



REQUEST FOR BID  
Date: 7/29/09  
Bid 09-0456

RETURN BY OPENING TIME TO:  
Purchasing Division  
RM 100 City Hall  
411 West 1<sup>st</sup> Street  
Duluth, MN 55802

**Landfill Tipping Fees**

Buyer: Dennis Sears  
Phone: 218-730-5003  
Fax: 218-730-5922

**BID OPENING, RM 100 AT 2:00 PM ON, Tuesday, August 18, 2009**

Note: All bids must be written, signed, and transmitted in a sealed envelope, plainly marked with the bid number, subject matter, and opening date. The City of Duluth reserves the right to split award where there is substantial savings to the city, waive informalities and to reject any and all bids. Bidder should state in proposal if bid is based on acceptance of total order. Sales tax is not to be included in the unit price. Bidder to state freight charges if, proposal is F.O.B. shipping point, freight not allowed. Low bid will not be the only consideration for award of bid. All pages must be signed or initialed by authorized bidder's representative as indicated at the bottom of the page(s) of the request for bid forms.

RETURN BID IN DUPLICATE WITH DUPLICATE DESCRIPTIVE LITERATURE  
FOR BID RESULTS, ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE WITH BID

City bid information on website: [www.duluthmn.gov/purchasing/bid information.cfm](http://www.duluthmn.gov/purchasing/bid%20information.cfm)

Designated F.O.B. Point

Tax: Federal Excise Tax Exemption  
Account No. 41-74-0056 K

Item No.	Qty	U/OM	Description	Unit Price	Total Price
01	2500	Ton	Tipping fees for an estimated 2500 tons of Boiler Ash. Analysis attch. Cost of hauling will be used to determine overall cost to the City. (2 additional 1 yr. renewal options)		

Vendor E-mail Address \_\_\_\_\_ Freight Charges N/A

Name \_\_\_\_\_  
Addr \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Total Bid Price \_\_\_\_\_  
(To include any additional pages)

Payment Terms \_\_\_\_\_

By: \_\_\_\_\_

F.O.B. Point N/A

(print title)

Delivery Date N/A

(signature) (tele#)

**MATERIAL SAFETY DATA SHEET**  
**Duluth Steam Cooperative – Fly Ash**

**SECTION I – IDENTIFICATION**

<b>Manufacturer's Name:</b> Duluth Steam Cooperative One Lake Place Drive Duluth, Minnesota 55802	<b>Emergency Telephone Number:</b> 800/228-5635 – 24 hour HHS  <b>Information Telephone Number:</b> 218/723-3601
<b>Trade Name:</b> Fly Ash – Duluth Steam Boilers <b>Product Type:</b> Fly Ash	
<b>Date Prepared:</b> 4/16/2001	<b>Revision:</b> Original

**SECTION II – HAZARDOUS INGREDIENTS INFORMATION**

Chemical Name	CAS Number	OSHA PEL (mg/m <sup>3</sup> )	ACGIH TLV (mg/m <sup>3</sup> )	Notes	Percent By Weight
Silicon	7440-21-3	15	10	Total Dust	20.4
		5	NA	Respirable Dust	
Calcium	7440-70-2	5	2	(CaO)	15.8
Aluminum	7429-90-5*	15	10	Total Dust	10.3
Crystalline Silica (Quartz)	14808-80-7	0.5	NA	Total Dust	5.8
Iron	1309-37-1	10	5	Fume	4.2
Magnesium	7439-95-4	10	10	MgO Fume	3.3
Amorphous Silica	7631-31-5	15	10	Total Dust	<1.0
Titanium	7440-32-6	10	10	TiO <sub>2</sub>	0.84
Barium	7440-39-3*	0.5	0.5		0.63
Strontium	7440-24-6	NA	NA		0.33
Sulfuric Acid	7664-93-9*	1	1	H <sub>2</sub> SO <sub>4</sub>	<0.02
Manganese, Sulfur					<0.01

Items marked \* are subject to the reporting requirements of SARA Title III, Section 313.

**SECTION III – PHYSICAL DATA**

Boiling Point: NA	Specific Gravity: NA
Vapor Pressure (mm Hg): NA	pH: 12.0
Vapor Density (Air = 1): NA	Melting Point: NA
Solubility in Water: NA	Appearance and Odor: Brownish gray powder
Evaporation Rate (Water = 1): NA	

**SECTION IV – FIRE AND EXPLOSION DATA**

Flash Point (Test Method): NA  
 Flammable Limits: Upper: NA Lower: NA  
 Extinguishing Media: No Special Media Required  
 Special Fire Fighting Procedures: None

**SECTION V – REACTIVITY DATA**

Stability	Stable: X Unstable:	Conditions to Avoid: None Known
Incompatibility	Materials to Avoid: None Known	
Hazardous Polymerization	May Occur: Will Not Occur: X	Conditions to Avoid: None Known

**Hazardous Decomposition Products:** The employer is required by OSHA to limit the worker's level of exposure to chemicals for which OSHA has established a PEL in 29 CFR 1910 Subpart Z. The only way to determine a worker's exposure to fly ash products is by sampling and analysis using acceptable test methods. The composition and quantity of the metals and particulates to which a worker is exposed can be established from air sample(s) collected from inside the worker's breathing zone.

## SECTION VI – HEALTH HAZARD DATA

Route(s) of Entry: Inhalation: Yes Skin/Eye Contact: Yes Skin Absorption: Unlikely Ingestion: Unlikely

Health Hazards (Acute and Chronic):

Acute (Short-Term Effects): Eye, skin, and respiratory tract irritation from over-exposure.

Chronic (Long-Term Effects): Pneumoconiosis, toxic effects of metals possible from prolonged or repeated over-exposure.

Carcinogenicity: NTP: Yes\* IARC: Yes\* OSHA Regulated: No\* Cal. Prop. 65: Yes\*

\*Crystalline silica (quartz) is listed in the NTP Sixth Annual Report on Carcinogens and in the IARC Monographs, Volume 42. OSHA does not regulate crystalline silica (quartz) as a carcinogen.

Signs and Symptoms of Exposure: Skin, eye, and respiratory tract irritation.

Medical Conditions Generally Aggravated By Exposure: None

Emergency and First Aid Procedures: Remove victim from exposure area and call for medical aid.

Eyes: Flush eyes with cool water for 15 minutes. Seek medical attention

Skin: Wash affected area with water. If redness or irritation develops, seek medical attention.

Inhalation: Exit to fresh air. If irritation develops, seek medical attention.

## SECTION VII – SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved half-face or full face-piece air-purifying respirator equipped with P100 (HEPA) filters, if dust exposure is likely.

Ventilation: Local exhaust is recommended for open conveying systems to keep dust levels below PEL. Mechanical ventilation is recommended for confined areas to keep dust levels below PEL.

Skin Protection: None normal required. May be needed when excessive skin contact is likely, cotton or leather gloves are appropriate.

Eye Protection: Safety glasses with side shields. Goggles are recommended in dusty areas.

Other Protective Clothing: None normally required. May be needed when excessive skin contact is likely.

Work/Hygiene Practices: Follow good personal hygiene practices.

## SECTION VIII – SPILL OR LEAK PROCEDURES

Spill Response: Fresh ash may be hot. Avoid stepping into areas of fresh ash spillage. Handle ash spillage to avoid creating airborne dust. Wet methods or vacuuming are recommended to clean up spills.

Waste Disposal Method: Handle as an inert bulk material. Material may be disposed of in landfill disposal site in accordance with local, state and federal regulations.

Other Precautions: Material transport over the roadway shall be performed by properly permitted vehicles. Trucks and rail cars shall be properly covered to prevent spillage or creating dust during transport.

Environmental Hazards: In solid form this material poses no special environmental hazards. Metal powders or dust may have significant impact on air and water quality. Airborne emissions, spills and/or releases to the environment (discharge to streams, sewer systems, ground water, surface soil, etc.) should be controlled immediately.

## SECTION IX – CALIFORNIA PROPOSITION 65

California Proposition 65: Warning: This product contains or produces chemicals known to the State of California to cause cancer. [California Health and Safety Code 25249.5 ET SEQ.]

Prepared By: Linda K. Thiry, Chemist

### Disclaimer of Liability:

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for the use of the material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

# Arrowhead Consulting & Testing, Inc.

5606 Miller Trunk Highway • Duluth, Minnesota 55811 • Phone: 218/729-0987 • Fax: 218/729-

March 19, 2009

Mr. Jerry Pelofske  
Duluth Steam  
One Lake Place  
Duluth, Minnesota 55802

**Re: Solid Waste**  
**TCLP 8 RCRA Metal Analysis**  
**Project # 4237-09**

## INTRODUCTION

Arrowhead Consulting and Testing, Inc., received two samples of solid waste materials from Duluth Steam on March 2, 2009. The samples were sent to a laboratory for Toxicity Characteristic Leachate Procedure (TCLP) RCRA metals analysis to identify if the materials were hazardous wastes.

## METHOD OF ANALYSIS

**Table 1. Method of Analysis**

Parameter	Analytical Method
RCRA Metals	EPA 6010B
Preparation Method	EPA 1311, 3010A (TCLP Metals)

## SUMMATION OF RESULTS

Table 2 identifies the solid waste material and summarizes the results of the analysis.

**Table 2. Summary of Analytical Results**

Sample Identification - Bottom Ash				
<u>Parameter</u>	<u>Results:</u>	<u>Units:</u>	<u>Maximum Allowable:</u>	<u>Reporting Limit (RL)</u>
Lead	<RL	ppm	5.0 ppm	0.40 ppm
Chromium	<RL	ppm	5.0 ppm	0.10 ppm
Cadmium	<RL	ppm	1.0 ppm	0.060 ppm
Arsenic	<RL	ppm	5.0 ppm	0.40 ppm
Selenium	<RL	ppm	5.0 ppm	0.40 ppm
Silver	<RL	ppm	5.0 ppm	0.10 ppm
Barium	<RL	ppm	100 ppm	1.0 ppm
Mercury	<RL	ppm	0.20 ppm	0.0050 ppm

**CORROSION CONTROL CONSULTANTS & LABS, INC. a GPI company**

**ANALYTICAL LABORATORY REPORT**

Monday, March 9, 2009

Page 1 of 2

**CUSTOMER:** Arrowhead Consulting & Testing  
5606 Miller Trunk Hwy  
Duluth, MN 55811

**DATE RECEIVED:** Thursday, March 5, 2009  
**PO/PROJECT #:**  
**SUBMITTAL #:** 2009-03-05-015

**LAB NUMBER:** AA51281

**Sampled By:** Linda K. Thiry  
**Job Location:** Duluth Steam  
**Sample Identification:** 1- Bottom Ash

**Date Sampled:** Monday, March 2, 2009  
**Sample Description:** Dust Wipe

**Preparation Method:** EPA 1311, 3010A (TCLP for Metals)  
**Analysis Method:** EPA 6010B (ICP-AES Method for Determination of Metals)  
**Date Analyzed:** Friday, March 6, 2009

<u>ELEMENT</u>	<u>RESULT</u>	<u>MAXIMUM ALLOWABLE</u>	<u>REPORTING LIMIT (RL)</u>
Arsenic	< RL	5.0 ppm	0.40 ppm
Barium	< RL	100 ppm	1.0 ppm
Cadmium	< RL	1.0 ppm	0.060 ppm
Chromium	< RL	5.0 ppm	0.10 ppm
Lead	< RL	5.0 ppm	0.40 ppm
Selenium	< RL	5.0 ppm	0.40 ppm
Silver	< RL	5.0 ppm	0.10 ppm

**Preparation Method:** EPA 1311, 3010A (TCLP for Metals)  
**Analysis Method:** EPA 7470A (Mercury in Liquid Waste -- Manual Cold-Vapor Technique)  
**Date Analyzed:** Friday, March 6, 2009

<u>ELEMENT</u>	<u>RESULT</u>	<u>MAXIMUM ALLOWABLE</u>	<u>REPORTING LIMIT (RL)</u>
Mercury	< RL	0.20 ppm	0.0050 ppm

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Individual sample results relate only to the sample as received by the laboratory.

**CORROSION CONTROL CONSULTANTS & LABS, INC. a GPI company**

**ANALYTICAL LABORATORY REPORT**

Monday, March 9, 2009

Page 2 of 2

**CUSTOMER:** Arrowhead Consulting & Testing  
5606 Miller Trunk Hwy  
Duluth, MN 55811

**DATE RECEIVED:** Thursday, March 5, 2009  
**PO/PROJECT #:**  
**SUBMITAL #:** 2009-03-05-015

**LAB NUMBER:** AA51282

Sampled By: Linda K. Thiry  
Job Location: Duluth Steam  
Sample Identification: 2- Baghouse Soot

Date Sampled: Monday, March 2, 2009  
Sample Description: Dust Wipe

Preparation Method: EPA 1311, 3010A (TCLP for Metals)  
Analysis Method: EPA 6010B (ICP-AES Method for Determination of Metals)  
Date Analyzed: Friday, March 6, 2009

ELEMENT	RESULT	MAXIMUM ALLOWABLE	REPORTING LIMIT (RL)
Arsenic	< RL	5.0 ppm	0.40 ppm
Barium	< RL	100 ppm	1.0 ppm
Cadmium	< RL	1.0 ppm	0.060 ppm
Chromium	< RL	5.0 ppm	0.10 ppm
Lead	< RL	5.0 ppm	0.40 ppm
Selenium	0.44 ppm	5.0 ppm	0.40 ppm
Silver	< RL	5.0 ppm	0.10 ppm

Preparation Method: EPA 1311, 3010A (TCLP for Metals)  
Analysis Method: EPA 7470A (Mercury in Liquid Waste – Manual Cold-Vapor Technique)  
Date Analyzed: Friday, March 6, 2009

ELEMENT	RESULT	MAXIMUM ALLOWABLE	REPORTING LIMIT (RL)
Mercury	< RL	0.20 ppm	0.0050 ppm

Unless otherwise noted, the condition of each sample was acceptable upon receipt, all laboratory quality control requirements were met, and sample results have not been adjusted based on field blank or other analytical blank results.

Tests Reviewed By: Michael J. Swiech, QA/QC Manager *Michael J. Swiech*  
Corrosion Control Consultants & Labs, Inc. is AIHA accredited in the Environmental Lead Program for paint, soil, dust wipes, and air; and in the Industrial Hygiene Program for metals in air.

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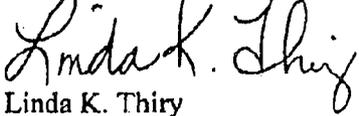
<b>Sample Identification - Baghouse Soot</b>				
<b><u>Parameter</u></b>	<b><u>Results:</u></b>	<b><u>Units:</u></b>	<b><u>Maximum Allowable:</u></b>	<b><u>Reporting Limit (RL)</u></b>
Lead	<RL	ppm	5.0 ppm	0.40 ppm
Chromium	<RL	ppm	5.0 ppm	0.10 ppm
Cadmium	<RL	ppm	1.0 ppm	0.060 ppm
Arsenic	<RL	ppm	5.0 ppm	0.40 ppm
Selenium	0.44	ppm	5.0 ppm	0.40 ppm
Silver	<RL	ppm	5.0 ppm	0.10 ppm
Barium	<RL	ppm	100 ppm	1.0 ppm
Mercury	<RL	ppm	0.20 ppm	0.0050 ppm

All samples were below the hazardous waste limits. These limits are outlined in Table 2 under the "Maximum Allowable" limits column.

Thank you for the opportunity to assist you on this project. If you have any questions or comments regarding this report, please call me at (218) 729-0987.

Sincerely,

**Arrowhead Consulting & Testing, Inc.**



Linda K. Thiry

President/Industrial Hygienist

