



Louisville Metro Air Pollution Control District  
 701 West Ormsby Avenue, Suite 303  
 Louisville, Kentucky 40203-3137



September 15, 2020

### Title V Statement of Basis

<b>Source:</b> Eckart America Corporation	<b>Owner:</b> Eckart America Corporation
4101 Camp Ground Road	4101 Camp Ground Road
Louisville, KY 40211	Louisville, KY 40211

<b>Application Documents:</b> See Table 8	<b>Administratively Complete:</b> February 19 2019
<b>Draft Permit:</b> 08/01/2020	<b>Proposed Permit:</b> 08/01/2020
<b>Permitting Engineer:</b> Aaron DeWitt	<b>Permit Number:</b> O-0187-20-V
<b>Plant ID:</b> 0187	<b>SIC:</b> 3399
	<b>NAICS:</b> 331314

**Introduction:**

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

This permit action renews the operating permit for Eckart America Corporation.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), particulate matter less than 10 microns (PM<sub>10</sub>), and particulate matter less than 2.5 microns (PM<sub>2.5</sub>), and sulfur dioxide (SO<sub>2</sub>). Jefferson County is classified as a nonattainment area for ozone (O<sub>3</sub>).

**Permit Application Type:**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Initial issuance | <input type="checkbox"/> Permit Revision | <input checked="" type="checkbox"/> Permit renewal |
|   | <input type="checkbox"/> Administrative  |  |
|   | <input type="checkbox"/> Minor           |  |
|   | <input type="checkbox"/> Significant     |  |

**Compliance Summary:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Compliance certification signed | <input type="checkbox"/> Compliance schedule included                 |
| <input type="checkbox"/> Source is out of compliance                | <input checked="" type="checkbox"/> Source is operating in compliance |

**I. Source Information**

- 1. Product/Process Description:** The source produces aluminum powder and paste.
- 2. Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
- 3. Emission Unit Summary:**

Unit	Name
U-1	Boiler Room
U-2	Hot Air Furnace
U-3	Hot Air Direct Convey and Air Slide System
U-4	Hot Air Bin Fill
U-6	Classifiers
U-7	Blending/Repack (Insignificant Activity emission unit)
U-8	Rescreens (Insignificant Activity emission unit)
U-13	Paste (Insignificant Activity emission unit)
U-14	Aluminum Paste Dryers
U-15	Mixers (Insignificant Activity emission unit)
U-16	AST Farm (Insignificant Activity emission unit)
U-17	Stills
U-18	Parts Washers (Insignificant Activity emission unit)
U-22	New Paste (Insignificant Activity emission unit)
U-23	Solvent Exchangers (Insignificant Activity emission unit)
U-24	Mills 13/14 (Insignificant Activity emission unit)
U-25	Zinc Mill (Insignificant Activity emission unit)
U-27	Solvent Wash (Insignificant Activity emission unit)
U-28	Cooling Tower
U-29	Aluminum Paste Process LX21
IA-Misc.	Miscellaneous Insignificant Activities

- 4. Fugitive Sources:** Fugitive emissions of dust from any part of the plant are subject to Regulation 1.14, *Control of Fugitive Particulate Emissions*.
- 5. Permit Revisions:**

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
143-97-V	08/28/2001	01/29/2001	Initial	Initial Issuance

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
143-97-V (R1)	06/05/2014	07/25/2014	Renewal	Permit Renewal; Incorporates: STAR TAC requirements; Incorporate Construction Permits (see table below) Removed equipment taken out of service
143-97-V (R2)	N/A	02/05/2015	Admin.	Incorporate insignificant activity feeder station and R&D paint booths. (See Notes for details)
	Notes: <ol style="list-style-type: none"> <li>Cover page: update administrative information for the permit.</li> <li>Page 6: update table of Title V Permit Revisions/Changes.</li> <li>Page 96: add emission point "E-273" for feeder station to the table of U-22 Equipment.</li> <li>Page 68, 69, 70, 73, 74, 77, 78, 87, 88, 89, 98, 99, 100, 105, 106, 111, 112, 113, 123, and 124: add "E-273" and "Paint Lab" to the list of equipment that subject to 5 tons per 12 months BACT avoidance limit per Regulation 7.25.</li> <li>Page 98, 99, and 100: add "E-273" to the list of U-22 equipment that subject to lb/hr PM standard and opacity standard per Regulation 7.08.</li> <li>Page 70, 74, 78, 89, 101, 106, 113, and 124: change the comment "... 2 tons per year..." to "...less than 5 tons per year..."</li> <li>Page 127: update Insignificant Activities list to include three (3) new R&amp;D paint booths.</li> <li>Page 146: add emission factor for E-273 to "Table 14 U-22: New Paste Process".</li> <li>Page 150: add emission point E-273 to Table 1 of Appendix B.</li> </ol>			
143-97-V (R3)	N/A	03/02/2015	Admin.	Incorporate established pressure drop range for Unit 2 control devices. Change made on page 32 and 34.
143-97-V (R4)	N/A	05/09/2016	Admin.	Incorporate insignificant activity R&D indirect heat exchangers and stills 5 & 6 decanter. (See Notes for details)
	Notes: <ol style="list-style-type: none"> <li>Cover page: update administrative information for the permit.</li> <li>Page 6 and 7: update table of Title V Permit Revisions/Changes.</li> <li>Pages 91 and 92: removed emission points E-96, E-97, E-98, and E-99 from the table of U-17 Equipment, added E-274.</li> <li>Page 72, 73, 74, 78, 79, 80, 83, 84, 85, 93, 94, 95, 96, 106, 107, 108, 109, 113, 114, 115, 119, 120, 121, 122, 131, 132, and 133: add E-274, E-275 and E-276 to the list of equipment that subject to 5 tons per 12 months BACT avoidance limit per Regulation 7.25.</li> <li>Page 93, 94, and 96: removed conditions pertaining to E-96, E-97, E-98, and E-99 from permit standards, monitoring and record keeping, reporting, and comments.</li> <li>Page 136: update Insignificant Activities list to include two (2) new R&amp;D paint booth indirect heat exchangers.</li> <li>Page 154, 163, 166, and 169: removed emission points E-96, E-97, E-98, and E-99 from VOC emissions limit tables.</li> <li>Page 150 and 156 added new equipment to Emission Factor Tables of Appendix A.</li> </ol>			

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
				<ol style="list-style-type: none"> <li>9. Page 160 added new equipment to 7.25 VOC BACT Avoidance Emission Limit table.</li> <li>10. Page 171 added Appendix G, "Determination of Benchmark Ambient Concentration (BAC)"</li> </ol>
143-97-V (R5)	N/A	08/25/2017	Admin.	Incorporation of Construction Permit C-0187-1003-17-TV (see notes for details)
	<p>Notes:</p> <ol style="list-style-type: none"> <li>1. Cover Page; Applications</li> <li>2. Page 6 and 7: Update table of Title V Permit Revision/Changes</li> <li>3. Page 7 and 8: Update Construction Permit History since last TV Permit Renewal Table</li> <li>4. Page 25: Update Control Device Performance Indicator Table</li> <li>5. Page 47 to 54: Update to Emission Unit U-4: Replace Large Powder Storage Tank 2 (E-12) with new Large Powder Storage Tank 2 (E-12a) and remove Bin Fill 1 System (E-11 and E-13)</li> <li>6. Page 73 to 78: Update to emission unit U-13, replace Screens 29 &amp; 30 (E-66a and b) with two new screens (E-66a1 and E-66b1) and remove Screen 31 (E-66c)</li> <li>7. Page 119: Added R&amp;D Solvent Exchanger (Insignificant Activity)</li> <li>8. Page 138: Added R&amp;D Solvent Exchange to Insignificant Activity List</li> <li>9. Throughout Permit: Update Regulation 7.25 "Bucket" Equipment List in Standards, Monitoring &amp; Record Keeping, and Reporting</li> <li>10. Appendix A through G: Emission Points E11 and E13 removed; Emission Points E12a, E66a, E66b, and E277 added where appropriate</li> </ol>			
143-97-V (R6)	12/27/2019	02/12/2019	Admin.	Incorporation of newly installed IA equipment and newly identified existing IA equipment. Removal of obsolete equipment from permit. (see notes for details)
	<ol style="list-style-type: none"> <li>1. U13: E-61a (press tank), E-61b (press tank), E-62a (tank), E-64a (course screen pot), E-64b (fines screen pot), E-65a (course screen pot), E-65b (fines screen pot), E-71 (filter press), and E-231E (tank) are removed. E-116o and E-116p (screens) are moved from U-22 to U-13. No physical change in location or capacity for E-116o and E-116p. E-284 and E-285 (overflow hoppers) are added into U-13.</li> <li>2. U14: E-84 (vacuum dryer 3) is removed from U-14.</li> <li>3. U15: E-129a through E-137a (mixer drum loadings) are added into U-15.</li> <li>4. U17: E-170 (tank), E-238 (still 5 OWS), and E-243 (still 6 OWS) are removed. Name changed for E-233 and E-234 from "Still Settling Tank" to "Still OWS". E-100a (tank drum loading) is added into U-17.</li> <li>5. U22: E-279 and E-280 (slurry tanks) are added into U-22; E-116o and E-116p (screens) are moved from U-22 to U-13. E-286, E-287 and E-288 (filter cake press carts) are added into U-22. E-116a, E-116b and E-116c (screens) are replaced with similar screens and renamed as E-116a1, E-116b1 and E-116c1.</li> <li>6. U23: E-125a, E-126a, E127a, and E-185a (drum loadings) are added into U-23.</li> <li>7. U24: E-272 is renamed from "R&amp;D Mixer" to "Mill 13/14 Mixer"; E-277 is changed to Pilot LAB; E-278 is removed from U-24 and only be listed in IA list since they are independent of Mills13/14 process. E-289 (filter cake press carts) are added into U-24.</li> <li>8. U25: E-281 (slurry tank) is added into U-25. E-200a (mixer drum loading) is added into U-25.</li> <li>9. U27: E-226 (filter press 22) is removed from U-27; E-274 (Still 5&amp;6 decanter) is moved</li> </ol>			

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
				<p>from U-17 to U-27. E-283 (filter cake press cart) is added into U-27.</p> <p>10. Insignificant Activities: Added pilot lab, QA/QC lab, and re-grouped R&amp;D labs;</p> <p>11. Updated information in Appendix A through E for new and removed equipment.</p> <p>12. Added monitoring, record keeping, and reporting requirements for Regulation 7.25 BACT limit compliance.</p> <p>13. Deleted unit IA-EG for emergency generator.</p> <p>14. Added unit IA-Misc. for QA/QC Lab (E-278), and R&amp;D Labs (E-282).</p>
O-0187-20-V	08/01/2020	09/15/2020	Renewal	Renewal, update format, incorporating C-0187-1008-20-V, and adding Insignificant Activities

## 6. Construction Permit History:

Permit No.	Effective Date	Description
163-00-C	07/31/2001	Five Ball Mills #7, 8, 9, 10, & 11 [U-22] {E-111 through 115}
164-00-C	07/31/2001	20 Vibratory screens [U-22] {E-116}
165-00-C	07/31/2001	30 Agitated Tanks [U-22] {E-117}
166-00-C	07/31/2001	3 Filter Presses [U-22] {E-119, 120, 121}
167-00-C	07/31/2001	Seven Ribbon Mixers [U-15] {E-129 through 132, E-134, 136, 137}
120-02-C	05/30/2002	One (1) vacuum dryer/solvent exchanger (1300 lb/batch). (Solvent Exchanger 1) [U-23] {E-127}
127-02-C	05/30/2002	Three (3) agitated tanks: two (2) at 317 gallons each and one (1) at 80gallons. (Additive Tanks 1, 2, 3) [U-23] {E-123, 125, 126}
245-02-C	10/31/2002	Two (2) 15,500-gallon storage tanks (Tank #8 and Tank #9) for mineral spirits. [U-16] {E-166, 167}
39-03-C	01/31/2003	One (1) Ball Mill (#12). [U-22] {E-178}
40-03-C	01/31/2003	Four (4) screeners. [U-22] {E-116}
41-03-C	01/31/2003	Five (5) slurry tanks (2730 gallons each). [U-22] {E-118}
126-03-C	03/31/2003	Two (2) 15,500-gallon mineral spirits storage vessels [U-16], {E-168 & 169}
179-05-C	05/30/2005	One (1) Vacuum dryer/solvent exchanger, vacuum pump, and condenser. [U-23] {E-185}
180-05-C	05/30/2005	One (1) Additive Tank 4 (210 gallons). [U-23] {E-184}

Permit No.	Effective Date	Description
181-05-C	05/30/2005	Three (3) Ball Mills #13 (450 pounds per batch), #14 (1300 pounds per batch), and #20 (2000 pounds per batch). [U-24] & [U-25]
182-05-C	05/30/2005	Four (4) Vibrating Screens (600 gallons per hour each). [U-24] & [U-25]
183-05-C	05/30/2005	Eight (8) Slurry Tanks (two (2) at 2600 gallons each, one (1) at 2100 gallons, and five (5) at 1000 gallons each). [U-24] & [U-25]
184-05-C	05/30/2005	Three (3) Filter Presses (one (1) at 2000 pounds, one (1) at 300 pounds, and one (1) at 175 pounds), and one (1) 25,000-pound Blender [U-24, U-25]
185-05-C	05/30/2005	One (1) 4000-gallon Storage Tank [U-25]
313-06-C	10/31/2007	One (1) Still #4, make Hering AG Gunzenhausen, model custom, capacity 375 gallons per hour. [U-17]
314-06-C	10/31/2007	Two (2) Drum/Tote Unloading Stations, make Fischer AG, model custom, capacity 250 lb/hr each; two (2) Staging Vessels, make BMI Industrial Systems, model custom, capacity 500 ltr.; two (2) Rotary Feeders, make Rotolock, model H100B38 304SS, capacity 250 lb/hr each; and two (2) Rescreeners, make Russel Finex, model Europa 1200, capacity 250 lb/hr. [U-8]
315-06-C	10/31/2007	Eight (8) Filters each controlling one emission point listed on Permit 314-06. [U-8]
316-06-C	10/31/2007	Three (3) tanks, one (1) cyclone, one (1) classifier, and (1) conveying unit. [U-6]
317-06-C	10/31/2007	Two (2) Stills #5 and #6, make Hering AG Gunzenhausen, model custom, capacity 375 gallons per hour each. [U-17]
247-07-C	06/30/2007	Two (2) Filter Presses, capacity 300 lb each, for the Solvent Wash System. [U-27]
250-07-C	06/30/2007	Two (2) Storage (Recirculating) Tanks, capacity 800 gal each, for the Solvent Wash System; and one (1) Press Filtrate Storage Tank, capacity 265 gal, for the Solvent Wash System. [U-27]
463-08-C	08/31/2008	Three (3) 440-gallon aluminum paste slurry storage tanks (B06, B07, and B08), make Snyder Industries Inc., model Jumbo Drum. [U-22]
464-08-C	08/31/2008	One (1) Docking/Transfer Station (2700 lb/hr), make custom, controlled by Metal Mesh Filter 1. [U-3] {E-229}

Permit No.	Effective Date	Description
465-08-C	08/31/2008	Two (2) Metal Mesh Filters, make custom, model custom. [U-3] {F-005, F-006}
84-09-C	03/31/2009	Six (6) metal mesh filters, F-007 through F-012, make Pall Corporation, model Metal-Bag Custom, controlling existing units U-3, U-4, U-6, and U-12 to replace the existing cyclone control devices.
33524-11-C	11/02/2011	Multicyclone{E7}, classifier weigh tank {E128b-2} - EU [U-2] & [U-6]
34565-12-C	05/30/2012	Replacement of four existing condenser systems (Low Pressure Paste, High Pressure Paste, Mills 13/14 and Zinc Mill) with one dual stage condenser SVR (solvent vapor recovery) system controlling equipment listed in comments 1, 4, 6, 8 and 15. Modifications to vent emissions from Solvent Exchanger {E-185} process to the SVR.
35661-12-C	10/02/2012	Mixer 7 {E-135}, Brunati SNC 1033 Castelfranco/Italy, 5500pound capacity, that will produce aluminum paste product from aluminum filter cake, mineral spirits and high flash naphtha.
36408-12-C	01/04/2013	Removal of metal mesh filter {F-010} from the vent on Classifier 1 Weigh Tank {E-26a} and removal of filters E-151 and E-159 from the drum/tote unloading stations {E-150 and E-158}. [U-6]
36563-13-C	04/26/2013	Unpermitted equipment; filtrate tank, Mill 14 recirculation tank; Centrifuge/Decanter, Rework Hooper, High pressure paste condenser; still settling tank (2); miscellaneous tank (650 gallon); Mill 5/6 slurry tank; Double/single drum tumbler; tubar dumper; vibrating screen; screw conveyor; hopper; bucket fill; airslide conveyor pod {E-141}; 3 parts washers
C-0187-1003-17-V	08/07/2017	Install one (1) Large Powder Storage Tank 2 (E-12a), two (2) screens on Mills 5/6 (E-66a1 and E-66b1) (Insignificant Activities), and one (1) R&D Solvent Exchanger (E-277) that was previously installed (Insignificant Activity). This equipment is replacing the currently permitted Large Powder Storage Tank 2 (E-12) and two (2) screens 29 & 30 (E-66a and E-66b). Also being removed is the Bin Fill 1 System (E-11 and E-13) and screen 31 (E-66c)

Permit No.	Effective Date	Description
C-0187-1008-20-V	01/16/2020	<p>U16: Install two (2) new 15,500 gallon above ground storage tanks (AST), E-290 (a and b). These tanks store used Mineral Spirits</p> <p>U17: Install a new still system (E-291 through E-294). One (1) Still 7 Feed Tank, one (1) Still 7 Vacuum Pump, one (1) Still 7 Cooling Tank, one (1) Still 7 Condensate Tank for the onsite recovery of used mineral spirits. This will increase the throughput through existing Still OWS T-104 (E-233) and T-105 (E-234). Emissions controlled by the SVR (C-9).</p> <p>U29: Install a new LX21 aluminum paste production process. The process includes new ball mills, screens, tanks, filter presses, mixers, and drum loading. Emissions controlled by the SVR (C-9).</p>

## 7. Permit Renewal-Related Documents

Document Number	Date Received	Description
96510	12/13/2018	Application 100a Renewal
96929, 96930	01/31/2019	Renewal Application, public and confidential
97120	02/19/2019	Renewal Application Administratively complete letter
97514	03/06/2019	Company transmittal of confidential application to EPA
97878	04/04/2019	District request for site visit
97909	04/05/2019	Site visit scheduled 4/16/2019
98076	04/18/2019	District request for additional information on nozzle cleaner
98568	06/03/2019	District request for information of multicyclone pressure drop transmitters
98569	06/03/2019	Eckart response to information of multicyclone pressure drop transmitters
98608	06/04/2019	District request for information of parts washer E-245
98609	06/04/2019	Eckart response to information of parts washer E-245
98620; 98621	06/05/2019	Construction Application 100A, 100B, 100E, and 200A.
OB2776	06/25/2019	Construction Permit Clarifications
OB2779, 2780, 2781, 2782	06/27/2019	Construction Permit Clarifications (response)
OB3048	07/24/2019	Construction Permit Deficiency letter
OB70988 OB115851	08/15/2019	Application for R&D Dryer, and R&D Lab (Confidential) Public Version
OB92601	08/22/2019	BACT analysis for construction New Paste Line



<b>Document Number</b>	<b>Date Received</b>	<b>Description</b>
OB94154	08/26/2019	Construction Updated 100B for New Paste Line
OB94369	08/28/2019	Revised Confidential Construction Application
OB94371	08/28/2019	Revised Public Construction Application
OB119792	10/01/2019	Pre-draft permit sent to company for review
OB122540	10/17/2019	Company comments on Pre-draft permit
OB122764	10/22/2019	District response to pre-draft comments
OB123124	10/29/2019	Company submitted updated Confidential and public application
OB123299	10/31/2019	Approved Construction PTE
OB123892	11/05/2019	AP-100B Update
OB125149	12/12/2019	Email company public notice, draft permit, sob, and invoice C-0187-1008-20-V
OB126148	12/12/2019	Email EPA public notice, draft permit, SOB, public applications C-0187-1008-20-V
OB126147	12/12/2019	Construction legal notice Proof and Cost C-0187-1008-20-V
OB126146	12/12/2019	Email legal notice to Courier Journal C-0187-1008-20-V
OB126145	12/12/2019	Email requesting confidential applications submitted to EPA for new paste line
OB127616	01/08/2020	Correspondence regarding payment of construction permit invoice
OB127864	01/10/2020	Eckart response to payment of construction permit invoice
OB128010	01/14/2020	Eckart response to payment of construction permit invoice
OB128189	01/16/2020	Correspondence related to leak in gas line to furnace and boiler
OB128497	01/17/2020	Temporary Exemption questions
OB132118	02/19/2020	Eckart request 2 week extension on permit review and District approval of request
OB132039	02/19/2020	Draft Title V permit draft review
OB135554	03/20/2020	Company review paint lab excel
OB135553	03/20/2020	Company review photo
OB135552	03/20/2020	Company review 100b
OB135551	03/20/2020	Company review email
OB136701	04/07/2020	District email of questions on permit
OB136706	04/07/2020	Company response to questions

Document Number	Date Received	Description
OB136707	04/07/2020	District reply to permit questions, and additional questions on filter press carts
OB136746	04/07/2020	Company additional information on filter press carts
OB136782	04/08/2020	District follow-up to filter press cart PTE
OB136874	04/09/2020	Company response to filter press cart PTE
OB137321	04/13/2020	District response to pre-draft company comments
OB169920	08/26/2020	Company notification of an incorrect emission factor in Appendix A of the permit
OB171728; OB171729; OB171811; OB171882	09/08/2020; 09/11/2020; 09/14/2020	Revised application for LX21 process and District agreement the construction permit did not need to be revised

**8. Plant-wide Emission Summary:**

Pollutant	District Calculated Actual Emissions 2018 Data (tpy)	Major Source Status (based on PTE)
CO	3.21	No
NO <sub>x</sub>	3.82	No
SO <sub>2</sub>	0.02	No
PM/PM <sub>10</sub>	23.77	Yes
VOC	13.28	Yes
Total HAPs	3.81	No
GHG	11,948	No

\*Note: The GHG are potential to emit (PTE) emissions not actual emissions.

**9. Applicable Requirements:**

PSD  40 CFR 60       40 CFR 63       SIP  
 NSR  40 CFR 61       District-Origin       Other

**10. Referenced MACT Federal Regulations:**

N/A

**11. Referenced non-MACT Federal Regulations:**

40 CFR Part 64      Compliance Assurance Monitoring for Major Stationary Sources

**12. Non-Applicable Regulations:**

None

**II. Regulatory Analysis**

**1. Acid Rain Requirements:** The source is not subject to the Acid Rain Program.

2. **Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source’s use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.
3. **Prevention of Accidental Releases 112(r):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.
4. **40 CFR Part 64 Applicability Determination:** The source is major for PM and a control device is needed to achieve compliance with District Regulation 7.08 for Emission Points E-3, E-8a, and E-9. In accordance with 40 CFR 64, Compliance Assurance Monitoring for Major Stationary Sources, the source was required to propose a CAM plan for PM, based on current process and control device requirements and practices. The CAM plan was received by the District on January 15, 2013.
5. **Basis of Regulation Applicability**

a. **Plantwide**

Eckart is a major source for PM<sub>10</sub>. Regulation 2.16-*Title V Operating Permits* establishes requirements for major sources.

Eckart was previously a major source for VOC, but changed to a lower vapor pressure mineral spirits for production.

Regulations 5.00, 5.01, 5.20, 5.21, 5.22 and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.

For all non-aluminum processes, Eckart submitted their TAC Environmental Acceptability Demonstration to the District on November 20, 2006, March 31, 2008, and January 10, 2014. Compliance with the STAR EA Goals was demonstrated in the source’s EA Demonstrations. For all aluminum (non-carcinogenic TAC) PM emission points, the performance test results shall be reported in lb PM/ton of throughput. Eckart America Corporation submitted their STAR Environmental Acceptability Determination to the District on **March 31, 2009, July 27, 2012, February 6, 2014, and May 16, 2014**. Per the most recent EA demonstration, the AERMOD 8-hour MAC for aluminum was 55.04022 µg/m<sup>3</sup>. Using APCD’s equation 4 (Regulation 5.21, section 2.2), the resulting HQ is 1.10. The MAC is located on industrial property. The industrial HQ is below the EA<sub>nc</sub> of 3.0. An AERMOD run was also completed with just the non-industrial receptor points. The residential 8-hour MAC for aluminum was 37.00945 µg/m<sup>3</sup>. The residential HQ is 0.74, which is below the EA<sub>nc</sub> of 1.0. Since the combined risk is below the EA goals for all P/PE for a single TAC, the risk is also below the EA goals for each individual P/PE for a single TAC as required by Regulation 5.21 section 3.1. Eckart is in compliance with the STAR EAGs.

Plantwide Sum	All existing & new		All new P/PE	
Industrial Total R <sub>c</sub>	0.00	< 75	0.00	< 38
Non-Ind. Total R <sub>c</sub>	0.00	< 7.5	0.00	< 3.8

Industrial Max. R <sub>NC</sub>	1.10	< 3.0		
Non-Ind. Max. R <sub>NC</sub>	0.74	< 1.0		

The TAC emissions from an insignificant activity (as defined in Regulation 2.16) are considered to be “de minimis emissions” by the District.  
 [Regulation 5.21, section 2.3]

The TAC emissions from the combustion of natural gas are considered to be “de minimis emissions” by the District. This includes all of the emissions from a process or process equipment for which the only emissions are the products of combustion of natural gas, such as from a natural gas-fired boiler or turbine, but does not include the other emissions from a process or process equipment that are not the products of the combustion of natural gas. [Regulation 5.21, section 2.7]

Regulation 2.16, sections 4.1.9.1 and 4.1.9.2 requires sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.

Regulation 2.16, section 4.3.5, requires stationary sources for which a Title V is issued shall submit an annual compliance certification by April 15. In addition, as required by Regulation 2.16, section 4.1.9.3, the source shall submit compliance reports at least every six months to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.16, section 3.5.11.

Regulation 2.16, section 4.3.1 establishes testing requirements to assure compliance with the terms and conditions of the permit. Thus, an EPA Reference Method performance test shall be performed every 10 years to determine the emission rate and control efficiency.

**b. Applicable Regulations:**

<b>Regulation</b>	<b>Title</b>	<b>Type</b>
1.04	Performance Tests	SIP
1.05	Compliance with Emission Standards and Maintenance Requirements	SIP
2.05	Prevention of Significant Deterioration of Air Quality	SIP
2.16	Title V Operating Permits	SIP
5.00	Standards for Toxic Air Contaminants and Hazardous Air Pollutants	Local
5.01	General Provisions	SIP
5.14	Hazardous Air Pollutants and Source Categories	Local
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	Local
5.21	Environmental Acceptability for Toxic Air Contaminants	Local
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Local
5.23	Categories of Toxic Air Contaminants	Local
6.09	Standards of Performance for Existing Process Operations	SIP
6.13	Standard of Performance for Existing Storage Vessels for Volatile Organic Compounds	SIP

Regulation	Title	Type
6.18	Standards of Performance for Solvent Metal Cleaning Equipment	SIP
6.24	Standard of Performance for Existing Sources Using Organic Materials	SIP
6.28	Standard of Performance for Existing Hot Air Aluminum Atomization Processes	
7.06	Standards of Performance for New Indirect Heat Exchangers	SIP
7.08	Standards of Performance for New Process Operations	SIP
7.12	Standard of Performance for New Storage Vessels for Volatile Organic Compounds	SIP
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	SIP
40 CFR 64	Compliance Assurance Monitoring	Federal

c. **Basis for Applicability**

Regulation	Basis for Applicability
1.04	Establishes performance testing requirements
1.05	Establishes daily record keeping requirements for sources emitting 100 tons per year or more of VOC and all Control Technique Guidance (CTG) sources to demonstrate compliance with applicable portions of Regulation 6 and 7.
2.05	Establishes requirements for the prevention of deterioration of air quality in regions of the country that currently meet the NAAQS.
2.16	Title V source
5.00	Establishes definitions of terms used in the Strategic Toxic Air Reduction Program.
5.01	Establishes general provisions for process equipment from which a toxic air contaminant is or may be emitted.
5.20	Establishes the methodology for determining the benchmark ambient concentration of a toxic air contaminant.
5.21	Establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants.
5.22	Establishes the procedures for determining the maximum ambient concentration of a toxic air contaminant.
5.23	Establishes categories of toxic air contaminants.
6.09	Applies to each process operation that is not otherwise regulated by any other portion of Regulation 6 and was in existence or had a construction permit issued by the District by September 1, 1976.
6.18	Applies to cold cleaners.
6.24	Establishes VOC standards for affected facilities constructed before June 13, 1979.
6.28	Establishes standards of performance for existing hot air aluminum atomization processes
7.06	Applies to each indirect heat exchanger having input capacity of more than one million BTU per hour commenced after September 1, 1976.
7.08	Equipment installed after September 1, 1976 and subject to the PM emission standard.

Regulation	Basis for Applicability
7.12	Storage tanks with a capacity greater than 250 gallons constructed after April 19, 1972
7.25	Establishes VOC standards for affected facility constructed after June 13, 1979 for VOC.
40 CFR 64	Applies to each pollutant specific emission unit that is subject to an emission limitation or standard; uses a control device to achieve compliance; and has pre-control emissions that exceed or are equivalent to the major source threshold. CAM applies because the Atomization Furnace, Buhler A Conveyor Pod, and Tote/Drum Fill Stations are subject to emission limitations, use control devices to achieve compliance and have pre-control emissions that exceed the major source threshold.

d. **Emission Unit U-1 Boiler Room**

i. **Equipment**

Emission Point	Description	Applicable Regulations
E-1	Boiler #5, natural gas fired only	STAR, 7.06
E-2	Boiler #4, natural gas fired only	
E-138	Space Heater	STAR
E-275	Paint Booth Make-up Air (Natural gas)	
E-276	Gas fired humidifier (Natural gas)	STAR, 7.06

ii. **Standards/Operating Limits**

1) **Opacity**

The boilers are subject to the opacity standards in accordance with Regulation 7.06, section 4.2.

- (a) The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

2) **PM**

In accordance with Regulation 7.06, section 4.1.4, PM emissions are limited to 0.342 pounds per million BTU actual total heat input for Emission Points E-1 and E-2.

$$E = 1.919 \times (25.066)^{-0.535} = 0.342 \text{ lb/MMBTU}$$

- (a) A one-time PM and SO<sub>2</sub> compliance demonstration has been performed for the boilers, using AP-42 emission factors and combusting natural gas, and the emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, and reporting requirements for these boilers with respect to PM and SO<sub>2</sub> emission limits.

3) **SO<sub>2</sub>**

In accordance with Regulation 7.06, section 5.1.1, SO<sub>2</sub> emissions are limited to 1.0 pounds per million BTU actual total heat input for Emission Point Points E-1 and E-2 because the total heat input capacity is less than 145 million BTU per hour.

- (a) A one-time PM and SO<sub>2</sub> compliance demonstration has been performed for the boilers, using AP-42 emission factors and combusting natural gas, and the emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, and reporting requirements for these boilers with respect to PM and SO<sub>2</sub> emission limits.

4) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

e. **Emission Unit U-2 Hot Air Furnace**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-3	Atomization Furnace	STAR, 6.28, 40 CFR 64
E-4	M-7 Screen Room	STAR, 7.08
E-6	M-8 Screen Room	
E-5a	Multicyclone Drum Loading	
E-7a	Multicyclone Drum Loading	
E-139	Compressed Air Preheater	STAR
E-140	Johnson Gas Appliance Nozzle Heater	
E-266	Space Heater	

ii. **Standards/Operating Limits**

1) **Opacity**

- (a) Regulation 6.28, section 3.1 establishes an opacity standard.
- (b) Regulation 7.08, section 3.1.1 establishes opacity standards.

2) **PM**

- (a) Regulation 6.28, section 3.2 establishes a PM standard for Emission Point E-3.
- (b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-4 E-6, E-5a and E-7a is:  
 $E = 3.59 \times (0.75)^{0.62} = 3.00 \text{ lb/hr}$   
 (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

3) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

f. **Emission Unit U-3 Hot Air Direct Convey and Air Slide System**i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-8a	Buhler A Storage Tank	2.05, STAR, 7.08, 40 CFR 64
E-8b	Buhler A Weigh Tank	STAR, 7.08
E-8c	Buhler A Conveyor Pod	
E-9	Rail Car Loading	2.05, STAR, 7.08, 40 CFR 64
E-229	Docking/Transfer Station	STAR, 7.08
E-141	Air Slide Conveyor Pod	STAR, 6.09

ii. **Standards/Operating Limits**1) **Opacity**

Regulation 6.09, section 3.1 and Regulation 7.08, section 3.1.1 establishes opacity standards.

2) **PM**

(a) In accordance with Regulation 6.09, Table 1, PM standard for Emission Point E-141 is:

$$E = 4.10 \times (1.35)^{0.67} = 5.01 \text{ lb/hr}$$

(A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

(b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-8b, and E-8c is:

$$E = 3.59 \times (1.75)^{0.62} = 5.08 \text{ lb/hr}$$

(A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

(c) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-9 is:

$$E = 3.59 \times (1.5)^{0.62} = 4.62 \text{ lb/hr,}$$

(d) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-229 is:

$$E = 3.59 \times (1.35)^{0.62} = 4.32 \text{ lb/hr}$$

(A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

(e) Per construction permit 84-09-C, PM standard for Emission Point E-8a is 4.62 lb/hr.

(f) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons per 12 consecutive month period for emission points E-8a and E-9 combined in accordance with Regulation 2.05.



3) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

g. **Emission Unit U-4 Hot Air Bin Fill**

i. **Equipment**

Emission Point	Description	Applicable Regulations
E-12a	Large Powder Storage Tank 2	2.05, STAR, 7.08
E-15	Tote/Drum Fill Station #2	

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.08, section 3.1.1 establishes an opacity standard.

2) **PM/PM<sub>10</sub>/PM<sub>2.5</sub>**

(a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-15 is:

$$E = 3.59 \times (1.5)^{0.62} = 4.62 \text{ lb/hr}$$

(b) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons per 12 consecutive month period for emission points E-12a in accordance with Regulation 2.05.

(c) In order to avoid PSD/Nonattainment NSR the permit contains a PM<sub>10</sub> standard of <15 ton per 12 consecutive month period, and PM<sub>2.5</sub> standard of <10 ton per 12 consecutive month period for Emission Point E-12a in accordance with Regulation 2.05.

3) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

h. **Emission Unit U-6 Classifiers**

i. **Equipment**

Emission Point	Description	Applicable Regulations
E-25	15,000 lb Tank	2.05, STAR, 7.08
E-26a	Classifier 1 Weigh Tank	
E-26b	Fines Bin	
E-26c	Buhler C Conveyor Pod	
E-26d	Drum Loading	
E-128	30,000 lb Tank	
E-128b1	Buhler B Conveyor Pod	
E-128b2	Classifier 2 Weigh Tank	

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.08, section 3.1.1 establishes an opacity standard.

2) **PM**

- (a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-25, E-26b, E-26c, and E-26d is:  
 $E = 3.59 \times (1.25)^{0.62} = 4.12 \text{ lb/hr}$   
 (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)
- (b) Per construction permit 36408-12-C, PM standard for Emission Point E-26a is 3.305 lb/hr.
- (c) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-128, E-128b1, and E-128b2 is:  
 $E = 3.59 \times (1.75)^{0.62} = 5.08 \text{ lb/hr}$   
 (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions for Emission Points E-128a, and E-128b cannot exceed the PM emission standard.)
- (d) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons per 12 consecutive month period for emission points E-25, E-26a, E-26b, E-26c, and E-26d combined in accordance with Regulation 2.05.
- (e) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons per 12 consecutive month period for emission points E-128, E-128b1, and E-128b2 combined in accordance with Regulation 2.05.

3) **TAC**

Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

i. **Emission Unit U-7 Blending/Repack**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-27	Gemco Tumble Blender	STAR, 7.08
E-143	Double Drum Tumbler	
E-147	Drum Dumper	
E-148	Riddler Screen	
E-230	Screw Conveyor	
E-145	Hopper	
E-146	Bucket Fill	

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.08, section 3.1.1 establishes an opacity standard.

2) **PM**

- (a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-27 is:  
 $E = 3.59 \times (0.75)^{0.62} = 3.00 \text{ lb/hr}$

(A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

- (b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-143, E-147, E-148, E-230, E-145, and E-146 is 2.34 lb/hr for process throughput of 1,000 lb/hr or less. (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

j. **Emission Unit U-8 Rescreens**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-150	Flake 100 Drum/Tote Unloading	STAR, 7.08
E-152	Flake 100 Staging Vessel	
E-154	Flake 100 Rescreener	
E-156	Flake 100 Drum Loading	
E-158	Powder 200 Drum/Tote Unloading	
E-160	Powder 200 Staging Vessel	
E-164	Powder 200 Drum Loading	

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.08, section 3.1.1 establishes an opacity standard.

2) **PM**

In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-150, E-152, E-154, E-156, E-158, E-160, and E-164 is 2.34 lb/hr for process throughput of 1,000 lb/hr or less. (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

k. **Emission Unit U-13 Aluminum Paste Process**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-56	Ball Mill 5	STAR, 6.09, 6.24
E-57	Ball Mill 6	STAR, 6.24, 7.08
E-66a1	Screen 29	STAR, 7.25
E-66b1	Screen 30	
E-284	Overflow Hopper for Ball Mill 5	STAR, 7.25
E-285	Overflow Hopper for Ball Mill 6	STAR, 7.25
E-116o	Vibratory Screen 15	2.05, STAR 7.25
E-116p	Vibratory Screen 16	

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 6.09, section 3.1 and Regulation 7.08, section 3.1.1 establishes opacity standards.

- 2) **PM**
  - (a) In accordance with Regulation 6.09, Table 1, PM standard for Emission Point E-56 is 2.58 lb/hr for process throughput of 1,000 lb/hr or less. (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)
  - (b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-57 is 2.34 lb/hr for process throughput of 1,000 lb/hr or less. (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)
- 3) **VOC**
  - (a) Regulation 6.24 limits the pound per hour and pound per day emissions of Class II and Class III solvents for Emission Points E-56 and E-57, unless the emissions are reduced by at least 85%. (A one-time demonstration on February 21, 2014 shows the potential VOC emissions cannot exceed the emission standards from Regulation 6.24 for Class II and Class III solvents. Therefore, there are no monitoring, recordkeeping, or reporting requirements for these emission points.)
  - (b) Per Regulation 2.05 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions are limited to 40 tons per 12 consecutive month period for Emission Points E-116o, E-116p, (U-13); E-129 and E-129a, E-130 and E-130a, E-131 and E-131a, E-132 and E-132a, E-134 and E-134a, E-136 and E-136a, E-137 and E-137a (U-15); E-111, E-112, E-113, E-114, E-115, E-116 a1-c1, E-116 d-n, and E-116 q-x, E-117 a-dd, E-118 a-j, E-178, E-119 a-g, E-120 a & b, E-121 a-c, E-270, E-179 a-h, E-180, E-181, E-286, E-287, and E-288 (U-22); E-123, E-125 and E-125a, E-126 and E-126a, and E-127 and E-127a, E-252, E-253 (U-23).
  - (c) Per Regulation 7.25 (BACT), for Emission Points E-116o, E-116p, (U-13): Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
  - (d) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screens (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-

100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282); R&D Solvent Exchange (IA: E-277); Paint Lab (IA: E-278); R&D Ball Mill (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

**l. Emission Unit U-14 Aluminum Paste Dryers**

**i. Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-82	Vacuum Dryer #2, equipped with process condenser	STAR, 6.24
E-83	Condenser/Vacuum Pump No. 2	STAR, 6.24
E-232	Dryer 2/3 Holding Tank	STAR, 7.25
E-341	Pilot Lab Dryer	STAR, 7.25

**ii. Standards/Operating Limits**

**1) VOC**

- (a) Regulation 6.24 limits the pound per hour and pound per day emissions of Class II and Class III solvents for Emission Point E-82 and E-83, unless the emissions are reduced by at least 85%. (A one-time demonstration on February 21, 2014 shows the potential VOC emissions cannot exceed the lb/hr emission standards from Regulation 6.24 for Class II solvents; and the lb/hr and lb.day for Class III solvents. Therefore, there are no monitoring, recordkeeping, or reporting requirements for these emission standards. But, the lb/day for Class II solvents can exceed when the process condensers are not operating as designed, therefore, the permit contains requirements for the time period when the process condensers are not operating as designed.)
- (b) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-

255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

m. **Emission Unit U-15 Mixers**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-129, 129a	Mixer 1 and Drum Loading	2.05, STAR, 7.25
E-130, 130a	Mixer 2 and Drum Loading	
E-131, 131a	Mixer 3 and Drum Loading	
E-132, 132a	Mixer 4 and Drum Loading	
E-133, 133a	Mixer 5 and Drum Loading	STAR, 6.24
E-134, 134a	Mixer 6 and Drum Loading	2.05, STAR, 7.25
E-135, 135a	Mixer 7 and Drum Loading	STAR, 7.25
E-136, 136a	Mixer 8 and Drum Loading	2.05, STAR, 7.25
E-137, 137a	Mixer 9 and Drum Loading	

ii. **Standards/Operating Limits**

1) **VOC**

- (a) Regulation 6.24 limits the pound per hour and pound per day emissions of Class II and Class III solvents for Emission Points E133 and E133a, unless the emissions are reduced by at least 85%. (A one-time demonstration on February 21, 2014 that shows the potential VOC emissions cannot exceed the emission standards from Regulation 6.24 for Class II and Class III solvents. Therefore, there are no monitoring, recordkeeping, or reporting requirements for these emission points.)
- (b) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA:

E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

- (c) Per Regulation 2.05 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions are limited to 40 tons per 12 consecutive month period for Emission Points E-116o, E-116p, (U-13); E-129 and E-129a, E-130 and E-130a, E-131 and E-131a, E-132 and E-132a, E-134 and E-134a, E-136 and E-136a, E-137 and E-137a (U-15); E-111, E-112, E-113, E-114, E-115, E-116 a1-c1, E-116 d-n, and E-116 q-x, E-117 a-dd, E-118 a-j, E-178, E-119 a-g, E-120 a & b, E-121 a-c, E-270, E-179 a-h, E-180, E-181, E-286, E-287, and E-288 (U-22); E-123, E-125 and E-125a, E-126 and E-126a, E-127 and E-127a, E-252, and E-253 (U-23).
- (d) Per Regulation 7.25 (BACT), for Emission Points E-116o, E-116p, (U-13): Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.

n. **Emission Unit U-16 AST (Aboveground Storage Tank) Farm**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-89	AST 1 – Mineral Spirits from oleic acid	STAR, 7.12
E-90	AST 2 – Mineral Spirits from stearic acid	
E-91	AST 3 – Non-Distillable Mineral Spirits	
E-92	AST 4 – Mineral Spirits	
E-107	AST 5 – High Flash Naphtha	
E-93	AST 6 – Mineral Spirits OR-6	
E-94	AST 7 – Mineral Spirits OR-6	
E-166	AST 8 – Distillable Mineral Spirits	
E-167	AST 9 – Distilled Mineral Spirits	
E-168	AST 10 – Virgin Mineral Spirits	
E-169	AST 11 – Used Mineral Spirits OR-6	
E-108	AST 12 – Diesel fuel	
E-290a	AST 13 – Mineral Spirits OR-6, capacity 15,500 gal	
E-290b	AST 14 – Mineral Spirits OR-6, capacity 15,500 gal	

ii. **Standards/Operating Limits**

1) **VOC**

- (a) Regulation 7.12, section 3.3 requires submerged fill if the materials have an as stored vapor pressure of 1.5 psia or greater.
- (b) Regulation 7.12 applies due to the size of the tanks, however, since the vapor pressure as stored is less than 1.5 psia there are no applicable emission or equipment standards.

**o. Emission Unit U-17 Stills**

**i. Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-100, 100a	Sludge Accumulator Tank and Drum Loading	STAR, 7.25
E-210	Still 5 w/Condenser and Vacuum Pump	STAR, 7.25
E-240	Still 6 w/Condenser & Vacuum Pump	
E-233	Still OWS (T-104)	
E-234	Still OWS (T-105)	
E-235	Still 5 Feed Tank	
E-236	Still 5 Cooling Tank	
E-237	Still 5 Condensate Tank	
E-239	Still 6 Feed Tank	
E-241	Still 6 Cooling Tank	
E-242	Still 6 Condensate Tank	
E-291	Still 7 Feed Tank	
E-292	Still 7 Vacuum Pump	
E-293	Still 7 Cooling Tank	
E-294	Still 7 Condensate Tank	

**ii. Standards/Operating Limits**

**1) VOC**

- (a) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Points E-210, E-240, E-233, E-234, E-235, E-236, E-237, E-239, E-241, and E-242 all combined, the owner or operator shall limit the VOC emissions to less than 3.794 ton per 12 consecutive month period.
- (b) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA:



E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

(c) Per Regulation 7.25 (BACT), for Emission Points E-233, E-234, E-291, E-292, E-293, and E-294: Per Regulation 7.25 (BACT), Eckart America Corporation submitted a BACT analysis as part of the application for this equipment. Based on the BACT analysis:

- i. Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
- ii. Control device C-9 must achieve a minimum destruction efficiency.
- iii. The mineral spirits vapor pressure is limited.

p. **Emission Unit U-18 Parts Washers**

i. **Equipment**

Emission Point	Description	Applicable Regulations
E-172	Cold Cleaner (secondary reservoir)	STAR, 6.18
E-173	Cold Cleaner (secondary reservoir)	
E-245	Cold Cleaner #4	

ii. **Standards/Operating Limits**

1) **VOC**

Per Regulation 6.18, the owner or operator shall install, maintain, and operate the control equipment for Emission Points E-172, E-173, and E-245, shall observe specific operating requirements, and shall not operate a cold cleaner using a solvent with a vapor pressure that exceeds 1.0 mm Hg (0.019 psi) measured at 20°C (68°F).

q. **Emission Unit U-22 New Paste Process**

i. **Equipment**

Emission Point	Description	Applicable Regulations
E-62b	Tank RW1A (Slurry)	STAR, 6.24
E-67	Decanter 1 (Centrifuge)	
E-111	Ball Mill 7	2.05, STAR, 7.08 7.25
E-112	Ball Mill 8	
E-113	Ball Mill 9	
E-114	Ball Mill 10	

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>	
E-115	Ball Mill 11		
E-178	Ball Mill 12		
E-116a1 - E-116c1, E-116d - E-116n; E-116q - E-116x	22 Vibratory Screens (Screens 1 through 20, 23 through 26)	2.05, STAR, 7.25	
E-117a through E-117dd	30 Slurry Tanks (U-22)		
E-118a through E-118j	10 Slurry Tanks (U-22)		
E-119a through E-119g	7 Filter Presses (1-6, 10)		
E-120a & E-120b	2 Filter Presses (7 & 8)		
E-121a, E-121b, E-121c	3 Filter Presses (12 – 14)		
E-179a through E-179h	8 Filtrate Tanks		
E-180	Decanter 2 (Centrifuge)		
E-181	Portable Rework Hopper		
E-270	Vapor Recovery Condensate Tank		
E-246	B06 Decanter Tank		STAR, 7.12
E-247	B07 Decanter Tank		
E-248	B08 Decanter Tank		
E-273	Feeder station	STAR, 7.08, 7.25	
E-279	Slurry Tank	STAR, 7.25	
E-280	Slurry Tank		
E-286	10 Filter Cake Press Carts	2.05, STAR 7.25	
E-287	2 Filter Cake Press Carts		
E-288	2 Filter Cake Press Carts		

ii. **Standards/Operating Limits**

1) **Opacity**

- (a) Regulation 7.08, section 3.1.1 establishes opacity standards.

2) **PM**

- (a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-111, E-112, E-113, E-114, E-115, and E-178, is 2.34 lb/hr each for process throughput of 1,000 lb/hr or less. (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

3) **VOC**

- (a) Regulation 6.24 limits the pound per hour and pound per day emissions of Class II and Class III solvents for Emission Points E-62b, and E-67, unless the emissions are reduced by at least 85%. (A one-time demonstration on February 21, 2014 shows the potential VOC emissions cannot exceed the emission standards from Regulation

6.24 for Class II and Class III solvents for the emission points. Therefore, there are no monitoring, recordkeeping, or reporting requirements for these emission points)

- (b) Per Regulation 2.05 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions are limited to 40 tons per 12 consecutive month period for Emission Points E-116o, E-116p, (U-13); E-129 and E-129a, E-130 and E-130a, E-131 and E-131a, E-132 and E-132a, E-134 and E-134a, E-136 and E-136a, E-137 and E-137a (U-15); E-111, E-112, E-113, E-114, E-115, E-116 a1-c1, E-116 d-n, and E-116 q-x, E-117 a-dd, E-118 a-j, E-178, E-119 a-g, E-120 a & b, E-121 a-c, E-270, E-179 a-h, E-180, E-181, E-286, E-287, and E-288 (U-22); E-123, E-125 and E-125a, E-126 and E-126a, E-127 and E-127a, E-252, and E-253 (U-23).
- (c) Per Regulation 7.25 (BACT), for Emission Points E-111, E-112, E-113, E-114, E-115, E-116 a1-c1, E-116 d-n, and E-116 q-x, E-117 a-dd, E-118 a-j, E-178, E-119 a-g, E-120 a & b, E-121 a-c, E-270, E-179 a-h, E-180, E-181, E-286, E-287, and E-288 (U-22).: Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
- (d) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)
- (e) Regulation 7.12, section 3.3 requires submerged fill if the materials have an as stored vapor pressure of 1.5 psia or greater.
- (f) Regulation 7.12 applies due to the size of the tanks, however, since the vapor pressure as stored is less than 1.5 psia there are no applicable emission or equipment standards.

r. **Emission Unit U-23 Solvent Exchangers**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-123	Additive Tank #1	2.05, STAR, 7.25
E-125, 125a	Additive Tank# 2 (R01) and Drum Loading	
E-126, 126a	Additive Tank #3 (R02) and Drum Loading	
E-127, 127a	Vacuum Pump No. 1 and Drum Loading	
E-252	SE 1 Thermal Oil Tank	
E-253	SE 2 Thermal Oil Tank	
E-184	Additive Tank #4 (SE2)	STAR, 7.25
E-185, 185a	Vacuum Pump No. 2 and Drum Loading	
E-254	SE 1 Condensate Tank	STAR, 7.25
E-255	SE 2 Condensate Tank	

ii. **Standards/Operating Limits**1) **VOC**

- (a) Per Regulation 2.05 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions are limited to 40 tons per 12 consecutive month period for Emission Points E-116o, E-116p, (U-13); E-129 and E-129a, E-130 and E-130a, E-131 and E-131a, E-132 and E-132a, E-134 and E-134a, E-136 and E-136a, E-137 and E-137a (U-15); E-111, E-112, E-113, E-114, E-115, E-116 a1-c1, E-116 d-n, and E-116 q-x, E-117 a-dd, E-118 a-j, E-178, E-119 a-g, E-120 a & b, E-121 a-c, E-270, E-179 a-h, E-180, E-181, E-286, E-287, and E-288 (U-22); E-123, E-125 and E-125a, E-126 and E-126a, E-127 and E-127a, E-252, and E-253 (U-23).
- (b) Per Regulation 7.25 (BACT), for Emission Points E-123, E-125 and E-125a, E-126 and E-126a, E-127 and E-127a, E-252, and E-253 (U-23): Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
- (c) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282), the owner or operator

shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

- (d) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Points E-184, E-185, and 185a combined, the owner or operator shall limit the VOC emissions to less than 7.01 ton per 12 consecutive month period.

s. **Emission Unit U-24 Mills 13/14**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-186	Ball Mill 13	STAR, 7.08, 7.25
E-187	Ball Mill 14	
E-188a	Screen 21	STAR, 7.25
E-188b	Screen 22	
E-189a through E-189d	4 Slurry Tanks	
E-190	Mill 14 Recirculation Tank (T-57A)	
E-192	Filter Press 16	
E-193	Filter Press 15	
E-246	B06 Decanter Tank	
E-247	B07 Decanter Tank	
E-248	B08 Decanter Tank	
E-272	Mill 13/14 Mixer	STAR, 7.25
E-277	Pilot Lab, includes a mixer and tank (Insignificant Activity)	STAR, 7.25
E-289	2 Filter Cake Press Carts	STAR, 7.25

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.08, section 3.1.1 establishes opacity standards.

2) **PM**

(a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-186 is 2.34 lb/hr for process throughput of 1,000 lb/hr or less. (A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

(b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-187 is:

$$E = 3.59 \times (0.65)^{0.62} = 2.75 \text{ lb/hr}$$

(A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

3) **VOC**

- (a) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Point E-186, the owner or operator shall limit the VOC emissions to less than 1 ton per 12 consecutive month period.
- (b) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Point E-187, the owner or operator shall limit the VOC emissions to less than 1 ton per 12 consecutive month period.
- (c) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Points E-188 a&b, E-189 a-d, E-190, E-192, E-193, E-289 (U-24); E-195 a&b, E-197 a&b, E-198, E-199, E-200 and E-200a, E-249, E-250, and E-251 (U-25), the owner or operator shall limit the VOC emissions to less than 1 ton per 12 consecutive month period.
- (d) Per Regulation 7.25 (BACT), for Emission Points E-186, E-187, E-188a, E-188b, E-189a through E-189d, E-190, E-192, and E-193: Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
- (e) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)
- (f) Regulation 7.12, section 3.3 requires submerged fill if the materials have an as stored vapor pressure of 1.5 psia or greater.
- (g) Regulation 7.12 applies due to the size of the tanks, however, since the vapor pressure as stored is less than 1.5 psia there are no applicable emission or equipment standards.
- (h) The District has approved the company submitted PTE showing that the equipment in Units 24 and 25 no longer have the potential to exceed the significant levels for

VOCs under PSD/Nonattainment NSR. The PTE is based on performance test results, therefore, the District has removed the PSD/Nonattainment NSR limits.

t. **Emission Unit U-25 Zinc Mill**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-196	T-64 (Zinc Mineral Spirits Supply Tank)	STAR, 7.12
E-194	Ball Mill 20	STAR, 7.08, 7.25
E-195a	Screen 27	STAR, 7.25
E-195b	Screen 28	
E-197a	T-67 (Zinc Mill Slurry Tank)	
E-197b	T-70 (Zinc Mill Press Tank)	
E-198	T-66 (Zinc Mill Coarse Slurry Tank)	
E-199	Filter Press 20	
E-200, 200a	Mixer 20 and Drum Loading	
E-251	T-69 (Filter Press Filtrate Tank)	
E-249	Zinc Mill Condensate Tank (T-65)	
E-250	T-68 (Filtrate Tank)	
E-281	Slurry Tank	

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.08, section 3.1.1 establishes opacity standards.

2) **PM**

In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-194 is 3.59 lb/hr for process throughput of 2,000 lb/hr. (The source submitted a one-time demonstration on February 21, 2014 that shows the potential uncontrolled PM emissions cannot exceed the PM emission standard.)

3) **VOC**

(a) Regulation 7.12, section 3.3 requires submerged fill if the materials have an as stored vapor pressure of 1.5 psia or greater.

(b) Regulation 7.12 applies due to the size of the tanks, however, since the vapor pressure as stored is less than 1.5 psia there are no applicable emission or equipment standards.

(c) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Point E-194, the owner or operator shall limit the VOC emissions to less than 1 ton per 12 consecutive month period.

(d) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Points E-188 a&b, E-189 a-d, E-190, E-192, E-193, E-289 (U-24); E-195 a&b, E-197 a&b, E-198, E-

199, E-200 and E-200a, E-249, E-250, and E-251 (U-25), the owner or operator shall limit the VOC emissions to less than 1 ton per 12 consecutive month period.

- (e) Per Regulation 7.25 (BACT), for Emission Points E-196, E-194, E-195a, E-195b, E-197a, E-197b, E-198, E-199, E-200, E-251, E-249, E-250, and E-281: Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
- (f) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)
- (g) The District has approved the company submitted PTE showing that the equipment in Units 24 and 25 no longer have the potential to exceed the significant levels for VOCs under PSD/Nonattainment NSR. The PTE is based on performance test results, therefore, the District has removed the PSD/Nonattainment NSR limits.

u. **Emission Unit U-27 Solvent Wash**

i. **Equipment**

<b>Emission Point</b>	<b>Description</b>	<b>Applicable Regulations</b>
E-223	B03 Tank (Non-Distillable Wash)	STAR, 7.12
E-224	B04 Tank (Distillable Wash)	
E-225	Filter Press 21 (Non-Distillable Wash)	STAR, 7.25
E-227	B05 Tank (Non-Distillable Filtrate)	STAR, 7.25
E-228	B06 Tank (Distillable Filtrate)	
E-274	Stills 5 & 6 decanter 2016	STAR, 7.25
E-283	Filter Cake Press Carts	STAR, 7.25

ii. **Standards/Operating Limits**

1) **VOC**



- (a) Regulation 7.12, section 3.3 requires submerged fill if the materials have an as stored vapor pressure of 1.5 psia or greater.
- (b) Regulation 7.12 applies due to the size of the tanks, however, since the vapor pressure as stored is less than 1.5 psia there are no applicable emission or equipment standards.
- (c) Per construction permit 36563-13-C, Effective 4/26/2013, for Emission Points E-225 and E-283, the owner or operator shall limit the combined VOC emissions to less than 1 ton per 12 consecutive month period.
- (d) Per Regulation 7.25 (BACT), for Emission Points E-225, E-227, and E-228: Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
- (e) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

v. **Emission Unit U-28 Cooling Tower**

i. **Equipment**

Emission Point	Description	Applicable Regulations
E-269 & E-342	Cooling Tower	7.08

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.08, section 3.1 establishes and opacity standard.

2) **PM**

- (a) In accordance with Regulation 7.08, Table 1, PM standard Emission Point E-269 is:

$$E = 17.31 \times (354)^{0.16} = 44.27 \text{ lb/hr}$$

(A one-time demonstration on February 21, 2014 shows the potential uncontrolled PM emissions for Emission

Points E-269 cannot exceed the PM emission standard.)

- (b) In accordance with Regulation 7.08, Table 1, PM standard Emission Point E-342 is:

$$E = 17.31 \times (55.04)^{0.16} = 32.87 \text{ lb/hr}$$

- (c) (A one-time demonstration on September 14, 2020 shows the potential uncontrolled PM emissions for Emission Points E-342 cannot exceed the PM emission standard.)

w. **Emission Unit U-29 New Paste Process**

i. **Equipment**

Emission Point	Description	Applicable Regulations
E-295	BM21 Additive Dosing Tank (AD01-R01)	STAR, 7.08
E-296	BM21 Additive Dosing Tank (AD01-B01)	
E-297	BM21 Powder Dosing Tank (DM21-R01)	STAR, 7.08, 7.25
E-297a	BM21 Feeder Station [aluminum powder] TBD	STAR, 7.08
E-297b	BM21 Feeder Station [steric acid powder] TBD	7.08
E-298	Ball Mill 21	STAR, 7.25
E-298a through E-298f	Mill 21 Screen (SM21-SI01, SI02, SI03, SI04, SI05, SI06)	
E-299	BM21 Screen Tank (SI21-R01)	
E-300	BM21 Iron Collector Tank (IC04-B01)	
E-301	BM21 Fines Tank B02, 150 gallons	
E-302	BM21 Tails Tank B03, 150 gallons	
E-310	Ball Mill 21 Screen tank (AT21-R01)	
E-311	Filter (F121-F101)	STAR, 7.25
E-312	Filter (F121-F102)	
E-313	Filtrate Tank (SR01-B01)	STAR, 7.25
E-314	Filtrate Tank (SR01-B02)	
E-315	Filtrate Tank (SR01-B03)	
E-316	Tank (ST01-R01)	
E-317	Mixer (M121-R01)	
E-318	Mixer 21 Drum loading	
E-319	BM22 Powder Dosing Tank (DM22-R01)	STAR, 7.08, 7.25
E-319a	BM22 Feeder Station [aluminum powder] TBD	STAR, 7.08
E-319b	BM22 Feeder Station [steric acid powder] TBD	7.08
E-320	Ball Mill 22	STAR, 7.25

Emission Point	Description	Applicable Regulations
E-320a through 320f	Mill 22 Screen (SM22-SI01, SI02, SI03, SI04, SI05, SI06)	
E-321	BM22 Screen Tank (SI22-R01)	
E-322	BM22 Fines Tank B02	
E-323	BM22 Tails Tank B03	STAR, 7.25
E-331	BM22 Screen Tank (AT22-R01)	STAR, 7.25
E-332	Filter (F122-F101)	
E-333	Filter (F122-F102)	
E-334	Mixer (M122-R01)	STAR, 7.25
E-335	Mixer 22 Drum Loading	
E-336	Tails Tank (OF01-R01)	
E-337	Tails Filter (OF21-F101)	
E-338	Tails Tank (OF01-B01)	
E-339	Tails Mixer (OM01-R01)	
E-340	Tails Mixer Drum Loading	

ii. **Standards/Operating Limits**

1) **Opacity**

- (a) Regulation 7.08, section 3.1.1 establishes opacity standards.

2) **PM**

- (a) The emission standard for PM at each emission point with a process throughput of less than 30 ton/hr is determined in accordance with Regulation 7.08, section 3.1.2 as follows:

$$\text{PM lb/hr limit} = 3.59 (\text{process weight ton/hr})^{0.62}$$

3) **VOC**

- (a) Per Regulation 7.25, VOC emissions from Screen (U-13: E-66a1 and E-66b1); Overflow Hoppers (U-13: E-284 and E-285); Dryer 2/3 Holding Tank (U-14: E-232); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U27: E-274); mixer drum loading (U29; E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282); R&D Labs (IA: E-282), shall be limited to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

- (b) Per Regulation 7.25 (BACT), for Emission Points E-297, E-298, (including E-298a through E-298f), E-299, E-300, E-301, E-302 E-310, E-311, E-312, E-313 through E-316, E-317, E-319, E-320, (including E-320a through E-320f), E-321, E-322, E-323, E-331, E-332, E-333, E-334, E-336, E-337, E-338, and E-339: Per Regulation 7.25 (BACT), Eckart America Corporation submitted a BACT analysis as part of the application for this equipment. Based on the BACT analysis:
  - i. Control device C-9 must at all times, be operated in a manner consistent with good air pollution control practice for minimizing emissions.
  - ii. Control device C-9 must achieve a minimum destruction efficiency.
  - iii. The mineral spirits vapor pressure is limited.

**III. Other Requirements**

- 1. **Temporary Sources:** The source did not request to operate any temporary facilities.
- 2. **Short Term Activities:** The source did not report any short term activities.
- 3. **Emissions Trading:** N/A
- 4. **Operational Flexibility:** The source did not request any operational flexibility for the emission points.
- 5. **Compliance History:**

Incident Date	Regulations Violated	Result
08/09/2006	2.03.5.2 Failure to Comply with District Permit	Board Order
03/08/2011	2.16.5.2 Failure to Comply with Title V Permit	Board Order
06/07/2011	2.03.5.2 Failure to Comply with District Permit	Board Order
06/07/2011	2.03.1.2 Operating Equipment without a District Permit	Board Order
06/07/2011	2.16.5.2 Failure to Comply with Title V Permit	Board Order
01/07/2015	2.16.5.2 Failure to Comply with Title V Permit	Agreement

6. **Calculation Methodology:**

The emission calculations for the various pieces of equipment associated with this permit are derived from stack test results, AP-42 emission factors, EPA’s Emission Inventory Improvement Program, EPA guidance documents, mass balances and engineering judgments. Other calculation methodologies may be used after receiving written approval from the District. See Appendix A for specific emission factors and Appendix B for control device efficiencies.

- a. **AP-42 Emission factors**
  - Combustion emissions (Chapter 1.4-1, 1.4-2, 1.4-3, & 1.4-4 (small boilers))

- Solid material transfer emissions
    - Chapter 11.19; Crushed Stone Processing and Pulverized Mineral Processing
    - Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore
  - Liquid loading emissions
    - Chapter 5.2; Transportation and Marketing of Petroleum Liquids
  - Cooling Tower emissions
    - Chapter 13.4; Wet Cooling Towers
  - Chapter 4.7; Waste Solvent Reclamation
- b. **TANKS 4.09D**
- Breathing and working losses for all storage and process tanks are estimated by using the computer software program to estimate volatile organic compound emissions.
- c. **EIIP Volume II, Chapter 8**
- Emission Inventory Improvement (EIIP) documents describe procedures and recommended approaches for estimating emissions. Chapter 8 is for “Paint, Ink, and Other Coating Manufacturing”, but the techniques can be applied to other evaporation sources.
- Emission Model for Material Loading (Equation 8.4-1)
  - Emission Model for Surface Evaporation (Equation 8.4-22)
  - Emission Model for Sweep of Purge (Equation 8.4-32)
- d. **EPA’s OAQPS Guideline Series**
- One in a series of reports which provide guidance on air pollution control techniques for limiting emissions of VOC from sources. In this case it was used to model emissions from the Stills (U-17).
- Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products", Document EPA-450/2-78-029, Appendix B, Equation 15.
- e. **Stack testing**
- Eckart has stack tested numerous emission points to determine PM and VOC emission rates. When other equipment is of a similar type, the emission rate is prorated based upon the equipment capacities. Emissions are calculated by multiplying these rates by the hours of operation of the equipment, and accounting for any control device efficiency.
- f. **Engineering judgment**
- Emission factors for the Filling Stations in Unit U-4 are engineering estimates from the Reynolds Metal Company June 29, 1995 Bin Fill Construction Permit Application. Since 1995, this plant has been purchased and is operated by Eckart Americas Corporation.

**7. Insignificant Activities:**

<b>Equipment</b>	<b>Qty.</b>	<b>PTE (ton/yr)</b>	<b>Regulation Basis</b>
Indirect Heat Exchangers (E-138, E-275 & E-276, see U-1) (E-139, E-140 & E-266, see U-2)	6	2.015 (NO <sub>x</sub> ) total	Regulation 1.02, Appendix A
Fuel oil storage tanks (E-108, see U-16)	1	0.00048 (VOC) total	Regulation 1.02, Appendix A
VOC Storage Vessels (E-232, see U-14) (E-236, E-237, E-241, & E-242, see U-17) (E-179a thru E-179h, E-270, E-279 & E-280, see U-22) (E-252 thru E-255, see U-23) (E-249, E-250 & E-281, see U-25) (E-227 & E-228, see U-27)	25	0.47 (VOC) total	Regulation 1.02, section 1.38
R&D Labs: (IA-Misc.: E-282)			
a. Technical Lab	1	0.26 (VOC)	Regulation 1.02, Appendix A
b. 2 <sup>nd</sup> floor R&D product testing	1	0.032 (VOC) total	Regulation 1.02, Appendix A
c. Cosmetics Lab	1	0.033 (VOC)	Regulation 1.02, Appendix A
d. Plastic Injection Molding Lab	1	0.013 (VOC)	Regulation 1.02, Appendix A
e. Paint Lab	1	0.11 (VOC)	Regulation 1.02, Appendix A
f. Paint Lab – Robotic Bell	1	1.47 (VOC) total	Regulation 1.02, Appendix A
g. Polymer Lab - - small-scale R&D synthesis and product testing of optiflo polymers; includes vent hoods for chemical missing, a reactor for polymer synthesis and testing equipment	1	0.05 (VOC) total	Regulation 1.02, Appendix A
QA/QC Lab (E-272, see IA-Misc.)	1	1.24 (VOC) total	Regulation 1.02, section 1.38
M-7 Screen Room (E-4, see U-2)	1	0.39 (PM)	Regulation 1.02, section 1.38
M-8 Screen Room (E-6, see U-2)	1	0.39 (PM)	Regulation 1.02, section 1.38
Multicyclone Drum Loading (E-5a, see U-2)	1	0.39 (PM)	Regulation 1.02, section 1.38
Multicyclone Drum Loading (E-7a, see U-2)	1	0.39 (PM)	Regulation 1.02, section 1.38
Buhler A Weigh Tank (E-8b, see U-3)	1	0.92 (PM)	Regulation 1.02, section 1.38

<b>Equipment</b>	<b>Qty.</b>	<b>PTE (ton/yr)</b>	<b>Regulation Basis</b>
Buhler A Conveyor Pod (E-8c, see U-3)	1	0.92 (PM)	Regulation 1.02, section 1.38
Air Slide Conveyor Pod (E-141, see U-3)	1	4.32 (PM)	Regulation 1.02, section 1.38
Docking/Transfer Station (E-229, see U-3)	1	0.71 (PM)	Regulation 1.02, section 1.38
Classifier 1 Weigh Tank (E-26a, see U-6)	1	0.66 (PM)	Regulation 1.02, section 1.38
Fines Bin (E-26b, see U-6)	1	0.66 (PM)	Regulation 1.02, section 1.38
Buhler C Conveyor Pod (E-26c, see U-6)	1	0.66 (PM)	Regulation 1.02, section 1.38
Drum Loading (E-26d, see U-6)	1	0.66 (PM)	Regulation 1.02, section 1.38
Buhler B Conveyor Pod (E-128b1, see U-6)	1	0.92 (PM)	Regulation 1.02, section 1.38
Classifier 2 Weigh Tank (E-128b2, see U-6)	1	0.92 (PM)	Regulation 1.02, section 1.38
Gemco Tumble Blender (E-27, see U-7)	1	0.39 (PM)	Regulation 1.02, section 1.38
Double Drum Tumbler (E-143, see U-7)	1	0.10 (PM)	Regulation 1.02, section 1.38
Drum Dumper (E-147, see U-7)	1	0.10 (PM)	Regulation 1.02, section 1.38
Riddler Screen (E-148, see U-7)	1	0.10 (PM)	Regulation 1.02, section 1.38
Screw Conveyor (E-230, see U-7)	1	0.10 (PM)	Regulation 1.02, section 1.38
Hopper (E-145, see U-7)	1	0.10 (PM)	Regulation 1.02, section 1.38
Bucket Fill (E-146, see U-7)	1	0.10 (PM)	Regulation 1.02, section 1.38
Ball Mill 5 (E-56, see U-13)	1	3.46 (VOC)	Regulation 1.02, section 1.38
Ball Mill 6 (E-57, see U-13)	1	3.46 (VOC)	Regulation 1.02, section 1.38
Screen 29 (E-66a1, see U-13)	1	0.02 (VOC)	Regulation 1.02, section 1.38
Screen 30 (E-66b1, see U-13)	1	0.02 (VOC)	Regulation 1.02, section 1.38
Screen 15 (E-116o, see U-13)	1	0.02 (VOC)	Regulation 1.02, section 1.38
Screen 16 (E-116p, see U-13)	1	0.02 (VOC)	Regulation 1.02, section 1.38
Overflow Hopper for Ball Mill 5 (E-284, see U-13)	1	0.12 (VOC)	Regulation 1.02, section 1.38

<b>Equipment</b>	<b>Qty.</b>	<b>PTE (ton/yr)</b>	<b>Regulation Basis</b>
Overflow Hopper for Ball Mill 6 (E-285, see U-13)	1	0.12 (VOC)	Regulation 1.02, section 1.38
Pilot Lab Dryer (E-341, see U-14)	1	0.012 (VOC)	Regulation 1.02, section 1.38
Mixer 1 (E-129, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 2 (E-130, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 3 (E-131, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 4 (E-132, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 5 (E-133, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 6 (E-134, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 7 (E-135, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 8 (E-136, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 9 (E-137, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 1 Drum Loading (E-129a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 2 Drum Loading (E-130a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 3 Drum Loading (E-131a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 4 Drum Loading (E-132a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 5 Drum Loading (E-133a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 6 Drum Loading (E-134a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 7 Drum Loading (E-135a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 8 Drum Loading (E-136a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Mixer 9 Drum Loading (E-137a, see U-15)	1	0.007 (VOC)	Regulation 1.02, section 1.38
Tank 1 (E-89, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 2 (E-90, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38



<b>Equipment</b>	<b>Qty.</b>	<b>PTE (ton/yr)</b>	<b>Regulation Basis</b>
Tank 3 (E-91, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 4 (E-92, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 5 (E-107, see U-16)	1	0.0114 (VOC)	Regulation 1.02, section 1.38
Tank 6 (E-93, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 7 (E-94, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 8 (E-166, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 9 (E-167, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 10 (E-168, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Tank 11 (E-169, see U-16)	1	0.0096 (VOC)	Regulation 1.02, section 1.38
Sludge Accumulator Tank (E-100, see U-17)	1	0.002 (VOC)	Regulation 1.02, section 1.38
Sludge Accumulator Tank Drum Loading (E-100a, see U-17)	1	0.018 (VOC)	Regulation 1.02, section 1.38
T-104 Still OWS (E-233, see U-17)	1	0.009 (VOC)	Regulation 1.02, section 1.38
T-105 Still OWS (E-234, see U-17)	1	0.009 (VOC)	Regulation 1.02, section 1.38
Still 5 Feed Tank (E-235, see U-17)	1	0.0088 (VOC)	Regulation 1.02, section 1.38
Still #5 w/Condenser and Vacuum Pump (E-210, see U-17)	1	0.33 (VOC)	Regulation 1.02, section 1.38
Still 6 Feed Tank (E-239, see U-17)	1	0.0088 (VOC)	Regulation 1.02, section 1.38
Still #6 w/Condenser and Vacuum Pump (E-240, see U-17)	1	0.33 (VOC)	Regulation 1.02, section 1.38
Maintenance Shop Crystal Kleen (E-172, U-173 and U-245, see U-18)	3	0.916 (VOC) total	Regulation 1.02, section 1.38
Tank RW1A (E62b, see U-22)	1	0.048 (VOC)	Regulation 1.02, section 1.38
Decanter 1 (E-67, see U-22)	1	0.0018 (VOC)	Regulation 1.02, section 1.38

Equipment	Qty.	PTE (ton/yr)	Regulation Basis
Ball Mill 7 (E-111, see U-22)	1	1.84 (VOC)	Regulation 1.02, section 1.38
Ball Mill 8 (E-112, see U-22)	1	1.84 (VOC)	Regulation 1.02, section 1.38
Ball Mill 9 (E-113, see U-22)	1	1.84 (VOC)	Regulation 1.02, section 1.38
Ball Mill 10 (E-114, see U-22)	1	1.84 (VOC)	Regulation 1.02, section 1.38
Ball Mill 11 (E-115, see U-22)	1	3.24 (VOC)	Regulation 1.02, section 1.38
Ball Mill 12 (E-178, see U-22)	1	3.24 (VOC)	Regulation 1.02, section 1.38
Screen 1 thru Screen 14, Screen 17 thru Screen 20 & Screen 23 thru Screen 26 (E116a1 thru E-116n & E-116q thru E- 116x, see U-22)	22	0.462 (VOC) total	Regulation 1.02, section 1.38
Tank RW1, Tank RW2, Tank RW5 thru RW7, Tank T-10 thru T-19, Tank T-21 thru T-27, T-31, T-32, T-33 and T-45 thru T-49 (E-117a thru E-117z, see U-22)	30	1.45 (VOC) total	Regulation 1.02, section 1.38
Tank T-35 thru T-39 and Tank T-58 thru T- 62 (E-118a thru E-118j, see U-22)	10	0.48 (VOC) total	Regulation 1.02, section 1.38
Filter Press 1 thru 8, Filter Press 10, Filter Press 12 thru 14 (E-119a thru E-119g, E- 120a, E-120b and E-121a thru E-121c, see U-22)	13	0.17 (VOC) total	Regulation 1.02, section 1.38
Decanter 2 (E-180, see U-22)	1	0.0018 (VOC)	Regulation 1.02, section 1.38
Portable Rework Hopper (E-181, see U-22)	1	0.042 (VOC)	Regulation 1.02, section 1.38
B06 Decanter Tank (E-246, see U-22/U-24)	1	0.0001 (VOC)	Regulation 1.02, section 1.38
B07 Decanter Tank (E-247, see U-22/U-24)	1	0.0001 (VOC)	Regulation 1.02, section 1.38
B08 Decanter Tank (E-248, see U-22/U-24)	1	0.0001 (VOC)	Regulation 1.02, section 1.38
Feeder Station (E-273, see U-22)	1	0.0073 (VOC)	Regulation 1.02, section 1.38
10 Filter Cake Press Carts (E-286, see U- 22)	10	0.871 (VOC)	Regulation 1.02, section 1.38
2 Filter Cake Press Carts (E-287, see U-22)	2	0.181 (VOC)	Regulation 1.02, section 1.38
2 Filter Cake Press Carts (E-288, see U-22)	2	0.112 (VOC)	Regulation 1.02, section 1.38

Equipment	Qty.	PTE (ton/yr)	Regulation Basis
Additive Tank #1 (E-123, see U-23)	1	0.00019 (VOC)	Regulation 1.02, section 1.38
Additive Tank #2 (E-125, see U-23)	1	0.0025 (VOC)	Regulation 1.02, section 1.38
Additive Tank #3 (E-126, see U-23)	1	0.0025 (VOC)	Regulation 1.02, section 1.38
Additive Tank 2 Drum Loading (E-125a, see U-23)	1	0.0377 (VOC)	Regulation 1.02, section 1.38
Additive Tank 3 Drum Loading (E-126a, see U-23)	1	0.0377 (VOC)	Regulation 1.02, section 1.38
Vacuum Pump No. 1 (E-127, see U-23)	1	0.4993 (VOC)	Regulation 1.02, section 1.38
SE1 Drum Loading (E-127a, see U-23)	1	0.048 (VOC) (wash) 0.084 (VOC) (paste)	Regulation 1.02, section 1.38
Additive Tank #4 (E-184, see U-23)	1	0.00019 (VOC)	Regulation 1.02, Appendix A
Vacuum Pump No. 2 (E-185, see U-23)	1	0.4993 (VOC)	Regulation 1.02, section 1.38
Ball Mill 13 (E-186, see U-24)	1	0.49 (VOC)	Regulation 1.02, section 1.38
SE2 Drum Loading (E-185a, see U-23)	1	0.082 (VOC) (wash) 0.1497 (VOC) (paste)	Regulation 1.02, section 1.38
Ball Mill 14 (E-187, see U-24)	1	1.41 (VOC)	Regulation 1.02, section 1.38
Screen 21 & Screen 22 (E-188a & E-188b, see U-24)	1	0.041 (VOC)	Regulation 1.02, section 1.38
Slurry tanks, Tank T-54 thru T-57 (E-189a thru E-189d, see U-24)	1	0.0074 (VOC)	Regulation 1.02, section 1.38
Mill 14 Recirculation Tank (E-190, see U-24)	1	0.0026 (VOC)	Regulation 1.02, section 1.38
Filter Press 16 (E-192, see U-24)	1	0.0088 (VOC)	Regulation 1.02, section 1.38
Filter Press 15 (E-193, see U-24)	1	0.0088 (VOC)	Regulation 1.02, section 1.38
Mill 13/14 Mixer (E-272, see U-24)	1	0.01 (VOC)	Regulation 1.02, section 1.38

Equipment	Qty.	PTE (ton/yr)	Regulation Basis
Filter Cake Press Carts (E-289, see U-24)	1	0.051 (VOC)	Regulation 1.02, section 1.38
Pilot Lab includes a mixer and tank (E-277, see U-24)	1	0.29 (VOC)	Regulation 1.02, section 1.38
Ball Mill 20 (E-194, see U-25)	1	0.53 (PM)	Regulation 1.02, section 1.38
Screens 27 & 28 (E-195a & E-195b, see U-25)	2	0.041 (VOC) total	Regulation 1.02, section 1.38
Tank T-64 (E-196, see U-25)	1	0.0032 (VOC)	Regulation 1.02, section 1.38
Tanks T-67 & T-70 (E-197a & E-197b, see U-25)	2	0.032(VOC) total	Regulation 1.02, section 1.38
Tank T-66 (E-198, see U-25)	1	0.016 (VOC)	Regulation 1.02, section 1.38
Tank T-69 (E-251, see U-25)	1	0.0039 (VOC)	Regulation 1.02, section 1.38
Filter press 20 (E-199, see U-25)	1	0.015 (VOC)	Regulation 1.02, section 1.38
Mixer 20 (E-200, see U-25)	1	0.0066 (VOC)	Regulation 1.02, section 1.38
Mixer 20 Drum Loading (E-200a, see U-25)	1	0.0066 (VOC)	Regulation 1.02, section 1.38
B03 Tank (E-223, see U-27)	1	0.00074 (VOC)	Regulation 1.02, section 1.38
B04 Tank (E-224, see U-27)	1	0.00074 (VOC)	Regulation 1.02, section 1.38
Filter Press 21 (E-225, see U-27)	1	0.015 (VOC)	Regulation 1.02, section 1.38
Stills 5 & 6 Decanter (E-274, see U-27)	1	0.0298 (VOC)	Regulation 1.02, section 1.38
Filter Cake Press Carts (E-283, see U-27)	1	0.0953 (VOC)	Regulation 1.02, section 1.38
VOC Storage Vessels (E-293, E-294, see U-17)	2	0.024 (VOC) total	Regulation 1.02, section 1.38
Iron Collector Tank (E-300, see U-29)	1	0.21 (VOC)	Regulation 1.02, section 1.38
VOC Storage Vessels (E-313, E-314, E-315, E-316; see U-29)	4	3.176 (VOC) total	Regulation 1.02, section 1.38
Mixer (E-317, E-334, E-339, see U-29)	3	0.020 (VOC) total	Regulation 1.02, section 1.38
Drum Loading (E-318, E-335, E-340, see U-29)	3	0.020 (VOC) total	Regulation 1.02, section 1.38

Equipment	Qty.	PTE (ton/yr)	Regulation Basis
Tank AST 13 (E-290a, see U-16)	1	0.033 (VOC)	Regulation 1.02, section 1.38
Tank AST 14 (E-290b, see U-16)	1	0.033 (VOC)	Regulation 1.02, section 1.38
T-104 Still OWS (E-233, see U-17)	1	0.009 (VOC)	Regulation 1.02, section 1.38
T-105 Still OWS (E-234, see U-17)	1	0.009 (VOC)	Regulation 1.02, section 1.38
Still 7 Feed Tank (E-291, see U-17)	1	0.012 (VOC)	Regulation 1.02, section 1.38
Still #7 Vacuum Pump (E-292, see U-17)	1	0.333 (VOC)	Regulation 1.02, section 1.38
Additive Dosing Tank (E-295, E-296, see U-29)	2	0.0066 (PM) total	Regulation 1.02, section 1.38
Powder Dosing Tank (E-297, E-319, see U-29)	2	0.24 (PM) total 0.516 (VOC) total	Regulation 1.02, section 1.38
Screen Tank (E-299, E-310, E-321, E-331, see U-29)	4	2.286 (VOC) total	Regulation 1.02, section 1.38
Fines and Tails Tanks (E-301, E-302, E-322, and E-323), see U29)	4	0.422 (VOC) total	Regulation 1.02, section 1.38
Tails System (E-336, E-337, E-338, see U-29)	3	1.199 (VOC) total	Regulation 1.02, section 1.38
Filters (E-311, E-312, E-332, E-333, see U-29)	4	0.126 (VOC) total	Regulation 1.02, section 1.38
Feeder Stations (E-297a, E-297b, E-319a, E-319b; see U-29)	4	N/A <sup>1</sup>	Regulation 1.02, section 1.38
Mill 21 Screens (SM21-SI01, SI02, SI03, SI04, SI05, SI06) (E-298a through E-298f; see U-29)	6	N/A <sup>2</sup>	Regulation 1.02, section 1.38
Mill 22 Screens (SM22-SI01, SI02, SI03, SI04, SI05, SI06) (E-320a through E-320f; see U-29)	6	N/A <sup>2</sup>	Regulation 1.02, section 1.38
Cooling Tower (E-342, see U-28)	1	1.10 (PM)	Regulation 1.02, section 1.38

1 Feeder Stations (E-297a, E-297b, E-319a, E-319b emissions are accounted for in the Powder Dosing Tanks, (E-297 and E-319).

2 Mill Screens E-298a through E-298f and E-320a through E-320f emissions are accounted for in the Screen Hopper Fines and Tails (E-301 and E-302, and E-322 and E-323).

- 1) Insignificant Activities identified in District Regulation 1.02, Appendix A may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16, section 3.5.4.1.4.
- 2) Insignificant Activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4.
- 3) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16, section 4.3.5.3.6.
- 6) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
- 7) The District has determined pursuant to Regulation 2.16, section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

**Equipment Not Regulated**

Emission Point	Description
E-176	Caustic Tank – Caustic solution nozzle cleaner

**8. IA Emission Units with Applicable Regulations**

a. **Emission Unit IA-Misc**

i. **Equipment**

Emission Point	Description	Applicable Regulation
E-278	QA/QC Lab - includes a paint booth and electric ovens	STAR 7.25
E-282	R&D Labs, includes: a. Technical Lab, Benchtop Development Work, includes paint mixing b. Second Floor Lab, includes two ball mills, solvent exchanger, oven, pilot centrifuge, and aerosol painting c. Cosmetics Lab, Benchtop Development Work, includes mixing and solvent clean-up d. Plastic Injection Molding Lab - includes two extruders, injection molding and a roll mill e. Paint Lab - includes one paint booth (Booth 2) and electric ovens	

Emission Point	Description	Applicable Regulation
	f. Paint Lab – Robotic Bell g. Polymer Lab – small-scale R&D synthesis and product testing of optiflo polymers; includes vent hoods for chemical missing, a reactor for polymer synthesis and testing equipment.	

ii. **Standards/Operating Limits**

1) **VOC**

- (a) Per Regulation 7.25 and construction permit 36563-13-C, Effective 4/26/2013, VOC emissions from Emission Points Screens (U-13:E-66a1 and E-66b1); Dryer 2/3 Holding Tank (U-14: E-232); Pilot Lab Dryer (U-14: E-341); Mixer 7 (U-15: E-135 and E-135a); Sludge Accumulator Tank (U-17: E-100 and E-100a); Feeder Station (U-22: E-273); Slurry Tanks (U-22: E-279 and E-280); Condensate Tanks (U-23: E-254, E-255); Mill 13/14 Mixer (U-24: E-272); Pilot Lab (U-24: E-277); Slurry Tank (U-25: E-281); Filtrate Tanks (U-27: E-227, E-228); Stills Decanter (U-27: E-274); mixer drum loading (U-29: E-318, E-335, E-340); QA/QC Lab (IA: E-278); R&D Labs (IA: E-282), the owner or operator shall limit the VOC emissions to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

**9. Appendix A – Emission Factors and Calculation Methodologies**

Emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc) or hours of operation of the equipment by the appropriate emission factor and 1 minus any control device’s efficiency. The following emission factors and calculation methodology shall be used unless other methods or emission factors are approved in writing by the District.

**Table 1 Unit U1: Boiler Room**

Equipment	Emission Point	Emission Factor Source
Boiler #5	E-1	AP-42 Chapter 1.4-1, 1.4-2, 1.4-3, & 1.4-4 (small boilers)
Boiler #4	E-2	
Space Heater	E-138	
Make-up Air	E-275	
Humidifier	E-276	

**Table 2 Unit U2: Hot Air Furnace**

<b>Equipment</b>	<b>Emission Point</b>	<b>PM Emission Factor</b>	<b>Determination Method</b>
Atomization Furnace	E-3(S-4)	82.84 lb/ton (uncontrolled) 10.77 lb/ton (multicyclone controlled)	April 2012 Stack Test on Control Points E-5 and E-7
	E-3(S-5)	84.84 lb/ton (uncontrolled) 9.60 lb/ton (multicyclone controlled)	
M-7 & M-8 Screen Rooms	E-4 & E-6	0.12 lb/ton each (uncontrolled)	AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore
Multicyclone Drum Loading	E-5a & E-7a		
Compressed Air Heater	E-139	AP-42 Chapter 1.4-1, 1.4-2, 1.4-3, & 1.4-4 (small boilers)	
Nozzle heater	E-140		
Space heater	E-266		

**Table 3 Unit U3: Hot Air Direct Convey and Air Slide System**

<b>Equipment</b>	<b>Emission Point</b>	<b>PM Emission Factor</b>	<b>Determination Method</b>
Buhler A Storage Tank	E-8a	1.97 lb/ton (uncontrolled) 0.49 lb/ton (cyclone controlled) 0.070 lb/ton (cyclone & mesh filter)	September 2018 Stack Test on Emission Point E-8a
Buhler A Weigh Tank	E-8b	0.12 lb/ton (uncontrolled) 0.030 lb/ton (cyclone controlled)	AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore
Buhler A Conveyor Pod	E-8c	0.004lb/ton (cyclone & mesh filter)	
Rail Car Loading	E-9	1.97 lb/ton (uncontrolled) 0.49 lb/ton (cyclone controlled) 0.070 lb/ton (cyclone & mesh filter)	September 2018 Stack Test for E-8a
Air Slide Conveyor Pod	E-141	0.73 lb/ton (uncontrolled) 0.095 lb/ton (mesh filter controlled)	AP-42 Chapter 11.12; Concrete Batching; Pneumatic Cement Unloading to Elevated Bin
Docking/Transfer Station	E-229	0.12 lb/ton (uncontrolled) 0.016 lb/ton (mesh filter controlled)	AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore



**Table 4 Unit U4: Hot Air Bin Fill**

Equipment	Emission Point	PM Emission Factor	Determination Method
Storage Tanks	E-12a	6.32 lb/ton (uncontrolled) 3.60 lb/ton (cyclone controlled) 0.0047 lb/ton (cyclone & mesh filter)	<b>January 2019</b> Stack Test for E-128 (U-6)
Filling Station	E-15	0.12 lb/ton (uncontrolled) 0.074 lb/ton (cyclone controlled) 0.01 lb/ton (cyclone & mesh filter)	AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore

**Table 5 Unit U6: Classifier**

Equipment	Emission Point	PM Emission Factor	Determination Method
15,000 lb Tank	E-25	6.32 lb/ton (uncontrolled) 3.60 lb/ton (cyclone controlled) 0.0047 lb/ton (cyclone & mesh filter)	<b>January 2019</b> Stack Test for E-128
Classifier 1 Weigh Tank	E-26a	0.12 lb/ton (uncontrolled)	AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore
Fines Bin	E-26b	0.12 lb/ton (uncontrolled) 0.074 lb/ton (cyclone controlled) 0.01 lb/ton (cyclone & mesh filter)	
Buhler C Conveyor Pod	E-26c		
Drum Loading	E-26d		
Buhler B Conveyor Pod	E-128b1		
Classifier 2 Weigh Tank	E-128b2	0.12 lb/ton (uncontrolled)	
30,000 lb Tank	E-128	6.32 lb/ton (uncontrolled) 3.60 lb/ton (cyclone controlled) 0.0047 lb/ton (cyclone & mesh filter)	<b>January 2019</b> Stack Test

**Table 6 Unit U7: Blending/Repack**

Equipment	Emission Point	PM Emission Factor	Determination Method
Gemco Tumble Blender	E-27	0.12 lb/ton (uncontrolled)	AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore
Double/Single Drum Tumbler	E-143		
Drum Dumper	E-147		
Vibrating Screen	E-148		

Equipment	Emission Point	PM Emission Factor	Determination Method
Screw Conveyor	E-230		
Hopper	E-145		
Bucket Fill (Feed Screw)	E-146		

**Table 7 Unit U8: Rescreen Operation**

Equipment	Emission Point	PM Emission Factor/Rate	Determination Method
Flake 100 Drum/Tote Unloading	E-150		<b>September 2016</b> Stack Test of Powder 200 Drum/Tote Unloading (E-158)
Flake 100 Staging Vessel	E-152		
Flake 100 Rescreener	E-154	12.75 lb/ton (uncontrolled)	
Flake 100 Drum Loading	E-156	0.00020 lb/ton (mesh filter controlled)	
Powder 200 Drum/Tote Unloading	E-158		
Powder 200 Staging Vessel	E-160		
Powder 200 Drum Loading	E-164		

**Table 8 Unit U13: Aluminum Paste Process**

Equipment	Emission Point	Emission Factor/Rate	Determination Method
Ball Mill #5	E-56	0.79 lb/hr (uncontrolled) - VOC	<b>July 2013</b> Stack Test of Ball Mill #5 for both controlled and uncontrolled emission factors – VOC AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore – PM
Ball Mill #6	E-57	0.066 lb/hr (controlled) - VOC 0.12 lb/ton (uncontrolled) - PM	
Screens 29, 30	E-66a1, b1	0.0047 lb/hr each (uncontrolled) 0.00039 lb/hr each (controlled)	EIIP Volume II, Chapter 8, Methods for Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities (surface evaporation emission model)
Overflow Hoppers	E-284, E-285	0.027 lb/hr each (uncontrolled)	
2 Vibratory Screen	E-116o, E-116p	0.0047 lb/hr each (uncontrolled) 0.00039 lb/hr each (controlled)	

**Table 9 Unit U14: Aluminum Paste Dryers**

Equipment	Emission Point	VOC Emission Factor	Determination Method
Vacuum Dryers #2	E-82	0.0 lb/hr	All VOC emissions are discharged out the vacuum pump (E-83)
Condenser/Vacuum Pump No. 2	E-83	0.12 lb/hr (uncontrolled) 0.00996 lb/hr (if process condenser is operating as designed and controlled by C-9)	<b>July 2013</b> Stack Test of E-82/E-83 for emission factor if condenser is operating as designed <b>July 2013</b> Stack Test of Vacuum Dryer 2 for uncontrolled emission factors. The controlled emission factor uses the <b>August 2012</b> SVR test.
Dryer 2/3 Holding Tank	E-232	0.00058 lb/hr	Emissions are based on AP-42, section 5.2, equation (1) for loading petroleum liquid
Pilot Lab Dryer	E-341	0.114 lb/hr x 50 lbs/2000 lbs (uncontrolled) 0.0095 lb/hr x 50 lbs/2000 lbs (controlled)	<b>July 2013</b> Stack Test of Solvent Exchanger (E-185) for controlled and uncontrolled emission factors ratioed to the capacity of this equipment for emission factor if condenser is operating as designed

**Table 10 Unit U15: Mixers**

Equipment	Emission Point	VOC Emission Factor	Determination Method
Mixer 1 through Mixer 9	E-129 through E-137	0.0015 lb/hr each (uncontrolled) 0.00012 lb/hr each (controlled)	<b>July 2013</b> Stack Test of Mixer 2 for both controlled and uncontrolled emission factors
Drum Loadings for Mixer 1 through Mixer 9	E-129a through E-137a	0.0015 lb/hr each (uncontrolled)	<b>July 2013</b> Stack Test of Mixer 2 for both controlled and uncontrolled emission factors

**Table 11 Unit U16: AST (Aboveground Storage Tank) Farm**

Equipment	Emission Point	VOC Emission Factor	Determination Method
AST 1 – 4; 6 – 11	E-89 - E-94, E-166 – E-169	0.022 lb/hr per tank	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors];
AST 5	E-107	0.0026 lb/hr	

Equipment	Emission Point	VOC Emission Factor	Determination Method
AST 12	E-108	0.00011 lb/hr	
AST 13	E-290a	0.005 lb/hr	
AST 14	E-290b	0.005 lb/hr	

Table 12 Unit U17: Mineral Spirit Stills

Equipment	Emission Point	VOC Emission Factor	Determination Method
Sludge Accumulator Tank Drum Unloading	E-100a	0.169 lb/hr (uncontrolled)	AP-42, 5.2, equation (1) for loading petroleum liquid.
Sludge Accumulator Tank	E-100	0.0005 lb/hr (uncontrolled) 0.00004 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors];  <b>July 2013</b> Stack Test for controlled emission factors
Still Settling Tanks (T-104 & T-105)	E-233 & E-234	0.002 lb/hr each (uncontrolled) 0.00017 lb/hr each (controlled)	
Feed Tanks (Still 5 & 6)	E-235 & E-239	0.002 lb/hr each (uncontrolled) 0.00017 lb/hr each (controlled)	
Cooling & Condensate Tanks and OWSs (Still 5 & 6)	E-236, E-237; E-241, E-242	0.002 lb/hr each (uncontrolled) 0.00017 lb/hr each (controlled)	
Vacuum Pumps (Still 5 & 6)	E-210 & E-240	0.08 lb/hr each (uncontrolled) 0.006 lb/hr each (controlled)	EPA Document EPA-450/2-78-029, "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products" for uncontrolled emission factors; <b>July 2013</b> Stack Test for controlled emission factors
Still 7 Feed Tank	E-291	0.0027 lb/hr (uncontrolled) 0.00022 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors];  <b>July 2013</b> Stack Test for controlled emission factors

Equipment	Emission Point	VOC Emission Factor	Determination Method
Still 7 Vacuum Pump	E-292	0.0760 lb/hr (uncontrolled) 0.0063 lb/hr (controlled)	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products", Document EPA-450/2-78-029, Appendix B, Equation 15 for uncontrolled emission factors <b>July 2013</b> Stack Test for controlled emission factors
Still 7 Cooling Tank	E-293	0.0027 lb/hr (uncontrolled) 0.00022 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test for controlled emission factors
Still 7 Condensate	E-294	0.0027 lb/hr (uncontrolled) 0.00022 lb/hr (controlled)	

Table 13 Unit U18: Parts Washers

Equipment	Emission Point	VOC Emission Factor	Determination Method
Parts washers with secondary reservoir	E-172, E-173	0.0042 lb/hr each (uncontrolled)	EIIP Volume II, Chapter 8.4, Emission Model for Surface Evaporation, Equation 8.4-22
Parts washers without secondary reservoir	E-245	0.20 lb/hr (uncontrolled)	

Table 14 Unit U22: New Paste Process

Equipment	Emission Point	Emission Factor	Determination Method
Tank RW1A	E-62b	0.011 lb/hr (uncontrolled) 0.00091 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test for controlled emission factors
Filtrate Tanks	E-179a-h	0.0069 lb/hr each (uncontrolled) 0.00058 lb/hr each (controlled)	
Vapor Recovery Condensate Tank	E-270	0.00003 lb/hr (uncontrolled)	

Equipment	Emission Point	Emission Factor	Determination Method
Decanter Tanks; B06, B07, B08	E-246, E-247, E-248	0.00015 lb/hr each (uncontrolled) 0.000012 lb/hr each (controlled)	
Ball Mills 7 through 10	E-111, E-112, E-113, E-114	0.42 lb/hr each (uncontrolled) – VOC 0.035 lb/hr each (controlled) – VOC 0.12 lb/ton (uncontrolled) - PM	<b>July 2013</b> Stack Test of Ball Mill 7 for both controlled and uncontrolled emission factors – VOC AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore - PM
Ball Mills 11, 12	E-115, E-178	0.74 lb/hr each (uncontrolled) – VOC 0.061 lb/hr each (controlled) – VOC 0.12 lb/ton (uncontrolled) - PM	<b>July 2013</b> Stack Test of Ball Mill 12 for both controlled and uncontrolled emission factors – VOC AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore - PM
22 Vibratory Screen	E-116a – E-116x except E-116o and E-116p	0.0047 lb/hr each (uncontrolled) 0.00039 lb/hr each (controlled)	EIIP Volume II, Chapter 8.4, Emission Model for Surface Evaporation, Equation 8.4-22;
Portable Rework Hopper	E-181	0.01 lb/hr (uncontrolled)	July 2013 Stack Test for controlled emission factors
30 Slurry Tanks	E-117a – E-117dd	0.0011 lb/hr each (uncontrolled) 0.00091 lb/hr each (controlled)	AP-42, Chapter 5.2 “Transportation And Marketing Of Petroleum Liquids” equation for loading and unloading of petroleum liquids;
10 Slurry Tanks	E-118a – E-118j	0.0011 lb/hr each (uncontrolled) 0.0091 lb/hr each (controlled)	July 2013 Stack Test for controlled emission factors
Filter Presses 1-6 & 10	E-119a – E-119g	0.002 lb/hr each (uncontrolled) 0.00017 lb/hr each (controlled) 0.0035 lb/hr each (fugitive)	
Filter Presses 7 & 8	E-120a, E-120b	0.00092 lb/hr each (uncontrolled) 0.000076 lb/hr each (controlled) 0.002 lb/hr each (fugitive)	EIIP Volume II, Chapter 8 surface evaporation, gas sweep and material loading; July 2013 Stack Test for controlled emission factors
Filter Presses 12 – 14	E-121a, E-121b, E-121c	0.0031 lb/hr each (uncontrolled) 0.00026 lb/hr each (controlled) 0.0035 lb/hr each (fugitive)	

Equipment	Emission Point	Emission Factor	Determination Method
Decanter 1 (Centrifuge)	E-67	0.0004 lb/hr (uncontrolled)	EIIP Volume II, Chapter 8, Gas Sweep of Purge Emission Model
Decanter 2 (Centrifuge)	E-180	0.0004 lb/hr (uncontrolled)	
Feeder Station	E-273	0.02 lb/1000 gal (uncontrolled)	AP-42, Chapter 5.2
Slurry Tank	E-279	0.0143 lb/hr (uncontrolled) 0.0012 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]
Slurry Tank	E-280	0.0014 lb/hr (uncontrolled) 0.00012 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]
Filter Cake Press Carts	E-286 – E-288	0.00296 lb/ft <sup>2</sup> /hr each	EIIP Volume II, Chapter 8.4, Emission Model for Surface Evaporation

Table 15 Unit U23: Solvent Exchangers

Equipment	Emission Point	VOC Emission Factor	Determination Method
Additive Tank 1	E-123	0.00004 lb/hr (uncontrolled) 0.000004 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test of E-185 for controlled emission factors
Solvent Exchanger (SE) Condensate Tanks 1 & 2	E-254, E-255	0.000024 lb/hr each (uncontrolled) 0.000002 lb/hr each (controlled)	
Additive Tank 2 (R01)	E-125	0.00058 lb/hr (uncontrolled) 0.000048 lb/hr (controlled)	
Additive Tank 3 (R02)	E-126		
Solvent Exchanger Vacuum Pump 1	E-127	0.114 lb/hr (uncontrolled) 0.0095 lb/hr (controlled)	
Solvent Exchanger Vacuum Pump 2	E-185		
Additive Tank 2, Tank 3 Drum Unloading	E-125a, E-126a	0.31 lb/hr each	AP-42, Chapter 5.2

Equipment	Emission Point	VOC Emission Factor	Determination Method
Vacuum Pump 1 Drum Unloading	E-127a	0.41 lb/hr	AP-42, Chapter 5.2
Vacuum Pump 2 Drum Unloading	E-185a	0.72 lb/hr	AP-42, Chapter 5.2
Solvent Exchanger Thermal Oil Tanks 1 & 2	E-252, E-253	0.00029 lb/hr each (uncontrolled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test of E-185 for controlled emission factors
Additive Tank 4 (SE2)	E-184	0.00004 lb/hr (uncontrolled) 0.000004 lb/hr (controlled)	

Table 16 Unit U24: Mills 13/14

Equipment	Emission Point	Emission Factor	Determination Method
Ball Mill 13	E-186	0.11 lb/hr (uncontrolled) - VOC 0.0092 lb/hr (controlled) – VOC 0.12 lb/ton (uncontrolled) - PM	<b>July 2013</b> Stack Test of U-22 Ball Mill 7 (E-111) and prorated based upon capacity for both controlled and uncontrolled emission factors - VOC AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore – PM
Ball Mill 14	E-187	0.32 lb/hr (uncontrolled) - VOC 0.027 lb/hr (controlled) – VOC 0.12 lb/ton (uncontrolled) - PM	
Vibratory Screens 21 & 22	E-188a & E-188b	0.0047 lb/hr each (uncontrolled) 0.00039 lb/hr each (controlled)	EIIP Volume II, Chapter 8, Emission Model for Surface Evaporation, Equation 8.4-22 for uncontrolled emission factor; <b>July 2013</b> Stack Test for controlled emission factor
4 Slurry Tanks (T-54, T-55, T-56, T-57)	E-189a through E-189d	0.00042 lb/hr each (uncontrolled) 0.000035 lb/hr each (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test for controlled emission factors
Mill 14 Recirculation Tank	E-190	0.0006 lb/hr (uncontrolled) 0.00005 lb/hr (controlled)	
Mill 16 Filter	E-192	0.001 lb/hr each (uncontrolled)	EIIP Volume II, Chapter 8



Equipment	Emission Point	Emission Factor	Determination Method
Press		0.000083 lb/hr each (controlled) 0.002 lb/hr each (fugitive)	surface evaporation, gas sweep and material loading for uncontrolled emission factors; <b>July 2013</b> Stack Test for controlled emission factors
Mill 15 Filter Press	E-193	0.0037 lb/hr each (uncontrolled) 0.000031 lb/hr each (controlled) 0.002 lb/hr each (fugitive)	
Decanter Tanks; B06, B07, B08	E-246, E-247, E-248	0.00015 lb/hr each (uncontrolled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]
Mill 13/14 Mixer	E-272	0.002 lb/hr (uncontrolled)	EIIP Volume II, Chapter 8, Emission Model for Surface Evaporation, Equation 8.4-22
Pilot lab	E-277	0.066 lb/hr (uncontrolled)	EIIP Volume II, Chapter 8, Emission Model for Surface Evaporation, Equation 8.4-22
Filter Cake Press Carts	E-289	0.00296 lb/ft <sup>2</sup> /hr each (uncontrolled)	EIIP Volume II, Chapter 8, Emission Model for Surface Evaporation, Equation 8.4-22

Table 17 Unit U25: Zinc Mills

Equipment	Emission Point	Emission Factor	Determination Method
Ball Mill 20	E-194	0.55 lb/hr (uncontrolled) - VOC 0.045 lb/hr (controlled) – VOC 0.12 lb/ton (uncontrolled) - PM	<b>July 2013</b> Stack Test of U-22 Ball Mill 12 (E-178) and prorated based upon capacity for both controlled and uncontrolled emission factors - VOC AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore – PM
2 Vibratory Screens	E-195a & E-195b	0.0047 lb/hr each (uncontrolled) 0.00039 lb/hr each (controlled)	EIIP Volume II, Chapter 8, Emission Model for Surface Evaporation, Equation 8.4-22 for uncontrolled emission factors; <b>July 2013</b> Stack for controlled emission factors

Equipment	Emission Point	Emission Factor	Determination Method
Mineral Spirits Supply Tank (T-64)	E-196	0.0007 lb/hr (uncontrolled) 0.00006 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test for controlled emission factors
2 Slurry Tanks (T-67, T-70)	E-197a & E-197b	0.0036 lb/hr each (uncontrolled) 0.00030 lb/hr each (controlled)	AP-42, Section 5.2 equation for loading and unloading of petroleum liquids for uncontrolled emission factors; <b>July 2013</b> Stack Test for controlled emission factors
1 Slurry Tank (T-66)	E-198		
Filter Press	E-199	0.002 lb/hr (uncontrolled) 0.0002 lb/hr (controlled) 0.004 lb/hr (fugitive)	EIIP Volume II, Chapter 8 surface evaporation, gas sweep and material loading for uncontrolled emission factors; <b>July 2013</b> Stack Test for controlled emission factors
Mixer 20	E-200	0.0015 lb/hr (uncontrolled) 0.00012 lb/hr (controlled)	<b>July 2013</b> Stack Test of U-15 Mixer 2 (E-130) for both controlled and uncontrolled emission factors
Mixer 20 Drum Loading	E-200a	0.0015 lb/hr (uncontrolled)	
Filtrate Tank (T-69)	E-251	0.00089 lb/hr (uncontrolled) 0.000074 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test controlled emission factors
Zinc Mill Condensate Tank (T-65)	E-249	0.00002 lb/hr (uncontrolled) 0.0000016 lb/hr (controlled)	
Filtrate Tank (T-68)	E-250		
Slurry Tank	E-281	0.0143 lb/hr (uncontrolled) 0.0012 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]

**Table 18 Unit U27: Solvent Wash**

Equipment	Emission Point	VOC Emission Factor	Determination Method
B03 Tank	E-223	0.00017 lb/hr (uncontrolled) 0.000014 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test for controlled emission factor
B04 Tank	E-224		
Filter Press 1	E-225	0.0018 lb/hr (uncontrolled) 0.00015 lb/hr (controlled) 0.004 lb/hr (fugitive)	EIIP Volume II, Chapter 8 surface evaporation, gas sweep and material loading for uncontrolled factors; <b>July 2013</b> Stack Test for controlled emission factor
B05 Tank	E-227	0.00009 lb/hr (uncontrolled) 0.000007 lb/hr (controlled)	Emissions accounted for in the working losses for the storage tanks below using AP-42 evaporative losses [TANKS 4.0.9d for uncontrolled emission factors]; <b>July 2013</b> Stack Test for controlled emission factor
B06 Tank	E-228		
Decanter (Stills 5 & 6)	E-274	0.0068 lb/hr (uncontrolled)	EIIP Volume II, Chapter 8, Methods for Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities (surface evaporation emission model)
Filter Cake Press Cart	E-283	0.00296 lb/ft <sup>2</sup> /hr	EIIP Volume II, Chapter 8.4, Emission Model for Surface Evaporation, Equation 8.4-22

**Table 19 Unit U28: Cooling Tower**

Equipment	Emission Point	PM Emission Factor	Determination Method
Cooling Tower	E-269	0.019 lb/1,000 gal OR 1.21 lb/hr (uncontrolled)	AP-42, Chapter 13.4: Wet Cooling Towers
	E-342	0.019 lb/1,000 gal OR 0.25 lb/hr (uncontrolled)	

**Table 20 Unit U29: New Paste Process**

<b>Emission Point</b>	<b>Equipment</b>	<b>Control Device</b>	<b>Acceptable Emission Factor Sources</b>
E-295	BM21 Additive Dosing Tank (AD01-R01)	N/A	PM Emission factor obtained from AP-42 Chapter 11.24-2; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore
E-296	BM21 Additive Dosing Tank (AD01-B01)	N/A	PM Emission factor obtained from AP-42 Chapter 11.24-2; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore
E-297	BM21 Powder Dosing Tank (DM21-R01)	C-9	PM Emission factor obtained from AP-42 Chapter 11.24-2; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore VOC Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-297a (PM emissions are accounted for in E-297)	BM21 Feeder Station [aluminum powder] 437.5 lb/hr (PM emissions only)	N/A	
E-297b (PM emissions are accounted for in E-297)	BM21 Feeder Station [steric acid powder] 25lb/hr (PM emissions only)	N/A	
E-298	Ball Mill 21, 4250 lbs	C-9	July 2013 Stack Test of Ball Mill 7 for both controlled and uncontrolled emission factors
E-299	BM 21 Screen Tank (SI21-R01)	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-300	BM 21 Iron Collector Tank (IC04-B01)	C-9	
E-298a through E-298f (VOC emissions are accounted for in E-301 through E-309)	Mill 21 Screens (SM21-SI01, SI02, SI03, SI04, SI05, SI06)	N/A	EIIP Volume II, Chapter 8 - Methods for Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities (Equation 8.4-22).

<b>Emission Point</b>	<b>Equipment</b>	<b>Control Device</b>	<b>Acceptable Emission Factor Sources</b>
E-301, E-302	BM21 Fines Tank (B02, B03)	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-310	Ball Mill 21 Screen tank (AT21-R01)	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-311	Filter (F121-F101)	C-9	EIIP Volume II, Chapter 9 - Methods for Estimating Air Emissions from Paint, Ink and Other Coating Manufacturing Facilities for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-312	Filter (F121-F102)	C-9	
E-313	Filter Tank (SR01-B01)	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-314	Filter Tank (SR01-B02)	C-9	
E-315	Filter Tank (SR01-B03)	C-9	
E-316	Tank (ST01-R01)	C-9	
E-317	Mixer (M121-R01)	C-9	Estimated using the July 2013 stack tested emission rate of E-130 for both controlled and uncontrolled emission factors
E-318	Mixer 21 Drum loading	N/A	Estimated using the July 2013 stack tested emission rate of E-130 (uncontrolled rate)
E-319	BM22 Powder Dosing Tank (DM22-R01)	C-9	PM Emission factor obtained from AP-42 Chapter 11.24-2; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore VOC Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors

<b>Emission Point</b>	<b>Equipment</b>	<b>Control Device</b>	<b>Acceptable Emission Factor Sources</b>
E-319a (PM emissions are accounted for in E-319)	BM22 Feeder Station [aluminum powder] 437.5lb/hr (PM emissions only)	N/A	VOC Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2.
E-319b (PM emissions are accounted for in E-319)	BM22 Feeder Station [steric acid powder] 25 lb/hr (PM emissions only)	N/A	
E-320	Ball Mill 22, 4250 lbs	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-321	BM 22 Screen Tank (SI22-R01)	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-320a through E-320f (VOC emissions are accounted for in E-322 through E-330)	Mill 22 Screens (SM22, SI01, SI02, SI03, SI04, SI05, SI06)	N/A	EIIP Volume II, Chapter 8 - Methods for Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities (Equation 8.4-22).
E-322, E-323	BM22 Fines Tank (B02, B03)	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-331	BM 22 Screen Tank (AT22-R01)	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-332	Filter (F122-F101)	C-9	EIIP Volume II, Chapter 9 - Methods for Estimating Air Emissions from Paint, Ink and Other Coating Manufacturing Facilities for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-333	Filter (F122-F102)	C-9	

<b>Emission Point</b>	<b>Equipment</b>	<b>Control Device</b>	<b>Acceptable Emission Factor Sources</b>
E-334	Mixer (M122-R01)	C-9	Estimated using the July 2013 stack tested emission rate of E-130 for both controlled and uncontrolled emission factors
E-335	Mixer 22 Drum Loading	N/A	Estimated using the July 2013 stack tested emission rate of E-130 (uncontrolled rate)
E-336	Tails Tank OF01-R01	C-9	Emissions are estimated using the emission model for material loading obtained from AP-42, Chapter 5.2 for uncontrolled emission factors July 2013 Stack Test for controlled emission factors
E-337	Tails Tank OF21-F101,	C-9	
E-338	Tails Tank OF01-B01	C-9	
E-339	Tails Mixer OM01-R01	C-9	Estimated using the July 2013 stack tested emission rate of E-130 for both controlled and uncontrolled emission factors
E-340	Tails Mixer Drum Loading	N/A	Estimated using the July 2013 stack tested emission rate of E-130 (uncontrolled rate)

**Table 21 Unit IA-Misc.**

<b>Equipment</b>	<b>Emission Point</b>	<b>Emission Factor</b>	<b>Determination Method</b>
QA/QC Lab - includes a paint booth and electric ovens	E-278	N/A	Mass balance

Equipment	Emission Point	Emission Factor	Determination Method
R&D Labs, includes: a. Technical Lab, Benchtop Development Work, includes paint mixing b. Second Floor Lab, includes two ball mills, solvent exchanger, oven, pilot centrifuge, and aerosol painting c. Cosmetics Lab, Benchtop Development Work, includes mixing and solvent clean-up d. Plastic Injection Molding Lab - includes extrusion, injection molding and a roll mill e. Paint Lab - includes one paint booth and electric ovens f. Paint Lab – Robotic Bell g. Polymer Lab – small-scale R&D synthesis and product testing of optiflo polymers; includes vent hoods for chemical missing, a reactor for polymer synthesis and testing equipment	E-282	Technical lab, cosmetics development lab, paint lab: N/A  Second floor lab: Ball mill-0.0027 lb/hr  Solvent exchanger-0.00029 lb/hr Pilot Centrifuge – 0.0036 lb/hr  Aerosol painting – N/A  Plastic lab: 0.0958 lb PM/ton of plastic 0.0706 lb VOC/ton of plastic  Paint Lab (1 booth & ovens): 0.0069 lb/hr for PM 0.025 lb/hr for VOC  Paint Lab (Robotic Bell): 0.1152 lb/hr for PM 0.33 lb/hr for VOC  Polymer lab: Assume 10% VOC emitted based on throughput	Technical lab, cosmetics development lab, paint lab: mass balance method  Second floor lab: Ball mill–stack test on ball mill 7 (E-111) Solvent exchanger-stack test on solvent exchanger 2 (E-185) Pilot Centrifuge - EIIP Volume II, Chapter 8.4, Emission Model for Surface Evaporation, Equation 8.4-22 Aerosol painting-mass balance  Plastic lab: Michigan Department for Environmental Quality Emission Calculation Fact Sheet for Plastic Production and Products Manufacturing  Paint Lab: mass balance  Polymer Lab: engineering judgement

**10. Appendix B – VOC Emission Limit Tables**

- VOC emission points which are not included in a PSD avoidance limit or considered BACT for Regulation 7.25 (“Bucket”).

Emission Unit	Equipment IDs	Equipment ID Description	PTE (tpy)	Control Device	7.25 VOC BACT Avoidance Limit
U-13	E-66a1	Screen 29	0.02	NA	5 tpy
	E-66b1	Screen 30	0.02	NA	
	E-284	Overflow Hopper for Ball Mill 5	0.12	NA	
	E-285	Overflow Hopper for Ball Mill 6	0.12	N/A	
U-14	E-232	Dryer 2/3 Holding Tank	0.0031	NA	
	E-341	Pilot Lab Dryer	0.012	C-9	



Emission Unit	Equipment IDs	Equipment ID Description	PTE (tpy)	Control Device	7.25 VOC BACT Avoidance Limit
U-15	E-135 and E-135a	Mixer 7	0.0066 each	C-9	
U-17	E-100 and E-100a	Sludge Accumulator Tank	0.002 0.740	C-9	
U-22	E-273	Feeder Station	0.0876	C-F-013, C-9	
	E-279	Slurry Tank	0.063		
	E-280	Slurry Tank	0.006		
U-23	E-254	SE 1 Condensate Tank	0.0013	C-9	
	E-255	SE 2 Condensate Tank	0.0001	C-9	
U-24	E-272	Mill 13/14 Mixer	0.01	NA	
	E-277	Pilot Lab	0.2891		
U-25	E-281	Slurry Tank	0.063		
U-27	E-227	B05 Tank	0.00038	C-9	
	E-228	B06 Tank	0.0004	C-9	
	E-274	Stills 5 & 6 Decanter	0.0298	NA	
U-29	E-318	Mixer 21 Drum loading	0.007	NA	
	E-335	Mixer 22 Drum loading	0.007	NA	
	E-340	Tails Mixer Drum loading	0.007	NA	
I.A.	E-278	QA/QC Lab	1.19	NA	
	E-282	R&D Labs	1.057	NA	

2. The District considered the applications for the Mills that were submitted on May 10, 2004 and June 7, 2004 to be one project. The potential controlled VOC emissions were calculated to less than 1.0 ton per 12 consecutive month period for each Ball Mill. The District has approved the company submitted PTE showing that the equipment in Units 24 and 25 no longer have the potential to exceed the significant levels for VOCs under PSD/Nonattainment NSR. The PTE is based on performance test results, therefore, the District has removed the PSD/Nonattainment NSR limits.

Emission Unit	Equipment ID	Equipment ID Description	Control Device	7.25 VOC Emission Limits Considered BACT
U-24	E-186	Ball Mill 13	C-9	Must be controlled at all times
	E-187	Ball Mill 14	C-9	Must be controlled at all times
U-25	E-194	Ball Mill 20	C-9	Must be controlled at all times
U-24	E-188 a&b	2 Vibratory Screens	C-9	Must be controlled at all times
	E-189 a-d	4 Slurry Tanks (T-54, T-55, T-56, T-57)	C-9	
	E-190	Mill 14 Recirculation Tank (T-57A)	C-9	
	E-192	Mill 14 Filter Press	C-9	
	E-193	Mill 13 Filter Press	C-9	
	E-289	Filter Cake press Carts	NA	
U-25	E-195 a & b	2 Vibratory Screens	C-9	

Emission Unit	Equipment ID	Equipment ID Description	Control Device	7.25 VOC Emission Limits Considered BACT
	E-197 a&b	2 Slurry Tanks (T-67, T-70)	C-9	
	E-198	1 Slurry Tank (T-66)	C-9	
	E-199	Filter Press	C-9	
	E-200 and E-200a	Zinc Blender	C-9	
	E-249	Zinc Mill Condensate Tank	C-9	
	E-250	Filtrate Tank (T-68)	C-9	
	E-251	Filtrate Tank (T-69)	C-9	

3. The source accepted a less than 40 ton per year VOC emission limit for an entire project in 2000 (which is below the significant level) in order to avoid Regulation 2.05, Prevention of Significant Deterioration of Air Quality; therefore, a netting analysis was not required.

Emission Unit	Equipment IDs	Equipment ID Description	Control Device	PSD Avoidance Limits and 7.25 VOC Emission Limits Considered BACT
U-13	E-116o and E-116p	2 Screens	C-9	
U-15	E-129 and E-129a	Mixer 1	C-9	
	E-130 and E-130a	Mixer 2	C-9	
	E-131 and E-131a	Mixer 3	C-9	
	E-132 and E-132a	Mixer 4	C-9	
	E-134 and E-134a	Mixer 6	C-9	
	E-136 and E-136a	Mixer 8	C-9	
	E-137 and E-137a	Mixer 9	C-9	
U-22	E-111	Ball Mill 7	C-9	
	E-112	Ball Mill 8	C-9	
	E-113	Ball Mill 9	C-9	
	E-114	Ball Mill 10	C-9	
	E-115	Ball Mill 11	C-9	
	E-116 a1-c1 E-116 d-n E-116 q-x	22 Screens	C-9	
	E-117 a-dd	30 Slurry Tanks	C-9	
	E-118 a-j	10 Slurry Tanks	C-9	
	E-178	Ball Mill 12	C-9	
	E-119 a-g	Filter Presses 1-6, 10	C-9	
E-120 a&b	Filter Presses 7 and 8	C-9		

Emission Unit	Equipment IDs	Equipment ID Description	Control Device	PSD Avoidance Limits and 7.25 VOC Emission Limits Considered BACT
	E-121 a-c	Filter Presses 12 - 14	C-9	
	E-270	Vapor Recovery Condensate Tank	NA	
	E-179 a-h	8 Filtrate Tanks (T-28, T-29, T-30, T-34, T-51, T-52, T-53, T-71)	C-9	
	E-180	Centrifuge	NA	
	E-181	Rework Hopper	NA	
	E-286 – E288	Filter Cake Press Carts	NA	
U-23	E-123	Additive Tank 1	C-9	
	E-125 and E-125a	Additive Tank 2 (R01)	C-9	
	E-126 and E-126a	Additive Tank 3 (R02)	C-9	
	E-127 and E-127a	Solvent Exchanger 1 Vacuum Pump	C-9	
	E-252	SE 1 Thermal Tank	NA	
	E-253	SE 2 Thermal Tank	NA	

4. The following table lists the emission points which have 7.25 VOC Emission Limit Considered BACT for the equipment:

Emission Unit	Equipment ID	Equipment ID Description	Control Device	7.25 VOC Emission Limit Considered BACT for this equipment
U-17	E-210	Still 5 with condenser and Vacuum Pump	C-9	Must be controlled at all times
	E-233	T-104 Still Settling Tank	C-9	
	E-234	T-105 Still Settling Tank	C-9	
	E-235	Still 5 Feed Tank	C-9	
	E-236	Still 5 Cooling Tank	C-9	
	E-237	Still 5 Condensate Tank	C-9	
	E-239	Still 6 Feed Tank	C-9	
	E-240	Still 6 with condenser and Vacuum Pump	C-9	
	E-241	Still 6 Cooling Tank	C-9	
	E-242	Still 6 Condensate Tank	C-9	
U-17	E-233	T-104 Still Settling Tank	C-9	The vapor pressure of mineral spirits as determined by the manufacturer's SDS or other similar data shall not
	E-234	T-105 Still Settling Tank	C-9	
	E-291	Still 7 Feed Tank	C-9	
	E-292	Still 7 Vacuum Pump	C-9	
	E-293	Still 7 Cooling Tank	C-9	

Emission Unit	Equipment ID	Equipment ID Description	Control Device	7.25 VOC Emission Limit Considered BACT for this equipment
	E-294	Still 7 Condensate Tank	C-9	exceed 0.067 kPa (0.00971 psia). The control device C-9 shall obtain a minimum destruction efficiency of 90% averaged over a calendar day period.
U-23	E-184	Additive Tank 4	C-9	Must be controlled at all times
	E-185 and E-185a	**Solvent Exchanger 2 Vacuum Pump	C-9	
U-27	E-225	Filter Press 1	C-9	Must be controlled at all times
	E-283	Filter Cake Press Cart	N/A	
U-29	E-297	BM21 Powder Dosing Tank (DM21-R01)	C-9	The vapor pressure of mineral spirits as determined by the manufacturer's SDS or other similar data shall not exceed 0.067 kPa (0.00971 psia). The control device C-9 shall obtain a minimum destruction efficiency of 90% averaged over a calendar day period.
	E-298	Ball Mill 21	C-9	
	E-298a through E-298f	Mill 21 Screens (SM21-SI01, SI02, SI03, SI04, SI05, SI06)	N/A	
	E-299	BM21 Screen Tank (SI21-R01)	C-9	
	E-300	BM21 Iron Collector Tank (IC04-B01)	C-9	
	E-301	BM21 Fines Tank B02	C-9	
	E-302	BM21 Tails Tank B03	C-9	
	E-310	Ball Mill 21 Screen Tank (AT21-R01)	C-9	
	E-311	Filter (F121-F101)	C-9	
	E-312	Filter (F121-F102)	C-9	
	E-313	Filtrate Tank (SR01-B01)	C-9	
	E-314	Filtrate Tank (SR01-B02)	C-9	
	E-315	Filtrate Tank (SR01-B03)	C-9	
	E-316	Tank (ST01-R01)	C-9	
	E-317	Mixer (M121-R01)	C-9	
	E-318	Mixer 21 Drum loading	N/A	
	E-319	BM22 Powder Dosing Tank (DM22-R01)	C-9	
	E-320	Ball Mill 22	C-9	
	E-320a through E-320f	Mill 22 Screens (SM22-SI01, SI02, SI03, SI04, SI05, SI06)	N/A	
	E-321	BM22 Screen Tank (SI22-R01)	C-9	
E-322	BM22 Fines Tank B02	C-9		
E-323	BM22 Tails Tank B03	C-9		
E-331	BM22 Screen Tank (AT22-R01)	C-9		

Emission Unit	Equipment ID	Equipment ID Description	Control Device	7.25 VOC Emission Limit Considered BACT for this equipment
	E-332	Filter (F122-F101)	C-9	
	E-333	Filter (F122-F102)	C-9	
	E-334	Mixer (M122-R01)	C-9	
	E-335	Mixer 22 Drum Loading	N/A	
	E-336	Tails Tank OF01-R01	C-9	
	E-337	Tails Filter OF21-F101	C-9	
	E-338	Tails Tank OF01-B01	C-9	
	E-339	Tails Mixer OM01-R01	C-9	
	E-340	Tails Mixer Drum Loading	N/A	
*Was part of a larger project but now is the only piece left.				
**E-185 includes integrated condenser and meets standards without additional control C-9.				

5. This equipment is controlled by the condenser system (C-9) but does not have PSD avoidance or Regulation 7.25 VOC emission limits because the tanks are subject to Regulation 7.12.

Emission Unit	Equipment IDs	Equipment ID Description	Control Device	PSD Avoidance Limit and 7.25 VOC Emission Limit
U-22	E-246	Decanter Tank B06	C-9	None
	E-247	Decanter Tank B07	C-9	None
	E-248	Decanter Tank B08	C-9	None
U-25	E-196	Mineral Spirits Supply Tank (T-64)	C-9	None
U-27	E-223	Non-Distillable Wash Tank (B03)	C-9	None
	E-224	Distillable Wash Tank (B04)	C-9	None

6. Regulation 6.24 equipment

Emission Unit	Equipment IDs	Equipment ID Description	Control Device	VOC Emission Limit Per Piece of Equipment
U-13	E-56	Ball Mill 5	C-9	Class III - 3000 lb/day; 450 lb/hr Class II - 40 lb/day; 8 lb/hr
	E-57	Ball Mill 6	C-9	
U-14	E-82, 83	Dryer 2	C-9	
U-15	E-133 and E-133a	Mixer 5	C-9	
U-22	E-62b	Slurry Tank RW1A	C-9	
	E-67	Decanter 1	NA	

## 11. Appendix C – Process/Control Device Efficiencies and Determination Methods<sup>1,2</sup>

1. Emission Points controlled by Cyclones

Unit ID	Emission Point ID	Emission Point Description	Control ID	Efficiency	Determination Method
U-2	E-3	Atomization Furnace	C-E-5	87%	Option 3
			C-E-7	89%	Option 3
U-3	E-9	Rail Car Loading	C-E-9	75%	Option 3
	E-8	Buhler A Conveyor Pod	C-E-8	75%	Option 3
U-4	E-12a	Large Powder Storage Tank 2	C-E-12	38%	Option 3
	E-15	Tote/Drum Fill Station #2			
U-6	E-25	15,000 lb Powder Storage Tank	C-E-25	38%	Option 3
	E-26b, c, d	Two holding tanks, Drum Loading			
	E-128	30,000 lb Powder Storage Tank	C-E-128	38%	Option 3
	E-128b1	Buhler B Conveyor Pod			

## 2. Emission Points controlled by Metal Mesh Filters

Unit ID	Emission Point ID	Emission Point Description	Control ID	Efficiency	Determination Method
U-3	E-229	Docking/Transfer Station	C-F-005	86%	Option 3
	E-141	Air Slide Conveyor Pod			
	E-9	Rail Car Loading	C-F-006	86%	Option 3
	E-8	Buhler A Conveyor Pod	C-F-007	86%	Option 3
U-4	E-12a	Large Powder Storage Tank 2	C-F-009	86%	Option 3
	E-15	Tote/Drum Fill Station #2			
U-6	E-25	15,000 lb Powder Storage Tank	C-F-010	86%	Option 3
	E-26b, c, d	Two holding tanks, Drum Loading			
	E-128	30,000 lb Powder Storage Tank	C-F-011	86%	Option 3
	E-128b1	Buhler B Conveyor Pod			
U-8	E-150	Flake 100 Drum/Tote Unloading	C-E-153	99.9984%	Option 3
	E-152	Flake 100 Staging Vessel			
	E-154	Flake 100 Rescreener	C-E-155	99.9984%	Option 3
	E-156	Flake 100 Drum Loading	C-E-157	99.9984%	Option 3
	E-158	Powder 200 Drum/Tote Unloading	C-E-161	99.9984%	Option 3
	E-160	Powder 200 Staging Vessel			
	E-162	Powder 200 Rescreener	C-E-163	99.9984%	Option 3
	E-164	Powder 200 Drum Loading	C-E-165	99.9984%	Option 3

## 3. SVR System (Dual Stage Condenser with Liquid/Vapor Separator)

Control ID	Description	Performance Indicator	Operating Range	Efficiency	Determination Method
C-9	SVR System (Dual Stage Condenser with Liquid/Vapor Separator)	Temperature (Second Stage)	< 26 °F	91.7%	Option 3
		Temperature (Second Stage)	26 °F - 30 °F	89%	
		Temperature (Second Stage) <sup>3</sup>	> 35 °F	0%	
		Temperature (Only One Stage Operations)	30 °F - 35 °F	75%	

## Note:

- Options for control efficiency determination:
  - Option 1: Use District pre-approved control efficiency
  - Option 2: Submit a signature guarantee from the control device manufacture stating the control device efficiency
  - Option 3: Performed a stack test. See Plant-wide emission unit for general testing requirements.
- Until the District receives a signature guarantee from the control device manufacturer stating the control device efficiency is higher (Option 2), or an approved stack test (Option 3), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.
- Emission Points controlled by the SVR System (Dual Stage Condenser with Liquid/Vapor Separator) [C-9]

Emission Unit	Emission Point ID	Emission Point Description	Unit Description
U-13	E-56	Ball Mill 5	Aluminum Paste Process
U-13	E-57	Ball Mill 6	
U-13	E-66a1	Screen 29	
U-13	E-66b1	Screen 30	
U-13	E-116o and E-116p	2 Screens	
U-14	E-82	Vacuum Dryer #2	Aluminum Paste Dryers
U-14	E-83	Process Condenser for Vacuum Dryer #2	
U-14	E-341	Pilot Lab Dryer	
U-15	E-129	Mixer 1	Mixers
U-15	E-130	Mixer 2	
U-15	E-131	Mixer 3	
U-15	E-132	Mixer 4	

<sup>3</sup> For temperature greater than 35°F. Eckart has not established a tested efficiency.

<b>Emission Unit</b>	<b>Emission Point ID</b>	<b>Emission Point Description</b>	<b>Unit Description</b>	
U-15	E-133	Mixer 5		
U-15	E-134	Mixer 6		
U-15	E-135	Mixer 7		
U-15	E-136	Mixer 8		
U-15	E-137	Mixer 9		
U-17	E-100	Sludge Accumulator Tank	Stills	
U-17	E-233	T-104 Still Settling Tank		
U-17	E-234	T-105 Still Settling Tank		
U-17	E-235	Still 5 Feed Tank		
U-17	E-236	Still 5 Cooling Tank		
U-17	E-237	Still 5 Condensate Tank		
U-17	E-210	Still #5 w/Condenser and Vacuum Pump		
U-17	E-239	Still 6 Feed Tank		
U-17	E-241	Still 6 Cooling Tank		
U-17	E-242	Still 6 Condensate Tank		
U-17	E-240	Still #6 w/Condenser and Vacuum Pump		
U-17	E-291	Still 7 Feed Tank		
U-17	E-292	Still 7 Vacuum Pump		
U-17	E-293	Still 7 Cooling Tank		
U-17	E-294	Still 7 Condensate Tank		
U-22	E-62b	Tank RW1A		New Paste
U-22	E-111	Ball Mill 7		
U-22	E-112	Ball Mill 8		
U-22	E-113	Ball Mill 9		
U-22	E-114	Ball Mill 10		
U-22	E-115	Ball Mill 11		
U-22	E-178	Ball Mill 12		
U-22	E-116 a1-c1 E-116 d-n E-116 q-x	22 Screens		
U-22	E-117a – E-117dd	30 2,200-gallon Tanks		
U-22	E-118a – E-118j	5 2,500-gallon tanks 5 2,200-gallon tanks		
U-22	E-119a – E-119g	7 Filter Presses		
U-22	E-120a, b	2 Filter Presses		
U-22	E-121a, b, c	3 Filter Presses		
U-22	E-179a – E-179h	8 Filtrate Tanks		
U-22	E-246	B06 Decanter Tank		
U-22	E-247	B07 Decanter Tank		
U-22	E-248	B08 Decanter Tank		
U-22	E-273	Feeder Station		



<b>Emission Unit</b>	<b>Emission Point ID</b>	<b>Emission Point Description</b>	<b>Unit Description</b>
U-22	E-279	Slurry Tank	
U-22	E-280	Slurry Tank	
U-23	E-123	Additive Tank #1	
U-23	E-125	Additive Tank #2	Solvent Exchangers
U-23	E-126	Additive Tank #3	
U-23	E-127	Vacuum Pump No. 1	
U-23	E-254	SE 1 Condensate Tank	
U-23	E-184	Additive Tank #4	
U-23	E-185	Vacuum Pump No. 2	
U-23	E-255	SE 2 Condensate Tank	
U-24	E-186	Ball Mill 13	
U-24	E-187	Ball Mill 14	
U-24	E-188a, b	2 Vibratory Screeners	
U-24	E-189a – E-189d	4 Slurry Tanks	
U-24	E-190	Mill 14 Recirculation Tank	
U-24	E-192	Filter Press 16	
U-24	E-193	Filter Press 15	
U-25	E-194	Ball Mill 20	
U-25	E-195a, b	2 Vibratory Screeners	Zinc Mill
U-25	E-196	Tank T-64	
U-25	E-197a, b	Tanks T-67, T-70	
U-25	E-198	Tank T-66	
U-25	E-249	Zinc Mill Condensate Tank	
U-25	E-250	Filtrate Tank (T-68)	
U-25	E-251	T-69 Tank	
U-25	E-199	Filter Press 20	
U-25	E-200	Mixer 20	
U-25	E-281	Slurry Tank	
U-27	E-223	B03 Tank	Solvent Wash
U-27	E-224	B04 Tank	
U-27	E-225	Filter Press 21	
U-27	E-227	B05 Tank	
U-27	E-228	B06 Tank	
U-29	E-297	BM21 Powder Dosing Tank (DM21-R01)	Aluminum Paste Process
U-29	E-298	Ball Mill 21	
U-29	E-299	BM21 Screen Tank (SI21-R01)	
U-29	E-300	BM21 Iron Collector Tank (IC04-B01)	
U-29	E-301	BM21 Fines Tank B02	
U-29	E-302	BM21 Tails Tank B03	
U-29	E-310	Ball Mill 21 Screen Tank (AT21-R01)	

Emission Unit	Emission Point ID	Emission Point Description	Unit Description
U-29	E-311	Filter (F121-F101)	
U-29	E-312	Filter (F121-F102)	
U-29	E-313	Filtrate Tank (SR01-B01)	
U-29	E-314	Filtrate Tank (SR01-B02)	
U-29	E-315	Filtrate Tank (SR01-B03)	
U-29	E-316	Tank (ST01-R01)	
U-29	E-317	Mixer (M121-R01)	
U-29	E-319	BM22 Powder Dosing Tank (DM22-R01)	
U-29	E-320	Ball Mill 22	
U-29	E-321	BM22 Screen Tank (SI22-R01)	
U-29	E-322	BM22 Fines Tank B02	
U-29	E-323	BM22 Tails Tank B03	
U-29	E-331	BM22 Screen Tank (AT22-R01)	
U-29	E-332	Filter (F122-F101)	
U-29	E-333	Filter (F122-F102)	
U-29	E-334	Mixer (M122-R01)	
U-29	E-336	Tails Tank OF01-R01	
U-29	E-337	Tails Filter OF21-F101	
U-29	E-338	Tails Tank OF01-B01	
U-29	E-339	Tails Mixer OM01-R01	

## 12. Appendix D – PM Emission Points Requiring Testing

Emission Unit	Emission Point	Emission Point Description	Control Device	Most Recent Stack Test
U-2	E-3	Atomization Furnace	C-E-5, C-E-7	<b>April 2012</b> Test on the inlet and outlet of Multicyclones C-E-5 and C-E-7 to determine control efficiency and emission rates from E-5 and E-7
U-3	E-8	Buhler A Conveyor Pod	C-E-8, C-F-007	<b>September 2018</b> Test on the inlet and outlet of cyclone C-E-8 and the outlet of Metal Mesh Filter C-F-007 (controlling Emission Point E-8) to assess the E-8a PM emission factor and the efficiency of the cyclone and metal mesh filter. The uncontrolled and controlled PM emission factors will be used as representative for E-9.
U-3	E-9	Rail Car Loading	C-E-9, C-F-006	
U-4	E-141 E-229	Air Slide Conveyor Pod Docking/Transfer Station	C-F-005	
U-4	E-12	Large Powder Storage Tank 2	C-E-12, C-F-009	<b>January 2019</b> Test on the inlet and outlet of cyclone C-E-128 and outlet of metal mesh

Emission Unit	Emission Point	Emission Point Description	Control Device	Most Recent Stack Test
U-6	E-25	15,000 lb Tank	C-E-25, C-F-010	filter C-F-011 to determine the emission rate
U-6	E-128	30,000 lb Tank	C-E-128, C-F-011	E-12 and E-25 emission rates are represented from E-128 testing
U-8	E-150 through E-164	Flake and Powder Loading	C-E-153, C-E-155, C-E-157, C-E-161, C-E-163, C-E-165	<b>September 2016</b> Test on the inlet and outlet of Metal Mesh Filter (C-E-161) controlling the Powder 200 Drum/Tote unloading (E-158) and Staging Vessel (E-160) to determine control efficiency of similar filters and the emission rate

### 13. Appendix E – VOC Emission Points Requiring Testing

Emission Unit	Emission Point	Emission Point Description	Control Device	Most Recent Stack Test
U-13	E-56, E-57	Ball Mills 5 & 6	C-9	<b>July 2013</b> Test of Ball Mill 5 (E-56)
U-14	E-82	Dryers Nos. 2	C-9	<b>July 2013</b> Stack Test of Ball Mill #5 for both controlled and uncontrolled emission factors
U-14	E-83	Condenser Vacuum Pump No. 2	C-9	
U-15	E-129 and E-129a through E-137 and E-137a	Mixer 1 through Mixer 9	C-9	<b>July 2013</b> Test of Mixer 2 (E-130)
U-22	E-111, E-112, E-113, E-114,	Ball Mills 7 through 10	C-9	<b>July 2013</b> Test of Ball Mill 7 (E-111)
U-22	E-115, E-178	Ball Mills 11, 12	C-9	<b>July 2013</b> Test of Ball Mill 12 (E-178)
U-23	E-127 and E-127a, E-185 and E-185a	Solvent Exchanger Vacuum Pumps 1 & 2	C-9	<b>July 2013</b> Test of Solvent Exchanger Vacuum Pump 2 (E-185)
U-24	E-186, E-187	Ball Mills 13, 14	C-9	Prorated based upon capacity from <b>July 2013</b> Test of U-22 Ball Mill 7 (E-111)
U-25	E-194	Ball Mill 20	C-9	Prorated based upon capacity from <b>July 2013</b> Test of U-22 Ball Mill 12 (E-178)
U-25	E-200 and E-200a	Mixer 20	C-9	Prorated based upon capacity from <b>July 2013</b> Test of U-15 Mixer 2 (E-130)
U-29	E-298	Ball Mill 21	C-9	Prorated based upon capacity from <b>July 2013</b> Test of U-22 Ball Mill (E-178)
U-29	E-317	Mixer (M121-R01)	C-9	Prorated based upon capacity from <b>July 2013</b> Test of U-15 Mixer (E-130)
U-29	E-320	Ball Mill 22	C-9	Prorated based upon capacity from <b>July 2013</b> Test of U-22 Ball Mill (E-178)

<b>Emission Unit</b>	<b>Emission Point</b>	<b>Emission Point Description</b>	<b>Control Device</b>	<b>Most Recent Stack Test</b>
U-29	E-334	Mixer (M122-R01)	C-9	Prorated based upon capacity from <b>July 2013</b> Test of U-15 Mixer (E-130)