

YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit Number NSRP-03-NSLLC-24

**New Source Review Order of Approval for Novolex Shields, LLC for two Bell-Mark
portable printing presses model numbers AA5992.**

IN THE MATTER OF approving a project to install an air contaminant source at Novolex Shields, LLC in Yakima, WA. THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:

Applicant/Permittee: Novolex Shields, LLC
Flexible Packaging Manufacturing

Located at: 1009 Rock Avenue
Yakima, WA 98902

Responsible Official: Jose Ibarra – Environmental, Health and Safety Manager
Novolex Shields, LLC
1009 Rock Avenue
Yakima, WA 98902
(509) 225-0823

IN COMPLIANCE WITH THE PROVISIONS OF THE REVISED CODE OF WASHINGTON (RCW) 70A.15.2210, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110 and WAC 173-460-040:

ISSUE DATE: August 21, 2025

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

The installation and operation of the equipment must be conducted in compliance with all data and specifications, including any additional information submitted subsequent to the New Source Review (NSR) application under which this Order of Approval is issued unless otherwise specified herein. The conditions and limitations of this NSR Order of Approval are attached as follows:

1.0 DESCRIPTION OF THE SOURCE

- 1.1 Novolex Shields, LLC., hereafter referred to as the Permittee, the Facility or the Source, is a major source under Title V of the Federal Clean Air Act (FCAA), 42 United States Code, Section 7401 *et seq*, located at 1009 Rock Avenue, Yakima, WA 98902. The Permittee has been issued a Title V Air Operating Permit (AOP) on March 24, 1998 and renewed on February 25, 2005, March 31, 2010, October 6, 2015, and February 9, 2024. The Permittee manufactures flexible packaging materials from extruded polyethylene plastic resin. Flexographic printing is used to print the required marking logo or print on the plastic films.
- 1.2 The Permittee submitted a New Source Review (NSR) application to install and operate two identical portable printing presses, to be designated as BMP-23 and BMP-31. These portable printing presses are designed to be used individually in-line with existing extruders or in combination to print the two (2) sides of extruded film. The two identical portable printing presses to be installed are Bell-Mark model AA5992, each with a speed of 70 feet per minute (fpm).
- 1.3 In accordance with the NSR application, the Permittee will remove three (3) presses from operation: portable printing press 7 and flex press 1 (no longer installed at the Facility), and flex press 3.
- 1.4 Emissions from the portable printing presses will exhaust within the building and to the atmosphere. The Permittee is proposing to install the portable printing presses in the Extrusion "C" room and connect them to extruder 46 (EXT46). The Google Earth view of the Facility site with the property boundary is shown in Figure 1. Figure 2 shows the Facility layout and Extrusion "C" room where the portable printing presses will be located.
- 1.5 A diagram of the portable printing presses is shown in Figure 3. Figure 4 shows a photo of one of the two portable printing presses being permitted in this Order of Approval (Order/Permit). The specifications for the two portable printing presses are listed in Table 1 below and shall be part of this Order.
- 1.6 Air emissions from the operation of the two portable printing presses (BMP-23 and BMP-31) are in the form of Volatile Organic Compounds (VOCs), some of which are Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs), in accordance with the FCAA and the WAC 173-460-150, respectively.
- 1.7 A Determination of Non-Significance (DNS), file number SEPA#002-19, was issued by the City of Yakima on March 26, 2019. Two addenda, file numbers SEPA#006-19 and SEPA#008-24, were subsequently approved. The latter of the two covers the installation of two portable printing presses. The adoption of the existing environmental documents satisfies the State Environmental Policy Act (SEPA) process for the proposed project.
- 1.8 A public notice for this NSR was published on June 12, 2024, in accordance with the

Revised Code of Washington (RCW) 70A.15.2210 and Washington Administrative Code (WAC) 173-400-171.

2.0 DETERMINATIONS

In relation to the above installation, the YRCAA determines that the Facility shall comply with all applicable federal, state and local regulations and laws including but not limited to the following determinations:

- 2.1 The installation and operation of the two portable printing presses is considered a new source of air contaminants requiring a NSR permit pursuant to the RCW 70A.15.2210, WAC 173-400-110 and 173-460-040.
- 2.2 The Facility is located in an area that is in attainment with all state and federal air quality standards for criteria pollutants, and under a Limited Maintenance Plan (LMP) for PM₁₀.
- 2.3 The Facility is a major stationary source subject to Title V requirements pursuant to the FCAA. The Facility is operating under the issued AOP number Y-003-04. All applicable federal, state and local regulations including the Maximum Achievable Control Technology (MACT) requirements are included in the Title V issued permit.
- 2.4 The Facility is subject to WAC 173-401 Operating Permit Regulation.
- 2.5 The Facility is subject to 40 CFR Part 60, Subpart A.
- 2.6 The Facility is subject to 40 CFR Part 63, Subpart A.
- 2.7 The Facility is subject to 40 CFR Part 63, Subpart KK.
- 2.8 Upon the issuance date of this Order, all approval conditions of this Order shall be enforceable provisions of the Title V AOP number Y-003-04 and any subsequent renewals.
- 2.9 YRCAA initially determined that this project would trigger Prevention of Significant Deterioration (PSD) permitting requirements under WAC 173-400-700 through 173-400-750 because the facility was expected to emit more than 40 tons of VOCs per year. After consulting with the Washington State Department of Ecology (Ecology), the Permittee was advised to limit VOC emissions to less than 40 tons per year (tpy) on a rolling 12-month basis. The facility agreed to this limit and set an annual cap on printed material production to ensure VOC emissions remain below 40 tpy. The Facility acknowledges that this limit is federally enforceable. Therefore, the project is not subject to PSD permitting requirements, provided the VOC emissions remain below the specified limit above.
- 2.10 The Permittee submitted emission factors for VOCs, HAPs, and TAPs derived from actual Source emissions and printed material data collected for the years 2018 through

2023 (contained in a document entitled “Derivation of Emission Factors”). These emission factors were calculated by dividing the total annual emissions for each air pollutant by the total annual quantity of printed material. The highest observed value during this period was selected as the emission factor for each air pollutant. After reviewing the information provided, the Agency determined the submitted emission factors to constitute a more accurate representation of predicted emissions than generic industry emission factors and utilized the emission factors proposed for each air pollutant as summarized below and documented in Appendix A.

- 2.11 Air emissions from the installation and operation of the proposed emission units were calculated based on the daily and annual printed material limits set by the Permittee and the emission factors set forth above, as documented in Appendix A. Based on its calculations, the Agency has determined the air emissions from this installation will not exceed the Small Quantity Emission Rate (SQER) as set forth in WAC 173-460-150 (See Appendix A, Table 2), provided the proposed emission units are installed and operated in accordance with the submitted manufacturer specifications and the conditions set forth in this Order.

THEREFORE, it is hereby ordered the project as described above and in the NSR application, including any detailed plans, specifications and other information submitted in reference thereto, is **APPROVED** for operation, based upon the specifications submitted and **PROVIDED** the following conditions are met:

3.0 OPERATIONAL APPROVAL CONDITIONS

- 3.1 This Order is for the installation and operation of the sources identified in Table 1 to be installed at 1009 Rock Avenue, Yakima, WA, in accordance with the plan and specifications submitted with the NSR application. The Permittee shall keep record of the serial number of the printing press assigned to each source identification number.
- 3.2 This Order authorizes the installation and operation of the equipment shown in Table 1 below:

Table 1: List of authorized installed equipment.

| Source ID No. | Unit Type | Manufacturer / Model # | Print Width Inches | Maximum Capacity |
|---------------|-------------------------|---------------------------------|--------------------|------------------|
| BMP-23 | Portable printing press | Bell-Mark / AA5992 50244-EDB | 44 | 70 feet/min |
| BMP-31 | Portable printing press | Bell-Mark / AA5992 50244-EDB | 44 | 70 feet/min |

- 3.3 Best Available Control Technology (BACT) and Toxic BACT (t-BACT), pursuant to RCW 70A.15.2210(10), WAC 173 400-113 and WAC 173-460-060, shall be satisfied for any proposed new facility or modified air emission source to control air emissions. YRCAA finds BACT and t-BACT to be satisfied as follows:

- 3.4.1 All equipment specified in Table 1 of this Order shall be installed, operated and maintained in accordance with the specifications submitted with the NSR application, the manufacturer's operating specifications, and the conditions of this Order.
 - 3.4.2 The portable printing presses shall only use inks, solvents, and other chemicals that have been previously approved by YRCAA in past Orders.
 - 3.4.3 The Permittee shall not exceed the maximum daily, monthly and annual printed material limits specified in the NSR application and listed in Appendix A of this Order at any time within the designated timeframe. In the event of a conflict, the limit specified in Appendix A shall take precedence.
 - 3.4.4 The portable printing presses shall not exceed the allowable air emissions shown in Appendix A of this Order, based on the specified time unit.
 - 3.4.5 The pollutant content (VOCs, HAPs and TAPs) in inks, solvents, and other chemicals, as specified in the Safety Data Sheets (SDSs) for each material, shall not exceed the levels used in the derivation of the emission factors referenced in this Order.
 - 3.4.6 The production rate of the two portable printing presses BMP-23 and BMP-31, as submitted with the NSR application, shall not be exceeded at any time, based on the specified time unit.
 - 3.4.7 Air emissions from the two portable printing presses shall remain below the SQER thresholds specified in Appendix A and WAC 173-460-150.
- 3.4 The Permittee shall develop and implement an Operation and Maintenance (O&M) plan for the two portable printing presses. The O&M plan shall be developed as specified in this Order and must establish a set of procedures which will facilitate proper operation and maintenance of the printing presses. If an O&M plan does not exist, a plan must be completed within sixty (60) days of the issuance of this Order. The O&M plan must be based on the manufacturer's recommendations, standards and specifications and include at minimum:
- a. Appropriate training in operating the two portable printing presses for all operators and familiarity with this Order's pertinent conditions to operation;
 - b. Operational procedures for start-up and shut-down and acceptable operational parameters;
 - c. Maintenance procedures describing routine, preventative and corrective maintenance;

- d. Monitoring and inspection procedures, including visible emissions determination;
 - e. Emergency and malfunction contingency procedures for potential malfunctions, including immediate actions, trouble shooting steps, incident reporting, and post-incident review; and
 - f. A regular schedule of the inspections and maintenance checks, including a log of any repairs or replacements, name of operator and any relevant additional observations. Any major repairs or replacements shall be logged and reported to YRCAA within fourteen (14) business days.
- 3.5 The Permittee shall ensure all equipment set forth in Table 1 is operated and maintained in accordance with the manufacturer specifications and the approved O&M plan.
- 3.6 Any modification to the two portable printing presses (BMP-23 and BMP-31), operating procedures, or materials used at the Facility—including, but not limited to, changes to inks, solvents, chemicals, or an increase in the daily or annual printed material limits—that results in increased air emissions shall obtain prior written approval from YRCAA. If these modifications trigger the need for a NSR application and/or a PSD determination, the Permittee must submit a PSD application to Ecology and obtain an Order from Ecology and/or from YRCAA before implementing any modification, in accordance with WAC 173-400-700 through 173-400-750 and WAC 173-400-110.
- 3.7 The emission factors for VOCs, HAPs, and TAPs shown in Appendix A shall be used to calculate air emissions and ensure compliance, unless new or more appropriate emissions factors are identified and subsequently approved by YRCAA.
- 3.8 The Permittee shall calculate, on an annual basis, the pollutant emission ratio for each pollutant (VOCs, HAPs, and TAPs), defined as the total pounds of pollutant emitted divided by the total pounds of printed material. This calculation shall follow the methodology from the NSR application and this Order used to derive emission factors. Comparing these annual pollutant emission ratios to the maximum emission factors listed in Table 4 in Appendix A ensures the pollutant content of materials remains consistent with the assumptions made when deriving those emission factors.
- 3.9 The Permittee shall also calculate, on a monthly basis, the pollutant emission ratio for each pollutant (VOCs, HAPs, TAPs), expressed as pounds of pollutant emitted per pound of printed material, using the same methodology described above. These monthly ratios shall be used to monitor emission rates trends, identify potential discrepancies, and support compliance with the emission factor limits specified in Section 5.0 of this Order.
- 3.10 Within 30 days of initial startup of the portable printing presses the Permittee shall conduct a visual emissions determination in accordance with 40 CFR Part 60, Appendix A, Method 22. The determination shall be conducted during normal operating conditions, for a minimum of six (6) consecutive minutes, and shall demonstrate no visible emissions (i.e., zero seconds of visible emissions during the observation period) from the portable

printing presses. The Permittee shall document the results and retain records for inspection.

- 3.11 There shall be no visible emissions, except for periods of startup, shutdown, or malfunction pursuant to WAC 173-400-081. The Permittee shall use Method 22 pursuant to 40 CFR Part 60, Appendix A to determine visible emissions. All observations, investigations, and corrective actions as specified in the O&M plan shall be documented and made available upon request.

4.0 GENERAL APPROVAL CONDITIONS

- 4.1 Establishment and operation of the portable printing presses and associated equipment must comply with all applicable federal, state, and local laws and regulations, including, but not limited to RCW 70A.15.2210, Chapter 173-400 WAC, Chapter 173-460 WAC, Chapter 173-401 WAC and YRCAA Regulation 1.
- 4.2 All plans, specifications, and other information submitted to YRCAA, and any further authorizations, approvals, or denials issued by it in relation to this project shall be incorporated herein and made a part of the YRCAA file and this Order.
- 4.3 Except as specified in this Order, any new construction, installation of equipment, or modifications to the operation not covered in this review process that affect air emissions from any equipment at this Facility are subject to a NSR before construction begins. These changes shall also comply with the BACT and t-BACT requirements, as outlined by RCW 70A.15.2210, WAC 173-400-110, WAC 173-460-040 and YRCAA Regulation 1.
- 4.4 Within 60 days from the date of issuance of this Order, the Permittee shall submit notification to YRCAA in writing indicating that the O&M plan is completed and in place. Any future modifications to the facility's operation or equipment requiring prior approval from YRCAA must also be reflected in an updated O&M plan, which shall be implemented accordingly.
- 4.5 All air emissions from this Facility shall be in compliance with air emission standards at all times. It is the responsibility of the owner to make sure that air emissions are within all known rules and regulations.
- 4.6 There must be no fallout or any fugitive emissions from this Facility beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property owner upon which the material is deposited, or is detrimental to the health, safety or welfare of any person, or causes damage to any property or business.
- 4.7 The Air Pollution Control Officer (APCO) of the YRCAA or authorized staff, Ecology and US Environmental Protection Agency (EPA) staff shall be allowed to enter the Facility at reasonable times, without notice, to inspect equipment and/or records specific to the control, recovery, or release of contaminants into the atmosphere for compliance

with applicable laws, regulations and the conditions on this Order, pursuant to RCW 70A.15.2500 and YRCAA Regulation 1.

- 4.8 Nothing in this Order shall be construed as preventing or circumventing compliance with any other requirement(s) of law including those imposed pursuant to the Federal and State Clean Air Acts, and rules and regulations thereunder. Any violation(s) of such rules and regulations are subject to enforcement and penalty action in accordance with RCW 70A.15.3150 and 3160, WAC 173-400-230, and YRCAA Regulation 1, Article 5, which shall not exceed ten thousand dollars per day per violation.
- 4.9 This Order may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:
 - 4.10 Violation of any terms or conditions of this authorization. or
 - 4.11 If this authorization has been obtained by misrepresentation or failure to disclose fully all relevant facts.
- 4.12 The provisions of this authorization are severable and, if any provision or application of any provision of this authorization to any circumstance is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.
- 4.13 Deviations from these conditions are violations subject to penalties in accordance with RCW 70A.15.3150 and 3160, WAC 173-400-230 and YRCAA Regulation 1, Article 5.
- 4.14 The requirements of this Order apply to the Facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this Order. Any person(s), including contractor(s) and subcontractor(s), not in compliance with the applicable Order requirements are in violation of State and Local laws and subject to appropriate civil and criminal penalties. The Facility owner and/or operator, and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the Facility owner and operator and is also a violation by the contractor and/or any subcontractor(s).
- 4.15 It is the Permittee's responsibility to stay current, and comply, with all applicable laws, rules and regulations governing their business.
- 4.16 This Order and its conditions shall remain in effect in the event of any change in control or ownership of the Facility. In the event of any such change in control or ownership of the subject Facility, the Permittee shall notify the succeeding owner of this Order and conditions and shall notify the YRCAA of the change in control or ownership by filing an "Ownership or Name Change" form within thirty (30) days of that change. The form may be requested from the Agency or downloaded from its web site. .

- 4.17 This Order is invalid without paying the complete appropriate and required fees to YRCAA, pursuant to RCW 70A.15.2210.

5.0 EMISSION LIMITS

- 5.1 The maximum total quantity of printed material produced by the two Bell-Mark portable printing presses (Sources BMP-23 and BMP-31) shall not exceed any of the following limits, as specified in the NSR application and Appendix A of this Order:

Table 2. Maximum quantities of printed material combined for BMP-23 and BMP-31.

| Quantity | Period |
|------------------|----------------------------------|
| 2,800,000 pounds | Rolling twelve (12) month period |
| 1,800,000 pounds | Per calendar month |
| 60,000 pounds | Per calendar day |

- 5.2 The annual pollutant emission ratios for each pollutant (VOCs, HAPs, and TAPs), as calculated by the Permittee, shall be less than or equal to the corresponding maximum emission factors used in the air emission calculations in this Order and shown in Table 4 of Appendix A.
- 5.3 There shall be no visible emissions from the portable printing presses during normal operation, except during periods of startup, shutdown, or malfunction as specified in WAC 173-400-081.
- 5.4 In addition to the limits imposed by this Order, the Permittee shall comply with all other applicable general standards for maximum air emissions as specified in WAC 173-400-040, Chapter 173-460 WAC and WAC 173-400-075.

6.0 MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

- 6.1 A copy of this Order and the O&M plan for the Facility shall be kept on-site at all times and be readily available, organized and accessible when requested by YRCAA's APCO or designated staff, Ecology, or US EPA staff during an inspection pursuant to RCW 70A.15.2500 and YRCAA Regulation 1. The O&M plan shall be updated to reflect any changes in operating procedures or monitoring methods, and such changes shall routinely be implemented. The updated O&M plan must include procedures for tracking and recording emissions data, including printed material and operating hours.
- 6.2 The Permittee shall maintain records that include, at a minimum:
- Daily and monthly production data, in pounds of printed material, for each portable printing press BMP-23 and BMP-31, recorded individually and in total.
 - Daily and monthly operating hours for each printing press BMP-23 and BMP-31.

- c. All visual emissions determinations, including the date, time, result, and name of the observer.
 - d. All O&M activities, including inspections, maintenance, and repairs. Records shall include the date, time, description of the activity, and the name of the individual performing the work.
 - e. The purchase, use, and disposal of all materials contributing to emissions, including, but not limited to, inks, solvents, and other chemicals. Records shall include the material name, quantity, and date of use or disposal.
 - f. Monthly and annual emission-to-production ratios for each pollutant (VOCs, HAPs, and TAPs), along with supporting documentation and calculations used to derive each ratio.
 - g. All compliance certifications and any other documentation related to compliance with this Order.
- 6.3 All records and logs required by this Order, including but not limited to those specified in the preceding condition, shall be maintained on-site for a rolling five (5) year period from the date each record is created. Records shall be maintained in an accessible, organized format and made readily available to the YRCAA's APCO or designated staff, Ecology, or the U.S. EPA upon request or during inspections, pursuant to RCW 70A.15.2500 and YRCAA Regulation 1.
- 6.4 The SDSs of all materials contributing to criteria pollutants, HAPs, TAPs and VOCs emissions shall be maintained on-site and a copy of each shall be readily accessible when requested by the APCO or designated staff.
- 6.5 The Permittee shall report, as part of the annual compliance certification submitted to YRCAA, the annual ratio of each pollutant's emissions (VOCs, HAPs, and TAPs) to total printed pounds. If any annual ratio exceeds the corresponding emission factor listed in Appendix A, the Permittee shall:
- a. Conduct an internal review of material usage, emissions data, and operational practices to identify potential causes;
 - b. Submit, within thirty (30) days of discovering the exceedance, the results of the internal review to YRCAA along with a corrective action plan to restore consistency with the approved emission factors; and
 - c. Submit all monthly ratio data for the calendar year in which the exceedance occurred to support the root-cause analysis.
- 6.6 If three (3) or more monthly pollutant emission ratios during the same calendar year also exceed the corresponding emission factors from Appendix A, Table 4, or if the Agency

finds that the annual exceedance is not the result of a one-time anomaly and reflects a sustained change in operations or emissions, the Permittee shall apply for a permit modification, as required by WAC 173-400-110, to reassess the approved emission factors and evaluate whether additional NSR or PSD requirements are triggered.

- 6.7 Records of the total amount of material printed on these portable printing presses (BMP-23 and BMP-31) and corresponding air emissions for HAPs, TAPs and VOCs must be calculated and reported to YRCAA with the annual emission inventory forms, as required by the AOP number Y-003-04.
- 6.8 Any application form, report, compliance certification, daily or monthly record, or the annual consumption report submitted to YRCAA pursuant to this Order must be signed by the responsible official.

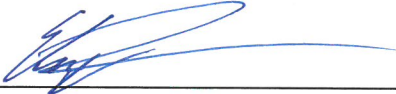
You may appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process and applicable requirements is governed by Chapter 43.21B RCW. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

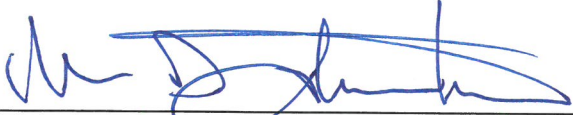
- File your appeal and a copy of this Order with the PCHB, P.O. Box 40903, Olympia, WA, 98504-0903. Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on YRCAA in paper form - by mail or in person. E-mail is not accepted.

DATED at Yakima, Washington this 21st day of August, 2025.

PREPARED BY:


Elizel Reynoso
Permitting and Planning Supervisor
Yakima Regional Clean Air Agency

APPROVED BY:


Marc Thornsby
Air Pollution Control Officer
Yakima Regional Clean Air Agency

REVIEWED BY:



Julie Werner, P.E., LEED AP
Scout Environmental, Inc.



Table 1. Estimated PTE VOC emissions from the Bell-Mark Portable Printing Presses.

| Source | Emission Factor ¹ (lbs VOC/printed lbs) | Maximum Emission Rate ² (tons VOC/year) | Exemption Level (tpy) | Exceeds Threshold? | Capture Efficiency ³ | Destruction Efficiency ³ | Captured and Destroyed VOC Emissions (lbs/yr) | Non-Captured and Non-Destroyed VOC Emissions (lbs/yr) | Total VOC Emissions (tpy) |
|--|---|--|--------------------------|-----------------------|------------------------------------|--|--|--|---------------------------------|
| 44" Printing Presses (Source #BMP-23 and #BMP-31) | 0.02792 | 39.1 | 2 | Yes | 0% | 0% | 0 | 78,173 | 39.1 |

Assumptions per NSR application:

- VOC emissions are determined based on maximum VOC's applied per printed pound for the 6-year annual period beginning 2018.
- Maximum printed lbs will be 1,400,000 printed lbs/year for each portable printing press. Therefore:
- The Portable Presses will not have control equipment.

2,800,000 printed lbs/year for both presses (source #BMP-23 and source #BMP-31 combined)

Table 2. Estimated Toxic Pollutant Emissions Derived From Enforceable Printed Pounds Limit, Compared to De Minimis and SQER Thresholds.

| Pollutant | | | Emission Factors (lb/printed lbs) ¹ | | Uncontrolled Emissions | | | Averaging Period (avg period) | Emissions (lb/avg period) | De minimis ^{2,3} (lb/avg period) | Exceeds de minimis? | SQER ⁴ (lb/avg period) | Exceeds SQER? |
|-----------------------------------|------------|----------|---|-------------------|------------------------|------|--------|----------------------------------|------------------------------|--|------------------------|--------------------------------------|------------------|
| Toxic Pollutant | CAS | Category | Annual (lb/year) | Daily (lb/day) | Hourly (lb/hr) | | | | | | | | |
| 2-Butoxy Ethanol | 111-76-2 | TAP | 29.51 | 0.63 | 0.026 | day | 0.63 | 0.30 | Yes | 6.1 | No | | |
| Acetaldehyde | 75-07-0 | HAP/TAP | 1.1E-03 | 2.4E-05 | 1.0E-06 | year | 0.0011 | 3.0 | No | 60 | No | | |
| Butanone | 78-93-3 | TAP | 0 | 0 | 0 | day | 0 | 19 | No | 370 | No | | |
| Copper Compounds | C7440-50-8 | TAP | 128.62 | 2.76 | 0.11 | hour | 0.11 | 9.3E-03 | Yes | 0.19 | No | | |
| Diethylene Glycol Monoethyl Ether | 111-90-0 | HAP | 0.18 | 3.8E-03 | 1.6E-04 | n.r. | NA | n.r. | NA | n.r. | NA | | |
| Ethanol | 64-17-5 | n.r. | 4271.67 | 91.54 | 3.81 | n.r. | NA | n.r. | NA | n.r. | NA | | |
| Ethylbenzene | 100-41-4 | HAP/TAP | 0 | 0 | 0 | year | 0 | 3.2 | No | 65 | No | | |
| Ethylene Glycol | 107-21-1 | HAP/TAP | 0.15 | 3.12E-03 | 1.3E-04 | day | 0.0031 | 1.5 | No | 30 | No | | |
| Glycol Ether EP [EGPE] | 2807-30-9 | HAP | 145.80 | 3.12 | 0.13 | n.r. | NA | n.r. | NA | n.r. | NA | | |
| Glycol Ether PM [PGME] | 107-98-2 | TAP | 26.90 | 0.58 | 0.024 | day | 0.58 | 26 | No | 520 | No | | |
| Hexamethylene diisocyanate | 822-06-0 | HAP/TAP | 0 | 0 | 0 | day | 0 | 2.6E-04 | No | 5.2E-03 | No | | |
| Isopropyl Alcohol | 67-63-0 | TAP | 1093 | 23.43 | 0.98 | hour | 0.98 | 0.30 | Yes | 5.9 | No | | |
| MBK | 108-10-1 | HAP/TAP | 8.13 | 0.17 | 0.0073 | day | 0.17 | 11 | No | 220 | No | | |
| n-Propyl Acetate | 109-60-4 | n.r. | 9,310.83 | 199.52 | 8.31 | n.r. | NA | n.r. | NA | n.r. | NA | | |
| n-Propyl Alcohol | 71-23-8 | n.r. | 60,483.28 | 1,296.07 | 54 | n.r. | NA | n.r. | NA | n.r. | NA | | |
| Toluene | 108-88-3 | HAP/TAP | 0 | 0 | 0 | day | 0 | 19 | No | 370 | No | | |
| Xylene | 1330-20-7 | HAP/TAP | 0 | 0 | 0 | day | 0 | 8.2E-01 | No | 16 | No | | |

Notes per NSR application:

- Since lower toxicity inks are used today than in 2003, emission factors are defined based on the worst case per printed pound for the 6-year annual period beginning 2018. Emission factors are calculated using historical pounds per year of emissions versus historical pounds of printed material. See Tables 3 and 4 for details.
- De minimis threshold (WAC 173-460-150) compared to the maximum uncontrolled PTE of each pollutant. Exceeding De minimis triggers permitting and additional assessment.
- Maximum daily emissions calculated assuming 30,000 printed lbs/day for each portable printing press. Therefore:
- SQER threshold (WAC 173-460-150) compared to the maximum controlled PTE of each pollutant. Exceeding SQER triggers modeling.

60,000 printed lbs/day for both presses.

Derivation of Emission Factors

Table 3. Total Pollutant Emissions and Printed Material Quantities, in Pounds, by Year (2018-2023).

| Metric | CAS # | Classification | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 |
|---|------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| VOCs (lbs) | | Criteria | 1742530.106 | 1749156.909 | 2199857.045 | 2337473.53 | 2080009.225 | 1804714.729 |
| 2-Butoxy Ethanol (TAP) | 111-76-2 | TAP | 0 | 0 | 0 | 0 | 0 | 700 |
| Acetaldehyde (HAP) | 75-07-0 | HAP | 0 | 0 | 0 | 0 | 0.02 | 0.026653942 |
| Butanone [MEK] (TAP) | 78-93-3 | TAP | 0 | 0 | 0 | 0 | 0 | 0 |
| Copper Compounds (TAP) | C7440-50-8 | TAP | 1 | 701.2 | 815.4 | 1015 | 0 | 3051.06 |
| Diethylene Glycol Monoethyl Ether (HAP) | 111-90-0 | HAP | 5 | 1.8 | 0.8 | 0 | 3.09 | 0.88 |
| Ethanol (N.R.) | 64-17-5 | N.R. | 39311 | 55331.52 | 70468.76 | 79431.66 | 84658.89 | 101329.96 |
| Ethylbenzene (HAP) | 100-41-4 | HAP | 0 | 0 | 0 | 0 | 0 | 0 |
| Ethylene Glycol (HAP) | 107-21-1 | HAP | 0 | 0 | 0 | 0.4 | 4.2 | 0 |
| Glycol Ether EP [EGPE], (HAP) | 2807-30-9 | HAP | 0 | 0 | 0 | 357 | 4203 | 380.62 |
| Glycol Ether PM [PGME], (TAP) | 107-98-2 | TAP | 0 | 140 | 817 | 744.55 | 748.04 | 638.04 |
| Hexamethylene-di-isocyanate (HAP) | 822-06-0 | HAP | 0 | 0 | 0 | 0 | 0 | 0 |
| Isopropyl Alcohol (TAP) | 67-63-0 | TAP | 22648 | 27923.69 | 25883.53 | 28287.67 | 22044.29 | 25932.93 |
| MBK (HAP) | 108-10-1 | HAP | 1 | 1 | 3.2 | 2.7 | 49.28 | 192.78 |
| n-Propyl Acetate (N.R.) | 109-60-4 | N.R. | 214865.4844 | 215021.5999 | 264906.4065 | 278405.714 | 241866.8895 | 200849.453 |
| n-Propyl Alcohol (N.R.) | 71-23-8 | N.R. | 1360502.36 | 1345234.929 | 1723043.999 | 1808528.226 | 1641787.686 | 1412645.047 |
| Toluene (HAP) | 108-88-3 | HAP | 0 | 0 | 0 | 0 | 0 | 0 |
| Vinyl Acetate | 108-05-4 | HAP | 0 | 0 | 0 | 0 | 0 | 0 |
| Xylene (HAP) | 1330-20-7 | HAP | 0 | 0 | 0 | 0 | 0 | 0 |
| Printed Pounds | | | 79,885,127 | 75,788,551 | 92,968,687 | 83,723,614 | 80,718,763 | 66,419,919 |

Table 4. Emission Factors per Pollutant Calculated from Annual Emissions and Printed Material with Maximum Emission Factors.

| Pollutant | Emission Factors (EF) (lbs/printed pounds) | | | | | 2018 | Max EF |
|---|--|-------------|-------------|-------------|-------------|-------------|----------|
| | 2023 | 2022 | 2021 | 2020 | 2019 | | |
| VOCs | 0.021812948 | 0.023079435 | 0.023662344 | 0.027918928 | 0.025768596 | 0.027171288 | 0.027919 |
| 2-Butoxy Ethanol (TAP) | 0 | 0 | 0 | 0 | 0 | 1.0539E-05 | 1.05E-05 |
| Acetaldehyde (HAP) | 0 | 0 | 0 | 0 | 2.47774E-10 | 4.01294E-10 | 4.01E-10 |
| Butanone [MEK] (TAP) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Copper Compounds (TAP) | 1.2518E-08 | 9.25206E-06 | 8.7707E-06 | 1.21232E-05 | 0 | 4.59359E-05 | 4.59E-05 |
| Diethylene Glycol Monoethyl Ether (HAP) | 6.25899E-08 | 2.37503E-08 | 8.60505E-09 | 0 | 3.82811E-08 | 1.3249E-08 | 6.26E-08 |
| Ethanol (N.R.) | 0.000492094 | 0.000730078 | 0.000757984 | 0.000948737 | 0.001048813 | 0.001525596 | 0.001526 |
| Ethylbenzene (HAP) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ethylene Glycol (HAP) | 0 | 0 | 0 | 4.77762E-09 | 5.20325E-08 | 0 | 5.2E-08 |
| Glycol Ether EP [EGPE], (HAP) | 0 | 0 | 0 | 4.26403E-06 | 5.20697E-05 | 5.73051E-06 | 5.21E-05 |
| Glycol Ether PM [PGME], (TAP) | 0 | 1.84724E-06 | 8.78791E-06 | 8.89295E-06 | 9.26724E-06 | 9.60615E-06 | 9.61E-06 |
| Hexamethylene-di-isocyanate (HAP) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Isopropyl Alcohol (TAP) | 0.000283507 | 0.000368442 | 0.000278411 | 0.00033787 | 0.0002731 | 0.000390439 | 0.00039 |
| MBK (HAP) | 1.2518E-08 | 1.31946E-08 | 3.44202E-08 | 3.2249E-08 | 6.10515E-07 | 2.90244E-06 | 2.9E-06 |
| n-Propyl Acetate (N.R.) | 0.002689681 | 0.002837125 | 0.002849415 | 0.003325295 | 0.002996415 | 0.003023934 | 0.003325 |
| n-Propyl Alcohol (N.R.) | 0.017030734 | 0.017749844 | 0.018533595 | 0.021601172 | 0.020339604 | 0.021268395 | 0.021601 |
| Toluene (HAP) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vinyl Acetate | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Xylene (HAP) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Figure 1: Google Earth® view of the Facility, including property boundaries outlined in red.

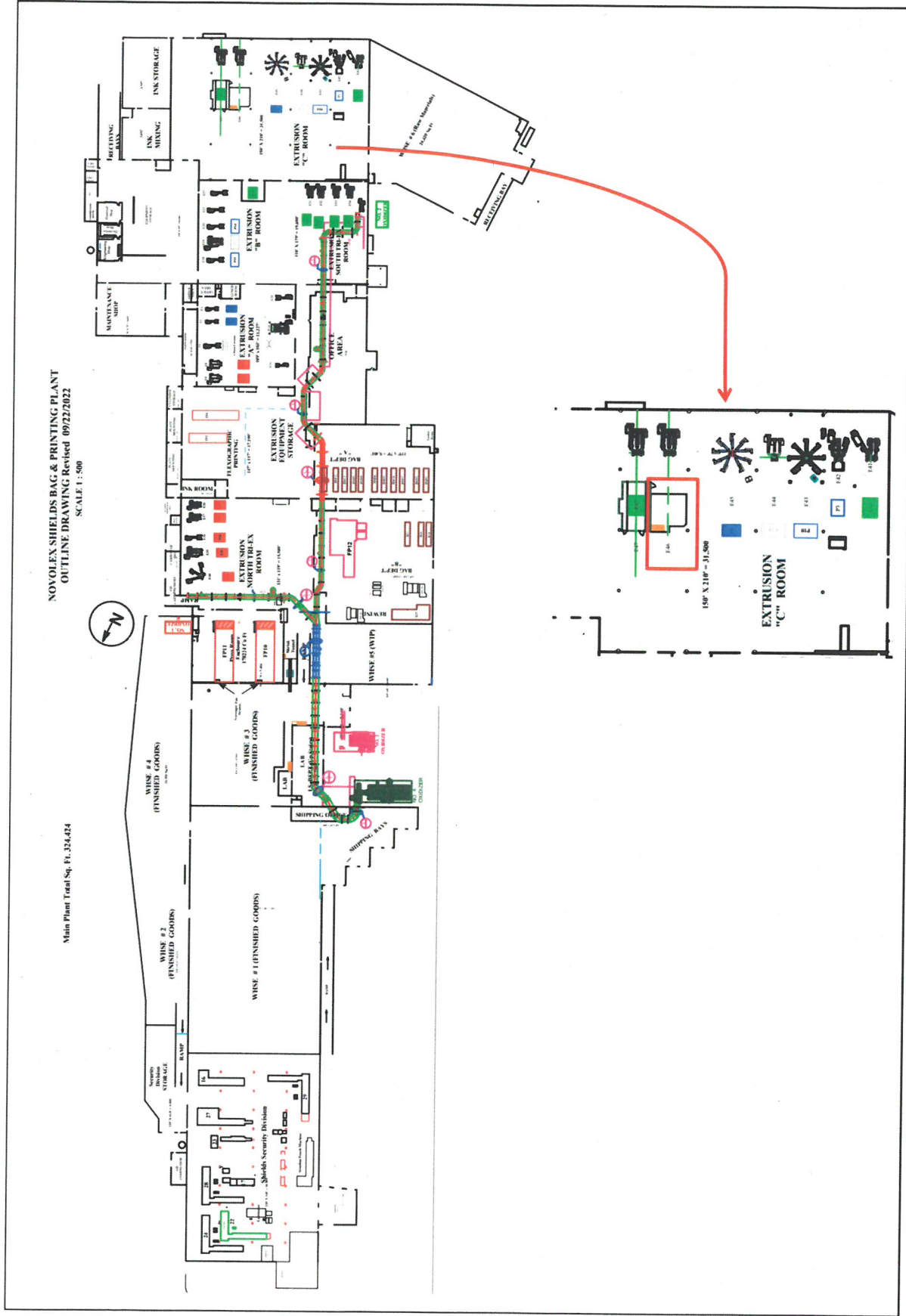


Figure 2: Facility layout and Extrusion "C" room with extruder 46 (EXT 46) outlined in red.

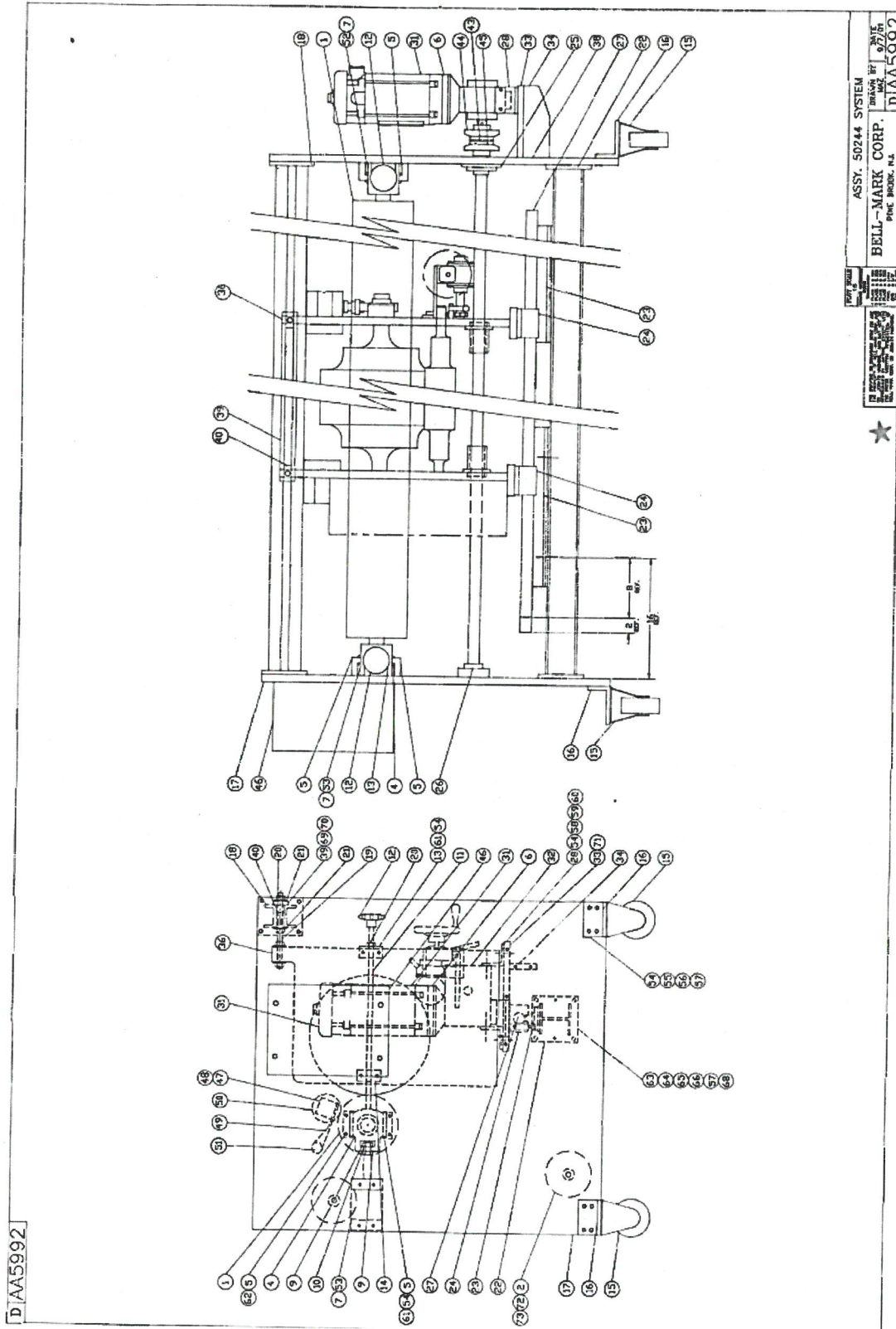


Figure 3: Bell-Mark portable printing press AA5992 diagram.

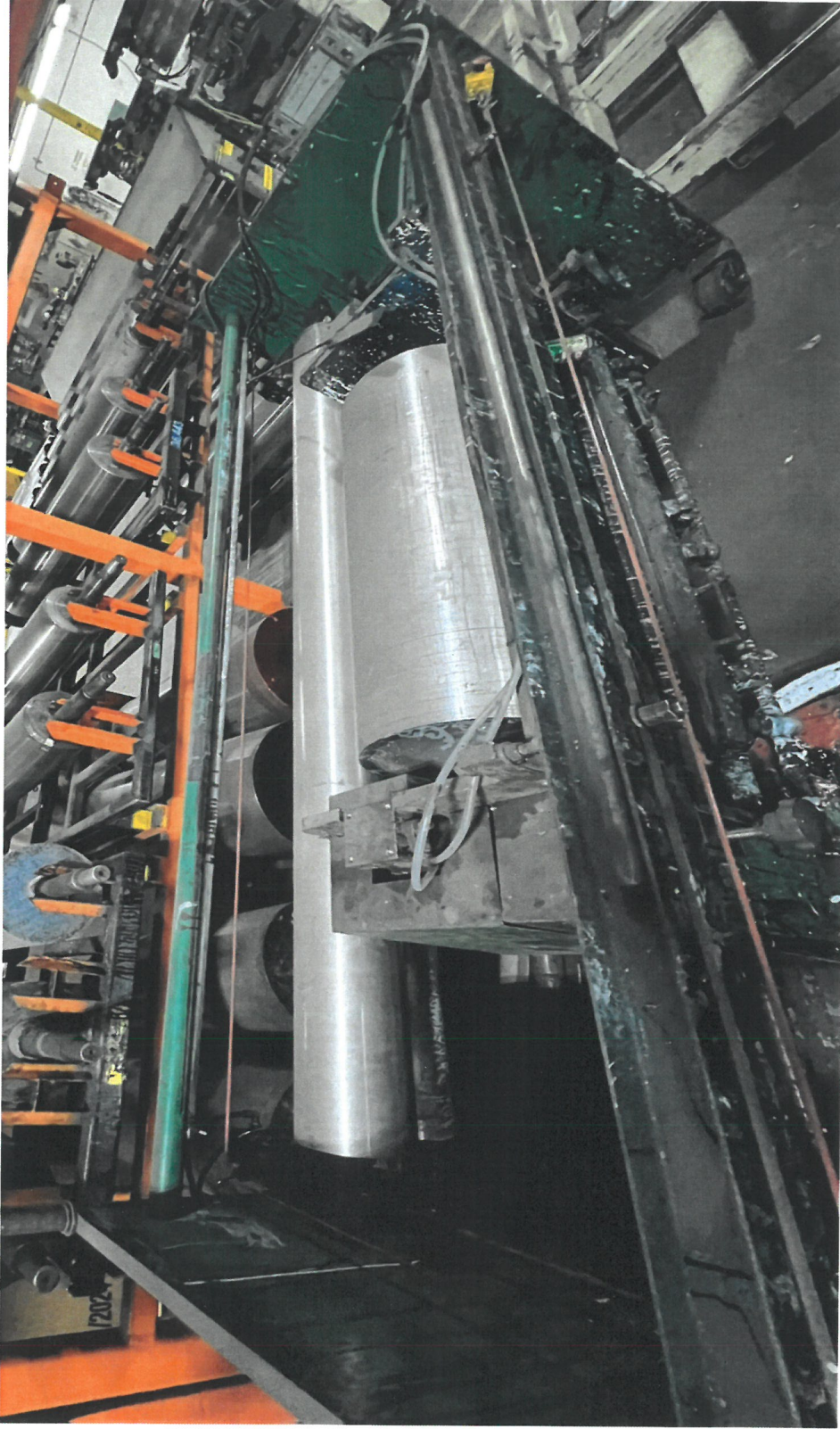


Figure 4: Photo of Bell-Mark portable printing press AA5992.