

State of Oregon
Department of Environmental Quality

Memorandum

Date: 6/2/2023

To: File/Julia DeGagné
From: Thomas Rhodes

Subject: Source Test Review Report
Eagle Foundry Company
Permit Number: 03-2631-ST-01

Test Date: April 18, 2023
Report Received: May 15, 2023
Source Testers: Bison Engineering, Inc.
DEQ Observed: Yes

I) Source Description: White iron, manganese and low alloy steel casting facility.

II) Process (es)/Emissions Unit(s) Tested: Grinding area (GRIND) and torch cut-off area (AIRARC).

III) Test Purpose: To demonstrate that improvements made to the grinding (GRIND) and torch cut-off (AIR ARC) areas meet the requirements for a Permanent Total Enclosure (PTE) so that they can be assumed to have 100 percent capture efficiency.

IV) Testing Location(s):

GRIND Area

Pressure Differential Measurements Locations
1 – NE Loading Door
2 – North Man Door
3 – NW Loading Door
4 – West Loading Door
5 – South Man Door
6 – Casting Loading Opening
7 – SE Loading Door

AIR ARC Area

Pressure Differential Measurements Locations
1 – South Loading Door
2 – North Loading Door

V) Testing Methodology: The following testing methods were utilized during the testing program:

Permanent Total Enclosure Verification: EPA Method 204

VI) Summary of Results: The testing parameters, test results and operating parameters are summarized in the Tables below:

Table 1: GRIND Area
Table 2: AIR ARC Area

TABLE 1: GRIND Area

Method Section Requirement	Results	Pass/Fail
5.1 Any NDO shall be at least four equivalent opening diameters from each emitting point	> 4	Pass
5.3 Total area of all NDO's shall not exceed 5 percent of the surface area of the enclosure's four walls, floor and ceiling	0.2%	Pass
5.4 The facial velocity shall be at least 200 fpm (0.007 "H ₂ O). The direction of air flow through all NDO's shall be into the enclosure	0.0024 – 0.0509 Inward	Fail Pass
5.5 All access doors and windows not included in section 5.3 and 5.4 shall be closed during routine operation	Closed	Pass

TABLE 2: AIR ARC Area

Method Section Requirement	Results	Pass/Fail
5.1 Any NDO shall be at least four equivalent opening diameters from each emitting point	> 4	Pass
5.3 Total area of all NDO's shall not exceed 5 percent of the surface area of the enclosure's four walls, floor and ceiling	0.1%	Pass
5.4 The facial velocity shall be at least 200 fpm (0.007 "H ₂ O). The direction of air flow through all NDO's shall be into the enclosure	0.0012 – 0.0172 Inward	Fail Pass
5.5 All access doors and windows not included in section 5.3 and 5.4 shall be closed during routine operation	Closed	Pass

VII) Comments & Concerns:

1. Many of the pressure drop reading for both areas were well below 0.007 "H₂O.
2. DEQ observed the freezer strips on the South loading door of the AIR ARC enclosure billowing outward from the enclosure during wind gusts. This indicates that there are periods when the air flows out of the enclosure.
3. DEQ understands that since this test, improvements have been made to both enclosure areas and that the AIR ARC enclosure will be reevaluated as a Permanent Total Enclosure (PTE) on June 1, 2023.

VIII) Overall Evaluation: The test method conducted, and the data provided **are not** sufficient to determine that the grinding and torch cut-off areas meet the criteria for Permanent Total Enclosure and **cannot** be assumed to have 100% capture efficiency at the operating condition tested.

cc: Jack Scott
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