



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: May 11, 2011

RE: Family Express Corporation / 091 - 30321 - 00141

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot12/3/07



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May 11, 2011

Mr. Tom Navarre
Family Express Corporation
213 South State Road 49
Valparaiso, IN 46383

Re: Exempt Construction and Operation Status,
091-30321-00141

Dear Mr. Navarre:

The application from Family Express Corporation, received on March 8, 2011, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary soil and groundwater remediation system located at 1209 Pine Lake Avenue, La Porte, IN is classified as exempt from air pollution permit requirements:

- (a) One (1) Dual Phase Extraction System (DPE-1), approved for construction in 2011, with a maximum soil vapor extraction airflow rate of 150 actual cubic feet per minute and a maximum groundwater pump-and-treat flow rate of 15 gallons per minute, for remediation of soil and groundwater contaminated with petroleum hydrocarbons.
- (b) Fugitive emissions from paved roads and parking lots with public access.

The following conditions shall be applicable:

1. Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

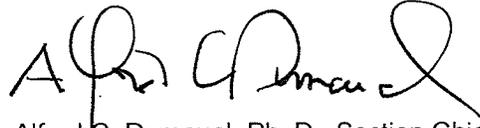
2. Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

This exemption is the first air approval issued to this source. A copy of the Exemption is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source. If you have any questions on this matter, please contact Charles Sullivan, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-232-8422 or at 1-800-451-6027 (ext 28422).

Sincerely,

A handwritten signature in black ink, appearing to read "Alfred C. Dumauval". The signature is fluid and cursive, with a large loop at the end.

Alfred C. Dumauval, Ph. D., Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document (TSD), Appendix A

ACD/cbs

cc: File - La Porte County
La Porte County Health Department
IDEM Northwest Regional Office
Compliance and Enforcement Branch
Billing, Licensing and Training Section

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name:	Family Express Corporation
Source Location:	1209 Pine Lake Avenue, La Porte, Indiana 46350-2040
County:	La Porte
SIC Code:	5541
Exemption No.:	091-30321-00141
Permit Reviewer:	Charles Sullivan

On March 8, 2011, the Office of Air Quality (OAQ) received an application from Family Express Corporation related to the construction and operation of a new dual phase extraction (DPE) system for remediation of soil and groundwater contaminated with petroleum hydrocarbons.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in La Porte County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective November 15, 1990, for the 1-hour standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} .	

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. La Porte County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
 La Porte County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions until 326 IAC 2-2 is revised.

- (c) Other Criteria Pollutants
 La Porte County has been classified as attainment or unclassifiable in Indiana for all regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

Background and Description of Emission Units and Pollution Control Equipment

On March 8, 2011, the Office of Air Quality (OAQ) received an application from Family Express Corporation related to the construction and operation of a new dual phase extraction (DPE) system for remediation of soil and groundwater contaminated with petroleum hydrocarbons.

The source consists of the following existing emission unit:

- (a) One (1) Dual Phase Extraction System (DPE-1), approved for construction in 2011 with a maximum soil vapor extraction airflow rate of 150 actual cubic feet per minute and a maximum groundwater pump-and-treat flow rate of 15 gallons per minute, for remediation of soil and groundwater contaminated with petroleum hydrocarbons, exhausting through stack DPE-1.
- (b) Fugitive emissions from paved roads and parking lots with public access.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Exemption

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
SVE/DPE-1	0.00	0.00	0.00	0.00	0.00	2.7	0.00	1.65	0.59 (Toluene)
Fugitives (paved roads)	1.22	0.23	0.23	0	0	0	0	0	0
Total PTE of Entire Source	1.22	0.23	0.23	0.00	0.00	2.7	0.00	1.65	0.59 (Toluene)
Exemptions Levels	5	5	5	10	10	5 or 10	25	25	10

negl. = negligible
 * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of all regulated criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3 (Exemptions).
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Site Remediation, 40 CFR 63.7880-40 through CFR 63.7957, Subpart GGGGG (326 IAC 20-87), are not included in the permit, since the source does not have the potential to emit 10 tons per year or more of any hazardous air pollutant or 25 tons per year of any combination of hazardous air pollutants and since the remediation is conducted at a gasoline service station in order to clean up remediation material from a leaking underground storage tank (40 CFR 63.7881(b)(4)).
- (c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-1.1-3 (Exemptions)
Exemption applicability is discussed under the Permit Level Determination – Exemption section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
This source is not required to have an operating permit under 326 IAC 2-7 (Part 70), is located in LaPorte County but does not emit VOC or NOx into the ambient air at levels at levels greater than 25 tons per year, and it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year. Therefore, only the additional information requests in 326 IAC 2-6-5 apply to this source.
- (d) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The DPE emission unit at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.
- (h) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (i) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on March 8, 2011.

The construction and operation of this source shall be subject to the conditions of the attached proposed Exemption No. 091-30321-00141. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Charles Sullivan at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8422 or toll free at 1-800-451-6027 extension 28422.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emission Calculations
Potential to Emit**

Company Name: Family Express
Address City IN Zip: 1209 Pine Lake Avenue, La Porte, IN 46350
Permit Number: 091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/11

Petroleum Product	PTE of VOC (tons/yr)
Gasoline & Diesel	2.74

Potential to Emit (PTE) VOCs

	Gasoline and Diesel
Free Product Mass (lbs)	0.00
Potential Gasoline Range Mass (lbs):	14,040
Potential Extended Range Mass (lbs):	2,385
Total VOC (lbs)	16,425
Total VOC (tons)	8.21
Remediation Time in Years	3
PTE of VOCs (tons/year)	2.74
PTE of VOCs (lbs/hr)	0.63

PTE of VOC tons/yr (Gasoline)	2.74
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Potential to Emit (PTE) HAPs

HAPs	Percent by Weight*	PTE of HAPs
Benzene	4.3%	0.119
Toluene	21.5%	0.589
Ethylbenzene	2.7%	0.074
Xylenes	13.0%	0.355
MTBE	12.8%	0.351
Naphthalene	4.3%	0.117
Isopropyl-benzene	1.7%	0.047

Total HAPs		1.65
Worst Case HAP		0.589

Methodology:

The potential emissions rate for VOCs emitted from the DPE system was assumed to be constant during the remediation time period.

Remediation time is assumed to be approximately 3 years

Each petroleum hydrocarbon is considered a VOC.

Soil is assumed to have a soil bulk density of 90 lbs/ft³

Total of VOCs (lbs) = [Total weight of contamination (lbs) (including separate phase hydrocarbons, groundwater, and soil)]

PTE of VOCs (tons/yr) = [Total VOCs (lbs / 2,000 lbs/ton / 3 years]

* Gasoline and Diesel

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: 091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

Contaminant Mass Calculations

1) Free Product

Free Product has not been measured at this site.

Free Product		
<i>Constants</i>		
Volume Conversion	7.48	gal per ft ³
Product Density	6.8	lbs per gal
<i>Input</i>		
Plume Area	Thickness	Soil Porosity
(ft ²)	(ft)	
0	0	0.30
	FPPV:	0 ft ³
	FPV:	0 ft ³
	FPV:	0 gal
	FPM:	0 lbs

Assumptions:

-A typical soil porosity of 30% (0.30) is utilized.

Calculation Explanation:

FPPV (Free Product Plume Volume) (ft³) = Plume Area (ft²) * Thickness (ft)

FPV (Free Product Volume) (ft³) = FPPV (ft³) * Soil Porosity

FPV (gal) = FPV (ft³) * 7.48 (gal/ft³)

FPM (Free Product Mass) (lbs) = FPV (gal) * Product Density (6.8 lbs/gal)

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: E091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

2) Dissolved Phase Contaminant Mass

Dissolved Phase Gasoline				Dissolved Phase Diesel and/or Kerosene			
<i>Constants</i>				<i>Constants</i>			
Volume Conversion	7.48	gal per ft ³		Volume Conversion	7.48	gallons per ft ³	
Water Density	8.35	lbs per gal		Water Density	8.35	lbs per gal	
<i>Input</i>				<i>Input</i>			
Influence Area	Thickness	Soil Porosity	Contam. Conc.	Influence Area	Thickness	Soil Porosity	Contam. Conc.
(ft ²)	(ft)		(ppb)	(ft ²)	(ft)		(ppb)
14,070	6	0.30	29,730	14,070	6	0.30	16,367
	TPV:	84,420	ft ³		TPV:	84,420	ft ³
	IGWV:	25,326	ft ³		IGWV:	25,326	ft ³
	IGWV:	189,438	gal		IGWV:	189,438	gal
	IGWM:	1,581,811	lbs		IGWM:	1,581,811	lbs
	DPHM-G:	47	lbs		DPHM-D:	26	lbs

Assumptions:

- The influence area value is based on the remediation system vacuum radius of influence of 40 feet at each extraction well as determined in the IDEM approved Remediation Work Plan (June 8, 2010) and depicted on Figures 1 and 2 of submitted application package.
- Thickness of groundwater contamination is estimated conservatively at six (6) feet based on the fact that petroleum hydrocarbons have a specific gravity of less than one (1) and will therefore tend to float on the groundwater surface instead of distributing evenly within the water column.
- A typical soil porosity of 30% (0.30) is utilized.
- The contaminant concentration is the average of the historical maximum GRO or DRO concentration as measured in the three (3) monitoring wells located within remediation system vacuum radius of influence (MW-1, MW-2, and MW-3) depicted on Figure 1 of submitted application package.

Calculation Explanation:

TPV (Total Plume Volume) (ft³)= Plume Area (ft²) * Thickness (ft)

IGWV (Impacted Groundwater Volume) (ft³)= TPV (ft³) * Soil Porosity

IGWV (gallons) = IGWV (ft³) * 7.48 (gal/ft³)

IGWM (Impacted Groundwater Mass) (lbs) = IGWV (gal) * Water Density (lbs/gal)

DPHM-G/D (Dissolved Phase Hydrocarbon Mass for Gasoline/Diesel) (lbs) = (Contaminant Concentrations (ppb) / 10⁹) * IGWM (lbs)

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: E091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

Contaminant Mass Calculations Continued

3) Adsorbed Hydrocarbon Mass (Hydrocarbons adsorbed to soil above and below water table)

Soil Adsorbed Gasoline				Soil Adsorbed Diesel and/or Kerosene			
<i>Constants</i>				<i>Constants</i>			
Solid Mineral Density (Quartz)	165.4	lbs/ft ³		Solid Mineral Density (Quartz)	165.4	lbs/ft ³	
<i>Input</i>				<i>Input</i>			
Influence Area	Thickness	Soil Porosity	Contam. Conc.	Influence Area	Thickness	Soil Porosity	Contam. Conc.
(ft ²)	(ft)		(ppm)	(ft ²)	(ft)		(ppm)
14,070	8	0.30	1,074	14,070	8	0.30	181
TISV: 112,560 ft ³ SMV: 78,792 ft ³ SMM: 13,032,197 lbs AHM-G: 13,993 lbs				TISV: 112,560 ft ³ SMV: 78,792 ft ³ SMM: 13,032,197 lbs AHM-D: 2,359 lbs			

Assumptions:

-The influence area value is based on the remediation system vacuum radius of influence of 40 feet at each extraction well as determined in the IDEM approved Remediation Work Plan (June 8, 2010) and depicted on Figures 1 and 2.

-The contaminated thickness was estimated by summing the total thickness of all soil sample intervals exhibiting soil vapor concentrations greater than 100 parts per million (ppm) as measured by a MiniRae 2000 photoionization detector (PID) (Table 1). For calculations, the impacted soil thickness value used is the maximum contaminated thickness observed in borings within the influence area of the remediation system. The maximum contaminated thickness observed was 8 feet in boring SB-5.

-A typical soil porosity of 30% (0.30) is utilized.

-The contaminant concentration is the average of the maximum GRO or ERO concentration (Table 3) measured in each boring located within the respective estimated contaminant plumes (except boring SB-4) depicted on Figures 2. GRO and DRO were not detected in boring SB-4.

Calculation Explanation:

TISV (Total Impacted Soil Volume) (ft³) = Plume Area (ft²) * Thickness (ft)

SMV (Soil Mineral Volume) (ft³) = TISV (ft³) * (1 - Soil Porosity)

SMM (Soil Mineral Mass) (lbs) = SMV (ft³) * Solid Mineral Density (lbs/ft³)

AHM-G/D (Adsorbed Hydrocarbon Mass for Gasoline/Diesel) (lbs) = (Contaminant Concentration (ppm) / 10⁶) * SMM (lbs)

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: E091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

Contaminant Mass Calculations Continued

4) Total Volatile Organic Compounds (VOCs) Potential to Emit

Free Product Mass (lbs):	0	
Potential Gasoline Range Mass (lbs):	14,040	(Sum of DPHM-G and AHM-G)
Potential Extended Range Mass (lbs):	2,385	(Sum of DPHM-D and AHM-D)
Total Hydrocarbon Mass (lbs):	16,424	(Sum of Free Product, Dissolved Phase, and Adsorbed Hydrocarbons)

System Operational Period :	3	years
VOC PTE:	2.7	tons/year

Assumptions:

- System Operational Period is the estimated time that will be required to reduce petroleum impacts at this site to below IDEM closure levels.
- It is assumed that all potential hydrocarbons that can be captured and emitted by the remediation system are composed of 100% VOCs.

Calculation Explanation:

VOC PTE (Total VOCs Potential to Emit) (tons/year) = Total Hydrocarbon Mass (lbs) / 2000 (lbs/ton) / System Operational Period (years)

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: E091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

Contaminant Mass Calculations Continued

5) Individual Hazardous Air Pollutants (HAPs) Potential to Emit

HAP	Gasoline		Diesel		Total Hydrocarbon Mass	
	Concentration	Total Mass PTE (lbs)	Concentration	Total Mass PTE (lbs)	Totals lbs	tons/year (3 years)
Benzene	4.9%	687.95	1%	23.85	711.79	0.12
Toluene	25.0%	3509.92	1%	23.85	3533.77	0.59
Ethylbenzene	3.0%	421.19	1%	23.85	445.04	0.07
Xylenes	15.0%	2105.95	1%	23.85	2129.80	0.35
MTBE	15.0%	2105.95	0%	0.00	2105.95	0.35
Naphthalene	5.0%	701.98	0.01%	0.24	702.22	0.12
Isopropyl-benzene	2.0%	280.79	0%	0.00	280.79	0.05
					Sum:	1.65

Assumptions:

-Maximum HAPs percentages in gasoline based on attached MSDS (benzene 4.9%, toluene 25%, ethylbenzene 3.0%, xylene 15%, MTBE 5%) ASSUMED maximum concentrations in gasoline of other HAPs constituents detected at the site: naphthalene 5%, isopropylbenzene 2%

-Maximum HAPs percentages in diesel based on attached MSDS (naphthalene 0.01%). ASSUMED maximum concentrations in diesel of other HAPs constituents detected at the site: benzene 1.0%, toluene 1.0%, ethylbenzene 1.0%, xylenes 1.0%

Calculation Explanation:

-The individual HAP PTE is estimated by multiplying the total Potential Gasoline Range Mass or Potential Extended Range mass by the corresponding percentage composition in gasoline or diesel fuels.

TABLE 1

Company Name: Family Express #24
 Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
 Permit Number: 091-30321-00141
 Reviewer: Charles Sullivan
 Date: 4/11/2011

Boring	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9
Depth	5/28/08	5/28/08	5/28/08	5/28/08	5/28/08	5/28/08	10/8/08	10/8/08	10/8/08
0-2'	1.2	10.3	2.1	2.4	1.2	42.6	0.3	0.4	0.5
2-4'	0.3	ND	ND	ND	ND	3.3	0.3	0.6	0.4
4-6'	NR	ND	ND	ND	10.5	3.3	0.4	0.7	0.8
6-8'	NR	ND	ND	ND	ND	18.2	0.3	0.4	0.2
8-10'	ND	ND	0.8	ND	39.8	13.2	0.1	0.5	ND
10-12'	ND	ND	1.5	ND	ND	26.7	0.4	0.4	ND
12-14'	7.8	1.0	41.0	ND	161	31.4	0.4	0.3	ND
14-16'	0.8	ND*	775	0.3	730	62.9	0.3	0.1	ND
16-18'	0.1	0.3	37.0	2.8	1,186	1,445	0.3	0.2	ND
18-20'	ND	ND	3.8	ND	157	90.8	0.3	0.2	0.1
20-22'	NA	NA	NA	NA	11.8	5.7	NA	NA	NA
22-24'	NA	NA	NA	NA	5.5	3.4	NA	NA	NA

Boring	SB-10	SB-11	SB-12	SB-13	SB-14	AS-1	SVE-1	PW-1
Depth	10/8/08	10/8/08	10/8/08	10/8/08	10/8/08	1/7/10	1/7/10	1/7/10
0-2'	0.2	ND	0.6	0.3	0.6	ND	ND	ND
2-4'	0.2	ND	0.2	ND	0.6	ND	ND	ND
4-6'	0.2	ND	0.2	ND	0.6	ND	ND	ND
6-8'	0.2	ND	ND	ND	0.7	1.9	ND	ND
8-10'	0.1	ND	0.7	0.2*	0.8	ND	ND	0.2
10-12'	ND	0.1	0.1	ND	0.3	16.5	16.1	24.8
12-14'	0.1	0.1	NA	NA	NA	433	416	102
14-16'	0.1	0.2	NA	NA	NA	1,030	NA	353
16-18'	0.1	0.3	NA	NA	NA	1,047	NA	782
18-20'	0.5	0.3	NA	NA	NA	60.8	NA	262
20-22'	NA	NA	NA	NA	NA	32.4	NA	NA
22-24'	NA	NA	NA	NA	NA	3.1	NA	NA

Readings collected on May 28, 2008 and January 7, 2010 with a Mini Rae Model 2000 Photoionization Detector (PID)

Readings collected on October 8, 2008 with a HNu Model PI 101 PID

All readings reported in parts per million (ppm)

Depth measured in feet below ground surface (ft bgs)

ND = Not detected above PID detection limits

NA = Boring not advanced to this depth

NR = No recovery from this interval

*Samples collected during monitoring well installation on October 22, 2008

All samples in **BOLD** were submitted for laboratory analysis

TABLE 2
Historical Groundwater Analytical Results - GRO and DRO

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: 091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

Sample ID	Date	GRO	DRO
MW-1	6/2/2009	5,230	2,900
	9/15/2009	4,240	1,770
	12/15/2009	2,140	1,210
	3/23/2010	529	<100
MW-2	6/2/2009	48,200	24,000
	9/15/2009	75,800	12,100
	12/15/2009	53,400	11,400
	3/23/2010	22,000	44,000
MW-3	6/2/2009	5,650	2,200
	9/9/2009	8,160	1,340
	12/15/2009	3,890	1,040
	3/23/2010	1,030	<100
MW-4	10/27/2008	<220	<100
	6/2/2009	<220	<100
	9/9/2009	<220	<100
	12/15/2009	<220	<100
	3/23/2010	<220	<100
MW-5	10/27/2008	<220	340
	6/2/2009	<220	329
	9/15/2009	<220	<100
	12/15/2009	<220	156
	3/23/2010	<220	680
MW-6	10/27/2008	<220	<100
	6/2/2009	<220	<100
	9/9/2009	<220	<100
	12/15/2009	<220	<100
	3/23/2010	<220	<100
MW-7	10/27/2008	<220	<100
	6/2/2009	<220	<100
	9/9/2009	<220	<100
	12/15/2009	<220	<100
	3/23/2010	<220	123

Results reported in parts per billion (ppb)

GRO = Gasoline range organics

DRO = Diesel range organics

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: 091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

Historical Maximum Groundwater Concentrations within System Radius of Influence

Well	GRO	DRO
MW-1	5,230	2,900
MW-2	75,800	44,000
MW-3	8,160	2,200
Average	29,730	16,367

Results reported in parts per billion (ppb)

GRO = Gasoline range organics

DRO = Diesel range organics

For dissolved phase contaminant mass calculations, the contaminant concentration is the average of the historical maximum GRO or DRO concentration as measured in the three (3) monitoring wells located within the remediation system vacuum radius of influence (MW-1, MW-2, and MW-3) depicted on Figure 2.

TABLE 3
Soil Boring Analytical Results - GRO and DRO

Company Name: Family Express #24
 Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
 Permit Number: 091-30321-00141
 Reviewer: Charles Sullivan
 Date: 4/11/2011

Sample ID	Depth (feet)	Date	GRO	DRO
SB-1	12-14	5/28/2008	<20	34
SB-2	12-14	5/28/2008	<20	152
	14-16	10/22/2008	<17.6	<24
SB-3	14-16	5/28/2008	191	330
	18-20	5/28/2008	<20	<24
SB-4	16-18	5/28/2008	<20	<25
SB-5	16-18	5/28/2008	1,730	44
	22-24	5/28/2008	<20	<23
SB-6	16-18	5/28/2008	1,300	35
	22-24	5/28/2008	<20	170
SB-7	10-12	10/8/2008	<20	<22
SB-8	4-6	10/8/2008	<20	<24
SB-9	4-6	10/8/2008	<20	<22
SB-10	18-20	10/8/2008	<20	<24
SB-11	16-18	10/8/2008	<20	<24
SB-12	8-10	10/8/2008	<20	<23
SB-13	0-2	10/8/2008	<20	36
	8-10	10/22/2008	<17.4	<23
SB-14	8-10	10/8/2008	<20	<23
RISC RDCL			120	230
RISC I/CDCL			1,500	2,300

Results reported in parts per million (ppm)

GRO = Gasoline range organics

DRO = Diesel range organics

TABLE 3 Continued**Average Soil Concentrations Within Remediation System Radius of Influence**

Company Name: Family Express #24
Address City State Zip: 1209 Pine Lake Avenue La Porte, Indiana
Permit Number: E091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/2011

Boring	GRO	DRO
SB-3	191	330
SB-5	1,730	44
SB-6	1,300	170
Average	1,073.7	181

Results reported in parts per million (ppm)

GRO = Gasoline range organics

DRO = Diesel range organics

The GRO contaminant concentration is the average of the maximum GRO concentration measured in each boring located within the remediation system vacuum radius of influence. Although boring SB-4 is located within the radius of influence of the remediation system, no GRO or DRO was detected in the sample collected from boring SB-4. Boring SB-4 results were not used for calculating average concentrations with the system radius of influence. Therefore, results should be biased high.

**Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads**

**Company Name: Family Express
Address City IN Zip: 1209 Pine Lake Avenue, La Porte, IN 46350
Permit Number: 091-30321-00141
Reviewer: Charles Sullivan
Date: 4/11/11**

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	1100.0	1.0	1100.0	5.0	5500.0	200	0.038	41.7	15208.3
Vehicle (leaving plant) (one-way trip)	1100.0	1.0	1100.0	5.0	5500.0	200	0.038	41.7	15208.3
			0.0		0.0		0.000	0.0	0.0
			0.0		0.0		0.000	0.0	0.0
Total			2200.0		11000.0			83.3	30416.7

Average Vehicle Weight Per Trip =

5.0	tons/trip
-----	-----------

Average Miles Per Trip =

0.04	miles/trip
------	------------

Unmitigated Emission Factor, $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	
where k =	0.082	0.016	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	5.0	5.0	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$
where p =

125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
-----	-----------------------------------------------------------------------

N =

365	days per year
-----	---------------

	PM	PM10	
Unmitigated Emission Factor, $E_f =$	0.08	0.02	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.07	0.01	lb/mile
Dust Control Efficiency =	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.61	0.12	0.56	0.11	0.28	0.05
Vehicle (leaving plant) (one-way trip)	0.61	0.12	0.56	0.11	0.28	0.05
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	1.22	0.23	1.12	0.21	0.56	0.11

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
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Thomas W. Easterly
Commissioner

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TO: Tom Navarre
Family Express Corporation
213 SR 39
Valparaiso, IN 46393

DATE: May 11, 2011

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Exemption
091 - 30321 - 00141

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Nathaniel Canady Creek Run LLC Environmental Engineering
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

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2		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 (Affected Party)									
3		LaPorte County Commissioners 555 Michigan Avenue # 202 LaPorte IN 46350 (Local Official)									
4		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)									
5		LaPorte County Health Department County Complex, 4th Floor, 809 State St. LaPorte IN 46350-3329 (Health Department)									
6		Mr. Dick Paulen Barnes & Thornburg 121 W Franklin Street Elkhart IN 46216 (Affected Party)									
7		Nathaniel Canady Creek Run LLC Environmental Engineering P.O. Box 114 Montpelier IN 47359 (Consultant)									
8		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)									
9		Kaje, LLC 541 Waverly Road LaPorte IN 46350 (Affected Party)									
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