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

RETURN BY OPENING TIME TO:
Purchasing Division
RM 100 City Hall
411 West 1st 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

Designated F.O.B. Point
Tax: Federal Excise Tax Exemption
Account No. 41-74-0056 K

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

Vendor E-mail Address ________________________________ Freight Charges N/A

Name ________________________________
Addr ________________________________
______________

By: ________________________________
(print title)
(signature) (tele#)

Total Bid Price ________ (To include any additional pages)
Payment Terms __________
F.O.B. Point N/A
Delivery Date N/A

An Equal Opportunity Employer
MATERIAL SAFETY DATA SHEET
Duluth Steam Cooperative – Fly Ash

SECTION I – IDENTIFICATION:
Manufacturer’s Name:
Duluth Steam Cooperative
One Lake Place Drive
Duluth, Minnesota 55802

Emergency Telephone Number: 800/228-5635 – 24 hour HHS
Information Telephone Number: 218/723-3601

Trade Name: Fly Ash – Duluth Steam Boilers
Product Type: Fly Ash

Date Prepared: 4/16/2001
Revision: Original

SECTION II – HAZARDOUS INGREDIENTS INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>OSHA PEL (mg/m³)</th>
<th>ACGIH TLV (mg/m³)</th>
<th>Notes</th>
<th>Percent By Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon</td>
<td>7440-21-3</td>
<td>15</td>
<td>10</td>
<td>Total Dust</td>
<td>20.4</td>
</tr>
<tr>
<td>Calcium</td>
<td>7440-70-2</td>
<td>5</td>
<td>2</td>
<td>Respirable Dust</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5*</td>
<td>15</td>
<td>10</td>
<td>(CaO)</td>
<td>15.8</td>
</tr>
<tr>
<td>Crystalline Silica</td>
<td>14808-80-7</td>
<td>0.5</td>
<td>NA</td>
<td>Total Dust</td>
<td>10.3</td>
</tr>
<tr>
<td>(Quartz)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td>1309-37-1</td>
<td>10</td>
<td>5</td>
<td>Fume</td>
<td>5.8</td>
</tr>
<tr>
<td>Magnesium</td>
<td>7439-95-4</td>
<td>10</td>
<td>10</td>
<td>MgO Fume</td>
<td>4.2</td>
</tr>
<tr>
<td>Amorphous Silica</td>
<td>7631-31-5</td>
<td>15</td>
<td>10</td>
<td>Total Dust</td>
<td></td>
</tr>
<tr>
<td>Titanium</td>
<td>7440-32-6</td>
<td>10</td>
<td>10</td>
<td>&lt;1.0</td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td>7440-39-3*</td>
<td>0.5</td>
<td>0.5</td>
<td>TiO₂</td>
<td>0.84</td>
</tr>
<tr>
<td>Strontium</td>
<td>7440-24-6</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>0.63</td>
</tr>
<tr>
<td>Sulfuric Acid</td>
<td>7664-93-9*</td>
<td>1</td>
<td>1</td>
<td>H₂SO₄</td>
<td>0.33</td>
</tr>
<tr>
<td>Manganese, Sulfur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

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

SECTION III – PHYSICAL DATA
Boiling Point: NA
Vapor Pressure (mm Hg): NA
Vapor Density (Air = 1): NA
Solubility in Water: NA
Evaporation Rate (Water = 1): NA

Specific Gravity: NA
pH: 12.0
Melting Point: NA
Appearance and Odor: Brownish gray powder

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: NA
Incompatibility: Materials to Avoid: None Known
Hazardous: May Occur: X
Polymerization: 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.
March 19, 2009

Mr. Jerry Pelofskie
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>
<thead>
<tr>
<th>Parameter</th>
<th>Analytical Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCRA Metals</td>
<td>EPA 6010B</td>
</tr>
<tr>
<td>Preparation Method</td>
<td>EPA 1311, 3010A (TCLP Metals)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Sample Identification – Bottom Ash</th>
<th>Lead</th>
<th>Chromium</th>
<th>Cadmium</th>
<th>Arsenic</th>
<th>Selenium</th>
<th>Silver</th>
<th>Barium</th>
<th>Mercury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
</tr>
<tr>
<td>Results</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
<td>ppm</td>
</tr>
<tr>
<td>Maximum Allowable</td>
<td>5.0</td>
<td>5.0</td>
<td>1.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>100</td>
<td>0.20</td>
</tr>
<tr>
<td>Reporting Limit (RL)</td>
<td>0.40</td>
<td>0.10</td>
<td>0.060</td>
<td>0.40</td>
<td>0.40</td>
<td>0.10</td>
<td>1.0</td>
<td>0.0050</td>
</tr>
</tbody>
</table>
## ANALYTICAL LABORATORY REPORT

**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  
**Sample By:** Linda K. Thy  
**Job Location:** Duluth Steam  
**Sample Identification:** I. 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

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>RESULT</th>
<th>MAXIMUM ALLOWABLE</th>
<th>REPORTING LIMIT (RL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Barium</td>
<td>&lt; RL</td>
<td>100 ppm</td>
<td>1.0 ppm</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt; RL</td>
<td>1.0 ppm</td>
<td>0.060 ppm</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.10 ppm</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Selenium</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.10 ppm</td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>RESULT</th>
<th>MAXIMUM ALLOWABLE</th>
<th>REPORTING LIMIT (RL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>&lt; RL</td>
<td>0.20 ppm</td>
<td>0.0030 ppm</td>
</tr>
</tbody>
</table>

---

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

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

**ANALYTICAL LABORATORY REPORT**

**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:** AAS1282

**Sampled By:** Linda K. Thiry  
**Job Location:** Duluth Steam  
**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

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>RESULT</th>
<th>MAXIMUM ALLOWABLE</th>
<th>REPORTING LIMIT (RL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Barium</td>
<td>&lt; RL</td>
<td>100 ppm</td>
<td>1.0 ppm</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt; RL</td>
<td>1.0 ppm</td>
<td>0.060 ppm</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.10 ppm</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.44 ppm</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt; RL</td>
<td>5.0 ppm</td>
<td>0.10 ppm</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>RESULT</th>
<th>MAXIMUM ALLOWABLE</th>
<th>REPORTING LIMIT (RL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>&lt; RL</td>
<td>0.20 ppm</td>
<td>0.003 ppm</td>
</tr>
</tbody>
</table>

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.

**Test Reviewed By:** Michael J. Switech, QA/QC Manager

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

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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Results</th>
<th>Units</th>
<th>Maximum Allowable</th>
<th>Reporting Limit (RL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>5.0 ppm</td>
<td>0.10 ppm</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>1.0 ppm</td>
<td>0.060 ppm</td>
</tr>
<tr>
<td>Arsenic</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.44</td>
<td>ppm</td>
<td>5.0 ppm</td>
<td>0.40 ppm</td>
</tr>
<tr>
<td>Silver</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>5.0 ppm</td>
<td>0.10 ppm</td>
</tr>
<tr>
<td>Barium</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>100 ppm</td>
<td>1.0 ppm</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;RL</td>
<td>ppm</td>
<td>0.20 ppm</td>
<td>0.0050 ppm</td>
</tr>
</tbody>
</table>

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
**CHAIN OF CUSTODY FORM**

**Company:** Arrowhead Consulting Tech

**Address:** Sue Miller Trunkley

**City/State:** Duluth, MN 55811

**Company Contact:** Linda Thrity

**Telephone:** 218-729-0987

**Job Location:** Duluth Steam

**MATRIX**

<table>
<thead>
<tr>
<th>Matrix</th>
<th>Tonnage</th>
<th>Total Metals</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEM</td>
<td></td>
<td>Lead, Other TCLP Metals</td>
</tr>
<tr>
<td>FAME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X Other ASH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sample Information**

<table>
<thead>
<tr>
<th>ECCA Lab No.</th>
<th>Sample Name</th>
<th>Date Taken</th>
<th>Sample Identification/Location</th>
<th>Comm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA9261</td>
<td>Bottom Ash</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AA51242</td>
<td>Baghouse Swat</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Received for Lab by:** Jason Kraai

**Date/Time:** 3/1/09

**Signatures:**

- Linda K. Thrity: 3/2/09
- [Signature]

**Comments:**

- [Signature] 2/19/09
- [Signature] 3/9/09

**Fax:**

- Fax Number: 616-940-8139

**Company:** Corrosion Control Consultants & Labs

**Address:** 4403 Donker Ct Kentwood MI 49512-4054

**Phone:** 616-940-3112

**Fax:** 616-940-8139

**Website:** www.ccclabs.com