



Santa Barbara County
Air Pollution Control District

APR 25 2008

Mark Lang
P.J. Milligan & Company
436-A East Gutierrez Street
Santa Barbara, CA 93101

FID: 10964
Permit: A 12516
SSID: 10790

Re: Draft Authority to Construct 12516

Dear Mr. Lang:

Enclosed is a draft Authority to Construct (ATC) No. 12516 for a furniture manufacturing facility at 436-A East Gutierrez Street in Santa Barbara. Please carefully review the enclosed documents to ensure that they accurately describe your facility and that the conditions are acceptable to you. Note that your permitted emission limits may, in the future, be used to determine emission fees.

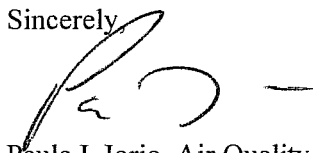
The estimated permit issuance fee based on our analysis to date is \$ 56; you can review our calculation of the fee in the enclosed Permit Evaluation. The final fee amount due will be specified when the final permit is issued. Please do not pay this fee now, as we will invoice you when the final permit is issued.

If you have any comments on this draft permit, submit them in writing to the Air Pollution Control District (APCD) within 21 days from the date of this letter. We will consider your comments before we issue your final permit. If we receive no comments within this period, we will issue a final permit with the enclosed conditions. If you have no comments and wish to receive the final permit earlier, please call the number below.

This is a draft permit. Please be advised that construction of your facility without a final Authority to Construct is a violation of APCD rules and the California Health and Safety Code.

Please include the facility identification (FID) and permit numbers as shown at the top of this letter on all correspondence regarding this permit. If you have any questions, please contact me at (805) 961-8867.

Sincerely,



Paula I. Iorio, Air Quality Permit Technician
Engineering & Compliance Division

enc: Draft ATC 12516
Draft Permit Evaluation

cc: P.J. Milligan & Company 10964 Project File NC/SC
ECD Chron File
21-Day Suspense File
Paula Iorio (Cover letter only)

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Authority to Construct 12516

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EQUIPMENT OWNER:

P.J. Milligan & Company

205568

EQUIPMENT OPERATOR:

P.J. Milligan & Company

EQUIPMENT LOCATION:

436-A East Gutierrez Street, Santa Barbara

STATIONARY SOURCE/FACILITY:

P.J. Milligan & Company

SSID: 10790

FID: 10964

AUTHORIZED MODIFICATION:

This permit authorizes the operation of a new paint spray booth for the coating of wood furniture.

EQUIPMENT DESCRIPTION:

The equipment subject to this permit is listed in the table at the end of this permit.

PROJECT/PROCESS DESCRIPTION:

New wood furniture assembling and finishing facility.

CONDITIONS:

1. **Emission Limitations.** The mass emissions from the equipment permitted herein shall not exceed 24.99 lb/day and 3.26 tpy ROC. Compliance shall be based on the operational, monitoring, recordkeeping, and reporting conditions of this permit. Compliance with the pound per day (lb/day) emission limit shall be demonstrated by dividing the monthly emissions

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Authority to Construct 12516

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(determined from records kept of solvent use per the *Recordkeeping* condition of this permit) by **21.7** days per month. Compliance with the ton per year (TPY) emission limit shall be demonstrated by compiling the monthly ROC emission records for the year.

2. **Operational Restrictions.** The equipment permitted herein is subject to the following operational restrictions:
 - a. All surface coating shall be conducted in full compliance with APCD Rule 351.
 - b. All materials (e.g., coatings, solvents) containing ROCs shall be stored in closed containers equipped with a tight-fitting seal. Except during extraction or introduction of materials for use or storage, these containers shall remain closed.
 - c. The permittee shall use closed, non-absorbent, and fire resistant containers for the storage and disposal of all cloth and/or paper materials that have been soaked with ROCs during use in surface preparation and/or cleanup activities.
 - d. Whenever surface coating materials are applied within the spray booth, the exhaust fan(s) shall be operating, effective overspray filters and baffle plates (if any) shall be in place and operational, and the doors of the spray booth shall be kept closed until the application of all surface coating materials has ceased.
 - e. Cleaning of spray guns by spraying materials containing ROCs through the gun assembly shall be conducted within the containment structure, directly into a container with a vapor tight cover. The cover of the wash container shall be closed immediately after the cleaning operation.

3. **Monitoring.** The equipment permitted herein is subject to the following monitoring requirements:
 - a. Spray booth filters shall be inspected daily and replaced when necessary to ensure control of particulate emissions and overspray.
 - b. The operator shall verify that the booth manometer is functioning and indicating a measurable pressure drop when the exhaust fans are operating.
 - c. Solvent containers shall be checked daily to ensure they are completely closed when not in use.

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4. **Recordkeeping.** The permittee shall record and maintain the following information. This data shall be maintained for a minimum of three (3) years from the date of each entry and made available to the APCD upon request:
 - a. Brand name, stock identification number, and generic product class of each solvent or material containing ROCs used during the month.
 - b. Purchase records for each material listed in response to Condition 4.a of this permit.
 - c. Gross monthly volume (gallons) usage and ROC content (lbs per gallon, ROC) for each material listed in response to Condition 4.a of this permit. The monthly emissions shall be calculated by multiplying the gross monthly volume usage by the ROC content.
 - d. Gross annual volume (gallons) usage and ROC content (lbs per gallon, ROC) for each material listed in response to Condition 4.a of this permit. The annual emissions shall be calculated by multiplying the gross annual volume usage by the ROC content.
 - e. Material safety data sheets for each material listed in response to Condition 4.a of this permit.
 - f. An APCD-approved log shall be maintained (tabular format) that verifies the daily monitoring for closed solvent container lids.
 - g. In addition to any recordkeeping requirement stated within this condition, the permittee shall maintain records in accordance with APCD Rule 351.I.

5. **Reporting.** By March 1 of each year, a written report documenting compliance with the terms and conditions of this permit for the previous calendar year shall be provided by the permittee to the APCD (Attn: *Annual Report Coordinator*). The report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit. The report shall be in a format approved by the APCD. All logs and other basic source data not included in the report shall be made available to the APCD upon request. The report shall include the information required by the Recordkeeping Condition above.

6. **Source Compliance Demonstration Period.** The equipment permitted herein is allowed to operate temporarily during a 90-day SCDP. Initial operation of the surface coating equipment defines the starting date of the SCDP under this permit. Within 14 days of initial operations, the permittee shall provide the APCD written notification of the SCDP start date (using the attached yellow SCDP notification card). During the SCDP, the permittee shall comply with all operational, monitoring, recordkeeping and reporting requirements as specified in this permit.

During the SCDP, the permittee shall:

- a. Begin recordkeeping as specified in Condition 4;

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Authority to Construct 12516

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- b. Arrange for APCD inspection not more than thirty (30) calendar days (or other mutually agreed to time period) after the SCDP begins. A minimum of seven calendar days advance notice shall be given to the APCD. This inspection is required to verify that the equipment and its operation are in compliance with APCD Rules and Permit Conditions;
- c. Submit a Permit to Operate (PTO) application and the appropriate filing fee not more than 60 calendar days after the SCDP begins pursuant to APCD Rule 201.E.2. Upon the APCD's determination that the permit application is "complete", the permittee may continue temporary operations under the SCDP until such time the PTO is issued final or one year from the date of PTO application completeness, whichever occurs earlier.

Upon completing the above items, the facility may continue to operate under this permit until a Permit to Operate is obtained or one year from the PTO application completeness date, whichever is earlier.

- 7. **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the APCD's project file) and the APCD's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.
- 8. **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site.
- 9. **Compliance.** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments.
- 10. **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.
- 11. **Conflict Between Permits.** The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein.
- 12. **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the APCD or its agents, the permittee shall make such records available or provide access to such facilities upon notice from the APCD. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.
- 13. **Nuisance.** Except as otherwise provided in Section 41705 of the California H&SC, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of

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Authority to Construct 12516

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persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

14. **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq.*
15. **Transfer of Owner/Operator.** This permit is only valid for the owner and operator listed on this permit unless a *Transfer of Owner/Operator* application has been applied for and received by the APCD. Any transfer of ownership or change in operator shall be done in a manner as specified in APCD Rule 203. APCD Form -01T and the appropriate filing fee shall be submitted to the APCD within 30 days of the transfer.

AIR POLLUTION CONTROL OFFICER

DATE

Attachments:

- Table 1 - Permit Equipment List(s)
- Permit Evaluation for Authority to Construct 12516

Notes:

- This permit is valid for one year from the date stamped above if unused.

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Equipment List for Authority to Construct 12516

Page 1 of 1

PERMIT EQUIPMENT LIST - TABLE A

ATC 12516 / FID: 10964 P.J. Milligan & Company / SSID: 10790

A PERMITTED EQUIPMENT

1 Spray Booth

<i>Device ID #</i>	111089	<i>Device Name</i>	Spray Booth
<i>Rated Heat Input</i>		<i>Physical Size</i>	1.50 Horsepower (Electric Motor)
<i>Manufacturer</i>	Paasche	<i>Operator ID</i>	
<i>Model</i>	tbd	<i>Serial Number</i>	tbd
<i>Location Note</i>			
<i>Device Description</i>	Booth Overall Dimensions: 8'4"W x 8'2"L x 8'2"H. Booth Working Dimensions: 8'4"W x 8'2"D x 8'2"H. Stack Dimensions: 247" diam, 240"H. Exhaust fan electric motor rated at 1.5 HP. Exhaust fan maximum air flow rating: 7900 scfm. PJ Milligan will also install 20x20 carbon filters provided by ChemCo which are UL Listed and remove the volatile organic compounds.		



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**PERMIT EVALUATION FOR
AUTHORITY TO CONSTRUCT 12516**

Page 1 of 4

1.0 BACKGROUND

- 1.1 General: This permit authorizes the operation of a paint spray booth at P.J Milligan & Co. for the coating of wood furniture.
- 1.2 Permit History: No previous permits.
- 1.3 Compliance History: The permitted equipment has no compliance history. The permitted equipment has operated in compliance.

2.0 ENGINEERING ANALYSIS

- 2.1 Equipment/Processes: New wood furniture is assembled and finished at this facility. Surface coating of wood materials is done in a spray booth using ROC-containing substances.
- 2.2 Emission Controls: ROC emissions are reduced by using compliant solvents and coatings. Spray booth filters aid in reducing particulate emissions.
- 2.3 Emission Factors: Not used. Emissions will be tracked using mass balance techniques.
- 2.4 Reasonable Worst Case Emission Scenario: The operating scenario is summarized as follows:
- Maximum daily ROC emission rate = 24.99 lbs/day. Based on monthly usage divided by the maximum schedule identified below.
 - The maximum operational schedule used for calculations is 21.7 days/mo, 12 mo/yr.
- 2.5 Emission Calculations: Detailed emission calculation spreadsheets may be found in the Emission Calculations Attachment. These emissions define the Potential to Emit for the permitted equipment.
- 2.6 Special Calculations: There are no special calculations.
- 2.7 BACT Analyses: Best Available Control Technology was not required for this project.

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PERMIT EVALUATION FOR
AUTHORITY TO CONSTRUCT 12516

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- 2.8 Enforceable Operational Limits: The permit has enforceable operating conditions that ensure the equipment is operated properly.
- 2.9 Monitoring Requirements: Monitoring of the equipment's operational limits are required to ensure that these are enforceable. This includes the use of a pressure manometer.
- 2.10 Recordkeeping and Reporting Requirements: The permit requires that the data which is monitored be recorded and reported to the APCD.

3.0 REEVALUATION REVIEW (not applicable)

4.0 REGULATORY REVIEW

- 4.1 Partial List of Applicable Rules: This project is anticipated to operate in compliance with the following rules:

Rule 201.	Permits Required
Rule 202.	Exemptions to Rule 201
Rule 301.	Circumvention
Rule 302.	Visible Emissions
Rule 303.	Nuisance
Rule 324.	Disposal and Evaporation of Solvents
Rule 351.	Surface Coating of Wood Products
Rule 802.	Nonattainment Review
Rule 803.	Prevention of Significant Deterioration

- 4.2 Rules Requiring Review:

- 4.2.1 *Rule 802 - Nonattainment Review*: The APCD is currently designated nonattainment for the state ozone standard and the state PM₁₀ standard. The provisions of this rule apply to ozone precursor pollutants (NO_x and ROC), PM₁₀ and PM₁₀ precursor pollutants (NO_x, ROC and SO_x). The ROC emissions from this facility (24.99 lbs/day; 3.26 tons/year) are below the BACT, Emission Offset and AQIA thresholds. Therefore, no requirements are triggered.
- 4.2.2 *Rule 803 – Prevention of Significant Deterioration*: The APCD is currently designated attainment for the state and federal CO and SO₂ standards and the federal O₃, NO_x and PM₁₀ standards. The provisions of this rule apply to O₃, NO_x, CO, ROC, SO_x, PM₁₀ and PM. ROC emissions from this action do not warrant any additional review or activate any additional requirements of this rule.

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**PERMIT EVALUATION FOR
AUTHORITY TO CONSTRUCT 12516**

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4.3 **NEI Calculations:** The net emission increase calculation is used to determine whether certain requirements must be applied to a project (e.g., offsets, AQIA, PSD BACT). For the purposes of Regulation VIII, this is a new source and therefore the permit NEI is equal to the potential to emit (PTE).

5.0 AQIA

The project is not subject to the Air Quality Impact Analysis requirements of Regulation VIII.

6.0 OFFSETS/ERCs

6.1 **Offsets:** The emission offset thresholds of Regulation VIII are not exceeded.

6.2 **ERCs:** This source does not generate emission reduction credits.

7.0 AIR TOXICS

An air toxics health risk screening was performed for this project. Toxic emissions were calculated by mass balance based on the MSDS documentation and solvent usage provided by the applicant. Toxic risk was calculated using OEHHA's risk values for cancer, chronic, and acute effects. SCREEN3 was used for the air dispersion modeling.

Cancer risk and chronic and acute non-cancer Hazard Index (HI) risk values were calculated and compared to *significance thresholds* for cancer risk and chronic and acute non-cancer risk adopted by the APCD's Board of Directors. The calculated risk values and applicable thresholds are as follows:

	Calculated Max Risks	Significance Threshold
Cancer risk:	1.19/million	>10/million
Chronic non-cancer risk:	0.1845	>1
Acute non-cancer risk:	0.0044	>1

Based on these results, the surface coating operations will not present a significant risk to the surrounding community. For this reason, the Authority to Construct No. 12516 for this project will be issued. The *Air Toxics Documentation* Attachment contains the pollutant emission calculations, SCREEN3 output and the risk results.

8.0 CEQA / LEAD AGENCY

This project is exempt from CEQA pursuant to the Environmental Review Guidelines for the Santa Barbara County APCD (revised November 16, 2000). Appendix A.2 (*Equipment or Operations Exempt from CEQA*) specifically exempts Surface Coating – Miscellaneous Operations. No further action is necessary.

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**PERMIT EVALUATION FOR
AUTHORITY TO CONSTRUCT 12516**

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9.0 SCHOOL NOTIFICATION

A school notice pursuant to the requirements of H&SC §42301.6 is required as the project site is located within a school. A notice to the parents of the students, and residences and businesses within 1,000 feet of the project will be mailed concurrently with the issuance of the draft permit. The final permit will contain the APCD's response and the public's comments in the *School Notice Comments* Attachment to this Evaluation.

10.0 PUBLIC and AGENCY NOTIFICATION PROCESS/COMMENTS ON DRAFT PERMIT

10.1 This project was not subject to public notice.

11.0 FEE DETERMINATION

Fees for the APCD's work effects are assessed on a fee basis. The Project Code is *330400 (Surf.Coat Oprtn/Auto Bdy Shp)*. See the *Fee Statement* Attachment for the fee calculations.

12.0 RECOMMENDATION

It is recommended that this permit be granted with the conditions as specified in the permit.

AQ Engineer/Technician

Date

Engineering Supervisor

Date

13.0 ATTACHMENT(S)

- IDS Tables
- Air Toxics Documentation
- Fee Statement

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Authority to Construct 12516

**ATTACHMENT
IDS Tables**

PERMIT POTENTIAL TO EMIT

	NO _x	ROC	CO	SO _x	PM	PM ₁₀
lb/day		24.99				
lb/hr						
TPQ						
TPY		3.26				

FACILITY POTENTIAL TO EMIT

	NO _x	ROC	CO	SO _x	PM	PM ₁₀
lb/day		24.99				
lb/hr						
TPQ						
TPY		3.26				

FACILITY NEI90

	NO _x	ROC	CO	SO _x	PM	PM ₁₀
lb/day		24.99				
lb/hr						
TPQ						
TPY		3.26				

Notes:

- (1) Emissions in these tables are from IDS.
- (2) Because of rounding, values in these tables shown as 0.00 are less than 0.005, but greater than zero.

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Authority to Construct 12516

ATTACHMENT Air Toxics Documentation

TABLE B.1. POLLUTANT EMISSION CALCULATIONS

Authority to Construct 12516
P.J. Milligan & Co.

Material	Maximum Use Per Month (gallons)	Density of Product (lb/gal)	Pollutant	CAS	% Air Toxic	Monthly Air Toxic Emissions (lb/month)	Annual Air Toxic Emissions (lb/yr)	Annualized Emissions (lb/sec)	Acute Inhalation (µg/m3)	Chronic Inhalation (µg/m3)	Cancer Unit Risk (µg/m3)-1
FIX- Professional Wood Filler	0.250	10.68	Methyl Ethyl Ketone Isopropanol	78-93-3 67-63-0	10.00 5.00	0.27 0.00	3.20 0.00	1.02E-07 0.00E+00	1.30E+04 3.20E+03	1.00E+03 7.00E+03	No Data No Data
Lacquer Thinner	1.000	6.56	2-butoxyethanol (EGBE) Methanol Toluene	111-76-2 67-56-1 106-88-3	2.28 15.01 18.88	0.15 0.00 0.00	1.80 0.00 0.00	5.69E-08 0.00E+00 0.00E+00	1.40E+04 2.80E+04 3.70E+04	2.00E+01 4.00E+04 3.00E+02	No Data No Data No Data
Moorecraft Super Spec Latex Flat (Water Thinned Paint)	1.000	12.50	Crystalline Silica Vinyl Acetate	014808-60-7 108-05-4	0.50 0.50	0.06 0.00	0.75 0.00	2.38E-08 0.00E+00	No Data No Data	3.00E+00 2.00E+02	No Data No Data
Moorecraft Super Spec 100% Acrylic Exterior Flat	1.000	11.30	Zinc Oxide	1314-13-2	5.00	0.57	6.78	2.15E-07	No Data	3.50E+01	No Data
Benwood Interior Wood Finishes Quick Dry Sanding	1.000	7.10	Ethylbenzene Xylene	100-41-4 1330-20-7	0.60 2.60	0.04 0.00	0.51 0.00	1.62E-08 0.00E+00	No Data 2.20E+04	2.00E+03 7.00E+02	No Data No Data
Waterborne Saini Impregro (Water Thinned Paint)	1.000	11.00	Ethylene Glycol	107-21-1	2.20	0.24	2.90	9.21E-08	No Data	4.00E+02	No Data
Impervex Latex High Gloss Metal & Wood Enamel (Water Thinned Paint)	1.000	10.20	Ethylene Glycol	107-21-1	4.60	0.47	5.63	1.79E-07	No Data	4.00E+02	No Data
Moorgard 100% Acrylic Low Lustre House Paint	1.000	11.42	Crystalline Silica Zinc Oxide	14808-60-7 1314-13-2	25.00 5.00	2.86 0.00	34.26 0.00	1.09E-06 0.00E+00	No Data No Data	3.00E+00 3.50E+01	No Data No Data
1 Brown Oxide (small amount mixed with 55 gallons of water)	0.200	13.36	Ethylene Glycol	107-21-1	20.00	0.53	6.41	2.03E-07	No Data	4.00E+02	No Data
C Yellow Oxide (small amount mixed with 55 gallons of water)	0.200	15.52	Ethylene Glycol	107-21-1	20.00	0.62	7.45	2.36E-07	No Data	4.00E+02	No Data
Sanding Sealer	1.000	7.32	Xylene Ethylbenzene	1330-20-7 100-41-4	5.00 1.00	0.37 0.00	4.39 0.00	1.39E-07 0.00E+00	2.20E+04 No Data	7.00E+02 2.00E+03	No Data No Data
Sealgrit IE Block Primer	1.000	10.76	Ethylene Glycol Silica Quartz (crystalline silica)	107-21-1 7631-86-9 14808-60-7	5.00 1.50 1.00	0.54 0.00 0.00	6.46 0.00 0.00	2.03E-07 0.00E+00 0.00E+00	No Data No Data No Data	4.00E+02 3.00E+00 3.00E+00	No Data No Data No Data
Dad's Ensy Spray Remover	1.000	9.68	Zinc Oxide Methylene Chloride Methanol EGBE (glycol ether)	1314-13-2 75-09-2 67-56-1 111-76-2	1.50 78.00 13.00 6.00	0.00 7.55 0.00 0.00	0.00 90.57 0.00 0.00	0.00E+00 2.87E-06 0.00E+00 0.00E+00	No Data 1.40E+04 2.80E+04 1.40E+04	3.50E+01 4.00E+02 4.00E+03 2.00E+01	No Data No Data No Data No Data
27x38 Clear Wood Finish Int. Semi-Gloss (Aerosol CWP Semi-Gloss)	0.250	6.39	2-butoxyethanol (EGBE) Methyl Ethyl Ketone Isopropanol Anhydrous Xylene	111-76-2 78-93-3 67-63-0 1330-20-7	5.00 40.00 10.00 5.00	0.08 0.00 0.00 0.00	0.96 0.00 0.00 0.00	3.04E-08 0.00E+00 0.00E+00 0.00E+00	1.40E+04 1.30E+04 3.20E+03 2.20E+04	2.00E+01 1.00E+03 7.00E+03 7.00E+03	No Data No Data No Data No Data
Denatured Alcohol Solvent (EtOH)	1.000	6.78	Ethylbenzene	100-41-4	1.00	0.00	0.00	0.00E+00	No Data	2.00E+03	No Data
Minwax Polyacrylic Protective Finish	0.125	8.51	Methanol Ethylene Glycol	67-56-1 107-21-1	3.60 5.00	0.24 0.05	2.93 0.64	9.29E-08 2.02E-08	2.80E+04 1.40E+04	4.00E+03 2.00E+01	No Data No Data
Spray B-L-N	1.000	8.34	Cellulose (EGBE) Isopropanol	111-76-2 67-63-0	5.00 10.00	0.00 0.83	0.00 10.01	0.00E+00 3.17E-07	1.40E+04 3.20E+03	2.00E+01 7.00E+03	No Data No Data

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Authority to Construct 12516

ATTACHMENT
Air Toxics Documentation

TABLE B.2. SCREEN3 INPUTS

OPTIONS	
Point Source	Coating Spray Booth
Urban	
SOURCE	
Emission Rate	1 g/sec
Stack Height	20 ft
Stack Diameter	2 ft
Exit Velocity	ft/sec
Flow Rate	7900 acfm
Exit Temperature	Ambient (298 K)
Building	
Height	28 ft
Length	450 ft
Width	165 ft
RECEPTORS	
Minimum Distance	1 m
Flagpole Height	1.5 m

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Authority to Construct 12516

ATTACHMENT
Air Toxics Documentation

TABLE B.3. CANCER RISK AND CHRONIC HAZARD INDEX CALCULATIONS AND RISK RESULTS

CALCULATION SUMMARY FOR HEALTH RISK ASSESSMENT
Authority to Construct 12516
P.J. Milligan & Co.

The risk (cancer and chronic non-cancer) attributed to the emission of toxic contaminants from this project is calculated as follows:

$$R = \sum [X_n] \times [E_T / E_S] \times 0.1 \times [UR]$$

$$\text{Chronic HI} = \sum [X_n] \times [ET / ES] \times 0.1 / [REL]$$

where:

R = Individual excess lifetime cancer risk

Xa = Max 1 hour concentration from Screen3 model results (ug/m³)

E_T = Actual toxic emission rate from source stack (g/sec)

E_S = Default Screen 3 emission rate (established at 1 g/sec)

UR = Unit Risk Value

where:

Chronic HI = Chronic Hazard Index

Xa = Max 1 hour concentration from Screen3 model results (ug/m³)

E_T = Actual toxic emission rate from source stack (g/sec)

E_S = Default Screen 3 emission rate (established at 1 g/sec)

REL = Chronic Reference Exposure Level

Activity	Xa
SCO	9106

Cancer Risk	Xa (ug/m ³)	ET (g/sec)	Es (g/sec)	URF 1/(ug/m ³)	Risk	Chronic Inhalation REL (ug/m ³)	Chronic HI
Methyl Ethyl Ketone	9106	4.61E-05	1	No Data	No Data	1.0E+03	0.0000
Isopropanol	9106	1.44E-04	1	No Data	No Data	7.0E+03	0.0000
EGIBE	9106	3.96E-05	1	No Data	No Data	2.0E+01	0.0018
Methanol	9106	4.21E-05	1	No Data	No Data	4.0E+04	0.0000
Toluene	9106	0.00E+00	1	No Data	No Data	3.0E+02	0.0000
Crystalline Silica	9106	5.04E-04	1	No Data	No Data	3.0E+00	0.1528
Vinyl Acetate	9106	0.00E+00	1	No Data	No Data	2.0E+02	0.0000
Zinc Oxide	9106	9.75E-05	1	No Data	No Data	3.5E+01	0.0025
Ethyl Benzene	9106	7.35E-06	1	No Data	No Data	2.0E+03	0.0000
Xylene	9106	6.32E-05	1	No Data	No Data	7.0E+02	0.0001
Ethylene Glycol	9106	4.24E-04	1	No Data	No Data	4.0E+02	0.0010
Methylene Chloride	9106	1.30E-03	1	1.0E-06	1.19E-06	4.0E+02	0.0030
				Cancer Risk	1.19E-06	Chronic HI	0.1613

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TABLE B.4. ACUTE TOXIC EMISSIONS AND ACUTE HAZARD INDEX CALCULATIONS AND RISK RESULTS

CALCULATION SUMMARY FOR ACUTE TOXIC EMISSIONS AND ACUTE HAZARD INDEX

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P.J. Milligan & Co.

The acute hazard index attributed to the emission of toxic contaminants from this project is calculated as follows:

$$\text{Acute HI} = [\text{Xa}] \times [\text{ET} / \text{ES}] / [\text{REL}]$$

where:

Acute HI = Acute Hazard Index

Xa = Max 1 hour concentration from Screen3 model results (ug/m³)

E_T = Actual toxic emission rate from source stack (g/sec)

E_S = Default Screen 3 emission rate (established at 1 g/sec)

REL = Acute Reference Exposure Level

Acute Toxic	ET	ES	Xa	Acute Inhalation REL	Acute HI
	(g/s)	(g/s)	(ug/m3)	(ug/m3)	
Methyl Ethyl Ketone	4.61E-05	1	9106	1.3E+04	3.2E-05
Isopropanol	1.44E-04	1	9106	3.2E+03	4.1E-04
EGBE	3.96E-05	1	9106	1.4E+04	2.6E-05
Methanol	4.21E-05	1	9106	2.8E+04	1.4E-05
Toluene	0.00E+00	1	9106	3.7E+04	0.0E+00
Crystalline Silica	5.04E-04	1	9106	2.2E+04	2.1E-04
Vinyl Acetate	0.00E+00	1	9106	No Data	No Data
Zinc Oxide	9.75E-05	1	9106	No Data	No Data
Ethyl Benzene	7.35E-06	1	9106	No Data	No Data
Xylene	6.32E-05	1	9106	2.2E+04	2.6E-05
Ethylene Glycol	4.24E-04	1	9106	No Data	No Data
Methylene Chloride	1.30E-03	1	9106	1.4E+04	8.5E-04

Acute HI

0.0044

Notes:

(1) The acute HI calculated is a conservative estimate since it assumes all pollutants affect the same target organ (endpoint) through the inhalation pathway. As long as the sum of the acute hazard index for all pollutants evaluated is less than one, no further analysis is needed. However, if the sum is greater than one, then each endpoint for each acute toxin needs to be evaluated to accurately determine the HI.

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TABLE B.5. SCREEN3 OUTPUT

04/03/08
11:11:59

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

PJ Milligan Urban Spray Booth 1m Dist, 7900 cfm

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.00000
STACK HEIGHT (M) = 6.0960
STK INSIDE DIAM (M) = 6.7056
STK EXIT VELOCITY (M/S) = 0.1056
STK GAS EXIT TEMP (K) = 298.0000
AMBIENT AIR TEMP (K) = 293.1500
RECEPTOR HEIGHT (M) = 1.5000
URBAN/RURAL OPTION = URBAN
BUILDING HEIGHT (M) = 8.5344
MIN HORIZ BLDG DIM (M) = 50.2920
MAX HORIZ BLDG DIM (M) = 137.1600

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 0.189 M**4/S**3; MOM. FLUX = 0.123 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

Table with 10 columns: DIST (M), CONC (UG/M**3), STAB, U10M (M/S), USTK (M/S), MIX HT (M), PLUME HT (M), SIGMA Y (M), SIGMA Z (M), DWASH. Rows show data for distances 1, 100, 200, 300, 400, and 500 meters.

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600.	139.3	6	1.0	1.0	10000.0	9.65	59.27	37.24	SS
700.	109.9	6	1.0	1.0	10000.0	9.65	68.06	41.38	SS
800.	89.64	6	1.0	1.0	10000.0	9.65	76.59	45.30	SS
900.	75.01	6	1.0	1.0	10000.0	9.65	84.89	49.01	SS
1000.	64.05	6	1.0	1.0	10000.0	9.65	92.97	52.54	SS
1100.	55.60	6	1.0	1.0	10000.0	9.65	100.83	55.92	SS
1200.	48.92	6	1.0	1.0	10000.0	9.65	108.50	59.15	SS
1300.	43.54	6	1.0	1.0	10000.0	9.65	115.99	62.27	SS
1400.	39.12	6	1.0	1.0	10000.0	9.65	123.30	65.26	SS
1500.	35.43	6	1.0	1.0	10000.0	9.65	130.44	68.16	SS
1600.	32.33	6	1.0	1.0	10000.0	9.65	137.43	70.96	SS
1700.	29.68	6	1.0	1.0	10000.0	9.65	144.27	73.68	SS
1800.	27.40	6	1.0	1.0	10000.0	9.65	150.97	76.32	SS
1900.	25.42	6	1.0	1.0	10000.0	9.65	157.54	78.88	SS
2000.	23.68	6	1.0	1.0	10000.0	9.65	163.98	81.38	SS
2100.	22.15	6	1.0	1.0	10000.0	9.65	170.30	83.81	SS
2200.	20.79	6	1.0	1.0	10000.0	9.65	176.50	86.19	SS
2300.	19.58	6	1.0	1.0	10000.0	9.65	182.59	88.51	SS
2400.	18.49	6	1.0	1.0	10000.0	9.65	188.57	90.77	SS
2500.	17.51	6	1.0	1.0	10000.0	9.65	194.45	92.99	SS
2600.	16.62	6	1.0	1.0	10000.0	9.65	200.24	95.17	SS
2700.	15.81	6	1.0	1.0	10000.0	9.65	205.93	97.30	SS
2800.	15.07	6	1.0	1.0	10000.0	9.65	211.54	99.39	SS
2900.	14.39	6	1.0	1.0	10000.0	9.65	217.05	101.44	SS
3000.	13.77	6	1.0	1.0	10000.0	9.65	222.49	103.45	SS
3500.	11.29	6	1.0	1.0	10000.0	9.65	248.52	113.03	SS
4000.	9.538	6	1.0	1.0	10000.0	9.65	272.88	121.90	SS
4500.	8.240	6	1.0	1.0	10000.0	9.65	295.82	130.21	SS
5000.	7.243	6	1.0	1.0	10000.0	9.65	317.54	138.05	SS
5500.	6.455	6	1.0	1.0	10000.0	9.65	338.21	145.48	SS
6000.	5.817	6	1.0	1.0	10000.0	9.65	357.94	152.56	SS
6500.	5.291	6	1.0	1.0	10000.0	9.65	376.84	159.34	SS
7000.	4.851	6	1.0	1.0	10000.0	9.65	395.00	165.85	SS
7500.	4.476	6	1.0	1.0	10000.0	9.65	412.50	172.11	SS
8000.	4.154	6	1.0	1.0	10000.0	9.65	429.40	178.17	SS
8500.	3.875	6	1.0	1.0	10000.0	9.65	445.74	184.02	SS
9000.	3.630	6	1.0	1.0	10000.0	9.65	461.59	189.70	SS
9500.	3.414	6	1.0	1.0	10000.0	9.65	476.98	195.22	SS
10000.	3.222	6	1.0	1.0	10000.0	9.65	491.93	200.59	SS
15000.	2.056	6	1.0	1.0	10000.0	9.65	623.64	248.02	SS
20000.	1.507	6	1.0	1.0	10000.0	9.65	733.33	287.78	SS
25000.	1.189	6	1.0	1.0	10000.0	9.65	829.16	322.70	SS
30000.	0.9815	6	1.0	1.0	10000.0	9.65	915.26	354.20	SS
40000.	0.8032	4	1.0	1.0	320.0	6.48	1552.23	1553.16	SS
50000.	0.7141	4	1.0	1.0	320.0	6.48	1745.74	1750.00	SS

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MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
26. 9106. 5 1.0 1.0 10000.0 7.00 3.08 6.07 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)

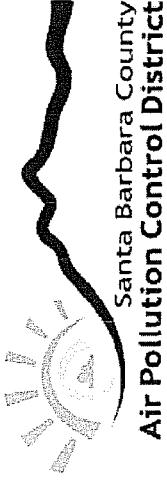
*** CAVITY CALCULATION - 1 ***
CONC (UG/M**3) = 569.5
CRIT WS @10M (M/S) = 1.00
CRIT WS @ HS (M/S) = 1.00
DILUTION WS (M/S) = 1.00
CAVITY HT (M) = 8.53
CAVITY LENGTH (M) = 47.84
ALONGWIND DIM (M) = 50.29
*** CAVITY CALCULATION - 2 ***
CONC (UG/M**3) = 1553.
CRIT WS @10M (M/S) = 1.00
CRIT WS @ HS (M/S) = 1.00
DILUTION WS (M/S) = 1.00
CAVITY HT (M) = 8.53
CAVITY LENGTH (M) = 35.59
ALONGWIND DIM (M) = 137.16

END OF CAVITY CALCULATIONS

*** SUMMARY OF SCREEN MODEL RESULTS ***

Table with 4 columns: CALCULATION PROCEDURE, MAX CONC (UG/M**3), DIST TO MAX (M), TERRAIN HT (M). Rows include SIMPLE TERRAIN, BLDG. CAVITY-1, and BLDG. CAVITY-2.

FEE STATEMENT
ATC No. 12516
FID: 10964 P.J. Milligan & Company / SSID: 10790



Device Fee

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Per total rated hp	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device	
111089	Spray Booth	A2	1.500	29.53			Min	1	1.000	56.58	0.00	0.00	56.58	
Device Fee Sub-Totals =														
Device Fee Total =											\$56.58	\$0.00	\$0.00	\$56.58

Permit Fee

Fee Based on Devices

56.58

Fee Statement Grand Total = \$56

Notes:

- (1) Fee Schedule Items are listed in APCD Rule 210, Fee Schedule "A".
- (2) The term "Units" refers to the unit of measure defined in the Fee Schedule.