SYNTHETIC MINOR OPERATING PERMIT (SMOP)
EVALUATION REPORT

Syar Industries, Inc.
2301 Napa Vallejo Highway
Napa CA 94588

Plant Number A2158
Application Number 23532
May 8, 2012

BACKGROUND

The Syar Industries, Inc. facility located in Napa is subject to the permitting requirements of Title V of the federal Clean Air Act (40 CFR Part 70) and BAAQMD Regulation 2, Rule 6, "Major Facility Review" because it is a major facility as defined by BAAQMD Regulation 2-6-212. Syar Industries is a major facility because it has the "potential to emit" more than 100,000 tons per year of greenhouse gases (GHGs) on a CO_2-equivalent basis and 100 tons per year each of carbon monoxide and nitrogen oxides. This facility became subject to Title V on July 1, 2011 pursuant to Step 2 of the Greenhouse Gas Tailoring Rule. Step 2 specifies that existing facilities that do not already have Title V permits but have the potential to emit GHGs in excess of 100,000 tpy are subject to Title V. Based upon our initial emission estimates, we determined that Syar Industries' potential to emit GHGs was 143,406 tons per year. This PTE estimate was based upon fuel-specific CO_2 emission factors, the maximum firing rate of the combustion devices at Syar, and 8,760 hours of operation per year.

As part of the evaluation of this application for a synthetic minor operating permit, we have performed a potential to emit demonstration for all criteria pollutants and HAPs using emission factors from AP-42, chapter 11.1, entitled "Hot Mix Asphalt Plants". The results of this complete PTE estimate show that Syar's PTE for CO and NOx each exceed 100 tons per year. However, Syar's PTE for HAPs do not exceed 10 tons for any single HAP or 25 tons for any combination of HAPs.

Major facilities that are willing to accept federally enforceable permit conditions that limit emissions to less than the Title V permitting thresholds can apply for a Synthetic Minor Operating Permit. Based upon the maximum fuel use rates and/or material throughput rates reported to the District through annual updates from years 2007 through 2010, we have estimated that actual emissions at Syar Industries are well below the proposed synthetic minor operating permit limits. Therefore, Syar Industries has elected to apply for a Synthetic Minor operating permit.

This permit will establish federally-enforceable permit conditions that limit the facility's emissions to a maximum of 90,000 tons/year of GHGs on a CO_2e basis and 95 tons/year each of any regulated air pollutant. Synthetic Minor permits must have practically enforceable limits and conditions that ensure that emissions never exceed major facility thresholds. The permit may also

contain limits and conditions that have been established pursuant to other BAAQMD rules and regulations but do not contribute to the enforcement of the synthetic minor permit limits.

SITE DESCRIPTION

Syar Industries is a hot mix asphalt plant located in Napa. The facility consists of the following permitted and exempt sources per the District databank.

1 PRIMARY CRUSHER
2 SECONDARY CRUSHER
3 SECONDARY CRUSHER
4 SECONDARY CRUSHER
8 SECONDARY CRUSHER
9 TANK D14 (DIESEL) [exempt]
10 TANK 15A (DIESEL) [exempt]
11 TANK D10 (DIESEL) [exempt]
13 TANK D15F (DIESEL) [exempt]
14 TANK D12 (DIESEL) [exempt]
18 TANK D13 (DIESEL) [exempt]
19 DIESEL SERVICE STATION [exempt]
22 TANK M7 (MOTOR OIL) [exempt]
26 ASPHALTIC CONCRETE PLANT #1
27 ASPHALTIC CONCRETE PLANT #2
28 ASPHALT TANK #1
29 ASPHALT TANK #2
30 ASPHALT TANK #3
31 ASPHALT TANK #4
32 ASPHALT TANK #5
33 ASPHALT TANK #6
34 ASPHALT TANK #7
40 Non-Retail Gasoline Dispensing Facility
55 CONVEYORS BLUE ROCK OPERATION
56 Diesel Tank, D-9 10,000 gallons [exempt]
64 Aggregate Storage
65 Hot Oil Heater [exempt]
66 Emulsified Asphalt Tank #11 [exempt]
67 Emulsified Asphalt Tank #10 [exempt]
68 Asphalt Tank #9
69 Asphalt Tank #8
71 Secondary Crusher - Aggregate Base Plant
73 M-9 Tank - motor oil [exempt]
76 200 Ton Magnum Surge Storage Bin System
80 Sand Plant Feed Hopper with Conveyor
81 Sand Plant Triple Deck Screen Deck & Twin Sand Screws
82 Sand Plant Conveyor System
83 Scalper - Aggregate Base Plant
84 Jaw Crusher - Aggregate Base Plant
85 Two-Deck Screen - Aggregate Base Plant
86 Impact Master Crusher - Aggregate Base Plant
87 Screening Operation - Aggregate Base Plant
88 Fifteen - Conveyor Belt System - Aggregate Base Plant
92 CONVEYOR BELT SYSTEM
93 300 TON SAND & AGGREGATE SILO
94 300 TON SAND & AGGREGATE SILO

95 300 TON SAND & AGGREGATE SILO
96 300 TON SAND & AGGREGATE SILO
97 300 TON SAND & AGGREGATE SILO
98 300 TON SAND & AGGREGATE SILO
99 Telsmith 2-Deck Screen
100 Screen
101 Screen
102 Paint Booth

The emissions from all sources (permitted and exempt) contribute to the total facility emissions used to determine compliance with the synthetic minor permit emission limits.

POTENTIAL TO EMIT

Using District records of equipment capacities, AP-42 emission factors and 40 CFR 98 emission factors for greenhouse gases, we have calculated the potential to emit for all NOx, CO, PM10, SO2, VOC, CO2e and HAPs. The detailed calculations are included in Appendix A.

There are three combustion sources at Syar Industries that contribute to the total facility GHG emissions. The PTE for these sources are shown in Table 1. The detailed emission calculations for NOx, CO, PM10, SO2, and VOC for the combustion sources are shown in Appendix A. The CO2e emission calculations for the combustion sources are shown in Appendix C.

Table 1: Regulated Air Pollutant Potential to Emit – Combustion Sources

Source Description	Regulated Air Pollutant (tons/yr)					
	NOx	CO	PM10	SO2	VOC	CO2e
S-26 Hot Mix Asphalt Plant #1	57.82	136.66	24.18	11.56	33.64	63,907.41
S-27 Hot Mix Asphalt Plant #2	96.36	227.76	40.30	19.27	56.06	83,099.68
S-65 Hot Oil Heater	0.93	0.76	0.07	0.01	0.10	1,084.92
Total Combustion	**155.10**	**365.18**	**64.55**	**30.84**	**89.80**	**148,092.01**

Evaporative loss (VOC) and PM10 sources make up the remainder of the regulated air pollutant emissions from the facility. The PTE for these two source categories are summarized Table 2. VOC sources include exempt diesel and asphalt storage tanks and paint spray booth. PM10 sources include crushers, conveyors, and aggregate storage equipment. The detailed emission calculations for PM10 sources are shown in Appendix B. The detailed emission calculations for VOC sources are shown in Appendix D.

Table 2: Regulated Air Pollutant Potential to Emit -
Evaporative Loss (VOC) and PM10 Sources

Source Type	Regulated Air Pollutant (tons/yr)					
	NOx	CO	PM	SO2	VOC	CO2e
Evaporative Loss Sources	0	0	0	0	1.81	0
PM10 Sources	0	0	26.27	0	0	0

Total	**0**	**0**	**26.27**	**0**	**1.81**	**0**

Table 3 below, summarizes the total facility PTE in comparison to the Title V Major Source thresholds for each regulated air pollutant.

Table 3: Facility-Wide Potential to Emit – Regulated Air Pollutants

Source Category	Regulated Air Pollutant (tons/yr)					
	NOx	CO	PM	SO2	VOC	CO2e
Combustion	155.10	365.18	64.55	30.84	89.80	148,092
Evaporative Loss (VOC)	0	0	0	0	1.81	0
PM10	0	0	26.27	0	0	0
Facility PTE	**155.10**	**365.18**	**90.82**	**30.84**	**91.61**	**148,092**
Major Source Thresholds	**100**	**100**	**100**	**100**	**100**	**100,000**

As demonstrated above, Syar Industries, Inc. has a PTE for NOx, CO, and Greenhouse Gases on a CO_2-equivalent (CO2e) basis that exceeds the Major Source thresholds for those pollutants. However, the estimated actual emissions are significantly below both the PTE and the Major Source thresholds. Therefore, Syar Industries, Inc. is eligible for a Synthetic Minor Operating Permit (SMOP).

Table 4 summarizes the facility-wide PTE for hazardous air pollutants. Rather than speciate each HAP separately, emission factors for Total HAPs from AP-42, Chapter 11.1 "Hot Mix Asphalt Plants" were utilized. The primary source of HAP emissions at Syar Industries are the combustion sources. As shown below, the PTE for total combined HAP emissions for each source is less than 10 tons per year, and the total combined HAP emissions for the Syar Industries facility is less than 25 tons per year. Therefore, Syar Industries is not a major source of HAPs. The HAP emission calculations are shown in Appendix A.

Table 4: Facility-Wide Potential to Emit – Hazardous Air Pollutants

Source Description	Total Hazardous Air Pollutant Emissions (tons/yr)
S-26 Hot Mix Asphalt Plant #1	5.57
S-27 Hot Mix Asphalt Plant #2	9.29
S-65 Hot Oil Heater	0.10
Facility PTE	**14.96**
Major Source Thresholds	**10 tpy of any single HAP, 25 tpy of any combination of HAPs**

Table 5 summarizes the estimated actual emissions from the facility based on the maximum material throughput or fuel use data for the years 2007 through 2010.

Table 5: Estimated Actual Emissions – Facility-Wide

PTE Totals	Regulated Air Pollutant (tons/yr)					
	NOx	CO	PM	SO2	VOC	CO2e
Combustion	7.01	15.15	2.62	1.22	3.64	4,768
Evaporative Loss (VOC)	0	0	0	0	0.59	0
PM10	0	0	2.04	0	0	0
Maximum Actual Emissions	**17.7**	**14.6**	**4.68**	**0.2**	**2.4**	**4,768**
Major Source Thresholds	**100**	**100**	**100**	**100**	**100**	**100,000**

SYNTHETIC MINOR OPERATING PERMIT

To be eligible for a synthetic minor permit, a facility must accept permit conditions that limit their potential to emit to levels less than each Title V emission threshold (95 tons/year of NO_x, CO, POC, PM_{10}, and SO_2, 9 tons/year of any single hazardous air pollutant (HAP), and 23 tons/year of all HAPs combined). In addition, EPA has recently adopted Title V permitting thresholds for greenhouse gas (GHG) emissions that became effective for all sites on July 1, 2011. Any site that has the potential to emit more than 100,000 tons/year of greenhouse gases (expressed as CO_2 equivalent) will be deemed a major facility and is required to obtain a Title V permit. To be eligible for a Synthetic Minor Operating Permit for greenhouse gas emissions, the facility must accept permit conditions limiting the facility's potential to emit GHGs to 90% of the Title V permitting threshold, or 90,000 tons/year of CO_2 equivalent emissions per BAAQMD Regulation 2-6-423.2.2.

Under the proposed SMOP, Syar Industries, Inc. will be subject to federally-enforceable permit conditions that limit NOx and CO emissions to 95 tons/year each and CO_2e emissions to 90,000 tons/year. Compliance with these limits will be demonstrated on a rolling monthly basis through the use of an emission calculation procedure that utilizes a material throughput or fuel use rate and an emission factor that is specified to each source or source type.

DETERMINATION OF EMISSIONS

As discussed earlier, Syar Industries' potential to emit for PM10, SO2, VOC, and HAPs do not exceed their respective Title V permitting thresholds. Therefore, Syar will not be required to calculate their ongoing annual emissions for those pollutants. However, Syar's PTE for NOx, CO, and CO2e do exceed their respective Title V permitting thresholds. Therefore, Syar will be required to calculate their ongoing annual emissions for those pollutants to demonstrate that they are a synthetic minor facility.

Syar will utilize AP-42 emission factors for NOx and CO and 40 CFR 98 emission factors for CO2e and records of actual natural gas usage and hot mix asphalt production throughput.

SYNTHETIC MINOR OPERATING PERMIT CONDITIONS

The proposed Synthetic Minor Operating Permit will include the following permit conditions to ensure that the facility will comply with Regulation 2-6-423 on a continuing basis to avoid designation as a Title V facility.

SYNTHETIC MINOR OPERATING PERMIT

Syar Industries, Inc.
2301 Napa-Vallejo Highway, Napa CA 94588
Application #23532
Plant #A2158

This facility, Site #A2158, has a synthetic minor operating permit. This operating permit covers all sources of regulated air pollutants existing at this facility as of the date of permit issuance.

The following permit conditions establish the federally-enforceable permit terms to ensure that this facility is classified as a Synthetic Minor Facility under District Regulation 2, Rule 6, Major Facility Review, and ensure that it is not subject to the permitting requirements of Title V of the Federal Clean Air Act as amended in 1990 and 40 CFR Part 70. All applications submitted by the applicant and all modifications to the plant's equipment after issuance of the synthetic minor permit must be evaluated to ensure that the facility will not exceed the synthetic minor general limits below, and that sufficient monitoring, recordkeeping, and reporting requirements are imposed to ensure the enforceability of the limits.

Any revision to a condition establishing this facility's status as a Synthetic Minor Facility or any new permit term that would limit emissions of a new or modified source for the purpose of maintaining the facility as a synthetic minor must undergo the procedures specified by Regulation 2, Rule 6, section 423. The basis for the synthetic minor conditions is an emission limit of 95 tons per year for regulated air pollutants, 90,000 tons per year for greenhouse gases (on a CO_2-equivalent basis), an emission limit for a single hazardous air pollutant (HAP) of 9 tons per year, and an emission limit for a combination of hazardous air pollutants of 23 tons per year.

1. In no event shall the emissions from this site exceed any of the emission limits listed below.

NOx	95 tons/year
CO	95 tons/year
POC	95 tons/year
PM10	95 tons/year
SO_2	95 tons/year
Any Single HAP	9 tons/year
Combination of HAPs	23 tons/year
CO_2e	90,000 tons/year

Syar Industries, Inc. has successfully demonstrated that the facility wide potential to emit POC, PM10, SO2 and HAPs are below the Title V permitting emission thresholds. However, the potential to emit NOx, CO, and CO2e are each above their respective Title V permitting thresholds. Therefore, additional monitoring is required for those pollutants under the synthetic minor operating permit. (Basis: Regulation 2-6-423)

2. The owner/operator shall demonstrate compliance with the emission limits for NOx, CO, and CO_2e specified in part 1 by following the procedures outlined below for the sources indicated:

   a. S-26 Asphaltic Concrete Plant #1 and S-27 Asphaltic Plant #2: Unless otherwise approved by the BAAQMD, the owner/operator shall utilize the following emission factors for NOx, CO, and CO_2e to calculate annual emissions for those pollutants. The natural gas consumption rates applied to the CO2e emission factor shall be obtained from actual gas meter throughput. The hot mix asphalt throughput rate applied to the NOx and CO emission factors shall be based upon facility production records.

NOx	0.055 lb/ton of hot mix asphalt
CO	0.13 lb/ton of hot mix asphalt
CO2e	117.1 lb/MM BTU

   b. S-65 Hot Oil Heater: Unless otherwise approved by the BAAQMD, the owner/operator shall utilize the following emission factors for NOx, CO, and CO2e to calculate annual emissions for those pollutants. The natural gas consumption rates applied to these emission factors shall be obtained from actual gas meter throughput. If a dedicated gas meter is not available for S-65 Hot Oil Heater, then the owner/operator can use an estimate of proportional usage relative to overall facility natural gas usage.

NOx	0.1 lb/MM BTU
CO	0.0824 lb/MM BTU
CO2e	117.1 lb/MM BTU

   Emissions of NOx, CO, and CO_2e from each source shall be calculated and recorded on a monthly basis. Annual emissions shall be summarized on a rolling 12-month basis. All records required by the SMOP shall be kept on site and be available for inspection by BAAQMD personnel for at least 5 years from the date that a record was made. (Basis: Regulation 2-6-423)

3. The owner/operator shall develop and maintain monitoring tables to clearly demonstrate compliance with the NOx, CO, and CO_2e SMOP limits on a rolling 12-month basis beginning with the first calendar month after the issuance of the SMOP. All monitoring tables shall be updated as applicable when equipment is added to or removed from the facility. (Basis: Regulation 2-6-423)

RECOMMENDATION

The District is proposing to issue a Synthetic Minor Operating Permit to Syar Industries, Inc., facility #A2158. In accordance with SIP Regulation 2-6-423.3, this preliminary decision is subject to a 30-day public comment period and 30-day EPA review period. At the conclusion of the comment/review period, the District will make a final decision on the issuance of the SMOP after consideration of any comments submitted by the public or EPA Region 9.

By: _____
Dennis Jang
Senior Air Quality Engineer

Date: _____

APPENDIX A

Combustion Source Emission Calculations

PTE Combination Sources

Source #	Source Description	Max. T-Put Rate ton/hr	Hours of Operation (hr/yr)	CO E.F. (lb/ton)	CO Emission Rate lb/yr	CO Emission Rate ton/yr	NOx E.F. (lb/ton)	NOx Emission Rate lb/yr	NOx Emission Rate ton/yr	POC E.F. (lb/ton)	POC Emission Rate lb/yr	POC Emission Rate ton/yr	SOx E.F. (lb/ton)	SOx Emission Rate lb/yr	SOx Emission Rate ton/yr	PM10 E.F. (lb/ton)	PM10 Emission Rate lb/yr	PM10 Emission Rate ton/yr	CO2 E.F. (lb/ton)	CO2 Emission Rate lb/yr	CO2 Emission Rate ton/yr	CH4 E.F. (lb/ton)	CH4 Emission Rate lb/yr	CH4 Emission Rate ton/yr	N2O E.F. (lb/ton)	N2O Emission Rate lb/yr	N2O Emission Rate ton/yr
26	Hot Mix Asphalt Drum Mixer #1	240	8760	0.13	273,312.00	136.66	0.055	115,632.00	57.82	0.032	67,276.80	33.64	0.011	23,126.40	11.56	0.023	48,355.20	24.18	33	69,379,200.00	34,689.60	0.012	25,228.80	12.61	0.0008	1,681.92	0.84
27	Hot Mix Asphalt Drum Mixer #2	400	8760	0.13	455,520.00	227.76	0.055	192,720.00	96.36	0.032	112,128.00	56.06	0.011	38,544.00	19.27	0.023	80,592.00	40.30	33	115,632,000.00	57,816.00	0.012	42,048.00	21.02	0.0008	2,803.20	1.40
65	Hot Oil Heater	2.115 (MM BTU/hr)	8760	0.0824 (lb/MM BTU)	1,526.66	0.76	0.1 (lb/MM BTU)	1,852.74	0.93	0.011 (lb/MM BTU)	203.80	0.10	0.0006 (lb/MM BTU)	11.12	0.01	0.008 (lb/MM BTU)	148.22	0.07	117 (lb/MM BTU)	2,167,705.80	1,083.85	0.0023 (lb/MM BTU)	42.61	0.02	0.00022 (lb/MM BTU)	4.08	0.00
					Total:	**365.18**		**Total :**	**155.10**		**Total:**	**89.80**		**Total:**	**30.84**		**Total:**	**64.55**		**Total:**	**93,589.45**		**Total:**	**33.66**		**Total:**	**2.24**
																							CO2e	**706.85**		**CO2e**	**695.83**
																				Total GHG PTE:	**94,992.13**						

Actual Emissions Combination Sources

Source #	Source Description	Max. T-Put Rate ton/yr*	Hours of Operation (hr/yr)	CO E.F. (lb/ton)	CO Emission Rate lb/yr	CO Emission Rate ton/yr	NOx E.F. (lb/ton)	NOx Emission Rate lb/yr	NOx Emission Rate ton/yr	POC E.F. (lb/ton)	POC Emission Rate lb/yr	POC Emission Rate ton/yr	SOx E.F. (lb/ton)	SOx Emission Rate lb/yr	SOx Emission Rate ton/yr	PM10 E.F. (lb/ton)	PM10 Emission Rate lb/yr	PM10 Emission Rate ton/yr	CO2 E.F. (lb/ton)	CO2 Emission Rate lb/yr	CO2 Emission Rate ton/yr	CH4 E.F. (lb/ton)	CH4 Emission Rate lb/yr	CH4 Emission Rate ton/yr	N2O E.F. (lb/ton)	N2O Emission Rate lb/yr	N2O Emission Rate ton/yr
26	Hot Mix Asphalt Drum Mixer #1	50,368.00	n/a	0.13	6,547.84	3.27	0.055	2,770.24	1.39	0.032	1,611.78	0.81	0.011	554.05	0.28	0.023	1,158.46	0.58	33	1,662,144.00	831.07	0.012	604.42	0.30	0.0008	40.29	0.02
27	Hot Mix Asphalt Drum Mixer #2	170,989.00	n/a	0.13	22,228.57	11.11	0.055	9,404.40	4.70	0.032	5,471.65	2.74	0.011	1,880.88	0.94	0.023	3,932.75	1.97	33	5,642,637.00	2,821.32	0.012	2,051.87	1.03	0.0008	136.79	0.07
65	Hot Oil Heater	2.115 (MM BTU/hr)	8760	0.0824 (lb/MM BTU)	1,526.66	0.76	0.1 (lb/MM BTU)	1,852.74	0.93	0.011 (lb/MM BTU)	203.80	0.10	0.0006 (lb/MM BTU)	11.12	0.01	0.008 (lb/MM BTU)	148.22	0.07	117 (lb/MM BTU)	2,167,705.80	1,083.85	0.0023 (lb/MM BTU)	42.61	0.02	0.00022 (lb/MM BTU)	4.08	0.00
					Total:	**15.15**		**Total :**	**7.01**		**Total:**	**3.64**		**Total:**	**1.22**		**Total:**	**2.62**		**Total:**	**4,736.24**		**Total:**	**1.35**		**Total:**	**0.09**
																							CO2e	**28.34**		**CO2e**	**28.08**
																				Total GHG Actual:	**4,792.66**						

PTE HAP Emissions

Source #	Source Description	Pollutant	Emission Factor (lb/ton)	Emission Rate lb/yr	Emission Rate lb/ton
S-26	Hot Mix Asphalt Drum Mixer #1	Total HAPs	0.0053	11,142.72	5.57
S-27	Hot Mix Asphalt Drum Mixer #2	Total HAPs	0.0053	18,571.20	9.29
S-65	Hot Oil Heater	Total HAPs	0.011 (lb/MM BTU)	203.80	0.10
				Total:	**14.96**

APPENDIX B

PM10 Emission Calculations

PTE	**PM-10 Sources**					
Source #	Source Description	Max. T-Put Rate	Hours of Operation	Emission Factor	Emission Rate	
		ton/hr	hr/yr	lb/ton	lb/yr	ton/yr
1	Primary Crusher	500	8,760	0.00054	2365.20	1.18
2	Secondary Crusher	350	8,760	0.00054	1655.64	0.83
3	Secondary Crusher	420	8,760	0.00054	1986.77	0.99
4	Secondary Crusher	130	8,760	0.00054	614.95	0.31
8	Secondary Crusher	150	8,760	0.00054	709.56	0.35
55	Conveyors Blue Rock	200	8,760	0.000046	80.59	0.04
64	Aggregate Storage	50,000	n/a	0.0033	165.00	0.08
71	Secondary Crusher	100	8,760	0.00054	473.04	0.24
76	Surge Storage Bin	200	8,760	0.000046	80.59	0.04
80	Sand Plant Feed Hopper w/conveyor	300	8,760	0.000046	3626.64	1.81
81	Triple Deck Screen	300	8,760	0.0022	5781.60	2.89
82	Sand Conveyor System	300	8,760	0.000046	3626.64	1.81
83	Scalper Screen	140	8,760	0.00074	907.54	0.45
84	Jaw Crusher	210	8,760	0.00054	993.38	0.50
85	Two Deck Screen	280	8,760	0.00074	1815.07	0.91
86	Master Impact Crusher	250	8,760	0.00054	1182.60	0.59
87	Gravel/Sand Screening	250	8,760	0.0022	4818.00	2.41
88	Conveyor Belt System (30)	600	8,760	0.000046	7253.28	3.63
92	Conveyor Belt System	60	8,760	0.000046	725.33	0.36
93	Sand/Aggregate Storage Silo (300 ton)	10	8,760	0.0033	289.08	0.14
94	Sand/Aggregate Storage Silo (300 ton)	10	8,760	0.0033	289.08	0.14
95	Sand/Aggregate Storage Silo (300 ton)	10	8,760	0.0033	289.08	0.14
96	Sand/Aggregate Storage Silo (300 ton)	10	8,760	0.0033	289.08	0.14
97	Sand/Aggregate Storage Silo (300 ton)	10	8,760	0.0033	289.08	0.14
98	Sand/Aggregate Storage Silo (300 ton)	10	8,760	0.0033	289.08	0.14
99	Telsmith 2-deck screen	300	8,760	0.0022	5781.60	2.89
100	Screen	210	8,760	0.0022	4047.12	2.02
101	Screen	110	8,760	0.0022	2119.92	1.06
					Total:	**26.27**

Actual	**Emissions PM-10 Only Sources**					
Source #	Source Description	Max. T-Put Rate	Hours of Operation	Emission Factor	Emission Rate	
		ton/yr	hr/yr	lb/ton	lb/yr	ton/yr
1	Primary Crusher	581202	n/a	0.00054	313.85	0.16
2	Secondary Crusher	523082	n/a	0.00054	282.46	0.14
3	Secondary Crusher	287695	n/a	0.00054	155.36	0.08
4	Secondary Crusher	143848	n/a	0.00054	77.68	0.04
8	Secondary Crusher	0	n/a	0.00054	0.00	0.00
55	Conveyors Blue Rock	581202	n/a	0.000046	26.74	0.01
64	Aggregate Storage	37,002	n/a	0.0033	122.11	0.06
71	Secondary Crusher	113158	n/a	0.00054	61.11	0.03
76	Surge Storage Bin	80739	n/a	0.000046	3.71	0.00
80	Sand Plant Feed Hopper w/conveyor	51992	n/a	0.000046	2.39	0.00
81	Triple Deck Screen	51992	n/a	0.0022	114.38	0.06
82	Sand Conveyor System	51992	n/a	0.000046	2.39	0.00
83	Scalper Screen	43323	n/a	0.00074	32.06	0.02
84	Jaw Crusher	201500	n/a	0.00054	108.81	0.05
85	Two Deck Screen	201500	n/a	0.00074	149.11	0.07
86	Master Impact Crusher	126735	n/a	0.00054	68.44	0.03
87	Gravel/Sand Screening	201500	n/a	0.0022	443.30	0.22
88	Conveyor Belt System (30)	201500	n/a	0.000046	9.27	0.00
92	Conveyor Belt System	0	n/a	0.000046	0.00	0.00
93	Sand/Aggregate Storage Silo (300 ton)	0	n/a	0.0033	0.00	0.00
94	Sand/Aggregate Storage Silo (300 ton)	0	n/a	0.0033	0.00	0.00
95	Sand/Aggregate Storage Silo (300 ton)	0	n/a	0.0033	0.00	0.00
96	Sand/Aggregate Storage Silo (300 ton)	0	n/a	0.0033	0.00	0.00
97	Sand/Aggregate Storage Silo (300 ton)	0	n/a	0.0033	0.00	0.00
98	Sand/Aggregate Storage Silo (300 ton)	0	n/a	0.0033	0.00	0.00
99	Telsmith 2-deck screen	523082	n/a	0.0022	1150.78	0.58
100	Screen	286695	n/a	0.0022	630.73	0.32
101	Screen	143848	n/a	0.0022	316.47	0.16
					Total:	**2.04**

APPENDIX C

Greenhouse Gas Emission Calculations

	GHG PTE Emissions													
Source Number	Source Description	Maximum Firing Rate	Units	Fuel Type	max. ann. operating hours	CO2 E.F.	Units	CO2 Emissions ton/yr	CH4 E.F.*	Units	CH4 Emissions ton/yr (CO2e)	N2O E.F.*	Units	N2O Emissions ton/yr (CO2e)
26	Hot Mix Asphalt Drum Mixer #1	85.7143	thou cf/hr	Natural Gas	8760	117	lb/MM BTU	46,121.41	0.0462	lb/MM BTU	18.21	0.0682	lb/MM BTU	26.88
26		0.652	thou gal/hr	Diesel	8760	22,300	lb/thou gal	63,683.45	19.13	lb/thou gal	54.63	56.47	lb/thou gal	169.33
27	Hot Mix Asphalt Drum Mixer #2	154.2857	thou cf/hr	Natural Gas	8760	117	lb/MM BTU	83,018.51	0.0462	lb/MM BTU	32.78	0.0682	lb/MM BTU	48.39
27		0.8	thou gal/hr	Diesel	8760	22,300	lb/thou gal	78,139.20	19.13	lb/thou gal	67.03	56.47	lb/thou gal	207.76
65	Hot Oil Heater	2.0143	thou cf/hr	Natural Gas	8760	117	lb/MM BTU	1,083.86	0.0462	lb/MM BTU	0.43	0.0682	lb/MM BTU	0.63
							Nat. Gas PTE:	**130,351.11**	**ton/yr (CO2e)**					
							Diesel PTE:	**143,406.32**	**ton/yr (CO2e)**					
	*includes global warming potentials													

	GHG Actual Emissions													
Source Number	Source Description	Max. Ann. Fuel Use Rate	Units	Fuel Type	max. ann. operating hours	CO2 E.F.	Units	CO2 Emissions ton/yr	CH4 E.F.*	Units	CH4 Emissions ton/yr (CO2e)	N2O E.F.*	Units	N2O Emissions ton/yr (CO2e)
26	Hot Mix Asphalt Drum Mixer #1	20882	thou cf/yr	Natural Gas	n/a	117	lb/MM BTU	1,282.68	0.0462	lb/MM BTU	0.51	0.0682	lb/MM BTU	0.75
26		0	thou gal/yr	Diesel	n/a	22,300	lb/thou gal	0.00	19.13	lb/thou gal	0.00	56.47	lb/thou gal	0.00
27	Hot Mix Asphalt Drum Mixer #2	56657	thou cf/yr	Natural Gas	n/a	117	lb/MM BTU	3,480.16	0.0462	lb/MM BTU	1.37	0.0682	lb/MM BTU	2.03
27		0	thou gal/yr	Diesel	n/a	22,300	lb/thou gal	0.00	19.13	lb/thou gal	0.00	56.47	lb/thou gal	0.00
65	Hot Oil Heater	2.0143	thou cf/yr	Natural Gas	n/a	117	lb/MM BTU	0.12	0.0462	lb/MM BTU	0.00	0.0682	lb/MM BTU	0.00
							Actual Emissions:	**4,767.61**	**ton/yr (CO2e)**					
	*includes global warming potentials													

APPENDIX D

VOC Emission Calculations

PTE	**POC Sources**					
Source #	Source Description	Max. T-Put Rate	Hours of Operation	POC E.F.	POC Emission Rate	
			(hr/yr)	(lb/ton)	lb/yr	ton/yr
9	Diesel Tank D14 (exempt)				negligible	0.00
10	Diesel Tank 15A (exempt)				negligible	0.00
11	Diesel Tank D-10 (exempt)				negligible	0.00
13	Diesel Tank D15F (exempt)				negligible	0.00
14	Diesel Tank D-12 (exempt)				negligible	0.00
18	Diesel Tank D13 (exempt)				negligible	0.00
19	Diesel Service Station				negligible	0.00
22	Motor Oil Tank M7 (exempt)				negligible	0.00
28	Asphalt Tank #1	Per databank, negligible POC Emissions			0.00	0.00
29	Asphalt Tank #2				0.00	0.00
30	Asphalt Tank #3				0.00	0.00
31	Asphalt Tank #4				0.00	0.00
32	Asphalt Tank #5				0.00	0.00
33	Asphalt Tank #6				0.00	0.00
34	Asphalt Tank #7				0.00	0.00
40	Non-Retail GDF	60,000 gal/year			186.00	0.09
56	Diesel Tank D9 (exempt)				negligible	0.00
66	Emulsified Asphalt Tank #11 (exempt)				negligible	0.00
67	Emulsified Asphalt Tank #10 (exempt)				negligible	0.00
68	Asphalt Tank #9	Per databank, negligible POC Emissions			0.00	0.00
69	Asphalt Tank #8				0.00	0.00
74	NM-9 Tank - motor oil (exempt)				negligible	0.00
102	Spray Booth	Limited by permit condition			3,464.00	1.73
					Total:	**1.81**

Actual	**Emissions POC Sources**					
Source #	Source Description	Max. T-Put Rate	Hours of Operation	POC E.F.	POC Emission Rate	
			(hr/yr)	(lb/ton)	lb/yr	ton/yr
9	Diesel Tank D14 (exempt)				negligible	0.00
10	Diesel Tank 15A (exempt)				negligible	0.00
11	Diesel Tank D-10 (exempt)				negligible	0.00
13	Diesel Tank D15F (exempt)				negligible	0.00
14	Diesel Tank D-12 (exempt)				negligible	0.00
18	Diesel Tank D13 (exempt)				negligible	0.00
19	Diesel Service Station				negligible	0.00
22	Motor Oil Tank M7 (exempt)				negligible	0.00
28	Asphalt Tank #1	Per databank, negligible POC Emissions			0.00	0.00
29	Asphalt Tank #2				0.00	0.00
30	Asphalt Tank #3				0.00	0.00
31	Asphalt Tank #4				0.00	0.00
32	Asphalt Tank #5				0.00	0.00
33	Asphalt Tank #6				0.00	0.00
34	Asphalt Tank #7				0.00	0.00
40	Non-Retail GDF	60,000 gal/year			186.00	0.09
56	Diesel Tank D9 (exempt)				negligible	0.00
66	Emulsified Asphalt Tank #11 (exempt)				negligible	0.00
67	Emulsified Asphalt Tank #10 (exempt)				negligible	0.00
68	Asphalt Tank #9	Per databank, negligible POC Emissions			0.00	0.00
69	Asphalt Tank #8				0.00	0.00
74	NM-9 Tank - motor oil (exempt)				negligible	0.00
102	Spray Booth				1,000.00	0.50
					Total:	**0.59**