



**Environmental  
Protection Agency**

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korleski, Director

6/16/2010

ALAN STOCKMEISTER  
OHIO PRECIOUS METALS LLC  
16064 BEAVER PIKE  
PO BOX 605  
JACKSON, OH 45640

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0640010105  
Permit Number: P0106287  
Permit Type: Initial Installation  
County: Jackson

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Kevin Boyce," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

*Michael W. Ahern*  
Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-SEDO





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
OHIO PRECIOUS METALS LLC**

Facility ID: 0640010105  
Permit Number: P0106287  
Permit Type: Initial Installation  
Issued: 6/16/2010  
Effective: 6/16/2010  
Expiration: 6/16/2020





Division of Air Pollution Control
Permit-to-Install and Operate
for
OHIO PRECIOUS METALS LLC

Table of Contents

Authorization ..... 1
A. Standard Terms and Conditions ..... 3
1. What does this permit-to-install and operate ("PTIO") allow me to do?..... 4
2. Who is responsible for complying with this permit? ..... 4
3. What records must I keep under this permit? ..... 4
4. What are my permit fees and when do I pay them?..... 4
5. When does my PTIO expire, and when do I need to submit my renewal application? ..... 4
6. What happens to this permit if my project is delayed or I do not install or modify my source? ..... 5
7. What reports must I submit under this permit? ..... 5
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit? ..... 5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ... 5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? ..... 5
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? ..... 6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently? ..... 6
13. Can I transfer this permit to a new owner or operator?..... 6
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? ..... 6
15. What happens if a portion of this permit is determined to be invalid? ..... 7
B. Facility-Wide Terms and Conditions..... 8
C. Emissions Unit Terms and Conditions ..... 10
1. Emissions Unit Group – Two Strip Lot Reactors vented to a wet scrubber with a control efficiency of 90% for Nitrogen Oxide Compounds (NOx) and 98% for Hydrochloric acid (HCl) emissions.: P021, P022 ..... 11
2. P023, Crude Gold Kettle # 7 ..... 18



## Authorization

Facility ID: 0640010105  
Application Number(s): A0039174  
Permit Number: P0106287  
Permit Description: Two new Strip Lot Reactors and One Crude Gold Kettle  
Permit Type: Initial Installation  
Permit Fee: \$600.00  
Issue Date: 6/16/2010  
Effective Date: 6/16/2010  
Expiration Date: 6/16/2020  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

OHIO PRECIOUS METALS LLC  
16064 BEAVER PIKE  
JACKSON, OH 45640

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740)385-8501

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Chris Korleski  
Director



## Authorization (continued)

Permit Number: P0106287  
Permit Description: Two new Strip Lot Reactors and One Crude Gold Kettle

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

**Emissions Unit ID:** P023  
Company Equipment ID: Crude Gold Kettle # 7  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable

**Group Name: Strip Lot Reactors**

<b>Emissions Unit ID:</b>	<b>P021</b>
Company Equipment ID:	Strip Lot Reactor # 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P022</b>
Company Equipment ID:	Strip Lot Reactor # 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

## **A. Standard Terms and Conditions**

**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Southeast District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed

permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated

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<sup>1</sup> Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

## **B. Facility-Wide Terms and Conditions**

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.

## **C. Emissions Unit Terms and Conditions**

**1. Emissions Unit Group – Two Strip Lot Reactors vented to a wet scrubber with a control efficiency of 90% for Nitrogen Oxide Compounds (NO<sub>x</sub>) and 98% for Hydrochloric acid (HCl) emissions.: P021, P022**

EU ID	Operations, Property and/or Equipment Description
P021	Strip Lot Reactor # 1 vented to a wet scrubber with a control efficiency of 90% for Nitrogen Oxide Compounds (NO <sub>x</sub> ) and 98% for Hydrochloric acid (HCl) emissions.
P022	Strip Lot Reactor # 2 vented to a wet scrubber with a control efficiency of 90% for Nitrogen Oxide Compounds (NO <sub>x</sub> ) and 98% for Hydrochloric acid (HCl) emissions.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(1)c, d)(7), d)(8), d)(9), d)(10), e)(2)

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective November 30, 2001.	Nitrogen Oxide Compounds (NO <sub>x</sub> ) emissions shall not exceed 5.9 lbs/day and 1.08 TPY  See b)(2)a.  Hydrochloric acid (HCl) emissions shall not exceed 3.16 lbs/day and 0.58 TPY
b.	OAC rule 3745-31-05(E), as effective December 1, 2006.	See b)(2)b.
c.	OAC rule 3745-114	See d)(7) through d)(10) and e)(2).

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.
  - i. Permit to Install and Operate P0106287 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment), as proposed by the permittee, for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):
    - (a) The emissions from this emissions unit shall be vented to a wet scrubber with a control efficiency of 90% for Nitrogen Oxide Compounds (NO<sub>x</sub>) and 98% for Hydrochloric acid (HCl) emissions at all times the emissions unit is in operation.
    - (b) The enclosure has been designed using corrosion resistant materials with adequate containment and air flow to minimize fugitive emissions in accordance with good engineering practices.
    - (c) NO<sub>x</sub> emissions from this emission unit(s) shall not exceed 1.08 TPY and HCl emissions from this emission unit(s) shall not exceed 0.58 TPY.

c) Operational Restrictions

- (1) None

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly install, operate, and maintain equipment to continuously monitor the stage 4 recirculation water flow rate, purge water flow rate, and the stage 4 pH for the scrubber during operation of this emissions unit, including periods of startup and shutdown.

The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

- (2) The permittee shall collect and record the following information daily:
- stage 4 recirculation water flow rate,
  - purge water flow rate, and
  - the stage 4 pH for the scrubber.
- (3) Whenever the monitored value for the stage 4 recirculation water flow rate, purge water flow rate or the stage 4 pH for the scrubber deviates from the range(s) specified in Section d)(6), the permittee shall promptly investigate the cause of the deviation.

The permittee shall maintain records of the following information for each deviation:

- the date and time the deviation began,
  - the magnitude of the deviation at that time,
  - the date(s) the investigation was conducted,
  - the names of the personnel who conducted the investigation, and
  - the findings and recommendations.
- (4) In response to each deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges/values specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended.
- (5) The permittee shall maintain records of the following information for each deviation:
- a description of the corrective action,
  - the date it was completed,
  - the date and time the deviation ended,
  - the total period of time (in minutes) during which there was a deviation,
  - the ranges/values immediately after the corrective action, and
  - the names of the personnel who performed the work.

Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (6) Acceptable ranges for the operational parameters for the scrubber are:
- a stage 4 recirculation water flow rate of not less than 360 gallons per minute (gpm);

- b. a purge water flow rate of not less than 2,880 gallons per day or the value established during the most recent performance test that demonstrated compliance, whichever is greater; and
- c. a pH range of 8.5 to 11.5 in stage 4.

These ranges/values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Southeast District Office. The permittee may request revisions to the ranges/values based upon information obtained during future emission tests that demonstrate compliance with the allowable emission rate for this emissions unit. In addition, approved revisions to the ranges/values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (7) The permit-to-install and operate (PTIO) application for this/these emissions unit(s), P021 and P022, was evaluated by modeling potential emissions from P001 through P009, and P011 through P023, combined, based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
  - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: HCl.

TLV (mg/m<sup>3</sup>): 7.464

Maximum Hourly Emission Rate (lbs/hr): 1.26 (worst case, entire facility)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 115.187

MAGLC (ug/m<sup>3</sup>): 177.714

The permittee, has demonstrated that emissions of HCl, from emissions unit(s) P001 through P009, and P011 through P023, combined, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (8) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC

3704.03(F), has been documented. If the change(s) meet(s) the definition of a “modification”, the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (9) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (10) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) **Reporting Requirements**

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (2) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no

changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitations

NO<sub>x</sub> emissions shall not exceed 5.9 lbs/day and 1.08 TPY;

HCl emissions shall not exceed 3.16 lbs/day and 0.58 TPY

Applicable Compliance Method

Compliance shall be demonstrated using a mass balance based on stoichiometry of the chemical reaction for each batch, 90% NO<sub>x</sub> control efficiency and 98% HCl control efficiency for the scrubber, and multiplying by the maximum number of batches in one day, all as shown in the permittee's application.

If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 and hydrogen chloride emissions shall be determined according to test Methods 1-4 and 26 or 26A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

If required, compliance shall be determined through emissions testing performed in accordance with U.S. EPA Methods from 40 CFR Part 60, Appendix A.

Compliance with the annual limitation shall be determined by multiplying the calculated emissions per batch by the maximum possible number of batches which could be processed in 8,760 hours, and then dividing by 2,000).

g) Miscellaneous Requirements

(1) None

**2. P023, Crude Gold Kettle # 7**

**Operations, Property and/or Equipment Description:**

P023 - Crude Gold Kettle # 7 processing 2600 troy ounces per batch and vented to a wet scrubber with a control efficiency of 90% for Nitrogen Oxide Compounds (NO<sub>x</sub>) and 98% for Hydrochloric acid (HCl) emissions.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(1)c., d)(7), d)(8), d)(9), d)(10), e)(2)

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective November 30, 2001.	Nitrogen Oxide Compounds (NO <sub>x</sub> ) emissions shall not exceed 20.62 lbs/day and 3.8 TPY  See b)(2)a.  Hydrochloric acid (HCl) emissions shall not exceed 2.94 lbs /day and 0.54 TPY
b.	OAC rule 3745-31-05(E), as effective December 1, 2006.	See b)(2)b.
c.	OAC rule 3745-114	See d)(7) through d)(10) and e)(2).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was

revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

i. Permit to Install and Operate P0106287 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment), as proposed by the permittee, for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

(a) The emissions from this emissions unit shall be vented to a wet scrubber with a control efficiency of 90% for Nitrogen Oxide Compounds (NO<sub>x</sub>) and 98% for Hydrochloric acid (HCl) emissions at all times the emissions unit is in operation.

(b) The enclosure has been designed using corrosion resistant materials with adequate containment and air flow to minimize fugitive emissions in accordance with good engineering practices.

(c) NO<sub>x</sub> emissions from this emission unit shall not exceed 3.8 TPY and HCl emissions from this emission shall not exceed 0.54 TPY.

c) Operational Restrictions

(1) None

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly install, operate, and maintain equipment to continuously monitor the stage 4 recirculation water flow rate, purge water flow rate, and the stage 4 pH for the scrubber during operation of this emissions unit, including periods of startup and shutdown.

The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

(2) The permittee shall collect and record the following information daily:

a. stage 4 recirculation water flow rate,

b. purge water flow rate, and

- c. the stage 4 pH for the scrubber.
- (3) Whenever the monitored value for the stage 4 recirculation water flow rate, purge water flow rate or the stage 4 pH for the scrubber deviates from the range(s) specified in Section d)(6), the permittee shall promptly investigate the cause of the deviation.

The permittee shall maintain records of the following information for each deviation:

- a. the date and time the deviation began,
  - b. the magnitude of the deviation at that time,
  - c. the date(s) the investigation was conducted,
  - d. the names of the personnel who conducted the investigation, and
  - e. the findings and recommendations.
- (4) In response to each deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges/values specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended.
- (5) The permittee shall maintain records of the following information for each deviation:
- a. a description of the corrective action,
  - b. the date it was completed,
  - c. the date and time the deviation ended,
  - d. the total period of time (in minutes) during which there was a deviation,
  - e. the ranges/values immediately after the corrective action, and
  - f. the names of the personnel who performed the work.

Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (6) Acceptable ranges for the operational parameters for the scrubber are:
- a. a stage 4 recirculation water flow rate of not less than 360 gallons per minute (gpm);
  - b. a purge water flow rate of not less than 2,880 gallons per day or the value established during the most recent performance test that demonstrated compliance, whichever is greater; and
  - c. a pH range of 8.5 to 11.5 in stage 4.

These ranges/values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Southeast District Office. The permittee may request revisions to the ranges/values based upon information obtained during future emission tests that demonstrate compliance with the allowable emission rate for this emissions unit. In addition, approved revisions to the ranges/values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (7) The permit-to-install and operate (PTIO) application for this/these emissions unit(s), P023, was evaluated by modeling potential emissions from P001 through P009, and P011 through P023, combined, based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
    - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
    - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
  - b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
  - c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminant(s):

Toxic Contaminant: HCl.

TLV (mg/m<sup>3</sup>): 7.464

Maximum Hourly Emission Rate (lbs/hr): 1.26 (worst case, entire facility)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 115.187

MAGLC (ug/m<sup>3</sup>): 177.714

The permittee, has demonstrated that emissions of HCl, from emissions unit(s) P001 through P009, and P011 through P023, combined, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F).

- (8) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the “Toxic Air Contaminant Statute” will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a “modification” under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a “modification”, the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level

concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (9) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (10) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
  - (2) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitations

NO<sub>x</sub> emissions shall not exceed 20.62 lbs/day; 3.8 TPY;

HCl emissions shall not exceed 2.94 lbs/day; 0.54 TPY

Applicable Compliance Method

Compliance shall be demonstrated using a mass balance based on stoichiometry of the chemical reaction for each batch and 90% NO<sub>x</sub> control efficiency and 98% HCl control efficiency for the scrubber, all as shown in the permittee's application, calculated as follows:

(39.65 lb NO<sub>x</sub> /1,000 troy oz.) (2,600 troy oz./batch) (/1 batch/12 hr) (24 hr/day)  
(100% - 90% control for NO<sub>x</sub>) = 20.62 lbs NO<sub>x</sub>/ day

(28.35 lb HCl /1,000 troy oz.) (2,600 troy oz./batch) (1 batch/12 hr) (24 hr/day)  
(100% - 98% control for HCl) = 2.94 lbs HCl/ day

If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 and hydrogen chloride emissions shall be determined according to test Methods 1-4 and 26 or 26A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office

Compliance with the annual limitation shall be determined by multiplying the calculated emissions per batch by the maximum possible number of batches which could be processed in 8,760 hours, and then dividing by 2,000).

g) Miscellaneous Requirements

(1) None