

Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

HIGHWAY AUTHORITY AGREEMENT

This Agreement is entered into this day of , 20	pursuant to 35 III. Adm. Code 742.1020
	Property Owner") [or, in the case of a
petroleum leaking underground storage tank (UST), the owner/operator	
City of Aurora [Name of Entity in Control	of the Right-of-Way] ("Highway
Authority"), collectively known as the "Parties."	
[Use this paragraph for sites with petroleum leaking underground sto	
WHEREAS, Flip 25, LLC is the owner or operator o	f one or more leaking underground storage
tanks presently or formerly located at 1125 Aurora Avenue, Aurora	
("the Site");	
[Use this paragraph for sites that do not have petroleum leaking UST	·s]
WHEREAS,	
WHEREAS, as a result of one or more releases of contaminants at the	
("the Release(s)"), soil and/or groundwater contamination at the Site exc	ceeds the Tier 1 residential remediation
objectives of 35 III. Adm. Code 742;	
WHEREAS, the soil and/or groundwater contamination exceeding Tie	er 1 residential remediation objectives
extends or may extend into the Highway Authority's right-of-way;	
WHEREAS, the Owner/Operator or Property Owner is conducting co	rrective action in response to the
Release(s);	
WHEREAS, the Parties desire to prevent groundwater beneath the H	
exceeds Tier 1 remediation objectives from use as a supply of potable o	
soil within the right-of-way that exceeds Tier 1 residential remediation of	pjectives so that human health and the
environment are protected during and after any access;	
NOW, THEREFORE , the Parties agree as follows:	
1. The recitals set forth above are incorporated by reference as if full	v set forth herein.
2. [Use this paragraph if IEMA has issued an incident number] The II	
has assigned incident number(s)20190483 to the Release	ase(s).
3. Attached as Exhibit A is a scaled map(s) prepared by the Prope	rty Owner that shows the Site and
surrounding area and delineates the current and estimated future	
contamination above the applicable Tier 1 residential remediation	objectives as a result of the Release(s).
[Use the following sentence if either soil or groundwater is not con	taminated above applicable Tier 1
<u> </u>	ated above the applicable Tier 1
residential remediation objectives.]	
4. Attached as Exhibit P is a table/s) propered by the	upor that lists each contaminant of
 Attached as Exhibit B is a table(s) prepared by the Property Ov concern that exceeds its Tier 1 residential remediation objective, it 	
and its concentrations within the zone where Tier 1 residential rem	
and to concentrations within the zone where the introduction fell	issission objectives are executed. The

locations of the concentrations listed in Exhibit B are identified on the map(s) in Exhibit A.

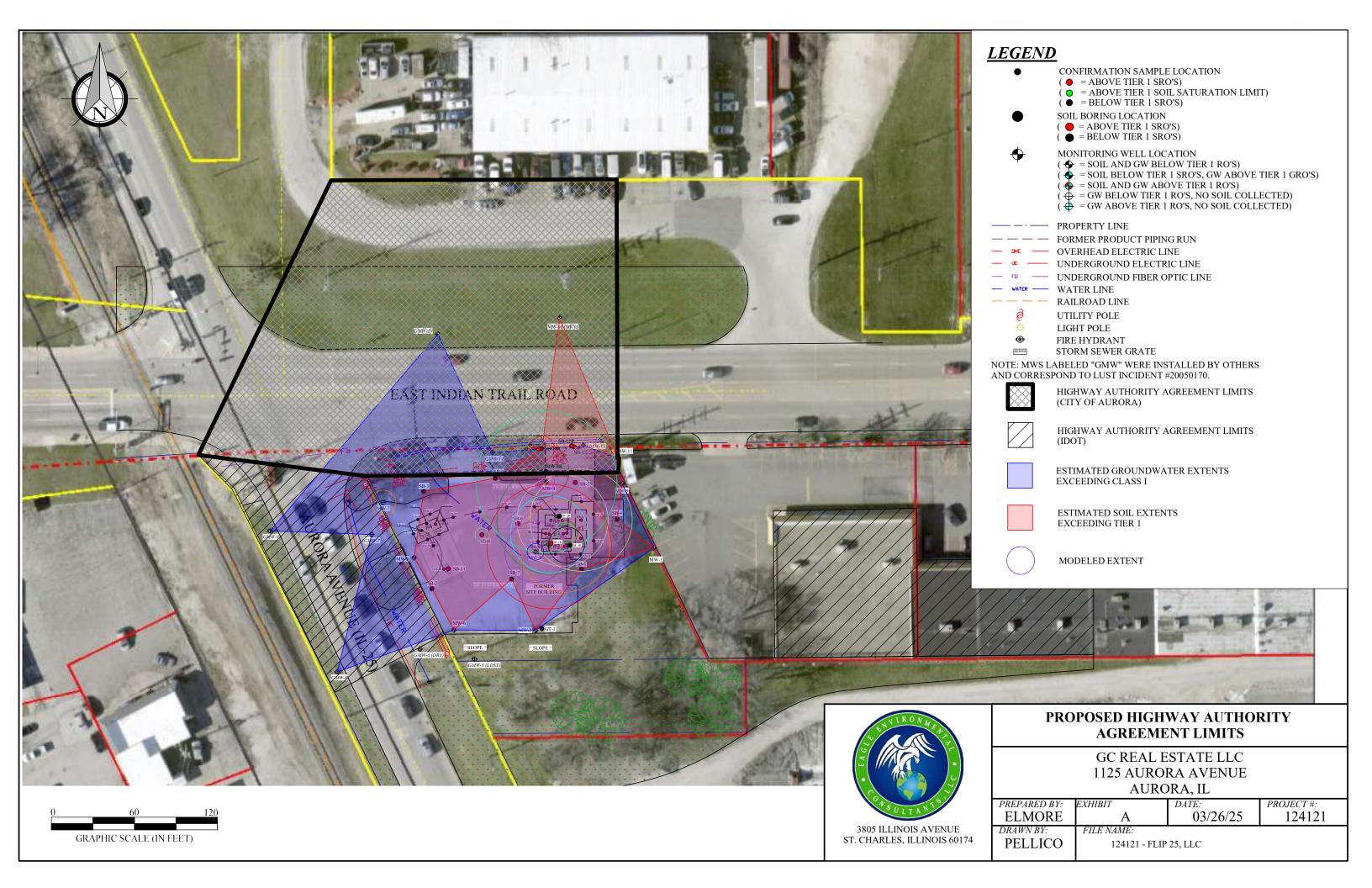
- 5. Attached as Exhibit C is a scaled map prepared by the __Owner/Operator_ showing the area of the Highway Authority's right-of-way that is governed by this agreement ("Right-of-Way"). Because Exhibit C is not a surveyed plat, the Right-of-Way boundary may be an approximation of the actual Right-of-Way lines.
- 6. [Use this paragraph if samples have not been collected within the Right-of-Way, sampling within the Right-of-Way is not practical, and contamination does not extend beyond the Right-of-Way.] Because the collection of samples within the Right-of-Way is not practical, the Parties stipulate that, based on modeling, soil and groundwater contamination exceeding Tier 1 residential remediation objectives does not and will not extend beyond the boundaries of the Right-of-Way.
- 7. The Highway Authority stipulates it has jurisdiction over the Right-of-Way that gives it sole control over the use of the groundwater and access to the soil located within or beneath the Right-of-Way.
- 8. The Highway Authority agrees to prohibit within the Right-of-Way all potable and domestic uses of groundwater exceeding Tier 1 residential remediation objectives.
- 9. The Highway Authority further agrees to limit access by itself and others to soil within the Right-of-Way exceeding Tier 1 residential remediation objectives. Access shall be allowed only if human health (including worker safety) and the environment are protected during and after any access. The Highway Authority may construct, reconstruct, improve, repair, maintain and operate a highway upon the Right-of-Way, or allow others to do the same by permit. In addition, the Highway Authority and others using or working in the Right-of-Way under permit have the right to remove soil or groundwater from the Right-of-Way and dispose of the same in accordance with applicable environmental laws and regulations. The Highway Authority agrees to issue all permits for work in the Right-of-Way, and make all existing permits for work in the Right-of-Way, subject to the following or a substantially similar condition:

As a condition of this permit the permittee shall request the office issuing this permit to identify sites in the Right-of-Way where a Highway Authority Agreement governs access to soil that exceeds the Tier 1 residential remediation objectives of 35 III. Adm. Code 742. The permittee shall take all measures necessary to protect human health (including worker safety) and the environment during and after any access to such soil.

- 10. This agreement shall be referenced in the Agency's no further remediation determination issued for the Release(s).
- 11. The Agency shall be notified of any transfer of jurisdiction over the Right-of-Way at least 30 days prior to the date the transfer takes effect. This agreement shall be null and void upon the transfer unless the transferee agrees to be bound by this agreement as if the transferee were an original party to this agreement. The transferee's agreement to be bound by the terms of this agreement shall be memorialized at the time of transfer in a writing ("Rider") that references this Highway Authority Agreement and is signed by the Highway Authority, or subsequent transferor, and the transferee.
- 12. This agreement shall become effective on the date the Agency issues a no further remediation determination for the Release(s). It shall remain effective until the Right-of-Way is demonstrated to be suitable for unrestricted use and the Agency issues a new no further remediation determination to reflect there is no longer a need for this agreement, or until the agreement is otherwise terminated or voided.
- 13. In addition to any other remedies that may be available, the Agency may bring suit to enforce the terms of this agreement or may, in its sole discretion, declare this agreement null and void if any of the Parties or any transferee violates any term of this agreement. The Parties or transferee shall be notified in writing of any such declaration.
- 14. This agreement shall be null and void if a court of competent jurisdiction strikes down any part or provision of the agreement.
- 15. This agreement supersedes any prior written or oral agreements or understandings between the Parties on the subject matter addressed herein. It may be altered, modified or amended only upon the written consent and agreement of the Parties.
- 16. Any notices or other correspondence regarding this agreement shall be sent to the Parties at following addresses:

	ment Property Owner or Owner/Operator
Bureau of Land Illinois Environmental Protection Agency P.O. Box 19276	Name Amaan Fazal
Springfield, IL 62974-9276	Address 1 S 376 Summit Ave
	City Oakbrook Terrace
(Contact at Highway Authority)	State IL
Address	
City	
State	
Zip Code	
	this agreement to be signed by their duly authorized
	this agreement to be signed by their duly authorized [NAME OF LOCAL GOVERNMENT]
entatives.	
entatives. Date:	[NAME OF LOCAL GOVERNMENT]

Title Manager/Member



Contaminant	Sample Location	Soil Concentration	Modeled (or Measured) Concentration	Modeled Distance
		(mg/kg)	(mg/L)	(ft)
	CS-1	13.2	0.386	39
	CS-2	7.68	0.225	33
	CS-4	0.0513	0.0015	<class i<="" td=""></class>
	CS-5	4.63	0.135	28
	CS-6	0.700	0.020	10
	CS-7	24	0.702	45
	CS-8	7.8	0.228	33
	CS-12	0.134	0.0039	<class i<="" td=""></class>
	CS-19	10.9	0.319	37
	CS-20	0.0703	0.0021	<class i<="" td=""></class>
	CS-30	0.0645	0.0019	<class i<="" td=""></class>
	BF-1	0.262	0.0077	3
	BF-2	0.401	0.012	6
	BF-3	0.440	0.013	7
Benzene	BF-4	0.609	0.018	10
Delizene	BF-5	0.925	0.027	13
	MW-4 (7'-8')	0.360	0.011	6
	MW-5 (7'-9')	0.376	0.011	6
	SB-5 (7'-9')	0.104	0.0030	<class i<="" td=""></class>
	SB-8 (9'-10')	0.319	0.0093	5
	SB-10 (7'-9')	0.0385	0.0011	<class i<="" td=""></class>
	MW-8 (7'-9')	0.0371	0.0011	<class i<="" td=""></class>
	SB-11 (10'-11')	0.483	0.014	8
	SB-11 (9'-10')	0.548	0.016	9
	SB-12 (7'-9')	0.0774	0.0023	<class i<="" td=""></class>
	MW-3	N/A	0.0574	20
	MW-4	N/A	1.24	51
	MW-5	N/A	0.0735	22
	MW-7	N/A	0.0167	9
	MW-8	N/A	0.0548	19
	CS-1	15.7	0.46	<class i<="" td=""></class>
	CS-8	13.2	0.39	<class i<="" td=""></class>
Ethylbenzene	BF-1	23.4	0.68	<class i<="" td=""></class>
Euryroenzene	BF-2	14.6	0.43	<class i<="" td=""></class>
	BF-4	18.5	0.54	<class i<="" td=""></class>
	MW-5	N/A	1.75	2

			Soil Satu	ration Limit		
Exceeds Tier 1 SROs		estion	lwater		Outdoor	Inhalation
Xylenes (total)	BF-1	, BF-2				
		So	oil Ingestion	Exposure Rou	ıte	
Exceeds Tier 1 SROs	Residential		Indust Comme	** *	Co	onstruction Worker
Benzene	CS-1, CS-7			-		
		So	il Inhalation	Exposure Ro	ute	
Exceeds Tier 1 SROs	Residential		Indust Comme		Co	onstruction Worker
Benzene	CS-1, CS-2, CS-5, C CS-8, CS-19, BF-		CS-1, CS-2, C CS-8, C		CS-1,	CS-2, CS-5, CS-7, CS-8, CS-19
Xylenes (total)				-	CS-8, C	CS-2, CS-5, CS-6, CS-7, CS-30, BF-1, BF-2, BF-3, -4, BF-5, SB-6 (5'-7')
Exceeds Tier 1 SROs		Groun	-	ponent of the stion Exposur	e Route	
			Class I G	roundwater		
Benzene	BF-4, BF-5, MW	7-4 (7'-8'), N	MW-5 (7'-9')		SB-8 (9	CS-30, BF-1, BF-2, BF-3, '-10'), SB-10 (7'-9'), 12 (7'-9')
Ethylbenzene				BF-1, BF-2, BF-		,
Exceeds Tier 1 SROs				Component of stion Exposur		
			Class I G	roundwater		
Benzene		MW-	-3, MW-4, M	IW-5, MW-7, N	MW-8	
Ethylbenzene			M	IW-5		
		Inde	oor Inhalatio	on Exposure R	Coute	
Exceeds Tier 1 SROs	Diffusion ar	nd Advectio	n		Diffus	sion Only
Lacceus Hel I SixUs	Residential		strial/ nercial	Resident	ial	Industrial/ Commercial
Benzene	MW-4	MV	W-4	N/A		N/A
Ethylbenzene	MW-5	MV	W-5	N/A		N/A

118109 - GC Real Estate LLC - Early Action	n CS-1	CS-2	CS-3	CS-4	CS-5	9-S2-6				E	Tier 1 Soil Remediation Objectives	iation Objectiv	8			
Date of Sample Collection:	ion: 5/14/2019	5/14/2019	5/14/2019	5/14/2019	5/14/2019	5/14/2019	Soil Component of the Groundwater Ingestion Exposure Route	tent of the Ingestion	Ingest	Ingestion Exposure Route	toute	Inhala	Inhalation Exposure Route	toute	Soil Saturation Limit	n Limit
Time of Sample Collection: First Environmental Lab ID:	ion: 10:00 AM ID: 19-2957-001	10:05 AM 1 19-2957-002	10:10 AM	10:15 AM	11:15 AM	11:20 AM	Class I	Class II	Residential	Industrial/ Commercial	Construction	Residential	Industrial	g	Soil Component of	Soil
19	-{ }	-1 h	⊣ ।	100.00-0-	COO-1027-61	000-1567-61							Commercial	Worker	Groundwater	Inhalation
Benzene High RL Benzene Leykg 5.0	5/22/2019	5/22/2019	5/21/2019	5/22/2019	5/22/2019	5/22/2019										
ns/kg	П	2005	\$ 50	500 500	4.630 >500	7005	30	170		-	2,300,000	800	1.600	2,200	580,000	800 000
	7	2,480	37.1	<\$00	7.880	7.560	13,000	19,000	7 800 000 7 800 000	410,000,000	410,000,000	650,000	650,000	42,000	T	580,000
Methyl-tert-butylether (MTRE) 118/hg 5.0	13,100	5,780	29.2	<>005>	18,800	24,800	150,000	150,000		410 000 000	41 000 000	320,000	400.000	58,000	\vdash	350,000
MANAK	$\frac{1}{1}$	<520	0.0	<320	<320	<320	320	320	780,000	20,000,000	2,000,000	8,800,000	8,800,000	140.000	8 400 000	280,000
Date Analyzed: Units RL Total Solids %	80.40	5/17/2019	5/17/2019	5/17/2019	5/17/2019	5/17/2019									1	000,000,000
	∦	04:01	65.74	91.93	83.97	83.97			1,							T
118109 - GC Real Estate LLC - Early Action	L CS-7	CS-8	6-SO	CS-10	CS-11	CS-12				ū	Tier 1 Soil Remediation Objectives	ation Objectiv				
Date of Sample Collection	ion: 5/14/2019	5/14/2019	5/14/2019	5/14/2019	5/15/2019	5/15/2019	Soil Component of the Groundwater Ingestion	ent of the Ingestion	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	oute	Soil Saturation I imit	imit.
Time of Sample Collection:	ion: 12:40 PM	12:45 PM	1:00 PM	1:15 PW	9:15 AM	NA 00-0	Exposure Route	Route								
First Environmental Lab ID:	ID: 19-2957-007	Ť		10 2057 010	10 2000 001	MTW 0200	Class I	Class II	Residential	Industrial/	Construction	Residential	Industrial	я	Sou Component of	Soil
с Сошро	_	- 1	_	010-1007-61	19-2538-001	19-2928-002					Da vio		Commercial	Worker	Groundwater Ingestion	Inhalation
_	-	-	5/22/2019	5/22/2019	5/22/2019	5/23/2019										
Toluene ug/kg 5.0	3	7,800	7 9 7	0.00	29.9	134	30	Н	12,000	100,000	2,300,000	800	1,600	2 200	200 002	000 000
ug/kg	\dashv	13,200	\$5.0	0.00	0000	\$665 \$665	12,000	H	٥		410,000,000	650.000	650,000	42,000	290,000	280,000
Methyl-tert-butylether (MTRE) 119/kg 5.0	24,100	38,200	0 \$2	\$5.0	<\$00	<500	150,000	150,000		410,000,000	41 000 000	320,000	400,000	58,000	150,000	350,000
Ilmite	┨┟	┪┠	0.00	0.50	<320	<320	320	Н	-		2,000,000	8,800,000	8,800,000	140,000	-	280,000
%	84.70	80.32	84.35	82.32	5/17/2019	5/17/2019										
118109 - GC Bessi Retarts I I C Earth: A second	-								-		1		-		i	
ACTUAL TOTAL TOTAL TOTAL TOTAL ACTUAL	21-63	CS-14	CS-15	CS-16	CS-17	CS-18				Ţ	Tier 1 Soil Remediation Objectives	iation Objectiv	S			
Date of Sample Collection:	on: 5/15/2019	5/15/2019	\$/15/2019	5/15/2019	5/15/2019	5/15/2019	Soil Component of the Groundwater Ingestion	ent of the Ingestion	Ingesti	Ingestion Exposure Route	oute	Inhalat	Inhalation Exposure Route	oute	Soil Saturation Limit	n Limit
Time of Sample Collection:	on: 9:30 AM	9:35 AM	9:45 AM	9:55 AM	10:00 AM	10:05 AM	Exposure route	Route		-					Soil	
First Environmental Lab ID:	ID: 19-2958-003	3 19-2958-004	19-2958-005	19-2958-006	19-2958-007	19-2958-008	Class I	Class II	Residential	Industrial/ Commercial	Construction Worker	Residential	Industrial/ Commercial	Construction Worker	Component of Groundwater	Soil
BTEX Organic Compounds (5035A/8260B) Date Analyzed:	1 -	┨┟													Ingestion	
nyzeu.	\$/22/2019	5/22/2019	5/23/2019	5/22/2019	5/22/2019	5/22/2019				П						T
ug/kg	+	Н	2005>	200	000	000	30	30,000	12,000	-	2,300,000	800	1.600	2,200	580,000	800,000
Total Xvienes 1976 5.0	90,0	0.50	<500	<5.0	<5.0	0.50	13,000	19,000		_	20 000 000	400 000	650,000	42,000	290,000	580,000
ntylether (MTBE) ug/kg	Н	0.5	<320	0.00	\$5.0	\$5.0	320	150,000	780,000	20 000 000	41,000,000	320,000	320,000	5.600	11	280,000
Date Analyzed: Units RL	5/17/2019	5/17/2019	6102/21/5	5/17/2019	5/17/2010	5117/2010		-	- I	20,000,000	2,000,000 j	8.800.000	8.800,000	140,000	-	200,000,000
l II	Н	Н	89.11	85.96	89.98	90.65	1	1	1	,						
Analytical results in parts-per-billion (nnb) concentrations	trations											la de la compansa de	Ti.	-		1

nalytical results in parts-per-billion (ppb) concentrations.

ices of the Tree 1 SROs mentiphted and bold.

CS-20 CS-2	1 CS-22 CS-24 Tier 1 Soil Remediation Objectives	5/15/2019 5/15/2019 5/15/2019 Grc	10-50 AM 11:00 AM 11:10 AM Class I Class II Residential Commercial Workload Residential Construction Component of	+10-00C2-K1	\$\frac{5722019}{550} \frac{5722019}{275} \frac{5202019}{550}	C C C C C C C C C C	CSD CSD	<50 <50 19.8 150,000 150,000 150,000 150,000,000 410,000,000 320,000 320,000 56,00 110,000	<5.0 <520 <5.0 320 320 780,000 20,000,000 8,800,000 8,800,000 140,000 8	\$\text{172019} \$\text{1712019} \$\text{1712019} 95.15 84.75 85.81	CS-28 CS-29	Soli Component of the Soli Component of the Soli Component of the Soli Commonent of the Ingestion Exposure Ingestion Exposu	2-500 PM 2:40 PM 3:00 PM = Exposure Route	19-2958-018 19-2958-019 19-295	Tingstion Tingstion	5/22/2019 5/22/2019 5/23/2019	<5.0	-5.0 4.1 -5.0 1.2.000 15.000.000 16.000.000 410.000.000 620.000 620.000 42.000 290.000 -5.0 -5.0 -5.5 13.000 19.000 7.800.000 20.000 65.00 66.000.000	\$2.0 \$5.0 \$5.0 \$32.00 150.000 150.000 16.000.000 410.000.000 410.000.000 320.000 320.000 5.600 110.000 \$5.0 \$5.00	SPREMIS SPRE	90.82 87.47	BF4 BF-5 BF-6 Tier 1 Soil Remediation Objectives		10:50 AM 11:30 AM 9:00 AM	19-2957-014 19-2957-015 19-2958-021 Class II Residential Commercial Worker Worker Worker Grommercial Worker Groun	Ingestion	\$/22/2019 \$/22/2019 \$/23/2019	1	1850 3.60	23,300 15,200 150,00	250 780,000 20,000,000 2,000,000 8,800,000 140,000 8,400,000 1,40,000 8,400,000	
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tóm CS-19 CS-20 CS-21 CS-23 CS-24 CS-25 CS-25 CS-26 CS-26 <th< td=""><th></th><td>conent of the ter Ingestion</td><td>Class II</td><td></td><td></td><td>170</td><td>19,000</td><td>150,000</td><td>320</td><td></td><td></td><td>onent of the ter Ingestion</td><td>rre Route</td><td>Class II</td><td></td><td></td><td>170</td><td>19,000</td><td>150,000</td><td>020</td><td></td><td></td><td>ter Ingestion</td><td>TIC WORK</td><td>Class II</td><td></td><td></td><td>170</td><td>19,000</td><td>150,000</td><td>020</td><td></td></th<>		conent of the ter Ingestion	Class II			170	19,000	150,000	320			onent of the ter Ingestion	rre Route	Class II			170	19,000	150,000	020			ter Ingestion	TIC WORK	Class II			170	19,000	150,000	020	
cetion: \$15/2019 \$5/15/2019 \$7/15/2019<		Soil Comp Groundwa Exposi	Class I		ě	30	13,000	150,000	320			Soil Comp Groundwa	Exposi	Class I			30	13,000	320		1	i	Soil Comp Groundwa	realmon	Class I			30	13.000	150,000	المتان	
ection: 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/15/2019 5/20/2012 5/20 5/20 5/20 5/20 5/20 5/20 5/20 5/2	CS-24	5/15/2019	11:10 AM	+10-0067-C1	5/22/2019	\$ 500	\$50	19.8	0.50	5/17/2019 85.81	CS-30	5/15/2019	3:00 PM	19-2958-020		5/23/2019	64.5	3,850	32,200	5000010	89.69	BF-6	5/15/2019	9:00 AM	19-2958-021		5/23/2019	425.0	005	\$300	240	
ection: 10:30 AM 10:40 AM 10:45 AM ab ID: 19-2958-010 19-2958-010 19-2958-010 19-2958-010 19-2958-010 19-2958-010 19-2958-010 19-2958-011 19-2958-010 19-2958-011 19-2957-011	CS-23	5/15/2019	11:00 AM	010000	5/23/2019	\$500	\$200	<500	<320	5/17/2019 84.75	CS-29	5/15/2019	2:40 PM	19-2958-019		5/22/2019	\$ 50	0:1	\$ 50	\$7000010	87.47	BF-5	5/14/2019	11:30 AM	19-2957-015		5/22/2019	2 580	3,690	15,200 <370		
CS-19 CS-20	CS-22	5/15/2019	10:50 AM		5/22/2019	25.0	<5.0	\$5.0	0.0	5/17/2019 95.15	CS-28	5/15/2019	2:00 PM	19-2958-018		5/22/2019	0.00	\$50	\$ \$	\$70000	90.82	BF-4	5/14/2019	10:50 AM	19-2957-014		5/22/2019	600	18,500	23,300		
CS-19 CS-20	CS-21	5/15/2019	10:45 AM		5/22/2019	0.50	<5.0	999	250	5/17/2019 94.53	CS-27	5/15/2019	1:45 PM	19-2958-017		5/22/2019	000	\$30	\$5.0	5/20/2019	93.87	BF-3	5/14/2019	9:00 AM	19-2957-013		5/22/2019	0050	5.480	8,060 <320		
CS-19 CS-1	CS-20	5/15/2019			5/23/2019	200€	200€	3300	220	\$/17/2019 86.20	CS-26	5/15/2019	1:30 PM	19-2958-016		5/22/2019	200	\$5.0	0.05	5/20/2019	92,25	BF-2	5/14/2019	8:45 AM	19-2957-012		5/22/2019	3.010	14,600	131,000	01000010	
tion in the line i	CS-19	5/15/2019		-	5/23/2019 10.900	<500	444	\$ 55 55		5/17/2019 86.28	CS-25	5/15/2019	1:15 PM	+		5/22/2019	11.8	\$5.0	45.0 5.0	5/20/2019	91.08	BF-1	5/14/2019	8:30 AM	+		5/22/2019	\$00	Į.		1 1	
	118109 - GC Real Estate LLC - Early Action	Date of Sample Collection:	- 1) B							118109 - GC Real Estate LLC - Early Action	Date of Sample Collection:	Time of Sample Collection:	First Environmental Lab ID:	BTEX Organic Compounds (5035A/8260B)		_		Ш		1 11 1	118109 - GC Real Estate LLC - Early Action	Date of Sample Collection:	Time of Sample Collection:	ab ID:		ug/kg 5.0	┖	5.0	5.0	11.44	

alytical results in parts-per-billion (ppb) concentrations.

118109 - GC Real Estate LLC - Stage 1	ge 1	MW-1 (3'-5')	MW-1 (7-9)	MW-1 (10'-11')	MW-2 (1'-3')	MW-2 (5-7)	MW-2				Ţ	Tier 1 Soil Remediation Objectives	ation Objectiv	8			
Date of Sample Collection:	Collection:	2/6/2020	2/6/2020	2/6/2020	2/6/2020	2/6/2020	2/6/2020	Soil Component of the Groundwater Ingestion Exposure Route	tent of the Ingestion	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	on Limit
Time of Sample Collection: First Fluvironmens I 1 st III.		9:10 AM	9;40 AM	10:00 AM	11:00 AM	11:20 AM	11:40 AM	Class I	Class II	Residential	Industrial/	Construction	Residential	Industrial/	ű	Soil Component of	Soil
BTEX Organic Compounds (5035A/826)		100-67/0-02	70-67/0-07	20-0/29-003	20-0729-006	20-0729-007	20-0729-008				Commercial	Worker		Commercial	Worker	Groundwater	Inhalation
ılyzed:	E.	2/13/2020	2/13/2020	2/14/2020	2/13/2020	0/13/000	2/13/2020									macanom	
	5.0	<5.0	<5.0	<25.0	<5.0	55.0	<50 × 0 × 0	30	1.70	12,000	000000					ļ	
Loudine ug/kg		\$5.0	0.5○	<500	<5.0	<5.0	\$50	12.000	29,000	16,000,000		2,300,000	800	1,600	2,200	Н	800,000
	1	\$50	0.0	<\$00	<5.0	<5.0	<5.0	13,000	19,000	†	200,000,000	20,000,000	650,000	650,000	42,000	290,000	580,000
Methyl-tert-butylether (MTBF) 119/kg	2.0	0,0	0.5	\$200	<5.0	0.50	€5.0	150,000	150,000	T		41 000 000	320,000	400,000	58,000	+	350,000
11	2.0	2	200	\$350 \$350	\$50	€5.0	€5.0	320	320	780,000	20,000,000	2,000,000	8,800,000	8,800,000	140,000	8 400 000	280,000
Date Analyzed: Units	RL	2/10/2020	2/10/2020	2/10/2020	2/10/2020	0/10/2020	0/10/000									1	000000
% Spilos izioni	1	75.60	87.85	89.46	91.75	94.11	84.12		ı			-					
118109 - GC Real Estate LLC - Stage 1	ge 1	MW-3	MW-3	MW-4	MW-4	MW-5	MW-5										
		(3'-5')	(7:-9)	(3'-5')	(7:-8)	(1:-3)	(7:-9:)				Ĕ	Fier 1 Soil Remediation Objectives	iation Objectiv	83			
Date of Sample Collection:	Collection:	2/6/2020	2/6/2020	2/6/2020	2/6/2020	2/7/2020	2/7/2020	Soil Component of the Groundwater Ingestion	ent of the Ingestion	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	n Limit
Time of Summer Online	'ollowism.	200000						Exposure Route	Route					•			
Cardinac vo Sunt	Ollection	12:50 PM	12:50 PM	2:10 PM	2:30 PM	8:55 AM	9:00 AM									Soil	
First Environmental Lab ID:	ab ID:	20-0729-011	20-0729-012	20-0729-015	20-0729-016	20-0726-001	20-0726-002	Class I	Class II	Residential	Commercial	Construction	Residential	Industrial/ Commercial	Construction Worker	Component of Groundwater	Soil Inhalation
c Compounds (5035																Ingestion	
Renzene Units	1	2/13/2020	2/13/2020	2/13/2020	2/14/2020	2/13/2020	2/14/2020										
		0.0	9 4	\$5.0	360	<5.0	376	30	170	12,000	100.000	2.300.000	008	1,600	0000	000 002	200
Ethylbenzene ug/kg	5.0	\$50	0.00	2 6	8 150	0.0	\$ 220	12,000	29.000	-	410,000,000	410,000,000	650,000	650,000	42.000	290,000	\$00,000
T	_	<5.0	<5.0	<5.0	00\$>	0.50	1.560	150,000	150,000		200,000,000	20,000,000	400,000	400,000	58,000	150,000	350,000
Solids, Total (2540B)	5.0	\$50	0.5	<5.0	<320	<5.0	<320	320	320	780,000	20,000,000	2,000,000	320,000	320,000	5,600		280,000
H	z	2/10/2020	2/10/2020	2/10/2020	2/10/2020	2/10/2020	2/10/2020							20000	000.01	1	1,200,000,000
Course Source		84.46	91.5	92.28	89.75	88.74	91.51		-		!						
118109 - GC Real Estate LLC - Stage 1	ge 1	SB-1 (1'-3')	SB-1 (5'-7')	SB-2 (1'-3')	SB-2 (71-97)	SB-3	SB-3				Ţ,	Tier 1 Soil Remediation Objectives	ation Objectiv				
							(/_~)	Coll Comment	13								
Date of Sample Collection:	Collection:	2/6/2020	2/6/2020	2/6/2020	2/6/2020	2/6/2020	2/6/2020	Groundwater Ingestion Exposure Route	Ingestion	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	on Limit
Time of Sample Collection:	Collection:	10:20 AM	10:40 AM	12:00 PM	12:10 PM	1:20 PM	1:40 PM				\vdash					Soil	
First Environmental Lab ID:	ap D:	20-0729-004	20-0729-005	20-0729-009	20-0729-010	20-0729-013	20-0729-014	Class I	Class II	Residential	Industrial/ Commercial	Construction Worker	Residential	Industrial/ Commercial	Construction Worker	Component of Groundwater	Soil Inhalation
c Compounds (5035	(B)															Ingestion	
Berzene Units		2/13/2020	2/13/2020	2/13/2020	2/13/2020	2/13/2020	2/13/2020										
Toluene ug/kg	5.0	2000	8,0	0.00	0.00	0.05	\$5.0	30	170			2,300,000	800	1.600	2.200	580 000	000 008
		0.50	0.50	20.50	3.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0	000	0.00	12,000	29,000	-	410,000,000	410,000,000	650,000	650,000	42,000	290,000	580,000
Total Xylenes Methyl-tert-hyplether (MTRE)	5.0	\$5.0	\$5.0	<5.0	\$5.0	\$.0 \$.0	0.50	150,000	150,000	16.000.000	410 000 000	41 000 000	400,000	400,000	58,000	H	350,000
		0.0	\$50	\$5.0	<5.0	<5.0	0.50	320	320	+	20,000,000	2,000,000	8.800,000	8,800,000	140,000	8,400,000	200 000 000
Date Analyzed: Units	12	2/10/2020	2/10/2020	2/10/2020	2/10/2020	2/10/2020	2/10/2020									1	
0/ 1		84.39	87.29	94.44	88.58	89.35	89.72			1							
Analytical results in parts-per-billion (ppb) concentrations	concentration	ž.															

Analytical results in parts-per-billion (ppb) concentrations.

Exceedences of the Tree J NROs highlighted and boild

118109 - GC Real Estate LLC - Stage 1	SB-4 (3'-5')	SB-4 (9:-10')	SB-5 (3:-5")	SB-5 (7-9)	SB-6 (1'-3')	SB-6 (5:-7)				Ţ	Tier 1 Soil Remediation Objectives	liation Objectiv	es.			
Date of Sample Collection:	2/7/2020	2/7/2020	2/7/2020	2/7/2020	2/7/2020	2/7/2020	Soil Component of the Groundwater Ingestion Exposure Ponte	ent of the Ingestion	Ingest	Ingestion Exposure Route	oute	Inbala	Inhalation Exposure Route	Route	Soil Saturation Limit	n Limit
Time of Sample Collection:		10:20 AM		10:45 AM	11:00 AM	11:10 AM	Class I	Class II	Residential		Construction	Recidential	Industrial/	Construction	Soil Component of	Soil
FIRST ENVIRONMENTAL LAB ID: BTEX Organic Compounds (5035A/8260B)	20-0726-003	20-0726-004	20-0726-005	20-0726-006	20-0726-007	20-0726-008				Commercial	Worker	Vesidentian	Commercial	Worker	Groundwater	Inhalation
Date Analyzed: Units RL	2/13/2020	2/14/2020	2/13/2020	2/14/2020	2/13/2020	2/14/2020										
ug/kg	000	250 250	80,00	104	\$5.0	<25.0	30	170	12,000	100,000	2,300,000	800	1 600	2200	000 085	000 000
zene us/kg	5.0	005>	0.50	5,400	000	3300	12,000	29,000	16,000,000	410,000,000	410,000,000	650,000	650,000	42,000	290,000	580,000
Methyl-tert-butylether (MTBF) 110/kg 5.0	0.0	<500	\$50	\$500 \$200	8.8	14,300	150,000	150,000	_	410,000,000	41.000.000	320 000	320,000	58,000	150,000	350.000
7 m	2	0220	0.00	Q250	0.50	<320	320	320	т	20,000,000	2,000,000	8.800,000	8.800.000	140,000	8,400,000	200,000,000
Units RL Total Solids %	2/10/2020 89.32	2/10/2020 88.07	2/10/2020	2/10/2020 86.88	2/10/2020	2/10/2020										
1010th	MW-6	NW. 6	200.7	1 48	, de							1	-	-		ı
118109 - GC Real Estate LLC - Stage 2	(1-3)	(5'-7')	SB-/ (1'-3')	SB-7 (5'-7')	SB-8 (3'-5')	SB-8 (9'-10')				Ē	Tier 1 Soil Remediation Objectives	liation Objectiv	S).			
Date of Sample Collection:	: 11/13/2020	11/13/2020	11/13/2020	11/13/2020	11/13/2020	11/13/2020	Soil Component of the Groundwater Ingestion	ent of the Ingestion	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	n Limit
Time of Sample Collection:	10:00 AM	10:30 AM	11-40 AM	11-50 AM	Ma 21-61	2 April 02,01	Expositre Konte	Koure				-				
ì	t_		777.0177	TWO OF THE	M12 C1.21	MA 0071	Class I	Class II	Recidential		Construction	,	Industrial/	Construction	Soil Component of	5
First Environmental Lab ID:	20-6498-001	20-6498-002	20-6498-003	20-6498-004	20-6498-005	20-6498-006		Care and an	Vesidentian	Commercial	Worker	Residential	Commercial	Worker	Groundwater	John Parison
Date Analyzed: Units RT	11/18/2020	11/18/2000	11/10/2000	11/10/0000	0000000										подемной	
ne/kg	<5.0	<5.0	<25.0	11/18/2020	11/18/2020 <5.0	319	0%	021	10000							
┙	\$5.0	5.0	00\$>	0.5≥	<5.0	11.6	12,000	29 000	16 000 000	410,000,000	410,000,000	800	1.600	2,200	580,000	800,000
Total Xylenes us/kg 5.0	\$ \$0	0.00	000	0.50	0.50	327	13,000	19,000	1-1	-	20,000,000	400,000	400,000	58 000	290,000	350,000
L.I	<5.0	\$50	320	0.5	0.50	55.0	320	320	16,000,000	20 000 000	41,000,000	320,000	320,000	5.600	Ħ	280,000
Date Analyzed: Units RL	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020			00000	000,000,00	7,000,000	0.00.000	8,800,000	140,000	8,400,000 1	.200,000,000
Total Solids %	93.96	92.39	94.04	16 06	95.74	80.50	ŀ	-								
118109 - GC Real Estate LLC - Stage 2	SB-9	SB-9	SB-10	SB-10	MW-8	MW-8										
	(3-5)	(79)	(1-3)	(7:-9')	(3:-5')	(7:-9)				Į.	Fier 1 Soil Remediation Objectives	liation Objectiv	es			
Date of Sample Collection:	11/13/2020	11/13/2020	11/13/2020	11/13/2020	11/13/2020	11/13/2020	Soil Component of the Groundwater Ingestion Exposure Route	ent of the Ingestion Route	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	a Limit
Time of Sample Collection:	12:50 PM	1:00 PM	1:30 PM	1:45 PM	1:50 PM	2:00 PM				-					Soil	
First Environmental Lab ID:	20-6498-007	20-6498-008	20-6498-009	20-6498-010	20-6498-011	20-6498-012	Class I	Class II	Residential	Commercial	Construction	Residential	Industrial/ Commercial	Construction Worker	Component of Groundwater	Soil Inhalation
ic Compounds (5035A/8260B)							-								Ingestion	
	11/18/2020	11/19/2020	11/18/2020	11/19/2020	11/18/2020	11/19/2020										
	\$5.0	200 \$200	1.7	38.5 >500	0.00	37.1	30	20,000	\vdash	_	2,300,000	800	1.600	2.200	580,000	800,000
полка	<5.0	00\$>	<5.0	714	\$5.0	2000	13,000	19,000	7 800 000		2000.000	650.000	650,000	42,000	290,000	580,000
Methyl-tert-butylether (MTBF) 110/kg 5.0	0.00	\$200	<5.0	\$500	\$5.0	<500	150,000	150,000	_	410,000,000	41,000,000	320,000	320,000	58,000	150,000	350,000
Si William	2.7	1775	53.0	Q250	\$5.0	<320	320	320	П	_	2,000,000	8.800,000	8.800,000	140,000	†	1.200,000,000
Date Analyzed: Units RL Total Solids %	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/16/2020	-									
sults in parts-per-billion	tions.		14.50	10.10	74.30	89.84	-		-	-					1	

nalytical results in parts-per-billion (ppb) concentrations

118109 - GC Real Estate LLC - Stage 2	MW-9	6-WW	SB-11	SB-11	SB-11					*****						
	(6-1)	(/-0)	(3-5)	(,6-,1)	(10-11)					116	11er 1 Sou Remediation Objectives	tation Objectiv	S			
Date of Sample Collection:	11/13/2020	11/13/2020	11/16/2020	11/16/2020	11/16/2020	ı	Soil Component of the Groundwater Ingestion Exposure Route	ent of the Ingestion Route	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	on Limit
Time of Sample Collection:	2:45 PM	3:00 PM	12:45 PM	1:00 PM	1:30 PM					\vdash					Soil	
First Environmental Lab ID:	20-6498-013	20-6498-014	20-6525-001	20-6525-002	20-6525-003		Class I	Class II	Residential	Commercial	Construction	Residential	Industrial/ Commercial	Construction Worker	Component of Groundwater	Soil Inhalation
BTEX Organic Compounds (5035A/8260B) Date Analyzed:	11/10/2020	11/10/2000	000000111												Ingestion	
ue/kg	\$5.00 \$5.00	0202/07/0	11/19/2020	11/20/2020	11/20/2020	1										
53/5n	<5.0	0.50	0.50	0.50	14.03		30	170	12,000	100,000	2,300,000	800	1,600	2,200	580,000	800,000
Ethylbenzene ue/kg 5.0	≪0.0	0.5>	0.5>	8.3	1,890		13.000	19 000	7 800 000	200,000,000	410,000,000	650.000	650.000	42,000	290,000	580,000
us/kg	000	0.50	\$5.0	5.5	158	1	150,000	150,000	16,000,000	410,000,000	41 000 000	320,000	320,000	58,000	150,000	350,000
HEVER	0.5	0.00	0.0	\$20	60.1		320	320	780.000	20,000,000	2,000,000	8.800,000	8.800.000	140,000	8.400.000	1 200 000 000
Date Analyzed: Units RL	11/16/2020	11/16/2020	11/17/2020	11/17/2020	11/17/2020										1	
Total Suitus	77.04	85.97	94.62	95.35	79.80			- 		1						
118109 - GC Real Estate LLC - Stage 3	SB-11	SB-11	SB-12	SB-12	MW-10	MW-10										
	(3:-5)	(9'-10')	(1:3)	(7:-9)	(3-5)	(5-7)				Ĕ	Tier 1 Soil Remediation Objectives	iation Objectiv	.es			
Date of Sample Collection:	10/5/2021	10/5/2021	10/5/2021	10/5/2021	10/5/2021	10/5/2021	Soil Component of the Groundwater Ingestion	ent of the Ingestion	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	on Limit
Time of Sample Collection:	12:15 PM	12:25 PM	12-35 PM	12-45 PM	11-00 038	11.10 43.6	Exposure Konte	Koure								
				MIN CLIEN	11.00 ALM	11:10 AIM	Ches	,		Industrial	Construction		Industrial/	Construction	Soil	
First Environmental Lab ID:	21-6522-003	21-6522-004	21-6522-005	21-6522-006	21-6522-001	21-6522-002		Class II	Kesidential		Worker	Residential	Commercial	Worker	Component or Groundwater	Soul Inhalation
B1 EX Organic Compounds (5035A/8260B)	10000														Ingestion	
	10/1/2021	10/7/2021	10/7/2021	10/7/2021	10/7/2021	10/7/2021										
ug/kg	050	9	7 8	71.4	0.0	0.0	30	170	-		2,300,000	800	1.600	2.200	580 000	800 000
ug/kg	<5.0	24.2	0.50	5.650	2 6	000	12,000	29,000	16,000,000	410,000,000	410,000,000	650,000	650,000	42,000	290,000	580,000
Total Xylenes ug/kg 5.0	<5.0	38.8	<5.0	3,120	\$5.0	0.50	150.000	150,000	+		20,000,000	400,000	400,000	58,000	150,000	350,000
	\$50	<5.0	0.0	<320	0.50	<5.0	320	320	780,000	20,000,000	2,000,000	8,800,000	8,800,000	3.600	8 400 000	280,000
Date Analyzed: Units RL	10/7/2021	10/7/2021	10/8/2021	10/8/2021	10/7/2021	1 100/2/201										200000000000000000000000000000000000000
Total Solids	94.41	81.38	94.41	89.44	96.24	80.50	!	!	-							
118109 - GC Real Retrate I I C - Street 3	MW-11	MW-11	MW-11													
Cognic Common and Comm	(1:-3)	(9:-10)	(11:-13)				İ			ŭ	Tier 1 Soil Remediation Objectives	iation Objectiv	çe			
Date of Sample Collection:	10/5/2021	10/5/2021	10/5/2021				Soil Component of the	ent of the	,	,						
	- 1						Exposure Route	Route	Ingest	Ingestion Exposure Route	oute	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	on Limit
Time of Sample Collection:	12:55 PM	1:05 PM	1:15 PM							-					Soil	
First Environmental Lab ID:	21-6522-007	21-6522-008	21-6522-009				Class I	Class II	Residential	Industrial/ Commercial	Construction Worker	Residential	Industrial/ Commercial	Construction Worker	Component of Groundwater	Soil Inhalation
ic Compounds (5035A/8260B)															Ingestion	
Date Analyzed: Units RL	10/7/2021	10/7/2021	10/8/2021													
us/kg	\$50	<5.0	<5.0				30	-	12,000	100.000	2 300 000	800	1 600	0000	000 002	000
Filvihenzene 100/kg 5.0	0.5	\$5.0	6.1				12,000	-	-	410,000,000	410.000.000	650,000	0000	72,200	200,000	800,000
ug/kg	0.00	0.00	26.4				13,000	\forall	1	1 1	20,000,000	400,000	400,000	58,000	150.000	350,000
(MTBE) ug/kg	\$5.0	\$3.0	0.5		1		150,000	- - 요	-	410,000,000	41,000,000	320,000	320,000	5.600	╁	280,000
			2.2				075	320	_	- 1	2,000,000	8.800,000	8,800,000	140,000		.200,000,000
Date Analyzed: Units RL Total Solids %	10/8/2021	10/8/2021	10/8/2021											ļ		
A - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	05.51	84.98	88.29					-					1.	1	-	
Analytical results in parts-per-billion (ppb) concentrations.	ions.															

Analytical results in parts-per-billion (ppb) concentrations.

ices of the Uter 1 SROs highlighted and bold

		at 20	מלימה	200										
118109 - GC Real Estate LLC - CAP	C-CAP	(13'-15')	DF-2R (13'-15')	51-5K				Œ	Tier 1 Soil Remediation Objectives	iation Objectiv	54			
											ì			
Date of Sm	Data of Commission of Collection	200000	4		Soil Com	Soil Component of the								
Lanc Oct.	Tionnearmon aidm	6/2/2/023	6/2/2023	6/2/2023	 Groundwa	Groundwater Ingestion	Inges	Ingestion Exposure Route	Route	Inhala	Inhalation Exposure Route	Route	Soil Saturation Limit	ion Limit
					Expos	Exposure Koute								
Time of Sa	mple Collection:	Time of Sample Collection: 11:00 AM	11:30 AM	12:00 PM									Soil	
					Jase J	Clase II	Doctoonstin	Industrial/	Construction		Industrial/	Construction	Industrial/ Construction Component of	Con
First Environ	mental Lab ID:	First Environmental Lab ID; 23-4572-001 23-4572-002 23-4572-003	23-4572-002	23-4572-003	 1 8591		Nesidential	Commercial	Commercial Worker Residential	Residential	Commercial)	Worker Groundwater	Ξ
BTEX Organic Compounds (5035A/8260B)	4/8260B)												Ingestion	
Date Analyzed:	Units RL	6/12/2023	5000/8/9	5000/8/9										
Benzene	це/ке 5.0	8.560	\$	055	6	100		- 1						
Toluene	ug/kg 5.0	152	055	050	300 ct	0/1	12,000	_	2,300,000	800	1,600	2,200	580,000	800.000
	ug/kg 5.0	2.500	050	0.50	12,000	29,000	16,000,000	410,000,000	410,000,000	650,000	650,000	42,000	290.000	580 000
Total Xylenes	ue/kg 5.0	4.970	25.0	0.50	13,000	19,000	7.800,000	7.800,000 200,000,000	20,000,000	400,000	400,000	58,000	150.000	350.000
vlether (MTRE)	L	2320	200	2 4	150,000	150,000	16,000,000	16,000,000 410,000,000 41,000,000	41,000,000	320,000	320.000	2,600	110,000	280,000
1		0.70	2.0	2.0	320	320	780,000	20,000,000	2,000,000	8.800.000	8 800 000	140 000	8 400 000	200,000
											200000	10000	0,100,000	1,200,000,000
:ca:	Units	6/5/2023	6/5/2023	6/5/2023										
Total Solids	%	78.04	83.24	83.91										
						-		-	1	1	ı	-	ļ	
Anslytical regults in parts nor billion (anh) concentration	(nnh)	- Property												-

Table 2 Summary of Analytical Results - Groundwater Samples 118109 - GC Real Estate LLC Corrective Action Plan

118109 - GC Real Estate LLC - Stage 1	LLC - Stag	ge 1	MW-1	MW-2	MW-3	MW-4	MW-5	Tier 1 C	roundwater R	Tier 1 Groundwater Remediation Objectives	ectives
Date	Date of Sample Collection:	Collection:	2/21/2020	2/21/2020	2/21/2020	2/21/2020	2/21/2020			Indoor Inhalation Exposure	ion Exposure
Tíme	Time of Sample Collection:	Collection:	12:00 PM	12:15 PM	12:30 PM	1:00 PM	1:20 PM	Class I	Class II	Moute Diffusion and Advection	Ite I Advection
First	Environmen	ıtal Lab ID:	First Environmental Lab ID: 20-0990-001	20-060-002	20-0990-003 20-0990-004 20-0990-005	20-0990-004	20-0990-005			Residential	Industrial/
BTEX Organic Compounds (5035A/8260B)	35A/8260B										Commercial
Date Analyzed:	Units	RL	2/25/2020	2/25/2020	2/27/2020	2/27/2020	2/25/2020				
Benzene	ug/L	5.0	<5.0	<5.0	57.4	1.240	73.5	5.0	25	1 =	1 5
Toluene	ug/L	5.0	<5.0	<5.0	<5.0	11.2	19.6	0001	2500	111	410
Ethylbenzene	ηg/L	5.0	41.3	<5.0	102	284	1 750	700	1,000	350,000	530,000
Total Xylenes	ng/L	5.0	36.7	<5.0	<5.0	96.3	3.780	10 000	10,000	30,000	1,400
Methyl-tert-butylether (MTBE)	μg/L	5.0	<5.0	<5.0	<5.0	12.6	12	70	70	1 000 000	95,000
								2	2/	1,200,000	0,000,000
118109 - GC Real Estate LLC - Stage 2	LLC - Stag	ge 2	MW-7	MW-8	MW-9	ļ	1	Tier 1 C	roundwater R	Tier 1 Groundwater Remediation Objectives	ectives
Date	Date of Sample Collection:	Collection:	12/4/2020	12/4/2020	12/4/2020	1				Indoor Inhalation Exposure	ion Exposure
	S of Commits	100		1						Koute	e
NTITT	Time of Sample Conection:	Conection:	11:00 AM	11:15 AM	11:30 AM	-		Class I	Class II	Diffusion and Advection	l Advection
First	Environmen	ıtal Lab ID:	First Environmental Lab ID: 20-6877-001	20-6877-002 20-6877-003	20-6877-003		-			Residential	Industrial/
BTEX Organic Compounds (5035A/8260B)	35A/8260B										Commercial
Date Analyzed:	Units	RL	12/8/2020	12/8/2020	12/8/2020						
Benzene	ηg/L	5.0	16.7	54.8	<5.0	Į		2.0	25	111	110
Toluene	ng/L	5.0	<5.0	<5.0	<5.0		1	1 000	005 6	530 000	410
Ethylbenzene	ng/L	5.0	<5.0	30.8	13.3			700	1.000	370	1 400
Lotal Xylenes	ug/L	5.0	9.6	<5.0	<5.0			10,000	10,000	30.000	93,000
Methyl-tert-butylether (MTBE)	mg/L	5.0	<5.0	<5.0	<5.0	1		70	70	1,900,000	6,800,000

Exceeds Class I GROs or Appendix B, Table H
Diffusion and Advection Objectives Based on 35 IAC Part 742 Appendix B Table H.

Table 2 Summary of Analytical Results - Groundwater Samples 118109 - GC Real Estate LLC Corrective Action Plan

118109 - GC Real Estate LLC - Stage 3	LLC - Sta	ge 3	9-MM	MW-11	GMW-7	GMW-8	GMW-9	Tier 1 G	roundwater R	Tier 1 Groundwater Remediation Objectives	ectives
Date	of Sample	Date of Sample Collection:	10/26/2021	10/26/2021	10/26/2021	10/26/2021	10/26/2021			Indoor Inhalation Exposure	ion Exposure
Time	of Sample	Time of Sample Collection:	11:00 AM	11:30 AM	1:00 PM	2:15 PM	2:00 PM	Class I	Class II	Koute Diffusion and Advection	ite I Advection
First	Environmer	otal Lab ID:	First Environmental Lab ID: 21-7108-001	21-7108-002	21-7108-003 21-7108-004 21-7108-005	21-7108-004	21-7108-005			Residential	Industrial/
BTEX Organic Compounds (5035A/8260B)	35A/8260B	3									Commercial
Date Analyzed:	Units		10/29/2021	10/29/2021	10/29/2021	10/29/2021	10/29/2021				
Benzene	ng/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	25	1 1	
Toluene	ug/L	5.0	<5.0	<5.0	<5.0	<5.0	\$50	1 000	2 500	530 000	410
Ethylbenzene	ηg/Γ	5.0	<5.0	<5.0	<5.0	<5.0	\$5.0	700	1,000	370	350,000
Total Xylenes	ng/L	5.0	<5.0	<5.0	<5.0	<5.0	\$5.0	10.000	10,000	30 000	03,000
Metnyl-tert-butylether (M LBE)	ng/L	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	70	70	1 900 000	800,000
									<u> </u>	0000000	0,000,000
118109 - GC Real Estate LLC - Stage 3	LLC - Sta	ge 3	GMW-10	GMW-13	GMW-14			Tier 1 G	roundwater R	Tier 1 Groundwater Remediation Objectives	ectives
Date	e of Sample	Date of Sample Collection:	10/26/2021	10/26/2021	10/26/2021					Indoor Inhalation Exposure	ion Exposure
Time	of Sample	Time of Sample Collection:	1:45 PM	1:30 PM	12:00 PM			Class I	СІясь П	Noute Diffusion and Advantion	Advoortion
									}	TO TOTAL	TOTAL COM
First	Environmer	ntal Lab ID:	First Environmental Lab ID: 21-7108-006 21-71	21-7108-007	08-007 21-7108-008					Residential	Industrial/
BTEX Organic Compounds (5035A/8260B)	35A/8260B	1)									Commercial
Date Analyzed:	Units	RL	10/29/2021	10/29/2021	10/29/2021						
Benzene	ng/L	5.0	<5.0	<5.0	<5.0			5.0	25		110
Loluene	ng/L	5.0	<5.0	<5.0	<5.0		1	1,000	2.500	530 000	530,000
Ethylbenzene	ng/L	5.0	<5.0	17.3	<5.0			700	1.000	370	1 400
Total Aylenes	ng/L	5.0	<5.0	<5.0	<5.0			10,000	10,000	30.000	93 000
Miemyi-tert-butylether (M.1.B.E.)	T/mm	5.0	<5.0	<5.0	<5.0		-	70	70	1,900,000	6,800,000

Exceeds Class I GROs or Appendix B, Table H
Diffusion and Advection Objectives Based on 35 IAC Part 742 Appendix B Table H.

Table 3
Summary of Analytical Results - Indoor Inhalation Exposure Route
118109 - GC Real Estate
Corrective Action Plan

			-	_	_	_		-						_	_	7		
ç	S	Diffusion Only	.	Commercial	2.0	250	8.1	51 000	01,000		Diffusion Only (mg/m ³)	Industrial /	300	140 000	1 100	40,000	1 200 000	1,400,000
mediation Objective	Tier 1 Groundwater Remediation Objectives for Indoor Inhalation Exposure Route		Residential	0.41	620	350	1.3	30,000	ediation Objectives	Tier 1 Soil Gas Remediation Objectives for Indoor Inhalation Exposure Route		Residential	41	140 000	150	17,000	420,000	
ier 1 Groundwater Re	for Indoor Inhalation Exposure Route	d Advection	J.	Columercial 0.41	520	1 1	1.4	008 9	Tier 1 Soil Gas Rem	for Indoor Inhalation Exposure Route	Advection (m ³)	Industrial /	2.8	40.000	93	840	24 000	
] iI		Diffusion and Advection (ms/L)	Residential	0 110	530	0.37	30	1.900			Diffusion & Advection (mg/m ³)	Residential	0.37	6,200	1.3	140	3.700	
MW-5	20-060-005	02/21/20	Result (ug/L)	0.0735	0.0196	175	3.78	0.012	VP-2	23-4574-002	06/02/23	Result (mg/m ³)	0.0091	0.013	0.017	0.074	<0.0026	<0.0090
MW-4	20-0990-004	02/21/20	Result (ug/L)	1.24	0.0112	0.284	0.0963	0.0126	VP-1	23-4574-001	06/02/23	Result (mg/m³)	1.8	<0.81	<0.94	<2.8	<0.78	<2.7
Sample ID :	Laboratory ID:	Date Collected:	Analyte	Benzene	Toluene	Ethylbenzene	Xylenes, Total	MTBE	Sample ID :	Laboratory ID:	Date Collected:	Analyte	Benzene	Toluene	Ethylbenzene	Xylenes, Total	MTBE	Isopropal Alcohol
			CAS No.	71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4				CAS No.	71-43-2	108-88-3	100-41-4	1330-20-7	1634-04-4	67-63-0

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 - 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/57.17). This form has been approved by the Forms Management Center.

Illinois Environmental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

_				
Α.	Site	lde	ntific	ation

	15 N / A to a i al a). 00400402	00050470	IEDA I DO #	(40 dimit).	000407	C40E
	IEIVIA Incide	nt# (6- or 8-digit):20190483,	20050170	IEPA LPC#	(10-algit):	089407	6105
	Site Name:	GC Real Estate,	LLC.					
	Site Address	s (not a P.O. Box): <u>1125 Aurora A</u>	venue		***********		
	City:	Aurora	County:	Kane	Zip Co	de:	60505	
	Leaking UST	Technical File						
3.	Tier 2 Calc	ulation Informa	ıtion					
	Equation(s)	Used (ex: R12, R	14, R26): <u>R26</u>					
	Contact Infor	mation for Individ	ual Who Performe	ed Calculation	s: Jeff Ogd	den, Senior F	^o roject	
	Manager, Ea	igle Environmenta	al Consultants, LL	C Phone: (63	0) 940-2540			
	Land Use:	Not Ap	plicable	_ Soil Ty	oe:	Sand		
	Groundwater	: 🔀 Class I	Class II					
	Mass Limit:	Yes X No	If Yes, then Spec	cify Acreage:	□ 0.5 □ 1	[2 []5	j 10	□30
	Result from S	\$18/S28 used in F	R26? ⊠ Yes	No Specify	C _{source} from S	S18/S28		mg/L
	- Mass Limit	Acreage other t	han defaults mus	st always be	rounded up.			
	the Underg - Maps depic	round Storage T sting source wid	th, plume dimens	sions, distan				
	- Inputs mus	t be submitted i	1 the designated	unit.				

Symbol			Unit	Symbol		Unit
ATc	=	70	yr	d	=	cm
AΤη	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
C _{source}	=	see page 3	mg/L	D _s ^{eff}	=	cm²/s
C _(x)	=	see page 3	mg/L	ED	=	yr
C _(x) /C _{source}	=		unitless	EF	=	d/yr

Incident #: 20190483, 20050170 Chemical: Benzene Land Use: Not Applicable

Symbol			Unit
erf	=		unitless
f _{oc}	=		g/g
GW _{comp}	=		mg/L
GW _{source}	=		mg/L
H'	=		cm³ _{water} /cm³ _{air}
i	=	0.03	cm/cm
l	=	30	cm/yr
IR _{air}	=	20	m³/d
IR _{soil}	pushes pushes		mg/d
IR _w	=		L/d
К	=	1.841	cm/d for R15, R19, R26; cm/yr for R24
K _{oc}	=		cm³/g or L/kg
k _s (non-ionizing organics)	=		cm³ _{water} /g _{soil}
k _s (ionizing organics)	=		cm³ _{water} /g _{soil}
k _s (inorganics)	=		cm³ _{water} /g _{soil}
Ls	==	100	cm
LF _{sw}	=		(mg/L _{water}) /(mg/kg _{soil})
M	=	0.5	mg/cm²
Pe	=	6.9 •10-14	g/cm²-s
RAF₀	=	0.5	unitless

Symbol			Unit
RAF _d (PNAs)	==	0.05	unitless
RAF _d (inorganics)	=	0	unitless
RAF ₀	=	1.0	unitless
RBSL _{air} (carcinogenic)	=		μg/m³
RBSL _{air} (noncarcinogenic	=		μg/m³
RfDi	=		mg/kg-d
, RfD _o	=		mg/kg-d
SA	=	3,160	cm²/d
S _d	=	200	cm
S _w	=	4,965.19	cm
SFi	=		(mg/kg-d) ⁻¹
SF _o	=		(mg/kg-d) ⁻¹
THQ	=	1	unitless
TR	=		unitless
U	=		cm/d
U _{air}	=	225	cm/s
U _{gw}	=		cm/yr
VFp	=		kg/m³
VF _{samb}	=	(m	ng/m³ _{air})/mg/kg _{soil}) or kg/m³
VF _{ss}	=		kg/m³

Incident #: 20190483, 20050170 Chemical: Benzene Land Use: Not Applicable

Symbol			Unit
W	=		cm
w	=		g _{water} /g _{soil}
X	=	see below	cm
α _x	=		cm
α _y	=		cm
α_{z}	=		cm
$\delta_{ m air}$	===	200	cm
$\delta_{ m gw}$	=	200	cm

Symbol			Unit
θ_{as}	=		cm³ _{air} /cm³ _{soil}
θ_{ws}	=		cm³ _{water} /cm³ _{soil}
Θ_{T}	=	0.32	cm³/cm³ _{soil}
λ	pana pana	0.0009	d ⁻¹
π	=	3.1416	
ρ_{b}	=		g/cm³
$ ho_{ m w}$	=	1	g/cm³
τ	=	9.46 •10 ⁸	s

Equation		Result	Unit(s)
R1	=		mg/kg
R2	=		mg/kg
R7	=		mg/kg
R8	=		mg/kg
R12	=		mg/kg
R25	=		mg/L

C _{source} Values: (mg/L)					
CS-1 = 0.386 SB-12 (7'-9') = 0.0023					
CS-2 = 0.225					
CS-4 = 0.0015					
CS-5 = 0.135					
CS-6 = 0.020					
CS-7 = 0.702					
CS-8 = 0.228					
CS-12 = 0.0039					
CS-19 = 0.319					
CS-20 = 0.0021					
CS-30 = 0.0019					
BF-1 = 0.0077					
BF-2 = 0.012					
BF-3 = 0.013					
BF-4 = 0.018					
BF-5 = 0.027					
MVV-4 (7'-8') = 0.011					
MW-5 (7'-9') = 0.011					
SB-5 (7'-9') = 0.0030					
SB-8 (9'-10') = 0.0093					
SB-10 (7'-9') = 0.0011					
MW-8(7'-9') = 0.0011					
SB-11 (10'-11') = 0.014					
SB-11 (9'-10') = 0.016					
` '					

Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

//	
CS-1 = 39 SB-12 (7'-9') = <class i<="" th=""><th>BF-2 = 6</th></class>	BF-2 = 6
CS-2 = 33	BF-3 = 7
CS-4 = <class i<="" td=""><td>BF-4 = 10</td></class>	BF-4 = 10
CS-5 = 28	BF-5 = 13
CS-6 = 10	MW-4 (7'-8') = 6
CS-7 = 45	MW-5(7'-9') = 6
CS-8 = 33	SB-5 (7'-9') = <class i<="" td=""></class>
CS-12 = <class td="" <=""><td>SB-8 (9'-10') = 5</td></class>	SB-8 (9'-10') = 5
CS-19 = 37	SB-10 (7'-9') = <class i<="" td=""></class>
CS-20 = <class i<="" td=""><td>MW-8 (7'-9') = <class i<="" td=""></class></td></class>	MW-8 (7'-9') = <class i<="" td=""></class>
CS-30 = <class i<="" td=""><td>SB-11 (10'-11') = 8</td></class>	SB-11 (10'-11') = 8
BF-1 = 3	SB-11 (9'-10') = 9

RBCA Equation R26

Dissolved Hydrocarbon Concentration Along Centerline Maximum Predicted Extent of Groundwater Impact Modeling Groundwater Component of the Groundwater Ingestion Exposure Route

1125 Aurora Avenue Aurora

Input Parameters Used in the Solution of Equation R26						
Parameter	Value	Description				
First Order Degradation Constant (λ)	Benzene: 0.0009/day Ethylbenzene: 0.003/day	Default Value (Appendix C, Table E)				
Aquifer Hydraulic Conductivity (K)	2.131E-05 cm/sec	Site specific value as provided in approved SICR dated September 2, 2021				
Hydraulic Gradient (i)	0.03 cm/cm	Site specific value as provided in approved SICR dated February 7, 2022				
Total Soil Porosity (θ_T)	$0.32 \text{ cm}^3/\text{cm}^3$	Default for sand				
Source Width Perpendicular to Groundwater Flow in the Horizontal Plane (S _w)	4,965.19 cm	Site specific value as provided in approved SICR dated February 7, 2022				
Source Width Perpendicular to Groundwater Flow in the Vertical Plane (S_d)	200 cm	Default Value Appendix C, Table D				
Tier 1 Groundwater Remediation Objective for Class I groundwater at the point of human exposure (C _x)	Benzene: 0.005 mg/L Ethylbenzene: 0.7 mg/L	Appendix B, Table E				

	Site Details	Sample Details
Site Name & Location:	1125 Aurora Avenue	Sample Location: CS-1
	Aurora	Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 20050170	
Exposure Pathway:	Groundwater Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Analyte: Benzene

Concentration at the source (C _{so}	ource)=		0.386 mg/L			
Distance along centerline of the						
plume coming from the source			38.1 ft	=	1,161.29 cm	
First order degradation constant (λ)=			0.0009 /day		if benzene, lambda=0.0009/da	ау
- , ,						
Aquifer hydraulic conductivity (K)=		2.	131E-05 cm/sec	=	1.841 cm/day	
Hydraulic gradient (i)=			0.03 m/m			
Total soil porosity (θ_T)=			0.32 cm ³ /cm ³	soil		
Source width perpendicular to GW						
flow direction in horizontal plane (S _w)=	=		162.9 ft	=	4,965.19 cm	
Source width perpendicular to GW						
flow direction in vertical plane (S _d)=			6.56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENT	ΓER VALUES H	ERE!		
Longitudinal dispersivity	Ax=		116.1 cm			
Transverse dispersivity	Ay=		38.7 cm			
Vertical dispersivity	Az=		5.8 cm			
Specific discharge	U=		0.2 cm/day			
Sw/(4*SQRT(Ay*X))	B=		5.9			
Sd/(2*SQRT(Az*X))	C=		1.2			
Error function	erf(B)=		1.0 To detern	nine error fu	nction values,	
Error function	erf(C)=		0.9 see F46 8	& K46 in the	linear interpolation section.	
Actual B value=			5.9		Actual C value=	1.2
Automatic calculations : Actual erf(B)			1.0		Actual erf(C)=	0.9
Solutions						
	$C_{(x)}$					

C_(x) mg/l

Computation of erf(x)

Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26 Maximum error in computation = 1.5×10^{-7}

χ=	5.854593479	1.217485691
p=	0.3275911	0.3275911
a1=	0.254829592	0.254829592
a2=	-0.284496736	-0.284496736
a3=	1.421413741	1.421413741
a4=	-1,453152027	-1.453152027
a5=	1.061405429	1.061405429
t=	0.342710731	0.714879331
erf(x)=	1	0.914891557

	Site Details					Sample Details
Site Name & Location:	1125 Aurora Ave Aurora	enue			Sa	mple Location: CS-2 Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 20050)170				
Exposure Pathway: Groundwater Classification:	Groundwater Cor Class I	mponent of Grou	ndwater Ing	estion		Analyte: Benzene
GIVATIA (7 MACI CAMBRITANIA)	011051					Timely cor Dollation
Concentration at the source (C _{sou}	urce)=	0.2	25 mg/L			
Distance along centerline of the plume coming from the source	(X)=	32	2.5 ft	==	990.60 cm	
First order degradation constant (λ)=		0.00	009 /day		if benzene, lambda=0.0009/d	lay
Aquifer hydraulic conductivity (K)=		2,131E-	-05 cm/sec =		1.841 cm/day	
Hydraulic gradient (i)=		0.	03 m/m			
Γotal soil porosity (θ _T)=		0.	32 cm ³ /cm ³ _{soil}			•
Source width perpendicular to GW flow direction in horizontal plane (S_w) =	I	162	2.9 ft =		4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =	l	6.	56 ft =		200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER	VALUES HER	Œ!		
ongitudinal dispersivity	Ax=	99).1 cm			
ransverse dispersivity	Ay=	33	.0 cm			
ertical dispersivity	Az=	5	.0 cm			
pecific discharge	U=	0	.2 cm/day			
w/(4*SQRT(Ay*X))	B=	6	.9			
d/(2*SQRT(Az*X))	C=	1	.4			
cror function	erf(B)=		.0 To determine			
error function	erf(C)=	1	.0 see F46 & K	.46 in the 1	inear interpolation section.	
actual B value=	[6	.9		Actual C value=	1.4
Automatic calculations : Actual erf(B)		1	.0		Actual erf(C)=	1.0
Solutions						
	C _(x)					
	0.005	mg/l				
omputation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun, aximum error in computation = 1.5 x 10 ^o		hematical Functions,	Dover Publicat	ions, New	York, page 299, formula 7.1.2	26
= 6.863384971	1.427267841					
0.3275911	0.3275911					
= 0.254829592	0.254829592					
-0.284496736	-0.284496736					
= 1.421413741	1.421413741					
-1,453152027	-1.453152027					
= 1.061405429 0.307845394	1.061405429					

0.307845394

1

t=

erf(x)=

0.681403033

0.956456921

	Site Details	Sample Details
Site Name & Location:	1125 Aurora Avenue	Sample Location: CS-5
	Aurora	Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 20050170	
Exposure Pathway:	Groundwater Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Analyte: Benzene

Concentration at the source (C _{sc}	_{ource})=	0.135 mg/L			
Distance along centerline of the plume coming from the source		27.3 ft	=	832.10 cm	
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009/da	ny
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec	=	1,841 cm/day	
Hydraulic gradient (i)=		0.03 m/m			
Total soil porosity (θ_T)=		0.32 cm ³ /cm ³	soil		
Source width perpendicular to GW flow direction in horizontal plane (S_w) -	=	162.9 ft	=	4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d)=		6.56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES H	IERE!		
Longitudinal dispersivity Transverse dispersivity Vertical dispersivity Specific discharge Sw/(4*SQRT(Ay*X)) Sd/(2*SQRT(Az*X)) Error function	Ax= Ay= Az= U= B= C= erf(B)=	83.2 cm 27.7 cm 4.2 cm 0.2 cm/day 8.2 1.7 1.0 To deten			
Error function	erf(C)=	1.0 see F46 d	& K46 in the	linear interpolation section.	
Actual B value=		8.2		Actual C value=	1.7
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	1.0
Solutions					

Solutions

0.005 mg/l

Computation of erf(x)

Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26

Maximum error in computation = 1.5×10^{-7}

maximum offor i	t compatition 1.5 % to 7	
x=	8,170696394	1.699128383
p= .	0.3275911	0.3275911
a1=	0.254829592	0.254829592
a2=	-0.284496736	-0.284496736
a3=	1.421413741	1,421413741
a4=	-1.453152027	-1.453152027
a5=	1.061405429	1.061405429
t=	0.271986918	0.64241782
erf(x)=	1	0,98373573

	Site Details				Sample Deta	ils
Site Name & Location:	1125 Aurora Ave	enue		Sa	ımple Location:	CS-6
	Aurora				Sample Date:	05/14/2019
LUST Incident Number(s):	20190483, 20050	0170				
Exposure Pathway:	Groundwater Co	mponent of Groundwater I	ngestion			
Groundwater Classification:	Class I				Analyte:	Benzene
Concentration at the source (C_{so}	urce)=	0.020 mg/L				
Distance along centerline of the						
plume coming from the source	e(X)=	9.9 ft	=	301.75 cm		
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009/o	day	
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec	=	1.841 cm/day		
Hydraulic gradient (i)=		0.03 m/m				
Total soil porosity (θ_T) =		0,32 cm ³ /cm ³ ,	soil			
Source width perpendicular to GW flow direction in horizontal plane (S_w)=	=	162,9 ft	=	4,965.19 cm		
Source width perpendicular to GW flow direction in vertical plane (S_d) =	İ	6.56 ft	=	200 cm	(assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUES H	(ERE!			
Longitudinal dispersivity	Ax=	30.2 cm				
Transverse dispersivity	Ay=	10.1 cm				
Vertical dispersivity	Az=	1.5 cm				
Specific discharge	U=	0.2 cm/day				
Sw/(4*SQRT(Ay*X))	B=	22.5				
Sd/(2*SQRT(Az*X))	C=	4.7				
Error function	erf(B)=	1.0 To determ				
Brror function	erf(C)=	1.0 see F46 &	& K46 in the	linear interpolation section.		
Actual B value=	[22.5		Actual C value=	4.7	
Automatic calculations : Actual erf(B)	[1.0		Actual erf(C)=	1.0	
Solutions	C					
	C _(x) 0.005	mg/l				
Computation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5 x 10	^-7	thematical Functions, Dover Publ	ications, Nev	w York, page 299, formula 7.1.	26	
= 22.5313143						
= 0.3275911						
1= 0.254829592 2= -0.284496736						
2= -0.284496736 3= 1,421413741						
4= -1.453152027						
5= 1.061405429						
0.119316678						
f(x) = 1	1					

	Site Details				Sample Deta	rils
Site Name & Location:	1125 Aurora Ave Aurora	nue		,	Sample Location: Sample Date:	
LUST Incident Number(s):	20190483, 20050	170				
Exposure Pathway: Groundwater Classification:	Groundwater Con Class I	nponent of Groundwat	er Ingestion		Analyte:	Benzene
					1 111111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Bellione
Concentration at the source (C _{so}	urce)=	0.702 mg	/L			
Distance along centerline of the						
plume coming from the source	(X)=	44.6 ft	=	1,359.41 cm		
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.000	9/day	
Aquifer hydraulic conductivity (K)=	1	2.131E-05 cm/s	sec =	1.841 cm/da	у	
Hydraulic gradient (i)=		0.03 m/m				
Γotal soil porosity (θ_T)=	[0.32 cm ³ /	em ³ soil			
Source width perpendicular to GW flow direction in horizontal plane (S_w) =	•	162.9 ft	=	4,965.19 cm		
Source width perpendicular to GW flow direction in vertical plane (S_d) =	[6.56 ft	=	200 cm	(assuming comple	te mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE!			
ongitudinal dispersivity	Ax=	135.9 cm				
ransverse dispersivity	Ay=	45.3 cm				
ertical dispersivity	Az=	6.8 cm				
pecific discharge	U=	0.2 cm/d	ay			
w/(4*SQRT(Ay*X))	B=	5.0				
d/(2*SQRT(Az*X))	C=	1.0				
rror function	erf(B)=		etermine error fi			
rror function	erf(C)=	0.9 see F	46 & K46 in the	e linear interpolation section.		
ctual B value=		5.0		Actual C value=	1.0	
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	0.9	
Solutions	C					
	C _(x)	ng/l				
omputation of erf(x)						
ource: Abramowitz, M. and I. A. Stegun, aximum error in computation = 1.5 x 10		nematical Functions, Dover I	ublications, Ne	w York, page 299, formula 7.	1.26	
5.00134555	1.040049436					
0.3275911	0.3275911					
= 0.254829592	0.254829592					
-0.284496736	-0.284496736					
= 1.421413741	1.421413741					
= -1.453152027	-1.453152027					
= 1.061405429	1.061405429					
0.379018119	0.745872933					
(x)=	0.858668783					

LUST Incident Number(s): 20190483, 20050170 Exposure Pathway: Groundwater Component of Groundwater Ingestion Class I	etails
LUST Incident Number(s):	
Concentration at the source (Csource) =	te: 05/14/2019
Concentration at the source (Czource) = 0.228 mg/L	
Concentration at the source (C _{tource})= 0.228 mg/L	
Distance along centerline of the plume coming from the source (X)= 32.7] ft	te: Benzene
Distance along centerline of the plume coming from the source (X)= 32.7 ft	
Polymer coming from the source (X)= 32.7 ft = 996.70 cm	
First order degradation constant (\(\) = \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Aquifer hydraulic conductivity (K) = 2.131E-05 cm/sec = 1.841 cm/day Hydraulic gradient (i) = 0.03 m/m Total soil porosity (9 _T) = 0.32 cm ³ /cm ³ reil Source width perpendicular to GW flow direction in horizontal plane (S _w) = 162.9 ft = 4,965.19 cm Source width perpendicular to GW flow direction in vertical plane (S _d) = 6.56 ft = 200 cm (assuming cordinated Parameters DO NOT ENTER VALUES HERE! Longitudinal dispersivity Ax = 99.7 cm Parameters dispersivity Ay = 33.2 cm Vertical dispersivity Az = 5.0 cm Source width perpendicular to GW Flow direction in vertical plane (S _d) = 6.56 ft = 200 cm (assuming cordinated Parameters) Central cordinated Parameters DO NOT ENTER VALUES HERE! Longitudinal dispersivity Az = 99.7 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Source and the provided dispersivity Az = 5.0 cm Actual C value = 1.0 cm Actual erf(C) = 1.0 cm Solutions C(x) 0.005 mg/l	
Total soil porosity (0 _T)= Total soil porosity (0 _T)= Source width perpendicular to GW flow direction in horizontal plane (S _w)= Source width perpendicular to GW flow direction in vertical plane (S _d)= Calculated Parameters DO NOT ENTER VALUES HERE! Longitudinal dispersivity Ax= 99.7 Vertical dispersivity Az= 5.0 Source width perpendicular to GW flow direction in vertical plane (S _d)= Calculated Parameters DO NOT ENTER VALUES HERE! Longitudinal dispersivity Ay= 33.2 cm Vertical dispersivity Az= 5.0 cm Specific discharge U= 0.2 cmr/day Sw/(4*SQRT(Ay*X)) B= 6.8 Sw/(4*SQRT(Ay*X)) C= 1.4 Actual C value= Automatic calculations: Actual erf(B)= 1.0 Actual erf(C)= Solutions C(x) 0.005 mg/1 Computation of erf(x) course: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	
Total soil porosity (θ_T) = 0.32 cm ³ /cm ³ _{mil} Source width perpendicular to GW flow direction in horizontal plane (S_w) = 162.9 ft = $4.965.19$ cm Source width perpendicular to GW flow direction in vertical plane (S_d) = 0.56 ft = 0.00 cm (assuming core Calculated Parameters 0.00 Cm 0.000 cm 0.0	
Source width perpendicular to GW flow direction in horizontal plane (S_w) =	
Flow direction in horizontal plane $(S_w)=$	
Flow direction in vertical plane (S_d) = 0.566 ft = 0.00 cm (assuming cordinated Parameters DO NOT ENTER VALUES HERE! Longitudinal dispersivity	
Longitudinal dispersivity $Ax = 99.7$ cm Transverse dispersivity $Ay = 33.2$ cm Vertical dispersivity $Az = 5.0$ cm Specific discharge $U = 0.2$ cm/day Sw/(4*SQRT(Ay*X)) $B = 6.8$ Sd/(2*SQRT(Az*X)) $C = 1.4$ Transverse dispersivity $Az = 5.0$ cm Second $Az = 5.0$ cm Solutions C(x) Solutions C(x) 0.005 mg/l	plete mixing)
Transverse dispersivity $Ay = 33.2$ cm Vertical dispersivity $Az = 5.0$ cm Specific discharge $U = 0.2$ cm/day Sw/(4*SQRT(Ay*X)) $B = 6.8$ Sd/(2*SQRT(Az*X)) $C = 1.4$ Error function $erf(B) = 1.0$ To determine error function values, see F46 & K46 in the linear interpolation section. Actual B value $A = 6.8$ Actual C value $A = 6.8$ Automatic calculations : Actual erf(B) $A = 6.8$ Solutions $C(x) = 0.005$ Img/1	
Vertical dispersivity Az= 5.0 cm Specific discharge U= Sw/(4*SQRT(Ay*X)) B= 6.8 Sd/(2*SQRT(Az*X)) C= 1.4 Error function erf(B)= erf(C)= 1.0 Actual B value= Automatic calculations: Actual erf(B) C(x) O.005 mg/l Computation of erf(x) Computation of erf(x) Computations, New York, page 299, formula 7.1.26	
Specific discharge Sw/(4*SQRT(Ay*X)) B= 6.8 Sd/(2*SQRT(Az*X)) C= 1.4 Error function erf(B)= erf(C)= 1.0 Actual B value= Automatic calculations: Actual erf(B) Solutions C(x) 0.005 mg/I Computation of erf(x) Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	
Gror function $erf(B) = 1.0 \\ erf(C) = 1.0 \\ Index Interpolation values, see F46 & K46 in the linear interpolation section.$ Actual B value $= 6.8$ Actual C value $= 1.0$ Actual erf(C) $= 1.0$ Actual erf(C) $= 1.0$ Solutions $C_{(x)} = 0.005 \\ Index Interpolation values, see F46 & K46 in the linear interpolation section.$ Computation of erf(x) $= 1.0$ Actual erf(C) $= 1.0$ Actual erf(C) $= 1.0$ Solutions $= 1.0$ Computation of erf(x) $= 1.0$ Comput	
Actual B value	
Actual B value= Automatic calculations : Actual erf(B) Solutions C(x) 0.005 mg/l Computation of erf(x) ource: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	
Automatic calculations : Actual erf(B) Solutions $C_{(x)}$ 0.005 mg/l Computation of erf(x) ource: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	
Solutions C(x) 0.005 mg/l Computation of erf(x) ource: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	.4
C _(x) 0.005 mg/l Computation of erf(x) ource: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	.0
O.005 mg/l Computation of erf(x) ource: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	
ource: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26	
Maximum error in computation = 1.5 x 10^-7	
= 6.821407081 1.418538374	
= 0.3275911 0.3275911	
1= 0.254829592 0.254829592	
2= -0.284496736 -0.284496736	
3= 1,421413741 1,421413741 1= -1,453152027 -1,453152027	
4= -1.453152027 -1.453152027 5= 1.061405429 1.061405429	
- 0.309154155 0.682733411	
$f(x) = 1 \qquad 0.955156287$	

Sample Location: CS-19
Sample Date: 05/15/2019
Analyte: Benzene

Concentration at the source (C _s	ource)=	0.319 mg/L		
Distance along centerline of the plume coming from the source		36.1 ft	= 1,100.33 cm	
First order degradation constant (λ)=		0.0009 /day	if benzene, lambda=0.0009/c	lay
Aquifer hydraulic conductivity (K)=		2,131E-05 cm/sec =	1.841 cm/day	
Hydraulic gradient (i)=		0.03 m/m		
Total soil porosity (θ_T) =		$0.32 \text{ cm}^3/\text{cm}^3$ soil		
Source width perpendicular to GW flow direction in horizontal plane (S_w)	=	162.9 ft =	4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =		6.56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HERE	C!	
Longitudinal dispersivity Transverse dispersivity Vertical dispersivity Specific discharge Sw/(4*SQRT(Ay*X)) Sd/(2*SQRT(Az*X)) Error function Error function	Ax= Ay= Az= U= B= C= erf(B)= erf(C)=		error function values, 6 in the linear interpolation section.	
Actual B value=		6.2	Actual C value=	1.3
Automatic calculations : Actual erf(B)		1.0	Actual erf(C)=	0.9
Solutions				

Solutions

0.005 mg/l

Computation of erf(x)

Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26 Maximum error in computation = $1.5 \times 10^{\circ}$ -7

x=	6.178947688	1.284936422
p=	0.3275911	0.3275911
a1=	0.254829592	0.254829592
a2=	-0.284496736	-0.284496736
a3=	1.421413741	1.421413741
a4=	-1.453152027	-1.453152027
a5=	1.061405429	1.061405429
t=	0.330669431	0.703762586
erf(x)=	1	0.930809715

	Site Details	}		Sample Details
Site Name & Location:	1125 Aurora Av		San	iple Location: BF-1
	Aurora			Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 2005	0170		
Exposure Pathway:	Groundwater Co	omponent of Groundwater Ingestion		
Groundwater Classification:	Class I			Analyte: Benzene
Concentration at the source (C_{sou}	rce)=	0.0077 mg/L		
Distance along centerline of the plume coming from the source	(X)=	2.8 ft =	85.34 cm	
First order degradation constant (λ)=		0.0009 /day	if benzene, lambda=0.0009/da	y
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec =	1.841 cm/day	
Hydraulic gradient (i)=		0.03 m/m		
Total soil porosity $(\theta_T)=$		$0.32 \text{ cm}^3/\text{cm}^3_{\text{soil}}$		
Source width perpendicular to GW flow direction in horizontal plane (S_w)=		162.9 ft =	4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d)=		6.56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HERE!		
Longitudinal dispersivity	Ax=	8.5 cm		
Transverse dispersivity	Ay=	2.8 cm		
Vertical dispersivity	Az=	0.4 cm		
Specific discharge	U=	0,2 cm/day		
Sw/(4*SQRT(Ay*X))	B= C=	79.7		
Sd/(2*SQRT(Az*X)) Error function	c= erf(B)=	16.6 1.0 To determine error fu	inction values	
	erf(C)=		e linear interpolation section.	
Actual B value=		79.7	Actual C value=	16.6
Automatic calculations : Actual erf(B)		1.0	Actual erf(C)=	1.0

Solutions

0.005 mg/l

Computation of erf(x)

Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26

Maximum error in computation = 1.5 x 10^-7

x=	79.66428984	16.56650173
p=	0.3275911	0.3275911
a1=	0.254829592	0.254829592
a2=	-0.284496736	-0.284496736
a3=	1,421413741	1.421413741
a4=	-1.453152027	-1.453152027
a5=	1.061405429	1.061405429
t=	0.036904029	0.155592657
erf(x)=	1	1

	Site Details	5	.,,		Sample Details
Site Name & Location:	1125 Aurora Av	enue/enue		Sa	mple Location: BF-2
	Aurora				Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 2005	50170			
Exposure Pathway:	Groundwater Co	omponent of Groundwater In	gestion		
Groundwater Classification:	Class I				Analyte: Benzene
Concentration at the source (C _{so}	ource)=	0.012 mg/L			
Distance along centerline of the					
plume coming from the source	e(X)=	6.0 ft	=	181.97 cm	
First order degradation constant (λ)=		0.0009 /day		if hangana lambda-0 0000/	for.
rust order degradation constant (x)-		0,0009 /day		if benzene, lambda=0.0009/	iay
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec	=	1.841 cm/day	
Hydraulic gradient (i)=		0.03 m/m			
Total soil porosity (θ_T) =		$0.32 \text{ cm}^3/\text{cm}^3_{\text{ so}}$	il		
Source width perpendicular to GW					
flow direction in horizontal plane (S _w)=	=	162,9 ft	=	4,965.19 cm	
Source width perpendicular to GW					
flow direction in vertical plane (S _d)=		6.56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HE	ERE!		
Longitudinal dispersivity	Ax=	18.2 cm			
Transverse dispersivity	Ay=	6.1 cm			
Vertical dispersivity	Az=	0.9 cm			
Specific discharge	U=	0.2 cm/day			
Sw/(4*SQRT(Ay*X))	B=	37.4			
Sd/(2*SQRT(Az*X))	C=	7.8			
Error function	erf(B)=	1.0 To determi		· ·	
Error function	erf(C)=	1.0 see 146 &	A40 in the	linear interpolation section.	
Actual B value=		37.4		Actual C value=	7.8
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	1.0
Solutions					
	C _(x)				
	0.005	mg/l			
computation of erf(x)					
ource: Abramowitz, M. and I. A. Stegun Iaximum error in computation = 1.5 x 10		athematical Functions, Dover Public	ations, New	v York, page 299, formula 7.1.	26
= 37.36348602					
= 0.3275911					
1= 0.254829592					
2= -0,284496736					
3= 1.421413741 1- 1.453153037	1.421413741			•	

-1.453152027

1.061405429

0.075529012

1

a4≂

a5=

erf(x)=

-1.453152027

1.061405429

0,282060021

1

	Site Details			Sample Details
Site Name & Location:	1125 Aurora Ave Aurora	enue		Sample Location: BF-3 Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 20050	0170		
Exposure Pathway: Groundwater Classification:	Groundwater Co Class I	mponent of Groundwater Ingest	ion	Analyte: Benzene
Concentration at the source (C _{sou}	nrce)=	0.013 mg/L		
Distance along centerline of the				
plume coming from the source	(X)=	6.6 ft =	200.56 cm	
First order degradation constant (λ)=		0.0009 /day	if benzene, lambda=0.0009	9/day
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec =	1.841 cm/day	,
Hydraulic gradient (i)=		0.03 m/m		
Total soil porosity (θ_T)=		$0.32 \text{ cm}^3/\text{cm}^3$		
Source width perpendicular to GW flow direction in horizontal plane (S_w) =		162,9 ft =	4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S _d)=		6.56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HERE!		
ongitudinal dispersivity	Ax=	20.1 cm		
ransverse dispersivity	Ay=	6.7 cm		
ertical dispersivity	Az=	1.0 cm		
pecific discharge	U=	0.2 cm/day		
w/(4*SQRT(Ay*X))	B=	33.9		
d/(2*SQRT(Az*X))	C=	7.0	C	
error function error function	erf(B)= erf(C)=	1.0 To determine er 1.0 see F46 & K46	in the linear interpolation section.	
ctual B value=		33.9	Actual C value≔	7.0
Automatic calculations : Actual erf(B)	j	1.0	Actual erf(C)=	1.0
Solutions				
	C _(x) 0.005	mg/l		
omputation of erf(x)				
ource: Abramowitz, M. and I. A. Stegun, faximum error in computation = 1.5×10^7		thematical Functions, Dover Publication	s, New York, page 299, formula 7.	1.26
33.8996978	7.049575205			
0.3275911	0.3275911			
= 0.254829592 = -0.284496736	0.254829592 -0.284496736			
= -0.284496736 = 1.421413741	1.421413741			
= -1.453152027	-1.453152027			
= 1.061405429	1.061405429			
0.082608859	0.302171578			
$f(\mathbf{x}) = 1$	1			

	Site Details				Sample Details
Site Name & Location:	1125 Aurora Avenu	е		S	ample Location: BF-4
	Aurora				Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 2005017	0			
Exposure Pathway: Groundwater Classification:	Groundwater Compo	onent of Groundwate	r Ingestion		Analyte: Benzene
OTOURIUM CAMBONICAMION	Ollido I			<u> </u>	Time, to. Donzeno
Concentration at the source (C _{sou}	rce)=	0.018 mg/l	-		
Distance along centerline of the					
plume coming from the source	(X)=	9.1 ft	=	276.45 cm	
First order degradation constant (λ)=		0,0009 /day		if benzene, lambda=0.0009/	'day
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/se	c =	1.841 cm/day	
Hydraulic gradient (i)=		0.03 m/m			
Total soil porosity $(\theta_T)=$		0,32 cm ³ /c	m³ _{soil}		
Source width perpendicular to GW flow direction in horizontal plane (S_w)=		162.9 ft	=	4,965,19 cm	
flow direction in vertical plane (S_d) =		6.56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters	DO	NOT ENTER VALUES	HERE!		
ongitudinal dispersivity	Ax= .	27.6 cm			
ransverse dispersivity	Ay=	9.2 cm			
ertical dispersivity	Az=	1,4 cm			
pecific discharge	U=	0.2 cm/day	/		
w/(4*SQRT(Ay*X))	B=	24.6			
d/(2*SQRT(Az*X))	C=	5.1			
rror function	erf(B)=	1.0 To det	ermine error fu	nction values,	
rror function	erf(C)=	1.0 see F4	6 & K46 in the	linear interpolation section.	
ctual B value=		24.6		Actual C value=	5.1
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	1.0
Solutions					
]	C _(x) ng	/1			
omputation of erf(x)					
ource: Abramowitz, M. and I. A. Stegun,		natical Functions, Dover Pu	ıblications, Ne	w York, page 299, formula 7.1	.26
aximum error in computation = 1.5 x 10^					
24.59316555	5.114245297				
- 0,3275911	0.3275911				
= 0.254829592 = -0.284496736	0.254829592 -0.284496736				
= -0.264496736 = 1.421413741	1.421413741				
= -1.453152027	-1.453152027				
= 1.061405429	1.061405429				
0.110417906	0.373778505				

erf(x)=

	Site Details				Sample Details
Site Name & Location:	1125 Aurora Ave	nue		S	Sample Location: BF-5
	Aurora				Sample Date: 05/14/2019
LUST Incident Number(s):	20190483, 20050	170			
Exposure Pathway:	Groundwater Con	nponent of Groundwate	r Ingestion		
Groundwater Classification:	Class I				Analyte: Benzene
Concentration at the source (C _{sor}	urce)=	0.027 mg/	L		
Distance along centerline of the					
plume coming from the source	(X)=	12.4 ft	=	377.95 cm	
First order degradation constant (λ)=	İ	0,0009 /day		if benzene, lambda=0.0009	9/day
Aquifer hydraulic conductivity (K)=	j	2.131E-05 cm/s	ec =	1.841 cm/day	,
Hydraulic gradient (i)=		0.03 m/m			
Total soil porosity (θ_T)=	[0.32 cm ³ /	m³ _{soil}		
Source width perpendicular to GW	,				
flow direction in horizontal plane (S _w)=	l	162.9 ft	=	4,965,19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =	[6.56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUE	S HERE!		
ongitudinal dispersivity	Ax=	37.8 cm			
ransverse dispersivity	Ay=	12.6 cm			
ertical dispersivity	Az=	1.9 cm			
pecific discharge	U=	0.2 cm/da	у		
w/(4*SQRT(Ay*X))	B=	18.0			
d/(2*SQRT(Az*X))	C=	3.7			
error function	erf(B)=	1.0 To de	termine error fi	inction values,	
error function	erf(C)=	1.0 see F	6 & K46 in the	e linear interpolation section.	
ctual B value=		18,0		Actual C value=	3.7
Automatic calculations : Actual erf(B)		1,0		Actual erf(C)=	1.0
Solutions					
·	C _(x)				
	0.005 r	ng/l			
omputation of erf(x)					
purce: Abramowitz, M. and I. A. Stegun, faximum error in computation = $1.5 \times 10^{\circ}$	•	nematical Functions, Dover P	ublications, Ne	w York, page 299, formula 7.	1,26
= 17.98871061	3.740822971				
= 0.3275911	0.3275911				
= 0.254829592	0.254829592				
-0.284496736	-0.284496736				
= 1.421413741	1,421413741				
-1.453152027	-1,453152027				
= 1.061405429	1.061405429				
0.145075945	0.449345241				

0.999999878

erf(x)=

	Site Details				Sample Details
Site Name & Location:	1125 Aurora Avenue Aurora			S	ample Location: MW-4 (7'-8') Sample Date: 02/06/2020
LUST Incident Number(s):	20190483, 20050170				
Exposure Pathway: Groundwater Classification:	Groundwater Compone Class I	ent of Groundwater	Ingestion		Analyte: Benzene
Concentration at the source (C _{sou}	rce)=	0.011 mg/L			
Distance along centerline of the					
plume coming from the source	(X)=	5.3 ft	2000	161.54 cm	
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009/	day
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec	=	1,841 cm/day	
Hydraulic gradient (i)=		0.03 m/m			
Total soil porosity (θ_T)=		0.32 cm ³ /cm	3 soil		
Source width perpendicular to GW flow direction in horizontal plane (S_w)=		162.9 ft	=	4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =		6.56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters	DO NO	OT ENTER VALUES I	HERE!		
ongitudinal dispersivity	Ax=	16.2 cm			
ransverse dispersivity	Ay=	5.4 cm			
ertical dispersivity	Az=	0.8 cm			
pecific discharge	U=	0.2 cm/day			
w/(4*SQRT(Ay*X))	B=	42.1			
d/(2*SQRT(Az*X))	C=	8.8			
	erf(B)=			nction values,	
rror function	erf(C)=	1.0 see F46	& K46 in the	linear interpolation section.	
ctual B value=		42.1		Actual C value=	8.8
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	1.0
Solutions	C				
]	C _(x) mg/l				
omputation of erf(x)					
ource: Abramowitz, M. and I. A. Stegun, aximum error in computation = 1.5 x 10^		al Functions, Dover Pub	lications, Nev	w York, page 299, formula 7.1.	26
42.08679463	8.752114122				
0.3275911	0.3275911				
= 0.254829592 = -0.284496736	0.254829592				
= -0.284496736 = 1,421413741	-0.284496736 1.421413741				
= -1.453152027	-1,453152027				
= 1.061405429	1.061405429				
0.067625784	0.258590727				
(x)= 1	1				

	Site Details	S			Sample Details
Site Name & Location:	1125 Aurora Av	/enue		S	ample Location: MW-5 (7'-9')
	Aurora				Sample Date: 02/07/2020
LUST Incident Number(s):	20190483, 2005	50170			
Exposure Pathway:	Groundwater Co	omponent of Groundwat	ter Ingestion		
Groundwater Classification:	Class I	1			Analyte: Benzene
Concentration at the source (C _{so}	urce)=	0.011 mg	ŗ/L		
Distance along centerline of the					
plume coming from the source	e(X)=	5.3 ft	=	161.54 cm	
First order degradation constant (λ)=		0.0009 /day	/	if benzene, lambda=0.0009/	day
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/	sec =	1.841 cm/day	
Hydraulic gradient (i)=		0.03 m/m	1		
Fotal soil porosity (θ_T)=		0.32 cm ³	/cm³ _{soil}		
Source width perpendicular to GW flow direction in horizontal plane (S_w) =	=	162.9 ft	=	4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =		6.56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUI	ES HERE!		
ongitudinal dispersivity	Ax=	16.2 cm			
ransverse dispersivity	Ay=	5,4 cm			
ertical dispersivity	Az=	0.8 cm		•	
pecific discharge	U=	0.2 cm/d	lay		
w/(4*SQRT(Ay*X))	B=	42.1			
d/(2*SQRT(Az*X))	C=	8.8			
rror function	erf(B)=		etermine error fi		
rror function	erf(C)=	1.0 see F	46 & K46 in the	e linear interpolation section.	
ctual B value=		42.1		Actual C value=	8.8
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	1.0
Solutions	~				
	C _(x)	mg/l			
omputation of erf(x)		-			
ource: Abramowitz, M. and I. A. Stegun, aximum error in computation = $1.5 \times 10^{\circ}$		nthematical Functions, Dover	Publications, Ne	ew York, page 299, formula 7.1.	26
42.08679463	8.752114122				
0.3275911	0.3275911				
= 0.254829592	0.254829592				
= -0.284496736 = 1.421413741	-0.284496736 1.421413741				
= 1,421413741 = -1,453152027	-1.453152027				
= 1.061405429	1.061405429				
0.067625784	0.258590727				
(x)= 1	1				

	Site Details	Sample Details
Site Name & Location:	1125 Aurora Avenue	Sample Location: SB-8 (9'-10')
	Aurora	Sample Date: 11/13/2020
LUST Incident Number(s):	20190483, 20050170	
Exposure Pathway: Groundwater Classification:	Groundwater Component of Groundwater Ingestion Class I	Analyte: Benzene

Giodia i atel Ciassificationi	Ombb 1				Amary co. Donzone
Concentration at the source (C _{so}	ource)=	0.009	93 mg/L		
Distance along centerline of the plume coming from the source		4	.1 ft =	124.97 cm	
First order degradation constant (λ)=		0.00	09 /day	if benzene, lambda=0.0009/o	lay
Aquifer hydraulic conductivity (K)=		2.131E-	05 cm/sec =	1.841 cm/day	
Hydraulic gradient (i)=		0,	03 m/m		
Total soil porosity (θ_T)=		0.:	32 cm ³ /cm ³ _{soil}		
Source width perpendicular to GW flow direction in horizontal plane (S_w)	=	162	.9 ft =	4,965.19 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =		6.5	56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER V	VALUES HERE!		
Longitudinal dispersivity	Ax=		.5 cm		
Transverse dispersivity	Ay= .	4.	.2 cm		
Vertical dispersivity	Az=	0.	.6 cm		
Specific discharge	U≕		.2 cm/day		
Sw/(4*SQRT(Ay*X))	B=	54.			
Sd/(2*SQRT(Az*X))	C=	11.			
Error function Error function	erf(B)=		O To determine error fu		
Error function	erf(C)=	1,	usee F46 & K46 in the	e linear interpolation section.	
Actual B value=		54.	4	Actual C value=	11.3
Automatic calculations : Actual erf(B)		1.	<u></u>	Actual erf(C)=	1.0
Solutions					
	C _(x)	mg/l			
	31111111	_			

Computation of erf(x)

Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26

Maximum error in computation = 1.5×10^{-7}

THE ALLES OF THE PARTY OF THE	compandion no nero	
X=	54.40488086	11.3137085
p=	0.3275911	0.3275911
a1=	0.254829592	0,254829592
a2=	-0.284496736	-0.284496736
a3=	1.421413741	1.421413741
a4=	-1.453152027	-1.453152027
a5≕	1.061405429	1.061405429
t=	0.053127751	0.212482487
erf(x)=	1	1

	Site Details		Sample Details				
Site Name & Location: 1125 Aurora Avenue					Sample Location: SB-11 (10'-11')		
	Aurora				Sample Date: 11/16/2020		
LUST Incident Number(s):	20190483, 20050170					•	
Exposure Pathway:	Groundwater Co	omponent of G	roundwater I	ngestion			
Groundwater Classification:	Class I					Analyte: Benzene	
Concentration at the source (C _{sou}	rce)=	(0.014 mg/L				
Distance along centerline of the							
plume coming from the source	(X)≕		7.1 ft	=	216.41 cm		
					<u> </u>		
First order degradation constant (λ)=		(0.0009 /day		if benzene, lambda=0.0009/o	lay	
Aquifer hydraulic conductivity (K)=		2.13	1E-05 cm/sec	=	1.841 cm/day		
Hydraulic gradient (i)=			0,03 m/m				
Total soil porosity (θ _T)=			0.32 cm ³ /cm ³				
10tm 50th possibly (01)		<u> </u>	0,52	3011			
Source width perpendicular to GW			460.0		106510		
flow direction in horizontal plane (S _w)=			162.9 ft	=	4,965.19 cm		
Source width perpendicular to GW							
flow direction in vertical plane (S _d)=			6.56 ft	=	200 cm	(assuming complete mixing)	
Calculated Parameters		DO NOT ENTI	ER VALUES H	ERE!			
Longitudinal dispersivity	Ax=		21.6 cm				
Fransverse dispersivity	Ay=		7.2 cm				
Vertical dispersivity	Az=		1.1 cm			•.	
Specific discharge	U=		0.2 cm/day				
Sw/(4*SQRT(Ay*X))	0= B=	-	31.4				
5d/(2*SQRT(Az*X))	C=		6.5				
Error function	erf(B)=		1.0 To deterr	nina arror fu	nation values		
Error function	erf(C)=				linear interpolation section.		
Actual B value=			31.4		Actual C value=	6.5	
Automatic calculations : Actual erf(B)			1.0		Actual erf(C)=	1.0	
Solutions							
	C _(x)						
	0.005	mg/l					
omputation of erf(x)		_					
ource: Abramowitz, M. and I. A. Stegun,	1972, Handbook of M	athematical Function	ons, Dover Publ	ications, Nev	w York, page 299, formula 7.1.	26	
faximum error in computation = 1.5 x 10 ⁻	-7						
31.41690303	6.533268288						
= 0.3275911	0.3275911						
0.254829592	0.254829592						
2= -0.284496736	-0.284496736						
3= 1.421413741	1.421413741						
+= -1.453152027 1.061405420	-1.453152027						
5= 1.061405429 0.088559073	1.061405429 0.318446942						
f(x) = 0.088559073	0,310440942						

erf(x)=

	Site Details		Sample Details			
Site Name & Location:	1125 Aurora Avenue Aurora	;		Sample Location: SB-11 (9'-10') Sample Date: 10/05/2021		
LUST Incident Number(s):	20190483, 20050170)			•	
Exposure Pathway: Groundwater Classification:	Groundwater Component of Groundwater Ingestion Class I				Analyte: Benzene	
Concentration at the source (C_{sou}	nce)=	0.016 mg/L				
Distance along centerline of the						
plume coming from the source	(X)=	8.2 ft	=	248.41 cm		
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009/d	lay	
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec	=	1.841 cm/day		
Hydraulic gradient (i)=		0.03 m/m				
Total soil porosity (θ_T)=		0.32 cm ³ /cm	3 soil			
Source width perpendicular to GW flow direction in horizontal plane (S_w) =		162,9 ft		4,965.19 cm		
Source width perpendicular to GW flow direction in vertical plane (S_d) =		6.56 ft	=	200 cm	(assuming complete mixing)	
Calculated Parameters	DO	NOT ENTER VALUES I	HERE!			
Longitudinal dispersivity	Ax=	24.8 cm				
Fransverse dispersivity	Ay=	8,3 cm				
Vertical dispersivity	Az=	1.2 cm				
Specific discharge	U=	0.2 cm/day				
Sw/(4*SQRT(Ay*X))	B=	27.4				
5d/(2*SQRT(Az*X))	C=	5.7				
Error function	erf(B)=	1.0 To deter		•		
Error function	erf(C)=	1.0 see F46	& K46 in the	linear interpolation section.		
Actual B value=		27.4		Actual C value=	5.7	
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	1.0	
Solutions						
	C _(x) mg/.	I				
omputation of erf(x)	-					
ource: Abramowitz, M. and I. A. Stegun,		ntical Functions, Dover Pub	lications, Nev	v York, page 299, formula 7.1.2	26	
faximum error in computation = 1.5 x 10 ⁻⁴						
= 27.36932657 = 0.3275911	5.691558877 0.3275911					
[= 0.254829592	0.254829592					
?= -0.284496736	-0.284496736					
3= 1.421413741	1.421413741					
-1,453152027	-1.453152027					
1.061405429	1.061405429					
0.100341686	0.349100573					

erf(x)=

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 - 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/57.17). This form has been approved by the Forms Management Center.

Illinois Environmental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

	A 14			4.
Α.	Site	ide	ntific	ation

	IEMA Incident # (6- or 8-digit): 20190483, 20050170 IEPA LPC # (10-digit): 0894076105
	Site Name: GC Real Estate, LLC.
	Site Address (not a P.O. Box): 1125 Aurora Avenue
	City: Aurora County: Kane Zip Code: 60505
	Leaking UST Technical File
3.	Tier 2 Calculation Information
	Equation(s) Used (ex: R12, R14, R26): R26
	Contact Information for Individual Who Performed Calculations:Jeff Ogden, Senior Project
	Manager, Eagle Environmental Consultants, LLC Phone: (630) 940-2540
	Land Use: Not Applicable Soil Type: Sand
	Groundwater: 🗵 Class II
	Mass Limit: ☐ Yes ☒ No If Yes, then Specify Acreage: ☐ 0.5 ☐ 1 ☐ 2 ☐ 5 ☐ 10 ☐ 30
	Result from S18/S28 used in R26? Tyes X No Specify C _{source} from S18/S28 mg/l
	- Mass Limit Acreage other than defaults must always be rounded up.
	 Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund. Maps depicting source width, plume dimensions, distance, etc. must also be submitted.
	- Inputs must be submitted in the designated unit.

Symbol			Unit	Symbol		Unit
AT _c	=	70	yr	d	=	cm
ΑTη	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
C _{source}	=	see page 3	mg/L	D _s eff	==	cm ² /s
C _(x)	=	see page 3	mg/L	ED	=	yr
C _(x) /C _{source}	=		unitless	EF	=	d/yr

Incident #: 20190483, 20050170 Chemical: Benzene Land Use: Not Applicable

		Unit	
=		unitless	
=		g/g	
=		mg/L	
=		mg/L	
=		cm³ _{water} /cm³ _{air}	
=	0.03	cm/cm	
=	30	cm/yr	
=	20	m³/d	
=		mg/d	
=		L/d	
=	1.841	cm/d for R15, R19, R26; cm/yr for R24	
=		cm³/g or L/kg	
=		cm³ _{water} /g _{soil}	
=		cm³ _{water} /g _{soil}	
=		cm³ _{water} /g _{soil}	3
=	100	cm	
=		(mg/L _{water}) /(mg/kg _{soil})	
=	0.5	mg/cm²	
=	6.9 •10-14	g/cm²-s	
=	0.5	unitless	
		=	=

Symbol			Unit
RAF _d (PNAs)	=	0.05	unitless
RAF _d (inorganics)	=	0	unitless
RAF₀	=	1.0	unitless
RBSL _{air} (carcinogenic)	=		μg/m³
RBSL _{air} (noncarcinogenic)	=		μg/m³
RfD _i	=		mg/kg-d
RfD。	=		mg/kg-d
SA	=	3,160	cm²/d
S _d	=	200	cm
S _w	=	6,681.22	cm
SFi	=		(mg/kg-d) ⁻¹
SF _o	=		(mg/kg-d) ⁻¹
THQ	=	1	unitless
TR	=		unitless
U	=		cm/d
U _{air}	=	225	cm/s
U _{gw}	=		cm/yr
VFp	=		kg/m³
VF _{samb}	=	(m	ng/m³ _{air})/mg/kg _{soil}) or kg/m³
VF _{ss}	=		kg/m³

Incident #: 20190483, 20050170 Chemical: Benzene Land Use: Not Applicable **Symbol** Unit Symbol Unit W = θ_{as} cm3_{air}/cm3_{soil} cm = gwater/gsoil θ_{ws} =cm³_{water}/cm³_{soil} W cm³/cm³soil Х see below cm θ_{T} = 0.32 λ 0.0009 d-1 α_{x} cm = 3.1416 α_{y} cm π $\alpha_{\boldsymbol{z}}$ = cm ρ_{b} =g/cm³ 200 1 δ_{air} = = cm g/cm³ ρ_{w} 200 $\delta_{\rm gw}$ = 9.46 • 108 τ cm s Csource Values: (mg/L) Equation Result Unit(s) R1 mg/kg R2 = mg/kg MW-3 = 0.0574MW-4 = 1.24R7 = mg/kg MW-5 = 0.0735MW-7 = 0.0167MW-8 = 0.0548 R8 = mg/kg R12 mg/kg R25 = mg/L Maximum Predicted Extent of Groundwater Impact (X): (feet from point source)

3 of 3

MW-3 = 20 MW-4 = 51 MW-5 = 22 MW-7 = 9 MW-8 = 19

RBCA Equation R26

Dissolved Hydrocarbon Concentration Along Centerline Maximum Predicted Extent of Groundwater Impact Modeling Groundwater Component of the Groundwater Ingestion Exposure Route

1125 Aurora Avenue Aurora

Input Parameters Used in the Solution of Equation R26					
Parameter	Value	Description			
First Order Degradation Constant (λ)	Benzene: 0.0009/day Ethylbenzene: 0.003/day	Default Value (Appendix C, Table E)			
Aquifer Hydraulic Conductivity (K)	2.131E-05 cm/sec	Site specific value as provided in approved SICR dated September 2, 2021			
Hydraulic Gradient (i)	0.03 cm/cm	Site specific value as provided in approved SICR dated February 7, 2022			
Total Soil Porosity (θ_T)	$0.32 \text{ cm}^3/\text{cm}^3$	Default for sand			
Source Width Perpendicular to Groundwater Flow in the Horizontal Plane (S _w)	6,681.22 cm	Site specific value as provided in approved SICR dated February 7, 2022			
Source Width Perpendicular to Groundwater Flow in the Vertical Plane (S _d)	200 cm	Default Value Appendix C, Table D			
Tier 1 Groundwater Remediation Objective for Class I groundwater at the point of human exposure (C _x)	Benzene: 0.005 mg/L Ethylbenzene: 0.7 mg/L	Appendix B, Table E			

	Site Details				Sample Details
Site Name & Location:	1125 Aurora Av	enue		Sa	mple Location: MW-3
	Aurora				Sample Date: 02/21/2020
LUST Incident Number(s):	20190483, 2005	0170			
Exposure Pathway:	Groundwater Co	mponent of Groundwater I	ngestion		
Groundwater Classification:	Class I	1			Analyte: Benzene
Concentration at the source (C_{source}	rce)=	0.057 mg/L			
Distance along centerline of the					
plume coming from the source ((X)=	19.1 ft	=	582.17 cm	
First order degradation constant (λ)=		0.0009 /day		if benzene, lambda=0.0009/d	ay
equifer hydraulic conductivity (K)=		2.131E-05 cm/sec	=	1,841 cm/day	
lydraulic gradient (i)=		0.03 m/m			
otal soil porosity ($\theta_{\rm T}$)=		$0.32 \text{ cm}^3/\text{cm}^3$	soil		
ource width perpendicular to GW flow direction in horizontal plane (S_w) =		219,2 ft	==	6,681.22 cm	
ource width perpendicular to GW flow direction in vertical plane (S_d) =		6.56 ft	=	200 cm	(assuming complete mixing)
alculated Parameters		DO NOT ENTER VALUES H	ERE!		
ongitudinal dispersivity	Ax=	58.2 cm			
ransverse dispersivity	Ay=	19.4 cm			
ertical dispersivity	Az=	2.9 cm			
pecific discharge	U=	0.2 cm/day			
v/(4*SQRT(Ay*X))	B=	15.7			
i/(2*SQRT(Az*X))	C=	2.4			
ror function	erf(B)=	1.0 To determ	nine error fu	nction values,	
ror function	erf(C)=	1.0 see F46 &	k K46 in the	linear interpolation section.	
etual B value=	Į	15.7		Actual C value=	2.4
utomatic calculations : Actual erf(B)	1	1.0		Actual erf(C)=	1.0
Solutions					
· ·	C _(x)				
L	0,005	mg/l			
mputation of erf(x)					
urce: Abramowitz, M. and I. A. Stegun, 1 eximum error in computation = 1.5 x 10^-		thematical Functions, Dover Publi	cations, Nev	v York, page 299, formula 7.1.2	6
15.71476238	2.428597112				
0.3275911	0.3275911				
= 0.254829592	0,254829592				
-0.284496736	-0.284496736				
1.421413741	1.421413741				
-1.453152027	-1.453152027				
1.061405429	1.061405429				
0.162654091 x)=	0.556921002				

0.999406374

erf(x)=

	Site Details	Sample Details
Site Name & Location:	1125 Aurora Avenue	Sample Location: MW-4
1	Aurora	Sample Date: 02/21/2020
LUST Incident Number(s):	20190483, 20050170	
Exposure Pathway:	Groundwater Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Analyte: Benzene

Concentration at the source (C _s	ource)=	1.24	40 mg/L		
Distance along centerline of the plume coming from the source		50	.9 ft =	1,551.43 cm	
First order degradation constant (λ)=		0.00	09 /day	if benzene, lambda=0.00	009/day
Aquifer hydraulic conductivity (K)=		2.131E-	05 cm/sec =	1.841 cm/c	lay
Hydraulic gradient (i)=		0.	03 m/m		
Total soil porosity (θ_T) =		0.	32 cm ³ /cm ³ _{soil}		
Source width perpendicular to GW flow direction in horizontal plane (S_w)	p=	219	.2 ft =	6,681.22 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d)=		6.:	56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER	VALUES HERE!		
Longitudinal dispersivity Transverse dispersivity	Ax= Ay=		.1 cm .7 cm		
Vertical dispersivity	Az=		.8 cm		
Specific discharge	U=		.2 cm/day		
Sw/(4*SQRT(Ay*X))	B=	5	_		
Sd/(2*SQRT(Az*X))	C=	0.			
Error function	erf(B)=	1.	.0 To determine err	ror function values,	
Error function	erf(C)=	0.	8 see F46 & K46 i	in the linear interpolation section	.
Actual B value=		5.	9	Actual C value=	0.9
Automatic calculations : Actual erf(B)		1.	0	Actual erf(C)=	0.8
Solutions					

0.005 |mg/1

Computation of erf(x)

Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26 Maximum error in computation = 1.5 x 10^-7

Maximum error m	computation – 1.5 x 10°-/	
x=	5.896895118	0.911320331
p=	0.3275911	0.3275911
a1=	0.254829592	0.254829592
a2=	-0,284496736	-0.284496736
a3=	1.421413741	1.421413741
a4=	-1.453152027	-1.453152027
a5=	1.061405429	1.061405429
t=	0.341090835	0.770095391
erf(x)=	1	0.802532784

	Site Details			Sample Details
Site Name & Location:	1125 Aurora Ave	enue		Sample Location: MW-5
	Aurora			Sample Date: 02/21/2020
LUST Incident Number(s):	20190483, 20050)170		
Exposure Pathway:	Groundwater Co.	nponent of Groundwater Ingestic	on	
Groundwater Classification:	Class I	inpolicit of Groundwater ingestion	OII	Analyte: Benzene
Ground and Chassification.	010331			Analyte. Denzene
Concentration at the source (C _{so}	urce)=	0.074 mg/L		
Distance -1				
Distance along centerline of the	(71)		(50.0=	
plume coming from the source	(X)=	21.4 ft =	652.27 cm	
First order degradation constant (λ)=		0.0009 /day	if benzene, lambda=0.000	99/day
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec =	1.841 cm/da	у
Hydraulic gradient (i)=		0.03 m/m		
Total soil porosity ($\theta_{\rm T}$)=		0.32 cm ³ /cm ³ soil		
Source width perpendicular to GW				
flow direction in horizontal plane (S _w)=		219.2 ft =	6,681.22 cm	
Source width perpendicular to GW				
flow direction in vertical plane (S _d)=	İ	6.56 ft =	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HERE!		
ongitudinal dispersivity	Ax=	65.2 cm		
ransverse dispersivity	Ay=	21.7 cm		
ertical dispersivity	Az=	3.3 cm		
pecific discharge	U=	0.2 cm/day		
w/(4*SQRT(Ay*X))	B=	14.0		
d/(2*SQRT(Az*X))	C=	2.2		
rror function	erf(B)=	1.0 To determine erro	or function values,	
rror function	erf(C)=		the linear interpolation section.	
ctual B value=		14.0	Actual C value=	2.2
Automatic calculations : Actual erf(B)		1.0	Actual erf(C)=	1.0
Solutions				
	C _(x)			
		ng/l		
omputation of erf(x)				
ource: Abramowitz, M. and I. A. Stegun,		hematical Functions, Dover Publications,	New York, page 299, formula 7	.1.26
aximum error in computation = 1.5 x 10/ = 14,02579259				
= 0.3275911	2.167579666 0.3275911			
= 0.3273911	0.3273911			
- 0.234829392 0.284496736	-0.284496736			
= -0.284490730 = 1.421413741	1,421413741			
= -1,453152027	-1.453152027			
= 1.061405429	1.061405429			
0.178739801	0.58476803			
(x)= 1	0.997826221			

0.997826221

erf(x)=

	Site Details				Sample Details
Site Name & Location:	1125 Aurora Ave	enue		S	ample Location: MW-7
	Aurora		l		Sample Date: 12/04/2020
LUST Incident Number(s):	20190483, 20050)170	,		
Exposure Pathway:	Groundwater Cor	nponent of Groundwater Ing	estion		
Groundwater Classification:	Class I	appearant of Otomics navel ing.			Analyte: Benzene
			*		
Concentration at the source (C _{sor}	urce)=	0.017 mg/L			
Distance along centerline of the					
plume coming from the source	(X)=	8.5 ft	=	259.08 cm	
First order degradation constant (λ)=		0.0009 /day	if benzene	e, lambda=0.0009/	day
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec =		1,841 cm/day	
Hydraulic gradient (i)=	i	0.03 m/m			
Fotal soil porosity (θ_T)=		$0.32 \text{ cm}^3/\text{cm}^3$ _{soil}			
Source width perpendicular to GW flow direction in horizontal plane (S_w) =		219.2 ft =		5,681.22 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =	ſ	6.56 ft =		200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES HER	E!		
ongitudinal dispersivity	Ax=	25.9 cm			
ransverse dispersivity	Ay=	8.6 cm			
ertical dispersivity	Az=	1.3 cm			
pecific discharge	U=	0.2 cm/day			
w/(4*SQRT(Ay*X))	B=	35.3			
d/(2*SQRT(Az*X))	C=	5.5			
rror function	erf(B)=	1.0 To determine	error function values	,	
rror function	erf(C)=	1.0 see F46 & K4	6 in the linear interp	olation section.	
ctual B value=	Ε	35.3	Actual C v	alue=	5.5
automatic calculations : Actual erf(B)		1.0	Actual erf(C)=	1.0
Solutions					
1	C _(x)	4			
l	0.005 r	ng/l			
omputation of erf(x)					
urce: Abramowitz, M. and I. A. Stegun, aximum error in computation = $1.5 \times 10^{\circ}$		nematical Functions, Dover Publicati	ons, New York, page	299, formula 7.1.	26
35.31199547	5.45720057				
0.3275911	0.3275911				
= 0.254829592	0.254829592				
-0.284496736	-0.284496736				
= 1.421413741	1.421413741				
-1.453152027	-1.453152027				
1.061405429	1.061405429				
0.079567817	0.358714753				
v)- 1					

erf(x)=

	Site Details	Sample Details
Site Name & Location:	1125 Aurora Avenue	Sample Location: MW-8
Í	Aurora	Sample Date: 12/04/2020
LUST Incident Number(s):	20190483, 20050170	
Exposure Pathway:	Groundwater Component of Groundwater Ingestion	
Groundwater Classification:	Class I	Analyte: Benzene

						Tritary tot Bonzone
Concentration at the source (C	source)=		0.055 mg/L			
Distance along centerline of th	e					
plume coming from the source			18.7 ft	=	568.45 cm	
prame coming from the source	OC (AL)		10.7	_	308.43 CIII	
First order degradation constant (λ)=			0.0009 /day		if benzene, lambda=0.0009/da	ay
Aquifer hydraulic conductivity (K)=		2 1	131E-05 cm/sec	=	1,841 cm/day	
required injuration conductivity (re)		2,.	IJIE-03 cili/sec		1,641 cm/day	
Hydraulic gradient (i)=			0.03 m/m			
Total soil porosity (θ_T) =			0.32 cm ³ /cm ³	3		
Total soil potosity (04)			0.32 CIII /CIII	soil		
Source width perpendicular to GW						
flow direction in horizontal plane (S _w)=		219,2 ft	=	6,681.22 cm	
Source width perpendicular to GW						
flow direction in vertical plane (S_d) =			6.56 ft	=	200 cm	(assuming complete mixing)
					<u></u>	, , , , , , , , , , , , , , , , , , , ,
Calculated Parameters		DO NOT ENT	TER VALUES H	IERE!		
Longitudinal dispersivity	Ax=	<u> </u>	56,8 cm			
Transverse dispersivity	Ay=		18.9 cm			
Vertical dispersivity	Az=		2.8 cm			
Specific discharge	U=		0.2 cm/day			
Sw/(4*SQRT(Ay*X))	B=		16.1			
Sd/(2*SQRT(Az*X))	C=		2.5			
Error function	erf(B)=		1.0 To deteri			
Error function	erf(C)=		1.0 see F46 a	& K46 in the	linear interpolation section.	
Actual B value=			16.1		Actual C value=	2.5
Automatic calculations : Actual erf(B)			1.0		Actual erf(C)=	1.0
Solutions						
	$C_{(x)}$					
	0.005	mg/l				

0.005 mg/I

Computation of erf(x)

Source: Abramowitz, M. and I. A. Stegun, 1972, Handbook of Mathematical Functions, Dover Publications, New York, page 299, formula 7.1.26 Maximum error in computation = 1.5×10^{-7}

x≔	16,09393896	2.48719597
p≕	0.3275911	0.3275911
a1=	0.254829592	0.254829592
a2=	-0.284496736	-0.284496736
a3=	1.421413741	1.421413741
a4=	-1.453152027	-1.453152027
a5=	1.061405429	1.061405429
t=	0.159432899	0.551029988
erf(x)=	1	0.999564161

The Agency is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 - 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false material statement or representation in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compilance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/57.17). This form has been approved by the Forms Management Center.

Illinois Environmental Protection Agency Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

	Α.	Site	Identification
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	IEMA Incident # (6- or 8-digit):20190483, 200	50170 II	EPA LPC # (10-digi	t): _089407	6105
	Site Name: GC Real Estate, LLC.				
	Site Address (not a P.O. Box): 1125 Aurora Aven	ue			
	City: Aurora County:	Kane	Zip Code:	60505	
	Leaking UST Technical File				
В.	Tier 2 Calculation Information				
	Equation(s) Used (ex: R12, R14, R26): R26				
	Contact Information for Individual Who Performed C	alculations:	Jeff Ogden, Sen	ior Project	
	Manager, Eagle Environmental Consultants, LLC F	hone: (630)	940-2540		
	Land Use: Not Applicable	Soil Type:	:S	and	
	Groundwater: ⊠ Class I ☐ Class II				
	Mass Limit: Yes No If Yes, then Specify	Acreage: 「	0.5 [1 [2	万 5	[]30
	Result from S18/S28 used in R26? ☐ Yes ☐ No	Specify C	S _{source} from S18/S28	•	mg/L
	 Mass Limit Acreage other than defaults must al Failure to use site-specific parameters where al the Underground Storage Tank Fund. Mans depicting source width, plume dimension 	llowed coul	d affect payment fi		

- Maps depicting source width, plume dimensions, distance, etc. must also be submitted.
- Inputs must be submitted in the designated unit.

Symbol			Unit	Symbol		Unit
AT _c	=	70	yr	d	=	cm
AΤη	=		yr	Dair	=	cm²/s
BW	=	70	kg	Dwater	=	cm²/s
C _{source}	=	see page 3	mg/L	D _s eff	=	cm²/s
C _(x)	=	see page 3	mg/L	ED	=	yr
C _(x) /C _{source}	=		unitless	EF	=	d/yr

O-----

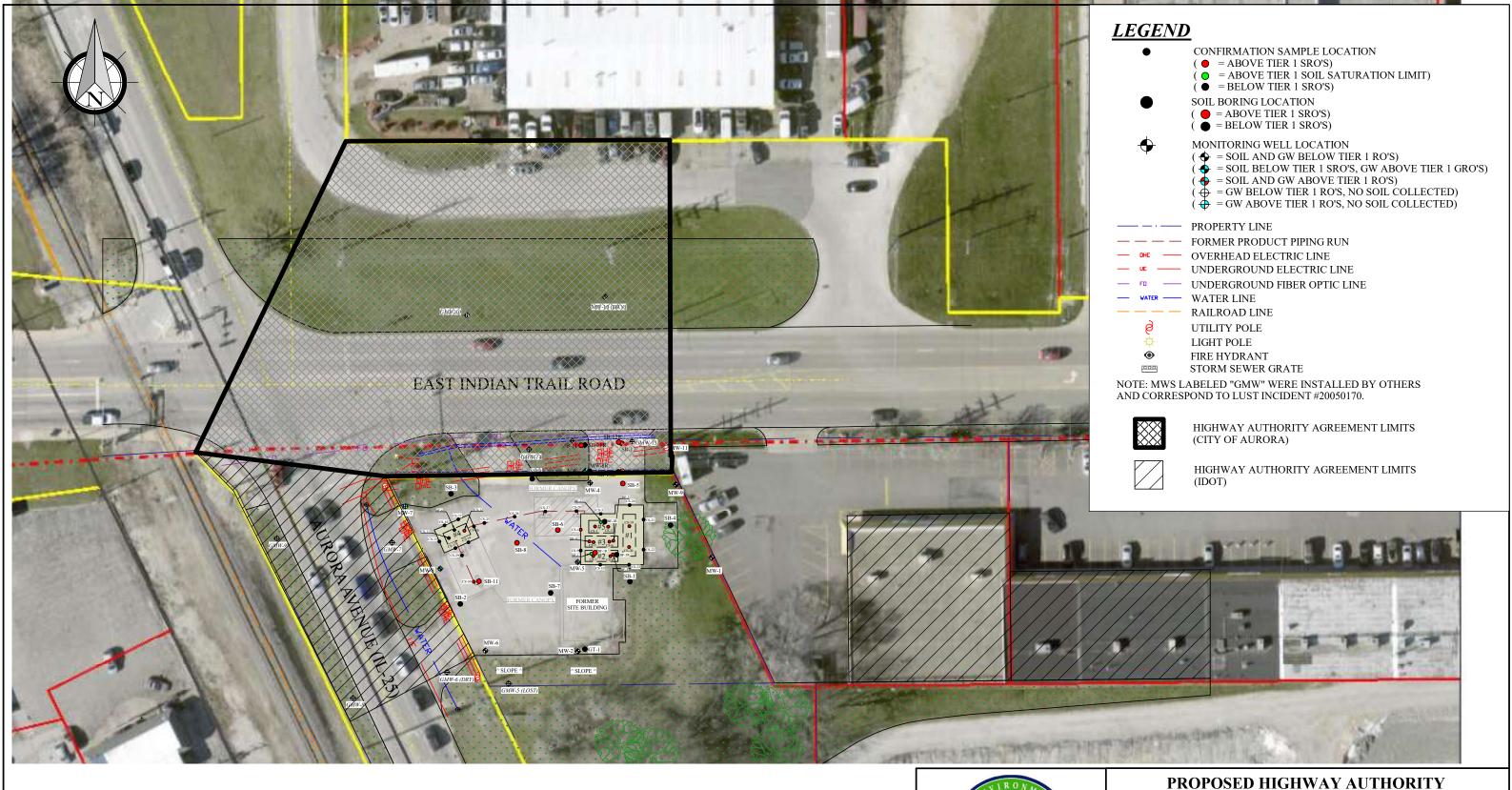
Incident #: 20190483, 20050170 Chemical: ___Ethylbenzene Land Use: Not Applicable

Symbol			Unit
erf	=		unitless
f _{oc}	=		g/g
GW _{comp}	=		mg/L
GW _{source}			mg/L
H'	=		cm³ _{water} /cm³ _{air}
i	=	0.03	cm/cm
I	=	30	cm/yr
IR _{air}	=	20	m³/d
IR _{soil}	=		mg/d
IR _w	=		L/d
К	=	1.841	cm/d for R15, R19, R26; cm/yr for R24
K _{oc}	=		cm³/g or L/kg
k _s (non-ionizing organics)	=		cm³ _{water} /g _{soil}
k _s (ionizing organics)	=		cm³ _{water} /g _{soil}
k _s (inorganics)	=		cm³ _{water} /g _{soil}
Ls	=	100	cm
LF _{sw}	=		(mg/L _{water}) /(mg/kg _{soil})
M	=	0.5	mg/cm²
Pe	=	6.9 • 10 ⁻¹⁴	g/cm²-s
RAF _d	=	0.5	unitless

Symbol			Unit
RAF _d (PNAs)	=	0.05	unitless
RAF _d (inorganics)	=	0	unitless
RAF ₀	=	1.0	unitless
RBSL _{air} (carcinogenic)	=		μg/m³
RBSL _{air} (noncarcinogenio	=		µg/m³
RfDi	=		mg/kg-d
RfD _o	=		mg/kg-d
SA	=	3,160	cm²/d
S _d	=	200	cm
S _w	=	6,681.22	cm
SF _i	=		(mg/kg-d) ⁻¹
SF _o	=		(mg/kg-d) ⁻¹
THQ	=	1	unitless
TR	=		unitless
U	=		cm/d
U _{air}	=	225	cm/s
U _{gw}	=		cm/yr
VFp	=		kg/m³
VF _{samb}	=	(m	ng/m³ _{air})/mg/kg _{soil}) or kg/m³
VF _{ss}	=		kg/m³

20190483	, 20050170	Chemical:	E	thylbenzene	Lai	nd Use:	Not Applicable
ol		Unit		Symbol			Unit
=		cm		θ_{as}	=		cm³ _{air} /cm³ _{soil}
=		g _{water} /g _{soil}		$\theta_{ m ws}$			cm³ _{water} /cm³ _{soil}
=	see below	cm		θτ	=	0.32	cm³/cm³ _{soil}
=		cm		λ	=	0.003	d ⁻¹
=		cm		π	=	3.1416	
=		cm		$ ho_{ m b}$	=		g/cm³
=	200	cm		$ ho_{ m w}$	=	1	g/cm³
=	200	cm		τ	===	9.46 •10 ⁸	s
				C	source	Values: (mg	g/L)
n	Result	Unit(s)					
=		mg/kg					
=		mg/kg					
=		mg/kg			MV	V-5 = 1.75	
=		mg/kg					
=		mg/kg					
==		mg/L					
	Mavimum P	Predicted Extent	t of	Groundwater l	mnact (Υ).	
		(feet from p	ooin	t source)	mpact (^)·	
M	IW-5 = 2						
		= see below = see below = 200 = 200 = 200 = = = = = = = = = = =	Unit	Unit	Unit Symbol	Unit Symbol	Unit Symbol

	Site Details				Sample Details
Site Name & Location:	1125 Aurora Av	enue		S	ample Location: MW-5
	Aurora				Sample Date: 02/21/2020
LUST Incident Number(s):	20190483, 2005	0170			
Exposure Pathway: Groundwater Classification:	Groundwater Co Class I	omponent of Groundwater	Ingestion		Analyte: Ethylbenzene
		-			
Concentration at the source (C_{sou}	ırce)=	1.750 mg/L			
Distance along centerline of the					
plume coming from the source	(X)=	1.9 ft	=	57.30 cm	
First order degradation constant (λ)=		0.003 /day		if ethylbenzene, lambda=0.0	003/day
Aquifer hydraulic conductivity (K)=		2.131E-05 cm/sec	=	1.841 cm/day	
Hydraulic gradient (i)=		0.03 m/m			
Total soil porosity (θ_T)=		0.32 cm ³ /cm	3 soil		
Source width perpendicular to GW flow direction in horizontal plane (S_w) =		219.2 ft	=	6,681,22 cm	
Source width perpendicular to GW flow direction in vertical plane (S_d) =		6,56 ft	=	200 cm	(assuming complete mixing)
Calculated Parameters		DO NOT ENTER VALUES I	HERE!		
Longitudinal dispersivity	Ax=	5.7 cm			
Transverse dispersivity	Ay=	1.9 cm			
Vertical dispersivity	Az=	0.3 cm			
Specific discharge Sw/(4*SQRT(Ay*X))	U= B=	0.2 cm/day			
Sd/(2*SQRT(Az*X))	C=	24.7			
Error function	erf(B)=		mine error fur	nction values,	
Error function	erf(C)=	1.0 see F46	& K46 in the	linear interpolation section.	
Actual B value=		159.7		Actual C value=	24.7
Automatic calculations : Actual erf(B)		1.0		Actual erf(C)=	1.0
Solutions	C				
	C _(x)	mg/l			
Computation of erf(x)					
ource: Abramowitz, M. and I. A. Stegun,		nthematical Functions, Dover Pub	lications, New	v York, page 299, formula 7.1	.26
Maximum error in computation = 1.5×10^7 = 159.6552987	24.67351322				
= 0.3275911	0.3275911				
1= 0.254829592 2= -0.284496736	0.254829592 -0.284496736				
3= -0.284490730 1.421413741	1.421413741				
4= -1.453152027	-1.453152027				
5= 1.061405429 = 0.018761144	1.061405429 0.110097925				
f(x) = 0.018761144	0.110097923				





3805 ILLINOIS AVENUE ST. CHARLES, ILLINOIS 60174

PROPOSED HIGHWAY AUTHORITY AGREEMENT LIMITS

GC REAL ESTATE LLC 1125 AURORA AVENUE AURORA, IL

PREPARED BY:	EXHIBIT	DATE:	PROJECT #:			
ELMORE	С	02/03/25	118109			
DRAWN BY:	FILE NAME:					
PELLICO	118109 - GC AURORA - CAD					

GRAPHIC SCALE (IN FEET)