



State of Idaho
Department of Environmental Quality
Air Quality Division

**AIR QUALITY PERMIT
STATEMENT OF BASIS**

Permit to Construct No. P-2009.0059

Final

Mirage Enterprises, Inc.

Nampa, Idaho

Facility ID No. 027-00092

September 16, 2009

Mary Capiral *MC*

Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CAA	Clean Air Act
CE	capture efficiency
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HAP	hazardous air pollutant
HVLP	high volume, low pressure
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SM	Synthetic Minor
SO_2	sulfur dioxide
SO_x	sulfur oxides
TAP	toxic air pollutant
TE	transfer efficiency
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. FACILITY INFORMATION

1.1 Facility Description

Mirage Enterprises, Inc. in Nampa manufactures a wide variety of cargo and utility trailers for commercial and retail sale in the region.

1.2 Permitting Action and Facility Permitting History

This PTC is a modification of an existing PTC at an existing facility. The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

August 4, 2006	DEQ issued PTC Permit No. P-060014.
September 10, 2007	DEQ issued PTC Permit No. P-2007.0090, for the replacement of two existing paint booths with a new, larger, and more efficient single paint booth to increase the daily hours of operation and to change the paints applied to the trailers. (S)
September 21, 2009	DEQ issued PTC Permit No. P-2009.0059. (A)

2. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

2.1 Application Scope

The facility's previous permit indicated the use of airless spray guns with a permit requirement that the paint guns have a transfer efficiency (TE) of 75%. During a compliance inspection it was determined that the facility now uses four airless spray guns and two high volume, low pressure (HVLP) spray guns. The airless and HVLP spray guns are certified by the manufacturers to have TEs of 60% and 65%, respectively. Therefore, the purpose of this permit is to change the TE of the airless spray guns from 75% to 60% and to reflect the addition of the two HVLP spray guns. In addition, the capture efficiency (CE) of the paint booth exhaust filter used will be corrected from 94% to 98%, and the requirements of 40 CFR 63 Subpart HHHHHH will be added.

2.2 Application Chronology

April 28, 2009	DEQ received PTC modification application.
April 29, 2009	Permit application fee (\$1,000) was received.
May 1, 2009	DEQ received supplemental information (i.e. documentation on the TE of spray guns used).
May 4, 2009	DEQ received clarification on the requirements of 40 CFR 63 Subpart HHHHHH. The subpart requires a TE of at least 65% for all spray guns used.
May 4, 2009	15-day opportunity to propose a public comment period began.
May 13, 2009	A request was received for a public comment period on the PTC modification application.
May 19, 2009	15-day opportunity to propose a public comment period ended.
May 26, 2009	DEQ determined the PTC modification application complete.
June 15, 2009	Draft permit and statement of basis were sent to Boise Regional Office review.
June 22, 2009	1 st facility draft of permit was submitted for review. A processing fee of \$2,500 was requested in the facility draft letter.
July 7, 2009	DEQ received the facility's comments regarding the 1 st draft. The facility requested that potential emissions from the Gavlon Black HAPs Free High Gloss Air Dry Enamel be excluded in the post-project emissions inventory since the facility has discontinued use of the paint.
July 10, 2009	A 2 nd facility draft was submitted to the facility for review. A revised processing fee (\$1,000) was requested in the 2 nd facility draft letter.
July 16, 2009	Facility received processing fee invoice. Delivery receipt signed for by Sandy Carnell.
July 23, 2009	30-day public comment period commenced.

August 24, 2009 30-day public comment period ended.

August 25, 2009 A copy of the processing fee invoice was faxed to the facility by Jean Francis.

September 4, 2009 2nd request from facility for copy of the processing fee invoice via fax. Processing fee invoice copy faxed to the facility by Dave Sande.

September 16, 2009 The \$1,000 processing fee was received.

September 21, 2009 The final permit and statement of basis were issued.

3. TECHNICAL ANALYSIS

3.1 Emission Unit and Control Device

Table 3.1 EMISSION UNIT AND CONTROL DEVICE INFORMATION

Emission Unit / ID No.	Emissions Unit Description	Control Device Description	Emissions Discharge Point ID No. and/or Description
Paint Booth	<p><u>Paint Booth Design:</u></p> <ul style="list-style-type: none"> The paint booth consists of a horizontal drive-through structure equipped with doors at each end. Exhaust system blowers maintain a negative pressure in the booth to ensure that paint emissions are contained within the booth. The blowers pull air from the interior of the booth through a series of particulate filters to one of four stacks. 	<p><u>Airless Spray Gun No. 1, 2, 3, & 4</u> Mfr: Graco Model: Contractor II Type: Airless TE: 60% Rated Capacity: No. 1 & 2: 5 gal/hr No. 3 & 4: 2.7 gal/hr</p> <p><u>HVLP Spray Gun No. 5 & 6</u> Mfr: Devillbiss Model: Compact Type: HVLP TE: 65% Rated Capacity: 2.6 gal/hr</p> <p><u>Stacks 1 through 4, Filter Systems</u> Mfr: Paint Pockets Co. Model: PP Series PM Control: 98% Dimensions: 26 - 20" x 20" x 15" pocket filters</p>	<p><u>Stacks 1 through 4</u> Stack Height: 25 feet (7.62 m) Exit Diameter: 3.0 feet (0.9144 m) Exit Velocity: 113.2 ft/s (34.5 m/s) Exit Temperature: 80°F (300 K)</p>

3.2 Emissions Inventory

Tables 3.2 and 3.3 summarize Mirage Enterprises, Inc.'s estimated pre- and post project criteria pollutants potential to emit (PTE), respectively. Table 3.4 summarizes the change in emissions. The change from 75% to 60% TE of spray guns does not result in increase of emissions. See Appendix B for details.

Table 3.2 PRE-PROJECT CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS POTENTIAL TO EMIT

	PM ₁₀			SO ₂		NO _x		CO		VOC		Lead	
	lb/hr	lb/day	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Sources Affected by the Permitting Action													
Paint Booth	0.57	9.61	1.75	0.0	0.0	0.0	0.0	0.0	0.0	14.0	43.44	0.0	0.0
Facility Total Change in Emissions	0.57	9.61	1.75	0.0	0.0	0.0	0.0	0.0	0.0	14.0	43.44	0.0	0.0

Table 3.3 POST PROJECT CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS POTENTIAL TO EMIT

	PM ₁₀			SO ₂		NO _x		CO		VOC		Lead	
	lb/hr	lb/day	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Point Sources Affected by the Permitting Action													
Paint Booth	0.57	9.61	1.75	0.0	0.0	0.0	0.0	0.0	0.0	14.0	43.44	0.0	0.0
Facility Total Change in Emissions	0.57	9.61	1.75	0.0	0.0	0.0	0.0	0.0	0.0	14.0	43.44	0.0	0.0

Table 3.4 CHANGE IN CONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS POTENTIAL TO EMIT

	PM ₁₀			SO ₂		NO _x		CO		VOC		Lead	
	lb/hr	lb/day	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Totals	0.57	9.61	1.75	0.0	0.0	0.0	0.0	0.0	0.0	14.0	43.44	0.0	0.0
Post Project Totals	0.57	9.61	1.75	0.0	0.0	0.0	0.0	0.0	0.0	14.0	43.44	0.0	0.0
Facility Total Change in Emissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TAPs emissions from a new type of paint, Sherwin Williams HE Alkyd Enamel Product No. F75BC15RE, are shown in Table 3.5. The change in non-volatile TAPs emissions as a result of the change in spray gun TE is summarized in Table 3.6.

**Table 3.5: CONTROLLED EMISSIONS ESTIMATES OF TAPS POTENTIAL TO EMIT
(SHERWIN WILLIAMS ALKYD ENAMEL)**

Toxic Air Pollutant (TAP)	PTE (lb/hr)	Screening Emission Level, EL (lb/hr)	Exceeds Screening Level? (Y/N)
Acetone	0.764	119	N
n-Butyl Acetate	2.483	47.3	N
2-Butoxyethanol	0.573	8	N
Carbon Black	0.003	0.23	N
Ethylbenzene	0.096	29	N
Methyl n-Amyl Ketone	1.146	15.7	N
Methyl Ethyl Ketone	1.91	39.3	N
1,3,5- Trimethylbenzene	0.573	8.2	N
1,2,4- Trimethylbenzene	0.955		
Xylene	0.382	29	N

Table 3.6: CHANGE IN CONTROLLED EMISSIONS ESTIMATES OF TAPS POTENTIAL TO EMIT

Toxic Air Pollutant (TAP)	Product	Pre-Project PTE (lb/hr)	Post Project PTE (lb/hr)	Change in Emissions (lb/hr)	Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Amorphous Silica	SW Primer	2.5E-03	1.3E-03	-1.2E-03	0.667	N
Calcium Carbonate	SW Primer	8.3E-02	4.4E-02	-3.9E-02	0.667	N
Carbon Black	SW Polane	9.2E-03	4.9E-03	-4.3E-03	0.23	N
Zinc Oxide	SW Primer	7.5E-03	4.0E-03	-3.5E-03	0.333	N

3.3 Ambient Air Quality Impact Analysis

An ambient air quality impact analysis is not required for this project because there was no change in potential emissions of criteria pollutants and the change in TAPs emissions did not exceed screening emission levels.

3.4 Origin of Existing Emissions Limits

PM₁₀ emissions from the paint booth exhaust stacks shall not exceed 1.8 tons per consecutive 12-month period (T/yr). VOC emissions from the paint booth exhaust stacks shall not exceed 44 tons per consecutive 12-calendar month period (T/yr).

Origin: The emissions limits for PM₁₀ and VOCs were initially established by Permit No. P-2007.0090, issued September 10, 2007. The emissions limits were not revised as a result of this project.

4. REGULATORY REVIEW

4.1 Attainment Designation (40 CFR 81.313)

The facility is located in Canyon County which is designated as attainment or unclassifiable for PM₁₀, PM_{2.5}, CO, NO₂, SO_x, and Ozone. Reference 40 CFR 81.313.

4.2 Permit to Construct (IDAPA 58.01.01.201)

The change in paint spray gun transfer efficiency requires a PTC modification because the facility's existing PTC prohibits the facility from using spray guns with less than 75% transfer efficiency.

4.3 Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Required Tier II Operating Permits

The facility is not subject to IDAPA 58.01.01.300 through 399 and is not requesting an option Tier II operating permit. Therefore, the requirements of IDAPA 58.01.01.401 do not apply.

4.4 Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 Tier I Operating Permit

The facility is not a Tier I source in accordance with IDAPA 58.01.01.006.113. Therefore, the requirements of IDAPA 58.01.01.301 do not apply.

4.5 PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source, not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore, in accordance with 40 CFR 52.21(a)(2), the PSD requirements do not apply.

4.6 NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements pursuant to 40 CFR 60.

4.7 NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements pursuant to 40 CFR 61.

4.8 MACT Applicability (40 CFR 63)

40 CFR 63 Subpart HHHHHH National Emission Standards for Hazardous Air Pollutants (NESHAP): Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

40 CFR 63.11170 Am I subject to this subpart?

In accordance with §63.11170(a), the permittee is subject to this subpart because the facility will be operated as an area source of HAP. The facility is a source of HAP that is not a major source of HAP, is not located at a major source, and is not part of a major source of HAP emissions. In addition, the facility will perform spray application of coatings, as defined in §63.11180, to motor vehicles and mobile equipment including operations that are located in stationary structures at fixed locations.

40 CFR 63.11171 How do I know if my source is considered a new source or an existing source?

In accordance with §63.11171(b), the affected source is the collection of mixing rooms and equipment; spray booths, curing ovens, and associated equipment; spray guns and associated equipment; spray gun cleaning equipment; and equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint. Paint stripping was not proposed as a business activity.

In accordance with §63.11171(c)(2)(e), the affected source is an existing source because the surface coating equipment was constructed before September 17, 2007.

40 CFR 63.11172 When do I have to comply with this subpart?

In accordance with §63.11172(b), the compliance date for an existing source is January 10, 2011.

40 CFR 63.11173 What are my general requirements for complying with this subpart?

Because the facility has not proposed paint-stripping activities, the requirements of §63.11173(a) through (d) are not applicable. Because the facility is a motor vehicle surface coating operation, in accordance with §63.11173(e), the permittee must meet the requirements of in paragraphs (e)(1) through (e)(5) of this section.

In accordance with §63.11173(f), each owner or operator of an affected miscellaneous surface coating source must ensure and certify that all new and existing personnel, including contract personnel, who spray apply surface coatings, as defined in §63.11180, are trained in the proper application of surface coatings as required by paragraph (e)(1) of this section. The training program must include, at a minimum, the items listed in paragraphs (f)(1) through (f)(3) of this section.

In accordance with §63.11173(g), as required by paragraph (e)(1) of this section, all new and existing personnel at an affected motor vehicle and mobile equipment or miscellaneous surface coating source, including contract personnel, who spray apply surface coatings, as defined in §63.11180, must be trained by the dates specified in paragraphs (g)(1) and (2) of this section. Employees who transfer within a company to a position as a painter are subject to the same requirements as a new hire.

Permit Condition 2.8 (40 CFR 63, Subpart HHHHHH- General Compliance Requirements) includes the requirements of this section.

40 CFR 63.11174 What parts of the General Provisions apply to me?

In accordance with §63.11174(a), Table 1 of this subpart shows which parts of the General Provisions in subpart A apply. Compliance with these requirements is assured by PTC condition 2.8.

In accordance with §63.11174(b), an owner or operator of an area source subject to this subpart is exempt from the obligation to obtain a permit under 40 CFR part 70 or 71 provided that a permit under 40 CFR 70.3(a) or 71.3(a) is not required for a reason other than becoming area source subject to this subpart. This permit application and permitting action involve a Permit to Construct, and will not utilize the requirements and procedures in IDAPA 58.01.01.300-399 for the issuance of Tier I operating permits.

40 CFR 63.11175 What notifications must I submit?

In accordance with §63.11175(a), because the facility is a surface coating operation subject to this subpart, the initial notification required by §63.9(b) must be submitted. For an existing affected source, the Initial Notification must be submitted no later than January 11, 2010.

In accordance with §63.11175(b), because the facility is an existing source, the permittee may certify in the initial notification that the source is already in compliance. If the permittee does not certify in the initial notification that the source is already in compliance, then the permittee must submit a notification of compliance status on or before March 11, 2011. The information specified in paragraphs (b)(1) through (4) of this section are required with the Notification of Compliance Status. Compliance with these requirements is assured by Permit Condition 2.17 (40 CFR 63, Subpart HHHHHH- Notifications).

40 CFR 63.11176 What reports must I submit?

In accordance with §63.11176(a), because the permittee is an owner or operator of a paint stripping, motor vehicle or mobile equipment, or miscellaneous surface coating affected source, the permittee is required to submit a report in each calendar year in which information previously submitted in either the initial notification required by §63.11175(a), Notification of Compliance, or a previous annual notification of changes report submitted under this paragraph, has changed. Deviations from the relevant requirements in §63.11173(a) through (d) or §63.11173(e) through (g) on the date of the report will be deemed to be a change. The annual notification of changes report must be submitted prior to March 1 of each calendar year when reportable changes have occurred and must include the information specified in paragraphs (a)(1) through (2) of this section. Compliance with these requirements is assured by Permit Condition 2.18 (40 CFR 63, Subpart HHHHHH- Reports).

Because the facility has not proposed to conduct paint stripping operations, the MeCl minimization plan requirements are not applicable.

40 CFR 63.11177 What records must I keep?

In accordance with §63.11177, because the permittee is the owner or operator of a surface coating operation, the permittee must keep the records specified in paragraphs (a) through (d) and (g) of this section. Because the permittee has not proposed to conduct paint stripping operations, the requirements of paragraphs (e) and (f) of this section are not applicable. Compliance with these requirements is assured by Permit Condition 2.14 (40 CFR 63, Subpart HHHHHH- Recordkeeping).

40 CFR 63.11178 In what form and for how long must I keep my records?

In accordance with 40 CFR 63.11178(a) because the permittee is the owner or operator of an affected source, the permittee must maintain copies of the records specified in §63.11177 for a period of at least five years after the date of each record. Copies of records must be kept on site and in a printed or electronic form that is readily accessible for inspection for at least the first two years after their date, and may be kept off-site after that two year period. Compliance with these requirements is assured by Permit Condition 2.14 (40 CFR 63, Subpart HHHHHH- Recordkeeping).

40 CFR 63.11179 Who implements and enforces this subpart?

In accordance with §63.11179(a), this subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority. At the time of this permitting action, the EPA had not delegated authority to the State of Idaho.

40 CFR 63.11180 What definitions do I need to know?

Terms used in this subpart are defined in accordance with §63.11180.

4.9 CAM Applicability (40 CFR 64)

The facility is not subject to any CAM requirements pursuant to 40 CFR 64, because the facility is not a major source.

4.10 Permit Conditions Review

This section describes the permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Old Permit Condition 2.5 (Material Usage Limits) from P-2007.0090 has been deleted. See New Permit Conditions 2.9 to 2.11.

Old Permit Condition 2.6 (Paint Booth Spray Gun and Exhaust Filter Systems) from P-2007.0090 has been revised. The following terms have been added:

- In accordance with 40 CFR 63 Subpart HHHHHHH, the spray gun system(s) must have a minimum of 65% TE by January 10, 2011.
- In accordance with 40 CFR 63 Subpart HHHHHHH, the spray booth filter system(s) must have a minimum of 98% capture efficiency by January 10, 2011.

Old Permit Condition 2.7 (Pressure Drop Monitoring Device) from P-2007.0090 has been deleted.

Old Permit Condition 2.8 (Operations and Maintenance Manual) from P-2007.0090 has been deleted.

Old Permit Condition 2.9 (Paint Booth Exhaust System Filter Pressure Drop) from P-2007.0090 has been deleted.

Old Permit Condition 2.10 (Material Usage Monitoring) from P-2007.0090 has been revised:

- New Permit Condition 2.9 (Material Purchase Records and Materials Safety Data Sheets) requires that the permittee maintain material purchase records and MSDS sheets.
- New Permit Condition 2.10 (VOC Emissions Monitoring Requirements) requires that the permittee monitor and record the monthly and annual VOC emissions from the paint booth.
- New Permit Condition 2.11 (PM₁₀ Emissions Monitoring Requirements) requires that the permittee monitor and record the monthly and annual PM₁₀ emissions from the paint booth.

Old Permit Condition 2.11 (Filter System Pressure Drop Monitoring) from P-2007.0090 has been deleted.

New Permit Condition 2.5 (Odors) establishes that the permittee shall not allow, suffer, cause, or permit the emission of odorous gasses, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

New Permit Condition 2.7 (MACT General Compliance Requirements) requires that the permittee complies with the applicable emission limitations and requirements of the NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63 Subpart HHHHHHH by January 10, 2011.

New Permit Condition 2.8 (Odor Complaints) requires that the permittee maintain records of all odor complaints.

New Permit Condition 2.12 (MACT Recordkeeping) requires that the permittee keep records in accordance with 40 CFR 63.11177(a) through (d) and (h).

New Permit Condition 2.13 (Incorporation of Federal Requirements by Reference) establishes that the federal requirements of 40 CFR 63 are incorporated by reference into the requirements of this permit per current DEQ guidance.

New Permit Condition 2.14 (Recordkeeping) requires that the permittee complies with the requirements of General Provision 7.

New Permit Condition 2.15 (MACT Notifications) requires that the permittee submit an Initial Notification and a Notification of Compliance Status.

New Permit Condition 2.16 (MACT Reports) requires that the permittee submit an Annual Notification of Changes Report.

5. PERMIT FEES

Table 5.1 lists the processing fee associated with this permitting action. The facility is subject to a processing fee of \$1,000 in accordance with IDAPA 58.01.01.225 because the increase in emissions as a result of this project is less than one (1) ton per year. Refer to the chronology for fee receipt dates.

Table 5.1 PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM ₁₀	0.0	0	0.0
VOC	0.0	0	0.0
HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 1,000.00		

6. PUBLIC COMMENT

An opportunity for public comment period on the PTC application was provided from May 4, 2009 to May 19, 2009 in accordance with IDAPA 58.01.01.209.01.c. During this time, there was a request for a public comment period on DEQ's proposed action.

A public comment period was made available to the public from July 23, 2009 to August 24, 2009. During this time, comments were not submitted in response to DEQ's proposed action.

Appendix A – AIRS Information

AIRS/AFS Facility-wide Classification – Data Form

Facility Name: Mirage Enterprises, Inc.
Facility Location: Nampa, Idaho
Facility ID: 027-00092 **Date:** July 15, 2009
Project/Permit No.: P-2009.0059 **Completed By:** Mary Capiral

- Check if there are no changes to the facility-wide classification resulting from this action. (compare to form with last permit)
 Comments:
- Yes, this facility is an SM80 source.

Identify the facility's area classification as A (attainment), N (nonattainment), or U (unclassified) for the following pollutants:

SO2 PM10 VOC
 Area Classification: DO NOT LEAVE ANY BLANK

Check one of the following:

- SIP [0]** - Yes, this facility is subject to SIP requirements. (do not use if facility is Title V)
 OR
 Title V [V] - Yes, this facility is subject to Title V requirements. (If yes, do not also use SIP listed above.)

For SIP or TV, identify the classification (A, SM, B, C, or ND) for the pollutants listed below. Leave box blank if pollutant is not applicable to facility.

SO2 NOx CO PM10 PT (PM) VOC THAP
 Classification:

- PSD [6]** - Yes, this facility has a PSD permit.

If yes, identify the pollutant(s) listed below that apply to PSD. Leave box blank if pollutant does not apply to PSD.

SO2 NOx CO PM10 PT (PM) VOC THAP
 Classification:

- NSR - NAA [7]** - Yes, this facility is subject to NSR nonattainment area (IDAPA 58.01.01.204) requirements.

Note: As of 9/12/08, Idaho has no facility in this category.

If yes, identify the pollutant(s) listed below that apply to NSR-NAA. Leave box blank if pollutant does not apply to NSR - NAA.

SO2 NOx CO PM10 PT (PM) VOC THAP
 Classification:

- NESHAP [8]** - Yes, this facility is subject to NESHAP (Part 61) requirements. (THAP only)

If yes, what CFR Subpart(s) is applicable?

- NSPS [9]** - Yes, this facility is subject to NSPS (Part 60) requirements.

If yes, what CFR Subpart(s) is applicable?

If yes, identify the pollutant(s) regulated by the subpart(s) listed above. Leave box blank if pollutant does not apply to the NSPS.

SO2 NOx CO PM10 PT (PM) VOC THAP
 Classification:

- MACT [M]** - Yes, this facility is subject to MACT (Part 63) requirements. (THAP only)

If yes, what CFR Subpart(s) is applicable?

Appendix B – Emissions Inventory

B.1 Potential to Emit Calculations:

Spray gun transfer efficiency (TE): 60%
 Paint booth exhaust filter capture efficiency (CE): 98%
 (Note: a CE of 94% was used for pre-project calculations)
 Max. Operation: 17 hours/day

$$\text{PM}_{10} \text{ Potential Emissions (lb/hr)} = [\text{Density (lb/gal)} \times \text{Max. Solids Content (\%)} \times \text{Max. Application Rate (gal/hr)} \times (1 - (\% \text{ exhaust filter efficiency} \div 100)) \times (1 - (\% \text{ spray gun transfer efficiency} \div 100))]$$

$$\text{PM}_{10} \text{ Potential Emissions (lb/day)} = [\text{PM}_{10} \text{ Potential Emissions (lb/hr)} \times \text{Max. Operation (17 hrs/day)}]$$

$$\text{PM}_{10} \text{ Potential Emissions (T/yr)} = [\text{PM}_{10} \text{ Potential Emissions (lb/day)} \times 365 \text{ days/yr} \times (1 \text{ T}/2000 \text{ lbs})]$$

$$\text{VOC Potential Emissions (lb/hr)} = [\text{VOC Content (lb-VOC/gal)} \times \text{Max. Application Rate (gal/hr)}]$$

$$\text{VOC Potential Emissions (T/yr)} = [\text{VOC Content (lb-VOC/gal)} \times \text{Max. Application Rate (gal/hr)} \times \text{Max. Operation (17 hrs/day)} \times 365 \text{ days/yr} \times (1 \text{ T}/2000 \text{ lbs})]$$

Emissions for each type of paint were calculated assuming that each was used exclusively in the paint booth for the entire year (17 hours per day x 365 days per year = 6,205 hours per year). The maximum potential emissions for any paint were used to establish emissions limits in Permit No. P.2007.0090, issued September 10, 2007. Emissions estimates for the Gavlon Black HAPs Free High Gloss Air Dry Enamel (Product No. 411-FC) were the highest for pre-project emissions calculations (highlighted in Table B.1).

Upon issuance of the 1st facility draft, the facility requested that potential emissions from the Gavlon Black HAPs Free High Gloss Air Dry Enamel be excluded in the post-project emissions inventory since the facility has discontinued use of the paint. The facility also indicated the use of Sherwin Williams HE Alkyd Enamel (Product No. F75BC15RE). This paint was not used to calculate VOC emissions in the facility’s previous permit (No. P-2007.0090, issued September 10, 2007). Emissions estimates for the Sherwin Williams HE Alkyd Enamel (Product No. F75BC15RE) were the highest for post-project emissions calculations (highlighted in Table B.2). Potential emissions from the Sherwin Williams HE Alkyd Enamel are below the facility’s current PM₁₀ emissions limits and above current VOC emissions limits (see Table B.2). Mirage has requested that all existing emissions limits remain the same. Thus, use of this paint must be limited to amounts that will ensure compliance with the permitted VOC limit of 43.44 T/yr.

Tables B.1 and B.2 summarize the pre-project and post-project criteria pollutant potential emissions, respectively.

TABLE B.1 PRE-PROJECT CONTROLLED POTENTIAL EMISSIONS OF CRITERIA POLLUTANTS

Product	Density (lb/gal)	Max. Solids Content (%)	Max. Application Rate (gal/hr)	VOC Content (lb/gal)	PM ₁₀			VOC
					lb/hr	lb/day	T/yr	T/yr
Gavlon Black HAPS Free High Gloss Air Dry Enamel (Product No. 411-FC)	10.4	72.5	5.0	2.8	0.57	9.61	1.75	43.44
Sherwin Williams Kem-Flash Ultra Bond Primer, Gray (Product No. E61A705)	11.73	53	2.7	3.32	0.25	4.28	0.78	27.81
Sherwin Williams Polane HS Polyurethane Color, Black (Product No. F63B50)	8.16	58	2.6	2.96	0.18	3.14	0.57	23.88

TABLE B.2 POST-PROJECT CONTROLLED POTENTIAL EMISSIONS OF CRITERIA POLLUTANTS

Product	Density (lb/gal)	Max. Solids Content (%)	Max. Application Rate (gal/hr)	VOC Content (lb/gal)	PM ₁₀			VOC
					lb/hr	lb/day	T/yr	T/yr
Sherwin Williams HE Alkyd Enamel (Product No. F75BC15RE)	8.06	47.4	5.0	3.92	0.15	2.6	0.47	60.81 ¹
Sherwin Williams Kem-Flash Ultra Bond Primer, Gray (Product No. E61A705)	11.73	53	2.7	3.32	0.13	2.28	0.42	27.81
Sherwin Williams Polane HS Polyurethane Color, Black (Product No. F63B50)	8.16	58	2.6	2.96	0.1	1.67	0.31	23.88

¹ Potential VOC emissions from the Sherwin Williams HE Alkyd Enamel are above the facility's current VOC emissions limit. Thus, use of this paint must be limited to amounts that will ensure compliance with the permitted VOC limit of 44 T/yr.

B.2 TAPs Estimates

Volatile and non-volatile TAP emissions from the new type of paint, Sherwin Williams HE Alkyd Enamel Product No. F75BC15RE, are shown in Tables B.3 and B.4, respectively.

Volatile TAPs Potential Emissions (lb/hr) = [Density (lb/gal) x Max. Solids Content (%) x Max. Application Rate (gal/hr) x TAP content (%)]

Non-volatile TAPs Potential Emissions (lb/hr) = [Density (lb/gal) x Max. Solids Content (%) x Max. Application Rate (gal/hr) x TAP content (%) x (1 - (% exhaust filter efficiency ÷ 100)) x (1 - (% spray gun transfer efficiency ÷ 100))]

Table B.3: Hourly Volatile TAPs Calculations for Sherwin Williams Alkyd Enamel

TAP	TAP Content (%)	PTE (lb/hr)	EL (lb/hr)	Exceeds Screening Level? (Y/N)
Acetone	4	0.764	119	N
n-Butyl Acetate	13	2.483	47.3	N
2-Butoxyethanol	3	0.573	8	N
Ethylbenzene	0.5	0.096	29	N
Methyl n-Amyl Ketone	6	1.146	15.7	N
Methyl Ethyl Ketone	10	1.91	39.3	N
1,3,5- Trimethylbenzene	3	0.573	8.2	N
1,2,4- Trimethylbenzene	5	0.955		
Xylene	2	0.382	29	N

Table B.4: Hourly Non-volatile TAPs Calculations for Sherwin Williams Alkyd Enamel

TAP	TAP Content (%)	PTE (lb/hr)	EL (lb/hr)	Exceeds Screening Level? (Y/N)
Carbon Black	2	0.003	0.23	N

The change in non-volatile TAP emissions as a result of the change in spray gun TE is summarized in Table B.5.

$$\text{Non-volatile TAPs Potential Emissions (lb/hr)} = [\text{Density (lb/gal)} \times \text{Max. Solids Content (\%)} \times \text{Max. Application Rate (gal/hr)} \times \text{TAP content (\%)} \times (1 - (\% \text{ exhaust filter efficiency} \div 100)) \times (1 - (\% \text{ spray gun transfer efficiency} \div 100))]$$

Table B.5: Change in Hourly Non-volatile TAPs Calculations

TAP	Product	TAP Content (%)	Pre-project PTE (lb/hr)	Post-project PTE (lb/hr)	Change in PTE (lb/hr)	EL (lb/hr)
Amorphous Silica	SW Primer	1	2.5E-03	1.3E-03	-1.2E-03	0.667
Calcium Carbonate	SW Primer	33	8.3E-02	4.4E-02	-3.9E-02	0.667
Carbon Black	SW Polane	5	9.2E-03	4.9E-03	-4.3E-03	0.23
Zinc Oxide	SW Primer	3	7.5E-03	4.0E-03	-3.5E-03	0.333

Appendix C – Facility Comments

1. **Facility Comment (from Jason Starry):** The documentation for our filters states the efficiency is 99.84% and there is no mention of 94%. I would assume that the 94% rating was inadvertently taken from the first ever permit issued to Mirage. Therefore, should the new permit reflect the 99.84% efficiency? Or should I just present the documentation to DEQ before the compliance date, even though this piece of documentation should be in our file?

DEQ Response: The new permit will reflect the 99.84% exhaust filter capture efficiency.

2. **Facility Comment (from Jason Starry):** The facility requests that potential emissions from the Gavlon Black HAPs Free High Gloss Air Dry Enamel be excluded in the post-project emissions inventory since the facility has discontinued use of the paint.

DEQ Response: The potential emissions from the Gavlon Black HAPs Free High Gloss Air Dry Enamel were excluded in the post-project emissions inventory. The facility's emissions limits, as stated in P-2007.0090, will remain the same.