INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: June 27, 2013

RE: Northrup Grumman Systems / 145-33152-00080

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.dot 6/13/2013

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Joseph P. Kwan
Northrop Grumman Systems Corporation
2980 Fairview Park Drive
Falls Church, VA 22042-4511

June 27, 2013

Re: Exempt Construction and Operation Status,
E145-33152-00080

Dear Joseph P. Kwan:

The application from Northrop Grumman Systems Corporation, received on May 2, 2013, 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 Electrical Resistance Heating remediation system located at 630 South Noble Street, Shelbyville, Indiana is classified as exempt from air pollution permit requirements:

(a) Soil Vapor Extraction (SVE) system with two (2) stacks, identified as SVE-1, approved for construction in 2013. The SVE system will emit treated soil vapor through Stack 1. Entrained water will be separated from the vapor and directed through an air stripper and emitted through Stack 2.

The following conditions shall be applicable:

1. 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.

2. 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.

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 Joshua Levering, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-6543 or at 1-800-451-6027 (ext. 4-6543).

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

JA/jjl

cc: File - Shelby County
Shelby County Health Department
Compliance and Enforcement Branch

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name:	Northrop Grumman Systems Corporation
Source Location:	630 South Noble Street, Shelbyville, Indiana 46176
County:	Shelby
SIC Code:	9511 (Air and Water Resource and Solid Waste Management)
Exemption No.:	E145-33152-00080
Permit Reviewer:	Joshua Levering

On May 2, 2013, the Office of Air Quality (OAQ) received an application from Northrop Grumman Systems Corporation related to the construction and operation of a new stationary Electrical Resistance Heating remediation system.

Source Definition

This source is currently owned by Northrop Grumman Systems Corporation. The site is the Former TRW Shelbyville Facility, which was issued Exemption No. 145-3527-00032, on March 22, 1994. The operations at this site ran intermittently for approximately 18 months. This operation is no longer present at the site.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Shelby County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Attainment effective October 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 October 18, 2000, for the 1-hour ozone standard which 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. Shelby 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) $PM_{2.5}$
Shelby 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. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$, SO_2, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Shelby 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, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Northrop Grumman Systems Corporation on May 2, 2013, relating to the construction and operation of vapor and liquid treatment components of a new Electrical Resistance Heating remediation system.

The following is a list of the new emission units and pollution control devices:

(a) Soil Vapor Extraction (SVE) system with two (2) stacks, identified as SVE-1, approved for construction in 2013. The SVE system will emit treated soil vapor through Stack 1. Entrained water will be separated from the vapor and directed through an air stripper and emitted through Stack 2.

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	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Soil Extraction	--	--	--	--	--	--	--	--	2.55	2.19 PCE (Perchloro-ethylene)

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)									
	PM	PM10*	PM2.5*	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Groundwater Extraction (Air Stripper)	--	--	--	--	--	--	--	--	0.11	0.11 PCE (Perchloro-ethylene)
Total PTE of Entire Source	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.66**	**2.30 PCE (Perchloro-ethylene)**
Exemptions Levels**	< 5	< 5	< 5	< 10	< 10	< 10	< 25	< 100,000	< 25	< 10

negl. = negligible
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a regulated air pollutant".
**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) 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) 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.

(c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is 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)

(f) 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)

(g) 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)
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), 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)
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.

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 May 2, 2013.

The construction and operation of this source shall be subject to the conditions of the attached proposed Exemption No. 145-33152-00080. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Joshua Levering 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) 234-6543 or toll free at 1-800-451-6027 extension 4-6543.

(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.in.gov/idem

Appendix A: Emissions Calculations
Emissions Summary

Company Name: Northrop Grumman Systems Corporation
Address City IN Zip: 630 South Noble Street, Shelbyville, Indiana 46176
Exemption: E145-33152-00080
Reviewer: Joshua Levering
Date: 6/1/2013

		PCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	TCE	VC	TOTAL HAPs
Groundwater	Air Stripper	0.11	--	--	--	--	--	--	0.11
Soil Sections	A	0.32	0.01	0.01	0.01	0.01	0.01	0.01	0.39
	B	0.38	0.01	0.01	0.01	0.01	0.01	0.01	0.45
	C	0.11	4.32E-04	4.32E-04	4.32E-04	1.90E-02	2.89E-03	4.32E-04	0.13
	D	0.86	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	0.94
	E	0.52	0.02	0.02	0.02	0.02	0.02	0.02	0.64
	TOTAL (tons/year)	2.30	0.06	0.06	0.06	0.07	0.06	0.06	2.66

Company Name: **Northrop Grumman Systems Corporation**
Address City IN Zip: **630 South Noble Street, Shelbyville, Indiana 46176**
Exemption: **E145-33152-00080**
Reviewer: **Joshua Levering**
Date: **6/1/2013**

	Hot Spot 1- NE corner section (2 different depths)		Hot Spot 2 - middle piece of Section D	Top 16 feet minus Hot Spots 1 and 2	Entire Bottom 16 feet
Total Volume (cubic feet)	Section A (0-2.5')	Section B (2.5'-16')	Section C (0-16')	Section D (0-16')	Section E (16'-32')
654,000.00	3,237.50	17,482.50	8,640.00	297,640.00	327,000.00

Company Name: Northrop Grumman Systems Corporation
Address City IN Zip: 630 South Noble Street, Shelbyville, Indiana 46176
Exemption: E145-33152-00080
Reviewer: Joshua Levering
Date: 6/1/2013

Section A - Soil Mass Calculation for HAPs (0-2.5' feet)

Equation

$$M_V = C_{ave} \times V \times \rho$$

Parameters

$C_{ave\ (PCE)}$	2,000	mg/kg	worst case soil concentration
$C_{ave\ (1,1\text{-}DCE)}$	64	mg/kg	worst case soil concentration
$C_{ave\ (cis\text{-}1,2\text{-}DCE)}$	64	mg/kg	worst case soil concentration
ave (trans-1,2-DCE)	64	mg/kg	worst case soil concentration
$C_{ave\ (1,1,1\text{-}TCA)}$	64	mg/kg	worst case soil concentration
$C_{ave\ (TCE)}$	64	mg/kg	worst case soil concentration
$C_{ave\ (VC)}$	64	mg/kg	worst case soil concentration
V	3,238	ft^3	treatment volume
ρ	1.6	g/cm^3	soil density

	kgs	lbs	tons
Total PCE =	293.59	647.24	0.32
Total 1,1-DCE =	9.39	20.71	0.01
Total cis-1,2-DCE =	9.39	20.71	0.01
Total trans-1,2-DCE =	9.39	20.71	0.01
Total 1,1,1-TCA =	9.39	20.71	0.01
Total TCE =	9.39	20.71	0.01
Total VC =	9.39	20.71	0.01

Company Name: Northrop Grumman Systems Corporation
Address City IN Zip: 630 South Noble Street, Shelbyville, Indiana 46176
Exemption: E145-33152-00080
Reviewer: Joshua Levering
Date: 6/1/2013

Section B - Soil Mass Calculation for HAPs (2.5'-16' feet)

Equation

$$M_V = C_{ave} \times V \times \rho$$

Parameters

$C_{ave\ (PCE)}$	430	mg/kg	worst case soil concentration
$C_{ave\ (1,1\text{-}DCE)}$	15	mg/kg	worst case soil concentration
$C_{ave\ (cis\text{-}1,2\text{-}DCE)}$	15	mg/kg	worst case soil concentration
$_{ave\ (trans\text{-}1,2\text{-}DCE)}$	15	mg/kg	worst case soil concentration
$C_{ave\ (1,1,1\text{-}TCA)}$	15	mg/kg	worst case soil concentration
$C_{ave\ (TCE)}$	15	mg/kg	worst case soil concentration
$C_{ave\ (VC)}$	15	mg/kg	worst case soil concentration
V	17,483	ft^3	treatment volume
ρ	1.6	g/cm^3	soil density

	kgs	lbs	tons
Total PCE =	340.86	751.45	0.38
Total 1,1-DCE =	11.89	26.21	0.01
Total cis-1,2-DCE =	11.89	26.21	0.01
Total trans-1,2-DCE =	11.89	26.21	0.01
Total 1,1,1-TCA =	11.89	26.21	0.01
Total TCE =	11.89	26.21	0.01
Total VC =	11.89	26.21	0.01

Company Name: Northrop Grumman Systems Corporation
Address City IN Zip: 630 South Noble Street, Shelbyville, Indiana 46176
Exemption: E145-33152-00080
Reviewer: Joshua Levering
Date: 6/1/2013

Section C - Soil Mass Calculation for HAPs (0-16' feet)

Equation

$$M_V = C_{ave} \times V \times \rho$$

Parameters

$C_{ave\ (PCE)}$	250	mg/kg	worst case soil concentration
$C_{ave\ (1,1\text{-}DCE)}$	1.0	mg/kg	worst case soil concentration
$C_{ave\ (cis\text{-}1,2\text{-}DCE)}$	1.0	mg/kg	worst case soil concentration
$_{ave\ (trans\text{-}1,2\text{-}DCE)}$	1.0	mg/kg	worst case soil concentration
$C_{ave\ (1,1,1\text{-}TCA)}$	44.0	mg/kg	worst case soil concentration
$C_{ave\ (TCE)}$	6.7	mg/kg	worst case soil concentration
$C_{ave\ (VC)}$	1.0	mg/kg	worst case soil concentration
V	8,640	ft^3	treatment volume
ρ	1.6	g/cm^3	soil density

	kgs	lbs	tons
Total PCE =	97.94	215.91	0.11
Total 1,1-DCE =	0.39	0.86	4.32E-04
Total cis-1,2-DCE =	0.39	0.86	4.32E-04
Total trans-1,2-DCE =	0.39	0.86	4.32E-04
Total 1,1,1-TCA =	17.24	38.00	1.90E-02
Total TCE =	2.62	5.79	2.89E-03
Total VC =	0.39	0.86	4.32E-04

Company Name: Northrop Grumman Systems Corporation
Address City IN Zip: 630 South Noble Street, Shelbyville, Indiana 46176
Exemption: E145-33152-00080
Reviewer: Joshua Levering
Date: 6/1/2013

Section D - Soil Mass Calculation for HAPs (0-16' feet)

Equation

$$M_V = C_{ave} \times V \times \rho$$

Parameters

$C_{ave\ (PCE)}$	58	mg/kg	worst case soil concentration
$C_{ave\ (1,1\text{-}DCE)}$	0.83	mg/kg	worst case soil concentration
$C_{ave\ (cis\text{-}1,2\text{-}DCE)}$	0.83	mg/kg	worst case soil concentration
ave (trans-1,2-DCE)	0.83	mg/kg	worst case soil concentration
$C_{ave\ (1,1,1\text{-}TCA)}$	0.83	mg/kg	worst case soil concentration
$C_{ave\ (TCE)}$	0.83	mg/kg	worst case soil concentration
$C_{ave\ (VC)}$	0.83	mg/kg	worst case soil concentration
V	297,640	ft^3	treatment volume
ρ	1.6	g/cm^3	soil density

	kgs	lbs	tons
Total PCE =	782.74	1,725.63	0.86
Total 1,1-DCE =	11.20	24.69	1.23E-02
Total cis-1,2-DCE =	11.20	24.69	1.23E-02
Total trans-1,2-DCE =	11.20	24.69	1.23E-02
Total 1,1,1-TCA =	11.20	24.69	1.23E-02
Total TCE =	11.20	24.69	1.23E-02
Total VC =	11.20	24.69	1.23E-02

Company Name: Northrop Grumman Systems Corporation
Address City IN Zip: 630 South Noble Street, Shelbyville, Indiana 46176
Exemption: E145-33152-00080
Reviewer: Joshua Levering
Date: 6/1/2013

Section E - Saturated Soil (16'-32') Mass Calculation for HAPs

Equations

$$C_{soil} = C_{gw} \times DAF[k_d + (\theta_w + \theta_a H^{\wedge\prime})/\rho]$$

$$M_S = "C_{soil"} \times V \times \rho$$

Parameters

$C_{ave\ (PCE)}$	32	mg/L	worst case concentration
$C_{ave\ (1,1\text{-}DCE)}$	1.2	mg/L	worst case concentration
$C_{ave\ (cis\text{-}1,2\text{-}DCE)}$	1.2	mg/L	worst case concentration
$C_{ave\ (trans\text{-}1,2\text{-}DCE)}$	1.2	mg/L	worst case concentration
$C_{ave\ (1,1,1\text{-}TCA)}$	1.2	mg/L	worst case concentration
$C_{ave\ (TCE)}$	1.2	mg/L	worst case concentration
$C_{ave\ (VC)}$	1.2	mg/L	worst case concentration
DAF	20	unitless	dilution attenuation factor
k_d	= koc x foc	L/kg	partition coefficient
koc	155	L/kg	adsorption coefficient
foc	0.002	unitless	fraction organic carbon
θ_w	0.30	unitless	water filled porosity
θ_a	0.13	unitless	air filled porosity
H'	0.754	unitless	Henry's Law constant
ρ	1.60	kg/L	soil density
V	327,000	ft^3	treatment volume
ρ	1.6	g/cm^3	soil density

	kgs	lbs	tons
Total PCE =	474.46	1,045.99	0.52
Total 1,1-DCE =	17.79	39.22	0.02
Total cis-1,2-DCE =	17.79	39.22	0.02
Total trans-1,2-DCE =	17.79	39.22	0.02
Total 1,1,1-TCA =	17.79	39.22	0.02
Total TCE =	17.79	39.22	0.02
Total VC =	17.79	39.22	0.02

Company Name: **Northrop Grumman Systems Corporation**
Address City IN Zip: **630 South Noble Street, Shelbyville, Indiana 46176**
Exemption: **E145-33152-00080**
Reviewer: **Joshua Levering**
Date: **6/1/2013**

Perchloroethylene (PCE) in Groundwater

Assumptions

Groundwater concentration	C_{gw}	4.80	mg/L
Entrained water flow rate	Q	10	gpm
Air stripper efficiency	Eff	99.837	%

Equation

$$\text{Emission Rate} = \quad \times \quad \times$$

Emission Rate

211.66 lb/year
0.11 tons/year

Company Name: Northrop Grumman Systems Corporation
Address City IN Zip: 630 South Noble Street, Shelbyville, Indiana 46176
Exemption: E145-33152-00080
Reviewer: Joshua Levering
Date: 6/1/2013

Table 1. Summary of Detected VOCs in Soil
Former TRW Shelbyville Facility
Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1455.4557	1021.5561	T-1	14-May-07	T-1 (24-28")	2 - 2.3 ft	PACE	<35	<35	<35	**1,100**	<35	<35	<35
1455.4557	1021.5561	T-1	14-May-07	T-1 (28-36")	2.3 - 3 ft	PACE	<0.74	<0.74	<0.74	**23**	<0.74	<0.74	<0.74
1455.4557	994.693	T-2	14-May-07	T-2 (24-30")	2 - 2.5 ft	PACE	<0.0057	<0.0057	<0.0057	0.014	<0.0057	<0.0057	<0.0057
1455.4557	972.5101	T-3	14-May-07	T-3 ('6-12")	0.5 - 1 ft	PACE	<0.32	<0.32	<0.32	**8.2**	<0.32	<0.32	<0.32
1455.4557	918.6865	T-4	14-May-07	T-4 ('0-6")	0 - 0.5 ft	PACE	<1.1	<1.1	<1.1	**27**	<1.1	<1.1	<1.1
1459.3236	1028.6752	T-5	14-May-07	T-5 (12-18")	1 - 1.5 ft	PACE	<64	<64	<64	**2,000**	<64	<64	<64
1459.3236	1028.6752	T-5	14-May-07	T-5 (30-36")	2.5 - 3 ft	PACE	<15	<15	<15	**430**	<15	<15	<15
1464.1205	1015.0421	SB-1	15-May-07	SB-1 (9-11)	9 - 11 ft	PACE	<0.29	<0.29	<0.29	**6.3**	<0.29	<0.29	<0.29
1464.8134	1039.0889	SB-2	14-May-07	SB-2 (10-12)	10 - 12 ft	PACE	<0.054	<0.054	<0.054	**0.93**	<0.054	<0.054	<0.054
1458.7259	1056.6538	SB-3	14-May-07	SB-3 (11-12.5)	11 - 12.5 ft	PACE	<0.21	<0.21	<0.21	**0.41**	<0.21	<0.21	<0.21
1467.0498	985.419	SB-4	15-May-07	SB-4 (10-11)	10 - 11 ft	PACE	<0.57	<0.57	<0.57	**14**	<0.57	<0.57	<0.57
1467.0498	985.419	SB-4	15-May-07	SB-4 (24.5-25.5)	24.5 - 25.5 ft	PACE	<1.2	<1.2	<1.2	**32**	<1.2	<1.2	<1.2
1481.8049	949.4864	SB-5	15-May-07	SB-5 (9-10)	9 - 10 ft	PACE	<0.22	<0.22	<0.22	**4.8**	<0.22	<0.22	<0.22
1508.5209	1046.8375	SB-6	14-May-07	SB-6 (2-4)	2 - 4 ft	PACE	<0.014	<0.014	<0.014	**0.29**	<0.014	<0.014	<0.014
1508.5209	1046.8375	SB-6	14-May-07	SB-6 (10-12)	10 - 12 ft	PACE	<0.0079	<0.0079	<0.0079	**0.13**	<0.0079	<0.0079	<0.0079
1508.5209	1046.8375	SB-6	15-May-07	SB-6 (24-25)	24 - 25 ft	PACE	<0.23	<0.23	<0.23	**3.4**	<0.23	<0.23	<0.23
1498.499	1022.7555	SB-7	14-May-07	SB-7 (10-12)	10 - 12 ft	PACE	<0.026	<0.026	<0.026	**0.41**	<0.026	<0.026	<0.026
1656.9849	990.1479	SB-8	14-May-07	SB-8 (10-12)	10 - 12 ft	PACE	<0.0048	<0.0048	<0.0048	**0.052**	<0.0048	<0.0048	<0.0048
1596.2639	938.904	SB-9	15-May-07	SB-9 (8-10)	7 - 8 ft	PACE	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041
1596.2639	938.904	SB-9	15-May-07	SB-9 (10-12)	10 - 12 ft	PACE	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
1508.0342	850.636	SB-10	15-May-07	SB-10 (10-12)	10 - 12 ft	PACE	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034	<0.0034
1486.6573	994.2216	SB-11	15-May-07	SB-11 (10-11)	10 - 11 ft	PACE	<0.22	<0.22	<0.22	**3.5**	<0.22	<0.22	<0.22
1461.6428	1030.9214	SB-12	15-May-07	SB-12 (11-12)	11 - 12 ft	PACE	<0.21	<0.21	<0.21	**2.1**	<0.21	<0.21	<0.21
1461.6428	1030.9214	SB-12	15-May-07	SB-12 (22-24)	7 - 8 ft	PACE	<0.21	<0.21	<0.21	**0.5**	<0.21	<0.21	<0.21
1478.1033	879.6832	SB-13	16-May-07	SB-13 (7-8)	7 - 8 ft	PACE	<0.0039	<0.0039	<0.0039	**0.0095**	<0.0039	<0.0039	<0.0039

Table 1. Summary of Detected VOCs in Soil
Former TRW Shelbyville Facility
Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (0-1)	0 - 1 ft	ECCS	1.0 U	1.0 U	1.0 U	**250 E**	**44**	**6.7**	*1.0 U*
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (1-2)	1 - 2 ft	PACE	0.0046 U	0.0046 U	0.0046 U	**6.28**	**0.0143**	0.0046 U	0.0046 U
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (2-4)	2 - 4 ft	PACE	0.0046 U	0.0046 U	0.0046 U	**2.05**	**0.0155**	0.0046 U	0.0046 U
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (4-6)	4 - 6 ft	PACE	0.0044 U	0.0044 U	0.0044 U	**0.631**	**0.0258**	**0.0048**	0.0044 U
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (6-8)	6 - 8 ft	ECCS	0.57 U	0.57 U	0.57 U	**25**	0.57 U	*0.57 U*	*0.57 U*
1487.7392	942.0933	SB-14	7-Aug-08	SB-14B (6-8) Resample	6 - 8 ft	ECCS	0.58 U	0.58 U	0.58 U	**1.2**	0.58 U	*0.58 U*	*0.58 U*
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (8-10)	8 - 10 ft	ECCS	0.95 U	0.95 U	0.95 U	**1.2**	0.95 U	*0.95 U*	*0.95 U*
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (10-12)	10 - 12 ft	ECCS	0.58 U	0.58 U	0.58 U	**4.0**	0.58 U	*0.58 U*	*0.58 U*
1487.7392	942.0933	SB-14	4-Aug-08	SB-14 (12-14)	12 - 14 ft	ECCS	0.55 U	0.55 U	0.55 U	**3.5**	0.55 U	*0.55 U*	*0.55 U*
1487.7392	962.0933	SB-15	4-Aug-08	SB-15 (2-4)	2 - 4 ft	ECCS	0.63 U	0.63 U	0.63 U	**58**	**0.63**	*0.63 U*	*0.63 U*
1487.7392	962.0933	SB-15	4-Aug-08	SB-15 (4-6)	4 - 6 ft	ECCS	0.67 U	0.67 U	0.67 U	**6.4**	0.67 U	*0.67 U*	*0.67 U*
1487.7392	962.0933	SB-15	4-Aug-08	SB-15 (6-8)	6 - 8 ft	ECCS	0.58 U	0.58 U	0.58 U	**1.3**	0.58 U	*0.58 U*	*0.58 U*
1487.7392	962.0933	SB-15	4-Aug-08	SB-15 (8-10)	8 - 10 ft	ECCS	0.59 U	0.59 U	0.59 U	**3.1**	0.59 U	*0.59 U*	*0.59 U*
1487.7392	962.0933	SB-15	4-Aug-08	SB-15 (10-12)	10 - 12 ft	ECCS	0.55 U	0.55 U	0.55 U	**10**	0.55 U	*0.55 U*	*0.55 U*
1487.7392	962.0933	SB-15	4-Aug-08	SB-15 (12-14)	12 - 14 ft	ECCS	0.55 U	0.55 U	0.55 U	**13**	0.55 U	*0.55 U*	*0.55 U*
1487.7392	962.0933	SB-15	4-Aug-08	SB-15 (14-16)	14 - 16 ft	ECCS	0.49 U	0.49 U	0.49 U	**1.1**	0.49 U	*0.49 U*	*0.49 U*
1487.7392	982.0933	SB-16	4-Aug-08	SB-16 (2-4)	2 - 4 ft	ECCS	0.59 U	0.59 U	0.59 U	**4.8**	0.59 U	*0.59 U*	*0.59 U*
1487.7392	982.0933	SB-16	4-Aug-08	SB-16 (4-6)	4 - 6 ft	ECCS	0.65 U	0.65 U	0.65 U	**0.83**	0.65 U	*0.65 U*	*0.65 U*
1487.7392	982.0933	SB-16	4-Aug-08	SB-16 (6-8)	6 - 8 ft	ECCS	0.73 U	0.73 U	0.73 U	**1.1**	0.73 U	*0.73 U*	*0.73 U*
1487.7392	982.0933	SB-16	4-Aug-08	SB-16 (8-10)	8 - 10 ft	ECCS	0.75 U	0.75 U	0.75 U	**4.2**	0.75 U	*0.75 U*	*0.75 U*
1487.7392	982.0933	SB-16	4-Aug-08	SB-16 (10-12)	10 - 12 ft	ECCS	0.83 U	0.83 U	0.83 U	**5.8**	0.83 U	*0.83 U*	*0.83 U*
1487.7392	982.0933	SB-16	4-Aug-08	SB-16 (12-14)	12 - 14 ft	ECCS	0.68 U LL	0.68 U	0.68 U	**1.5**	0.68 U	*0.68 U*	*0.68 U LC*
1487.7392	982.0933	SB-16	4-Aug-08	SB-16 (14-16)	14 - 16 ft	ECCS	0.51 U LL	0.51 U	0.51 U	**1.5**	0.51 U	*0.51 U*	*0.51 U LC*
1487.7392	1002.0933	SB-17	4-Aug-08	SB-17 (2-4)	2 - 4 ft	ECCS	0.52 U LL	0.52 U	0.52 U	**0.85**	0.52 U	*0.52 U*	*0.52 U LC*
1487.7392	1002.0933	SB-17	4-Aug-08	SB-17 (4-6)	4 - 6 ft	ECCS	0.56 U LL	0.56 U	0.56 U	**0.59**	0.56 U	*0.56 U*	*0.56 U LC*
1487.7392	1002.0933	SB-17	4-Aug-08	SB-17 (6-8)*	6 - 8 ft	ECCS	0.12 U D	0.12 U D	0.12 U D	**0.76 D**	0.12 U D	0.12 U D	*0.062 U D*
1487.7392	1002.0933	SB-17	4-Aug-08	SB-17 (8-10)	8 - 10 ft	ECCS	0.46 U LL	0.46 U	0.46 U	**2.4**	0.46 U	*0.46 U*	*0.46 U LC*
1487.7392	1002.0933	SB-17	4-Aug-08	SB-17 (10-12)	10 - 12 ft	ECCS	0.51 U LL	0.51 U	0.51 U	**2.0**	0.51 U	*0.51 U*	*0.51 U LC*

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Former TRW Shelbyville Facility
Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1487.7392	1019.0139	SB-18	4-Aug-08	SB-18 (2-4)	2 - 4 ft	ECCS	0.53 U LL	**1.5**	0.53 U	**20**	0.53 U	**1.6**	*0.53 U LC*
1487.7392	1019.0139	SB-18	4-Aug-08	SB-18 (4-6)	4 - 6 ft	ECCS	0.47 U LL	0.47 U	0.47 U	**4.6**	0.47 U	*0.47 U*	*0.47 U LC*
1487.7392	1019.0139	SB-18	4-Aug-08	SB-18 (6-8)	6 - 8 ft	ECCS	0.57 U LL	0.57 U	0.57 U	**2.9**	0.57 U	*0.57 U*	*0.57 U LC*
1487.7392	1019.0139	SB-18	4-Aug-08	SB-18 (8-10)	8 - 10 ft	ECCS	0.77 U LL	0.77 U	0.77 U	**2.9**	0.77 U	*0.77 U*	*0.77 U LC*
1487.7392	1019.0139	SB-18	4-Aug-08	SB-18 (10-12)	10 - 12 ft	ECCS	0.63 U LL	0.63 U	0.63 U	**3.6**	0.63 U	*0.63 U*	*0.63 U LC*
1487.7392	1019.0139	SB-18	4-Aug-08	SB-18 (12-14)	12 - 14 ft	ECCS	0.57 U LL	0.57 U	0.57 U	0.57 U	0.57 U	*0.57 U*	*0.57 U LC*
1487.7392	1019.0139	SB-18	4-Aug-08	SB-18 (14-16)*	14 - 16 ft	ECCS	0.079 U	0.079 U	0.079 U	**0.5**	0.079 U	0.079 U	*0.04 U*
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (0-2)	0 - 2 ft	ECCS	0.57 U LL	0.57 U	0.57 U	**2.2**	0.57 U	*0.57 U*	*0.57 U LC*
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (2-4)	2 - 4 ft	ECCS	0.54 U LL	0.54 U	0.54 U	**1.1**	0.54 U	*0.54 U*	*0.54 U LC*
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (4-6)*	4 - 6 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.39**	0.053 U	0.053 U	0.026 U
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (6-8)*	6 - 8 ft	ECCS	0.059 U	0.059 U	0.059 U	**0.27**	0.059 U	0.059 U	*0.03 U*
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (8-10)*	8 - 10 ft	ECCS	0.054 U	0.054 U	0.054 U	**0.56**	0.054 U	0.054 U	0.027 U
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (10-12)	10 - 12 ft	ECCS	0.52 U	0.52 U	0.52 U	**1.1**	0.52 U	*0.52 U*	*0.52 U*
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (12-14)*	12 - 14 ft	ECCS	0.051 U	0.051 U	0.051 U	**0.87**	0.051 U	0.051 U	0.025 U
1487.5691	1039.3534	SB-19	4-Aug-08	SB-19 (14-16)*	14 - 16 ft	ECCS	0.064 U	0.064 U	0.064 U	**0.17**	0.064 U	0.064 U	*0.032 U*
1467.7392	942.0933	SB-20	4-Aug-08	SB-20 (0-2)	0 - 2 ft	ECCS	0.80 U	0.80 U	0.80 U	**17**	0.80 U	*0.80 U*	*0.80 U*
1467.7392	942.0933	SB-20	4-Aug-08	SB-20 (2-4)	2 - 4 ft	ECCS	0.61 U	0.61 U	0.61 U	**1.1**	0.61 U	*0.61 U*	*0.61 U*
1467.7392	942.0933	SB-20	4-Aug-08	SB-20 (4-6)*	4 - 6 ft	ECCS	0.077 U	0.077 U	0.077 U	**0.88**	0.077 U	0.077 U	*0.038 U*
1467.7392	942.0933	SB-20	4-Aug-08	SB-20 (6-8)*	6 - 8 ft	ECCS	0.057 U	0.057 U	0.057 U	**0.47**	0.057 U	0.057 U	*0.028 U*
1467.7392	942.0933	SB-20	4-Aug-08	SB-20 (8-10)	8 - 10 ft	ECCS	0.60 U	0.60 U	0.60 U	**0.66**	0.60 U	*0.60 U*	*0.60 U*
1467.7392	942.0933	SB-20	4-Aug-08	SB-20 (10-12)	10 - 12 ft	ECCS	0.57 U	0.57 U	0.57 U	**4.7**	0.57 U	*0.57 U*	*0.57 U*
1447.7392	942.1084	SB-21	4-Aug-08	SB-21 (0-2)	0 - 2 ft	ECCS	0.62 U	0.62 U	0.62 U	**2.5**	0.62 U	*0.62 U*	*0.62 U*
1447.7392	942.1084	SB-21	4-Aug-08	SB-21 (2-4)	2 - 4 ft	ECCS	0.60 U	0.60 U	0.60 U	**1.9**	0.60 U	*0.60 U*	*0.60 U*
1447.7392	942.1084	SB-21	4-Aug-08	SB-21 (4'-6')	4 - 6 ft	PACE	0.0065 U	0.0065 U	0.0065 U	**0.122**	0.0065 U	0.0065 U	0.0065 U
1447.7392	942.1084	SB-21	4-Aug-08	SB-21 (6'-8')	6 - 8 ft	PACE	0.0045 U	0.0045 U	0.0045 U	**0.0439**	0.0045 U	0.0045 U	0.0045 U
1447.7392	942.1084	SB-21	4-Aug-08	SB-21 (8'-10')	8 - 10 ft	PACE	0.0048 U	0.0048 U	0.0048 U	**2.4**	0.0048 U	0.0048 U	0.0048 U
1447.7392	942.1084	SB-21	4-Aug-08	SB-21 (10-12)	10 - 12 ft	ECCS	0.52 U	0.52 U	0.52 U	**2.4**	0.52 U	*0.52 U*	*0.52 U*
1447.7392	962.0933	SB-22	4-Aug-08	SB-22 (0-2)	0 - 2 ft	ECCS	0.55 U	0.55 U	0.55 U	**0.97**	0.55 U	*0.55 U*	*0.55 U*
1447.7392	962.0933	SB-22	4-Aug-08	SB-22 (2-4)	2 - 4 ft	ECCS	0.59 U	0.59 U	0.59 U	**0.63**	0.59 U	*0.59 U*	*0.59 U*
1447.7392	962.0933	SB-22	4-Aug-08	SB-22 (4-6)*	4 - 6 ft	ECCS	0.059 U	0.059 U M	0.059 U	**0.38**	0.059 U	0.059 U	*0.03 U*
1447.7392	962.0933	SB-22	4-Aug-08	SB-22 (6-8)	6 - 8 ft	ECCS	0.54 U	0.54 U	0.54 U	**0.80**	0.54 U	*0.54 U*	*0.54 U*
1447.7392	962.0933	SB-22	4-Aug-08	SB-22 (8-10)	8 - 10 ft	ECCS	0.54 U LCLL	0.54 U	0.54 U	**0.96 LL**	0.54 U	*0.54 U*	*0.54 U LCLL*
1447.7392	962.0933	SB-22	4-Aug-08	SB-22 (10-12)	10 - 12 ft	ECCS	0.52 U LCLL	0.52 U	0.52 U	**4.9**	0.52 U	*0.52 U*	*0.52 U LCLL*

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X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1447.7392	982.0933	SB-23	4-Aug-08	SB-23 (2-4)*	2 - 4 ft	ECCS	0.061 U	0.061 U	0.061 U	**0.35**	0.061 U	0.061 U	*0.03 U LC*
1447.7392	982.0933	SB-23	4-Aug-08	SB-23 (4-6)	4 - 6 ft	ECCS	0.58 U LL	0.58 U	0.58 U	0.58 U	0.58 U	*0.58 U*	*0.58 U LL*
1447.7392	982.0933	SB-23	4-Aug-08	SB-23 (6-8)	6 - 8 ft	ECCS	0.54 U LL	0.54 U	0.54 U	**1.2**	0.54 U	*0.54 U*	*0.54 U LL*
1447.7392	982.0933	SB-23	4-Aug-08	SB-23 (8-10)	8 - 10 ft	ECCS	0.58 U LL	0.58 U	0.58 U	**3.0**	0.58 U	*0.58 U*	*0.58 U LL*
1447.7392	982.0933	SB-23	4-Aug-08	SB-23 (10-12)	10 - 12 ft	ECCS	0.80 U LL	0.80 U	0.80 U	**9.3**	0.80 U	*0.80 U*	*0.80 U LL*
1447.7392	982.0933	SB-23	4-Aug-08	SB-23 (12-14)	12 - 14 ft	ECCS	0.54 U LL	0.54 U	0.54 U	**6.6**	0.54 U	*0.54 U*	*0.54 U LL*
1447.7392	982.0933	SB-23	4-Aug-08	SB-23 (14-16)	14 - 16 ft	ECCS	0.50 U LL	0.50 U	0.50 U	**5.2**	0.50 U	*0.50 U*	*0.50 U LL*
1447.6359	1002.2222	SB-24	4-Aug-08	SB-24 (2-4)	2 - 4 ft	ECCS	0.55 U LL	0.55 U	0.55 U	**1.5**	0.55 U	*0.55 U*	*0.55 U LL*
1447.6359	1002.2222	SB-24	4-Aug-08	SB-24 (4-6)*	4 - 6 ft	ECCS	0.057 U	0.057 U	0.057 U	**0.55**	0.057 U	0.057 U	*0.028 U LC*
1447.6359	1002.2222	SB-24	4-Aug-08	SB-24 (6-8)*	6 - 8 ft	ECCS	0.057 U	0.057 U	0.057 U	**0.63**	0.057 U	0.057 U	*0.029 U*
1447.6359	1002.2222	SB-24	4-Aug-08	SB-24 (8-10)	8 - 10 ft	ECCS	0.51 U LL	0.51 U	0.51 U	**3.5**	0.51 U	*0.51 U*	*0.51 U LL*
1447.6359	1002.2222	SB-24	4-Aug-08	SB-24 (10-12)	10 - 12 ft	ECCS	0.54 U LL	0.54 U	0.54 U	**5.4**	0.54 U	*0.54 U*	*0.54 U LL*
1447.6359	1002.2222	SB-24	4-Aug-08	SB-24 (12-14)	12 - 14 ft	ECCS	0.49 U LL	0.49 U	0.49 U	**6.6**	0.49 U	*0.49 U*	*0.49 U LL*
1447.6359	1002.2222	SB-24	4-Aug-08	SB-24 (14-16)	14 - 16 ft	ECCS	0.57 U LL	0.57 U	0.57 U	**6.8**	0.57 U	*0.57 U*	*0.57 U LL*
1447.6359	1019.1428	SB-25	4-Aug-08	SB-25 (2-4)	2 - 4 ft	ECCS	0.43 U LL	0.43 U	0.43 U	**1.1**	0.43 U	*0.43 U*	*0.43 U LL*
1447.6359	1019.1428	SB-25	4-Aug-08	SB-25 (4-6)*	4 - 6 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.44**	0.053 U	0.053 U	0.027 U
1447.6359	1019.1428	SB-25	4-Aug-08	SB-25 (6-8)	6 - 8 ft	ECCS	0.52 U LL	0.52 U	0.52 U	**0.56**	0.52 U	**2.8**	*0.52 U LL*
1447.6359	1019.1428	SB-25	4-Aug-08	SB-25 (8-10)	8 - 10 ft	ECCS	0.55 U LL	0.55 U	0.55 U	**1.3**	0.55 U	*0.55 U*	*0.55 U LL*
1447.6359	1019.1428	SB-25	4-Aug-08	SB-25 (10-12)	10 - 12 ft	ECCS	0.57 U LL	0.57 U	0.57 U	**1.1**	0.57 U	*0.57 U*	*0.57 U*
1467.7392	922.1412	SB-26	5-Aug-08	SB-26 (2-4)	2 - 4 ft	ECCS	0.65 U	0.65 U	0.65 U	**7.5**	0.65 U	*0.65 U*	*0.65 U*
1467.7392	922.1412	SB-26	5-Aug-08	SB-26 (4-6)	4 - 6 ft	ECCS	0.59 U	0.59 U	0.59 U	**1.0**	0.59 U	*0.59 U*	*0.59 U*
1467.7392	922.1412	SB-26	5-Aug-08	SB-26 (6-8)*	6 - 8 ft	ECCS	0.058 U LC	0.058 U	0.058 U	**0.35**	0.058 U	0.058 U	*0.029 U*
1467.7392	922.1412	SB-26	5-Aug-08	SB-26 (8-10)	8 - 10 ft	ECCS	0.52 U	0.52 U	0.52 U	**0.88**	0.52 U	*0.52 U*	*0.52 U*
1467.7392	922.1412	SB-26	5-Aug-08	SB-26 (10-12)	10 - 12 ft	ECCS	0.64 U M	0.64 U	0.64 U	**4.2 M**	0.64 U	*0.64 U*	*0.64 U M*
1447.5666	922.0933	SB-27	5-Aug-08	SB-27 (2-4')	2 - 4 ft	PACE	0.0048 U	0.0048 U	0.0048 U	**0.0316**	0.0048 U	0.0048 U	0.0048 U
1447.5666	922.0933	SB-27	5-Aug-08	SB-27 (4-6')	4 - 6 ft	PACE	0.0049 U	0.0049 U	0.0049 U	**0.0225**	0.0049 U	0.0049 U	0.0049 U
1447.5666	922.0933	SB-27	5-Aug-08	SB-27 (6-8')	6 - 8 ft	PACE	0.0046 U	0.0046 U	0.0046 U	**0.0293**	0.0046 U	0.0046 U	0.0046 U
1447.5666	922.0933	SB-27	5-Aug-08	SB-27 (8-10)*	8 - 10 ft	ECCS	0.052 U LC	0.052 U	0.052 U	**0.67**	0.052 U	0.052 U	0.026 U
1447.5666	922.0933	SB-27	5-Aug-08	SB-27 (10-12)*	10 - 12 ft	ECCS	0.052 U	0.052 U	0.052 U	**0.43**	0.052 U	0.052 U	0.026 U

Table 1. Summary of Detected VOCs in Soil
Former TRW Shelbyville Facility
Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1447.7392	902.0933	SB-28	5-Aug-08	SB-28 (2-4)*	2 - 4 ft	ECCS	0.07 U LC	0.07 U	0.07 U	**1.1**	0.07 U	0.07 U	*0.035 U*
1447.7392	902.0933	SB-28	5-Aug-08	SB-28 (4-6)*	4 - 6 ft	ECCS	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	*0.029 U*
1447.7392	902.0933	SB-28	5-Aug-08	SB-28 (6-8)*	6 - 8 ft	ECCS	0.056 U LC	0.056 U	0.056 U	**0.081**	0.056 U	0.056 U	*0.028 U*
1447.7392	902.0933	SB-28	5-Aug-08	SB-28 (8-10)*	8 - 10 ft	ECCS	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	*0.03 U*
1447.7392	902.0933	SB-28	5-Aug-08	SB-28 (10-12)*	10 - 12 ft	ECCS	0.054 U LC	0.054 U	0.054 U	**0.2**	0.054 U	0.054 U	0.027 U
1457.9398	882.0933	SB-29	7-Aug-08	SB-29 (6-12")*	6 - 12 in	ECCS	0.056 U	0.056 U	0.056 U	**1.5**	0.056 U	0.056 U	*0.028 U*
1457.9398	882.0933	SB-29	7-Aug-08	SB-29 (18-24")*	18 - 24 in	ECCS	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	*0.032 U*
1457.9398	882.0933	SB-29	5-Aug-08	SB-29 (2-4)*	2 - 4 ft	ECCS	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	*0.033 U*
1457.9398	882.0933	SB-29	5-Aug-08	SB-29 (4-6)*	4 - 6 ft	ECCS	0.051 U LC	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.026 U
1457.9398	882.0933	SB-29	5-Aug-08	SB-29 (6-8)*	6 - 8 ft	ECCS	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.027 U
1457.9398	882.0933	SB-29	5-Aug-08	SB-29 (8-10)*	8 - 10 ft	ECCS	0.051 U	0.051 U	0.051 U	**0.052**	0.051 U	0.051 U	0.025 U
1457.9398	882.0933	SB-29	5-Aug-08	SB-29 (10-12)*	10 - 12 ft	ECCS	0.079 U	0.079 U	0.079 U	**0.16**	0.079 U	0.079 U	*0.039 U*
1457.7985	962.0933	SB-30	5-Aug-08	SB-30 (2-4')	2 - 4 ft	PACE	0.0047 U	0.0047 U	0.0047 U	**2.41**	0.0047 U	0.0047 U	0.0047 U
1457.7985	962.0933	SB-30	5-Aug-08	SB-30 (4-6')	4 - 6 ft	PACE	0.0047 U	0.0047 U	0.0047 U	**0.687**	**0.0053**	0.0047 U	0.0047 U
1457.7985	962.0933	SB-30	5-Aug-08	SB-30 (6-8')	6 - 8 ft	PACE	0.0044 U	0.0044 U	0.0044 U	**0.101**	0.0044 U	0.0044 U	0.0044 U
1457.7985	962.0933	SB-30	5-Aug-08	SB-30 (8-10)	8 - 10 ft	ECCS	0.52 U	0.52 U	0.52 U	**1.7**	0.52 U	*0.52 U*	*0.52 U*
1457.7985	962.0933	SB-30	5-Aug-08	SB-30 (10-12)	10 - 12 ft	ECCS	0.51 U	0.51 U	0.51 U	**3.1**	0.51 U	*0.51 U*	*0.51 U*
1467.7392	982.0933	SB-31	5-Aug-08	SB-31 (2-4)	2 - 4 ft	ECCS	0.59 U	0.59 U	0.59 U	**8.5**	0.59 U	*0.59 U*	*0.59 U*
1467.7392	982.0933	SB-31	5-Aug-08	SB-31 (4-6)	4 - 6 ft	ECCS	0.53 U	0.53 U	0.53 U	**0.81**	0.53 U	*0.53 U*	*0.53 U*
1467.7392	982.0933	SB-31	5-Aug-08	SB-31 (6-8)	6 - 8 ft	ECCS	0.53 U	0.53 U	0.53 U	**4.7**	0.53 U	*0.53 U*	*0.53 U*
1467.7392	982.0933	SB-31	5-Aug-08	SB-31 (8-10)	8 - 10 ft	ECCS	0.51 U	0.51 U	0.51 U	**5.3**	0.51 U	*0.51 U*	*0.51 U*
1467.7392	982.0933	SB-31	5-Aug-08	SB-31 (10-12)	10 - 12 ft	ECCS	0.54 U	0.54 U	0.54 U	**8.3**	0.54 U	*0.54 U*	*0.54 U*
1467.4782	1002.2222	SB-32	5-Aug-08	SB-32 (2-4)	2 - 4 ft	ECCS	0.52 U	0.52 U	0.52 U	**1.9**	0.52 U	*0.52 U*	*0.52 U*
1467.4782	1002.2222	SB-32	5-Aug-08	SB-32 (4-6)	4 - 6 ft	ECCS	0.64 U M	0.64 U	0.64 U M	**1.7 M**	0.64 U	*0.64 U*	*0.64 U M*
1467.4782	1002.2222	SB-32	5-Aug-08	SB-32 (6-8)	6 - 8 ft	ECCS	0.50 U	0.50 U	0.50 U	**1.9**	0.50 U	*0.50 U*	*0.50 U*
1467.4782	1002.2222	SB-32	5-Aug-08	SB-32 (8-10)	8 - 10 ft	ECCS	0.66 U	0.66 U	0.66 U	**4.6**	0.66 U	*0.66 U*	*0.66 U*
1467.4782	1002.2222	SB-32	5-Aug-08	SB-32 (10-12)	10 - 12 ft	ECCS	0.54 U	0.54 U	0.54 U	**5.2**	0.54 U	*0.54 U*	*0.54 U*
1457.61	1028.8842	SB-33	5-Aug-08	SB-33 (2-4)*	2 - 4 ft	ECCS	0.055 U	0.055 U	0.055 U	**1.4**	0.055 U	0.055 U	0.027 U
1457.61	1028.8842	SB-33	5-Aug-08	SB-33 (4-6)*	4 - 6 ft	ECCS	0.064 U	0.064 U	0.064 U	**0.085**	0.064 U	0.064 U	*0.032 U*
1457.61	1028.8842	SB-33	5-Aug-08	SB-33 (6-8)*	6 - 8 ft	ECCS	0.05 U	0.05 U	0.05 U	**0.52**	0.05 U	0.05 U	0.025 U
1457.61	1028.8842	SB-33	5-Aug-08	SB-33 (8-10)	8 - 10 ft	ECCS	0.54 U	0.54 U	0.54 U	**0.54**	0.54 U	*0.54 U*	*0.54 U*
1457.61	1028.8842	SB-33	5-Aug-08	SB-33 (10-12)*	10 - 12 ft	ECCS	0.061 U	0.061 U	0.061 U	**0.84**	0.061 U	0.061 U	*0.031 U*

Table 1. Summary of Detected VOCs in Soil
Former TRW Shelbyville Facility
Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1467.4782	1019.1428	SB-34	6-Aug-08	SB-34 (0-2)*	0 - 2 ft	ECCS	0.11 U	0.11 U	0.11 U	**0.92**	0.11 U	0.11 U	*0.054 U*
1467.4782	1019.1428	SB-34	6-Aug-08	SB-34 (2-4)*	2 - 4 ft	ECCS	0.088 U	0.088 U	0.088 U	**0.16**	0.088 U	0.088 U	*0.044 U*
1467.4782	1019.1428	SB-34	6-Aug-08	SB-34 (4-6)*	4 - 6 ft	ECCS	0.12 U	0.12 U	0.12 U	**0.2**	0.12 U	0.12 U	*0.058 U*
1467.4782	1019.1428	SB-34	6-Aug-08	SB-34 (6-8)*	6 - 8 ft	ECCS	0.099 U	0.099 U	0.099 U	**0.91**	0.099 U	0.099 U	*0.049 U*
1467.4782	1019.1428	SB-34	6-Aug-08	SB-34 (8-10)	8 - 10 ft	ECCS	1.0 U	1.0 U	1.0 U	**6.8**	1.0 U	*1.0 U*	*1.0 U*
1467.6719	1039.3534	SB-35	6-Aug-08	SB-35 (2-4)*	2 - 4 ft	ECCS	0.094 U	0.094 U	0.094 U	**0.31**	0.094 U	0.094 U	*0.047 U*
1467.6719	1039.3534	SB-35	6-Aug-08	SB-35 (4-6)*	4 - 6 ft	ECCS	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	*0.053 U*
1467.6719	1039.3534	SB-35	6-Aug-08	SB-35 (6-8)*	6 - 8 ft	ECCS	0.11 U	0.11 U	0.11 U	**0.4**	0.11 U	0.11 U	*0.055 U*
1467.6719	1039.3534	SB-35	6-Aug-08	SB-35 (8-10)*	8 - 10 ft	ECCS	0.098 U	0.098 U	0.098 U	**0.51**	0.098 U	0.098 U	*0.049 U*
1467.6719	1039.3534	SB-35	6-Aug-08	SB-35 (10-12)*	10 - 12 ft	ECCS	0.089 U	0.089 U	0.089 U	**0.57**	0.089 U	0.089 U	*0.045 U*
1497.6737	1029.0131	SB-36	6-Aug-08	SB-36 (2-4)*	2 - 4 ft	ECCS	0.051 U	0.051 U	0.051 U	**0.42**	0.051 U	0.051 U	0.025 U
1497.6737	1029.0131	SB-36	6-Aug-08	SB-36 (4-6)	4 - 6 ft	ECCS	0.52 U	0.52 U	0.52 U	**0.89**	0.52 U	*0.52 U*	*0.52 U*
1497.6737	1029.0131	SB-36	6-Aug-08	SB-36 (6-8)	6 - 8 ft	ECCS	0.51 U	0.51 U	0.51 U	**0.93**	0.51 U	*0.51 U*	*0.51 U*
1497.6737	1029.0131	SB-36	6-Aug-08	SB-36 (8-10)	8 - 10 ft	ECCS	0.51 U	0.51 U	0.51 U	**1.4**	0.51 U	*0.51 U*	*0.51 U*
1497.6737	1029.0131	SB-36	6-Aug-08	SB-36 (10-12)	10 - 12 ft	ECCS	0.58 U	0.58 U	0.58 U	**1.2**	0.58 U	*0.58 U*	*0.58 U*
1507.7392	1022.0933	SB-37	6-Aug-08	SB-37 (0-2)*	0 - 2 ft	ECCS	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	*0.029 U*
1507.7392	1022.0933	SB-37	6-Aug-08	SB-37 (2-4)*	2 - 4 ft	ECCS	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.027 U
1507.7392	1022.0933	SB-37	6-Aug-08	SB-37 (4-6)	4 - 6 ft	ECCS	0.60 U	0.60 U	0.60 U	**0.72**	0.60 U	*0.60 U*	*0.60 U*
1507.7392	1022.0933	SB-37	6-Aug-08	SB-37 (6-8)	6 - 8 ft	ECCS	0.53 U	0.53 U	0.53 U	**1.0**	0.53 U	*0.53 U*	*0.53 U*
1507.7392	1022.0933	SB-37	6-Aug-08	SB-37 (8-10)	8 - 10 ft	ECCS	0.67 U	0.67 U	0.67 U	**1.7**	0.67 U	*0.67 U*	*0.67 U*
1507.7392	1022.0933	SB-37	6-Aug-08	SB-37 (10-12)	10 - 12 ft	ECCS	0.55 U	0.55 U	0.55 U	**0.86**	0.55 U	*0.55 U*	*0.55 U*
1507.7392	982.0933	SB-38	6-Aug-08	SB-38 (2-4')	2 - 4 ft	PACE	0.0048 U	0.0048 U	0.0048 U	**1.7**	0.0048 U	0.0048 U	0.0048 U
1507.7392	982.0933	SB-38	6-Aug-08	SB-38 (4-6')	4 - 6 ft	PACE	0.0044 U	0.0044 U	0.0044 U	**5.12**	**0.0158**	**0.0096**	0.0044 U
1507.7392	982.0933	SB-38	6-Aug-08	SB-38 (4-6)	4 - 6 ft	ECCS	0.57 U	0.57 U	0.57 U	**1.9**	0.57 U	*0.57 U*	*0.57 U*
1507.7392	982.0933	SB-38	6-Aug-08	SB-38 (6-8')	6 - 8 ft	PACE	0.004 U	0.004 U	0.004 U	**2.07**	**0.023**	**0.0145**	0.004 U
1507.7392	982.0933	SB-38	6-Aug-08	SB-38 (8-10)	8 - 10 ft	ECCS	0.53 U	0.53 U	0.53 U	**8.4**	0.53 U	*0.53 U*	*0.53 U*
1507.7392	982.0933	SB-38	6-Aug-08	SB-38 (10-12)	10 - 12 ft	ECCS	0.54 U	0.54 U	0.54 U	**3.4**	0.54 U	*0.54 U*	*0.54 U*
1507.7392	942.0933	SB-39	6-Aug-08	SB-39 (2-4)*	2 - 4 ft	ECCS	0.055 U	0.055 U	0.055 U	**0.28**	0.055 U	0.055 U	0.027 U
1507.7392	942.0933	SB-39	6-Aug-08	SB-39 (4-6)*	4 - 6 ft	ECCS	0.058 U	0.058 U	0.058 U	**0.64**	0.058 U	0.058 U	*0.029 U*
1507.7392	942.0933	SB-39	6-Aug-08	SB-39 (6-8)	6 - 8 ft	ECCS	0.54 U	0.54 U	0.54 U	**2.4**	0.54 U	*0.54 U*	*0.54 U*
1507.7392	942.0933	SB-39	6-Aug-08	SB-39 (8-10)	8 - 10 ft	ECCS	0.49 U	0.49 U	0.49 U	**3.1**	0.49 U	*0.49 U*	*0.49 U*
1507.7392	942.0933	SB-39	6-Aug-08	SB-39 (10-12)	10 - 12 ft	ECCS	0.57 U	0.57 U	0.57 U	**1.5**	0.57 U	*0.57 U*	*0.57 U*

Table 1. Summary of Detected VOCs in Soil
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Noble Street Site
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X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1487.7392	902.0933	SB-40	6-Aug-08	SB-40 (2-4)*	2 - 4 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.12**	0.053 U	0.053 U	0.026 U
1487.7392	902.0933	SB-40	6-Aug-08	SB-40 (4-6)*	4 - 6 ft	ECCS	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	*0.029 U*
1487.7392	902.0933	SB-40	6-Aug-08	SB-40 (6-8)*	6 - 8 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.17**	0.053 U	0.053 U	0.027 U
1487.7392	902.0933	SB-40	6-Aug-08	SB-40 (8-10)*	8 - 10 ft	ECCS	0.052 U	0.052 U	0.052 U	**0.17**	0.052 U	0.052 U	0.026 U
1487.7392	902.0933	SB-40	6-Aug-08	SB-40 (10-12)*	10 - 12 ft	ECCS	0.059 U	0.059 U	0.059 U	**0.24**	0.059 U	0.059 U	*0.03 U*
1437.7392	982.0933	SB-41	6-Aug-08	SB-41 (2-4)	2 - 4 ft	ECCS	0.61 U	0.61 U	0.61 U	**3.0**	0.61 U	*0.61 U*	*0.61 U*
1437.7392	982.0933	SB-41	6-Aug-08	SB-41 (4-6)*	4 - 6 ft	ECCS	0.058 U	0.058 U	0.058 U	**1.4**	0.058 U	0.058 U	*0.029 U*
1437.7392	982.0933	SB-41	6-Aug-08	SB-41 (6-8)	6 - 8 ft	ECCS	0.54 U	0.54 U	0.54 U	**1.2**	0.54 U	*0.54 U*	*0.54 U*
1437.7392	982.0933	SB-41	6-Aug-08	SB-41 (8-10)	8 - 10 ft	ECCS	0.51 U	0.51 U	0.51 U	**2.1**	0.51 U	*0.51 U*	*0.51 U*
1437.7392	982.0933	SB-41	6-Aug-08	SB-41 (10-12)	10 - 12 ft	ECCS	0.60 U	0.60 U	0.60 U	**4.0**	0.60 U	*0.60 U*	*0.60 U*
1447.6359	1039.3534	SB-42	6-Aug-08	SB-42 (2-4)*	2 - 4 ft	ECCS	0.051 U	0.051 U	0.051 U	**0.57**	0.051 U	0.051 U	0.026 U
1447.6359	1039.3534	SB-42	6-Aug-08	SB-42 (4-6)	4 - 6 ft	ECCS	0.56 U	0.56 U	0.56 U	**0.75**	0.56 U	*0.56 U*	*0.56 U*
1447.6359	1039.3534	SB-42	6-Aug-08	SB-42 (6-8)*	6 - 8 ft	ECCS	0.055 U	0.055 U	0.055 U	**0.39**	0.055 U	0.055 U	0.027 U
1447.6359	1039.3534	SB-42	6-Aug-08	SB-42 (8-10)	8 - 10 ft	ECCS	0.56 U	0.56 U	0.56 U	**1.0**	0.56 U	*0.56 U*	*0.56 U*
1447.6359	1039.3534	SB-42	6-Aug-08	SB-42 (10-12)	10 - 12 ft	ECCS	0.52 U	0.52 U	0.52 U	**0.93**	0.52 U	*0.52 U*	*0.52 U*
1487.7392	1008.9869	SB-43	6-Aug-08	SB-43 (2-4)	2 - 4 ft	ECCS	0.49 U	0.49 U	0.49 U	**6.4**	0.49 U	**0.50**	*0.49 U*
1507.7612	1019.1428	SB-44	6-Aug-08	SB-44 (2-4)	2 - 4 ft	ECCS	0.57 U	0.57 U	0.57 U	**14**	0.57 U	**0.97**	*0.57 U*
1507.7612	1019.1428	SB-44	7-Aug-08	SB-44B (2-4) Resample*	2 - 4 ft	ECCS	0.06 U	0.06 U	0.06 U	**0.96**	0.06 U	**0.1**	*0.03 U*
1487.7392	1028.8842	SB-45	6-Aug-08	SB-45 (2-4)	2 - 4 ft	ECCS	0.52 U	0.52 U	0.52 U	**2.6**	0.52 U	*0.52 U*	*0.52 U*
1486.988	1048.7537	SB-46	6-Aug-08	SB-46 (2-4)	2 - 4 ft	ECCS	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	*0.52 U*	*0.52 U*
1467.7392	912.0933	SB-47	7-Aug-08	SB-47 (1-2)	1 - 2 ft	ECCS	0.78 U	0.78 U	0.78 U	**25**	**0.96**	*0.78 U*	*0.78 U*
1467.7392	912.0933	SB-47	7-Aug-08	SB-47B (1-2) Resample	1 - 2 ft	ECCS	0.56 U	0.56 U	0.56 U	**0.86**	0.56 U	*0.56 U*	*0.56 U*
1467.7392	912.0933	SB-47	7-Aug-08	SB-47 (2-3)	2 - 3 ft	ECCS	0.63 U M	0.63 U	0.63 U M	**2.0**	0.63 U	*0.63 U*	*0.63 U M*
1467.7392	912.0933	SB-47	7-Aug-08	SB-47 (3-4)*	3 - 4 ft	ECCS	0.064 U	0.064 U	0.064 U	**0.77**	0.064 U	0.064 U	*0.032 U*
1457.5166	915.379	SB-48	7-Aug-08	SB-48 (0-1)*	0 - 1 ft	ECCS	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	*0.037 U*
1457.5166	915.379	SB-48	7-Aug-08	SB-48 (2-3)*	2 - 3 ft	ECCS	0.088 U	0.088 U	0.088 U	**0.42**	0.088 U	0.088 U	*0.044 U*
1457.5166	915.379	SB-48	7-Aug-08	SB-48 (3-4)*	3 - 4 ft	ECCS	0.069 U	0.069 U	0.069 U	**0.11**	0.069 U	0.069 U	*0.035 U*
1447.9309	932.0933	SB-49	7-Aug-08	SB-49 (1-2)*	1 - 2 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.09**	0.053 U	0.053 U	0.026 U
1447.9309	932.0933	SB-49	7-Aug-08	SB-49 (2-3)	2 - 3 ft	ECCS	0.53 U	0.53 U	0.53 U	**3.1**	0.53 U	*0.53 U*	*0.53 U*
1447.9309	932.0933	SB-49	7-Aug-08	SB-49 (3-4)	3 - 4 ft	ECCS	0.63 U	0.63 U	0.63 U	**7.2**	0.63 U	*0.63 U*	*0.63 U*
1437.7392	942.0933	SB-50	7-Aug-08	SB-50 (3-4)*	3 - 4 ft	ECCS	0.056 U	0.056 U	0.056 U	**0.17**	0.056 U	0.056 U	*0.028 U*
1437.7392	942.0933	SB-50	7-Aug-08	SB-50 (4-5)*	4 - 5 ft	ECCS	0.054 U	0.054 U	0.054 U	**0.21**	0.054 U	0.054 U	0.027 U
1437.7392	942.0933	SB-50	7-Aug-08	SB-50 (5-6)*	5 - 6 ft	ECCS	0.063 U	0.063 U	0.063 U	**0.42**	0.063 U	0.063 U	*0.031 U*

Table 1. Summary of Detected VOCs in Soil
Former TRW Shelbyville Facility
Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1437.7392	962.1979	SB-51	7-Aug-08	SB-51 (1-2)*	1 - 2 ft	ECCS	0.055 U	0.055 U	0.055 U	**0.34**	0.055 U	0.055 U	*0.028 U*
1437.7392	962.1979	SB-51	7-Aug-08	SB-51 (2-3)	2 - 3 ft	ECCS	0.72 U	0.72 U	0.72 U	**1.9**	0.72 U	*0.72 U*	*0.72 U*
1437.7392	962.1979	SB-51	7-Aug-08	SB-51 (3-4)	3 - 4 ft	ECCS	0.79 U	0.79 U	0.79 U	**7.8**	0.79 U	*0.79 U*	*0.79 U*
1437.7392	962.1979	SB-51	7-Aug-08	SB-51 (4-5)*	4 - 5 ft	ECCS	0.066 U	0.066 U	0.066 U	**1.5**	0.066 U	0.066 U	*0.033 U*
1437.7392	962.1979	SB-51	7-Aug-08	SB-51 (5-6)*	5 - 6 ft	ECCS	0.056 U	0.056 U	0.056 U	**0.55**	0.056 U	0.056 U	*0.028 U*
1457.7505	942.0933	SB-52	7-Aug-08	SB-52 (0-1)*	0 - 1 ft	ECCS	0.081 U	0.081 U	0.081 U	**0.92**	0.081 U	0.081 U	*0.04 U*
1457.7505	942.0933	SB-52	7-Aug-08	SB-52 (1-2)	1 - 2 ft	ECCS	0.65 U	0.65 U	0.65 U	**1.9**	0.65 U	*0.65 U*	*0.65 U*
1457.7505	942.0933	SB-52	7-Aug-08	SB-52 (2-3)*	2 - 3 ft	ECCS	0.059 U	0.059 U	0.059 U	**1.5**	0.059 U	0.059 U	*0.03 U*
1457.7505	942.0933	SB-52	7-Aug-08	SB-52 (3-4)	3 - 4 ft	ECCS	0.67 U	0.67 U	0.67 U	**8.9**	0.67 U	*0.67 U*	*0.67 U*
1457.7505	962.0933	SB-53	7-Aug-08	SB-53 (1-2)	1 - 2 ft	ECCS	0.71 U	0.71 U	0.71 U	**1.2**	0.71 U	*0.71 U*	*0.71 U*
1457.7505	962.0933	SB-53	7-Aug-08	SB-53 (2-3)	2 - 3 ft	ECCS	0.73 U	0.73 U	0.73 U	**0.82**	0.73 U	*0.73 U*	*0.73 U M*
1457.7505	962.0933	SB-53	7-Aug-08	SB-53 (3-4)*	3 - 4 ft	ECCS	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	*0.03 U*
1457.7392	982.0933	SB-54	7-Aug-08	SB-54 (1-2)*	1 - 2 ft	ECCS	0.061 U	0.061 U	0.061 U	**0.5**	0.061 U	0.061 U	*0.03 U*
1457.7392	982.0933	SB-54	7-Aug-08	SB-54 (2-3)	2 - 3 ft	ECCS	0.64 U	0.64 U	0.64 U	**0.68**	0.64 U	*0.64 U*	*0.64 U*
1457.7392	982.0933	SB-54	7-Aug-08	SB-54 (3-4)*	3 - 4 ft	ECCS	0.055 U	0.055 U	0.055 U	**1.2**	0.055 U	0.055 U	0.027 U
1457.7392	982.0933	SB-54	7-Aug-08	SB-54 (4-5)*	4 - 5 ft	ECCS	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	*0.028 U*
1457.7392	982.0933	SB-54	7-Aug-08	SB-54 (5-6)*	5 - 6 ft	ECCS	0.052 U	0.052 U	0.052 U	**0.47**	0.052 U	0.052 U	0.026 U
1457.7392	1002.0933	SB-55	7-Aug-08	SB-55 (0-2)	0 - 2 ft	ECCS	0.55 U	0.55 U	0.55 U	**1.2**	0.55 U	*0.55 U*	*0.55 U*
1457.7392	1002.0933	SB-55	7-Aug-08	SB-55 (2-4)*	2 - 4 ft	ECCS	0.056 U	0.056 U	0.056 U	**0.49**	0.056 U	0.056 U	*0.028 U*
1457.7392	1002.0933	SB-55	7-Aug-08	SB-55 (4-6)*	4 - 6 ft	ECCS	0.055 U	0.055 U	0.055 U	**0.15**	0.055 U	0.055 U	0.027 U
1457.7392	1002.0933	SB-55	7-Aug-08	SB-55 (6-8)	6 - 8 ft	ECCS	0.68 U	0.68 U	0.68 U	**0.88**	0.68 U	*0.68 U*	*0.68 U*
1457.7392	1002.0933	SB-55	7-Aug-08	SB-55 (8-10)	8 - 10 ft	ECCS	0.59 U	0.59 U	0.59 U	**6.0**	0.59 U	*0.59 U*	*0.59 U*
1457.7392	1002.0933	SB-55	7-Aug-08	SB-55 (10-12)	10 - 12 ft	ECCS	0.53 U	0.53 U	0.53 U	**3.4**	0.53 U	*0.53 U*	*0.53 U*
1457.7392	1019.0139	SB-56	7-Aug-08	SB-56 (0-2')	0 - 2 ft	PACE	0.0058 U	0.0058 U	0.0058 U	**0.0978**	0.0058 U	0.0058 U	0.0058 U
1457.7392	1019.0139	SB-56	7-Aug-08	SB-56 (1-2)*	1 - 2 ft	ECCS	0.093 U	0.093 U	0.093 U	**600 D**	**0.42**	**1.1**	*0.046 U*
1457.7392	1019.0139	SB-56	7-Aug-08	SB-56 (2-4')	2 - 4 ft	PACE	0.0049 U	0.0049 U	0.0049 U	**11.3**	0.0049 U	0.0049 U	0.0049 U
1457.7392	1019.0139	SB-56	7-Aug-08	SB-56 (4-6')	4 - 6 ft	PACE	0.0043 U	0.0043 U	0.0043 U	**4.19**	0.0043 U	0.0043 U	0.0043 U
1457.7392	1019.0139	SB-56	7-Aug-08	SB-56 (6-8)*	6 - 8 ft	ECCS	0.052 U	0.052 U	0.052 U	**0.97**	0.052 U	0.052 U	0.026 U
1457.7392	1019.0139	SB-56	7-Aug-08	SB-56 (8-10)*	8 - 10 ft	ECCS	0.073 U	0.073 U	0.073 U	**4.6**	0.073 U	0.073 U	*0.037 U*
1457.7392	1019.0139	SB-56	7-Aug-08	SB-56 (10-12)*	10 - 12 ft	ECCS	0.064 U	0.064 U	0.064 U	**0.91**	0.064 U	0.064 U	*0.032 U*
1481.8889	1019.1428	SB-57	7-Aug-08	SB-57 (0-2)*	0 - 2 ft	ECCS	0.098 U	0.098 U	0.098 U	**2.5**	0.098 U	0.098 U	*0.049 U*
1481.8889	1019.1428	SB-57	7-Aug-08	SB-57 (2-4)*	2 - 4 ft	ECCS	0.053 U	0.053 U	0.053 U	**4.7**	**0.059**	**0.17**	0.026 U
1481.8889	1019.1428	SB-57	7-Aug-08	SB-57 (4-6)*	4 - 6 ft	ECCS	0.052 U	**0.1**	0.052 U	**5.4**	**0.056**	**0.36**	0.026 U

Table 1. Summary of Detected VOCs in Soil
Former TRW Shelbyville Facility
Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1517.8893	1019.1428	SB-58	7-Aug-08	SB-58 (0-2)*	0 - 2 ft	ECCS	0.055 U	0.055 U	0.055 U	**0.061**	0.055 U	0.055 U	0.027 U
1517.8893	1019.1428	SB-58	7-Aug-08	SB-58 (2-4)*	2 - 4 ft	ECCS	0.065 U	0.065 U	0.065 U	**1.8**	0.065 U	**0.066**	*0.032 U*
1517.7392	982.0933	SB-59	7-Aug-08	SB-59 (2-4)*	2 - 4 ft	ECCS	**0.17 HL**	**0.11**	**0.092**	**20**	**0.41**	**0.36**	**0.086**
1517.7392	982.0933	SB-59	7-Aug-08	SB-59 (6-8)*	6 - 8 ft	ECCS	0.055 U	0.055 U	0.055 U	**2.5**	0.055 U	0.055 U	0.027 U
1517.7392	982.0933	SB-59	7-Aug-08	SB-59 (8-10)*	8 - 10 ft	ECCS	0.06 U	0.06 U	0.06 U	**2.3**	0.06 U	0.06 U	*0.03 U*
1517.7392	982.0933	SB-59	7-Aug-08	SB-59 (10-12)*	10 - 12 ft	ECCS	0.065 U	0.065 U	0.065 U	**1.4**	0.065 U	0.065 U	*0.033 U*
1437.6959	1039.3534	SB-60	7-Aug-08	SB-60 (0-2)*	0 - 2 ft	ECCS	0.062 U	0.062 U	0.062 U	**18 D**	**0.84**	0.062 U	*0.031 U*
1437.6959	1039.3534	SB-60	7-Aug-08	SB-60 (4-6)*	4 - 6 ft	ECCS	0.058 U	0.058 U	0.058 U	**0.092**	0.058 U	0.058 U	*0.029 U*
1447.6359	1048.7537	SB-61	7-Aug-08	SB-61 (2-4)	2 - 4 ft	ECCS	0.65 U	0.65 U	0.65 U	**1.7**	0.65 U	*0.65 U*	*0.65 U*
1447.6359	1048.7537	SB-61	7-Aug-08	SB-61 (4-6) *	4 - 6 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.14**	0.053 U	0.053 U	0.026 U
1497.6737	1019.1428	SB-62	8-Aug-08	SB-62 (0-2)*	0 - 2 ft	ECCS	0.059 U	**0.16**	0.059 U	**0.81**	0.059 U	**0.25**	*0.029 U*
1497.6737	1019.1428	SB-62	8-Aug-08	SB-62 (2-4)*	2 - 4 ft	ECCS	0.059 U	**0.75**	0.059 U	**0.82**	0.059 U	**0.4**	*0.03 U*
1497.6737	1019.1428	SB-62	8-Aug-08	SB-62 (4-6)	4 - 6 ft	ECCS	0.56 U	0.56 U	0.56 U	**1.2**	0.56 U	*0.56 U*	*0.56 U LL*
1428.237	1039.3534	SB-63	8-Aug-08	SB-63B (0-1) Resample*	0 - 1 ft	ECCS	0.063 U	0.063 U	0.063 U	**0.19**	0.063 U	0.063 U	*0.032 U*
1428.237	1039.3534	SB-63	8-Aug-08	SB-63B (1-2) Resample*	1 - 2 ft	ECCS	0.055 U	0.055 U	0.055 U	**0.099**	0.055 U	0.055 U	0.027 U
1428.237	1039.3534	SB-63	8-Aug-08	SB-63 (2-3)*	2 - 3 ft	ECCS	0.066 U	0.066 U	0.066 U	**1.3**	**0.16**	0.066 U	*0.033 U*
1428.237	1039.3534	SB-63	8-Aug-08	SB-63 (3-4)*	3 - 4 ft	ECCS	0.06 U	0.06 U	0.06 U	**0.21**	0.06 U	0.06 U	*0.03 U*
1457.7505	901.9651	SB-64	8-Aug-08	SB-64 (1-2)	1 - 2 ft	ECCS	0.55 U	0.55 U	0.55 U	**5.1**	0.55 U	*0.55 U*	*0.55 U LL*
1457.7505	901.9651	SB-64	8-Aug-08	SB-64 (2-3)*	2 - 3 ft	ECCS	0.058 U	0.058 U	0.058 U	**0.68**	0.058 U	0.058 U	*0.029 U*
1457.7505	901.9651	SB-64	8-Aug-08	SB-64 (3-4)*	3 - 4 ft	ECCS	0.064 U	0.064 U	0.064 U	**0.57**	0.064 U	**0.22 HL**	*0.032 U*
1467.6719	887.0794	SB-65	8-Aug-08	SB-65 (0-1)*	0 - 1 ft	ECCS	0.069 U	0.069 U	0.069 U	**0.14**	0.069 U	0.069 U	*0.035 U*
1467.6719	887.0794	SB-65	8-Aug-08	SB-65 (1-2)*	1 - 2 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.23**	0.053 U	0.053 U	0.026 U
1467.6719	887.0794	SB-65	8-Aug-08	SB-65 (2-3)*	2 - 3 ft	ECCS	0.052 U	0.052 U	0.052 U	**0.22**	0.052 U	0.052 U	0.026 U
1477.9362	902.0933	SB-66	8-Aug-08	SB-66 (1-2)	1 - 2 ft	ECCS	0.96 U	0.96 U	0.96 U	**5.3**	0.96 U	*0.96 U*	*0.96 U LL*
1477.9362	902.0933	SB-66	8-Aug-08	SB-66 (2-3)*	2 - 3 ft	ECCS	0.057 U	0.057 U	0.057 U	**0.63**	0.057 U	0.057 U	*0.029 U*
1477.9362	902.0933	SB-66	8-Aug-08	SB-66 (3-4)*	3 - 4 ft	ECCS	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	*0.028 U*

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Noble Street Site
Shelbyville, IN

X Coord.	Y Coord	Location	Date	Sample ID	Depth	Lab	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	1,1,1-TCA	TCE	VC
RISC Industrial (Default Closure Level)							**42**	**5.8**	**14**	**0.64**	**280**	**0.35**	**0.027**
RISC 20 Times TCLP							**14**	**NA**	**NA**	**14**	**NA**	**10**	**4**
RISC Industrial Soil Direct Contact Level							**410**	**140**	**230**	**16**	**6700**	**24**	**6.4**
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (0-1)*	0 - 1 ft	ECCS	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	*0.039 U*
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (1-2)*	1 - 2 ft	ECCS	0.06 U	**0.18 HL**	0.06 U	**0.73**	0.06 U	**0.25 HL**	*0.03 U*
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (2-3)*	2 - 3 ft	ECCS	0.071 U	**0.17 HL**	0.071 U	**0.82**	0.071 U	**0.21 HL**	*0.036 U*
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (3-4)*	3 - 4 ft	ECCS	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	*0.028 U*
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (4-5)*	4 - 5 ft	ECCS	0.067 U	0.067 U	0.067 U	**0.69**	0.067 U	0.067 U	*0.034 U*
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (5-6)*	5 - 6 ft	ECCS	0.063 U	0.063 U	0.063 U	**0.92**	0.063 U	0.063 U	*0.031 U*
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (6-7)*	6 - 7 ft	ECCS	0.069 U	0.069 U	0.069 U	**1.1**	0.069 U	0.069 U	*0.034 U*
1527.7379	1028.9326	SB-67	8-Aug-08	SB-67 (7-8)*	7 - 8 ft	ECCS	0.056 U	0.056 U	0.056 U	**0.26**	0.056 U	0.056 U	*0.028 U*
1527.97	901.7855	SB-68	8-Aug-08	SB-68 (0-2)*	0 - 2 ft	ECCS	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	*0.032 U*
1527.97	901.7855	SB-68	8-Aug-08	SB-68 (2-4)*	2 - 4 ft	ECCS	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.025 U
1527.97	901.7855	SB-68	8-Aug-08	SB-68 (4-6)*	4 - 6 ft	ECCS	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	*0.029 U*
1527.97	901.7855	SB-68	8-Aug-08	SB-68 (6-8)*	6 - 8 ft	ECCS	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	*0.044 U*
1527.97	901.7855	SB-68	8-Aug-08	SB-68 (8-10)*	8 - 10 ft	ECCS	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	*0.035 U*
1527.97	901.7855	SB-68	8-Aug-08	SB-68 (10-12)*	10 - 12 ft	ECCS	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	*0.031 U*
1527.6069	1060.813	SB-69	8-Aug-08	SB-69 (1-2)*	1 - 2 ft	ECCS	0.053 U	0.053 U	0.053 U	**0.17**	0.053 U	0.053 U	0.026 U
1527.6069	1060.813	SB-69	8-Aug-08	SB-69 (2-4)*	2 - 4 ft	ECCS	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.025 U
1527.6069	1060.813	SB-69	8-Aug-08	SB-69 (4-6)*	4 - 6 ft	ECCS	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	*0.032 U*
1527.6069	1060.813	SB-69	8-Aug-08	SB-69 (6-8)*	6 - 8 ft	ECCS	0.058 U	0.058 U	0.058 U	**0.1**	0.058 U	0.058 U	*0.029 U*
1447.5415	1060.7475	SB-70	8-Aug-08	SB-70 (0-2)*	0 - 2 ft	ECCS	0.069 U	0.069 U	0.069 U	**1.1**	**0.12 HL**	0.069 U	*0.035 U*
1447.5415	1060.7475	SB-70	8-Aug-08	SB-70 (2-4)*	2 - 4 ft	ECCS	0.055 U	0.055 U	0.055 U	**0.062**	0.055 U	0.055 U	*0.028 U*
1447.5415	1060.7475	SB-70	8-Aug-08	SB-70 (4-6)*	4 - 6 ft	ECCS	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	*0.034 U*
1447.5415	1060.7475	SB-70	8-Aug-08	SB-70 (6-8)*	6 - 8 ft	ECCS	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	*0.029 U*
1447.5415	1060.7475	SB-70	8-Aug-08	SB-70 (8-10)*	8 - 10 ft	ECCS	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	*0.06 U*
1447.5415	1060.7475	SB-70	8-Aug-08	SB-70 (10-12)*	10 - 12 ft	ECCS	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	*0.034 U*

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Joseph Kwan
Northrop Grumman Systems Corporation
2980 Fairview Park Dr
Falls Church, VA 22042-4511

DATE: June 27, 2013

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

SUBJECT: Final Decision
Northrop Grumman Systems Corporation
145-33152-00080

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:
Bob Reynolds, Stantec Consulting
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 6/13/2013

Mail Code 61-53

IDEM Staff	DPABST 6/27/2013 Northrop Grumman Systems Corporation 145-33152-00080 (Final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

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2		Mr. Hugh Garner 10203 S Degelow Road Milroy IN 46156 *(Affected Party)*									
3		Shelbyville City Council and Mayors Office 44 West Washington Shelbyville IN 46176 *(Local Official)*									
4		Shelby County Commissioners 25 West Polk Shelbyville IN 46176 *(Local Official)*									
5		Shelby County Health Department 1600 E. SR 44B Shelbyville IN 46176 *(Health Department)*									
6		Margaret Brunk Shelby County Council PO Box 107 Fountaintown In 46130 *(Affected Party)*									
7		Tami Grubbs Shelby County Council 2961 N 100 W Shelbyville In 46176 *(Affected Party)*									
8		Bob Reynolds Stantec Consulting 8770 Guion Road, Suite B Indianapolis IN 46268 *(Consultant)*									
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