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: December 17, 2009

RE: Superior Environmental Remediation90, Inc / 141-28676-00568

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

Notice of Decision: Approval - Registration

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 IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

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 of 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
FN-REGIS.dot 1/2/08

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REGISTRATION
OFFICE OF AIR QUALITY

Superior Environmental Remediation[90], Inc.
1102 South Bend Avenue
South Bend, Indiana 46617

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. 141-28676-00568	
Issued by: Alfred C. Dumaual, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: December 17, 2009

SECTION A SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary soil and groundwater remediation system (groundwater sparging system with soil vapor extraction).

Source Address:	1102 South Bend Avenue, South Bend, Indiana 46617
Mailing Address:	2101 Lincolnway East, Mishawaka, Indiana 46544
General Source Phone Number:	(574) 256-1490
SIC Code:	4959 and 8999
County Location:	St. Joseph County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) soil vapor remediation system, identified as SVE-1, approved for construction in 2009, consisting of:

(1) One (1) moisture separator, identified as MS-1, with a maximum capacity of 85 gallons;

(2) One (1) 15 HP blower motor, identified as B-1a, with a maximum capacity of 3540 rpm;

(3) One (1) rotary lobe blower, identified as B-1b, with a maximum capacity of 350 cfm;

(4) One (1) heat exchanger, identified as HE-1;

(5) One (1) condensate transfer pump, identified as TP-1, with a maximum capacity of 20 gallons per minute; and

(6) One (1) vapor phase carbon unit, identified as VPC-1, with a maximum capacity of 3.0 psig, exhausting to stack SVE-1.

(b) One (1) soil vapor remediation system, identified as SVE-2, approved for construction in 2009, consisting of:

(1) One (1) moisture separator, identified as MS-2, with a maximum capacity of 85 gallons;

(2) One (1) 15 HP blower motor, identified as B-2a, with a maximum capacity of 3540 rpm;

(3) One (1) rotary lobe blower, identified as B-2b, with a maximum capacity of 350 cfm;

(4) One (1) heat exchanger, identified as HE-2;

(5) One (1) condensate transfer pump, identified as TP-2, with a maximum capacity of 20 gallons per minute; and

(6) One (1) vapor phase carbon unit, identified as VPC-2, with a maximum capacity of 3.0 psig, exhausting to stack SVE-2.

(c) One (1) soil vapor remediation system, identified as SVE-3, approved for construction in 2009, consisting of:

(1) One (1) moisture separator, identified as MS-3, with a maximum capacity of 85 gallons;

(2) One (1) 15 HP blower motor, identified as B-3a, with a maximum capacity of 3540 rpm;

(3) One (1) rotary lobe blower, identified as B-3b, with a maximum capacity of 350 cfm;

(4) One (1) heat exchanger, identified as HE-3;

(5) One (1) condensate transfer pump, identified as TP-3, with a maximum capacity of 20 gallons per minute; and

(6) One (1) vapor phase carbon unit, identified as VPC-3, with a maximum capacity of 3.0 psig, exhausting to stack SVE-3.

(d) One (1) holding tank, identified as HT, approved for construction in 2009, with a maximum capacity of 300 gallons, venting to stacks F-2 and F-3.

(e) One (1) rotary vein air compressor, identified as AC, approved for construction in 2009, with a maximum capacity of 120 cfm.

(f) Fugitive particulate emissions from unpaved roads

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

(a) Violation of any conditions of this registration.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.

(d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to Registration No. 141-28676-00568 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

(a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.

(b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

(c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), 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.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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 registration:

(a) Opacity shall not exceed an average of thirty percent (30%) 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.

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

The Registrant 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).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

REGISTRATION
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Superior Environmental Remediation[90], Inc.
Address:	1102 South Bend Avenue
City:	South Bend, Indiana 46617
Phone Number:	(574) 256-1490
Registration No.:	141-28676-00568

I hereby certify that Superior Environmental Remediation[90], Inc. is :

☐ still in operation.

☐ no longer in operation.

I hereby certify that Superior Environmental Remediation[90], Inc. is :

☐ in compliance with the requirements of Registration No. 141-28676-00568.

☐ not in compliance with the requirements of Registration No. 141-28676-00568.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Description and Location

Source Name:	**Superior Environmental Remediation[90], Inc.**
Source Location:	**1102 South Bend Avenue, South Bend, IN 46617**
County:	**St. Joseph**
SIC Code:	**4959 and 8999**
Registration No.:	**141-28676-00568**
Permit Reviewer:	**Summer Keown**

On November 16, 2009, the Office of Air Quality (OAQ) received an application from Superior Environmental Remediation[90], Inc. related to the construction and operation of a new stationary soil and groundwater remediation system (groundwater sparging system with soil vapor extraction).

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in St. Joseph 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]Attainment effective October 18, 2000, for the 1-hour ozone standard for the South Bend-Elkhart area, including St. Joseph County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour standard was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM2.5.

(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. St. Joseph 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) PM2.5

St. Joseph County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was 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 PM2.5 emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants
St. Joseph County has been classified as attainment or unclassifiable in Indiana for all other criteria 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 2-5.1-2 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Superior Environmental Remediation[90], Inc. on November 16, 2009, relating to the construction and operation of a new stationary soil and groundwater remediation system (groundwater sparging system with soil vapor extraction).

The following is a list of the new emission units:

(a) One (1) soil vapor remediation system, identified as SVE-1, approved for construction in 2009, consisting of:

(1) One (1) moisture separator, identified as MS-1, with a maximum capacity of 85 gallons;

(2) One (1) 15 HP blower motor, identified as B-1a, with a maximum capacity of 3540 rpm;

(3) One (1) rotary lobe blower, identified as B-1b, with a maximum capacity of 350 cfm;

(4) One (1) heat exchanger, identified as HE-1;

(5) One (1) condensate transfer pump, identified as TP-1, with a maximum capacity of 20 gallons per minute; and

(6) One (1) vapor phase carbon unit, identified as VPC-1, with a maximum capacity of 3.0 psig, exhausting to stack SVE-1.

(b) One (1) soil vapor remediation system, identified as SVE-2, approved for construction in 2009, consisting of:

(1) One (1) moisture separator, identified as MS-2, with a maximum capacity of 85 gallons;

(2) One (1) 15 HP blower motor, identified as B-2a, with a maximum capacity of 3540 rpm;

(3) One (1) rotary lobe blower, identified as B-2b, with a maximum capacity of 350 cfm;

(4) One (1) heat exchanger, identified as HE-2;

(5) One (1) condensate transfer pump, identified as TP-2, with a maximum capacity of 20 gallons per minute; and

(6) One (1) vapor phase carbon unit, identified as VPC-2, with a maximum capacity of 3.0 psig, exhausting to stack SVE-2.

(c) One (1) soil vapor remediation system, identified as SVE-3, approved for construction in 2009, consisting of:

(1) One (1) moisture separator, identified as MS-3, with a maximum capacity of 85 gallons;

(2) One (1) 15 HP blower motor, identified as B-3a, with a maximum capacity of 3540 rpm;

(3) One (1) rotary lobe blower, identified as B-3b, with a maximum capacity of 350 cfm;

(4) One (1) heat exchanger, identified as HE-3;

(5) One (1) condensate transfer pump, identified as TP-3, with a maximum capacity of 20 gallons per minute; and

(6) One (1) vapor phase carbon unit, identified as VPC-3, with a maximum capacity of 3.0 psig, exhausting to stack SVE-3.

(d) One (1) holding tank, identified as HT, approved for construction in 2009, with a maximum capacity of 300 gallons, venting to stacks F-2 and F-3.

(e) One (1) rotary vein air compressor, identified as AC, approved for construction in 2009, with a maximum capacity of 120 cfm.

(f) Fugitive particulate emissions from unpaved roads

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 – Registration

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	NOx	VOC	CO	Total HAPs	Worst Single HAP
Soil Vapor Extraction System (SVE-1, SVE-2 and SVE-3)	0.00	0.00	0.00	0.00	0.00	24.76	0.00	0.68	0.26 (xylene)
Unpaved Roads	negl.	negl.	negl.	0.00	0.00	0.00	0.00	0.00	0.00
Total PTE of Entire Source	**negl.**	**negl.**	**negl.**	**0.00**	**0.00**	**24.76**	**0.00**	**0.68**	**0.26 (xylene)**
Exemptions Levels	5	5	5	10	10	5 or 10	25	25	10
Registration Levels	25	25	25	25	25	25	100	25	10

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10 *	PM2.5	SO_2	NOx	VOC	CO	Total HAPs	Worst Single HAP
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 VOC are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.

(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 Hazardous Air Pollutants: Site Remediation, 40 CFR 63, Subpart GGGGG (326 IAC 20-87), are not included in the permit, since the soil vapor recovery systems (SVE-1, SVE-2 and SVE-3) are not major sources of HAPs.

(c) There are no 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 2-5.1-2 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration 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)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

(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), because the source is located in the area north of Kern Road and east of Pine Road, opacity shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of thirty percent (30%) 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)
Each of the emission units 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 November 16, 2009.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 141-28676-00568. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Summer Keown 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) 234-5175 or toll free at 1-800-451-6027 extension 4-5175.

(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 Summary

Company Name: Superior Environmental Remediation[90], Inc.
Address City IN Zip: 1102 South Bend Avenue, South Bend, Indiana 46617
Registration No: 141-28676-00568
Reviewer: Summer Keown
Date: December 1, 2009

Uncontrolled Emissions

Emission Units	PM	PM10	PM2.5	SO2	VOC	CO	NOx	Single HAP	Total HAPs
Soil Vapor Extraction System (SVE-1, SVE-2 and SVE-3)	0.00	0.00	0.00	0.00	24.76	0.00	0.00	0.26 (xylene)	0.68
Unpaved Roads	4.50E-04	1.15E-04	1.15E-04	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**24.76**	**0.00**	**0.00**	**0.26 (xylene)**	**0.68**

Volatile Organic Compound (VOC) Emissions Calculations
6 Point Dual Soil Vapor Extraction System with 3 Point Air Sparge

Company Name: Superior Environmental Remediation[90], Inc.
Address : 2101 Lincolnway East, Mishawaka, IN 46544
Site Address: 1102 South Bend Avenue, South Bend, IN
Registration No.: 141-28676-00568
Reviewer: Summer Keown
Date: December 1, 2009

Weight Of Total Petroleum Hydrocarbons (TPH-gro + TPH-ero) To Be Remediated From Groundwater Phase By SVE-AS System (lbs)

Groundwater TPH-gro	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Zone 10	TOTAL
Concentration Range in Concentric Gradient (ug/L)	0.22-0.4	0.4-0.6	0.6-0.8	0.8-1.0	1.0-1.1	1.1-1.2	1.2-1.4	1.4-1.6	1.6-1.8	1.8-2.0	
Maximum Concentration in Gradient	**0.40**	**0.60**	**0.80**	**1.00**	**1.10**	**1.20**	**1.40**	**1.60**	**1.80**	**2.00**	
Contaminated Area within delineated concentration (ft^2)	17699.03	12060.72	8187.47	5410.49	3548.49	2831.32	2202.28	1258.01	603.98	204.62	
Preceding concentric area (ft^2)	-12060.72	-8187.47	-5410.49	-3548.55	-2831.32	-2202.28	-1258.01	-603.98	-204.62		
Area from Secondary Plume Component	1220.78	315.89	36.89								
Preceding concentric area (ft^2)	-315.89	-36.89									
Area from Tertiary Plume Component											
Preceding concentric area (ft^2)											
Total area (ft^2)	**6543.20**	**4152.25**	**2813.87**	**1861.94**	**717.17**	**629.04**	**944.27**	**654.03**	**399.36**	**204.62**	
Depth of Contamination (ft)[a]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Porosity[b]	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Volume of TPH-gro Contaminated Groundwater (ft^3)[c]	9814.80	6228.38	4220.81	2792.91	1075.76	943.56	1416.41	981.05	599.04	306.93	
Volume of TPH-gro Contaminated Groundwater (gal)	73424.52	46594.47	31575.84	20893.76	8047.72	7058.77	10596.13	7339.20	4481.42	2296.14	
Weight of TPH-gro in Groundwater (lb)[d]	**0.00025**	**0.00023**	**0.00021**	**0.00017**	**0.00007**	**0.00007**	**0.00012**	**0.00010**	**0.00007**	**0.00004**	**0.00134**

Groundwater TPH-ero	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	TOTAL
Concentration Range in Concentric Gradient (ug/L)	0.1-0.3	0.3-0.5	0.5-0.7	0.7-0.9	0.9-1.1	1.1-1.3	1.3-1.5	
Maximum Concentration in Gradient	**0.3**	**0.5**	**0.7**	**0.9**	**1.1**	**1.3**	**1.5**	
Contaminated Area within delineated concentration (ft^2)	43766.10	21865.69	11280.03	5529.99	2078.64	702.97	68.75	
Preceding concentric area (ft^2)	-21865.69	-11280.03	-5529.99	-2078.64	-702.97	-68.75		
Area from Secondary Plume Component	72.10							
Preceding concentric area (ft^2)								
Area from Tertiary Plume Component								
Preceding concentric area (ft^2)								
Total area (ft^2)	**21972.51**	**10585.66**	**5750.04**	**3451.35**	**1375.67**	**634.22**	**68.75**	
Depth of Contamination (ft)[a]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Porosity[b]	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Volume of TPH-gro Contaminated Groundwater (ft^3)[c]	32958.77	15878.49	8625.06	5177.03	2063.51	951.33	103.13	
Volume of TPH-gro Contaminated Groundwater (gal)	246564.52	118786.98	64524.07	38729.32	15437.08	7116.90	771.48	
Weight of TPH-gro in Groundwater (lb)[d]	**0.00062**	**0.00050**	**0.00038**	**0.00029**	**0.00014**	**0.00008**	**0.00001**	**0.00201**

Total Potential To Emit (PTE) VOC

	TPY	lb/yr	lb/day	lb/hr
Total VOC (Soil and Groundwater) (lbs)	247594.47			
Total VOC (Soil and Groundwater) (tons)	123.80			
Remediation Time (years)	5.0			
PTE Of VOC (tons/yr)	24.76	49518.89	135.67	5.65

TPH DISTRIBUTION

	lb	%
TPH-gro =	28177.28	11.38
TPH-ero =	219417.19	88.62

Volatile Organic Compound (VOC) Emissions Calculations, Continued

Company Name: Superior Environmental Remediation[90], Inc.
Address : 2101 Lincolnway East, Mishawaka, IN 46544
Site Address: 1102 South Bend Avenue, South Bend, IN
Registration No.: 141-28676-00568
Reviewer: Summer Keown
Date: December 1, 2009

Weight Of Total Petroleum Hydrocarbons (TPH-gro + TPH-ero) To Be Remediated From Soil Phase By SVE-AS System (lbs)

Soil TPH gro	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Zone 10	Zone 11	Zone 12	TOTAL
Concentration Range in Concentric Gradient (mg/Kg)	25-100	100-120	120-500	500-1000	1000-1500-	1500-2000	2000-2500	2500-3000	3000-3500	3500-4000	4500	4500-5000	
Maximum Concentration in Gradient	**100**	**120**	**500**	**1000**	**1500**	**2000**	**2500**	**3000**	**3500**	**4000**	**4500**	**5000**	
Contaminated Area within delineated concentration (ft^2)	17808.99	13026.82	10683.52	6503.9	3838.77	2386.62	1471.37	1029.86	612.03	324.94	137.13	30.73	
Preceding concentric area (ft^2)	-13026.82	-10683.52	-6503.9	-3838.77	-2386.62	-1471.37	-1029.86	-612.03	-324.94	-137.13	-30.73		
Area from Secondary Plume Component Preceding concentric area (ft^2)	724.87												
Area from Tertiary Plume Component Preceding concentric area (ft^2)													
Total area (ft^2)	**5507.04**	**2343.3**	**4179.62**	**2665.13**	**1452.15**	**915.25**	**441.51**	**417.83**	**287.09**	**187.81**	**106.4**	**30.73**	18533.86
Thickness of Soil (ft)[e]	21	21	21	21	21	21	21	21	21	21	21	21	
Volume of Contaminated Soil (ft^3) [3]	115647.84	49209.3	87772.02	55967.73	30495.15	19220.25	9271.71	8774.43	6028.89	3944.01	2234.4	645.33	
Soil density (lbs/ft^3)[b]	93.56	93.56	93.56	93.56	93.56	93.56	93.56	93.56	93.56	93.56	93.56	93.56	
Concentration of TPH-gro (lb/MMlbs of soil)[f]	**1082.00**	**552.48**	**4105.98**	**5236.34**	**4279.69**	**3596.49**	**2168.65**	**2462.81**	**1974.22**	**1476.01**	**940.73**	**301.89**	**28177.28**

Soil TPH ero	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	TOTAL
Concentration Range in Concentric Gradient (mg/Kg)	80-1000	1000-3000	3000-5000	7000	7000-9000	9000-1100	1100-1300	1300-1500	
Maximum Concentration in Gradient	**1000**	**3000**	**5000**	**7000**	**9000**	**1100**	**1300**	1500	
Contaminated Area within delineated concentration (ft^2)	28484.08	18968.3	8558.03	4540.53	2567.03	1299.45	525.83	83.35	
Preceding concentric area (ft^2)	-18968.26	-8558.03	-4540.53	-2567.03	1299.45	-525.83	-83.35		
Area from Secondary Plume Component Preceding concentric area (ft^2)		226.09							
Area from Tertiary Plume Component Preceding concentric area (ft^2)									
Total area (ft^2)	**9515.82**	**10636.32**	**4017.5**	**1973.5**	**3866.48**	**773.62**	**442.48**	**83.35**	31309.07
Thickness of Soil (ft)[e]	21	21	21	21	21	21	21	21	
Volume of contaminated soil (ft^3)	199832.22	223362.72	84367.5	41443.5	81196.08	16246.02	9292.08	1750.35	
Soil density (lbs/ft^3)[b]	93.56	93.56	93.56	93.56	93.56	93.56	93.56	93.56	
Concentration of TPH-gro (lb/MMlbs of soil)[f]	**18696.30**	**62693.45**	**39467.12**	**27142.18**	**68370.35**	**1671.98**	**1130.18**	**245.64**	**219417.19**

Total Weight of TPH in Groundwater (lbs)	**0.003**
Total Soil Remediated (sq.ft.)	49842.93

Total Weight of Total TPH in Soil (lbs)	**247594.47**

ASSUMPTIONS:

Impacted groundwater and soil plume area determined by delineation techniques and graphically depicted by Kriging methods.
Figures 4, 5, 6, and 7 present the TPH delineated plumes and corresponding concentration gradients, designated zones, and areas.
Total TPH in groundwater or soil at specified zoned gradient assumes worst-case concentration in the zoned gradient.
Each zone is defined by the delimited concentration area of the zone plus/minus any intersecting or parallel zoned areas at the specified concentration range.
[a] Average thickness of contamination in water phase = 5 ft. @ depth range 20 - 25 ft bgs.
[b] Soil density (water bearing sand seams) at sandy soil porosity (0.3) =1.5 g/cm3 or 93.56 lb/cf
[e] Average thickness of contamination in soil = 21 ft. @ depth 7.0 - 28.0 ft bgs.
The potential emissions rate for VOCs emitted from the remediation system was assumed to be constant during the remediation time period.
The remediation time is estimated to take 60 months (5 years).
Each of the total petroleum hydrocarbon (TPH) components is considered a VOC.

METHODOLOGY:

[c] Volume of contaminated water = [Plume Area (ft^2)] * [Depth of Contamination (ft)] * [Porosity]
[d] Weight of TPH in Groundwater (Dissolved Phase) (lbs) = [[Concentration of TPH (µg/L of water)] * [(g/1,000,000 µg)] * [3.785L/gal] * [Volume of contaminated water (gal)] * [lb/453.6g]

[f] Weight of TPH in Soil (Absorbed to Soil) (lbs) = [Concentration of TPH (lb/million lbs of soil)] * [Volume of the contaminated soil (ft^3)] * [Soil density (lbs/ft^3)] * [million lbs/1,000,000 lbs]
mg/Kg = (lb/million lbs of soil)

Total TPH in groundwater or soil = sum of zoned concentration distributions for TPH-gro and TPH ero, respectively.

PTE of VOCs (tons/yr) = [Total VOC (Soil and Groundwater) (tons)] / [Remediation Time (years)]

HAP Emissions Calculations

6 Point Dual Soil Vapor Extraction System with 3 Point Air Sparge

Company Name: Superior Environmental Remediation[90], Inc.
Address : 2101 Lincolnway East, Mishawaka, IN 46544
Site Address: 1102 South Bend Avenue, South Bend, IN
Registration No.: 141-28676-00568
Reviewer: Summer Keown
Date: December 1, 2009

TPH PTE (TPY) 24.76 **TPH-gro (TPY)** 1.62

Potential To Emit (PTE) of Gasoline TPH Constituents (TPH-gro)

Compound Class	Compound	CAS#	Molecular Weight (g/mol)	Average Composition (% by weight)*	Potential to Emit (tons/yr)	Hazardous Air Pollutant
	1,3-Butadiene	106-99-0	54.1	0.0037%	6.0E-05	HAP
Alkyl-Monoaromatics	Benzene	71-43-2	78.1	1.9000%	3.1E-02	HAP
	Toluene	108-88-3	92.1	8.1000%	1.3E-01	HAP
	Ethylbenzene	100-41-4	106.2	1.7000%	2.8E-02	HAP
	m-Xylene	108-38-3	106.2	4.6000%	7.4E-02	HAP
	o-Xylene	95-47-6	106.2	2.5000%	4.0E-02	HAP
	p-Xylene	106-42-3	106.2	1.9000%	3.1E-02	HAP
Branched Alkanes	2,2,4-Trimethylpentane	540-84-1	114.2	2.4000%	3.9E-02	HAP
n-Alkanes	n-Hexane	110-54-3	86.2	2.4000%	3.9E-02	HAP
	Naphthalene	91-20-3	128.2	0.2500%	4.0E-03	HAP
Oxygenates	Methyl-tert-butyl ether	1634-04-4	88.1	0.3300%	5.3E-03	HAP
				Total 26.08%		

TPH PTE (TPY) 24.76 **TPH-ero** 23.14

Potential To Emit (PTE) of Diesel related TPH Constituents (TPH-ero)

Compound Class	Compound	CAS#	Molecular Weight (g/mol)	Average Composition (% by weight)*	Potential to Emit (tons/yr)	Hazardous Air Pollutant
Alkyl-Monoaromatics	Benzene	71-43-2	78.1	0.02955%	6.84E-03	Y
	Toluene	108-88-3	92.1	0.18500%	4.28E-02	Y
	Ethylbenzene	100-41-4	106.2	0.06800%	1.57E-02	Y
	tot-Xylene	1330-20-7	106.2	0.50000%	1.16E-01	Y
Diaromatics	Biphenyl	92-52-4		0.06300%	1.46E-02	Y
Metals	As	N020		0.00001%	1.64E-06	Y
	Cd	N078		0.00005%	1.13E-05	Y
	Cr	N090		0.00017%	3.93E-05	Y
	Fe			0.00370%	8.56E-04	N
	Mn	N450		0.00032%	7.40E-05	Y
Naphthalenes	Naphthalene	91-20-3	128.2	0.26000%	6.02E-02	Y

Obtained from: Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science. Available on the Internet at: http://www.aehs.com/publications/catalog/contents/tph.htm

METHODOLOGY:
PTE of HAPS (tons/yr) = [PTE of VOC (tons/yr)] * [Average HAP Composition (% by weight)]

TOTAL COMBINED HAPs SUMMARY

COMPOUND	GASOLENE COMPONENT	DIESEL COMPONENT	TOTAL HAP			
	TPY	TPY	**TPY**	**lb/yr**	**lb/day**	**lb/hr**
1,3-Butadiene	6.0E-05		6.0E-05	1.2E-01	3.3E-04	1.4E-05
Benzene	3.1E-02	6.8E-03	3.8E-02	7.5E+01	2.1E-01	8.6E-03
Toluene	0.13	4.3E-02	1.7E-01	3.5E+02	9.5E-01	4.0E-02
Ethylbenzene	2.8E-02	1.6E-02	4.3E-02	8.7E+01	2.4E-01	9.9E-03
Xylene	1.5E-01	1.2E-01	2.6E-01	5.2E+02	1.4E+00	6.0E-02
2,2,4-Trimethylpentane	3.9E-02		3.9E-02	7.8E+01	2.1E-01	8.9E-03
n-Hexane	3.9E-02		3.9E-02	7.8E+01	2.1E-01	8.9E-03
Naphthalene	4.0E-03	6.0E-02	6.4E-02	1.3E+02	3.5E-01	1.5E-02
Methyl-tert-butyl ether	5.3E-03		5.3E-03	1.1E+01	2.9E-02	1.2E-03
Biphenyl		1.5E-02	1.5E-02	2.9E+01	8.0E-02	3.3E-03
Arsenic		1.6E-06	1.6E-06	3.3E-03	9.0E-06	3.8E-07
Cadmium		1.1E-05	1.1E-05	2.3E-02	6.2E-05	2.6E-06
Chromium		3.9E-05	3.9E-05	7.9E-02	2.2E-04	9.0E-06
Manganese		7.4E-05	7.4E-05	1.5E-01	4.1E-04	1.7E-05
TOTAL HAPs (TPY)	**0.42**	**0.26**	**0.68**	**1.4E+03**	**3.72**	**0.15**

PTE of Worst Case Single HAP (tons/yr) 0.26

Appendix A: Emission Calculations
Unpaved Roads
Company Name Superior Environmental Remediation[90], Inc.
Address City IN Zip: 1102 South Bend Avenue, South Bend, Indiana 46617
Permit Number: 141-28676-00568
Reviewer: Summer Keown
Date: December 1, 2009

The emission factor was calculated using the following AP-42 equation:

$$E = k\left(\frac{s}{12}\right)^{a}\left(\frac{W}{3}\right)^{b}$$

E = size specific emission factor (lb/VMT)
s = surface silt content (%)
W = mean vehicle weight (tons)
k = pound per vehicle mile traveled

Emission Type	Empirical Coefficients					Emission Factor (lb/VMT)	Feet per round trip per vehicle	Vehicles per year	Mileage (VMT)	Potential Emissions			
	k	a	b	s	W					lb/hr	lb/day	lb/yr	TPY
PM10	1.5	0.9	0.45	4.8	2	0.55	184	12	0.42	2.62E-05	6.28E-04	0.23	1.15E-04
PM30	4.9	0.7	0.45	4.8	2	2.15	184	12	0.42	1.03E-04	2.46E-03	0.90	4.50E-04

Methodology

Potential emissions (lb/hr) = Emission factor (lb/VMT) * Mileage (VMT) * 1 year/8760 hours

Potential emissions (lb/day) = Potential emissions (lb/hr) * 24 hours/day

Potential emissions (lb/yr) = Potential emissions (lb/day) * 365 days/year

Potential emissions (tons/yr) = Potential emissions (lb/yr) * 1 ton/2000 lbs

Calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003)

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
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TO: R. Scott Liggett
Superior Environmental Remediation90, Inc
2101 Lincoln Way E
Mishawaka, IN 46544

DATE: December 17, 2009

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

SUBJECT: Final Decision
Registration
141-28676-00568

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:
Sammy Sirhan (Environmental Director)
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.

Mail Code 61-53

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3		Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 *(Affected Party)*									
4		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 *(Affected Party)*									
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