SEMI-ANNUAL REPORT CERTIFICATION

Facility Owner/Company Name: Heraeus Precious Metals North America, LLC

Facility Address: 1975 Knoxville Highway, Wartburg, TN

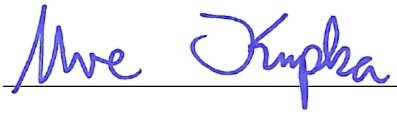
Emission Source Reference Number: 65-0049

Title V Permit Number	Reporting Period	Report Deadline
579181 Issued: 12/21/2022	April 1, 2023 through September 30, 2023	November 29, 2023

This report is required pursuant to TNAPCR 1200-03-09-.02(11)(e)1.(iii).

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am the responsible official as defined in TAPCR 1200-3-9-.02 (11)(b)21. of the Title V source for which this document is being submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

Signature:  .

Name: Uve Kupka.

Title: President, HPM Americas.

Date: 11/16/2023.

Emission Source Reference No. 65-0049

Section I

Monitoring and Recordkeeping required by Permit Conditions *(including identification of all instances of deviations and identification of excursions and/or exceedances among the deviations)*:

I. E3-2
II. E3-6
III. E4-3
IV. E4-4
V. E4-4(b)(1)
VI. E4-4(c)(1)
VII. E4-5 & E4-8
VIII. E4-6
IX. E4-7
X. E4-9
XI. E5-1
XII. E5-2
XIII. E7-2
XIV. E7-3
XV. E7-4
XVI. E7-5
XVII. E7-5(c)(2)
XVIII. E7-6
XIX. E7-7
XX. E8-1
XXI. E8-2
XXII. E8-3
XXIII. E8-5
XXIV. E8-6
XXV. E8-7
XXVI. E8-8
XXVII. E8-9
XXVIII. E9-2
XXIX. E9-3
XXX. E9-4
XXXI. E9-5
XXXII. E9-6
XXXIII. E9-7
XXXIV. E9-10

XXXV. E9-11
XXXVI. E13-2
XXXVII. E13-3
XXXVIII. E13-4
XXXIX. E13-5
XL. E13-6
XLI. E13-7

I. **Permit Condition: E3-2:** The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996, as amended September 11, 2013.

Visible Emissions Evaluations (VEEs) were conducted in accordance with the opacity matrix. The table below summarizes the results.

Emission Source	Latest VEE Requirement	Date	Highest 6-Minute Average
Source 01	Within one year prior to Title V permit expiration	11/23/2021	0.83%
Source 04	Within one year prior to Title V permit expiration	11/23/2021	0 %
Source 06	Removed from service and permit	--	--
Source 09	<10 tpy each emission – Not required	--	--
Source 11	No. 2 fuel burning source – Not required	--	--
Source 12	Within one year prior to Title V permit expiration	12/14/2021	0%
Source 13	Each allowable emission >10 TPY is from a colorless pollutant (VOC) – not required	--	--

There were no discrepancies or deviations during this reporting period.

II. **Permit Condition: E3-6:** The total emissions of all HAPS shall be recorded in a log for all consecutive 12-month periods.

The HAPs log is included in Appendix A.

There were no discrepancies or deviations during this reporting period.

III. **Permit Condition: E4-3:** The total raw material input to this source (01) shall not exceed 18,395 tons during any period of twelve (12) consecutive months. Material input is summarized in the table below.

Month	Material Input (lbs)	Material Input (Tons per rolling 12 months)
4/2023	165,361	619
5/2023	149,987	647
6/2023	177,003	693
7/2023	139,656	712
8/2023	132,639	724
9/2023	128,326	777

There were no discrepancies or deviations during this reporting period.

IV. **Permit Condition: E4-4:** Recordkeeping of surrogate monitoring and the use of pollution control equipment (quench tank, packed column, thermal oxidizer, packed tower scrubber and baghouse) is required to assure compliance with the particulate emission limit of 6.5 lb/hr. All required records are maintained on site in suitable permanent form and are available for inspection by the TNAPC.

Source 01 Cooling Chamber and Reburn Furnace Baghouse (Permit Limit: 0.5" of H2O)

Time Period	Minimum Pressure Drop	Comments
4/2023	0.6" (4/2/23)	None
5/2023	0.4" (5/15/23)	See Deviation 1 below
6/2023	0.7" (6/14/23)	None
7/2023	0.7" (7/4/23)	None
8/2023	1.7" (8/14/23)	None
9/2023	0.6" (9/10/23)	None

Deviations during this report period are recorded below.

Deviation Number	Deviation Date	Deviation Description	Duration of Deviation	Comments
1	5/15/23-5/16/23	Low pressure drop reading logged	2 days	Maintenance was notified and pressure reading immediately went back up to 0.5". No excess emissions occurred during the deviation.

EXPLANATION OR PROBABLE CAUSE FOR DEVIATION:

1. *There was no known cause for the low pressure drop readings measured.*

CORRECTIVE ACTIONS OR PREVENTATIVE MEASURES IMPLEMENTED:

1. *Maintenance contacted and increased set point to 0.7" to avoid low pressure drops.*

IDENTIFICATION OF EXCURSIONS AND/OR EXCEEDANCES AMONG THE DEVIATIONS:

1. *This is an excursion from the permit limit, but no exceedances are expected to have occurred.*

V. Permit Condition: E4-4(b)(1):

The continuous monitoring equipment shall monitor the following operating parameters: scrubber liquor flow rate, in gallons per minute; and scrubber liquor pH, in standard pH units (pH ≥ 8.5, and flow ≥ 100 gpm). Deviations during this report period are recorded below.

Source 01 Scrubber Summary

Time Period (mo/yr)	Minimum pH	Minimum Flow (gpm)	Comments
4/2023	8.3 (4/3/23 9am)	236 (4/5/23)	4/3 – Low pH; See Deviation 1 below.
5/2023	7.3 (5/30/23 1pm)	326.2 (5/11/23)	5/30 – Low pH; See Deviation 2 below.
6/2023	8.2 (6/22/23 11am)	330.6 (6/12/23)	6/22 – Low pH; lowest 3hr average of 8.5 from 9 – 11am. No deviation occurred.
7/2023	8.0 (7/5/23 2am)	273.3 (7/27/23)	7/5 – Low pH; See Deviation 3 below. 7/30 – Paddle wheel damaged. See Deviation 4 below.
8/2023	8.0 (8/5/23 12pm)	326.1 (8/16/23)	8/5 – Low pH; See Deviation 5 below.
9/2023	7.1 (9/11/23 11am) 4.1 (9/25/23 1pm)	308.6 (9/24/23)	9/11 – Low pH; See Deviation 6 below. 9/25 – Low pH; See Deviation 7 below.

Deviations during this report period are recorded below.

Deviation Number	Deviation Date	Deviation Description	Duration of Deviation (hrs)	Comments
1	4/3	Low scrubber pH	3 hours	No excess emissions occurred during the deviation. 3-Hour Average: 9-11a: 8.4 10-12p: 8.5 11a-1p: 8.4
2	5/30	Low scrubber pH	3 hours	No excess emissions occurred during the deviation. 3-Hour Average: 10a-12p: 8.4 11a-1p: 7.9 12-2p: 8.0 1-3p: 8.3
3	7/5	Low scrubber pH	2 hours	No excess emissions occurred during the deviation. 3-Hour Average: 12-2a: 8.0 1-3a: 8.1 2-4a: 8.4
4	7/30	Non-continuous flow monitoring	18 hours	No excess emissions occurred during the deviation.
5	8/5	Low scrubber pH	2 hours	No excess emissions occurred during the deviation. 3-Hour Average: 10a-12p: 8.4 11a-1p: 8.3 12-2p: 8.2 1-3p: 8.4
6	9/11	Low scrubber pH	2 hours	No excess emissions occurred during the deviation. 3-Hour Average: 9-11a: 7.8 10-12p: 7.9 11-1p: 8.5
7	9/25	Low scrubber pH	3 hours	No excess emissions occurred during the deviation. 3-Hour Average: 11a-1p: 6.3 12-2p: 6.9 1-3p: 7.4 2-4p: 9.0

EXPLANATION OR PROBABLE CAUSE FOR DEVIATION:

1. *Historian record showed a deviation of pH for 3 hours on April 3, 2023. The lowest pH recorded was 8.3. The cause is unknown. No production occurred until pH returned to the threshold.*
2. *Historian record showed a deviation of pH for 3 hours on May 30, 2023. The lowest pH recorded was 7.3 at 1pm. The cause is a faulty hose. pH was adjusted back into compliance.*
3. *Historian record showed a deviation of pH for 2 hours on July 5, 2023. The lowest pH recorded was 8.0. The cause is unknown. No production occurred until pH returned to the threshold.*
4. *An interruption in continuous monitoring of scrubber liquor flow rate was caused by a damaged paddle wheel.*
5. *Historian record showed a deviation of pH for 2 hours on August 5, 2023. The lowest pH recorded was 8.0. The cause is unknown. No production occurred until pH returned to the threshold.*
6. *Historian record showed a deviation of pH for 2 hours on September 11, 2023. The lowest pH recorded was 7.1. The cause was a faulty pH probe.*
7. *Historian record showed a deviation of pH for 2 hours on September 25, 2023. The lowest pH recorded was 4.1. The cause was a faulty pH probe.*

CORRECTIVE ACTIONS OR PREVENTATIVE MEASURES IMPLEMENTED:

1. *The calibration probe was checked. The calibration of the probe was confirmed as functioning properly. A caustic dump was then introduced into the system.*
2. *A faulty hose was determined to be the cause of the low pH. The hose was replaced on 5/31/23 and pH was back in compliance at 2pm.*
3. *The calibration probe was checked. The calibration of the probe was confirmed as functioning properly. A caustic dump was then introduced into the system.*
4. *Maintenance notified and flow meter was fixed on 7/31/23. By monitoring scrubber temperature, it was assured that flow remained consistent. Scrubber temperature remained at 271 F during this period.*
5. *The calibration probe was checked. The calibration of the probe was confirmed as functioning properly. A caustic dump was then introduced into the system.*
6. *Maintenance notified and worked on pH system from 10am-1pm and then pH probe was replaced. PH was back in compliance at 2pm.*
7. *Maintenance notified and worked on pH system from 10am to 11:30am. At 11:30am the pH probe was recalibrated and working properly.*

IDENTIFICATION OF EXCURSIONS AND/OR EXCEEDANCES AMONG THE DEVIATIONS:

1. *This was an excursion from the scrubber pH limit, but no emissions exceedance is expected to have occurred during this period.*
2. *This was an excursion from the scrubber pH limit, but no emissions exceedance is expected to have occurred during this period.*
3. *This was an excursion from the scrubber pH limit, but no emissions exceedance is expected to have occurred during this period.*
4. *This was an excursion from the requirement to continuously record the flow (gpm), but no emissions exceedance is expected to have occurred during this period due to scrubber maintaining temperature for appropriate flow rates.*
5. *This was an excursion from the scrubber pH limit, but no emissions exceedance is expected to have occurred during this period.*
6. *This was an excursion from the scrubber pH limit, but no emissions exceedance is expected to have occurred during this period.*
7. *This was an excursion from the scrubber pH limit, but no emissions exceedance is expected to have occurred during this period.*

VI. **Permit Condition: E4-4(c)(1):** The continuous monitoring equipment shall monitor the combustion temperature of the thermal oxidizer.
(Temperature ≥ 1400 F (-50 F))

Oxidizer Temperature Summary

Time Period	Minimum Temperature (F)	Comments
4/2023	1373 (4/20/23 9am)	4/20 – No deviation; Lowest 3-hr average: 7a-9a 1436F.
5/2023	1420.5 (5/19/23)	None
6/2023	1353.9 (6/16/23)	6/16 – No deviation; Lowest 3-hr average: 3a-5a 1371F.
7/2023	1447.7 (7/11/23)	None
8/2023	1136.1 (8/17/23 8pm)	8/17 – No deviation; Lowest 3-hr average: 6p-8p 1363F.
9/2023	1439.2 (9/11/23)	None

There were no discrepancies or deviations during this reporting period.

Source 01 Operational Hours

Date	Historian Down (hrs)	Source Operation Down (hrs)	% Manual Data Not Available for Each 8hr Period	Explanation
4/1 12am - 4/3 12:25a	0	48.25	0	Not Processing
4/6 9:45pm – 4/11 12:30a	0	98.75	0	Not Processing
4/14 9:30pm – 4/17 12:05am	0	50.58	0	Not Processing
4/19 4pm – 5:30pm	0	1.5	0	Not Processing
4/21 10:10pm – 4/24 12:51am	0	50.68	0	Not Processing
4/25 11:05pm – 4/26 1pm	0	1.92	0	Not Processing
4/28 10pm – 4/30 11:59pm	0	50	0	Not Processing
5/1 12am – 5/2 10:00pm	0	46	0	Not Processing
5/5 10:15pm – 5/8 12:25am	0	50.17	0	Not Processing
5/12 10:15pm – 5/15 12:55am	0	50.67	0	Not Processing
5/19 9:35pm – 5/24 1:00am	0	99.42	0	Not Processing
5/26 5:00pm – 5/30 12:25am	0	79.42	0	Not Processing
6/2 10:45pm – 6/5 12:50am	0	50.08	0	Not Processing
6/9 10:20pm – 6/12 5:50am	0	79.5	0	Not Processing
6/28 6:20pm – 6/30 12am	0	29.33	0	Not Processing
7/1 12:00am – 7/5 1:39am	0	97.65	0	Not Processing

Date	Historian Down (hrs)	Source Operation Down (hrs)	% Manual Data Not Available for Each 8hr Period	Explanation
7/14 10:25pm – 7/17 12:15am	0	49.83	0	Not Processing
8/12 9:55pm – 8/15 11:59pm	0	74.08	0	Not Processing
8/18 3:30pm – 8/31 11:59pm	0	320.5	0	Not Processing
9/1 12:00am – 9/6 4:49pm	0	136.82	0	Not Processing
9/8 9:55pm – 9/10 11:59pm	0	50.07	0	Not Processing
9/29 9:01am – 9/30 11:59pm	0	38.97	0	Not Processing

Except for the deviation stated above, Historian always operated properly during the operational report period. Manual records were recorded 100% of the report period.

VII. Permit Condition: E4-5 and E4-8: Volatile organic compounds (VOC) emitted from this source shall not exceed 10.89 tons during any period of twelve consecutive months. Compliance with this limitation shall be assured with recordkeeping of surrogate monitoring and the use of pollution control equipment (quench tank, packed column, thermal oxidizer, packed tower scrubber, and baghouse). The logs required in condition E4-4 and E4-8 shall be used to certify compliance with this condition.

VOC and HAP Emissions Logs for this report are available for review in Appendix A of this report.

VIII. Permit Condition: E4-6: Sulfur dioxide (SO_2) emitted from this source shall not exceed 0.02 lb/hr, on a daily average basis.

Compliance Method: Compliance with Conditions E4-1 and E4-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

IX. Permit Condition: E4-7: Nitrogen oxides (NO_X) emitted from this source shall not exceed 3.6 lb/hr, on a daily average basis.

Compliance Method: Compliance with Conditions E4-1 and E4-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

X. Permit Condition: E4-9: Visible emissions from this source shall not exhibit greater than ten percent opacity, except for one six-minute period in any one hour period, and for no more than four six-minute periods in any twenty-four hour period.

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 and the reporting requirements in Condition E2(a)(2).

There were no discrepancies or deviations during this reporting period.

XI. Permit Condition: E5-1: The total raw material input to this source shall not exceed 8,069 tons during any twelve (12) consecutive months. Material input is summarized in the table below.

Month	Material Input (lbs)	Material Input (Tons per rolling 12 months)
4/2023	24,251	232
5/2023	45,448	240
6/2023	44,710	240
7/2023	76,113	257
8/2023	101,186	287
9/2023	70,377	307

There were no discrepancies or deviations during this reporting period.

XII. Permit Condition: E5-2: Particulate matter emitted from this source shall not exceed 3.82 pounds per hour (lb/hr) on a daily average basis.

Compliance Method: Compliance with this emission limitation shall be assured by maintaining a minimum pressure drop across the filter media of 0.25 inches of water column. The pressure drop shall be recorded daily while this source is operating. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition E2 of this permit and must be retained for a period of not less than five years. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

Ball Mill Baghouse Pressure Drop Summary

Time Period	Minimum Pressure Drop			Comments
	Low Grade BH	High Grade BH	Tray Roast BH	
4/2023	4.0" (4/3/23)	3.5" (4/3/23)	4.5" (4/21/23)	None
5/2023	4.0" (5/1/23)	4.0" (5/1/23)	4.0" (5/3/23)	None
6/2023	3.5" (6/26/23)	4.0" (6/1/23)	1.5" (6/18/23)	None
7/2023	4.0" (7/5/23)	4.5" (7/6/23)	2.5" (7/6/23)	None
8/2023	4.5" (8/1/23)	4.0" (8/3/23)	4.0" (8/6/23)	None
9/2023	4.0" (9/27/23)	4.0" (9/5/23)	5.5" (9/5/23)	None

There were no discrepancies or deviations during this reporting period.

XIII. Permit Condition E7-2: Only natural gas may be used as fuel.

The source used only natural gas during the reporting period.

XIV. Permit Condition E7-3: The total raw material input to this source shall not exceed 1,500 pounds per hour on a daily basis (6,570 tons per 12 consecutive months). The table below shows the material input in tons per rolling 12 months.

Time Period	Material Input (tons per rolling 12 month)	Comments
4/2023	50.17	Not processing
5/2023	140.74	None
6/2023	140.74	Not processing
7/2023	140.74	Not processing
8/2023	140.74	Not processing
9/2023	90.90	Not processing

There were no discrepancies or deviations during this reporting period.

XV. Permit Condition E7-4: Particulate matter emitted from this source shall not exceed 0.02 grains per dry cubic foot of stack gases corrected to 70ºF and 1 atmosphere (0.23 pounds per hour (lb/hr)).

Compliance Method: Compliance with this emission limitation shall be assured by maintaining a minimum pressure drop across the filter media of 0.5 inch of water column. The pressure drop shall be recorded daily while this source is operating. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition E2 of this permit and must be retained for a period of not less than five years. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

Rotary Baghouse Pressure Drop Summary

Time Period	Minimum Pressure Drop (inches H_2O)	Comments
4/2023	N/A	Not processing.
5/2023	3.4” (5/16/23)	No comment.
6/2023	N/A	Not processing.
7/2023	N/A	Not processing.
8/2023	N/A	Not processing.
9/2023	N/A	Not processing.

There were no discrepancies or deviations during this reporting period.

XVI. Permit Condition E7-5: Volatile organic compounds (VOC) emitted from this source shall not exceed 3.0 tons during any period of twelve consecutive months.

VOC and HAP Emissions Logs for this report are available for review in Appendix A of this report. There were no discrepancies or deviations during this reporting period.

XVII. Permit Condition E7-5(c)(2): The continuous monitoring equipment shall monitor the combustion chamber temperature of the furnace. A minimum value is set at 1200 ºF. Excursions below the minimum operating temperature of 1200 ºF shall not be considered violations of this condition unless the average temperature during any period of three consecutive hours is more than 50 ºF below the minimum operating temperature.
Note: Equipment is set up to prevent loading of material unless the furnace is at or above the permitted temperature.

Rotary Combustion Chamber Temperature Summary:

Time Period	Minimum Temperature (F)	Comments
4/2023	N/A	Not processing.
5/2023	1196 (5/15/23 12:00am)	One-hour average at start up. 3-hr average: 12:00am-2:00am 1231.2F
6/2023	N/A	Not processing.
7/2023	N/A	Not processing.
8/2023	N/A	Not processing.
9/2023	N/A	Not processing.

There were no discrepancies or deviations during this reporting period.

Source 09 Operating Hours

Date	Historian Down (hrs)	Source Operation Down (hrs)	% Manual Data Not Available for Each 8hr Period	Explanation
4/2023	0	720	N/A	Not processing.
5/2023	0	439	0	Operated 5/11-5/12, 5/15-5/19, 5/22-5/26, and 5/30-5/31
6/2023	0	720	N/A	Not processing.
7/2023	0	744	N/A	Not processing.
8/2023	0	744	N/A	Not processing.
9/2023	0	720	N/A	Not processing.

XVIII. Permit Condition E7-6: Sulfur dioxide (SO_2) emitted from this source shall not exceed 1.0 lb/hr, on a daily average basis.

Compliance Method: Compliance with Conditions E7-1 and E7-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XIX. Permit Condition E7-7: Nitrogen oxides (NO_X) emitted from this source shall not exceed 0.15 lb/hr, on a daily average basis.

Compliance Method: Compliance with Conditions E7-1 and E7-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XX. Permit Condition E8-1: Emergency engine operating time shall not exceed 500 hours per calendar year.

Compliance Method: Compliance with this restriction shall be assured by recordkeeping. The permittee shall keep a log of the number of operating hours for each month and calendar year at this source. The logs shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period. Summary table is included in Appendix B.

XXI. Permit Condition E8-2: Only No. 2 diesel fuel shall be used as fuel for this source.

Compliance Method: Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

The source only used No. 2 diesel fuel during the reporting period.

XXII. Permit Condition E8-3: The sulfur content of the No.2 diesel fuel shall not exceed 0.05 percent by weight.

Compliance Method: Compliance with this restriction shall be assured by annual certification and vendor information. Certifications shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXIII. Permit Condition E8-5: Particulate matter (TSP) emitted from this source shall not exceed 1.3 pounds per hour.

Compliance Method: Compliance with conditions E8-1 and E8-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Certification shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXIV. Permit Condition E8-6: Sulfur dioxide (SO_2) emitted from this source shall not exceed 0.6 pounds per hour.

Compliance Method: Compliance with Conditions E8-1 and E8-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Certification shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXV. Permit Condition E8-7: Carbon monoxide (CO) emitted from this source shall not exceed 28.1 pounds per hour.

Compliance Method: Compliance with Conditions E8-1 and E8-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Certification shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXVI. Permit Condition E8-8: Volatile organic compounds (VOC) emitted from this source shall not exceed 3.5 pounds per hour.

Compliance Method: Compliance with Conditions E8-1 and E8-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Certification shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXVII. Permit Condition E8-9: Nitrogen oxides (NO_X) emitted from this source shall not exceed 22.7 pounds per hour.

Compliance Method: Compliance with Conditions E8-1 and E8-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Certification shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXVIII. Permit Condition E9-2: Only natural gas shall be used as fuel for the tray furnaces and afterburner. Auxiliary 1 (Voss Converter) shall only use natural gas and propylene. Auxiliary 2 (Voss Converter) shall only use natural gas and propylene/oxygen fuel mixture.

Compliance Method: Compliance with these conditions shall be assured by annual certification. Certification shall be submitted in accordance with Condition E2.

Only natural gas was used for fuel burning equipment during this period.

XXIX. Permit Condition E9-3: Raw material input limit of 5,111 tons during 12 consecutive months.

Compliance Method: Maintain a log of the raw material input to this source in a form that readily shows compliance with this condition. The log shall be maintained at the source location and submitted in accordance with Condition E2.

Month	Material Input (lbs)	Material Input (Tons per rolling 12 months)
4/2023	50,966	333
5/2023	47,074	329
6/2023	73,293	339
7/2023	64,542	361
8/2023	79,976	374
9/2023	36,803	374

There were no discrepancies or deviations during this reporting period.

XXX. Permit Condition E9-4: Particulate matter emitted from this source shall not exceed 4.96 pounds per hour (lb/hr) based on daily average basis.

Compliance Method: The permittee shall assure compliance with the particulate matter emission limitation by keeping the pressure drop across the baghouse equal to or above 1.3 inches of water. The control equipment shall be operating at all times when the source is operating. The pressure drop for the

baghouse shall be recorded once daily when the source is in operation. The days when the source does not operate shall be noted.

Source 12 Baghouse Pressure Drop Summary

Time Period	Minimum Pressure Drop ("H_2O)	Comments
4/2023	1.8 (4/11/23)	None
5/2023	1.8 (5/24/23)	None
6/2023	1.5 (6/4/23)	None
7/2023	1.5 (7/10/23)	None
8/2023	1.5 (8/1/23)	None
9/2023	1.9 (9/6/23)	None

There were no discrepancies or deviations during this reporting period.

XXXI. Permit Condition E9-5: Volatile organic compounds (VOC) emitted from this source shall not exceed 32.11 tons during any period of twelve consecutive months.

Compliance Method: Compliance with this limitation shall be assured with recordkeeping of surrogate monitoring and the use of pollution control equipment (afterburner). The logs required in Conditions E9-4(MM3) and E9-8(MM3) shall be used to certify compliance with this condition. Certifications shall be submitted in accordance with Condition E2. The minimum temperature of 1,400°F (-50°F) for the afterburner shall be maintained during times of operation.

Source 12 Afterburner Temperature Summary

Time Period	Minimum Temperature (F)	Comments
4/2023	1554.9 (4/3/23 @ 9:00)	None
5/2023	1373 (5/4/23)	5/4 - No deviation; The 1-hr average is low because it includes 25 minutes of down time.
6/2023	1409 (6/29/23)	None
7/2023	1392.8 (7/5/23)	None
8/2023	1477.3 (8/5/23)	None
9/2023	1051.6 (9/8/23 at 2:00p)	9/8 - No deviation; Temp was low for less than 15 minutes. Lowest 3-hr average: 1-3p: 1519.4F.

There were no discrepancies or deviations during this reporting period.

Operational Hours – Source 12 Tray Furnaces with Afterburner

Date	Continuous Monitoring Down (hrs)	Source Operation Down (hrs)	% Manual Data Not Available for Each 8hr Period	Explanation
4/1-2, 5, 7-11, 15-16, 18, 21-23, 28-30	0	408	0	No Production
5/1-3, 5-18, 20-24, 26-31	0	672	0	No Production
6/3, 4, 6-11, 13-15, 17-19, 21-25, 27	0	480	0	No Production
7/1-4, 7-13, 15-20, 22-23, 28-31	0	552	0	No Production

8/3, 5-9, 11-16, 18-21, 23, 25-31	0	576	0	No Production
9/1-4, 9-11, 13, 16-17, 19-20, 23-25, 27-28, 30	0	432	0	No Production

Note: Source does not standardly operate outside of 7am – 6pm

XXXII. Permit Condition E9-6: Sulfur dioxide (SO_2) emitted from this source shall not exceed 3.29 lb/hr.

Compliance Method: Compliance with Conditions E9-1 and E9-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXXIII. Permit Condition E9-7: Nitrogen oxides (NO_X) emitted from this source shall not exceed 0.66 lb/hr, on a daily average basis.

Compliance Method: Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XXXVI. Permit Condition E9-10: Calculate actual quantities of VOC and organic HAPs emitted in a log.

VOC and HAP emission calculations for this source are included in Appendix A.

XXXVII. Permit Condition E9-11: Visible emissions from this source shall not exhibit greater than ten percent opacity, except for one six-minute period in any one hour period, and for no more than four six-minute periods in any twenty-four hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996, that is enclosed as **Attachment 1**, and the reporting requirements in **Condition E2(a)(2)**.

There were no discrepancies or deviations during this reporting period.

XXXVIII. Permit Condition E13-2: Only Natural gas and Diesel fuel shall be used in this source.

Compliance Method: Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

Only Natural gas was used during the reporting period.

XXXIX. Permit Condition E13-3: The total raw material input to this source shall not exceed 12.5 tons during any period of twelve (12) consecutive months.

Compliance Method: Maintain a log of the raw material input to this source in a form that readily shows compliance with this condition. The HAPs emissions from this source shall be included in Condition E3-6. The log shall be maintained at the source location and submitted in accordance with Condition E2.

Month	Material Input (lbs)	Material Input (Tons per rolling 12 months)
4/2023	0	0.6
5/2023	0	0.6
6/2023	0	0.6
7/2023	0	0.6
8/2023	0	0.6
9/2023	0	0.6

There were no discrepancies or deviations during this reporting period.

XL. Permit Condition E13-4: Particulate matter emitted from the Rhodium-Oil Furnace shall not exceed 0.3 pounds per hour (lb/hr) based on a daily average.

Compliance Method: The permittee shall assure compliance with the particulate matter emission limitation by maintaining the required minimum pressure drop value of 0.1 inches of water column for the baghouse. The pressure drop for the baghouse shall be recorded once daily when the source is in operation. The days when the source does not operate shall be noted.

Time Period	Minimum Pressure Drop ("H_2O)	Comments
4/2023	N/A	Not Processing
5/2023	N/A	Not Processing
6/2023	N/A	Not Processing
7/2023	N/A	Not Processing
8/2023	N/A	Not Processing
9/2023	N/A	Not Processing

There were no discrepancies or deviations during this reporting period.

Operational Days – Rhodium Oil Furnace

Source did not operate on these days	Explanation
4/2023 – All Month	No Production
5/2022 – All Month	No Production
6/2022 – All Month	No Production
7/2023 – All Month	No Production
8/2023 – All Month	No Production
9/2023 – All Month	No Production

XLI. Permit Condition E13-5: - Volatile organic compounds (VOC) emitted from the Rhodium-Oil Furnace shall not exceed 12.52 tons during any period of twelve consecutive months.

Compliance Method: The permittee shall assure compliance with the VOC emission limitation by complying with Conditions E13-1 and E13-3 and by operating, maintaining, and inspecting the air pollution control devices (APCD). The logs shall be maintained at the source location and submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XLII. Permit Condition E13-6: Sulfur dioxide (SO_2) emitted from this source shall not exceed 0.001 lb/hr.

Compliance Method: Compliance with Conditions E13-1 and E13-2 will demonstrate compliance with this condition. Compliance with this condition shall be assured by annual certification. Compliance shall be submitted in accordance with Condition E2.

There were no discrepancies or deviations during this reporting period.

XLIII. Permit Condition E13-7: Nitrogen oxides (NO_X) emitted from this source shall not exceed 0.13 lb/hr, on a daily average basis.

Compliance Method: The permittee shall submit annually a compliance certification for NOx emissions from this source. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

There were no discrepancies or deviations during this reporting period.

SEMI-ANNUAL REPORT CERTIFICATION

Heraeus Precious Metals North America, LLC
Emission Source Reference No. 65-0049

Section II

Identification of all instances of deviations from ALL PERMIT REQUIREMENTS.

I. No deviations have occurred from the requirements in Conditions E1, E2, E3-1, E3-3 through E3-5, E3-7, E3-8, E4-1, E4-2, E7-1, E8-4, E8-10, E9-1, E9-8, E9-9, E13-1, and relevant conditions of Section A and B and all conditions of Section D.

There were no other instances of deviations from the rest of the permit conditions or requirements.

APPENDIX A

Permit Condition E3-6, E4-5, E4-8, E7-5, E9-11

VOC & HAP Logs

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
April 2023

Process Source	Arsenic *7440-38-2* (lbs/month)	Cobalt 7440-48-4 (lbs/month)	Chromium 7440-47-3 (lbs/month)	Nickel 8049-31-8 (lbs/month)	Lead 7439-92-1 (lbs/month)	Selenium 7782-49-2 (lbs/month)	*Tetrachloroethene 127-18-4* (lbs/month)	Mercury (lbs/month)	Cadmium (lbs/month)	Antimony (lbs/month)	Methanol (lbs/month)	Benzene 71-43-2 (lbs/month)	Ethylbenzene (lbs/month)	Xylene (lbs/month)
65-0049-01	0.00	8.80	1.20	9.57	11.33	0.40	0.00	0.00	0.37	0.40	13.80	0.00	0.00	0.00
65-0049-04	0.00	0.04	0.01	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
65-0049-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-12	0.00	0.00	0.65	0.65	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	8.84	1.86	10.26	11.39	0.40	0.00	0.00	0.37	0.40	13.86	0.00	0.00	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
April 2023

Toluene 108-88-3 (lbs/month)	Cumene (lbs/Month)	P-Cresol (lbs/Month)	Isophorone (lbs/month)	HCl (lbs/month)	Naphthalene (lbs/month)	Biphenyl (lbs/month)	Phenol 108-95-2 (lbs/month)	Phosphorus (lbs/month)	Manganese Compounds (lbs/month)	Chlorine (lbs/month)	HF (lbs/month)	Dimethylformamide (lbs/month)	Total HAP Emissions (lbs/month)	Pounds Processed
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.65	104.53	165,361
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	24,251
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	50,966
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.65	106.06	240,577

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
May 2023

Process Source	Arsen*ic* *7440-38-2* (lbs/month)	Cobalt 7440-48-4 (lbs/month)	Chromium 7440-47-3 (lbs/month)	Nickel 8049-31-8 (lbs/month)	Lead 7439-92-1 (lbs/month)	Selenium 7782-49-2 (lbs/month)	*Tetrachloroethene 127-18-4* (lbs/month)	Mercury (lbs/month)	Cadmium (lbs/month)	Antimony (lbs/month)	Methanol (lbs/month)	Benzene 71-43-2 (lbs/month)	Ethylbenzene (lbs/month)	Xylene (lbs/month)
65-0049-01	0.00	0.99	0.00	1.68	2.37	0.00	0.00	0.00	0.69	0.00	45.03	0.00	0.00	0.00
65-0049-04	0.00	0.02	0.00	0.03	0.04	0.00	0.00	0.00	0.01	0.00	0.81	0.00	0.00	0.00
65-0049-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-12	0.00	0.00	0.12	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	1.01	0.12	1.71	2.43	0.00	0.00	0.00	0.71	0.00	45.83	0.00	0.00	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
May 2023

Toluene 108-88-3 (lbs/month)	Cumene (lbs/Month)	P-Cresol (lbs/Month)	Isophorone (lbs/month)	HCl (lbs/month)	Naphthalene (lbs/month)	Biphenyl (lbs/month)	Phenol 108-95-2 (lbs/month)	Phosphorus (lbs/month)	Manganese Compounds (lbs/month)	Chlorine (lbs/month)	HF (lbs/month)	Dimethylformamide (lbs/month)	Total HAP Emissions (lbs/month)	Pounds Processed
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.76	149,987
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	45,448
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181,374
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	1.00	0.21	0.00	1.46	47,074
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	1.00	0.21	0.00	53.13	423,883

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
June 2023

Process Source	Arsen*ic* *7440-38-2* (lbs/month)	Cobalt 7440-48-4 (lbs/month)	Chromium 7440-47-3 (lbs/month)	Nickel 8049-31-8 (lbs/month)	Lead 7439-92-1 (lbs/month)	Selenium 7782-49-2 (lbs/month)	*Tetrachloroethene 127-18-4* (lbs/month)	Mercury (lbs/month)	Cadmium (lbs/month)	Antimony (lbs/month)	Methanol (lbs/month)	Benzene 71-43-2 (lbs/month)	Ethylbenzene (lbs/month)	Xylene (lbs/month)
65-0049-01	0.02	4.67	6.48	7.20	7.73	2.16	0.00	0.00	0.40	2.19	80.51	0.00	0.00	0.00
65-0049-04	0.00	0.04	0.05	0.06	0.06	0.02	0.00	0.00	0.00	0.02	0.65	0.00	0.00	0.00
65-0049-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-12	0.00	0.00	0.00	0.02	0.37	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00
65-0049-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.02	4.71	6.54	7.28	8.16	2.17	0.00	0.00	0.51	2.20	81.15	0.00	0.00	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
June 2023

Toluene 108-88-3 (lbs/month)	Cumene (lbs/Month)	P-Cresol (lbs/Month)	Isophorone (lbs/month)	HCl (lbs/month)	Naphthalene (lbs/month)	Biphenyl (lbs/month)	Phenol 108-95-2 (lbs/month)	Phosphorus (lbs/month)	Manganese Compounds (lbs/month)	Chlorine (lbs/month)	HF (lbs/month)	Dimethylformamide (lbs/month)	Total HAP Emissions (lbs/month)	Pounds Processed
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	111.35	177,003
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	44,710
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	73,293
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	112.75	295,006

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
July 2023

Process Source	Arsenic *7440-38-2* (lbs/month)	Cobalt 7440-48-4 (lbs/month)	Chromium 7440-47-3 (lbs/month)	Nickel 8049-31-8 (lbs/month)	Lead 7439-92-1 (lbs/month)	Selenium 7782-49-2 (lbs/month)	*Tetrachloroethene 127-18-4* (lbs/month)	Mercury (lbs/month)	Cadmium (lbs/month)	Antimony (lbs/month)	Methanol (lbs/month)	Benzene 71-43-2 (lbs/month)	Ethylbenzene (lbs/month)	Xylene (lbs/month)
65-0049-01	0.07	0.06	0.00	0.25	0.95	0.00	0.00	0.00	0.25	0.00	81.66	0.00	0.00	0.00
65-0049-04	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	0.00
65-0049-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-12	0.00	0.00	0.01	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
65-0049-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.07	0.06	0.01	0.27	1.00	0.00	0.00	0.00	0.27	0.00	83.16	0.00	0.00	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
July 2023

Toluene 108-88-3 (lbs/month)	Cumene (lbs/Month)	P-Cresol (lbs/Month)	Isophorone (lbs/month)	HCl (lbs/month)	Naphthalene (lbs/month)	Biphenyl (lbs/month)	Phenol 108-95-2 (lbs/month)	Phosphorus (lbs/month)	Manganese Compounds (lbs/month)	Chlorine (lbs/month)	HF (lbs/month)	Dimethylformamide (lbs/month)	Total HAP Emissions (lbs/month)	Pounds Processed
0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83.25	139,656
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	76,113
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	64,542
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84.85	280,311

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
August 2023

Process Source	Arsenic *7440-38-2* (lbs/month)	Cobalt 7440-48-4 (lbs/month)	Chromium 7440-47-3 (lbs/month)	Nickel 8049-31-8 (lbs/month)	Lead 7439-92-1 (lbs/month)	Selenium 7782-49-2 (lbs/month)	*Tetrachloroethene 127-18-4* (lbs/month)	Mercury (lbs/month)	Cadmium (lbs/month)	Antimony (lbs/month)	Methanol (lbs/month)	Benzene 71-43-2 (lbs/month)	Ethylbenzene (lbs/month)	Xylene (lbs/month)
65-0049-01	0.24	1.45	2.32	2.58	3.15	0.77	0.00	0.00	0.57	0.77	73.79	0.00	0.00	0.00
65-0049-04	0.01	0.03	0.05	0.06	0.07	0.02	0.00	0.00	0.01	0.02	1.71	0.00	0.00	0.00
65-0049-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-12	0.00	0.00	0.00	0.01	0.08	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
65-0049-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.25	1.48	2.37	2.64	3.30	0.79	0.00	0.00	0.62	0.79	75.51	0.00	0.00	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
August 2023

Toluene 108-88-3 (lbs/month)	Cumene (lbs/Month)	P-Cresol (lbs/Month)	Isophorone (lbs/month)	HCl (lbs/month)	Naphthalene (lbs/month)	Biphenyl (lbs/month)	Phenol 108-95-2 (lbs/month)	Phosphorus (lbs/month)	Manganese Compounds (lbs/month)	Chlorine (lbs/month)	HF (lbs/month)	Dimethylformamide (lbs/month)	Total HAP Emissions (lbs/month)	Pounds Processed
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	87.20	132,639
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.99	101,186
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.13	79,976
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.56	89.32	313,800

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
September 2023

Process Source	Arsenic *7440-38-2* (lbs/month)	Cobalt 7440-48-4 (lbs/month)	Chromium 7440-47-3 (lbs/month)	Nickel 8049-31-8 (lbs/month)	Lead 7439-92-1 (lbs/month)	Selenium 7782-49-2 (lbs/month)	*Tetrachloroethene 127-18-4* (lbs/month)	Mercury (lbs/month)	Cadmium (lbs/month)	Antimony (lbs/month)	Methanol (lbs/month)	Benzene 71-43-2 (lbs/month)	Ethylbenzene (lbs/month)	Xylene (lbs/month)
65-0049-01	0.00	19.53	0.00	21.72	24.19	0.00	0.00	0.00	2.19	0.00	20.50	0.00	0.00	0.00
65-0049-04	0.00	0.31	0.00	0.35	0.39	0.00	0.00	0.00	0.03	0.00	0.33	0.00	0.00	0.00
65-0049-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-0049-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	19.84	0.00	22.07	24.58	0.00	0.00	0.00	2.23	0.00	20.83	0.00	0.00	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Monthly HAP's Log
(65-0049 - Permit Condition E3-6)
September 2023

Toluene 108-88-3 (lbs/month)	Cumene (lbs/Month)	P-Cresol (lbs/Month)	Isophorone (lbs/month)	HCl (lbs/month)	Naphthalene (lbs/month)	Biphenyl (lbs/month)	Phenol 108-95-2 (lbs/month)	Phosphorus (lbs/month)	Manganese Compounds (lbs/month)	Chlorine (lbs/month)	HF (lbs/month)	Dimethylformamide (lbs/month)	Total HAP Emissions (lbs/month)	Pounds Processed
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	88.13	128,326
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	70,377
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	36,803
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.54	235,506

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC (HPMN)
Wartburg, Tennessee

Annual HAP's Log
(65-0049 - Permit Condition E3-6)

Month	Arsen*ic* *7440-38-2* (lbs/month)	Arsen*ic* *7440-38-2* (lbs/12-month)	Cobalt 7440-48-4 (lbs/month)	Cobalt 7440-48-4 (lbs/12-month)	Chromium 7440-47-3 (lbs/month)	Chromium 7440-47-3 (lbs/12-month)	Nickel 8049-31-8 (lbs/month)	Nickel 8049-31-8 (lbs/12-month)	Lead 7439-92-1 (lbs/month)	Lead 7439-92-1 (lbs/12-month)	Selenium 7782-49-2 (lbs/month)	Selenium 7782-49-2 (lbs/12-month)
Oct-22	0.00	0.18	0.67	47.91	0.05	1.23	2.58	60.91	4.88	78.29	0.00	0.00
Nov-22	0.00	0.18	3.77	47.85	0.01	1.20	3.93	58.61	4.35	73.39	0.00	0.00
Dec-22	0.00	0.01	2.15	44.85	0.29	1.25	2.32	55.90	2.19	68.97	0.00	0.00
Jan-23	0.00	0.01	0.00	31.97	0.00	1.23	0.08	42.12	0.89	54.36	0.00	0.00
Feb-23	0.00	0.01	0.00	28.25	0.03	1.03	0.03	37.21	0.26	48.25	0.00	0.00
Mar-23	0.00	0.01	6.88	27.03	0.04	0.92	6.89	34.23	7.12	43.72	0.00	0.00
Apr-23	0.00	0.01	8.84	35.87	1.86	2.72	10.26	44.00	11.39	53.88	0.40	0.40
May-23	0.01	0.02	1.01	36.88	0.12	2.74	1.71	44.95	2.43	54.49	0.00	0.40
Jun-23	0.02	0.02	4.71	40.93	6.54	9.18	7.28	50.71	8.16	60.02	2.17	2.58
Jul-23	0.07	0.09	0.06	33.33	0.01	9.17	0.27	43.31	1.00	53.28	0.00	2.58
Aug-23	0.25	0.33	1.48	29.58	2.37	11.53	2.64	38.26	3.30	46.09	0.79	3.37
Sep-23	0.00	0.33	19.84	49.42	0.00	11.34	22.07	60.06	24.58	70.55	0.00	3.37

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC (HPMN)
Wartburg, Tennessee

Annual HAP's Log
(65-0049 - Permit Condition E3-6)

Month	*Tetrachloroethene 127-18-4* (lbs/month)	*Tetrachloroethene 127-18-4* (lbs/12-month)	Mercury (lbs/month)	Mercury (lbs/12-month)	Cadmium (lbs/month)	Cadmium (lbs/12-month)	Antimony (lbs/month)	Antimony (lbs/12-month)	Methanol (lbs/month)	Methanol (lbs/12-month)	Benzene 71-43-2 (lbs/month)	Benzene 71-43-2 (lbs/12-month)
Oct-22	0.00	0.00	0.00	0.00	2.02	15.07	0.00	0.35	57.48	318.46	0.00	0.00
Nov-22	0.00	0.00	0.00	0.00	0.18	12.68	0.00	0.35	36.82	291.43	0.00	0.00
Dec-22	0.00	0.00	0.00	0.00	0.01	12.43	0.00	0.02	32.64	299.76	0.00	0.00
Jan-23	0.00	0.00	0.00	0.00	0.11	11.53	0.00	0.02	19.22	318.98	0.00	0.00
Feb-23	0.00	0.00	0.00	0.00	0.01	10.24	0.00	0.02	55.38	374.36	0.00	0.00
Mar-23	0.00	0.00	0.00	0.00	0.13	8.68	0.00	0.02	96.70	462.99	0.00	0.00
Apr-23	0.00	0.00	0.00	0.00	0.37	8.50	0.40	0.42	13.86	448.02	0.00	0.00
May-23	0.00	0.00	0.00	0.00	0.71	8.56	0.00	0.42	45.83	461.81	0.00	0.00
Jun-23	0.00	0.00	0.00	0.00	0.51	8.33	2.20	2.61	81.15	513.00	0.00	0.00
Jul-23	0.00	0.00	0.00	0.00	0.27	8.48	0.00	2.61	83.16	572.40	0.00	0.01
Aug-23	0.00	0.00	0.00	0.00	0.62	4.96	0.79	3.40	75.51	597.98	0.00	0.01
Sep-23	0.00	0.00	0.00	0.00	2.23	7.18	0.00	3.40	20.83	618.57	0.00	0.01

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC (HPMN)
Wartburg, Tennessee

Annual HAP's Log
(65-0049 - Permit Condition E3-6)

Month	Toluene (lbs/month)	Toluene (lbs/12-month)	Xylene (lbs/month)	Xylene (lbs/12-month)	Ethylbenzene (lbs/month)	Ethylbenzene (lbs/12-month)	Cumene (lbs/Month)	Cumene (lbs/12-Month)	P-Cresol (lbs/Month)	P-Cresol (lbs/12-Month)	Isophorone (lbs/month)	Isophorone (lbs/12-month)
Oct-22	2.02	15.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov-22	0.18	12.68	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec-22	0.01	12.43	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan-23	0.11	11.53	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb-23	0.01	10.24	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar-23	0.13	8.68	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr-23	0.37	8.50	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May-23	0.71	8.56	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jun-23	0.51	8.33	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul-23	0.27	8.48	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug-23	0.62	4.96	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep-23	2.23	7.18	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC (HPMN)
Wartburg, Tennessee

Annual HAP's Log
(65-0049 - Permit Condition E3-6)

Month	HCl (lbs/month)	HCl (lbs/12-month)	Naphthalene (lbs/month)	Naphthalene (lbs/12-month)	Biphenyl (lbs/month)	Biphenyl (lbs/12-month)	Phenol (lbs/month)	Phenol (lbs/12-month)	Phosphorus (lbs/month)	Phosphorus (lbs/12-month)	Manganese Compounds (lbs/month)
Oct-22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00
Nov-22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00
Dec-22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.03
Jan-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00
Feb-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
Mar-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Apr-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
May-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.12	0.00
Jun-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00
Jul-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00
Aug-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00
Sep-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC (HPMN)
Wartburg, Tennessee

Annual HAP's Log
(65-0049 - Permit Condition E3-6)

Month	Manganese Compounds (lbs/12-month)	Chlorine (lbs/month)	Chlorine (lbs/12-month)	HF (lbs/month)	HF (lbs/12-month)	Dimethylformamide (lbs/month)	Dimethylformamide (lbs/12-month)	Total HAP Emissions (lbs/month)	Total HAP Emissions (lbs/12-month)
Oct-22	0.01	0.00	4.96	0.00	0.40	38.81	39.15	106.51	567.09
Nov-22	0.01	0.00	4.96	0.00	0.40	0.00	39.15	49.07	530.39
Dec-22	0.04	0.00	4.96	0.00	0.40	0.00	39.15	39.66	527.95
Jan-23	0.04	0.00	4.96	0.00	0.40	3.77	42.91	24.07	508.73
Feb-23	0.04	0.00	1.97	0.00	0.08	0.00	42.91	55.72	544.43
Mar-23	0.04	0.00	1.90	0.00	0.07	0.00	42.91	117.75	622.58
Apr-23	0.04	0.00	1.90	0.00	0.07	58.65	101.57	106.06	697.45
May-23	0.04	1.00	2.65	0.21	0.26	0.00	101.57	53.13	714.96
Jun-23	0.04	0.00	1.00	0.00	0.21	0.00	101.57	112.75	790.33
Jul-23	0.04	0.00	1.00	0.00	0.21	0.00	101.24	84.85	827.87
Aug-23	0.04	0.01	1.01	0.00	0.21	1.56	102.79	89.32	839.70
Sep-23	0.04	0.00	1.01	0.00	0.21	0.00	102.79	89.54	928.42

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Permit No. 570857
Source 01
Condition: E4-5 / E4-8

2023

Month	Material Input (lbs)	Mat'l Input (Tons per rolling 12 months)	VOC Pounds	VOC (Tons per rolling 12 months)	Arsen*ic* *7440-38-2* (lbs)	Cobalt 7440-48-4 (lbs)	Chromium 7440-47-3 (lbs)	Nickel 8049-31-8 Ni (lbs)	Lead 7439-92-1 (lbs)	Selenium 7782-49-2 (lbs)	Mercury (lbs)	Cadmium (lbs)	Antimony (lbs)
Jan-23	93,419	518	262.2	1.17	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00
Feb-23	125,480	541	414.1	1.30	0.00	0.00	0.00	0.02	0.20	0.00	0.00	0.00	0.00
Mar-23	126,442	644	663.0	1.61	0.00	6.81	0.00	6.81	6.81	0.00	0.00	0.00	0.00
Apr-23	165,361	619	191.0	1.64	0.00	8.80	1.20	9.57	11.33	0.40	0.00	0.37	0.40
May-23	149,987	647	267.1	1.61	0.00	0.99	0.00	1.68	2.37	0.00	0.00	0.69	0.00
Jun-23	177,003	693	476.9	1.73	0.02	4.67	6.48	7.20	7.73	2.16	0.00	0.40	2.19
Jul-23	139,656	712	627.2	1.99	0.07	0.06	0.00	0.25	0.95	0.00	0.00	0.25	0.00
Aug-23	132,639	724	518.5	2.08	0.24	1.45	2.32	2.58	3.15	0.77	0.00	0.57	0.77
Sep-23	128,326	777	439.4	3.34	0.00	19.53	0.00	21.72	24.19	0.00	0.00	2.19	0.00
Oct-23													
Nov-23													
Dec-23													
Total:	**1,238,312**		**3859.3**		**0.33**	**42.31**	**10.01**	**49.82**	**57.37**	**3.33**	**0.00**	**4.48**	**3.36**

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Permit No. 570857
Source 01
Condition: E4-5 / E4-8

2023

Month	Methanol (lbs)	Benzene (lbs)	Ethyl Benzene (lbs)	Xylene (lbs)	Toluene (lbs)	Cumene (lbs)	P-Cresol (lbs)	Isophorone (lbs)	HCl (lbs)	Phenol (lbs)	Naphthalene (lbs)	Dimethylformamide (lbs)	Total HAPs (lbs)	Total HAPs (Tons per rolling 12 months)
Jan-23	18.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.77	23.14	0.24
Feb-23	54.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.66	0.26
Mar-23	95.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	116.21	0.30
Apr-23	13.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.65	104.53	0.34
May-23	45.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.76	0.35
Jun-23	80.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	111.35	0.39
Jul-23	81.66	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83.25	0.41
Aug-23	73.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	87.20	0.41
Sep-23	20.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	88.13	0.46
Oct-23													0.00	0.40
Nov-23													0.00	0.38
Dec-23													0.00	0.36
Total:	**484.22**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**63.98**	**719**	

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Permit No. 570857
Source 09
Condition: 7-5
Source 65-0049-09

2023

Month	Material Input (lbs)	Mat'l Input (Tons per rolling 12 months)	VOC Pounds	VOC (Tons per rolling 12 months)	Tetra-chloroethene 127-18-4 (lbs)	Mercury (lbs)	Cadmium (lbs)	Chromium (lbs)	Lead (lbs)	Nickel (lbs)	Benzene 71-43-2 (lbs)	Toluene (lbs)	Xylene (lbs)	Ethylbenzene (lbs)	Cobalt (lbs)	Naphthalene (lbs)	Biphenyl (lbs)	Total HAPs (lbs)	Total HAPs (Tons per rolling 12 months)
Jan-23	0	50.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Feb-23	0	50.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Mar-23	0	50.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Apr-23	0	50.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
May-23	181,374	140.74	326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Jun-23	0	140.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Jul-23	0	140.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Aug-23	0	140.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Sep-23	0	90.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Oct-23	0	90.69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Nov-23	0	90.69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Dec-23	0	90.69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.000
Total:	**181,374.0**		**326.18**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.00**	

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Permit No. 570857
Source 12
Condition: E9-11

2023

Month	Material Input (lbs)	Mat'l Input (Tons per rolling 12 months)	VOC Emissions from Process (Lbs)	VOC Emissions (Tons per rolling 12 months)	Arsenic 7440-38-2 (lbs)	Cobalt 7440-48-4 (lbs)	Chromium 7440-47-3 (lbs)	Nickel 8049-31-8 Ni (lbs)	Lead 7439-92-1 (lbs)	Selenium 7782-49-2 (lbs)	Mercury (lbs)	Cadmium (lbs)	Antimony (lbs)	Methanol (lbs)
Jan-23	91,388	303	0.00	0.00	0.00	0.00	0.00	0.08	0.23	0.00	0.00	0.11	0.00	0.00
Feb-23	100,550	320	0.00	0.00	0.00	0.00	0.03	0.01	0.05	0.00	0.00	0.01	0.00	0.00
Mar-23	78,120	333	0.00	0.00	0.00	0.00	0.04	0.01	0.24	0.00	0.00	0.13	0.00	0.00
Apr-23	50,966	333	0.00	0.00	0.00	0.00	0.65	0.65	0.01	0.00	0.00	0.00	0.00	0.00
May-23	47,074	329	0.00	0.00	0.00	0.00	0.12	0.01	0.02	0.00	0.00	0.00	0.00	0.00
Jun-23	73,293	339	0.00	0.00	0.00	0.00	0.00	0.02	0.37	0.00	0.00	0.11	0.00	0.00
Jul-23	64,542	361	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.00	0.00	0.01	0.00	0.00
Aug-23	79,976	374	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.00	0.00	0.04	0.00	0.00
Sep-23	36,803	374	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct-23														
Nov-23														
Dec-23														
Total:	**622,712**		**0.00**		**0.00**	**0.01**	**0.87**	**0.81**	**1.04**	**0.00**	**0.00**	**0.42**	**0.00**	**0.00**

HERAEUS PRECIOUS METALS NORTH AMERICA, LLC
Wartburg, Tennessee

Permit No. 570857
Source 12
Condition: E9-11

2023

Month	Benzene (lbs)	Ethyl Benzene (lbs)	Xylene (lbs)	Toluene (lbs)	Cumene (lbs)	P-Cresol (lbs)	Isophorone (lbs)	HCl (lbs)	Phenol (lbs)	Phosphorus (lbs)	Manganese Compounds (lbs)	Chlorine (lbs)	HF (lbs)	Total HAPs (lbs)	Total HAPs (Tons per rolling 12 months)
Jan-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.01
Feb-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00
Mar-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00
Apr-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00
May-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	1.00	0.21	1.46	0.00
Jun-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00
Jul-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00
Aug-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.13	0.00
Sep-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Oct-23														0.00	0.00
Nov-23														0.00	0.00
Dec-23														0.00	0.00
Total:	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**	**0.00**	**1.01**	**0.21**	**4.46**	

APPENDIX B

Permit Condition E8-1

Emergency Engine Hours of Operation Log

HERAEUS METAL PROCESSING, LLC

Wartburg, Tennessee

1000 KW Emergency Generator

(Operating Log - Permit No. 570857)

Logs for Emergency Engine

Date	Emergency Operation	Emergency Operation	Maintenance Checks and Readiness Testing	Maintenance Checks and Readiness Testing	Non-Emergency Operation	Non-Emergency Operation	Hours of Operation Total	Hours of Operation Total
	(hr/mon)	(hr/12 consecutive months)	(hr/mon)	(hr/12 consecutive months)	(hr/mon)	(hr/12 consecutive month)	(hr/mon)	(hr/12 consecutive month)
		Column A		Column B		Column C		Column D
Oct-2022	0	19.00	3.50	32.50	0	0.00	3.50	51.5
Nov-2022	0	19.00	2.80	31.80	0	0.00	2.80	50.8
Dec-2022	0	19.00	2.80	31.80	0	0.00	2.80	50.8
Jan-2023	0	19.00	0.00	29.50	0	0.00	0.00	48.5
Feb-2023	2	21.00	3.40	31.40	0	0.00	5.40	52.4
Mar-2023	0	21.00	2.80	31.40	0	0.00	2.80	52.4
Apr-2023	0	21.00	2.80	31.40	0	0.00	2.80	52.4
May-2023	0	7.00	3.50	32.80	0	0.00	3.50	39.8
Jun-2023	0	2.00	2.80	33.50	0	0.00	2.80	35.5
Jul-2023	0	2.00	3.50	34.20	0	0.00	3.50	36.2
Aug-2023	0	2.00	2.80	33.50	0	0.00	2.80	35.5
Sep-2023	0	2.00	2.80	33.50	0	0.00	2.80	35.5