Statement of Basis

Permit to Construct No. P-2015.0045
Project ID 61584

Mikey's Graphics Inc. - Jerome
Jerome, Idaho

Facility ID 053-00034

Final

February 8, 2016
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Senior Air Quality Engineer

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.

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
BRC	below regulatory concern
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CE	control efficiency
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EP	emissions point
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
Gal/wk	gallons per week
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/day	hours per day
hr/wk	hours per week
hr/yr	hours per consecutive 12 calendar month period
HVLP	high volume, low pressure
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers

lb/hr	pounds per hour
lb/day	pounds per day
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O_2	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SCL	significant contribution limits
SDS	Safety Data Sheets
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period

T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
wk	week
yd^3	cubic yards
$\mu g/m^3$	micrograms per cubic meter

FACILITY INFORMATION

Description

The facility refurbishes propane tanks and truck trailers or frames.

Historically, the facility has been blasting the tanks outside and only blasting them inside the horse arena when the weather dictates. The facility has been preparing and airless spraying paints 20 to 40 500-gallon propane tanks each week. There have been no emissions controls on the existing blasting and painting operations.

To meet the air quality standards, through this permitting action, the facility has proposed the following changes to the facility:

For surface preparation (blasting):

- Install a fully enclosed blasting cabinet for surface preparation of 500-gallon or smaller propane tanks, which consists of most of the total surface preparations. The proposed four nanofiber media cartridges have total control efficiency of 99.999%, down to one micron. The emissions are assumed to be zero in the EI calculation.
- Install air filtration equipment for the existing blast room for equipment larger than a 500-gallon propane tank. The overall $PM/PM_{10}/PM_{2.5}$ control efficiency of (1-(1-99.8%) (1-0%)) = 99.8% is used in the emissions calculations. Therefore, the proposed air filtration equipment should have an overall control efficiency of 99.8% or better. The blasting media (i.e., crushed glass) do not contain any hazardous air pollutants (HAP). The proposed usages in the existing blast room are 132.5 lb/hr x 8 hr/day x 1.2 buffer factor =1,272 lb/day and 1,272 lb/day x 5 day/wk x 52 wk/yr = 330,720 lb/yr.

For painting operation (paint spray booth):

- Install a paint booth with filter systems to remove particulate matter in the overspray. Two filter systems in series, each with a 98% or better control efficiency for $PM/PM_{10}/PM_{2.5}$, are proposed. The calculated overall control efficiency of (1-(1-98%)(1-98%)) = 99.96% is used in the emissions calculation.
- Continue to use spray guns with a 65% or higher material transfer efficiency.
- Use paint materials: Lacquer Thinner SW R7K115, 2025 Acrylic Mod Clear Base EN, V 2153 Mid Coat Epoxy Primer, Carbothane 134 HG, and Carbozinc 859, or their equivalents.
- Limit the usage of all painting materials combined to 58 gal/wk.

For propane flare:

- No changes are made to the propane flare. The propane flare has been used to burn residual propane in the propane tanks and is estimated at the rate of 887,716 Btu/hr. According to the applicant, it actually operates 4.5 hr/day, 5 day/wk, and 52 wk/year or 1,170 hr/yr. However, for PTE calculation, 1,170 hr/yr is replaced with 8,760 hr/yr so that an operating hour monitoring will not be required.

Pollutants of concern identified are from painting operation, blasting operation and the propane flare.

Permitting History

This is the initial PTC for an existing facility that was constructed in August 2007 thus there is no permitting history.

Application Scope

This permit is the initial PTC for the existing minor facility.

The facility has proposed the changes to the existing facility to meet air quality standards as described above under Description Section.

Application Chronology

June 25, 2015	The consent order was signed, which included a notification that a PTC was required (Enforcement Case No. E-2015.0001).
August 17, 2015	DEQ received an application.
August 21, 2015	DEQ received an application fee.
September, 1 – September 16, 2015	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
September 15, 2015	DEQ determined that the application was incomplete.
October 15 and November 12, 2015	DEQ received supplemental information from the applicant.
November 13, 2015	DEQ determined that the application was complete.
January 4, 2016	DEQ made available the draft permit and statement of basis for peer and regional office review.
January 8, 2016	DEQ made available the draft permit and statement of basis for applicant review.
January 28, 2016	DEQ received the revised emissions inventory for painting and blasting operations and the comments on the draft permit and statement of basis.
February 2, 2016	DEQ received the permit processing fee.
February 8, 2016	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment
EP1	Paint Spray Booth(s) and/or Preparation Station: Manufacturer: Col-Met Engineered Finishing Model: EIB 12-08-26-PT Note: the number of booths installed at the facility is not limited by this permit. Spray Material Spray Material Used: Epoxy Coatings Material Coated: steel Total Materials Usage Permit Limit: 58 gal/week, Coating spray gun(s): Manufacturer(s): Grace Model(s): Magnum ports 19/Pro LTS 19 Type: airless Rated Capacity: 0.38 gal/min Transfer Efficiency: 65% or greater	Paint Spray Booth(s) and/or Preparation Station Filter System: Booth Type(s): special floor style, non-pressurized, industrial dry filter cross flow paint spray booth Particulate Filtration Method: dry filter Paint Booth Dimensions: 26' X 12' X 8' Exhaust System: 30" tube axial in-line exhaust fan (9,600 CFM @ 1/2 static pressure). Exhaust Chamber: industrial style exhaust chamber with two 20"x20"x2"filter cells Filter Manufacturer(s): Exhaust filters are a fiberglass 'paint arrestor pad' made specifically for the collection of paint overspray. Filters are UL rated Class 2, with CE of 98%. $PM/PM_{10}/PM_{2.5}$ CE: Booth particulate filters CE #1: 98% or greater Booth particulate filters CE #2: 98% or greater OR Overall $PM/PM_{10}/PM_{2.5}$ CE: 99.96% or greater
NA	Fully enclosed blasting cabinet for surface preparation of 500-gallon or smaller propane tanks, which consists most of the total surface preparations	Four nanofiber media cartridges have total control efficiency of 99.999%, down to one micron.
EP2	Existing blasting room for surface preparation of equipment larger than a 500-gallon propane tank. Sand Blaster Manufacturer(s): Pirate Brand Model(s): 6.5 cu ft SPR Series Rated Capacity: 3,000 lb/hr Blasting Media Blasting media used: crushed glass Crushed glass usage permit limits: 1,272 lbs/day 330,720 lb/yr	Dry Abrasive Blast Room Filter System: Cartridge Style Dust Collection System Manufacturer: AM -14983 Model: # FFBW Each of the three (3) units contains 6 High efficiency cartridge filters, with CE 99.8% Cartridge Dimension: 26" x 12.75" OD x 8.375" lD (1). Blasting Room Dimensions: 20' X 80' X 10' scfm rating 4500 X (3) = 13,500 scfm for blast room. $PM/PM_{10}/PM_{2.5}$ Control Efficiency: $PM/PM_{10}/PM_{2.5}$ CE: 99.8% or greater down to 0.5 micron
EP3	Propane Flare: Manufacturer: owner constructed Manufacture Date: August 2007 Heat Input Rating: 877,716 Btu/hr Fuel: propane	None

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed by the applicant and reviewed by DEQ staff. Detailed calculations and assumptions can be found in Appendix A.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a "Synthetic Minor" source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAP above the applicable Major Source threshold without permit limits.

The following table presents the uncontrolled Potential to Emit for regulated air pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and the assumptions used to determine emissions for each emissions unit.

No information is available to determine what would be the maximum production rate for this facility. The applicant assumed that 110% of the 2014 production rate would be facility's maximum capacity. That is 58 gallons per week (gal/wk). The facility's uncontrolled Potential to Emit for coating operating is based on 11.6 gal/day of all coating materials combined, calculated as (58 gal/wk) / (5 day/wk), and 365 days per year. According to the applicant, there are logistical operations, such as unloading one tank at a time from blast cabinet and loading the paint booth with one 500-gallon tank, dry time in the booth, and unloading the booth. Eight hours per day would be the maximum daily operation hours for coating operation.

For surface preparation (blasting operating), if it is based on nozzle design capacity of 3,000 lb/hr, the uncontrolled PTE will be very high and unrealistic. The uncontrolled PTE of the blasting operation is inherently limited by the painting operation as it prepares surface for substances being painted in the coating operation.

The uncontrolled PTE of the propane flare is inherently limited by how many propane tanks are refurbished. Though the uncontrolled PTE is based on 8,760 hr/yr for easy calculation, it makes no significant difference if operating hours inherently limited by the operation (i.e., 1170 hr/yr) were used.

Table 2 UNCONTROLLED POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS[1]

Emissions Unit	PM_{10}	$PM_{2.5}$	SO_2	NOx	CO	VOC
	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr
EP 1 Paint Spray Booth, Prep Station	16.25	15.03				52.31

Emissions Unit	PM_{10}	$PM_{2.5}$	SO_2	NOx	CO	VOC
	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr
EP 2 Abrasive Blasting Room Exhaust	3.01	0.30				
EP 3 Propane Flare	0.030	0.030	6.33E-04	0.55	0.32	0.042
Totals	19.29	15.36	6.33E-04	0.55	0.32	52.35

[1] No information is available to determine what would be the maximum production rate for this facility. The applicant has assumed that 110% of the 2014 production rate (i.e., 58 gal/wk) would be the facility's maximum capacity.

The following table presents the uncontrolled Potential to Emit for HAP pollutants as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations and assumptions used to determine emissions for each emissions unit. All the HAP emissions come from coating operation.

Table 3 UNCONTROLLED POTENTIAL TO EMIT FOR HAZARDOUS AIR POLLUTANTS

Hazardous Air Pollutants	PTE (T/yr)
Xylene	9.6
Toluene	4.4
Methanol	5.5
Ethyl Benzene	1.002
Methyl Ethyl Keytone	0.49
Hexamethylene Disocyanate	0.004
Total	20.94

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

This is an existing facility. However, since this is the first time the facility is receiving a permit, pre-project emissions are set to zero for all criteria pollutants.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for criteria pollutants from all emissions units at the facility as submitted by the applicant and reviewed by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 4 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions Unit	PM_{10}	$PM_{2.5}$	SO_2	NOx	CO	VOC
	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr
EP 1 Paint Booth	4.64E-03	6.01E-03				37.3
EP 2 Blast Room	4.30E-03	4.30E-04				
EP3 Propane Flare	2.98E-02	2.98E-02	6.33E-04	5.53E-01	3.19E-01	4.25E-02
Totals	0.039	0.036	6.33E-04	0.55	0.32	37.31

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. Because the pre-project emissions are set to zero, the facility-wide change in the potential to emit for criteria pollutants is the same as post-project PTE.

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table. No non-carcinogenic TAP are from the flare operation. Because the pre-project emissions are set to zero, the facility-wide change for TAP is the same as post-project PTE for TAP.

Table 5 POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Listed TAP (HAP)	PM	CAS #	Maximum Daily HAP & TAP Calculated Emission Rates, Averaged Over 24 Hrs (lb/hr)	585 Screening Emission Levels (EL) (lb/hr)	Exceeds EL?
Facility Wide TAPs - Painting					
Xylene (HAP)		1330-20-7	0.79	29	No
N-Butyl Acetate		123-86-4	0.02	47.3	No
Toluene (HAP)		108-88-3	0.51	25	No
Methanol (HAP)		67-56-1	0.10	17.3	No
Acetone		67-64-1	0.04	119	No
1-Methoxy-2 -Propanol Acetate		108-65-6	0.10	24	No
Ethyl Benzene (HAP)		100-41-4	0.08	29	No
Stoddard Solvent		8052-41-3	0.08	35	No
Isoproponal		67-63-0	0.05	65.3	No
Methyl Amyl Ketone		110-43-0	0.00070	15.7	No
Methyl Ethyl Keytone (HAP)		78-93-3	0.03	39.3	No
N-Butanol		71-36-3	0.03	10	No
Ethyl Acetate		141-78-6	0.00032	93.3	No
Zinc (dust or fume)	PM	7440-66-6	0.00028	0.667	No
Carbon Black	PM	1333-86-4	2.2606E-05	0.23	No
Zinc Oxide	PM	1314-13-2	2.8372E-06	0.677	No
Microcrystalline Silica Coating	PM	14808-60-7	0.001136	0.0067	No
Microcrystalline Silica Blasting *					
Facility Wide TAPs Continued - Blasting					
Calcium Oxide (TAP)	15.0%	1305-78-8	1.59E-02	0.133	No
Aluminum Oxide (TAP)	2.0%	7429-90-5	2.12E-03	0.667	No
Magnesium Oxide (TAP)	1.0%	1309-48-4	1.06E-03	0.667	No
Iron Oxide (TAP)	1.0%	1309-37-1	1.06E-03	0.333	No
* Silicon Dioxide (TAP) This amount has been accounted for above	1.0%	14808-60-7	NA	0.0067	na
Facility Wide TAPs Continued - Propane Flare					

Listed TAP (HAP)	PM	CAS #	Maximum Daily HAP & TAP Calculated Emission Rates, Averaged Over 24 Hrs (lb/hr)	585 Screening Emission Levels (EL) (lb/hr)	Exceeds EL?
Nitrogen Oxides (NOx)		10024-97-2	0.024	6	No

Carcinogenic TAP Emissions

No carcinogenic TAP are in the coatings and abrasive media, and No carcinogenic TAP are from the flare operation.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility as submitted by the applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 6 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

HAP	PTE Ton/Yr
Xylene	6.84
Toluene	3.13
Ethyl Benzene	0.72
Methyl Ethyl Keytone	0.35
Methanol	3.92
Hexamethylene Disocyanate	0.0028
Total HAP	**14.95**

Ambient Air Quality Impact Analyses

As presented in Table 4 of the SOB, the facility's PTE is below regulatory concern (BRC) for PM_{10}, $PM_{2.5}$, SO_2, NO_X, and CO as the PTE is below 10% of the respective significant level as defined in IDAPA 58.01.01.006. According to the State of Idaho Air Quality Modeling Guideline[1], modeling is not required for these air pollutants.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Twin Falls County, which is designated as attainment or unclassifiable for $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAP (Total Hazardous Air Pollutants) Only:

A = Use when any one HAP has actual or potential emissions $\geq$10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions $\geq$ 25 T/yr.

[1] Criteria pollutant thresholds in Table 2, State of Idaho Guideline for Performing Air Quality Impact Analyses, Doc ID AQ-011, September 2013.

SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits ≥ 8 T/yr of a single HAP or ≥ 20 T/yr of THAP.

SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.

B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold

UNK = Class is unknown

For All Other Pollutants:

A = Actual or potential emissions of a pollutant are ≥ 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ≥ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.

B = Actual and potential emissions are < 100 T/yr without permit restrictions.

UNK = Class is unknown.

Table 7 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM/PM_{10}	19.29	0.039	**100**	B
$PM_{2.5}$	15.36	0.036	**100**	B
SO_2	6.33E-04	6.33E-04	**100**	B
NO_X	0.55	0.55	**100**	B
CO	0.32	0.32	**100**	B
VOC	52.35	37.31	**100**	B
Max. HAP (single)	9.6	6.84	**10**	B
HAP (Total)	20.94	14.95	**25**	

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 .....Permit to Construct Required

This is an existing facility constructed without first obtaining a PTC. The facility and DEQ entered into a consent order that required the facility to apply for a PTC for the existing unpermitted facility. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625.....Visible Emissions

The sources of PM emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 2.3.

IDAPA 58.01.01.775-776.....Rules for the Control of Odors

The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to

the atmosphere in such quantities as to cause air pollution. This requirement is assured by Permit Conditions 2.2.

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

IDAPA 58.01.01.301 .....Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for criteria pollutants or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006, and the requirements of IDAPA 58.01.01.301 do not apply.

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), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is not subject to any NSPS requirements.

NESHAP Applicability (40 CFR 61)

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

MACT Applicability (40 CFR 63)

Applicable

40 CFR 63 Subpart HHHHHH NESHAP for Paint Stripping and Misc Surface Coating Operations at Area Sources

§63.11170 Am I subject to this subpart?

(a) You are subject to this subpart if you operate an area source of HAP as defined in paragraph (b) of this section, including sources that are part of a tribal, local, State, or Federal facility and you perform one or more of the activities in paragraphs (a)(1) through (3) of this section:

(1) Perform paint stripping using MeCl for the removal of dried paint (including, but not limited to, paint, enamel, varnish, shellac, and lacquer) from wood, metal, plastic, and other substrates.

(2) 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, and mobile repair and refinishing operations that travel to the customer's location, except spray coating applications that meet the definition of facility maintenance in §63.11180. However, if you are the owner or operator of a motor vehicle or mobile equipment surface coating operation, you may petition the Administrator for an exemption from this subpart if you can demonstrate, to the satisfaction of the Administrator, that you spray apply no coatings that contain the target HAP, as defined in §63.11180. Petitions must include a description of the coatings that you spray apply and your certification that you do not spray apply any coatings containing the target HAP. If circumstances

change such that you intend to spray apply coatings containing the target HAP, you must submit the initial notification required by 63.11175 and comply with the requirements of this subpart.

(3) Perform spray application of coatings that contain the target HAP, as defined in §63.11180, to a plastic and/or metal substrate on a part or product, except spray coating applications that meet the definition of facility maintenance or space vehicle in §63.11180.

(b) An area source of HAP 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. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year, or emit any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year.

Analysis: The facility is subject to 40 CFR 63 Subpart HHHHHH because it is an area source for HAP and perform spray application of coatings to mobile equipment as defined in 40 CFR 63.11180, such as trailers. Currently the painting materials do not contain targeted HAP, the permittee may petition the Administrator for an exemption from this subpart

EPA is the administrator for this subpart at the time of this permit issuance.

Non-applicability

40 CFR 63 Subpart MMMM - NESHAP for Surface Coating of Misc. Metal Parts and Products

§63.3881 Am I subject to this subpart?

...

(b) You are subject to this subpart if you own or operate a new, reconstructed, or existing affected source, as defined in §63.3882, that uses 946 liters (250 gallons (gal)) per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of miscellaneous metal parts and products defined in paragraph (a) of this section; and that is a major source, is located at a major source, or is part of a major source of emissions of HAP. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year or any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year. You do not need to include coatings that meet the definition of non-HAP coating contained in §63.3981 in determining whether you use 946 liters (250 gal) per year, or more, of coatings in the surface coating of miscellaneous metal parts and products.

Analysis: the facility does not emit or have the potential to emit 10 tons or more per year of any single HAP or 25 tons or more per year of all HAP combined. Therefore it is not a major source of HAP. Therefore, 40 CFR 63 Subpart MMMM does not apply.

Subpart XXXXXX—National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

§63.11514 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate an area source that is primarily engaged in the operations in one of the nine source categories listed in paragraphs (a)(1) through (9) of this section. Descriptions of these source categories are shown in Table 1 of this subpart. "Primarily engaged" is defined in §63.11522, "What definitions apply to this subpart?"

(1) Electrical and Electronic Equipment Finishing Operations;

(2) Fabricated Metal Products;

(3) Fabricated Plate Work (Boiler Shops);

(4) Fabricated Structural Metal Manufacturing;

(5) Heating Equipment, except Electric;

(6) Industrial Machinery and Equipment Finishing Operations;

(7) Iron and Steel Forging;

(8) Primary Metal Products Manufacturing; and

(9) Valves and Pipe Fittings.

Analysis: the facility is not subject to this subpart because it is not primarily engaged in the operations in one of the nine source categories listed above.

Permit Conditions Review

This section describes the permit conditions for this initial permit.

SECTION 1 PERMIT SCOPE

Permit Condition 1.1 states the purpose of this permitting action.

Table 1.1 lists the emissions sources regulated in this permit.

SECTION 2 FACILITY-WIDE CONDITIONS

Permit Condition 2.1 requires the facility to reasonably control fugitive emissions.

Permit Condition 2.2 requires the facility to reasonably control odors.

Permit Condition 2.3 requires the facility to comply with the 20% opacity limit.

Permit Condition 2.4 requires the facility to comply with open burning requirements.

Permit Condition 2.5 requires the facility to comply with reporting requirements.

Permit Condition 2.6 is a standard permit condition if the facility is affected by federal regulations.

SECTION 3 SURFACE PREPARATION (BLASTING)

Permit Conditions 3.1, 3.2 and Table 3.1 describe the blasting operation process and its control.

Permit Condition 3.3 establishes the daily and annual throughput limits that used in the EI. Together with other permit requirements, they keep particulate emissions below regulatory concern (BRC) to avoid $PM_{10}/PM_{2.5}$ modeling requirement and to keep particulate TAP emissions below ELs.

Permit Condition 3.4 specifies that the blasting media shall not have HAP as defined in Clear Air Act. That is consistent with the EI calculations.

Permit Conditions 3.5 and 3.6 specify controls that are used in the EI to keep particulate emissions BRC to avoid $PM_{10}/PM_{2.5}$ modeling requirement and to keep particulate TAP emissions below ELs.

Permit Conditions 3.7, 3.8, and 3.9 are corresponding monitoring requirements to ensure compliance with Permit Conditions 3.3 to 3.6.

Permit Condition 3.10 is a standard permit condition for filter systems taken from DEQ's internal guidance.

SECTION 4 COATING OPERATION/PAINT SPRAY BOOTH

The applicant has proposed the following:

- Install a paint booth with filter system to remove particulate matters in the overspray. Two filter systems in series, each with 98% control, are proposed. The calculated overall control efficiency of (1-(1-98%)(1-98%)) = 99.96% is used in the EI calculation.
- The spray guns continue to have 65% or higher material transfer efficiency.
- The proposed total paint throughput of (58 gal/wk) / (5 days/wk) = 11.6 gal/day is used in EI calculation. The maximum operating hours 8 hr/day (due to logistical operations, such as loading and unloading tanks), 5 days/week, 52 wk/yr or 2,080 paint hours per year are used for post project PTE calculation.

PM

The applicant used the maximum solid mass percentage, 89 wt%, of all six paints and the maximum density, 24.71 pounds per gallon, lb/gal, of all six paints to estimate the particulate emissions. For particulate emissions, the facility can use any paint as long as the PM content in paint does not exceed 89% x 24.71 lb/gal = 22 lb/gal.

VOC

The EI spreadsheet used the maximum VOC wt%, 100%, of all six paints and maximum density, 24.71 lb/gal, of all six paints to estimate the VOC emissions. For VOC emissions, the facility can use any paint as long as the VOC content in the paint does not exceed 100% x 24.71 lb/gal = 24.71 lb/gal.

HAP

The applicant originally multiplied the maximum xylene wt%, 56%, of the four paints containing xylene and the maximum density, 10.80 lb/gal, of the four paints to estimate xylene emissions. This over conservative emission estimation method showed that the uncontrolled xylene emissions are greater than 10 T/yr. Therefore, a more realistic emission calculation method is used in the revised EI submitted on 1/28/2016. That is using the maximum xylene content of the four paint materials containing xylene, in lb/gal, calculated as max (the xylene wt% multiplying the corresponding paint density)$_{i=1 \text{ to } 4}$, to estimate xylene emissions. The uncontrolled xylene emissions are below 10 T/yr and the controlled xylene emissions are below 8 T/yr.

TAP

For TAP that are not HAP, the applicant estimated their emissions using the actual data of the six paints, such as their daily usage, TAP wt%, paint density, to demonstrate compliance with the standards. When assuming weekly throughput of 58 gal/week used up in one day, all TAP emissions are still way below their respective ELs. Therefore, weekly throughput monitoring is used in the permit rather than daily monitoring, and TAP content is not specifically limited in the permit.

The following permit conditions reflect the assumptions and throughput limits used in the EI calculations.

Permit Conditions 4.1, 4.2 and Table 4.1 describe the coating operation and its control.

Permit Condition 4.3 establishes the daily throughput limit that used in the emissions estimations by the applicant. Together with other permit requirements, the throughput limit keeps particulate emissions BRC to avoid $PM_{10}/PM_{2.5}$ modeling, TAP emissions below ELs, HAP emissions below major source thresholds, and VOC emissions below major source threshold. The annual throughput limit is not necessary as it is inherently limited by the weekly throughput limit.

It is assumed in the EI that the weekly limit of 58 gallons of all paint materials combined is consumed in a day. The calculated TAP emissions based on that assumption are well below the respective ELs. Therefore, only weekly throughput limit is required.

Permit Condition 4.4 specifies the coating materials. The specifications reflect the assumptions and emissions calculations used in the EI. Together with other permit requirements, the permit condition keeps particulate emissions BRC to avoid $PM_{10}/PM_{2.5}$ modeling, TAP emissions below ELs, HAP emissions below major source thresholds, and VOC emissions below major source threshold. The components of the listed paint materials can be found in the "VOC PM HAP & TAP Layout" worksheet of Appendix A.

Permit Condition 4.5 specifies controls that are used in the EI to keep particulate emissions BRC to avoid $PM_{10}/PM_{2.5}$ modeling and to keep particulate TAP emissions below ELs.

Permit Conditions 4.6, 4.7, 4.8 are corresponding monitoring requirements to ensure compliance with Permit Conditions 4.3 to 4.5.

Permit Condition 4.9 is a standard permit condition for filter systems taken from DEQ's internal guidance.

Permit Condition 4.10 states that the permittee is subject to 40 CFR 63 Subpart HHHHHH because it is an area source for HAP and perform spray application of coatings to mobile equipment as defined in 40 CFR 63.11180, such as trailers. However, currently the paints do not contain targeted HAP, the permittee may petition the Administrator for an exemption from this subpart. EPA is the Administrator for the subpart at the time of the permit issuance.

SECTION 5 GENERAL PROVISIONS

The general provisions are taken from the current PTC template.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

	B	C	D	E	F	G	H	I	J	K	L	M	N
12	Days/Yr		Avg Period in Hr's										
13	365		24					= linked cell					
14													
15	**Blasting** Hrs/Yr	Blasting Days/Yr		Blasting, Control #1 Efficiency Factor	Blasting, Control #2 Efficiency Factor	TAP overall blasting CE:							
16	2080	260		99.80%	0%	99.80%							
17													
18													
19	**Coating Operations - EI Summary**												
20													
21	POST PROJECT HOURLY & ANNUAL PM10 & PM2.5 POTENTIAL TO EMIT - COATING OPERATION												
22									PM10		PM2.5		
23	Coating Material		Daily Coating Use Gal/Day	Annual Coating Use Ton/Yr	Max. paint Density Lbs/Gal	Paint Spray Gun TE (%)	Booth Particulate Filters CE #1 %	Booth Particulate Filters CE #2 %	Hourly PM10 Emissions Lbs PM10 / Hr	Annual PM 10 Emissions Ton PM10 / Yr	Hourly Pm2.5 Emissions Lbs PM2.5 / Hr	Annual PM2.5 Emissions Ton PM2.5 / Yr	
24	Pre-Treatment wash primer, primer, topcoat clear, reducer, and hardener combined		11.60	20.4	24.71	65.00%	98.00%	98.00%	0.004	0.005	0.004	0.004	
25													
26													
27		Daily coating use was determined by using the worksheets in this workbook - see adjacent TABs below.											
28		Annual coating use is assumed to be daily coating use multiplied by 365 days per year.											
29		The density of the paint was assumed to be the highest available **for VOC estimation.**											
30		65% TE											
31		98% CE Control #1 & 98% CE Control #2											
32		PM10 X 92.5% = PM2.5											
33		(source: the available worksheets and supporting documentation in this workbook)											
34													
35													
36	POST PROJECT HOURLY AND ANNUAL VOC Potential To Emit For Coating Operations												
37													
38	Coating Material		Daily Coating Use Gal/Day	Annual Coating Use Gal/lYr	VOC Content Lbs VOC/Gal	Hourly Voc Emissions Lbs Voc/Hr	Annual VOC Emissions Ton VOC/Yr						
39	topcoat clear, reducer, and hardener combined		11.60	3,017	24.71	35.8	37.3						
40													
41													
42	Daily coating use was determined by using the worksheets in this workbook - see TABs adjacent to this TAB below.												
43	Annual coating use is assumed to be daily coating use multiplied by 365 days per year.												
44	The VOC Content of the paint is assumed to be 100% VOC (DEQ Assumption for worst case where thinner is used in the spray ready Mix.												
45													
46	**Uncontrolled emissions are based on 8 Hr x 7 Days x 52 weeks = 2,912 .**												
47	All coating operations occur during this time.												
48	There are logistical operations: unloading 1 tank at a time from blast cabinet, & loading the paint booth,								These two description lines have been revised to reflect new design.				
49	dry time in the booth & unloading the booth; and repeat the process for each individual tank.												
50	Given this non painting time spent during normal business hours, the figure of **2912** hours was considered to be the worst-case												
51	maximum hours during which emissions could occur.												
52													

	B	C	D	E	F	G	H	I	J	K	L	M	N
53	Therefore uncontrolled PM10 Emissions from the coating operations are calculated using the annual PTE as calculated using 2912 hours and												
54	backing out the control efficiency of the filter system.												
55													
56	Uncontrolled Annual PM10 Emissions				16.3	Ton / Yr	16.3						
57	Uncontrolled Annual PM2.5 Emissions				15.0	Ton / Yr	15.0						
58	Uncontrolled Annual VOC Emissions				52.2	Ton / Yr							
59	Note:	VOC PTE = UnCtrl Annual VOC's											
78													
79													
80													
81	**Propane Flare - EI Summary**												
82													
83	PROPANE FLARE: POST PROJECT HOURLY AND ANNUAL POTENTIAL TO EMIT FOR CRITEIA POLLUTANTS												
84	WHEN COMBUSTING PROPANE GAS												
85													
86	Emission Unit	Rated Heat Input MMBtu/Hr	Annual Hours Of Operation	Criteria Pollutant	Emission Factors Lb/MMBtu	Hourly Emissions Lb /Hr	Annual Emissions Ton / Yr						
87													
88	Propane Flare	8.8772E-01	8760	PM10, PM2.5	7.66E-03	6.80E-03	2.98E-02						
89				SO2	1.63E-04	1.45E-04	6.33E-04						
90				NOx (TAP)	1.42E-01	1.26E-01	5.53E-01						
91				CO	8.20E-02	7.28E-02	3.19E-01						
92				VOC	1.09E-02	9.70E-03	4.25E-02						
93				Pb		na	na						
94													
97													
98													
99	**Abrasive Blasting - EI Summary**												
100													
101	POST PROJECT HOURLY & ANNUAL PM10 & PM2.5 POTENTIAL TO EMIT - ABRASIVE BLASTING OPERATION												
102													
103	Dry Abrasive Blasting		Abrasive Media Consumed Lbs/Day	Annual Media Use Ton/Yr	PM10 Emission Factor in Lbs of PM10 for Every 1000 Lbs of Media	PM2.5 Emission Factor in Lbs of PM2.5 for Every 1000 Lbs of Media	Hourly PM10 Emissions Lbs PM10 / Hr	Annual PM 10 Emissions Ton PM10 / Yr	Hourly Pm2.5 Emissions Lbs PM2.5 / Hr	Annual PM2.5 Emissions Ton PM2.5 / Yr			
104			1272	165.4	13.00	1.30	0.00413	0.00430	0.000413	0.000430			
105													
106		Daily media use was taken from worksheets in the Blasting Emissions Workbook.											
107		Emissions calculated using emission factors from AP 42.											
108		Annual Media use is assumed to be Hourly Media Use X Annual Blasting Hours.					Can use annual media throughput limit in the permit if need to.						
109		99.80% CE Control #1		0% CE Control #2			The CE cells in this row have been linked to the Blasting Workbook, 'Post PTC Blast EI'						
110		PM10 X 92.5% = PM2.5											
111		(source: the available worksheets and supporting documentation in this workbook)											
112													
113	**Abrasive Blasting HAPS Emissions**												
114	NO HAPS												

END of EI Summary Section

Statement of Basis Tables

Emissions Units and Control Equipment

Table 1.

Source ID No.	Sources	Control Equipment
EP1	<u>January 2016 - Paint Spray Booth(s) and/or Preparation Station:</u> Manufacturer: Col-Met Engineered Finishing Solutions Model: Model EIB 12-08-26-PT Note: the number of booths installed at the facility is not limited by this permit. <u>Spray Material</u> Spray material used: Epoxy Coatings Material coated: Steel Total materials usage permit limit: 58 gal/week, <u>Coating spray gun(s):</u> Manufacturer(s): Grace Model(s): Magnum ports 19/Pro LTS 19 Type: Airless Rated Capacity: 0.38 gal/min Transfer Efficiency: 65% or greater	<u>January 2016 - Paint Spray Booth(s) and/or Preparation Station Filter System:</u> Booth Type(s): special floor style, non-pressurized, industrial dry filter cross flow paint spray booth. Particulate Filtration Method: dry filter. Paint Booth Dimensions: 26' X 12' X 8'. Exhaust System: 30" tube axial in-line exhaust fan (9,600 CFM @ ½ static pressure). Exhaust Chamber: industrial style exhaust chamber with two (2), 20" x 20" x 2" filter cells. Filter Manufacturer(s): Exhaust filters are a fiberglass 'paint arrestor pad' made specifically for the collection of paint overspray. Filters are UL rated Class 2, with a CE of 98%. $PM/PM_{10}/PM_{2.5}$ Control Efficiency (CE): Booth particulate filters CE #1 %: 98% or greater Booth particulate filters CE #2 %: 98% or greater OR Overall $PM/PM_{10}/PM_{2.5}$ Control Efficiency: **99.96% or greater**
NA	<u>Fully enclosed blasting cabinet for surface preparation of 500-gallon or smaller propane tanks.</u>	<u>Four nanofiber media cartridges have total control efficiency of 99.999%, down to one micron.</u>
EP2	<u>Existing blasting room for surface preparation of equipment larger than a 500-gallon propane tank.</u> <u>Sand Blaster</u> Manufacturer(s): Pirate Brand Model(s): 6.5 cu ft SPR Series Rated Capacity: 3,000 lb/hr <u>Blasting Media</u> Blasting media used: crushed glass Crushed glass usage permit limits: 1,272 lbs/day 330,720 lb/yr	<u>Jan 2016 - Dry Abrasive Blast Room Filter System:</u> Cartridge Style Dust Collection System Manufacturer: AM -14983 Model: # FFBW Each of the three (3) units contains 6 High efficiency cartridge filters, with CE 99.8%. Cartridge Dimension: 26" x 12.75" OD x 8.375" ID (1). Blasting Room Dimensions: 20' X 80' X 10' scfm rating 4500 X (3) = 13,500 scfm for blast room. $PM/PM_{10}/PM_{2.5}$ - Particulate filter Control Efficiency (CE): **99.8% down to .5 micron.**
EP3	<u>Propane Flare:</u> Manufacturer: owner constructed Manufacture Date: August 2007 Heat Input Rating: 877,716 Btu/hr Fuel: propane	None

	B	C	D	E	F	G	H	I	J	K	L	M	N
190	**UNCONTROLLED POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS**												
191	Table 2												
192	UNCONTROLLED POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS												
193											These two cells below for Uncontrolled PM10 & 2.5 are replacement for E136 and F136		
194	Emissions Unit			PM10	PM2.5	SO2	NOx	CO	VOC				
195				Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr				
196	EP 1 Paint Spray Booth, Prep Station			16.25	15.03				52.17		Pm10 & Pm2.5 Ton/Yr Blasting: Calculated as, Lb/Hr X 2912 Hr. See Blast Workbook Post PTC Crtr Polut & HAPs' - K10 & K11		
197	EP 2 Abrasive Blasting Room Exhaust			3.01	0.30						3.01	0.30	
198	EP 3 Propane Flare			0.030	0.030	6.33E-04	0.55	0.32	0.042				
199	Totals			19.29	15.36	6.33E-04	0.55	0.32	52.21				
200													
201	Uncontrolled Potential To Emit is based on a worst-case for operation of the facility and STD Annual Hours of operation **x (7 day/wk) / (5 day/wk).**												
202	**Coating:** Worst case Hrs of operation: 8 Hours per day X 260 Days /Yr, in the case of Painting Operations = 2080 Hrs/Yr X 7 Days /5 days or 2912 hours.												
203	**Blasting:** Worst case Hrs of operation: 2912 Hrs.			Actual Hrs Operation	Hrs/Day	8	Days/Yr	260					
204	**Flare:** Worst case Hrs of operation: **Per SC: 8,760 hr/yr is used for propane. It makes no significant difference in emissions.**												
205													
206	Then the worst case maximum Potential to Emit was determined for the operation.												
207													
208													
209	**UNCONNTROLLED POTENTIAL TO EMIT FOR HAPS**												
210	Table 3												
211	UNCONNTROLLED POTENTIAL TO EMIT FOR HAPS			See Note 1a:									
212													
213	HAP's		UnControlled PTE for HAP's	UnControlled PTE for HAP's									
214	Xylene		9.6	9.6									
215	Toluene		4.4	4.4									
216	Methanol		5.5	5.5									
217	Ethyl Benzene		1.0	1.002									
218	Methyl Ethyl Keytone		0.49	0.49									
219	Hexamethylene Disocyanate		0.004	0.004									
220	Worst Case HAPS SUM Tons/Yr		20.99	20.94									
221	Note 1: For uncontrolled PTE calculation in the above uncontrolled PTE HAP table, 260 days/yr is corrected to be 365 days/yr as it needs to be based worst-case maximum.												
222	Note 1a: For uncontrolled PTE calculation in the above uncontrolled PTE HAP table, is taken from 'Coating Critera Polut HAP"s Sum' U39..U44 and is based on worst-case maximum.												
223	**Pre-Project Potential to Emit**												

	B	C	D	E	F	G	H	I	J	K	L	M	N
224													
225	The Pre-project Potential to Emit is used to establish the change in emission at a facility as a result of this project.												
226	This is an existing facility. However, since this is the first time the facility is receiving a permit, pre-project emissions are set to zero for all criteria pollutants.												
227													
228													
229	**Post Project Potential to Emit**												
230													
231	Post project Potential to Emit is used to establish the change in emissions at the facility and to determine the facility's classification as a result of this project.												
232	The following table presents the post project Potential to Emit for Criteria Pollutants from all emissions units at the facility.												
233	Table 4												
234	POST PROJECT POTENTIAL TO EMIT FOR CRITERIA POLLUTANTS												
235													
236		PM10		PM2.5		SO2		NOx		CO		VOC	
237	Emissions Unit	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr
239	EP 1 Paint Booth	4.46E-03	4.64E-03	4.13E-03	6.01E-03							35.8	37.3
240	EP 2 Blast Room	4.13E-03	4.30E-03	4.13E-04	4.30E-04								
241	EP3 Propane Flare	6.80E-03	2.98E-02	6.80E-03	2.98E-02	1.45E-04	6.33E-04	1.26E-01	5.53E-01	7.28E-02	3.19E-01	9.70E-03	4.25E-02
242	Totals	1.54E-02	0.039	1.13E-02	0.036	1.45E-04	6.33E-04	0.13	0.55	0.07	0.32	35.84	37.31
243			<BRC		<BRC		<BRC		<BRC		<BRC		>BRC
244	BRC (10% of significant)		1.5		1		4		4		10		4
256													
257													
258	**Facility Wide TAP Emissions for Coating, Abrasive Blasting, and Propane Flare**												
259	Table 5												
260	TAP Emissions for Coating, Abrasive Blasting, and Propane Flare												
261													
262	Listed TAP (HAP)	PM	CAS #	Maximum Daily HAP & TAP Calculated Emission Rates, Averaged over 24 Hrs Lbs/Hr	585 EL's - Lbs/Hr	Exceeds EL?	% of EL						
263	Facility Wide TAPs - Painting												
264	Xylene (HAP)		1330-20-7	0.79	29	No	2.71%						
265	N-Butyl Acetate		123-86-4	0.02	47.3	No	0.04%						
266	Toluene (HAP)		108-88-3	0.51	25	No	2.04%						
267	Methanol (HAP)		67-56-1	0.10	17.3	No	0.58%						
268	Acetone		67-64-1	0.04	119	No	0.03%						
269	1-Methoxy-2 -Propanol Acetate		108-65-6	0.10	24	No	0.43%						
270	Ethyl Benzene (HAP)		100-41-4	0.08	29	No	0.29%						
271	Stoddard Solvent		8052-41-3	0.08	35	No	0.22%						
272	Isoproponal		67-63-0	0.05	65.3	No	0.08%						
273	Methyl Amyl Ketone		110-43-0	0.00070	15.7	No	0.00%						
274	Methyl Ethyl Keytone (HAP)		78-93-3	0.03	39.3	No	0.07%						

	B	C	D	E	F	G	H	I	J	K	L	M	N
275	N-Butanol		71-36-3	0.03	10	No	0.26%						
276	Ethyl Acetate		141-78-6	0.00032	93.3	No	0.00%						
277	Zinc (dust or fume)	PM	7440-66-6	0.00028	0.667	No	0.04%						
278	Carbon Black	PM	1333-86-4	2.2606E-05	0.23	No	0.01%						
279	Zinc Oxide	PM	1314-13-2	2.8372E-06	0.677	No	0.00%						
280	Microcrystalline Silica Coating	PM	14808-60-7	0.001136	0.0067	No	16.96%						
281	Microcrystalline Silica Blasting *												
282	Facility Wide TAPs Continued - Blasting												
283	Calcium Oxide (TAP)	1305-78-8	15.0%	1.59E-02	0.133	No	11.95%						
284	Aluminum Oxide (TAP)	7429-90-5	2.0%	2.12E-03	0.667	No	0.32%						
285	Magnesium Oxide (TAP)	1309-48-4	1.0%	1.06E-03	0.667	No	0.16%						
286	Iron Oxide (TAP)	1309-37-1	1.0%	1.06E-03	0.333	No	0.32%						
287	* Silicon Dioxide (TAP) This amount has been accounted for above	14808-60-7	1.0%	na	0.0067	na							
288	Facility Wide TAPs Continued - Propane Flare												
289	NITROGEN OXIDES (NOx)	10024-97-2		0.024	6	No	0.39%						
290													
291													
303	**Post Project HAP Emissions**												
304													
305	**CONTROLLED POTENTIAL TO EMIT FOR HAPS**												
306	The following table presents the post project potential to emit for HAP pollutants from all emissions units at the facility.												
307	Table 6.												
308	CONTROLLED POTENTIAL TO EMIT FOR HAPS												
309													
310	HAP's			PTE Ton/Yr									
311	Xylene			6.84									
312	Toluene			3.13									
313	Ethyl Benzene			0.72									
314	Methyl Ethyl Keytone			0.35									
315	Methanol			3.92									
316	Hexamethylene Disocyanate			0.0028									
317	Worst Case Std Hours		Total Hap	14.95									
318													

	B	C	D	E	F	G	H	I	J	K	L	M
359	From your letter of September 15th, 2015											
360	Subject: Reply for Facility ID # 053-00034											
361												
362	Question # 3.											
363												
364	**Updated - January 2016, Summary of Key Elements**											
365												
366			Throughputs				Controls			Operating Hours		
367			Gallons, Lbs & mmBTU's									
368			Daily	Weekly	Annual		Type	CE		Daily	Weekly	Annual
369												
370		Ep1					Fiber Filter #1	98%				
371		Gal	11.60	58	3017		Fiber Filter #2	98%		8	40	2,080
372												
373		Ep2					Fiber Filter #1	99.80%				
374		Lbs	1272	6360	330,720		Fiber Filter #2	0		8	40	2,080
375												
376		Ep3	4.27	21.36	1,110		na	na		4.7	23.5	1,222
377		mmBTU										
378												

	B	C	D	E	F	G	H	I	J	K	L	M
2	**2014-2015 - Actual Product Usage For 1 Work Day (Friday) Pre-PTC**											
3	**Post PTC - Painting Operations Will Occur Throughout The Week**											
4	**Labels Reflect Post PTC Operations**											
5												
6	Coating Product	Weekly Product Usage %	Weekly Product Usage Mixed Gal	Mix Ratio	Density Of Each Part For Unmixed Products Lbs/Gal	Density Of Each Part Contained In Mixed Product Lbs/Gal		Density For Mixed And 1 Part Products Lbs/Gal		Usage Of Each Product Or Mixed Part Lbs/Week		Weekly Gallons Total
7		(Note 1)	(Note 1)			(Notes 2,3,4)				(Note 5)		(Note 1)
8	**Lacquer Thinner SW R7K115**	8%	4.64	na				6.84		31.74		58
9												
10	**2025 Acrylic Mod Clear Base EN**	12%	6.73	na				7.79		52.41		Hours Per Day
11												8
12	**V 2153 Mid Coat Epoxy Primer**	23%	13.40	na				10.80		144.70		
13												Gal/Week
14	**Carbothane 134 HG**	34%	19.72					11.37		224.22		58
15	Part A		15.78	4	11.87	9.50				187.26		
16	Part B		3.94	1	9.35	1.87				36.88		Annual Gal
17												3,017
18	**Carbozinc 859**	23%	13.34					24.71		329.63		
19	Part A		5.89	na	10.53	4.65				62.03		
20	Part B		3.34	na	7.28	1.82				24.28		
21	Part C		4.11	na	59.2	18.23				243.19		Lbs/Week
22												784
23	**Imron 3.5 + Poly RF**	0.33%	0.19					8.64		1.64		
24	Part A		0.15	4	8.34	6.63				1.26		Ton / Yr
25	Part B		0.04	1	9.82	1.96				0.37		20.4
26												

	B	C	D	E	F	G	H	I	J	K	L	M
27												
28							**MAX Column I**	**24.71**				
29	**1 Week Totals**	**58**	**Gal**						**Total**	**784.3**	**Lbs**	
30	**Annual Totals**	**3017**	**Gal**							**40,785**	**Lbs**	
31												
32												
33												
34	**Notes Data from Manufacturer's SDS, MSDS, TDS, Air Quality Data Sheets, Tech Support Emails, & Owner Information**											
35												
36	**Note 1**											
37												
38	**A. Owner supplied information**											
39	The owner supplied paint usage by % figures.											
40	Owner supplied total gallons used based on experience and review of paint purchase records.											
41	Owner supplied clean up operations information: Type of solvent, number of gallons used for clean up and for thinning.											
42	**Solvent Product - *SW RK115*, Amount used for clean up - *all*, Amount used for thinning - *none*.**											
43	Owner supplied usage figures are expressed in 'spray ready' mixed product. Spray ready product is referred to as											
44	mixed product' throughout the workbook.											
45												
46	**B. Work Hours, typical production levels, product usage**											
47	Work hours at the facility are 8 Hr/Day, 5 Days/Week, 52 Weeks/Yr.											
48	An example operational week will result in 30, 500 gallon propane tanks being prepared and coated.											
49	Pre Construction - Typical surface coating usage is 40 gallons/week; single highest production day --> 53 gallons.											
50												
51	**C. Operational, Physical design limits for the facility**											
52	30 Tanks require 40 gallons to coat; 40 tanks would require 53 gallons.											
53	The current operational limits for the facility = 40 tanks per week.											
54	The figure of 53 Gal/Week is the pre-permit maximum design capacity of the facility.											
55	Post permit, with an array of new equipment installed, operators may be able to perform surface coating operations on											
56	some limited additional large equipment. Examples: assorted metal tanks, truck, trailer, equipment frames, large metal items.											
57	A figure of 58 Gallons per week will be used throughout the proposal to allow the operator a safety factor (10%) in the											
58	event the economy improves.											
59												
60	**D. Painting Equipment**											
61	Manufacturer: Graco Magnum proLTS 19											

	B	C	D	E	F	G	H	I	J	K	L	M
62	Transfer Efficiency: 65%											
63	***Rated Capacity: 0.38 Gal/Min***											
64												
65	**E. Work flow requirements, actual process at the facility - Pre Permit - 2014, 2015 Data**											
66	Work flow requirements, crew complement and production levels at the facility dictate preparations are made throughout											
67	the week, and all coating operations are accomplished on the same day each week - Friday.											
68												
69	**F. Historically, 2014 & 2015, Actual Emissions for 1 (one) work day are coincidently equal to actual emissions for 1 (one) week**											
71	**Pre Construction**											
72	All painting at the Aslett Ranch is done on Friday each week - All painting for the week is done in 1 (one) 8 hour work day.											
73	The actual facility painting emissions for a typical week are coincidently equal to the actual painting emissions											
74	for the 1 (one) 8 hour production day.											
76	For this proposal in calculating emissions, a normal work schedule was used. 8 Hrs X 5 days X 52 Weeks = 2080 Hrs/ Yr											
78	**Post Construction**											
79	The new paint booth will accommodate seven (7), 500 gallon tanks at one time. The work crew will be preparing tanks,											
80	painting, and drying, while moving in and out of the booth, throughout the week.											
81												
82	**Note 2**											
84	**Carbothane 134 HG (manufacturer supplied mixed density information see AQD sheets)**											
85	The Mix Ratio In This 2 Component Product Is: 4 parts A to 1 part B.											
86	The Density of Part A is 11.87 Lbs/Gal, the Density of Part B is 9.35 Lbs/Gal.											
88	5 Gallons of Mixed Product Has (4 Gal of Part A x Density of Part A 11.87 Lb/Gal)/5 = **9.49 Lbs of Part A in 1 Gallon of Mixed Product.**											
89	5 Gallons of Mixed Product Has (1 Gal of Part B x Density of Part B 9.35 Lb/Gal)/5 = **1.87 Lbs of Part B in 1 Gallon of Mixed Product.**											
90												
91	Ethyl Benzene content, mixed product: 9.49 Lbs of Part A / Gal, Wt % of Ethel Benzene in Part A = 5%											
92				9.49	x	5%	=	0.47	Lbs of Ethel Benzene/Gal			
93	Hexamethylene Disocyanate content, mixed product: 1.87 Lbs of Part B /Gal, Wt % of Hexamethylene Disocyanate in Part B = .1%											
94				1.87	x	0.1%	=	0.0019	Lbs of Hexamethylene Disocyanate/Gal			
95												
96	**Note 3**											
98	**Carbozinc 859 (manufacturer supplied mixed density information)**											
99	4 Gallon Kit Contains --> Part A-1.770 Gal of CZ 859 (Color 0700) , Part B-1.0 Gal CZ 859 Primer, Part C-1.233 Gal Zinc Dust Type II.											
100	The Density of Part A is 10.53 Lb/Gal, the Density of Part B is 7.28 Lb/Gal, the Density of Part C is 59.20 Lb/Gal											
101	The Mixed Product Density is 24.71 lb/Gal.											

	B	C	D	E	F	G	H	I	J	K	L	M
102												
103	4 Gallons of Mixed Carbozinc Has (1.77 Gal of Part A x Density of Part A 10.53 Lb/Gal)/4 = **4.65 Lbs of Part A in 1 Gallon of Mixed Product**											
104	4 Gallons of Mixed Carbozinc Has (1 Gal of Part B x Density of Part B 7.28)/4 = **1.82 Lbs of Part B in 1 Gallon of Mixed Product**											
105	4 Gallons of Mixed Carbozinc Has (1.233 Gal of Part C x Density of Part C)/4 = **18.24 Lbs of Part C in 1 Gallon of Mixed Product.**											
106												
107												
108	Toluene content, mixed product: 4.65 Lbs Part A/Gal, Toluene Wt % of Part A = 25% -->											
109				4.65	x	25%	=	1.16	Lbs of Toluene/Mixed Gal, Part A			
110	Toluene content, mixed product: 1.82 Lbs of Part B/Gal, Toluene Wt % of Part B = 50% -->											
111				1.82	x	50%	=	0.91	Lbs of Toluene/Mixed Gal, Part B			
112								2.07	Lbs of Toluene/Mixed Gal - SUM			
113												
114	Methyl Ethyl Keytone content, mixed product: 4.65 Lbs Part A/Gal, Methyl Ethyl Keytone Wt % of Part A = 5% -->											
115				4.65	x	5%	=	0.23	Lbs of Methyl Ethyl Keytone/Mixed Gal			
116												
117												
118	**Note 4**											
119												
120	**A. Imron 3.5 + Poly RF (from SDS)**											
121												
122	The Mix ratio in this 2 component product is 4 parts A to 1 part B.											
123												
124	**Part A**											
125	**The unmixed density: Part A is 8.34 Lbs/Gal**											
126	Wt % Solids = 50.95 %											
127	**Lbs of Solids** = (50.95% of 8.34 Lbs/Gal) = **4.24 Lbs/Gal**											
128												
129	Wt % Volatiles = 100 - Wt% Solids (50.95) = 49.95 %											
130	**Lbs of Volatiles** = (49.95% of 8.34 Lbs/Gal) = **4.16 Lbs/Gal**											
131	VOC ap = 3.9 Lbs/Gal from the SDS for Part A											
132												
133	**Part B**											
134	**The unmixed density: Part B is 9.82 Lbs/Gal.**											
135	Wt % Solids = 95%											
136	**Lbs of Solids** = (95% of 9.82 Lbs/Gal) = **9.33 Lbs/Gal**											
137												
138	Wt % Volatiles = 100 - Wt% Solids (95%) = 5%											
139	**Lbs of Volatiles** = (95% of 9.82 Lbs/Gal) = **.49 Lbs/Gal**											

	B	C	D	E	F	G	H	I	J	K	L	M
140												
141	**B. Mixed density of Parts A, B, calculations**											
142												
143	**A 5 Gallon Kit Contains** --> (Part A 8.34 Lbs/Gal x 4) = 33.36 lb & (Part B 9.82 Lbs/Gal x 1) = 9.82											
144	A 5 Gallon Kit contains --> 33.36 lb for 4 gal + 9.82 Lbs for 1 Gal = **43.18 Lbs of Mixed Material/5 Gal Kit**											
145												
146	**1 Gallon of Mixed Product Has:**											
147												
148	**Part A** (33.36) Lbs/Gal / 5 = **6.63 Lbs of Part A / Mixed Gal**											
149	**Part B** (9.82) Lbs/Gal / 5 = **1.96 Lbs of Part B / Mixed Gal**											
150												
151	SUM Part A & Part B = **8.64 Lbs/Mixed Gal**											
152	Check answer - the density for 1 gallon of mixed material (from above) is = 43.18 / 5 = 8.64 Lbs/Gal.											
153												
154	**C. Mixed Product Solids & VOC Calculations**											
155												
156	**The Mixed Density: 8.64 Lbs/Gal**											
157												
158	**Wt % Solids = 60.5%**											
159	**Lbs of Solids = 5.23 Lbs/Gal**											
160	(Part A 6.63 Lbs / 1 Mixed Gal) x (Part A Wt % Solids 50.95%) + (Part B 1.96 Lbs / 1 Mixed Gal) x Part B Wt % Solids 95%)											
161												
162	**Wt % Volatiles** = 100 - Wt% Solids (60.5%) = **39.5 %**											
163	**Lbs of Volatiles** = (Wt % Volatiles 39.5% x Mixed Density 8.64 Lbs/Gal) = **3.41 Lbs/Gal**											
164												
165	**Note 5**											
166	**Day Usage of each Product or mixed Part in Lbs/Day**											
167	This column shows the actual pounds of spray ready product 'out of the tip' of a typical spray gun at the											
168	facility - in 1 (one) work day.											
169	This column is referenced in the next spread sheet - 'Coating VOC PM HAP & TAP' Emissions Calculations.											
170	The figures in this column are BEFORE transfer efficiency (TE), and controls (CE) are applied to the figures.											

Coating Products: Actual Emissions For 1 (One), Week - Post PTC

	B	C	D	F	G	H	J	K	M	N	O	P	Q	S	T	V	W
4	Usage			VOC's					Particulate Emissions							Control	
5	'Spray Ready' Mixed Material				Total VOC's		Individual TAP/HAP & VOC's		Individual TAP/HAP Particulate				Transfer Efficiency	65.00%		Control #1 Efficiency	98%
6	Product & Listed TAP/HAP	CAS Number	Usage Of Each Product Or Mixed Part In Lbs/Wk	% VOC By Weight	VOC Lbs/Gal	VOC Lbs/Wk	Individual TAP/HAP Density As A % Of The Part	TAP/HAP 'Out Of The Spray Tip' Lbs/Wk	% Solids By Weight	Solids Lbs/Gal	Total PM 'Out Of The Spray Tip' Lbs/Wk	Individual TAP/HAP Density As A % Of The Part	Individual TAP/HAP 'Out Of The Spray Tip' Lbs/Wk	TE Factor	PM Emissions W/O CONTROLS Lbs/Wk	CE Factor	Emissions AFTER CONTROL #1 Lbs/Wk
7																	
8	**Lacquer Thinner SW R7K115**		31.74	100%	6.84	31.74											
9																	
10	TAP																
11	Toulene	108-88-3					47.0%	14.92									
12	Methanol	67-56-1					38.0%	12.06									
13	Acetone	67-64-1					15.0%	4.76									
14																	
15	HAP																
16	Toulene	108-88-3					47.0%	14.92									
17	Methanol	67-56-1					38.0%	12.06									
18								26.98									
19	**2025 Acrylic Mod Clear Base EN**		52.41	57%	4.45	29.87			43%	3.35	22.54			0.35	7.89	0.02	0.1578
20																	
21	TAP																
22	Xylene	1330-20-7					56.0%	29.35									
23																	
24	HAP																
25	Xylene	1330-20-7					56.0%	29.35									
26																	
27	**V 2153 Mid Coat Epoxy Primer**		144.70	32.27%	3.49	46.69			67.73%	7.31	98.00			0.35	34.30	0.02	0.6860
28																	
29	TAP																
30	Xylene	1330-20-7					42.0%	60.77									
31																	
32	HAP																
33	Xylene	1330-20-7					42.0%	60.77									
34																	
35	**Carbothane 134 HG**		224.22	19.10%	2.17	42.83			80.09%	9.20	179.57			0.35	62.85	0.02	1.2570
36																	
37	Part A		187.26														
38	TAP																

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
39	Microcrystalline Silica	14808-60-7													35%	65.54		0.35	22.94		0.02	0.4588
40	Toluene	108-88-3							10.0%	18.73												
41	Carbon Black	1333-86-4													10%	18.73		0.35	6.55		0.02	0.1311
42	Ethyl Benzene	100-41-4							5.0%	9.36												
43	1-Methoxy-2 -Propanol Acetate	108-65-6							5.0%	9.36												
44	Stoddard Solvent	8052-41-3							5.0%	9.36												
45																						
46	HAP																					
47	Toluene	108-88-3							10.0%	18.73												
48	Meta-Xylene	1330-20-7							5.0%	9.36												
49	Ethyl Benzene	100-41-4							5.0%	9.36												
50	Para-Xylene	106-42-3							5.0%	9.36												
51	Ortho-Xylene	95-47--6							5.0%	9.36												
52										56.18												
53	**Part B**		36.88																			
54	TAP																					
55	N-Butyl Acetate	123-86-4							5.0%	1.84												
56																						
57	HAP																					
58	Hexamethylene Disocyanate	822-06-0							0.1%	0.04												
59																						
60																						
61	**Carbozinc 859**		329.63		11.00%	2.72	36.26					89%	22.00	293.37				0.35	102.68		0.02	2.0536
62																						
63	**Part A**		62.03																			
64	TAP																					
65	Toluene	108-88-3							25.0%	15.51												
66	Methyl Ethyl Ketone	78-93-3							5.0%	3.10												
67	N-Butanol	71-36-3							5.0%	3.10												
68	1-Methoxy-2-Propanol Acetate	108-65-6							5.0%	3.10												
69	Meta-Xylene	1330-20-7							5.0%	3.10												
70	Carbon Black	1333-86-4													1%	0.62		0.35	0.22		0.02	0.0043
71	Ethyl Benzene	100-41-4							0.7%	0.43												
72																						
73	HAP																					
74	Toluene	108-88-3							25.0%	15.51												
75	Methyl Ethyl Ketone	78-93-3							5.0%	3.10												
76	Meta-Xylene	1330-20-7							5.0%	3.10												
77	Ethyl Benzene	100-41-4							0.7%	0.43												
78										22.15												
79	**Part B**		24.28																			
80	TAP																					
81	Toulene	108-88-3							50.0%	12.14												
82	Isoproponal	67-63-0							25.0%	6.07												
83	Meta-Xylene	1330-20-7							5.0%	1.21												
84	Ethyl Benzene	100-41-4							1.0%	0.24												
85																						
86																						

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
87	HAP																					
88	Toulene	108-88-3							50.0%	12.14												
89	Meta-Xylene	1330-20-7							5.0%	1.21												
90	Ethyl Benzene	100-41-4							1.0%	0.24												
91										13.60												
92	**Part C**		243.19																			
93	TAP																					
94	Zinc (dust or fume)	7440-66-6													100%	243.19		0.35	85.12		0.02	1.7023
95	Zinc Oxide	1314-13-2													1%	2.43		0.35	0.85		0.02	0.0170
96																						
97	HAP																					
98	no HAP																					
99																						
100	**Imron 3.5 + Poly RF**		1.64		39.50%	3.41	0.65					60.50%	5.23	0.99				0.35	0.35		0.02	0.0069
101																						
102	**Part A**		1.26																			
103	TAP																					
104	N-Butyl Acetate	123-86-4							28.1%	0.35												
105	Carbon Black	1333-86-4													2.40%	0.03		0.35	0.01		0.02	0.0002
106	Ethyl Acetate	141-78-6							3.1%	0.04												
107	Methyl Amyl Ketone	110-43-0							6.7%	0.08												
108										0.48												
109	HAP																					
110	no HAP																					
111																						
112																						
113	**Part B**		0.37																			
114	TAP																					
115	no TAP																					
116																						
117	HAP																					
118	no TAP																					
119																						
120	**Relevant Totals**						188.04												208			4.2
121																						

122			Max VOC %		Lbs/Gal For The Highest Density Paint Paint	Gal/Wk	MAX VOC Lbs/Hr			Hrs/Day		Days/Week		Max PM %	Lbs / Gal For That Paint	Gal / Week		Max PM Lbs / Hr				
123	**Worst Case, MAX VOC & PM**		100%		24.71	58.00	**35.8**			**8**		**5**		89%	24.71	58		**11**				
124			MAX VOC Lacquer Thinner SW R7K115											MAX PM Carbozinc 859								
125														max [(wt%) * (lb/gal of the paint)] =								
126																						

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
127			Max Xylene %		max Lbs/Gal of 4 Paints containing Xylene	Gal/Wk	**MAX Xylene Lbs/Hr**			Max Toluene Lbs/Mixed Gal			Gal/Wk	**MAX Toluene Lbs/Hr**		Max Ethyl Benzene Lbs/Mixed Gal		Gal/Wk	**MAX Ethyl Benzene Lbs/Hr**			
128			56%		10.80	58.00	6.6			2.07			58.00	3.0		0.47		58.00	0.69			
129			**MAX Xylene 2025 Acrylic Mod Clear Base EN**							**MAX Toluene Carbozinc 859**						**MAX Ethyl Benzene Carbothane 134 HG**						
130	**Worst Case, MAX HAPS**		max lb/gal xylene:		4.536	56%*10.80 =	6.048															
131																						
132			Max Methyl Ethyl Keytone Lbs/Mixed Gal		Gal/Wk	**MAX Methyl Ethyl Keytone Lbs/Hr**				Max Hexamethylene Disocyanate Lbs/Mixed Gal		Gal/Wk	**MAX Hexamethylene Disocyanate Lbs/Hr**		Max Methanol %	Lbs/Gal For That Paint		Gal/Wk	**MAX Methanol Lbs/Hr**			
133			0.23		58.00	**0.34**				0.0019		58.00	**0.0027**		38%	6.84		58.00	**3.8**			
134			**MAX Methyl Ethyl Keytone Carbozinc 859**							**MAX Hexamethylene Disocyanate Carbothane 134 HG**					**MAX Methanol Lacquer Thinner SW R7K115**							

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
2	Modified Automotive Coatings XLS from Idaho DEQ Air Website			The 5 Coating (+Thinner) Products Used - Aslett Ranch																														
3																																		
4	Weight Percentage Content Data			2025 Acrylic Mod Clear Base EN	Lacquer Thinner SW R7K115			V 2153 Mid Coat Epoxy Primer	Carbothane 134 HG						Carbothane 134 HG		Carbozinc 859														Imron 3.5 + Poly RF				
5									Part A						Part B		Part A							Part B				Part C		Part A				
6	Coating Material	Density (lb/gal)	Wt. % Solids	Xylene (HAP)	Toluene (HAP)	Methanol (HAP)	Acetone	Xylene (HAP)	Micro crystalline Silica	Toluene (HAP)	Carbon Black	Ethyl Benzene (HAP)	1-Methoxy-2-Propanol Acetate	Stoddard Solvent	N-Butyl Acetate	Hexamethelene Discyanate (HAP)	Toluene (HAP)	Methyl Ethyl Keytone (HAP)	N-Butanol	1-Methoxy-2-Propanol Acetate	Meta Xylene (xylenes) (HAP)	Carbon Black	Ethyl Benzene (HAP)	Toluene (HAP)	Isoproponal	Meta Xylene (Xylenes) (HAP)	Ethyl Benzene (HAP)	Zinc (dust or fume)	Zinc Oxide	N-Butyl Acetate	Carbon Black	Ethyl Acetate	Methyl Amyl Ketone	
7									PM		PM											PM						PM	PM		PM			
8				1330-20-7	108-88-3	67-56-1	67-64-1	1330-20-7	14808-60-7	108-88-3	1333-86-4	100-41-4	108-65-6	8052-41-3	123-86-4	822-06-0	108-88-3	78-93-3	71-36-3	108-65-6	1330-20-7	1333-86-4	100-41-4	108-88-3	67-63-0	1330-20-7	100-41-4	7440-66-6	1314-13-2	123-86-4	1333-86-4	141-78-6	110-43-0	
9	Lacquer Thinner SW R7K115	6.84	0.00		47%	38%	15%																											
10	2025 Acrylic Mod Clear Base EN	7.79	43.00%	56%																														
11	V 2153 Mid Coat Epoxy Primer	10.80	67.73%					42.00%																										
12	Carbothane 134 HG	11.37	80.09%						35.00%	10.00%	10.00%	5.00%	5.00%	5.00%	5.00%	0.10%																		
13	Carbozinc 859	24.71	89.00%														25.00%	5.00%	5.00%	5.00%	5.00%	1.00%	0.70%	50.00%	25.00%	5.00%	1.00%	100.00%	1.00%					
14	Imron 3.5 + Poly RF	8.64	60.50%																											28.10%	2.40%	3.10%	6.70%	
15																																		
16	Weight Content Data & Calculated Hourly Emissions Rate			2025 Acrylic Mod Clear Base EN	Lacquer Thinner SW R7K115			V 2153 Mid Coat Epoxy Primer	Carbothane 134 HG						Carbothane 134 HG		Carbozinc 859													Imron 3.5 + Poly RF				
17									Part A						Part B		Part A							Part B				Part C		Part A				
18	Coating Material	Density (lb/gal)	Wt. Solids Lbs/Gal	Xylene (HAP)	Toluene (HAP)	Methanol (HAP)	Acetone	Xylene (HAP)	Micro crystalline Silica	Toluene (HAP)	Carbon Black	Ethyl Benzene (HAP)	1-Methoxy-2-Propanol Acetate	Stoddard Solvent	N-Butyl Acetate	Hexamethelene Discyanate (HAP)	Toluene (HAP)	Methyl Ethyl Keytone (HAP)	N-Butanol	1-Methoxy-2-Propanol Acetate	Meta Xylene (xylenes) (HAP)	Carbon Black	Ethyl Benzene (HAP)	Toluene (HAP)	Isoproponal	Meta Xylene (Xylenes) (HAP)	Ethyl Benzene (HAP)	Zinc (dust or fume)	Zinc Oxide	N-Butyl Acetate	Carbon Black	Ethyl Acetate	Methyl Amyl Ketone	HAP
19									PM		PM											PM						PM	PM		PM			
20				1330-20-7	108-88-3	67-56-1	67-64-1	1330-20-7	14808-60-7	108-88-3	1333-86-4	100-41-4	108-65-6	8052-41-3	123-86-4	822-06-0	108-88-3	78-93-3	71-36-3	108-65-6	1330-20-7	1333-86-4	100-41-4	108-88-3	67-63-0	1330-20-7	100-41-4	7440-66-6	1314-13-2	123-86-4	1333-86-4	141-78-6	110-43-0	
21	Lacquer Thinner SW R7K115	6.84	0.00		0.37	0.30	0.12																											0.67
22	2025 Acrylic Mod Clear Base EN	7.79	3.35	0.73																														0.73
23	V 2153 Mid Coat Epoxy Primer	10.80	7.31					1.52																										1.52
24	Carbothane 134 HG	11.37	9.11						1.64	0.47	0.47	0.23	0.23	0.23	0.05	0.001																		0.70
25	Carbozinc 859	24.71	21.99														0.39	0.08	0.08	0.08	0.08	0.02	0.01	0.30	0.15	0.03	0.01	6.08	0.06					0.89
26	Imron 3.5 + Poly RF	8.64	5.23																											0.01	0.0008	0.001	0.00	0.01
27																																		
28	Hourly Emissions Rate	24.71	21.99	0.73	0.37	0.30	0.12	1.52	1.64	0.47	0.47	0.23	0.23	0.23	0.05	0.001	0.39	0.08	0.08	0.08	0.08	0.02	0.01	0.30	0.15	0.03	0.01	6.08	0.06	0.01	0.001	0.001	0.002	1.52
29	Weighted Avg wt %		1.39	0.05	0.02	0.02	0.01	0.10	0.10	0.03	0.03	0.01	0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.10
30	Minimum Density (lb/gal)	6.84																																
31	Daily/Hourly Use Rates																																	
32	1.450	Gal/Hr																																
33	8	Hr/Day									5	Number of actual work days facility Sprays coatings each week																							
34	11.60	Gal/Day																																
35	24	Hr/Day (averaging period)									365	Days/Yr		52	Weeks/Yr																				
36																																		
37	Aslett Ranch buffer factor																																	
38	1.00	Though the 'buffer cell' is incorporated in formulas below - it is not used --> therefore set @ 1									2080	Calculated work hours with the above input																							
39		Proposal 'coating usage figures', set @ 53 gallons + a 10 % safety = 58 gallons/week																																
40	Paint Gun Transfer Efficiency																																	
41	65.00%																																	
42																																		
43	Particulate Filter #1 Control Efficiency (control for particulates)																																	
44	98%	Input cell for CE#1																																
45																																		
46	Particulate Filter #2 Control Efficiency (control for particulates)																																	
47	98%	Input cell for CE#2																																
48																																		
49				2025 Acrylic Mod Clear Base EN	Thinner SW R7K115			V 2153 Mid Coat Epoxy Primer	Carbothane 134 HG						Carbothane 134 HG		Carbozinc 859													Imron 3.5 + Poly RF				

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
50				Xylene (HAP)	Toluene (HAP)	Methanol (HAP)	Acetone	Xylene (HAP)	Micro crystalline Silica	Toluene (HAP)	Carbon Black	Ethyl Benzene (HAP)	1-Methoxy-2 -Propanol Acetate	Stoddard Solvent	N-Butyl Acetate	Hexamethelene Discyanate (HAP)	Toluene (HAP)	Methyl Ethyl Keytone	N-Butanol	1-Methoxy-2-Propanol Acetate	Mixed Xylene (xylenes)	Carbon Black	Ethyl Benzene (HAP)	Toluene (HAP)	Isopropanol	Meta Xylene (Xylenes) (HAP)	Ethyl Benzene (HAP)	Zinc (dust or fume)	Zinc Oxide	N-Butyl Acetate	Carbon Black	Ethyl Acetate	Methyl Amyl Ketone	
51									PM		PM											PM						PM	PM		PM			
52				1330-20-7	108-88-3	67-56-1	67-64-1	1330-20-7	14808-60-7	108-88-3	1333-86-4	100-41-4	108-65-6	8052-41-3	123-86-4	822-06-0	108-88-3	78-93-3	71-36-3	108-65-6	1330-20-7	1333-86-4	100-41-4	108-88-3	67-63-0	1330-20-7	100-41-4	7440-66-6	1314-13-2	123-86-4	1333-86-4	141-78-6	110-43-0	
53																																		
54								*Maximum Daily HAP & TAP 24 Hr Calculated Emission Rates = (C38 Buffer Factor) x (Hourly emissions rate from row 28) X (8 hours/Day) spread over a 24 Hour Averaging Period*																													
55	Individual HAP & TAP Daily Calculated Emission Rates, Averaged over 24 Hrs Lbs/Hr			0.2446	0.1243	0.1005	0.0397	0.5064	7.6465E-05	0.1561	2.1847E-05	0.0780	0.0780	0.0780	0.0154	0.0003	0.1292	0.0258	0.0258	0.0258	0.0258	7.2371E-07	0.0036	0.1012	0.0506	0.0101	0.0020	0.00028372	2.8372E-06	0.0029	3.52885E-08	0.0003	0.0007	
56	Worst Case Sum MAX Individual HAP & TAP Daily Calculated Emission Rate, Averaged over 24 Hours Lbs/Hr			0.7870	x	na	na	x	x	0.511	2.2606E-05	0.084	0.104	na	0.018	na	x	na	na	x	x	x	x	x	x	na	x	x	na	na	na	x	na	na	
57	Maximum Daily HAP & TAP Emissions Averaged over 24 Hrs Lbs/Hr			0.7870	x	0.1005	0.0397	x	7.6465E-05	0.511	2.2606E-05	0.084	0.104	0.0780	0.018	0.0003	x	0.0258	0.0258	0.0258	x	x	x	x	0.0506	x	x	0.00028372	2.8372E-06	x	x	0.0003	0.0007	
58																																		
59																																		
60																																		
61	Maximized Annual Use Rate	4,234.0	Gal/Yr	This Annual Use Rate Figure is ----> (C34) Gal/Day X (M35) 365 Days/Yr.																																
62																																		
63	Maximized HAP Emissions	3.22	Ton/Yr	This HAPs figure is ----> [(AJ28) or maximum density of HAPs/Gal X (C53) Annual Use Rate Gal/Yr] / 2000																																
64																																		
65																																		
66																																		
67								*Maximum Hourly Calculated Emission Rates in Lbs/Hr = Cell C38 Buffer Factor x lbs of the Part Used in 1 hour from Row 28*																													
68	Actual Hourly HAP & TAP's Calculated Emission Rates for Individual HAP/TAP Lbs/Hr			0.73	0.3729163	0.302	0.119016	1.519	0.0002	0.468	6.5541E-05	0.234	0.234	0.234	0.046	0.001	0.388	0.078	0.078	0.078	0.078	2.1711E-06	0.011	0.303	0.152	0.030	0.006	0.00085116	8.5116E-06	0.009	1.05625E-07	0.0009745	0.0021062	
69	Worst Case Sum MAX Individual HAP & TAP Hourly Calculated Emission Rate Lbs/Hr			2.361	x	na	na	x	na	1.532	6.7818E-05	0.251	0.312	na	0.055	na	x	na	na	x	x	x	x	x	x	na	x	x	na	na	na	x	na	na	
70	Maximum Hourly HAP & TAP Emission Rates Lbs/Hr			2.361	x	0.3	0.119016	x	0.0002	1.532	6.7818E-05	0.251	0.312	0.234	0.055	0.001	x	0.078	0.078	0.078	x	x	x	x	0.152	x	x	0.0009	8.5E-06	0.009	x	0.0009745	0.0021062	
71																																		
72																																		
73																																		
74	Actual Hourly Emissions SUM Individual like Items			2.361	x	0.302	0.119	x	0.0002	1.532	6.7818E-05	0.251	0.312	0.234	0.055	0.001	x	0.078	0.078	x	x	x	x	x	0.152	x	x	0.001	0.000	0.009	x	0.001	0.002	
75																																		
76	Actual HAPS Calc All Paints	Sum of individual like pollutants in Lb/Hr & Lb/Day					Annual Figures																											
77			Lb/Hr		Lb/Day		Lbs/Yr		Ton / Yr																										
78	Xylenes (HAP)		2.36		18.9		4911		2.5																										
79	Toluene (HAP)		1.53		12.3		3187		1.6																										
80	Methanol (HAP)		0.30		2.4		627		0.3																										
81	Ethyl Benzene (HAP)		0.25		2.0		522		0.3																										
82	Hexamethelene Discyanate (HAP)		0.001		0.007		2		0.001																										
83	Methyl Ethyl Keytone (HAP)		0.08		0.62		161		0.1																										
84																																		
85	Totals		4.52		36		9,410		4.7																										

	B	D	E	F	G	H	I	J	K	L	M	N
2	Coating TAP's Emissions Summary - All Coatings									The figures in this column come from 'Coating TAP & Hap Calc' where they are first used for input		
3	Listed TAP (HAP)	CAS #	Maximum Daily HAP & TAP Calculated Emission Rates, Averaged over 24 Hrs Lbs/Hr	585 AACs for Non - Carcinogens mg/m^3	Exceeds AAC? Note 1		Maximum Hourly HAP & TAP's Calculated Emission Rates Lbs/Hr	585 EL's - Lbs/Hr	Exceeds EL?	Maximum Hrs/Day Spraying	8	
4												
5	Xylene (HAP)	1330-20-7	0.79	21.75	No		2.36	29	No			
6	N-Butyl Acetate	123-86-4	0.02	35.5	No		0.05	47.3	No			
7	Toluene (HAP)	108-88-3	0.51	18.75	No		1.53	25	No	Averaging period for EL's	24	
8	Methanol (HAP)	67-56-1	0.10	13	No		0.30	17.3	No			
9	Acetone	67-64-1	0.04	89	No		0.12	119	No	Total work hours in 1 year	2080	
10	1-Methoxy-2 - Propanol Acetate	108-65-6	0.10	3.6	No		0.31	24	No			
11	Ethyl Benzene (HAP)	100-41-4	0.08	21.75	No		0.25	29	No	Days /Week	5	
12	Stoddard Solvent	8052-41-3	0.08	26.25	No		0.23	35	No			
13	Isoproponal	67-63-0	0.05	49	No		0.15	65.3	No			
14	Methyl Amyl Ketone	110-43-0	0.001	11.75	No		0.002	15.7	No			
15	Methyl Ethyl Keytone (HAP)	78-93-3	0.03	29.5	No		0.08	39.3	No			
16	N-Butanol	71-36-3	0.03	7.5	No		0.08	10	No			
17	Ethyl Acetate	141-78-6	0.0003	70	No		0.001	93.3	No			
18	Zinc (dust or fume)	7440-66-6	0.0003	0.5	No		0.001	0.667	No			
19	Microcrystalline Silica	14808-60-7	7.65E-05	0.005	No		0.0002	0.0067	No			
20	Carbon Black	1333-86-4	0.00002	0.175	No		0.0001	0.23	No			
21	Zinc Oxide	1314-13-2	0.000003	0.5	No		0.00001	0.677	No			
22												
23	Note 1. From State of Idaho Guidelines for Performing an Air Quality Impact Analysis Section 3.34 part c. If Controlled Emissions are below EL's											
24	compliance with TAPs has been determined via Idaho Air Rules Section 210.08.											
25												
26												
27												
28	TAP Emissions Totals		24 Hr HAP/TAP Calculated Emissions Rate in Lbs / Hr	Maximum Hourly Emissions Rate Lbs/Hr	Actual Emissions Rate Lbs/Hr For Comparison							
29	Total Lbs/Hr		1.825	5.48	5.48							
30	Lbs/yr		3,797	11,391	11,391							
31	Tons/Yr		1.898	5.695	5.695							
32												
33	HAP Emissions Totals		24 Hr HAP/TAP Calculated Emissions Rate in Lbs / Hr	Maximum Hourly Emissions Rate Lbs/Hr	Actual Emissions Rate Lbs/Hr For Comparison							
34	Total Lbs/Hr		1.508	4.52	4.52							
35	Lbs/yr		2,080	9,410	9,410							
36	Tons/Yr		1.040	4.705	4.705							
37												
38												
39	Combined TAP & HAP											
41	TAPS that are not HAPS											
42	Lbs/Hr		0.318	0.95	0.95							
43	Lbs/yr		0.318	1983	1983							
44	Tons/Yr		0.0002	1.0	1.0							
45												
46	Compounds That are both HAP & TAP											
47	Lbs/Hr		1.51	4.52	4.45							
48	Lbs/yr		3,136	9,408	9,247							
49	Tons/Yr		1.6	4.7	4.6							
50												
51	The One HAP that is not A TAP											
52	Lbs/Hr	Hexamethelene Discyanate (HAP)	0.0003	0.0009	0.0009							
53	Lbs/yr		0.6	1.92	1.92							
54	Tons/Yr		0.0003	0.001	0.0010							
55												
56												
57	Total TAP & HAP: TAPS that are both + TAPS that are not HAPS + One (1) HAP that is not a TAP											
58	Lbs/Hr		1.826	5.477	5.400							
59	Lbs/yr		3,798	11,393	11,232							
60	Tons/Yr		1.899	5.696	5.616							
61												
62												
63												

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
2	Aslett Ranch - 2014 Coating																					
3	days / Yr		Painting Hrs/Day		Actual Hrs/Year	Weeks/Yr	Work Days / Week		7 day x 8 hr x 52 week	Max Dsgn/Opp Hr/Day		Max Dsgn/Opp Days/Week		Hrs/Day X Days/Week X 52								
4	365		8		2080	52	5		2912	24		7		8760		Uncontrolled Potential to Emit For Criteria Pollutants - Worst Case, Max Hrs						
5																						
6					Actual Emissions W/O Controls Std Hrs (2080) All Paints					Uncontrolled Potential To Emit						Emissions Unit	PM10	PM2.5	SO2	NOx	CO	VOC
7					Actual operating hours, production rates and types of materials processed during a defined period					No Controls or Limits on operation. VOC, HAP, & PM Content is Maximized (8 Hrs/Day) X (7 day/Wk) X 52 Wk = 2912 Hrs							Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr
8			CAS #		Calculated Emissions Rate Lbs/Day	Calculated Emissions Rate Lbs/Hr	Total Lbs/Yr	Total Ton/Yr		Calculated Emissions Rate Lbs/Day	Calculated Emissions Rate Lbs/Hr	Total Lbs/Yr	Total Ton/Yr									
9	Criteria Pollutants															Point Sources						
10	PM				42	5.2	10,820	5.4	PM	89	11	32,501	16			Painting Operations	16	15	0	0	0	52
11	PM10				42	5.2	10,820	5.4	PM10	89	11	32,501	16			Total, Point Sources	16	15				52
12	PM2.5		Note 1		38	4.8	10,008	5.0	PM2.5	83	10	30,063	15									
13	VOC				38	4.7	9,778	4.9	VOC	287	35.8	104,336	52									
14						About 39 Hr/Wk										Uncontrolled Potential To Emit For HAPs (about 56 hrs/Wk)						
15	HAP's				Actual HAPS Emissions - All Paints, Std Hrs					Maximized HAPS Emissions RateLbs/Hr X (2912 Hrs)				Coating w/highest Hap			HAP's	PTE Ton/Yr				
16	Xylene		1330-20-7			2.4		2.46		53	6.58	19,153	9.6	V 2153 Mid Coat Epoxy Primer			Xylene	9.6				
17																						
18	Toluene		108-88-3			1.5		1.59		24	3.01	8,751	4.4	Carbozinc 859			Toluene	4.4				
19																						
20	Methanol		67-56-1			0.3		0.31		30	3.77	10,975	5.5	Lacquer Thinner SW R7K115			Methanol	5.5				
21																						
22	Ethyl Benzene		100-41-4			0.3		0.26		5.5	0.69	2,004	1.0	Carbothane 134 HG			Ethyl Benzene	1.0				
23																						
24	Methyl Ethyl Keytone		78-93-3			0.1		0.08		2.7	0.34	982	0.5	Carbozinc 859			Methyl Ethyl Keytone	0.5				
25																						
26	Hexamethylene Disocyanate		822-06-0			0.001		0.0010		0.02	0.003	8	0.004	Carbothane 134 HG			Hexamethylene Disocyanate	0.004				

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
27	Actual HAP Calculated Emissions Rates		All Paints, STD Hours		Actual HAPS Lbs/Hr	4.52	Actual HAPS Tons / Yr	4.71		Sum Maximized Haps Lbs/Hr	14.38	Sum Maximized Haps Ton/Yr	20.9				Total	20.9				
28																						
29	PM10 & PM2.5																					
30	In order to determine PM2.5, emissions daily and annual PM10 emissions are multiplied by a speciation factor.																					
31	The factor is from California Emissions Inventory and Reporting System (CEDARS) Particulate Matter Speciation Profiles (dated 7/28/2009).															Potential to Emit Criteria Pollutants - All Paints Post Construction (Proposed Emissions)						
32	Specifically the "Paint Application - Oil Based" factor of 92.5% of PM10 is PM2.5 speciation factor ->											Speciation Factor				W/Controls, Limits On Operation, Std Hrs - Worst Case						
33			PM							VOC		92.50%					PM10	PM2.5	SO2	NOx	CO	VOC
34			PTE			Hourly PM10 in Lbs of Pm10/Hr	Annual PM10 in T-PM10 / Yr	Hourly PM2.5 in Lbs of PM2.5 / Hr	Annual PM2.5 in T-PM10/Yr	VOC Lb / Hr	VOC Ton / Yr					Emissions Unit	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr	Ton/Yr
35	40 Hrs		Worst Case Emission Rates Std Hours		NO Controls	11.2	11.6	10.3	10.7	35.8	37.3					Painting Operations	0.005	0.004	0	0	0	37.3
36			CE #1 & #2 Added		With Controls	0.004	0.005	0.004	0.004							Potential To Emit - All Paints W Controls, Limits, STD Hrs Showing Post Construction (Proposed) HAP Emissions						
37	40 Hrs		Std Paints Std Hours		NO Controls	5.2	5.4	4.8	5.00	4.7	4.9						HAP's				PTE Ton/Yr	
38			CE #1 & #2 Added		With Controls	0.00073	0.00076	0.00067	0.00070								Xylene				6.84	
39	Note 2																Toluene				3.13	
40	PTE is the maximum amount of air contaminants that this source could emit if:																Ethyl Benzene				0.72	
41	Each process is operated at 100% of design capacity,																Methyl Ethyl Keytone				0.351	
42	Each process is operated at the maximum number of hours possible each day,																Methanol				3.92	
43	Materials that emit the most air contaminants are used or processed 100 % of the time; and,																Hexamethylene Disocyanate				0.0028	
44	air pollution control equipment is turned off.																Worst Case Std Hours	Total Hap			14.95	
45	Note 3	In the 'Coating TAP & HAP Calc' sheet, HAPS are Maximized for worst case.																				
46	where:	That worksheet is a modified version of 'Automotive Coatings XLS', from the Idaho DEQ Air Quality website.															Actual HAP Ton/Yr All Paints Std Hrs	Actual HAP			4.71	
47	And	Annual Maximized HAP Emissions (Ton/Yr) = Maximum Density of HAPs/Gal X Annual Use Rate Gal/Yr] / 2000																				
48	And	Maximum Density of HAP = Select coating product with the highest (MAX) HAP emissions																				
49	And	Assume that product is being used 100% of the time.																About 40 Hrs./Wk				
50		Where Annual Use Rate (Gal/Yr) = Actual use rate (gal/day) x 365																				

"Volatile Organic Compounds (VOC) emissions"
Replies
Question 2 Part 3) - See revised [Aslett Ranch Painting Operations - Emissions Inventory] workbook;
[REV 1 Aslett Ranch - Painting Operations - Emissions Inventory.xlsx] workbook
& the 'VOC PM HAP & TAP Layout' worksheet

From your letter of September 15th, 2015
Subject: Reply for Facility ID # 053-00034

Question # 3.

Sumary of Key Elements

	Throughputs				Controls			Operating Hours		
	Gallons, Lbs & mmBTU's									
	Daily	Weekly	Annual		Type	CE		Daily	Weekly	Annual
Ep1	11.60	58	3017		Fiber Filter	#1, 98%		8 to 5	5 Day/WK	260 Days
Gal						#2, 98%				
Ep2	1272	6360	330,720		Fiber Filter	99.80%		8	40	260
Lbs						0				
Ep3	4.27	21.36	1,110		na	na		8 to 12:40	5 Days/Wk	260 Days
mmBTU										

Post PTC - Blasting Operations & Emissions Inventories

Surface preparation operations for 500 gallon tanks (and below) at the facility post construction will be done in a fully enclosed blasting cabinet.

Blast Cabinet Specifications:

Viking Blast and Wash Systems
GC-500 with 44" diameter capacity & a length capacity of 10 Ft.
Airless Blast cleaning is accomplished with six (6) 1,725 R.P.M., 10 HP centrifugal wheels lined with 3/8 thick manganese work hardening steel wear plates.

Blast Cabinet Dust Collection:

Model VK4 Continuous duty pulse type, cartridge dust collector (dh).
7.5 HP fan with 4 nanofiber media cartridges.
To be 99.999% efficient down to 1 micron.
Drum Cover kit and 55 Gallon drum is included.
Deflagration Panels are included and are required as per NFPA 654.

The Resulting Emissions From Blasting Cabinet = Zero

The remaining surface preparation activities, for equipment larger than a 500 gallon propane tank, will be done in a prepared blast room with associated air filtration equipment installed.

Retro Fit Blast Room Dust Collection Specifications:

Jan 2016 Proposal
Cartridge Style Dust Collection System
Three (3) Dust-Hog 4,500 cfm AM-14983 Model FFBW
Each unit contains (6) cartriage filters CE 99.8%
scfm rating exceeds requirement for blast room

Post Construction - Abrasive Blasting Emissions Inventory

Assumptions:

1. Post Construction blast media usage can be found in Rows 46-50
2. Controls efficiency is 99.9% or better.
3. Blast pressure & nozzle diameter are the same as 2014.
4. Lbs of blast media consumed per hour See- Cell C49
5. Number of blasting days / week See C47
6. Number of blasting hours per work day See Cell C48
7. PM Emissions for Glass are no worse than those for Sand.
8. TAP & HAP emissions are considerably lower with glass than those with silica sand.

simplify
adjust %
simplify

Blasting Media Usage Rate - Actual

5300	Lbs of Media Consumed/Week	2080	Blasting Hrs/Yr	
5	Number of Blasting Days / Week	260	Blasting Days/Yr	
8	Work hours / Day			
133	Lbs of Media Consumed / Hr	52	# Weeks / Yr	
1,060	Lbs of Media Consumed / Day	365	Days/Yr	

Material Balance

For the purposes of the emissions inventory
* 'Actual media usage rate' information is taken from purchase order records, and,
* A buffer factor, is included in calculations.

For this draft reply REV 3 - we elected to use the buffer cell

	B	C	D	E	F	G	H	I	J	K	L
54											
55		**Media Usage - Buffer Factor**				**1.2**					
56											
57		Until recently the facility used Green Diamond sand for blasting media. Since March 2015 the facility has replaced the sand with									
58		Crushed Glass. The PM, PM10 & PM2.5 emission factors used for glass are the same as used for sand from CARB and AP 42									
59		documents as referenced.									
60											
61		**Abrasive Blasting - Actual Emission Rates** (plus Buffer)									
62		**Quantity of Media Used / Yr**					330,720	Lbs/Yr			
63		**Quantity of Media Used / Hr**					159	Lbs/Hr			
64		**Quantity of Media Used / Day**					1,272	Lbs/Day			
65		**Quantity of Media Used /week**					6,360				
66											
67		*Table 27. AP 42, 13.2.6-1*						*Aslett Ranch*	*Annual results*		
68									*W/O Controls*		
69	*For Reference:*		*Silica Sand Emission Factors*								
70			*27*	*Lbs of PM / 1000 Lbs of Media {AP 42, 13.2.6-1}*					*8,929*	*Lbs PM/yr*	
71			*13*	*Lbs of PM10 / 1000 Lbs of Media {AP 42, 13.2.6-1}*					*4,299*	*Lbs PM10/Yr*	
72			*1.3*	*Lbs of PM2.5 / 1000 Lbs of Media {AP 42.13.2.6-1}*					*430*	*Lbs PM2.5/Yr*	
73											
74							**Crushed Glass PM Emissions = Sand Emissions**				
75											
76		**Emission Factors**					**27.00**	Lbs of **PM** / 1000 Lbs of Media			
77							**13**	Lbs of **PM10** / 1000 Lbs of Media			
78							**1.3**	Lbs of **PM2.5** / 1000 Lbs of Media			
79											
80		Input Cell for Control #1 --> Efficiency Factor			**99.80%**	dwn to 1 micron	**over all control eff. =**	99.80%			
81											
82		Input Cell for Control #2 --> Efficiency			0.0%	Control 2 set to 0, this system has 1 layer of control.					
83											
84		*Particulate Control is ---> (1 - Efficiency Factor)*									
85											
86				**Post Construction W/O Controls**			**W / Control #1**			W / Control #2	
87											
88											
89		**PM Emissions**		8,929.4	Lbs/Yr PM		17.86	Lbs/Yr PM		17.8589	Lbs/Yr PM
90				4.3	Lbs/Hr PM		0.009	Lbs/Hr PM		0.0086	Lbs/Hr PM
91				4.5	Ton/Yr PM		0.0089	Ton/Yr PM		0.0089	Ton/Yr PM
92											
93		**PM10**		4,299	Lbs/Yr PM10		8.6	Lbs/Yr PM10		8.5987	Lbs/Yr PM10
94				2.07	Lbs/Hr PM10		0.0041	Lbs/Hr PM10		0.0041	Lbs/Hr PM10
95				2.15	Ton/Yr PM10		0.00430	Ton/Yr PM10		0.0043	Ton/Yr PM10
96											
97		**PM2.5**		429.9	Lbs/Yr PM2.5		0.9	Lbs/Yr PM2.5		0.8599	Lbs/Yr PM2.5
98				0.21	Lbs/Hr PM2.5		0.0004	Lbs/Hr PM2.5		0.0004	Lbs/Hr PM2.5
99				0.21	Ton/Yr PM2.5		0.00043	Ton/Yr PM2.5		0.00043	Ton/Yr PM2.5

Post Construction HAP, TAP & PM Calc

5	# Actual Hrs / Yr		2080	Hrs									
7	Averaging Period		24	Hrs				Work Hrs/Day		8	these cells have been linked to the 'Post PTC Blast Ei'		
8								Blasting Days/Week		5			
9	Actual Usage Rate		159	Lbs/Hr ------->	This figure includes buffer			Weeks/Yr		52			
10								Days/Yr		365			
11	Transfer Efficiency				0%								
13	Control 1 --> Efficiency Factor				99.80%	linked cells	total eff=	99.80%					
15	Control 2 --> Efficiency Factor				0	linked cells							
17	*Particulate Control is ---> (1 - Efficiency Factor) X (Lbs/Hr)*												

	Black Beauty Glass Beads TAPs Content	CAS #	% by weight	Actual Uncontrolled TAP Emitted Lbs/Hr	Actual Uncontrolled TAP Emitted Lbs/Yr		Control 1 Results Lbs/Hr	Maximum Hourly HAP & TAP's Calculated Emission Rates After Control 1 Lbs/Hr	Maximum Daily HAP & TAP Calculated Emission Rates, Averaged over 24 Hrs Lbs/Hr		Control 2 Results Lbs/Hr	Maximum Hourly HAP & TAP's Calculated Emission Rates After Controls 1 & 2 Lbs/Hr	Maximum Daily HAP & TAP Calculated Emission Rates, Averaged over 24 Hrs Lbs/Hr
21	Calcium Oxide (TAP)	1305-78-8	15.0%	23.85	49,608		0.048	0.048	0.016		0.0477	0.0477	0.01590
22	Aluminum Oxide (TAP)	7429-90-5	2.0%	3.18	6,614		0.006	0.006	0.002		0.0064	0.0064	0.00212
23	Magnesium Oxide (TAP)	1309-48-4	1.0%	1.59	3,307		0.003	0.003	0.001		0.0032	0.0032	0.00106
24	Iron Oxide (TAP)	1309-37-1	1.0%	1.59	3,307		0.003	0.003	0.001		0.0032	0.0032	0.00106
25	Silicon Dioxide (TAP)	14808-60-7	1.0%	1.59	3,307		0.003	0.003	0.001		0.0032	0.0032	0.00106

	B	C	D	E	F	G	H	I	J	K	L	M	N
27													
28	Post PTC Blasting HAPS												
29	**No HAPS**												
30													
31													
32		**Actual Emissions W/O Controls**											
33		Actual operating hours, production rates and types of materials processed during a defined period											
34		**Calculated Emissions Rate Lbs/Day**	**Calculated Emissions Rate Lbs/Hr**	**Total Lbs/Yr**	**Total Ton/Yr**								
35	**Criteria Pollutants**												
36	**PM**	**34.34**	**4.293**	**8,929**	**4.5**								
37	**PM10**	**16.54**	**2.067**	**4,299**	**2.1**								
38	**PM2.5**	**1.65**	**0.2067**	**430**	**0.21**								

Post Construction Criteria Pollutants & HAPS Summary

Actual Hrs/Day	8	Actual Hrs/Year	2080	Max Dsgn/Opp Hr/Day	24	Max Dsgn/Opp Days/Week	7	Hrs/Day X Days/Week X 52	8760

365	Post Construction - Actual Emissions *With/Out* Controls					Post PTC Uncontrolled Potential To Emit			
Days/Yr	Actual operating hours, production rates and types of materials processed during a defined period					*With/Out* Controls or limits on operation and, worst case maximum emissions Rate Per ~~Day~~ Hr X 2912 hrs			
	Calculated Emissions Rate Lbs/Day	Calculated Emissions Rate Lbs/Hr	Total Lbs/Yr	Total Ton/Yr		Calculated Emissions Rate Lbs/Day	Calculated Emissions Rate Lbs/Hr	Total Lbs/Yr	Total Ton/Yr
Criteria Pollutants									
PM	34	4.29	8,929	4.5	PM	34	4.29	12,501	6.3
PM10	17	2.07	4,299	2.15	PM10	17	2.07	6,019	3.01
PM2.5	2	0.21	430	0.21	PM2.5	2	0.21	602	0.30

	Post Construction - Actual Emissions *With* Controls					Post Construction - PTE, *With* Controls and Limits on Operations			
	Actual operating hours, production rates and types of materials processed during a defined period					Worst Case Maximum Emissions Rate Per Day X (Std Hrs)			
	Calculated Emissions Rate Lbs/Day	Calculated Emissions Rate Lbs/Hr	Total Lbs/Yr	Total Ton/Yr		Calculated Emissions Rate Lbs/Day	Calculated Emissions Rate Lbs/Hr	Total Lbs/Yr	Total Ton/Yr
Criteria Pollutants									
PM	0.07	0.009	17.86	0.0089	PM	0.07	0.009	17.859	0.0089
PM10	0.033	0.00413	8.60	0.0043	PM10	0.033	0.00413	8.599	0.0043
PM2.5	0.0033	0.00041	0.860	0.00043	PM2.5	0.0033	0.000413	0.860	0.00043

Information from manufacturer, maximum design capacity of blaster				EF for Sand & Glass	
5/8" Nozzle @ 90 PSI	=	3,000	Lbs/Hr	27.00	Lbs of PM / 1000 Lbs of Media {AP 42, 13.2.6-1}
				13	Lbs of PM10/1000 Lbs of Media {AP 42, 13.2.6-1}
				1.3	Lbs of PM2.5/1000 Lbs of Media {AP 42.13.2.6-1}

Uncontrolled Potential to Emit For Criteria Pollutants						
Emissions Unit	PM10 Ton/Yr	PM2.5 Ton/Yr	SO2 Ton/Yr	NOx Ton/Yr	CO Ton/Yr	VOC Ton/Yr
Point Sources						
Blasting Operations	3.01	0.30	0	0	0	0
Total Point Sources	3.01	0.30				

Uncontrolled Potential To Emit For HAPs
NO HAPS

Aslett Ranch Propane Flare - Operations, Engineering, and BTU Data

Nearly empty (primarily 500 gallon) are brought into the facility to be surface prepared and coated.
As part of the refurbishing process the tanks are cleared of residual propane.

500 gallon tanks burn for an average of 20 min
250 gallon tanks burn for an average of 15 min
1000 gallon tank burns for an average of 40 min

Owner describes hours of operation as | 4.5 | Hr/Day | 5 | Days/Week
52 | Weeks/Yr
24 | Hr Avg Period | 1170 | Actual hours of actual operation

Owner supplied information

Vapor volume from 1 gallon of liquid propane @ 60 degrees F - 36.39 CuFt
Vapor volume from 1 LB of liquid propane @ 60 degrees F - 8.57 CUFt

Engineering handbook

"Vapor pressure" is the force exerted by a gas, LP gas in this case,
attempting to escape from a container,
(by pressing on the container's interior surfaces, or exiting at a gas valve
if the gas valve is opened and not regulated).

BTU Content of Propane
21,591 BTU per pound
91,690 BTU per Gal
2,572 BTU per CuFt

Engineering handbook

Larger household tanks are more likely to contain a majority of propane,
(typically 90 percent propane in North America).

source: the engineering toolbox

LPG-typical Vapor Pressure @ 70 degrees F, with 90% Propane to Butane ratio = 82 psig

source: the engineering toolbox

Properties of Propane:	C3H8
Chemical Formula	
BTU per Gallon (Vaporized)	91,690
BTU per Pound	21,591
Weight per Liquid Gallon	4.23
Vaporization Temperature	–44°F
Specific Gravity - Vapor (Air=1)	1.53
Specific Gravity - Liquid (Water=1)	0.51
Vaporization Rate (Liquid to Vapor)	272:01:00
Combustion Data :	
Limits of Flammability, %of gas in air	2.3% to 9.5%

Air required to burn 1 Cu Ft Vapor	23.5 Cu Ft
Oxygen required to burn 1 Cu Ft Vapor	4.9 Cu Ft
Ignition Temperature	920-1029°F
Optimum Flame Temperature	3500°F
Vapor Pressure at 0°F	28 PSI
Vapor Pressure at 70° F	122 PSI
Vapor Pressure at 100° F	190 PS

Estimation of Average Mass Flow Rate of a Propane Flare in Lbs/Hr of Propane	**35**
Estimation of Maximum Mass Flow Rate of a Propane Flare in Lbs/Hr of Propane	**42**
(Avg mass flow rate x 25%)	
1 LB of Propane contains BTU's	**21,221**
Therefore the BTU input for the Aslett Ranch Flare is:	**887,716**

Source Texas Commission on Environmental Quality, Air permits Division
New Source Review Emission Calculations
Sample Calculations for Flares

Note: Load all three propane workbooks in Excel at the same time,
the driver is the [Aslett Ranch Propane Flare - EI.xlsx] workbook.
This workbook contains the other two, but all three must be loaded for everything to work.

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on January 28, 2016:

Facility Comment: the applicant submitted a revised EI and requested to change the blasting media daily and annual throughputs.

DEQ Response: changes are made in the permit and SOB.

Facility Comment: The applicant requested to change the control efficiency of the filtration system for the blasting room and submitted a revised EI to reflect the change.

DEQ Response: changes are made in the permit and SOB.

Facility Comment: The applicant requested a 90-day timeframe to install new equipment.

DEQ Response: the 90-day timeframe is granted and included in the permit.

APPENDIX C – PROCESSING FEE

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_X	0.6	0	0.6
SO_2	0.0	0	0.0
CO	0.3	0	0.3
PM10	0.0	0	0.0
VOC	37.3	0	37.3
TAPS/HAPS [1]	14.7	0	14.7
Total:	0.0	0	**38.2**
Fee Due	**$ 5,000.00**		

Comments: [1] These HAP are VOC too. For fee purpose, they are not counted towards total emissions in this table.