the revised lead NAAQS in 2009 and the adoption became effective on November 11, 2009.

3. DNR sited a source-oriented ambient lead monitor near the Facility in 2009. The monitor is near the intersection of 8th Avenue and South 27th Street in Council Bluffs, Iowa. In 2010, six 3-month rolling averages over the 0.15 $\mu g/m^3$ lead NAAQS were measured by DNR at this monitor. Those six values did not meet the lead health standard. The maximum 3-month average measured by DNR in 2010 occurred during the June-August period and was 0.26 $\mu g/m^3$. (In 2012, four 3-month rolling averages over the 0.15 $\mu g/m^3$ lead NAAQS were monitored. Those four values did not meet the lead health standard. The maximum 3-month average measured by DNR in 2012 occurred during the August-October period and was 0.20 $\mu g/m^3$.)

4. On November 22, 2011, EPA published in the Federal Register (76 FR 72097) a nonattainment designation for portions of Pottawattamie County, Iowa. The nonattainment area includes the Facility and the designation became effective December 31, 2011.

5. The State of Iowa must submit a SIP revision that meets the requirements of Clean Air Act section 172(c) and provides for attainment of the 2008 Lead NAAQS as expeditiously as practicable, but no later than December 31, 2016.

6. DNR air quality dispersion modeling of Griffin Pipe has predicted that the Facility was a contributor to the monitored lead NAAQS violations. The Facility is not the sole source of lead emissions in the nonattainment area.

7. On May 3, 2014, Griffin Pipe idled operations at its Council Bluffs plant. Griffin Pipe does not presently plan to rescind its current DNR air quality permits.

8. DNR and Griffin Pipe have been working together to quantify lead emissions, identify sources that may need controls upgraded or added, and develop options for implementing changes to achieve attainment and maintenance of the 2008 Lead NAAQS. The DNR and Griffin Pipe are entering into this administrative consent order to create two enforceable control strategies. Each control strategy contains control measures and timelines for implementation. Griffin Pipe may choose which strategy to implement.

9. Amendments to this administrative consent order and the attachments constitute a revision to the SIP and must be submitted to the EPA for approval.

10. By agreeing to the terms of this administrative consent order Griffin Pipe does not admit that the facility caused or contributed to monitored lead levels above the NAAQS.

IV. CONCLUSIONS OF LAW

1. The emission sources located at the Facility include "air contaminant sources" as defined by Iowa Code section 455B.131(2), and "stationary sources" as defined by 567 Iowa Administrative Code (IAC) 20.2.

2. 567 IAC 28.1 states that the ambient air quality standards for the State of Iowa shall be the NAAQS located at 40 Code of Federal Regulations (CFR) Part 50, as amended through June 22, 2010. 40 CFR 50 states that the lead NAAQS is 0.15 $\mu g/m^3$, arithmetic mean concentration over a 3-month period. The monitoring data near Griffin Pipe measured 3-month average lead concentrations in 2010 (and 2012) that did not meet the lead NAAQS. The NAAQS violations in this case constitute "air pollution" as defined in Iowa Code section 455B.131(3).

3. Effective December 31, 2011, the Facility is located in a lead nonattainment area. The lead nonattainment area is delineated according to the boundary definitions in 40 CFR 81.316.

4. Section 191(a) of the Clean Air Act provides that "[a]ny State containing an area designated or redesignated under [Clean Air Act] section 107(d) as nonattainment with respect to the national primary ambient air quality standards for...lead... shall submit to the Administrator...an applicable implementation plan meeting the requirements of this part." Clean Air Act Section 172(c) requires that "[s]uch plan provisions shall include enforceable emission limitations, and such other control measures...as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment of such standard in such area by the applicable attainment date...."

5. Iowa Code sections 455B.134(9) and 455B.138(1) authorize the Director to issue orders necessary to secure compliance with or prevent a violation of Iowa Code chapter 455B, Division II, and the rules promulgated or permits issued pursuant thereto, and to prevent, abate, and control air pollution. This administrative consent order creates enforceable control measures to address the lead concentrations in ambient air in Council Bluffs.

V. ORDER

THEREFORE, DNR and Griffin Pipe agree to the following:

1. Griffin Pipe shall either (1) implement the control measures contained in Attachment A, **or** (2) implement the control measures contained in Attachment B to this administrative consent order. Griffin Pipe may (but is not required under this administrative consent order to) install and operate additional emission control projects and may improve the emission controls listed in the attachments as necessary to further reduce ambient lead concentrations in Council Bluffs, Iowa, in compliance with applicable laws and administrative rules and with prior approval of the DNR;

2. Griffin Pipe shall either (1) meet all emission limits and all point source characteristics specified in Attachment A, **or** (2) meet all emissions limits and all point source characteristics specified in Attachment B to this administrative consent order;

3. The requirements contained in this order and Attachments A and B may be modified with the written approval of DNR and Griffin Pipe. Any request for modification to any requirements contained in this order or an attachment must be approved by the DNR prior to its respective deadline. Any modifications to this order or an attachment may be subject to approval of the US EPA and may result in the requirement to complete a modeled attainment demonstration using approved dispersion modeling techniques, if requested by DNR;

4. Griffin Pipe shall comply with the following requirements:

A. With respect to performance testing, Griffin Pipe shall either (1), if opting to implement the control measures contained in Attachment A, complete performance testing to demonstrate compliance with the lead emission limits contained in Attachment A in accordance with the frequency and timelines specified therein, **or** (2), if opting to implement the control measures contained in Attachment B, complete performance testing to demonstrate compliance with the lead emission limits contained in Attachment B in accordance with the frequency and timelines specified therein.

In the event any performance testing conducted by Griffin Pipe demonstrates an exceedance, Griffin Pipe shall communicate to the DNR how the exceedance will be corrected and establish with DNR a compliance plan to address the exceedance.

B. With respect to work practices Griffin Pipe shall either (1) follow the monitoring, recordkeeping and reporting requirements contained in Attachment A to this administrative consent order when implementing the control measures specified in Attachment A beginning on the date this administrative consent order is signed by the Director, unless otherwise specified in Attachment A, **or** (2) follow the monitoring, recordkeeping and reporting requirements contained in Attachment B to this administrative consent order when implementing the control measures specified in Attachment B beginning on the date this administrative consent order is signed by the Director, unless otherwise specified in Attachment B.

If a monitoring, recordkeeping, or reporting requirement(s) specified in Attachment A or Attachment B cannot be completed due to unforeseen circumstances, then the conditions which prevented the completion of the requirement(s) shall be documented, including the time period during which the conditions preventing completion of the requirements existed and the actions taken to remedy the situation.

From the date this order is issued until the date the Facility resumes operations the monitoring, recordkeeping and reporting requirements contained in Paragraph 4 of this order shall be suspended. Resume(s) operations shall mean the resumption of pipe products manufacture and production operations, including resumption of the cupola operations at the Facility

C. The performance testing and work practices requirements may be adjusted after performance testing is completed to more accurately represent the observed operating ranges of the equipment during the successful demonstration of compliance;

5. Nothing in this Administrative Consent Order prevents Griffin Pipe from opting to comply with Attachment A, and thereafter opting (at its discretion) to comply with the requirements contained in Attachment B.

6. Griffin Pipe shall certify compliance with the provisions of this administrative consent order as part of Griffin Pipe's compliance certification obligations pursuant to its Title V Operating permit for this facility;

7. Griffin Pipe shall notify the DNR in writing at least 60 days prior to the date the Facility resumes operations and thereafter shall notify the DNR in writing within 14 days of suspending plant operations;

8. In the event Griffin Pipe opts to proceed with the implementation of the control measures contained in Attachment B, Griffin Pipe shall notify the DNR in writing at least 180 days prior to implementing the control measures in Attachment B. The notification shall include complete construction permit applications that incorporate the conditions in Attachment B;

9. Nothing in this order shall excuse Griffin Pipe from compliance with any applicable law.

VI. WAIVER OF APPEAL RIGHTS

This administrative consent order is entered into knowingly by and with the consent of Griffin Pipe. For that reason, Griffin Pipe waives the right to appeal this administrative consent order.

VII. NONCOMPLIANCE

Failure to comply with this administrative consent order may result in the imposition of administrative penalties or referral to the Attorney General to obtain injunctive relief and civil penalties pursuant to Iowa Code section 455B.146.

VIII. TERMINATION OF THIS ADMINISTRATIVE CONSENT ORDER

A termination of this administrative consent order shall not occur unless: (1) this administrative consent order is superseded or terminated by DNR in writing; (2) construction permits, with equivalent or more stringent requirements than those listed in either of the attachments to this administrative consent order, have been issued, construction is completed, and all construction permits respecting such requirements have been incorporated into the Iowa SIP and approved by US EPA; or (3) the Facility is permanently closed and all permits have been rescinded.

_____
Chuck Gipp, Director
Iowa Department of Natural Resources

Dated this _____ day of _____, 2014.

_____
Name, Title
GRIFFIN PIPE PRODUCTS CO., LLC

Dated this _____ day of _____, 2014.

#78-01-012; Matthew Johnson, DNR Air Quality; Jim McGraw, DNR Air Quality; Anne Preziosi

ATTACHMENT A

Plant Name: Griffin Pipe Products Company

Equipment Location: 2601 9th Avenue
Council Bluffs, Iowa 51501

Plant Number: 78-01-012

The following emission units shall conform to the requirements specified in condition A-1:

A-1. Emission Unit Description

Emission Unit	Maximum Rated Capacity	Control Equipment
Cupola (EU-1)	60 Tons/hr	Baghouse (CE-10)
Desulfurization (EU-2)	60 Tons/hr	Baghouse (CE-11)
Bull Ladle (EU-3)	60 Tons/hr	
Magnesium Inoculation (EU-4)	60 Tons/hr	
Small Diameter Casting (EU-6)	60 Tons/hr	None
Desulfurization (EU-2)-Uncaptured	60 Tons/hr	None
Bull Ladle (EU-3)-Uncaptured	60 Tons/hr	
Magnesium Inoculation (EU-4)-Uncaptured	60 Tons/hr	None
Large Diameter Casting (EU-29)	40 Tons/hr	None
Cupola Charge Handling (EU-17)	60 Tons/hr	None
Traffic Pathways	NA	Paved Road Sweeping

A-2. Lead (Pb) Emission Limits

The following lead (Pb) emission limits shall not be exceeded:

Source Description	EP ID	lb/hr[1]	tons/yr[2]	Additional Limits	Justification
Cupola (EU-1)	EP-2A	0.282[3]	NA	NA	RACT
		0.046[4]	NA	NA	See Note 4
Desulfurization (EU-2)	EP-3	0.0018[3]	NA	NA	RACT
Bull Ladle (EU-3)					
Magnesium Inoculation (EU-4)					
Magnesium Inoculation-Uncaptured (EU-4)	EP-7A	0.0026[3]	NA	NA	RACT
Ladle Preheat-Uncaptured (EU-19)					
Desulfurization-Uncaptured (EU-2)	EP-7B	0.0372[3]	NA	NA	RACT
Bull Ladle-Uncaptured (EU-3)					
Small Diameter Casting (EU-6)					
Small Diameter Casting (EU-6)	EP-6A	0.0043[3]	NA	NA	RACT
Building Emissions	EP-6B	0.0025[3]	NA	NA	RACT
Large Diameter Casting (EU-29)	EP-29	0.0025[3]	NA	NA	RACT
	EP-29A				
Cupola Charge Handling (EU-17)	FUG1	0.00143[3]	NA	NA	RACT
Traffic Pathways	NA	NA	[5]	[6]	RACT, 23.3(2)"c"

[1] The emission limit is expressed as the average of three (3) runs.
[2] The emission limit is a twelve (12) month rolling total.
[3] The lead limit is established to address the nonattainment designation for a portion of Pottawattamie County published in the Federal Register (76 FR 72097) on November 22, 2011.
[4] The lead limit is an applicable requirement established in a federally enforceable Consent Decree entered in United States v. Griffin Pipe Products Co., LLC, (Civil Action No. 1:14-cv-00027–JAJ–RAW)
[5] The lead limit is established at 0.002 tons of lead per rolling 3-month total; that correlates to a lead silt loading content of 0.00016 g/m^2 and maximum potential operation (all raw material/product is shipped or received by truck). The lead limit is based on 95% reduction over baseline lead levels and is established to address the nonattainment designation for a portion of Pottawattamie County published in the Federal Register (76 FR 72097) on November 22, 2011.
[6] The owner or operator shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond lot line of the property.

A-3. Emission Point Characteristics

These emission points shall conform to the specifications listed below:

EP ID	Stack Height, Feet	Discharge Style	Stack Opening, inches
EP-2A	100	Vertical Unobstructed	80 diameter
EP-3	100	Vertical Unobstructed	72 diameter
EP-7A	49	Vertical Unobstructed	122 diameter
EP-7B	49	Vertical Unobstructed	122 diameter
EP-6A	49	Vertical Unobstructed	80 diameter
EP-6B	49	Vertical Unobstructed	80 diameter
EP-29	48	Vertical Unobstructed	72 x 72
EP-29A	48	Vertical Unobstructed	72 x 72

A-4. Lead (Pb) Compliance Demonstration(s)

Emission Point ID	Compliance Demonstration	Compliance Methodology	Frequency
EP-2A	Yes	Performance Testing	Annual[2]
EP-3	Yes	Performance Testing	Annual[2]
EP-7A	Yes	Performance Testing	Annual[2]
EP-7B	Yes	Performance Testing	Annual[2]
EP-6A	Yes	Performance Testing	Once Every 3-years[2]
EP-6B	Yes	Performance Testing	Once Every 3-years[2,3]
EP-29	Yes	Performance Testing[1]	Once Every 3-years[2]
EP-29A	Yes	Performance Testing[1]	Once Every 3-years[2]
FUG1	Yes	Work Practice	NA
Traffic Pathways	Yes	Silt Load Sampling	Monthly[4]

[1] Performance testing for lead shall be conducted on EP-29 and EP-29A simultaneously to demonstrate compliance with emission limit as specified in condition A-2.

[2] Following a written request by Griffin Pipe Products Company and approval by Iowa DNR, the testing frequency may be decreased following initial or subsequent performance testing.

[3] Maximum operating capacity shall be based on the Cupola (EU-1) charge rate.

[4] Following 12 monthly sampling events, based on a written request by Griffin Pipe Products Company and approval by Iowa DNR, the silt loading sampling may be reduced or eliminated.

Performance Testing Requirements

If a compliance demonstration specified above is performance testing, the owner or the owner's authorized agent shall verify compliance with the emission limitations contained in Condition A-2 within 6 months after the restart date of the equipment.

If subsequent performance testing is specified above, the owner or the owner's authorized agent shall verify compliance with the emission limitations contained in Condition A-2 according to the frequency and timeframe noted above.

If testing is required, the owner or the owner's authorized agent shall use the test method and run time listed in the table below unless another testing methodology is approved by the Department prior to testing.

Pollutant	Test Run Time	Test Method
Pb	1 hour	40 CFR 60, Appendix A, Method 12 or Method 29

Each performance test must be approved by the Department. Unless otherwise specified by the Department, each test shall consist of three (3) separate runs. The arithmetic mean of three (3) acceptable test runs shall apply for compliance, unless otherwise indicated by the Department.

A-4. Lead (Pb) Compliance Demonstration(s) (continued)

Per 567 IAC 25.1(7)"a", at the Department's request, for each performance test a pretest meeting shall be held not later than fifteen (15) days before the owner or operator conducts the compliance demonstration. A testing protocol for each performance test shall be submitted to the Department no later than fifteen (15) days before the owner or operator conducts the compliance demonstration. Representatives from the Department shall attend this meeting, along with the owner and the testing firm, if any. It shall be the responsibility of the owner to coordinate and schedule the pretest meeting. A representative of the Department shall be allowed to witness the test(s). The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

The owner shall be responsible for the installation and maintenance of test ports. The unit(s) being sampled shall be operated in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which this unit(s) will be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the Department that this unit(s) has been physically altered so that capacity cannot be exceeded, or the Department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the Department to determine whether this unit(s) is in compliance.

Silt Load Sampling Requirements

For each sampling event, silt loading sampling shall be done for at least 3 different locations. Sampling shall be completed at locations that are representative of normal conditions and shall not be conducted within 4 hours after paved road sweeping has occurred. The three sampled locations shall then be averaged to determine the silt loading for that month. Silt load testing shall be conducted according to the procedures outlined in AP-42, Appendix C.1 Procedures for Sampling Surface/Bulk Dust Loading and C.2 Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples.

The owner or operator shall commence silt load sampling to verify compliance with the haul road operating limitations contained in Condition A-5.L during the first 30-days the facility resumes operations and subsequent sampling of haul road surface silt loading shall be completed on a monthly basis.

After 3 consecutive months of haul road surface silt loading sampling and every month thereafter, the owner or operator shall calculate the 3-month rolling average total silt loading content to determine compliance with the operating limit included in Condition A-5.L. As an alternative, the owner or operator may analyze the samples for lead content and calculate the 3-month rolling average lead silt loading to demonstrate compliance with the pollutant specific operating limit provided in Condition A-5.L.

If the 3-month rolling average silt loading limit is exceeded, the owner or operator shall immediately double the frequency of sweeping. The increased sweeping frequency shall occur until the lead silt loading results are obtained and demonstrate compliance with the 3-month rolling lead silt loading limit provided in Condition A-5.L or until such time as additional silt loading samples demonstrate compliance with the 3-month rolling total silt loading limit provided in Condition A-5.L. The owner or operator shall maintain records onsite that detail the date the measured silt loading exceeded Condition A-5.L, the date in which increased sweeping frequency was enacted and the date that compliance was demonstrated with Condition A-5.L

The owner or operator shall develop and submit a silt/lead sampling protocol to the Department for approval 30-days prior to resuming operation. The submitted silt/lead sampling protocol shall detail procedures for sample chain of custody, identification, storage, and lead analysis. The approved silt/lead sampling protocol shall be implemented and retained onsite.

A-5. Operating Limits

Operating limits shall be:

A. The production rate shall not exceed 235,150 tons of metal charged per rolling twelve-month period.

B. All emission units specified in Table 1 below are limited to operating 1,250 hours per rolling 3-month period.

Table 1: Scrap Melting Activities

Emission Unit
Cupola (EU-1)
Desulfurization (EU-2)
Bull Ladle (EU-3)
Magnesium Inoculation (EU-4)
Small Diameter Casting (EU-6)
Desulfurization (EU-2)-Uncaptured
Bull Ladle (EU-3)-Uncaptured
Magnesium Inoculation (EU-4)-Uncaptured
Large Diameter Casting (EU-29)
Cupola Charge Handling (EU-17)

C. The pressure drop across the baghouse (CE-10) shall be between 3.5 to 10.0 inches of water column based on a 5-minute average.

D. The pressure drop across the baghouse (CE-11) shall be between 3.5 to 10.0 inches of water column based on a 5-minute average.

E. Maintain Baghouse (CE-10) according to manufacturer specifications and maintenance schedule.

F. Maintain Baghouse (CE-11) according to manufacturer specifications and maintenance schedule.

G. The owner or operator shall implement work practice standards as specified in Standard Operating Procedure (SOP) Melt180CB to minimize emissions from Cupola Charge Handling (EU-17).

H. The owner or operator shall implement the scrap management plan as specified in Standard Operating Procedure (SOP) Melt220CB.

I. Limit public access. The owner or operator shall restrict public access to the facility at all property boundary lines. The restriction does not apply to company employees, contractors, delivery/shipping personnel, federal, state or local officials, emergency and maintenance service personnel (both private and public section), or others who have a legitimate reason for accessing the property.

J. Fugitive dust emissions generated from truck traffic on the paved haul roads shall, at a minimum, be controlled by sweeping once per day except as noted in Conditions A-5.J (i) through (iv). All sweeping must be completed using a Tymco DST-4 Sweeper or functionally equivalent sweeper type (as approved by the Department).

i. Paved road sweeping shall begin within seven (7) days after resuming operations at Griffin Pipe Products Company (Plant No. 78-01-012).

ii. If sweeping cannot be accomplished because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35° F (1.7° C) or conditions due to weather could create hazardous driving conditions, then the sweeping shall be postponed and accomplished as soon after the scheduled date as the conditions preventing the sweeping have abated.

iii. Paved road sweeping need not occur when a rain gauge located at the site indicates that at least 0.2 inches of precipitation (water equivalent) has occurred within the preceding 24-hour time period. However, paved road sweeping shall resume within 24-hours after the precipitation event has ended.

iv. Paved road sweeping need not occur when the facility experiences no production or shipping activities on that calendar day.

A-5. Operating Limits (continued)

K. If sweeping cannot be accomplished for the entire month due to ambient temperatures or hazardous weather, silt load testing is not required for that month.

L. The haul road surface total silt loading or lead silt loading shall not exceed 0.64 g/m^2 or 0.00016 g/m^2, respectively, based on a 3-month rolling average.

M. Bulk material shipments or deliveries of product, waste and raw materials shall only occur from 7 am to 5 pm daily.

N. Best Management Practices (BMP) – The owner or operator shall implement "good housekeeping" or best management practices to minimize fugitive emissions. Such practices include but are not limited to:

i. Clean up spills of lead containing raw materials on the haul road surface as expeditiously as possible and in a manner consistent with good practice for minimizing emissions.

ii. Clean areas where lead containing materials are processed and where lead containing dust may be generated such as scrap melting areas in a manner consistent with minimizing fugitive lead emissions.

iii. Post and maintain speed limit (15 mph) signs.

iv. Clean up of possible lead containing materials (i.e. baghouse dust) around the cupola and desulfurization baghouse buildings.

O. Contingency Measures

i. After November 30, 2014, the owner or operator shall increase the frequency of cleaning/sweeping of the haul roads to twice per day within seven (7) days after notification by the Department that a monitored exceedance of the lead NAAQS occurred. The owner or operator shall also submit sweeping data to the Department and continue daily cleaning/sweeping until notified by the Department that a different cleaning/sweeping frequency shall be used.

ii. If a monitored exceedance of the lead NAAQS occurs after the provisions of Condition A-5.O.i have been implemented for three (3) full calendar months the owner or operator will submit an emissions evaluation meeting the criteria and timeline specified by the Department.

A-6. Operating Condition Monitoring and Recordkeeping

Unless specified by a federal regulation, all records shall be kept on-site (in hardcopy or electronic form) for a minimum of two (2) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The cumulative tons of metal charged on a rolling-12-month total for each month of operation.

B. Record on a monthly basis, the number of hours that Cupola (EU-1) is operated. Calculate and record 3-month rolling totals.

C. Calculate and record the average pressure drop across the baghouse (CE-10) in inches of water column. The average pressure drop shall be expressed and recorded as the average of all pressure drop data measured during each 5-minute period.

D. Calculate and record the average pressure drop across the baghouse (CE-11) in inches of water column. The average pressure drop shall be expressed and recorded as the average of all pressure drop data measured during each 5-minute period.

E. Maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of Baghouse (CE-10).

F. Maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of Baghouse (CE-11).

G. Retain on-site a copy of Standard Operating Procedure (SOP) Melt180CB and all records required by the plan to minimize emissions from Cupola Charge Handling (EU-17).

A-6. Operating Condition Monitoring and Recordkeeping (continued)

H. Retain on-site a copy of the approved Standard Operating Procedure (SOP) Melt220CB and all records required by the plan.

I. The owner or operator shall record the frequency of cleaning/sweeping performed on the haul roads. If the roads are not cleaned due to weather, a written record must be kept on site outlining the conditions.

J. The owner or operator shall record daily the date and time of bulk raw material, waste material and product received or shipped via truck.

K. The owner or operator shall maintain a log of each silt load sampling event that contains the following:

   i. The date and time that sweeping was conducted;

   ii. The date and time of silt load sampling event;

   iii. The location of the sample taken;

   iv. The measured silt content in grams;

   v. Sample area used for silt load sampling in meters; and,

   vi. The operator's initials.

L. The owner or operator shall maintain a record of the 3-month rolling average of each monthly average sampling event in g/m^2 to determine compliance with Condition A-5.L.

M. Prior to resuming facility operations the owner or operator shall develop a written plan to implement, at a minimum, the Best Management Practices as specified in condition A-5.N. The written plan and any documentation as required by the plan shall be maintained onsite and available for inspection.

ATTACHMENT B

Plant Name: Griffin Pipe Products Company

Equipment Location: 2601 9th Avenue
Council Bluffs, Iowa 51501

Plant Number: 78-01-012

The following emission units shall conform to the requirements specified in condition B-1:

B-1. Emission Unit Description

Emission Unit	Maximum Rated Capacity	Control Equipment
Cupola (EU-1)	60 Tons/hr	Baghouse (CE-10)
Desulfurization (EU-2)	60 Tons/hr	Baghouse (CE-11)
Bull Ladle (EU-3)	60 Tons/hr	
Magnesium Inoculation (EU-4)	60 Tons/hr	
Small Diameter Casting (EU-6)	60 Tons/hr	None
Desulfurization (EU-2)-Uncaptured	60 Tons/hr	Baghouse (CE-12)
Bull Ladle (EU-3)-Uncaptured	60 Tons/hr	
Magnesium Inoculation (EU-4)-Uncaptured	60 Tons/hr	None
Large Diameter Casting (EU-29)	40 Tons/hr	None
Cupola Charge Handling (EU-17)	60 Tons/hr	None
Traffic Pathways	NA	Paved Road Sweeping

B-2. Lead (Pb) Emission Limits

The following lead (Pb) emission limits shall not be exceeded:

Source Description	EP ID	lb/hr[1]	tons/yr[2]	Additional Limits	Justification
Cupola (EU-1)	EP-2A	0.282[3]	NA	NA	RACT
		0.046[4]	NA	NA	See Note 4
Desulfurization (EU-2)	EP-3	0.02[3]	NA	NA	RACT
Bull Ladle (EU-3)					
Magnesium Inoculation (EU-4)					
Magnesium Inoculation-Uncaptured (EU-4)	EP-7A	0.0075[3]	NA	NA	RACT
Ladle Preheat-Uncaptured (EU-19)					
Desulfurization-Secondary Capture (EU-2)	EP-7B	0.0025[3]	NA	NA	RACT
Bull Ladle-Secondary Capture (EU-3)					
Small Diameter Casting (EU-6)					
Small Diameter Casting (EU-6)	EP-6A	0.0043[3]	NA	NA	RACT
Building Emissions	EP-6B	0.0015[3]	NA	NA	RACT
Large Diameter Casting (EU-29)	EP-29	0.0025[3]	NA	NA	RACT
	EP-29A				
Cupola Charge Handling (EU-17)	FUG1	0.00143[3]	NA	NA	RACT
Traffic Pathways	NA	NA	[5]	[6]	RACT, 23.3(2)"c"

[1] The emission limit is expressed as the average of three (3) runs.
[2] The emission limit is a twelve (12) month rolling total.
[3] The lead limit is established to address the nonattainment designation for a portion of Pottawattamie County published in the Federal Register (76 FR 72097) on November 22, 2011.
[4] The lead limit is an applicable requirement established in a federally enforceable Consent Decree entered in United States v. Griffin Pipe Products Co., LLC, (Civil Action No. 1:14-cv-00027–JAJ–RAW)
[5] The lead limit is established at 0.004 tons of lead per rolling 3-month total; that correlates to a lead silt loading content of 0.00032 g/m^2 and maximum potential operation (all raw material/product is shipped or received by truck). The lead limit is based on 90% reduction over baseline lead levels and is established to address the nonattainment designation for a portion of Pottawattamie County published in the Federal Register (76 FR 72097) on November 22, 2011.
[6] The owner or operator shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond lot line of the property.

B-3. Emission Point Characteristics

These emission points shall conform to the specifications listed below:

EP ID	Stack Height, Feet	Discharge Style	Stack Opening, inches
EP-2A	100	Vertical Unobstructed	80 diameter
EP-3	100	Vertical Unobstructed	72 diameter
EP-7A	49	Vertical Unobstructed	122 diameter
EP-7B	100	Vertical Unobstructed	68 diameter
EP-6A	49	Vertical Unobstructed	80 diameter
EP-6B	49	Vertical Unobstructed	80 diameter
EP-29	48	Vertical Unobstructed	72 x 72
EP-29A	48	Vertical Unobstructed	72 x 72

B-4. Lead (Pb) Compliance Demonstration(s)

Emission Point ID	Compliance Demonstration	Compliance Methodology	Frequency
EP-2A	Yes	Performance Testing	Annual[2]
EP-3	Yes	Performance Testing	Annual[2]
EP-7A	Yes	Performance Testing	Annual[2]
EP-7B	Yes	Performance Testing	Annual[2]
EP-6A	Yes	Performance Testing	Once Every 3-years[2]
EP-6B	Yes	Performance Testing	Once Every 3-years[2,3]
EP-29	Yes	Performance Testing[1]	Once Every 3-years[2]
EP-29A	Yes	Performance Testing[1]	Once Every 3-years[2]
FUG1	Yes	Work Practice	NA
Traffic Pathways	Yes	Silt Load Sampling	Monthly[4]

[1] Performance testing for lead shall be conducted on EP-29 and EP-29A simultaneously to demonstrate compliance with emission limit as specified in condition B-2.
[2] Following a written request by Griffin Pipe Products Company and approval by Iowa DNR, the testing frequency may be decreased following initial or subsequent performance testing.
[3] Maximum operating capacity shall be based on the Cupola (EU-1) charge rate.
[4] Following 12 monthly sampling events, based on a written request by Griffin Pipe Products Company and approval by Iowa DNR, the silt loading sampling may be reduced or eliminated.

Performance Testing Requirements

If an initial compliance demonstration specified above is performance testing, the owner or the owner's authorized agent shall verify compliance with the emission limitations contained in Condition B-2 within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the equipment.

If subsequent performance testing is specified above, the owner or the owner's authorized agent shall verify compliance with the emission limitations contained in Condition B-2 according to the frequency and timeframe noted above.

If testing is required, the owner or the owner's authorized agent shall use the test method and run time listed in the table below unless another testing methodology is approved by the Department prior to testing.

Pollutant	Test Run Time	Test Method
Pb	1 hour	40 CFR 60, Appendix A, Method 12 or Method 29

B-4. Lead (Pb) Compliance Demonstration(s) (continued)

Each performance test must be approved by the Department. Unless otherwise specified by the Department, each test shall consist of three (3) separate runs. The arithmetic mean of three (3) acceptable test runs shall apply for compliance, unless otherwise indicated by the Department.

Per 567 IAC 25.1(7)"a", at the Department's request, for each performance test a pretest meeting shall be held not later than fifteen (15) days before the owner or operator conducts the compliance demonstration. A testing protocol for each performance test shall be submitted to the Department no later than fifteen (15) days before the owner or operator conducts the compliance demonstration. Representatives from the Department shall attend this meeting, along with the owner and the testing firm, if any. It shall be the responsibility of the owner to coordinate and schedule the pretest meeting. A representative of the Department shall be allowed to witness the test(s). The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

The owner shall be responsible for the installation and maintenance of test ports. The unit(s) being sampled shall be operated in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which this unit(s) will be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the Department that this unit(s) has been physically altered so that capacity cannot be exceeded, or the Department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the Department to determine whether this unit(s) is in compliance.

Silt Load Sampling Requirements

For each sampling event, silt loading sampling shall be done for at least 3 different locations. Sampling shall be completed at locations that are representative of normal conditions and shall not be conducted within 4 hours after paved road sweeping has occurred. The three sampled locations shall then be averaged to determine the silt loading for that month. Silt load testing shall be conducted according to the procedures outlined in AP-42, Appendix C.1 Procedures for Sampling Surface/Bulk Dust Loading and C.2 Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples.

The owner or operator shall commence silt load sampling to verify compliance with the haul road operating limitations contained in Condition B-5.M during the first 30-days the facility resumes operations and subsequent sampling of haul road surface silt loading shall be completed on a monthly basis.

After 3 consecutive months of haul road surface silt loading sampling and every month thereafter, the owner or operator shall calculate the 3-month rolling average total silt loading content to determine compliance with the operating limit included in Condition B-5.M. As an alternative, the owner or operator may analyze the samples for lead content and calculate the 3-month rolling average lead silt loading to demonstrate compliance with the pollutant specific operating limit provided in Condition B-5.M.

If the 3-month rolling average silt loading limit is exceeded, the owner or operator shall immediately double the frequency of sweeping. The increased sweeping frequency shall occur until the lead silt loading results are obtained and demonstrate compliance with the 3-month rolling lead silt loading limit provided in Condition B-5.M or until such time as additional silt loading samples demonstrate compliance with the 3-month rolling total silt loading limit provided in Condition B-5.M. The owner or operator shall maintain records onsite that detail the date the measured silt loading exceeded Condition B-5.M, the date in which increased sweeping frequency was enacted and the date that compliance was demonstrated with Condition B-5.M.

The owner or operator shall develop and submit a silt/lead sampling protocol to the Department for approval 30-days prior to resuming operation. The submitted silt/lead sampling protocol shall detail procedures for sample chain of custody, identification, storage, and lead analysis. The approved silt/lead sampling protocol shall be implemented and retained onsite.

B-5. Operating Limits

Operating limits shall be:

A. The production rate shall not exceed 235,150 tons of metal charged per rolling twelve-month period.

B. The pressure drop across the baghouse (CE-10) shall be between 3.5 to 10.0 inches of water column based on a 5-minute average.

C. The pressure drop across the baghouse (CE-11) shall be between 3.5 to 10.0 inches of water column based on a 5-minute average.

D. The pressure drop across the baghouse (CE-12) shall be between 3.5 to 10.0 inches of water column based on a 5-minute average.

E. Maintain Baghouse (CE-10) according to manufacturer specifications and maintenance schedule.

F. Maintain Baghouse (CE-11) according to manufacturer specifications and maintenance schedule.

G. Maintain Baghouse (CE-12) according to manufacturer specifications and maintenance schedule.

H. The owner or operator shall implement work practice standards as specified in Standard Operating Procedure (SOP) Melt180CB to minimize emissions from Cupola Charge Handling (EU-17).

I. The owner or operator shall implement the scrap management plan as specified in Standard Operating Procedure (SOP) Melt220CB.

J. Limit public access. The owner or operator shall restrict public access to the facility at all property boundary lines. The restriction does not apply to company employees, contractors, delivery/shipping personnel, federal, state or local officials, emergency and maintenance service personnel (both private and public section), or others who have a legitimate reason for accessing the property.

K. Fugitive dust emissions generated from truck traffic on the paved haul roads shall, at a minimum, be controlled by:

   i. Sweeping 3 times a week when the haul roads are used six (6) days in a week, with a maximum of one day between sweeping events except as noted in Conditions B-5.K (iii) through (vi). All sweeping must be completed using a Tymco DST-4 Sweeper or functionally equivalent sweeper type (as approved by the Department).

   ii. Sweeping 4 times a week when the haul roads are used seven (7) days in a week except as noted in Conditions B-5.K (iii) through (vi). All sweeping must be completed using a Tymco DST-4 Sweeper or functionally equivalent sweeper type (as approved by the Department).

   iii. Paved road sweeping shall begin within seven (7) days after resuming operations at Griffin Pipe Products Company (Plant No. 78-01-012).

   iv. If sweeping cannot be accomplished because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35° F (1.7° C) or conditions due to weather could create hazardous driving conditions, then the sweeping shall be postponed and accomplished as soon after the scheduled date as the conditions preventing the sweeping have abated.

   v. Paved road sweeping need not occur when a rain gauge located at the site indicates that at least 0.2 inches of precipitation (water equivalent) has occurred within the preceding 24-hour time period. However, paved road sweeping shall resume within 24-hours after the precipitation event has ended.

   vi. Paved road sweeping need not occur when the facility experiences no production or shipping activities on that calendar day.

L. If sweeping cannot be accomplished for the entire month due to ambient temperatures or hazardous weather, silt load testing is not required for that month.

M. The haul road surface total silt loading or lead silt loading shall not exceed 1.28 g/m^2 or 0.00032 g/m^2, respectively, based on a 3-month rolling average.

B-5. Operating Limits (continued)

N. Best Management Practices (BMP) – The owner or operator shall implement "good housekeeping" or best management practices to minimize fugitive emissions. Such practices include but are not limited to:

i. Clean up spills of lead containing raw materials on the haul road surface as expeditiously as possible and in a manner consistent with good practice for minimizing emissions.

ii. Clean areas where lead containing materials are processed and where lead containing dust may be generated such as scrap melting areas in a manner consistent with minimizing fugitive lead emissions.

iii. Post and maintain speed limit (15 mph) signs.

iv. Clean up of possible lead containing materials (i.e. baghouse dust) around the cupola and desulfurization baghouse buildings.

O. Contingency Measures

i. After November 30, 2014, the owner or operator shall increase the frequency of cleaning/sweeping of the haul roads to once per day within seven (7) days after notification by the Department that a monitored exceedance of the lead NAAQS occurred. The owner or operator shall also submit sweeping data to the Department and continue daily cleaning/sweeping until notified by the Department that a different cleaning/sweeping frequency shall be used.

ii. If a monitored exceedance of the lead NAAQS occurs after the provisions of Condition B-5.O.i have been implemented for three (3) full calendar months the owner or operator will submit an emissions evaluation meeting the criteria and timeline specified by the Department.

B-6. Operating Condition Monitoring and Recordkeeping

Unless specified by a federal regulation, all records shall be kept on-site (in hardcopy or electronic form) for a minimum of two (2) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The cumulative tons of metal charged on a rolling-12-month total for each month of operation.

B. Calculate and record the average pressure drop across the baghouse (CE-10) in inches of water column. The average pressure drop shall be expressed and recorded as the average of all pressure drop data measured during each 5-minute period.

C. Calculate and record the average pressure drop across the baghouse (CE-11) in inches of water column. The average pressure drop shall be expressed and recorded as the average of all pressure drop data measured during each 5-minute period.

D. Calculate and record the average pressure drop across the baghouse (CE-12) in inches of water column. The average pressure drop shall be expressed and recorded as the average of all pressure drop data measured during each 5-minute period.

E. Maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of Baghouse (CE-10).

F. Maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of Baghouse (CE-11).

G. Maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of Baghouse (CE-12).

H. Retain on-site a copy of Standard Operating Procedure (SOP) Melt180CB and all records required by the plan to minimize emissions from Cupola Charge Handling (EU-17).

I. Retain on-site a copy of the approved Standard Operating Procedure (SOP) Melt220CB and all records required by the plan.

B-6. Operating Condition Monitoring and Recordkeeping (continued)

J. The owner or operator shall record the frequency of cleaning/sweeping performed on the haul roads. If the roads are not cleaned due to weather, a written record must be kept on site outlining the conditions.

K. The owner or operator shall maintain a log of each silt load sampling event that contains the following:

i. The date and time that sweeping was conducted;

ii. The date and time of silt load sampling event;

iii. The location of the sample taken;

iv. The measured silt content in grams;

v. Sample area used for silt load sampling in meters; and,

vi. The operator's initials.

L. The owner or operator shall maintain a record of the 3-month rolling average of each monthly average sampling event in g/m^2 to determine compliance with Condition B-5.M.

M. Prior to resuming facility operations the owner or operator shall develop a written plan to implement, at a minimum, the Best Management Practices as specified in condition B-5.N. The written plan and any documentation as required by the plan shall be maintained onsite and available for inspection.

Appendix C. Alter Metal Recycling Construction Permit

Iowa Department of Natural Resources
Air Quality Construction Permit

Permit Holder

Firm: Alter Metal Recycling

Contact:

Ryan Carpenter
Reg. Env. Manager

(314) 346-6795

2603 9th Avenue
Council Bluffs, IA 51501

Responsible Party:

Sarah Schlichtholz
Dir. Environmental Affairs

Permitted Equipment

Emission Unit(s): Fugitive Dust Emissions from Truck Traffic (EU-Hauling)

Control Equipment: Paved Road Sweeping w/ Water Suppression

Emission Point: EP-1

Equipment Location: 2603 9th Avenue
Council Bluffs, IA 51501

Plant Number: **78-01-043**

Issuance of this permit shall not relieve the owner or operator of the responsibility to comply fully with applicable provisions of the State Implementation Plan (SIP), and any other requirements of local, state, and federal law.

Permit No.	Proj. No.	Description	Date	Stack Testing
14-A-521	14-126	Original Permit	09/02/14	No

Under the Direction of the Director of
the Department of Natural Resources

PERMIT CONDITIONS

1. Departmental Review

This permit is issued based on information submitted by the applicant. Any misinformation, false statements or misrepresentations by the applicant or by the applicant's representative(s) shall cause this permit to be void. In addition, the applicant may be subject to criminal penalties according to Iowa Code Section 455B.146A.

This permit is issued under the authority of 567 Iowa Administrative Code (IAC) 22.3. The proposed equipment has been evaluated for conformance with Iowa Code Chapter 455B; 567 IAC Chapters 20 – 35; and 40 Code of Federal Regulations (CFR) Parts 51, 52, 60, 61, and 63 and has the potential to comply.

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. The Department assumes no liability, directly or indirectly, for any loss due to damage to persons or property caused by, resulting from, or arising out of the design, installation, maintenance or operation of the proposed equipment.

2. Owner and Operator Responsibility

This permit is for the construction and operation of specific emission unit(s), control equipment, and emission point as described in this permit and in the application for this permit. The permit holder, owner, and operator of the facility shall assure that the installation of the equipment listed in this permit conforms to the design in the application (i.e. type, maximum rated capacity, etc.). No person shall construct, install, reconstruct or alter this emission unit(s), control equipment, or emission point without the required amended permit.

Any owner or operator of the specified emission unit(s), control equipment, or emission point, including any person who becomes an owner or operator subsequent to the date on which this permit is issued, is responsible for assuring that the installation, operation, and maintenance of the equipment listed in this permit is in compliance with the provisions of this permit and all other applicable requirements.

The owner or operator of any emission unit or control equipment shall maintain and operate the equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions, as required by paragraph 567 IAC 24.2(1) *"Maintenance and Repair"*.

3. Transferability

As limited by 567 IAC 22.3(3)"f", this permit is not transferable from one location to another or from one piece of equipment to another, unless the equipment is portable. When portable equipment for which a permit has been issued is to be transferred from one location to another, the Department shall be notified in writing at least seven (7) days prior to transferring to the new location unless the equipment will be located in an area which is classified as nonattainment for the National Ambient Air Quality Standards (NAAQS) or is a maintenance area for the NAAQS in which case notification shall be given fourteen (14) days prior to the relocation of equipment[(1)] (See Permit Condition 8.A.2). The owner or operator will be notified at least ten (10) days prior to the scheduled relocation if the relocation will cause a violation of the NAAQS. In such case, a supplemental permit shall be required prior to the initiation of construction of additional control equipment or modifications to equipment needed to meet the standards.

[(1)] A list of nonattainment areas and maintenance areas for the NAAQS can be obtained from the Department.

4. Construction

A. General Requirements

It is the owner's responsibility to ensure that construction conforms to the final plans and specifications as submitted, and that adequate operation and maintenance is provided to ensure that no condition of air pollution is created.

4. Construction (Continued)

In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. If a proposed project is not timely completed, the owner or operator shall seek a permit amendment in order to revert back to the most recent previous version of the permit. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

This permit or amendment shall become void if any one of the following conditions occurs:
(1) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not initiated within eighteen (18) months after the permit issuance date; or
(2) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within thirty-six (36) months after the permit issuance date; or
(3) the construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within a time period specified elsewhere in this permit.

B. Changes to Plans and Specifications

The owner or operator shall amend this permit or amendment prior to startup of the equipment if:
(1) Any changes are made to the final plans and specifications submitted for the proposed project; or
(2) This permit becomes void.

Changes to the final plans and specification shall include changes to plans and specifications for permitted equipment and control equipment and the specified operation thereof.

C. Amended Permits

The owner or operator may continue to act under the provisions of the previous permit for the affected emission unit(s) and emission point, together with any previous amendment to the permit, until one of the following conditions occurs:
(1) The proposed project authorized by this amendment is completed as it affects the emission unit(s) and emission point permitted herein; or
(2) This current amendment becomes void.

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5. Credible Evidence

As stated in 567 IAC 21.5 and also in 40 CFR Part §60.11(g), where applicable, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions specified in this permit or any provisions of 567 IAC Chapters 20 through 35.

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6. Excess Emissions

Per 567 IAC 24.1(1), excess emissions during a period of startup, shutdown, or cleaning of control equipment are not a violation of the emission standard if it is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions except when another regulation applicable to the unit or process provides otherwise. Cleaning of control equipment, which does not require the shutdown of process equipment, shall be limited to one (1) six-minute period per one (1) hour period.

An incident of excess emissions other than the above is a violation and may be subject to criminal penalties according to Iowa Code 455B.146A. If excess emissions are occurring, either the control equipment causing the excess shall be repaired in an expeditious manner, or the process generating the emissions shall be shutdown within a reasonable period of time, as specified in 567 IAC 24.1.

An incident of excess emissions shall be orally reported by telephone, electronic mail or in person to the appropriate field office within eight (8) hours of, or at the start of, the first working day following the onset of the incident (See Permit Condition 8.B.1). A written report of an incident of excess emissions shall be submitted as a follow-up to all required initial reports within seven (7) days of the onset of the upset condition (See Permit Condition 8.B.2).

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7. Permit Violations

Knowingly committing a violation of this permit may carry a criminal penalty of up to $10,000 per day fine and two (2) years in jail according to Iowa Code Section 455B.146A.

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8. Notification, Reporting, and Recordkeeping

A. The owner or operator shall furnish the Department the following written notifications:
   (1) Per 567 IAC 22.3(3)"b":
      (a) The date construction, installation, or alteration is initiated postmarked within thirty (30) days following initiation of construction, installation, or alteration;
      (b) The actual date of startup, postmarked within fifteen (15) days following the start of operation;
   (2) Per 567 IAC 22.3(3)"f", when portable equipment for which a permit has been issued is to be transferred from one location to another, the Department shall be notified:
      (a) at least fourteen (14) days before equipment relocation if the equipment will be located in a nonattainment area for the National Ambient Air Quality Standards (NAAQS) or a maintenance area for the NAAQS;
      (b) at least seven (7) days before equipment relocation.
   (3) Per 567 IAC 22.3(8), a new owner shall notify the Department of the transfer of equipment ownership within thirty (30) days of the occurrence. The notification shall be mailed to:

      Air Quality Bureau
      Iowa Department of Natural Resources
      7900 Hickman Road, Suite 1
      Windsor Heights, IA 50324

      and include the following information:
      - The date of ownership change,
      - The name, address, and telephone number of the responsible official, the contact person, and the owner of the equipment both before and after the ownership change; and
      - The construction permit number(s) of the equipment changing ownership.
   (4) Unless specified per a federal regulation, notification of each compliance test required by Permit Condition 12 shall be done not less than thirty (30) days before the required test or performance evaluation of a continuous emission monitor [567 IAC 25.1(7)]. The notification shall include:
      - the time,
      - the place,
      - the name of the person who will conduct the tests,
      - and other information as required by the Department;

      If the owner or operator does not provide timely notice to the Department, the Department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with the applicable rules or permit conditions. Upon written request, the Department may allow a notification period of less than thirty (30) days.

B. The owner or operator shall furnish the Department with the following reports:
   (1) Per 567 IAC 24.1(2), an incident of excess emissions as defined in 567 IAC 20.2 shall be reported within eight (8) hours or at the start of the first working day following the onset of the incident. The report may be made by electronic mail, in person or by telephone.
   (2) Per 567 IAC 24.1(3), a written report of an incident of excess emissions as defined in 567 IAC 20.2 shall be submitted as a follow-up to all required initial reports to the Department within seven (7) days of the onset of the upset condition.
   (3) Operation of this emission unit(s) or control equipment outside of those operating parameters specified in Permit Condition 14 in accordance to the schedule set forth in 567 IAC 24.1.
   (4) Per 567 IAC 25.1(6), the owner or operator of any facility required to install a continuous monitoring system or systems shall provide quarterly reports to the Director, no later than thirty (30) calendar days following the end of the calendar quarter, on forms provided by the Director.

8. Notification, Reporting, and Recordkeeping (Continued)

(5) Per 567 IAC 25.1(7), a written compliance demonstration report for each compliance testing event, whether successful or not, postmarked not later than six (6) weeks after the completion of the test period unless other regulations provide for other notification requirements. In that case, the more stringent reporting requirement shall be met;

C. All data, records, reports, documentation, construction plans, and calculations required under this permit shall be available at the plant during normal business hours for inspection and copying by federal, state, or local air pollution regulatory agencies and their authorized representatives, for a minimum of two (2) years from the date of recording unless otherwise required by another applicable law (i.e. NSPS, NESHAP, etc.)

D. The owner or operator shall send correspondence regarding this permit to the following address:

Construction Permit Supervisor
Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite 1
Windsor Heights, IA 50324
Telephone: (515) 725-9549
Fax: (515) 725-9501

E. The owner or operator shall send correspondence concerning stack testing to:

Stack Testing Coordinator
Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite 1
Windsor Heights, IA 50324
Telephone: (515) 725-9545
Fax: (515) 725-9502

F. The owner or operator shall send reports and notifications to:

Compliance Unit Supervisor Air Quality Bureau Iowa Department of Natural Resources 7900 Hickman Road, Suite 1 Windsor Heights, IA 50324 Telephone: (515) 725-9550 Fax: (515) 725-9502	IDNR Field Office 4 1401 Sunnyside Lane Atlantic, IA 50022 Telephone: (712) 243-1934 Fax: (712) 243-6251

9. Appeal Rights

All conditions within an original permit may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. Amended conditions within a permit amendment may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

Per 561 IAC 7.4(1), the owner or operator shall file any written notice of appeal within thirty (30) days of receipt of the issued permit. The written notice of appeal shall be filed with the Director of the Department with a copy to the Legal Services Bureau Chief at the following addresses:

Director Iowa Department of Natural Resources 502 East 9th Street Des Moines, IA 50319	Bureau Chief Legal Services Bureau Iowa Department of Natural Resources 502 East 9th Street Des Moines, IA 50319

10. Emission Limits

The following emission limits shall not be exceeded:

Pollutant	lb/hr[(1)]	tons/yr[(2)]	Additional Limits	Reference (567 IAC)
Particulate Matter (PM) – Federal	NA	NA	NA	NA
Particulate Matter (PM) – State	NA	NA	NA	NA
PM_{10}	NA	NA	NA	NA
$PM_{2.5}$	NA	NA	NA	NA
Opacity	NA	NA	[(3)]	23.3(2)"c"
Sulfur Dioxide (SO_2)	NA	NA	NA	NA
Nitrogen Oxides (NO_x)	NA	NA	NA	NA
Volatile Organic Compounds (VOC)	NA	NA	NA	NA
Carbon Monoxide (CO)	NA	NA	NA	NA
Lead (Pb)	NA	NA	[(4)]	NAAQS, RACT
Carbon Dioxide equivalents (CO_2e)	NA	NA	NA	NA
Single HAP	NA	NA	NA	NA
Total HAP	NA	NA	NA	NA

[(1)] The emission limit is expressed as the average of three (3) runs.
[(2)] The emission limit is a twelve (12) month rolling total.
[(3)] The owner/operator shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond lot line of the property.
[(4)] The lead limit is established at 0.01 tons of lead per rolling 3-month average; that correlates to a lead silt content of 0.00281 g/m^2 and maximum potential operation (all raw material/product is shipped or received by truck). The lead limit is based on 95% reduction over baseline lead levels and is established to address the nonattainment designation for a portion of Pottawattamie County published in the Federal Register (76 FR 72097) on November 22, 2011. The compliance demonstration with this lead limit is based on maximum silt content, operating restrictions and work practice standards as specified in Conditions 14 and 15. Total silt load content of 2.7 g/m^2 has been established as a surrogate for total lead silt content.

11. Emission Point Characteristics

This emission point shall conform to the specifications listed below:

Parameter	Value
Stack Height, (ft, from the ground)	NA
Discharge Style	NA
Stack Opening, (inches, diameter)	NA
Exhaust Temperature (°F)	NA
Exhaust Flowrate (scfm)	NA

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

12. Compliance Demonstration(s)

Pollutant	Compliance Demonstration	Compliance Methodology	Frequency
PM – Federal	No	NA	NA
PM – State	Yes	Silt Load Sampling	Monthly Basis
PM_{10}	No	NA	NA
$PM_{2.5}$	No	NA	NA
Opacity	No	NA	NA
SO_2	No	NA	NA
NO_x	No	NA	NA
VOC	No	NA	NA
CO	No	NA	NA
Pb	No	NA	NA
CO_2	No	NA	NA
CH_4	No	NA	NA
N_2O	No	NA	NA
CO_2e	No	NA	NA
Single HAP	No	NA	NA
Total HAP	No	NA	NA

If an initial compliance demonstration specified above is testing, the owner or the owner's authorized agent shall verify compliance with the emission limitations contained in Permit Condition 10 within 90 days after issuance of this air construction permit unless otherwise specified.

If subsequent testing is specified above, the owner or the owner's authorized agent shall verify compliance with the emission limitations contained in Permit Condition 10 according to the frequency and timeframe noted above. The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

13. New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

The emission unit is not subject to any of the New Source Performance Standards (NSPS).

This project is not subject to any National Emission Standards for Hazardous Air Pollutants Area Source Standards.

Failure to include any NSPS or NESHAP requirements as a part of this permit does not relieve the permittee from the requirement to comply with all applicable NSPS or NESHAP requirements.

14. Operating Limits

Operating limits for this emission unit shall be:

A. All haul roads at the facility shall be paved. The facility shall complete the paving of haul road segments 7, 14, 15, and 16 by October 31, 2015.

B. The facility shall stop using haul road segment 17 by October 31, 2015.

C. Fugitive dust emissions generated from truck traffic on the paved haul roads shall, at a minimum, be controlled by:

- Sweeping, at a minimum, 3 times per week when the haul roads are used six (6) days in a week, with a maximum of one operating day (i.e., Sunday and holidays would not be considered operating days since there is no movement of material) between sweeping events except as noted in Conditions 14C (i) through (iii). All sweeping must be completed using a Tymco DST-6 Sweeper or functionally equivalent sweeper type (as approved by the Department).

  i. Paved road sweeping shall begin within seven (7) days of the permit issuance date.

14. Operating Limits (Continued)

ii. If sweeping cannot be accomplished because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35^{o} F (1.7^{o} C) or conditions due to weather could create hazardous driving conditions, then the sweeping shall be postponed and accomplished as soon after the scheduled date as the conditions preventing the sweeping have abated.

iii. Paved road sweeping need not occur when a rain gauge located at the site indicates that at least 0.2 inches of precipitation (water equivalent) has occurred within the preceding 24-hour time period. However, paved road sweeping shall resume within 24-hours after the precipitation event has ended.

iv. Paved road sweeping need not occur when the facility experiences no haul road traffic on that calendar day (i.e., the facility would not count this day towards the maximum of one day between sweeping).

v. The facility may request reduced sampling frequency should 12 consecutive tests show compliance with the silt load limit. The facility shall submit the test results to the Department with the permit modification request to reduce sampling frequency.

D. If sweeping cannot be accomplished for the entire month due to ambient temperatures or hazardous weather, silt load testing is not required for that month.

E. The haul road surface silt loading shall not exceed 2.70 g/m^2.

F. Traffic on the haul roads shall not exceed 20 mph. The speed limit shall be posted on all haul roads.

G. The facility is limited to shipping (inbound and outbound) material between the hours of 5am to 8 pm, Monday through Friday and 8 am to 12 pm on Saturday.

H. The facility is limited to processing/shipping (inbound and outbound) no more than 946,000 tons of material per rolling 12-month period.

I. Internal transfers at the facility are limited to Monday through Friday.

J. Best Management Practices (BMP) – Clean up spills, truck scale areas, etc. Alter Metal shall implement "good housekeeping" or best management practices to minimize fugitive emissions. Such practices include but are not limited to:

i. Clean up spills of raw materials or product on the haul road surface as expeditiously as possible and in a manner consistent with good practice for minimizing emissions.

ii. Clean on weekly basis, around truck scale areas and process buildings.

iii. Maintain and post speed limit signs.

K. Limit public access. Starting on either July 31, 2014, or by no later than 30 days after the date of permit issuance, whichever comes later, Alter Metal shall restrict public access to the facility by posting signs warning of restricted access to the facility at all property boundary lines not secured with fencing. During those days the facility is operating, in-person surveillance of the boundary shared with the rail line shall be conducted by Alter Metal staff periodically throughout the day, including documentation as to surveillance times and locations. In lieu of in-person surveillance the facility may maintain and operate equipment adequate to ensure surveillance of the boundary shared with the rail line during plant operations.

The restriction does not apply to Alter Metal employees, employees, owner or lessees of contiguous properties, federal, state or local officials, emergency and maintenance service personnel (both private and public section), who have a legitimate reason or need for accessing the rail spur.

L. Contingency Measures

i. After November 30, 2014, the facility shall increase the frequency of cleaning/sweeping of the haul roads to daily within seven (7) days after notification by the Department that a monitored exceedance of the lead NAAQS occurred. The facility shall submit sweeping data to the Department and continue daily cleaning/sweeping until notified by the Department that a different cleaning/sweeping frequency shall be used.

ii. If a monitored exceedance of the lead NAAQS occurs after the provisions of Permit Condition 14.L.i. have been implemented for three (3) full calendar months, Alter Metal will submit an emissions evaluation meeting the criteria and timeline specified by the Department.

15. Operating Condition Monitoring and Recordkeeping

Unless specified by a federal regulation, all records as required by this permit shall be kept on-site for a minimum of two (2) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The facility shall record the frequency of cleaning/sweeping performed on the haul roads. If the roads are not cleaned due to weather, a written record must be kept on site outlining the conditions.

B. The facility shall record daily the date and time of material processed at the facility (i.e., record inbound and outbound shipments of process material).

C. The facility shall calculate on a monthly basis the amount of material processed/shipped (inbound and outbound) and calculate the rolling 12-month total amount of material processed (in tons).

D. Performance testing on the haul road surface silt loading shall be completed on a monthly basis. For each performance test, silt loading sampling shall be done for at least 3 different locations. The three sampled locations shall then be averaged to determine the silt loading average results. Performance testing shall be completed prior to paved road sweeping. Silt load testing shall be conducted according to the procedures outlined in AP-42, Appendix C.1 Procedures for Sampling Surface/Bulk Dust Loading.

E. The owner or operator shall maintain a log of each silt load sampling event that contains the following:

   i. The date of silt load sampling event;

   ii. The location of the sample taken;

   iii. The measured silt content in grams;

   iv. Sample area used for silt load sampling in meters; and,

   v. The operator's initials.

F. Record the date paving of haul road segments 7, 14, 15, and 16 was completed.

G. Record the date the closure of haul road segment 17 was finalized.

H. The facility shall maintain records of BMP activities completed under Condition 14J.

I. Record the date control measures restricting public access to the facility (posting signs, performing in-person surveillance and/or installing electronic surveillance, installing fences, etc.) is initiated. Record the date, with documentation, for all subsequent surveillance times and locations.

16. Continuous Emission Monitoring

This permit does not require continuous emission monitoring.

17. Permit History

Permit No.	Proj. No.	Description	Date	Stack Testing

18. Description of Terms and Acronyms

The descriptions below are meant only as a brief explanation of terms contained within the permit and may not be the exact definition of the term or acronym as contained within the regulations.

acfm	Actual cubic feet per minute
Applicant	The owner, company official or authorized agent
Btu	British thermal unit
°C	Degrees Celsius
Condensable PM	Material that condenses and/or reacts upon cooling and dilution in the ambient air to form particulate matter immediately after discharge from the stack
CO_2e	Carbon dioxide equivalent which is the aggregate emissions of greenhouse gas (GHG) emissions based on global warming potentials
Department	Iowa Department of Natural Resources
dia.	Diameter
°F	Degrees Fahrenheit
ft	Foot
GHG	Greenhouse Gas which is defined as being the group of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6)
g	grams
g/dscm	Grams per dry standard cubic meter
gr	Grains
gr/dscf	Grains per dry standard cubic foot
gr/scf	Grains per standard cubic foot
HAP	Hazardous Air Pollutant(s)
hp	horsepower
hr	Hour
lb	Pound
lb/hr	Pounds per hour
m	Meter
mg	Milligram
MM	Million
MW	Megawatt
NA	Not Applicable
$PM_{2.5}$	Particulate Matter with an aerodynamic diameter equal to or less than 2.5 microns
PM_{10}	Particulate Matter with an aerodynamic diameter equal to or less than 10 microns
PM – Federal	Particulate Matter that does not include the condensable PM
PM – State	Particulate Matter that includes condensable PM
ppm	parts per million
ppm_v	parts per million by volume
ppm_w	parts per million by weight
RACT	Reasonably Available Control Technology
scfm	Standard cubic feet per minute
SHAP	Single hazardous air pollutant
THAP	Total hazardous air pollutants
tons/yr	Tons per year
yr	Year

END OF PERMIT

Appendix D. Facility Changes at Alter Metal Recycling

In 2013 Alter Metal Recycling began construction on a project to allow the facility to recover non-ferrous materials from shredder fluff previously landfilled or otherwise disposed as waste. This modification is referred to as the addition of the "ZC Plant." According to documentation provided by Alter Metal Recycling, the emissions units at the ZC Plant are described as a collection of conveyors and nonferrous scrap metal recovery equipment located inside the ZC Plant building, and loading, classification, and feed equipment located outdoors.

Construction of the ZC Plant affects the lead nonattainment SIP because it adds, removes, and modifies the haul road locations, affects road segment and route lengths, and changes the traffic data. While not all road segments are affected by the addition of the ZC Plant the resultant road segment layouts and traffic patterns are distinctly different from the baseline. The attainment demonstration, control strategy, and construction permits issued to Alter Metal Recycling account for all roadway modifications associated with the ZC Plant addition.

The original (baseyear) haul road segment layout is depicted in Figure D-1 and the new haul road segment layout (used in the control strategy modeling) is depicted in Figure D-2. Road segments not affected (in terms of the physical properties such as location, length or width)[20] by the addition of the ZC Plant are depicted in Figure D-3. For historical reference, the original (baseyear) configuration of all the segments modified or removed with the addition of the ZC plant is shown in Figure D-4; their new configuration under the ZC Plant layout is displayed in Figure D-5. A description of the segment changes and updated segments lengths are provided in Table D-1.

Although the total length of all road segments associated with the ZC Plant (2,185 m; see Table D-1) is greater than the baseline (1,969 m; see Table A-7), total road segment length does not directly correlate to emissions. Changes in facility traffic characteristic, such as traffic patterns, traffic volumes, and resultant vehicle miles travelled are more important factors. Several high-traffic routes have been shortened due the addition of segment 18 (see Figure D-5) which is typically used in lieu of baseline segments 4, 5, and 6 (see Figure D-4).

While three new routes (Routes 5, 6,and 7)[21] have been added, this again doesn't necessarily increase emissions. For example, a large amount of traffic on a short route can generate more emissions than a small amount of traffic over a longer path. Additionally, all roads must be paved or their use discontinued. Not only are the roadway types, traffic patterns, and resultant vehicles miles travelled important, the most significant consideration is the reduction in the amount of suspendable lead on the roadways. In summary, the measures required by the control strategy equate to a 95% reduction in baseline lead emissions from Alter Metal Recycling.

[20] VMT and traffic data for all road segments differ versus the baseline. Due to complexity the VMT and traffic data are not readily reproducible in a useable format in this document.

[21] For informational purposes, the seven routes used by Alter Metal Recycling are explained in terms of road segments in Table D-2. Routes 1 through 4 are similar to the baseline, however, use of segment 17(u) will be eliminated and all unpaved surfaces must be paved. Three new routes have been added to accommodate activities associated with the ZC Plant. The route paths are depicted in Figure D-6.

D-1. ZC Plant Lead Emissions

Negligible lead emissions increases are anticipated with the operation of the ZC Plant. Alter Metal Recycling calculated the potential lead emissions from the ZC Plant at 14 lbs/yr.[22] This value is less than 1% (0.97%) of the total baseline lead emissions. The control strategy is expected to reduce lead emission at Alter Metal Recycling by approximately 95%. Lead emissions from the ZC Plant are not expected to delay or interfere with the attainment of the lead NAAQS. An investigation of lead emissions from the ZC Plant may occur in the unlikely event that contingency measures are triggered.

[22] Provided by Alter Metal Recycling in the small unit exemption (SUE) documentation. The applicable SUE rules were those in 567 IAC 22.1(2) in effect prior to revisions published in the Iowa Administrative Bulletin on September 18, 2013.

Figure D-1. Depiction of all facility road segments as they existed in the 2010 baseline. (Google Earth's Imagery Date of 3/7/2012.) Unpaved routes are depicted with a "(u)" and segment 14(*) was originally paved but treated as an unpaved road in the baseline due to surface deterioration.

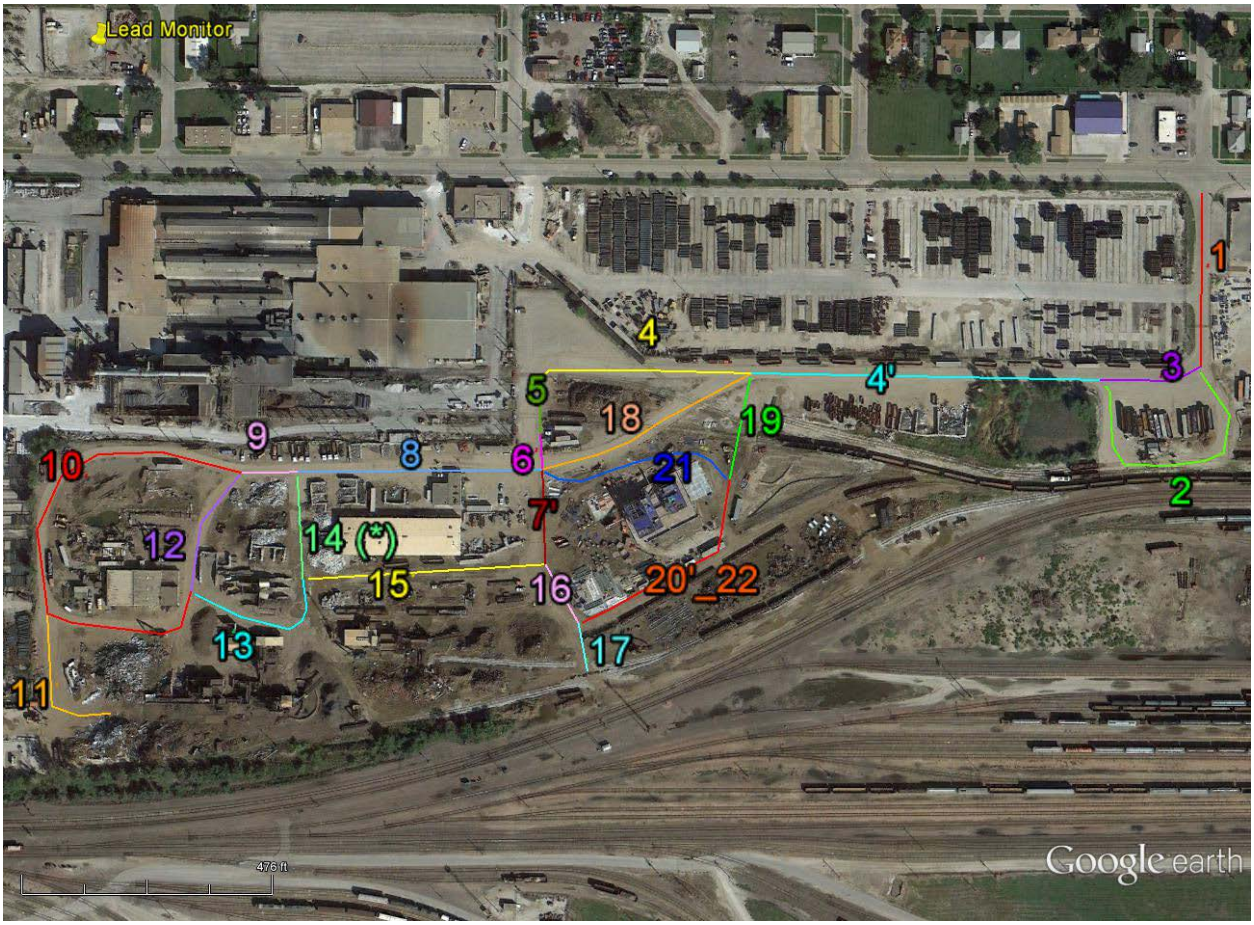

Figure D-2. Depiction of facility road segments expected after completion of the ZC Plant. (Google Earth's Imagery Date of 9/21/2013.). The control strategy requires all segments be paved, or their use discontinued, by October 31, 2015.

Figure D-3. Road segments whose dimensions and locations are not affected by the addition of the ZC Plant (they are the same as in the baseyear). (Google Earth's Imagery Date of 9/21/2013.) (Note, segment 14(*) is treated as an unpaved road in the baseline and as a paved road in the control strategy.)

Figure D-4. Baseline road segments whose lengths or locations are modified or removed with the addition of the ZC Plant (this image is shown for historical/informational purposes).

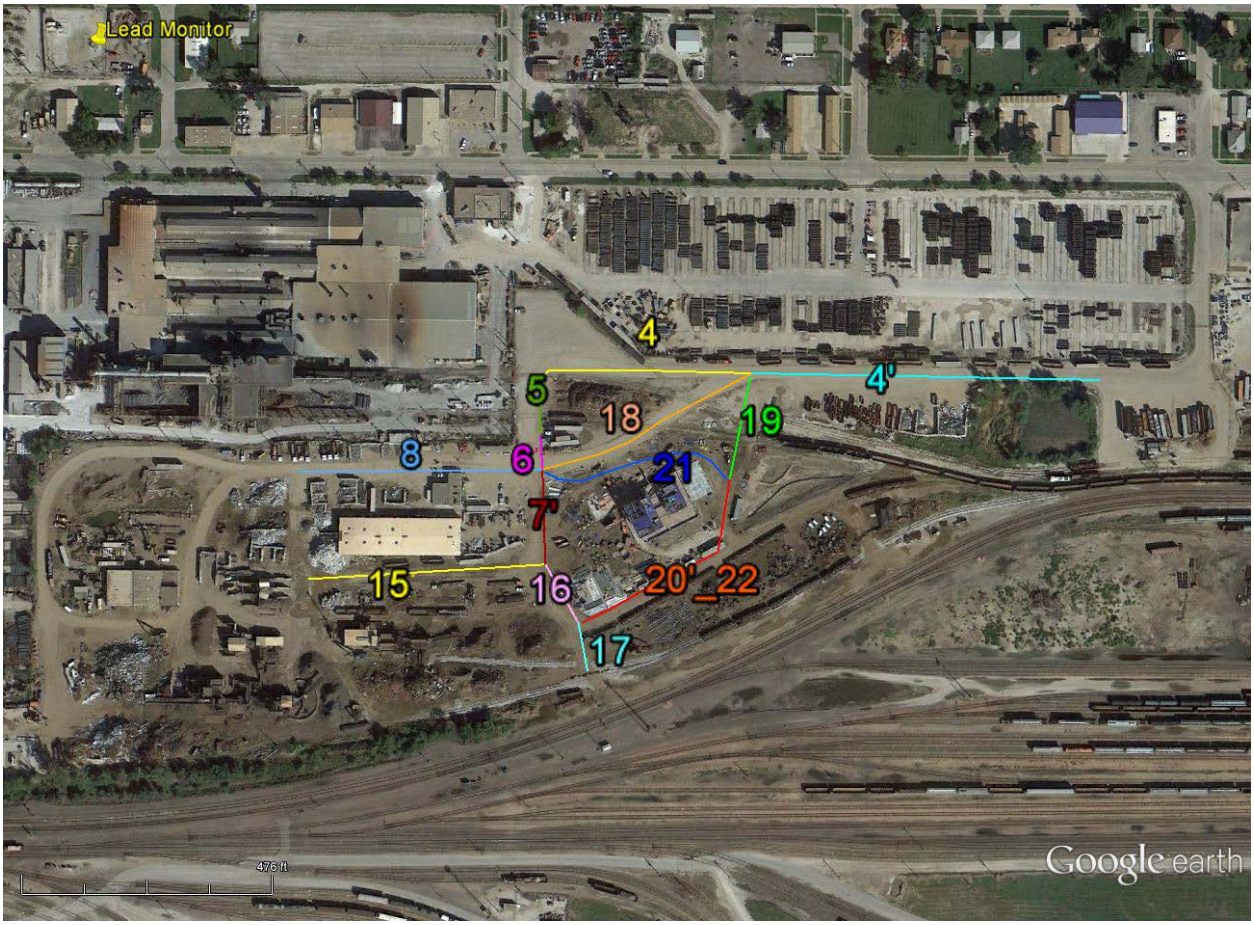

Figure D-5. Depiction of the modified and new road segments associated with the ZC Plant. (Google Earth's Imagery Date of 9/21/2013.)

Table D-1. Road segments and lengths at Alter Metal Recycling in the control strategy/attainment demonstration (the ZC Plant configuration) and a description of changes in the road segments between the original (baseyear) layout and the ZC Plant layout.

Segment ID	Length (m)	Notes black text =no changes blue text = modified segments; purple text = modified segments to be paved; green text = new segments due to ZC plant
1	100	Same layout as baseline
2	160	Same layout as baseline
3	61	Same layout as baseline
4'	203	ZC segments 4 and 4' (combined) are 10 m shorter than baseline segment 4
4	135	(because ZC segment 7' was shifted east about 10 m compared to baseline segment 7)
5	22	Same length as baseline, just shifted east 10 m compared to baseline segment 5
6	20	Same length as baseline, just shifted east 10 m compared to baseline segment 6
7'	55	Shifted east 10 m compared to baseline segment 7
8	143	Extended east 10 m to correspond w/ shift of segment 7'
9	32	Same layout as baseline
10	293	Same layout as baseline
11	88	Same layout as baseline
12	76	Same layout as baseline
13	92	Same layout as baseline
14	60	Same layout as baseline
15	138	Extended east 10 m to correspond w/ shift of Segment 7'
16	39	Shifted east and shortened to align with the intersection of new segment 20'_22
17	28	An extension of segment 16 to provide access to west end of ferrous yard[+]
18	134	New paved segment associated w/ ZC plant
19	60	New paved segment associated w/ ZC plant
21	115	New paved segment associated w/ ZC plant
20'_22	131	New paved segment associated w/ ZC plant
SUM	**2,185**	

[+]Otherwise not associated with baseline segments 17(u) (which is scheduled for elimination)

Table D-2. Route paths and total lengths used in the control strategy for Alter Metal Recycling. Routes generally reflect a round trip path through the facility and are defined by the segments traversed.

Route ID	Route Definition (By Segment ID)	Total Route Length (m)
1	1 – 3 – 4' – 18 – 8 – 9 – 10 – 11 – 11 – 12 – 9 – 8 – 18 – 4' – 3 – 1	1,891
2	1 – 3 – 4' – 18 – 8 – 9 – 12 – 13 – 14 – 8 – 18 – 4' – 3 – 1	1,542
3	1 – 2 – 4' – 18 – 7' – 16 – 17 – 17 – 16 – 7' – 18 – 4' – 2 – 1	1,438
4	1 – 3 – 4' – 18 – 8 – 14 – 15 – 16 – 17 – 17 – 16 – 15 – 14 – 8 – 18 – 4' – 3 – 1	1,812
5	13 – 14 – 8 – 7' – 16 – 20'_22 – 21 – 8 – 9 – 12	886
6	1 – 2 – 4' – 19 – 21 – 6 – 5 – 4 – 4' – 2 – 1	1,278
7	1 – 2 – 4' – 19 – 20'_22 – 16 – 7' – 18 – 4' – 2 – 1	1,345

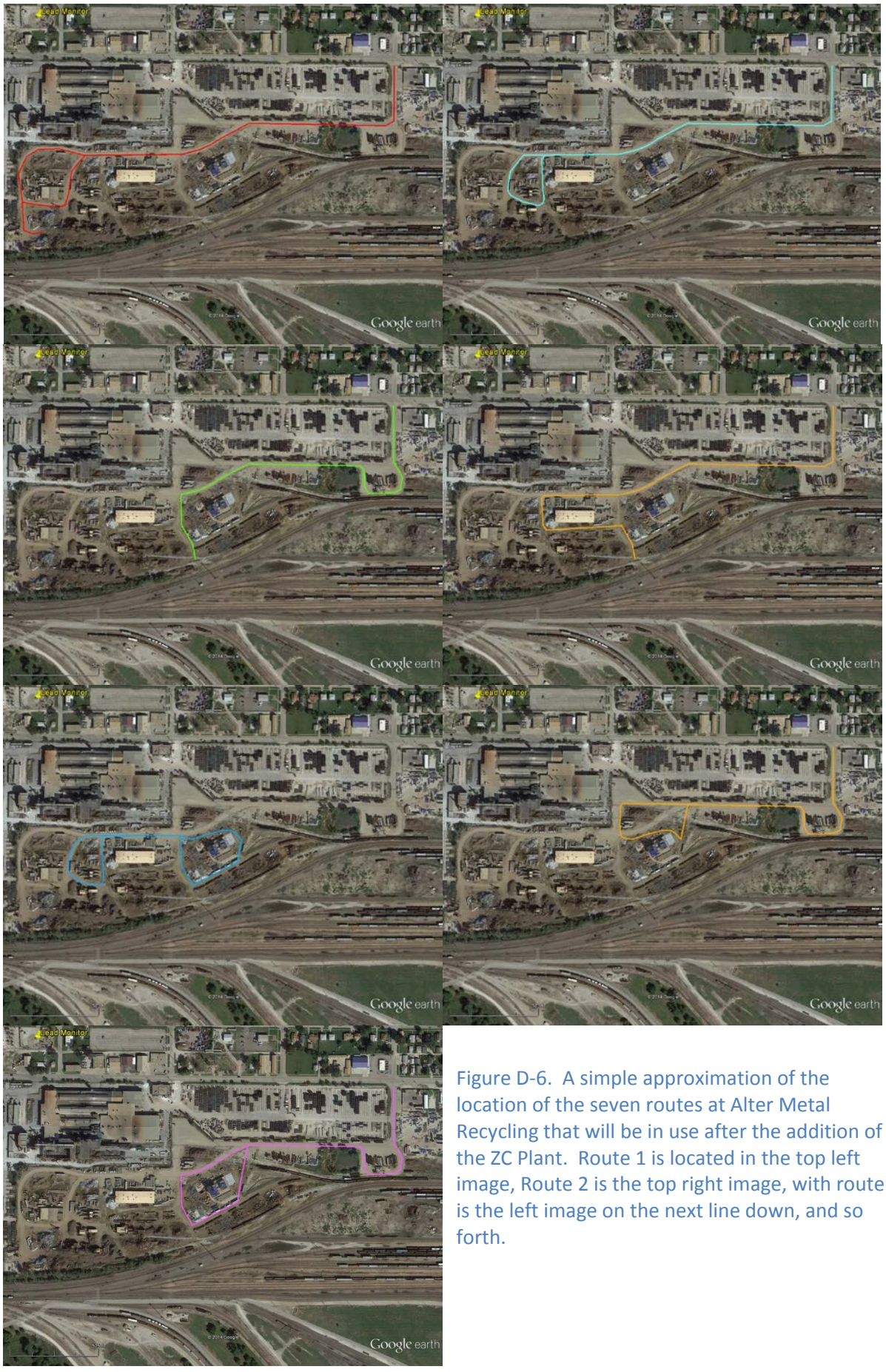

Figure D-6. A simple approximation of the location of the seven routes at Alter Metal Recycling that will be in use after the addition of the ZC Plant. Route 1 is located in the top left image, Route 2 is the top right image, with route 3 is the left image on the next line down, and so forth.

Appendix E. Proof of Publication

E-1. Alter Metal Recycling Draft Construction Permit

PROOF OF PUBLICATION

STATE OF IOWA
POTTAWATTAMIE COUNTY

I, Amy McKay, on my oath do solemnly swear that I am the Controller of the COUNCIL BLUFFS DAILY NONPAREIL, a newspaper issued DAILY and printed in said county, COUNCIL BLUFFS, IOWA.

The attached notice was published in said newspaper for 1 consecutive time(s) as follows:

The first publication thereof
began on the 20th day of July, 2014

Signed in my presence by the said Amy McKay and by her sworn to before me this 21st day of July, A.D. 2014.

Amy McKay
Daily Nonpareil Controller

RECEIVED
JUL 23 2014
IDNR AIR QUALITY

Jeannett Johnson
Notary Public

JEANNETTE JOHNSON
Commission Number 144856
MY COMMISSION EXPIRES
OCTOBER 1, 2014

Filed this 21st day of July, A.D. 2014.
Publication Cost: $ 35.03

Customer Number: 50002790
Order Number: 20365904

Public Notice
Iowa Department of Natural Resources

Notice is hereby given that the Iowa Department of Natural Resources (IDNR) has under review an Air Quality construction permit application request submitted by Alter Metal Recycling, located at 2603 9th Avenue, Council Bluffs, Iowa.

The request is to permit Alter Metal Recycling's haul roads establishing lead emission limitations in response to the nonattainment designation published in the Federal Register on November 22, 2011 (76 FR 72097). Lead emission limitations from the project will result in a 95% decrease in emissions from the haul roads. The IDNR intends to submit the proposed action for inclusion in the State Implementation Plan to address Clean Air Act requirements for nonattainment areas.

An electronic copy of all the materials the applicant has submitted, the proposed permit, the Fact Sheet (Technical Support Document), the application, and all other correspondence are available for public inspection on the Air Quality Bureau website at http://www.iowadnr.gov/InsideDNR/RegulatoryAir. In addition, all of these materials will be available at the following locations:

- EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219
- Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Road, Suite #1, Windsor Heights, Iowa 50324.
- Council Bluffs Public Library, 400 Willow Ave., Council Bluffs, IA 51503

The public comment period will be from July 22, 2014 to August 25, 2014. Requests for a public hearing must be received in writing by the Department by July 31, 2014.

Written and signed comments may also be directed to:

Shawn Corbin
Environmental Engineer
Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite 1
Windsor Heights, Iowa 50324
Or emailed to: shawn.corbin@dnr.iowa.gov

Any materials related to comments submitted by the public shall be included in full and not be incorporated by reference unless the material is already part of the administrative record or consists of State or Federal statutes and regulations, EPA documents of general applicability, or other available reference materials.

Upon a final decision on the project, all comments, Department responses, and the final documents will be available for public inspection at the Department address listed above and on the Air Quality Bureau website http://www.iowadnr.gov/InsideDNR/RegulatoryAir. In addition, all comments, Department responses and the final documents will be available at EPA Region VII, for thirty (30) days after the final decision.

2014(7)20-1 Sunday

E-2. Proof of Publication of the Public Notice in *The Daily Nonpareil*.

Will be added here in the final version of the document.