

TABLE 1: Volatile Organic Compounds (VOCs) in Soil  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				DISCRETE SOIL SAMPLES - Moonstone 2007										QA/QC SAMPLES		
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SS-1 (2') 2 5/24/07	SS-1 (12') 12 5/24/07	SS-2 (2') 2 5/24/07	SS-2 (9') 9 5/24/07	SS-3 (2') 2 5/24/07	SS-3 (12') 12 5/24/07	SS-4 (2') 2 5/24/07	SS-4 (15') 15 5/24/07	SS-5 (1') 1 5/24/07	SS-5 (14') 14 5/24/07	TRIP BLANK N/A	SS-55 (1') blind dup of SS-5 (1')	
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/L	mg/kg	
acetone	67-64-1	10,000	3,300	3,300	10,000	10,000	9,200	9200	<0.1	<0.1	<0.14	<0.16 <sup>08</sup>	<0.1	<0.180 <sup>08</sup>	<0.1	<0.14	<0.1	<0.1	<50	<0.1	
benzene	71-43-2	57	0.5	0.5	290	330	0.5	0.5	<0.001	<0.001	<0.0014	<0.0013	<0.001	0.0012 <sup>c</sup>	0.002 <sup>c</sup>	<0.0014	0.0015 <sup>c</sup>	0.0016 <sup>c</sup>	<1.0	0.001 <sup>c</sup>	
bromodichloromethane	75-27-4	12.0	8	8	60	69	8	8	<0.001	<0.001	<0.0014	<0.0013	<0.001	<0.001	<0.001	<0.0014	<0.001	<0.001	<1.0	<0.001	
bromoform (tribromomethane)	75-25-2	410	8	8	2,000	2,300	8	8	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
bromomethane	74-83-9	96	1	1	400	460	1	1	<0.003	<0.003	<0.0042	<0.004	<0.003	<0.003	<0.003	<0.0042	<0.003	<0.003	<2.0	<0.003	
2-butanone (MEK)	78-93-3	10000	400	400	10000	10000	400	400	<0.1	<0.1	<0.14	<0.13	<0.1	<0.1	<0.1	<0.14	<0.1	<0.1	<10	<0.1	
carbon disulfide	75-15-0	10,000	150	150	10,000	10,000	620	620	<0.015	<0.015	<0.021	<0.02	<0.015	<0.015	<0.015	<0.021	<0.015	0.016	<2.0	<0.015	
carbon tetrachloride	56-23-5	30	0.5	0.5	150	170	0.5	1	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
chlorobenzene	108-90-7	960	10	10	4,000	4,600	10	10	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
chlorodibromomethane	124-48-1	17	8	8	82	95	8	8	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
chloroethane	75-00-3	6,200	23	23	10,000	10,000	90	90	<0.004	<0.004	<0.0056	<0.0053	<0.004	<0.004	<0.004	<0.0056	<0.004	<0.004	<2.0	<0.004	
chloroform	67-66-3	19	8	8	97	110	8	8	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
chloromethane (methyl chloride)	74-87-3	250	3	3	1200	1400	3	3	<0.01	<0.01	<0.014	<0.013	<0.01	<0.01	<0.01	<0.014	<0.01	<0.01	<10	<0.01	
1,1-dichloroethane	75-34-3	280	3.1	3.1	1,400	1,600	16	16	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
1,2-dichloroethane (EDC)	107-06-2	17	0.5	0.5	86	98	0.5	0.5	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<10	<0.002	
1,1-dichloroethene	75-35-4	3,800	0.7	0.7	10000	10000	0.7	0.7	<0.002 <sup>10</sup>	<0.002 <sup>10</sup>	<0.0028 <sup>10</sup>	<0.0027 <sup>10</sup>	<0.002 <sup>10</sup>	<0.002 <sup>10</sup>	<0.002 <sup>10</sup>	<0.0028 <sup>11</sup>	<0.002 <sup>10</sup>	<0.002 <sup>10</sup>	<2.0	<0.002 <sup>10</sup>	
cis 1,2-dichloroethene	156-59-2	2,200	7	7	10,000	10,000	7	7	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
trans 1,2-dichloroethene	156-60-5	1,100	10	10	4,800	5,500	10	10	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
1,2-dichloropropane	78-87-5	45	0.5	0.5	220	260	0.5	0.5	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<1.0	<0.002	
cis 1,3-dichloropropene	542-75-6	110	0.66	0.7	560	640	2.6	2.6	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
trans 1,3-dichloropropene	542-75-6	(total 1,3-dichloropropene)						2.6	2.6	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002
ethylbenzene	100-41-4	10,000	70	70	10,000	10,000	70	70	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	96	1.1	1.1	400	460	4.4	4.4	<0.01	<0.01	<0.014	<0.013	<0.01	<0.01	<0.01	<0.014	<0.01	<0.01	<10	<0.01	
methylene chloride (dichloromethane)	75-09-2	950	0.5	0.5	4700	5400	0.5	0.5	<0.03	<0.03	<0.042	<0.04	<0.03	<0.03	<0.03	<0.042	<0.03	<0.03	<2.0	<0.03	
4-methyl-2-pentanone (methyl isobutyl ketone) (MIBK)	108-10-1	10000	290	290	10000	10000	820	820	<0.01	<0.01	<0.014	<0.013	<0.01	<0.01	<0.01	<0.014	<0.01	<0.01	<10	<0.01	
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	2	3,200	3,700	2	2	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
isopropylbenzene (cumene)	98-82-8	7700	600	600	10000	10000	2500	2,500													
styrene	100-42-5	10,000	24	24	10,000	10,000	24	24	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
1,1,2,2-tetrachloroethane	79-34-5	7.7	0.03	0.03	38	44	0.03	0.03	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<1.0	<0.002	
tetrachloroethene (PCE)	127-18-4	340	0.5	0.5	1500	4400	0.5	0.5	<0.001	<0.001	<0.0014	<0.0013	0.0012 <sup>c</sup>	0.0023 <sup>c</sup>	<0.001	<0.0014	<0.001	<0.001	<1.0	<0.001	
toluene	108-88-3	10,000	100	100	10,000	10,000	100	100	<0.002	<0.002	<0.0028	<0.0027	<0.002	0.0022 <sup>c</sup>	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
1,1,1-trichloroethane	71-55-6	10,000	20	20	10,000	10,000	20	20	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
1,1,2-trichloroethane	79-00-5	28	0.5	0.5	140	160	0.5	0.5	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
1,3,4-trimethylbenzene (1,2,4-trimethylbenzene)	95-63-6	130	8.4	8.4	560	640	35	35													
1,3,5-trimethylbenzene,1,3,5-	108-67-8	110	2.3	2.3	480	550	9.3	9.3													
trichloroethene (TCE)	79-01-6	260	0.5	0.5	1300	1500	0.5	0.5	<0.001	<0.001	<0.0014	<0.0013	<0.001	<0.001	<0.001	<0.0014	<0.001	<0.001	<1.0	<0.001	
trichlorofluoromethane (Freon 11)	75-69-4	10000	200	200	10000	10000	200	200	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0	<0.002	
vinyl chloride	75-01-4	1.9	0.2	0.2	110	580	0.2	0.2	<0.002	<0.002	<0.0028	<0.0027	<0.002	<0.002	<0.002	<0.0028	<0.002	<0.002	<2.0 <sup>11</sup>	<0.002	
p,m-xylenes	1330-20-7	1900	1,000	1,000	8,000	9,100	1,000	1,000	<0.006	<0.006	<0.0084	<0.008	<0.006	<0.006	<0.006	<0.0083	<0.006	<0.006	<6.0	<0.006	
o-xylenes	Total Xylenes	(total xylenes)						1,000	1,000												

MSC Medium Specific Concentration  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
**BOLD** Bold values indicate compound was detected.  
**Highlight** Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.  
**Highlight** Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.  
**Highlight** Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefor the results are inconclusive.

<sup>10</sup> This compound was below the method control limits in the Check Standard associated with this sample.  
<sup>11</sup> This compound was above the method control limits in the Check Standard associated with this sample.  
<sup>c</sup> The concentration of this compound is above the reporting limit but below the calibration curve.  
<sup>07</sup> The reporting limits for this sample have been raised due to low sample weight, volume, and/or weight to methanol volume ratio.  
<sup>08</sup> The preservative in this sample produced ketones, the detection limits have been elevated for those compounds.



**TABLE 1: Volatile Organic Compounds (VOCs) in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL																			
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SB06-A 4-5 11/17/2008	SB06-B 14-15 11/17/2009	SB07-A 4-5 11/17/2010	SB07-B 7-8 11/17/2011	SB08-A 9-10 11/17/2012	SB08-B 13-14 11/17/2011	SB09 10-11 11/14/2008 Dup. of SB53	SB10 14-15 11/14/2008	SB11-A 1-2 11/17/2012	SB11-B 8-9 11/17/2011	SB12-A 1-2 11/17/2012	SB12-B 9-10 11/17/2011	SB23-B 7-8 11/12/2008	SB24-B 5-6 11/12/2008	SB25-B 6-7 11/12/2008	
Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
acetone	67-64-1	10,000	3,300	<b>3,300</b>	10,000	10,000	9,200	<b>9200</b>			<b>0.088</b>	<b>0.035</b>			<b>0.022</b>	<b>0.0077</b>			<b>0.066</b>		<b>0.048</b>			<b>0.1</b>
benzene	71-43-2	57	0.5	<b>0.5</b>	290	330	0.5	<b>0.5</b>			<b>0.02</b>		<b>0.041</b>											
bromodichloromethane	75-27-4	12.0	8	<b>8</b>	60	69	8	<b>8</b>					<b>0.014</b>											
bromoform (tribromomethane)	75-25-2	410	8	<b>8</b>	2,000	2,300	8	<b>8</b>																
bromomethane	74-83-9	96	1	<b>1</b>	400	460	1	<b>1</b>																
2-butanone (MEK)	78-93-3	10000	400	<b>400</b>	10000	10000	400	<b>400</b>																
carbon disulfide	75-15-0	10,000	150	<b>150</b>	10,000	10,000	620	<b>620</b>					<b>0.0042</b>											
carbon tetrachloride	56-23-5	30	0.5	<b>0.5</b>	150	170	0.5	<b>1</b>																
chlorobenzene	108-90-7	960	10	<b>10</b>	4,000	4,600	10	<b>10</b>																
chlorodibromomethane	124-48-1	17	8	<b>8</b>	82	95	8	<b>8</b>																
chloroethane	75-00-3	6,200	23	<b>23</b>	10,000	10,000	90	<b>90</b>																
chloroform	67-66-3	19	8	<b>8</b>	97	110	8	<b>8</b>																
chloromethane (methyl chloride)	74-87-3	250	3	<b>3</b>	1200	1400	3	<b>3</b>																
1,1-dichloroethane	75-34-3	280	3.1	<b>3.1</b>	1,400	1,600	16	<b>16</b>	<b>0.0088</b>															
1,2-dichloroethane (EDC)	107-06-2	17	0.5	<b>0.5</b>	86	98	0.5	<b>0.5</b>																
1,1-dichloroethene	75-35-4	3,800	0.7	<b>0.7</b>	10000	10000	0.7	<b>0.7</b>																
cis 1,2-dichloroethene	156-59-2	2,200	7	<b>7</b>	10,000	10,000	7	<b>7</b>																
trans 1,2-dichloroethene	156-60-5	1,100	10	<b>10</b>	4,800	5,500	10	<b>10</b>																
1,2-dichloropropane	78-87-5	45	0.5	<b>0.5</b>	220	260	0.5	<b>0.5</b>																
cis 1,3-dichloropropene	542-75-6	110	0.66	<b>0.7</b>	560	640	2.6	<b>2.6</b>																
trans 1,3-dichloropropene	542-75-6	(total 1,3-dichloropropene)																						
ethylbenzene	100-41-4	10,000	70	<b>70</b>	10,000	10,000	70	<b>70</b>			<b>0.27</b>	<b>0.19</b>		<b>0.063</b>	<b>2.1</b>	<b>0.22</b>						<b>0.0038</b>		
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	96	1.1	<b>1.1</b>	400	460	4.4	<b>4.4</b>																
methylene chloride (dichloromethane)	75-09-2	950	0.5	<b>0.5</b>	4700	5400	0.5	<b>0.5</b>	<b>0.0046</b>		<b>0.0047</b>	<b>0.0036</b>		<b>0.05</b>					<b>0.039</b>				<b>0.0043</b>	
4-methyl-2-pentanone (methyl isobutyl ketone) (MIBK)	108-10-1	10000	290	<b>290</b>	10000	10000	820	<b>820</b>																
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	<b>2</b>	3,200	3,700	2	<b>2</b>																
isopropylbenzene (cumene)	98-82-8	7700	600	<b>600</b>	10000	10000	2500	<b>2,500</b>			<b>0.094</b>	<b>0.033</b>		<b>0.019</b>	<b>1</b>	<b>0.02</b>								
styrene	100-42-5	10,000	24	<b>24</b>	10,000	10,000	24	<b>24</b>																
1,1,2,2-tetrachloroethane	79-34-5	7.7	0.03	<b>0.03</b>	38	44	0.03	<b>0.03</b>																
tetrachloroethene (PCE)	127-18-4	340	0.5	<b>0.5</b>	1500	4400	0.5	<b>0.5</b>	<b>0.017</b>															
toluene	108-88-3	10,000	100	<b>100</b>	10,000	10,000	100	<b>100</b>			<b>0.0044</b>		<b>0.044</b>						<b>0.0039</b>		<b>0.061</b>			
1,1,1-trichloroethane	71-55-6	10,000	20	<b>20</b>	10,000	10,000	20	<b>20</b>																
1,1,2-trichloroethane	79-00-5	28	0.5	<b>0.5</b>	140	160	0.5	<b>0.5</b>					<b>0.054</b>											
1,3,4- trimethylbenzene (1,2,4- trimethylbenzene)	95-63-6	130	8.4	<b>8.4</b>	560	640	35	<b>35</b>			<b>0.35</b>	<b>0.075</b>		<b>0.034</b>					<b>11</b>			<b>0.0045</b>		
1,3,5- trimethylbenzene,1,3,5-	108-67-8	110	2.3	<b>2.3</b>	480	550	9.3	<b>9.3</b>			<b>0.048</b>	<b>0.014</b>		<b>0.013</b>					<b>1.4</b>					
trichloroethene (TCE)	79-01-6	260	0.5	<b>0.5</b>	1300	1500	0.5	<b>0.5</b>														<b>0.025</b>		
trichlorofluoromethane (Freon 11)	75-69-4	10000	200	<b>200</b>	10000	10000	200	<b>200</b>																
vinyl chloride	75-01-4	1.9	0.2	<b>0.2</b>	110	580	0.2	<b>0.2</b>																
p,m-xylenes	1330-20-7	1900	1,000	<b>1,000</b>	8,000	9,100	1,000	<b>1,000</b>			<b>0.25</b>	<b>0.14</b>		<b>0.052</b>	<b>0.047</b>	<b>0.82</b>			<b>0.74</b>		<b>0.0032</b>		<b>0.014</b>	
o-xylenes	Total Xylenes	(total xylenes)								<b>0.025</b>	<b>0.015</b>		<b>0.0096</b>	<b>0.034</b>	<b>0.25</b>			<b>0.39</b>			<b>0.0063</b>			

MSC Medium Specific Concentration  
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10 This compound was below the method control limits in the Check Standard associated with this sample.  
 11 This compound was above the method control limits in the Check Standard associated with this sample.  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
 07 The reporting limits for this sample have been raised due to low sample weight, volume, and/or weight to methanol volume ratio.  
 08 The preservative in this sample produced ketones, the detection limits have been elevated for those compounds.

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City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				SB26-B 6.5-7.5 11/12/2008	SB27-A 1-2 11/17/2012	SB27-B 14-15 11/17/2011 Dup. of SB54	SB28-A 1-2 11/14/2008	SB28-B 14-15 11/14/2008	SB29-A 1-2 11/14/2008	SB29-B 14-15 11/14/2008	SB30-A 0.5-1.5 11/12/2008	SB30-B 14-15 11/12/2008	SB31-A 1-2 11/12/2008	SB31-B 12-13 11/12/2008	SB32-A 1-2 11/17/2012	SB32-B 14-15 11/17/2011	SB33-A 0.5-1.5 11/17/2012	SB33-B 14-15 11/17/2011
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard															
Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
acetone	67-64-1	10,000	3,300	<b>3,300</b>	10,000	10,000	9,200	<b>9200</b>	0.12			0.016	0.03	0.036	0.024		0.045	0.024					0.046
benzene	71-43-2	57	0.5	<b>0.5</b>	290	330	0.5	<b>0.5</b>															
bromodichloromethane	75-27-4	12.0	8	<b>8</b>	60	69	8	<b>8</b>															
bromoform (tribromomethane)	75-25-2	410	8	<b>8</b>	2,000	2,300	8	<b>8</b>															
bromomethane	74-83-9	96	1	<b>1</b>	400	460	1	<b>1</b>															
2-butanone (MEK)	78-93-3	10000	400	<b>400</b>	10000	10000	400	<b>400</b>															
carbon disulfide	75-15-0	10,000	150	<b>150</b>	10,000	10,000	620	<b>620</b>															
carbon tetrachloride	56-23-5	30	0.5	<b>0.5</b>	150	170	0.5	<b>1</b>															
chlorobenzene	108-90-7	960	10	<b>10</b>	4,000	4,600	10	<b>10</b>															
chlorodibromomethane	124-48-1	17	8	<b>8</b>	82	95	8	<b>8</b>															
chloroethane	75-00-3	6,200	23	<b>23</b>	10,000	10,000	90	<b>90</b>															
chloroform	67-66-3	19	8	<b>8</b>	97	110	8	<b>8</b>															
chloromethane (methyl chloride)	74-87-3	250	3	<b>3</b>	1200	1400	3	<b>3</b>															
1,1-dichloroethane	75-34-3	280	3.1	<b>3.1</b>	1,400	1,600	16	<b>16</b>															
1,2-dichloroethane (EDC)	107-06-2	17	0.5	<b>0.5</b>	86	98	0.5	<b>0.5</b>															
1,1-dichloroethene	75-35-4	3,800	0.7	<b>0.7</b>	10000	10000	0.7	<b>0.7</b>															
cis 1,2-dichloroethene	156-59-2	2,200	7	<b>7</b>	10,000	10,000	7	<b>7</b>															
trans 1,2-dichloroethene	156-60-5	1,100	10	<b>10</b>	4,800	5,500	10	<b>10</b>															
1,2-dichloropropane	78-87-5	45	0.5	<b>0.5</b>	220	260	0.5	<b>0.5</b>															
cis 1,3-dichloropropene	542-75-6	110	0.66	<b>0.7</b>	560	640	2.6	<b>2.6</b>															
trans 1,3-dichloropropene	542-75-6				(total 1,3-dichloropropene)																		
ethylbenzene	100-41-4	10,000	70	<b>70</b>	10,000	10,000	70	<b>70</b>			42										0.0055		0.004
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	96	1.1	<b>1.1</b>	400	460	4.4	<b>4.4</b>															
methylene chloride (dichloromethane)	75-09-2	950	0.5	<b>0.5</b>	4700	5400	0.5	<b>0.5</b>	0.0055						0.0055		0.0068						0.0048
4-methyl-2-pentanone (methyl isobutyl ketone) (MIBK)	108-10-1	10000	290	<b>290</b>	10000	10000	820	<b>820</b>															
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	<b>2</b>	3,200	3,700	2	<b>2</b>															
isopropylbenzene (cumene)	98-82-8	7700	600	<b>600</b>	10000	10000	2500	<b>2,500</b>			5.3												
styrene	100-42-5	10,000	24	<b>24</b>	10,000	10,000	24	<b>24</b>															
1,1,2,2-tetrachloroethane	79-34-5	7.7	0.03	<b>0.03</b>	38	44	0.03	<b>0.03</b>															
tetrachloroethene (PCE)	127-18-4	340	0.5	<b>0.5</b>	1500	4400	0.5	<b>0.5</b>															
toluene	108-88-3	10,000	100	<b>100</b>	10,000	10,000	100	<b>100</b>			0.012												
1,1,1-trichloroethane	71-55-6	10,000	20	<b>20</b>	10,000	10,000	20	<b>20</b>															0.0067
1,1,2-trichloroethane	79-00-5	28	0.5	<b>0.5</b>	140	160	0.5	<b>0.5</b>															
1,3,4- trimethylbenzene (1,2,4- trimethylbenzene)	95-63-6	130	8.4	<b>8.4</b>	560	640	35	<b>35</b>			180	<20	<20	<20									0.026
1,3,5- trimethylbenzene,1,3,5-	108-67-8	110	2.3	<b>2.3</b>	480	550	9.3	<b>9.3</b>			55	<20	<20	<20									0.0064
trichloroethene (TCE)	79-01-6	260	0.5	<b>0.5</b>	1300	1500	0.5	<b>0.5</b>							0.012								
trichlorofluoromethane (Freon 11)	75-69-4	10000	200	<b>200</b>	10000	10000	200	<b>200</b>															
vinyl chloride	75-01-4	1.9	0.2	<b>0.2</b>	110	580	0.2	<b>0.2</b>															
p,m-xylenes	1330-20-7	1900	1,000	<b>1,000</b>	8,000	9,100	1,000	<b>1,000</b>			150												0.014
o-xylenes	Total Xylenes				(total xylenes)																		

MSC Medium Specific Concentration  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
**BOLD** Bold values indicate compound was detected.  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefore the results are inconclusive.

10 This compound was below the method control limits in the Check Standard associated with this sample.  
 11 This compound was above the method control limits in the Check Standard associated with this sample.  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
 07 The reporting limits for this sample have been raised due to low sample weight, volume, and/or weight to methanol volume ratio.  
 08 The preservative in this sample produced ketones, the detection limits have been elevated for those compounds.

**TABLE 1: Volatile Organic Compounds (VOCs) in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				SB34-A 1-2 11/14/2008	SB34-B 14-15 11/14/2008	SB35-A 1-2 11/17/2012	SB35-B 9-10 11/17/2011	SB36-A 1-2 11/14/2008	SB36-B 14-15 11/14/2008	SB37-A 1-2 11/14/2008	SB37-B 14-15 11/14/2008	SB38-A 1-2 11/12/2008	SB38-B 14-15 11/12/2008	SB39-A 1-2 11/14/2008
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard											
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
acetone	67-64-1	10,000	3,300	<b>3,300</b>	10,000	10,000	9,200	<b>9200</b>	0.038	0.023	0.01	0.2	0.034					0.014	
benzene	71-43-2	57	0.5	<b>0.5</b>	290	330	0.5	<b>0.5</b>											
bromodichloromethane	75-27-4	12.0	8	<b>8</b>	60	69	8	<b>8</b>											
bromoform (tribromomethane)	75-25-2	410	8	<b>8</b>	2,000	2,300	8	<b>8</b>											
bromomethane	74-83-9	96	1	<b>1</b>	400	460	1	<b>1</b>											
2-butanone (MEK)	78-93-3	10000	400	<b>400</b>	10000	10000	400	<b>400</b>				0.034							
carbon disulfide	75-15-0	10,000	150	<b>150</b>	10,000	10,000	620	<b>620</b>				0.0042							
carbon tetrachloride	56-23-5	30	0.5	<b>0.5</b>	150	170	0.5	<b>1</b>											
chlorobenzene	108-90-7	960	10	<b>10</b>	4,000	4,600	10	<b>10</b>											
chlorodibromomethane	124-48-1	17	8	<b>8</b>	82	95	8	<b>8</b>											
chloroethane	75-00-3	6,200	23	<b>23</b>	10,000	10,000	90	<b>90</b>											
chloroform	67-66-3	19	8	<b>8</b>	97	110	8	<b>8</b>											
chloromethane (methyl chloride)	74-87-3	250	3	<b>3</b>	1200	1400	3	<b>3</b>											
1,1-dichloroethane	75-34-3	280	3.1	<b>3.1</b>	1,400	1,600	16	<b>16</b>											
1,2-dichloroethane (EDC)	107-06-2	17	0.5	<b>0.5</b>	86	98	0.5	<b>0.5</b>											
1,1-dichloroethene	75-35-4	3,800	0.7	<b>0.7</b>	10000	10000	0.7	<b>0.7</b>											
cis 1,2-dichloroethene	156-59-2	2,200	7	<b>7</b>	10,000	10,000	7	<b>7</b>											
trans 1,2-dichloroethene	156-60-5	1,100	10	<b>10</b>	4,800	5,500	10	<b>10</b>											
1,2-dichloropropane	78-87-5	45	0.5	<b>0.5</b>	220	260	0.5	<b>0.5</b>											
cis 1,3-dichloropropene	542-75-6	110	0.66	<b>0.7</b>	560	640	2.6	<b>2.6</b>											
trans 1,3-dichloropropene	542-75-6				(total 1,3-dichloropropene)														
ethylbenzene	100-41-4	10,000	70	<b>70</b>	10,000	10,000	70	<b>70</b>											
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	96	1.1	<b>1.1</b>	400	460	4.4	<b>4.4</b>											
methylene chloride (dichloromethane)	75-09-2	950	0.5	<b>0.5</b>	4700	5400	0.5	<b>0.5</b>			0.0043	0.0046					0.0057		
4-methyl-2-pentanone (methyl isobutyl ketone) (MIBK)	108-10-1	10000	290	<b>290</b>	10000	10000	820	<b>820</b>											
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	<b>2</b>	3,200	3,700	2	<b>2</b>											
isopropylbenzene (cumene)	98-82-8	7700	600	<b>600</b>	10000	10000	2500	<b>2,500</b>											
styrene	100-42-5	10,000	24	<b>24</b>	10,000	10,000	24	<b>24</b>											
1,1,2,2-tetrachloroethane	79-34-5	7.7	0.03	<b>0.03</b>	38	44	0.03	<b>0.03</b>											
tetrachloroethene (PCE)	127-18-4	340	0.5	<b>0.5</b>	1500	4400	0.5	<b>0.5</b>											
toluene	108-88-3	10,000	100	<b>100</b>	10,000	10,000	100	<b>100</b>											
1,1,1-trichloroethane	71-55-6	10,000	20	<b>20</b>	10,000	10,000	20	<b>20</b>											
1,1,2-trichloroethane	79-00-5	28	0.5	<b>0.5</b>	140	160	0.5	<b>0.5</b>											
1,3,4- trimethylbenzene (1,2,4- trimethylbenzene)	95-63-6	130	8.4	<b>8.4</b>	560	640	35	<b>35</b>			<20								
1,3,5- trimethylbenzene,1,3,5-	108-67-8	110	2.3	<b>2.3</b>	480	550	9.3	<b>9.3</b>			<20								
trichloroethene (TCE)	79-01-6	260	0.5	<b>0.5</b>	1300	1500	0.5	<b>0.5</b>											
trichlorofluoromethane (Freon 11)	75-69-4	10000	200	<b>200</b>	10000	10000	200	<b>200</b>											
vinyl chloride	75-01-4	1.9	0.2	<b>0.2</b>	110	580	0.2	<b>0.2</b>											
p,m-xylenes	1330-20-7	1900	1,000	<b>1,000</b>	8,000	9,100	1,000	<b>1,000</b>											
o-xylenes	Total Xylenes				(total xylenes)														

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 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
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10 This compound was below the method control limits in the Check Standard associated with this sample.  
 11 This compound was above the method control limits in the Check Standard associated with this sample.  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
 07 The reporting limits for this sample have been raised due to low sample weight, volume, and/or weight to methanol volume ratio.  
 08 The preservative in this sample produced ketones, the detection limits have been elevated for those compounds.



**TABLE 1: Volatile Organic Compounds (VOCs) in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL																			
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SB39-B 13-14 11/14/2008	SB40-A 1-2 11/14/2008	SB40-B 6-7 11/14/2008	SB41-A 1-2 11/14/2008	SB41-B 14-15 11/14/2008	SB42-A 1-2 11/14/2008	SB42-B 14-15 11/14/2008	SB43-A 1-2 11/14/2008	SB43-B 14-15 11/14/2008	SB44-A 1-2 11/14/2008	SB44-B 14-15 11/14/2008	SB45-A 1-2 11/14/2008	SB45-B 11-12 11/14/2008	SB46-A 1-2 11/12/2008		
Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
acetone	67-64-1	10,000	3,300	<b>3,300</b>	10,000	10,000	9,200	<b>9200</b>		<b>0.013</b>	<b>0.018</b>		<b>0.01</b>										<b>0.03</b>	
benzene	71-43-2	57	0.5	<b>0.5</b>	290	330	0.5	<b>0.5</b>																
bromodichloromethane	75-27-4	12.0	8	<b>8</b>	60	69	8	<b>8</b>																
bromoform (tribromomethane)	75-25-2	410	8	<b>8</b>	2,000	2,300	8	<b>8</b>																
bromomethane	74-83-9	96	1	<b>1</b>	400	460	1	<b>1</b>																
2-butanone (MEK)	78-93-3	10000	400	<b>400</b>	10000	10000	400	<b>400</b>																
carbon disulfide	75-15-0	10,000	150	<b>150</b>	10,000	10,000	620	<b>620</b>																
carbon tetrachloride	56-23-5	30	0.5	<b>0.5</b>	150	170	0.5	<b>1</b>																
chlorobenzene	108-90-7	960	10	<b>10</b>	4,000	4,600	10	<b>10</b>																
chlorodibromomethane	124-48-1	17	8	<b>8</b>	82	95	8	<b>8</b>																
chloroethane	75-00-3	6,200	23	<b>23</b>	10,000	10,000	90	<b>90</b>																
chloroform	67-66-3	19	8	<b>8</b>	97	110	8	<b>8</b>																
chloromethane (methyl chloride)	74-87-3	250	3	<b>3</b>	1200	1400	3	<b>3</b>																
1,1-dichloroethane	75-34-3	280	3.1	<b>3.1</b>	1,400	1,600	16	<b>16</b>																
1,2-dichloroethane (EDC)	107-06-2	17	0.5	<b>0.5</b>	86	98	0.5	<b>0.5</b>																
1,1-dichloroethene	75-35-4	3,800	0.7	<b>0.7</b>	10000	10000	0.7	<b>0.7</b>																
cis 1,2-dichloroethene	156-59-2	2,200	7	<b>7</b>	10,000	10,000	7	<b>7</b>																
trans 1,2-dichloroethene	156-60-5	1,100	10	<b>10</b>	4,800	5,500	10	<b>10</b>																
1,2-dichloropropane	78-87-5	45	0.5	<b>0.5</b>	220	260	0.5	<b>0.5</b>																
cis 1,3-dichloropropene	542-75-6	110	0.66	<b>0.7</b>	560	640	2.6	<b>2.6</b>																
trans 1,3-dichloropropene	542-75-6	(total 1,3-dichloropropene)																						
ethylbenzene	100-41-4	10,000	70	<b>70</b>	10,000	10,000	70	<b>70</b>																
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	96	1.1	<b>1.1</b>	400	460	4.4	<b>4.4</b>																
methylene chloride (dichloromethane)	75-09-2	950	0.5	<b>0.5</b>	4700	5400	0.5	<b>0.5</b>																
4-methyl-2-pentanone (methyl isobutyl ketone) (MIBK)	108-10-1	10000	290	<b>290</b>	10000	10000	820	<b>820</b>																
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	<b>2</b>	3,200	3,700	2	<b>2</b>																
isopropylbenzene (cumene)	98-82-8	7700	600	<b>600</b>	10000	10000	2500	<b>2,500</b>																
styrene	100-42-5	10,000	24	<b>24</b>	10,000	10,000	24	<b>24</b>																
1,1,2,2-tetrachloroethane	79-34-5	7.7	0.03	<b>0.03</b>	38	44	0.03	<b>0.03</b>																
tetrachloroethene (PCE)	127-18-4	340	0.5	<b>0.5</b>	1500	4400	0.5	<b>0.5</b>																
toluene	108-88-3	10,000	100	<b>100</b>	10,000	10,000	100	<b>100</b>																
1,1,1-trichloroethane	71-55-6	10,000	20	<b>20</b>	10,000	10,000	20	<b>20</b>																
1,1,2-trichloroethane	79-00-5	28	0.5	<b>0.5</b>	140	160	0.5	<b>0.5</b>																
1,3,4- trimethylbenzene (1,2,4- trimethylbenzene)	95-63-6	130	8.4	<b>8.4</b>	560	640	35	<b>35</b>	<20		<20	<20												
1,3,5- trimethylbenzene,1,3,5-	108-67-8	110	2.3	<b>2.3</b>	480	550	9.3	<b>9.3</b>	<20		<20	<20												
trichloroethene (TCE)	79-01-6	260	0.5	<b>0.5</b>	1300	1500	0.5	<b>0.5</b>					0.0058	0.0044								0.024		
trichlorofluoromethane (Freon 11)	75-69-4	10000	200	<b>200</b>	10000	10000	200	<b>200</b>																
vinyl chloride	75-01-4	1.9	0.2	<b>0.2</b>	110	580	0.2	<b>0.2</b>																
p,m-xylenes	1330-20-7	1900	1,000	<b>1,000</b>	8,000	9,100	1,000	<b>1,000</b>																
o-xylenes	Total Xylenes	(total xylenes)																						

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<sup>10</sup> This compound was below the method control limits in the Check Standard associated with this sample.  
<sup>11</sup> This compound was above the method control limits in the Check Standard associated with this sample.  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
<sup>07</sup> The reporting limits for this sample have been raised due to low sample weight, volume, and/or weight to methanol volume ratio.  
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**TABLE 1: Volatile Organic Compounds (VOCs) in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				SB46-B 11-12 11/12/2008	SB47-A 1-2 11/12/2008	SB47-B 12-13 11/12/2008	SB48-A 0.5-1.5 11/12/2008	SB48-B 8-9 11/12/2008 Dup. of SB52	SB50-A 1-2 11/13/2008	SB50-B 11-12 11/13/2008	SB51-A 1-2 11/13/2008	SB51-B 13-14 11/13/2008	SB52 12-13 11/12/2008 Dup. of SB48-B	SB53 10-11 11/14/2008 Dup. of SB09	SB54 14-15 11/17/2012 Dup. of SB27-B	
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard													mg/kg
acetone	67-64-1	10,000	3,300	<b>3,300</b>	10,000	10,000	9,200	<b>9200</b>	0.031	0.05			0.025		0.075	0.02	0.07			0.016	
benzene	71-43-2	57	0.5	<b>0.5</b>	290	330	0.5	<b>0.5</b>													
bromodichloromethane	75-27-4	12.0	8	<b>8</b>	60	69	8	<b>8</b>													
bromoform (tribromomethane)	75-25-2	410	8	<b>8</b>	2,000	2,300	8	<b>8</b>													
bromomethane	74-83-9	96	1	<b>1</b>	400	460	1	<b>1</b>													
2-butanone (MEK)	78-93-3	10000	400	<b>400</b>	10000	10000	400	<b>400</b>													
carbon disulfide	75-15-0	10,000	150	<b>150</b>	10,000	10,000	620	<b>620</b>													
carbon tetrachloride	56-23-5	30	0.5	<b>0.5</b>	150	170	0.5	<b>1</b>													
chlorobenzene	108-90-7	960	10	<b>10</b>	4,000	4,600	10	<b>10</b>													
chlorodibromomethane	124-48-1	17	8	<b>8</b>	82	95	8	<b>8</b>													
chloroethane	75-00-3	6,200	23	<b>23</b>	10,000	10,000	90	<b>90</b>													
chloroform	67-66-3	19	8	<b>8</b>	97	110	8	<b>8</b>													
chloromethane (methyl chloride)	74-87-3	250	3	<b>3</b>	1200	1400	3	<b>3</b>													
1,1-dichloroethane	75-34-3	280	3.1	<b>3.1</b>	1,400	1,600	16	<b>16</b>													
1,2-dichloroethane (EDC)	107-06-2	17	0.5	<b>0.5</b>	86	98	0.5	<b>0.5</b>													
1,1-dichloroethene	75-35-4	3,800	0.7	<b>0.7</b>	10000	10000	0.7	<b>0.7</b>													
cis 1,2-dichloroethene	156-59-2	2,200	7	<b>7</b>	10,000	10,000	7	<b>7</b>													
trans 1,2-dichloroethene	156-60-5	1,100	10	<b>10</b>	4,800	5,500	10	<b>10</b>													
1,2-dichloropropane	78-87-5	45	0.5	<b>0.5</b>	220	260	0.5	<b>0.5</b>													
cis 1,3-dichloropropene	542-75-6	110	0.66	<b>0.7</b>	560	640	2.6	<b>2.6</b>													
trans 1,3-dichloropropene	542-75-6				(total 1,3-dichloropropene)																
ethylbenzene	100-41-4	10,000	70	<b>70</b>	10,000	10,000	70	<b>70</b>	0.07										0.19	27	
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	96	1.1	<b>1.1</b>	400	460	4.4	<b>4.4</b>													
methylene chloride (dichloromethane)	75-09-2	950	0.5	<b>0.5</b>	4700	5400	0.5	<b>0.5</b>	0.0057	0.007			0.0057						0.0033	0.0057	
4-methyl-2-pentanone (methyl isobutyl ketone) (MIBK)	108-10-1	10000	290	<b>290</b>	10000	10000	820	<b>820</b>													
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	<b>2</b>	3,200	3,700	2	<b>2</b>													
isopropylbenzene (cumene)	98-82-8	7700	600	<b>600</b>	10000	10000	2500	<b>2,500</b>													
styrene	100-42-5	10,000	24	<b>24</b>	10,000	10,000	24	<b>24</b>												0.011	3.7
1,1,2,2-tetrachloroethane	79-34-5	7.7	0.03	<b>0.03</b>	38	44	0.03	<b>0.03</b>													
tetrachloroethene (PCE)	127-18-4	340	0.5	<b>0.5</b>	1500	4400	0.5	<b>0.5</b>													
toluene	108-88-3	10,000	100	<b>100</b>	10,000	10,000	100	<b>100</b>	0.24												
1,1,1-trichloroethane	71-55-6	10,000	20	<b>20</b>	10,000	10,000	20	<b>20</b>													
1,1,2-trichloroethane	79-00-5	28	0.5	<b>0.5</b>	140	160	0.5	<b>0.5</b>													
1,3,4- trimethylbenzene (1,2,4- trimethylbenzene)	95-63-6	130	8.4	<b>8.4</b>	560	640	35	<b>35</b>	0.02											140	
1,3,5- trimethylbenzene,1,3,5-	108-67-8	110	2.3	<b>2.3</b>	480	550	9.3	<b>9.3</b>	0.0075											41	
trichloroethene (TCE)	79-01-6	260	0.5	<b>0.5</b>	1300	1500	0.5	<b>0.5</b>													
trichlorofluoromethane (Freon 11)	75-69-4	10000	200	<b>200</b>	10000	10000	200	<b>200</b>													
vinyl chloride	75-01-4	1.9	0.2	<b>0.2</b>	110	580	0.2	<b>0.2</b>													
p,m-xylenes	1330-20-7	1900	1,000	<b>1,000</b>	8,000	9,100	1,000	<b>1,000</b>	0.25											0.85	98
o-xylenes	Total Xylenes				(total xylenes)				0.69											0.23	

MSC Medium Specific Concentration  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
**BOLD** Bold values indicate compound was detected.  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefor the results are inconclusive.

<sup>10</sup> This compound was below the method control limits in the Check Standard associated with this sample.  
<sup>11</sup> This compound was above the method control limits in the Check Standard associated with this sample.  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
<sup>07</sup> The reporting limits for this sample have been raised due to low sample weight, volume, and/or weight to methanol volume ratio.  
<sup>08</sup> The preservative in this sample produced ketones, the detection limits have been elevated for those compounds.

**TABLE 1: Volatile Organic Compounds (VOCs) in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				QA/QC SAMPLES				
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	FB-01	TB-01	TB-02	TB-03	TB-04
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	11/12/2008 Field Blank	11/12/2008 Trip Blank	11/13/2008 Trip Blank	11/14/2008 Trip Blank	11/17/2008 Trip Blank
acetone	67-64-1	10,000	3,300	<b>3,300</b>	10,000	10,000	9,200	<b>9200</b>	0.012	0.014	0.015	0.0063	0.0066
benzene	71-43-2	57	0.5	<b>0.5</b>	290	330	0.5	<b>0.5</b>					
bromodichloromethane	75-27-4	12.0	8	<b>8</b>	60	69	8	<b>8</b>					
bromoform (tribromomethane)	75-25-2	410	8	<b>8</b>	2,000	2,300	8	<b>8</b>					
bromomethane	74-83-9	96	1	<b>1</b>	400	460	1	<b>1</b>					
2-butanone (MEK)	78-93-3	10000	400	<b>400</b>	10000	10000	400	<b>400</b>					
carbon disulfide	75-15-0	10,000	150	<b>150</b>	10,000	10,000	620	<b>620</b>					
carbon tetrachloride	56-23-5	30	0.5	<b>0.5</b>	150	170	0.5	<b>1</b>					
chlorobenzene	108-90-7	960	10	<b>10</b>	4,000	4,600	10	<b>10</b>					
chlorodibromomethane	124-48-1	17	8	<b>8</b>	82	95	8	<b>8</b>					
chloroethane	75-00-3	6,200	23	<b>23</b>	10,000	10,000	90	<b>90</b>					
chloroform	67-66-3	19	8	<b>8</b>	97	110	8	<b>8</b>					
chloromethane (methyl chloride)	74-87-3	250	3	<b>3</b>	1200	1400	3	<b>3</b>					
1,1-dichloroethane	75-34-3	280	3.1	<b>3.1</b>	1,400	1,600	16	<b>16</b>					
1,2-dichloroethane (EDC)	107-06-2	17	0.5	<b>0.5</b>	86	98	0.5	<b>0.5</b>					
1,1-dichloroethene	75-35-4	3,800	0.7	<b>0.7</b>	10000	10000	0.7	<b>0.7</b>					
cis 1,2-dichloroethene	156-59-2	2,200	7	<b>7</b>	10,000	10,000	7	<b>7</b>					
trans 1,2-dichloroethene	156-60-5	1,100	10	<b>10</b>	4,800	5,500	10	<b>10</b>					
1,2-dichloropropane	78-87-5	45	0.5	<b>0.5</b>	220	260	0.5	<b>0.5</b>					
cis 1,3-dichloropropene	542-75-6	110	0.66	<b>0.7</b>	560	640	2.6	<b>2.6</b>					
trans 1,3-dichloropropene	542-75-6	(total 1,3-dichloropropene)											
ethylbenzene	100-41-4	10,000	70	<b>70</b>	10,000	10,000	70	<b>70</b>					
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	96	1.1	<b>1.1</b>	400	460	4.4	<b>4.4</b>					
methylene chloride (dichloromethane)	75-09-2	950	0.5	<b>0.5</b>	4700	5400	0.5	<b>0.5</b>	0.005	0.0057	0.0055		
4-methyl-2-pentanone (methyl isobutyl ketone) (MIBK)	108-10-1	10000	290	<b>290</b>	10000	10000	820	<b>820</b>					
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	<b>2</b>	3,200	3,700	2	<b>2</b>					
isopropylbenzene (cumene)	98-82-8	7700	600	<b>600</b>	10000	10000	2500	<b>2,500</b>					
styrene	100-42-5	10,000	24	<b>24</b>	10,000	10,000	24	<b>24</b>					
1,1,2,2-tetrachloroethane	79-34-5	7.7	0.03	<b>0.03</b>	38	44	0.03	<b>0.03</b>					
tetrachloroethene (PCE)	127-18-4	340	0.5	<b>0.5</b>	1500	4400	0.5	<b>0.5</b>					
toluene	108-88-3	10,000	100	<b>100</b>	10,000	10,000	100	<b>100</b>					
1,1,1-trichloroethane	71-55-6	10,000	20	<b>20</b>	10,000	10,000	20	<b>20</b>					
1,1,2-trichloroethane	79-00-5	28	0.5	<b>0.5</b>	140	160	0.5	<b>0.5</b>					
1,3,4- trimethylbenzene (1,2,4- trimethylbenzene)	95-63-6	130	8.4	<b>8.4</b>	560	640	35	<b>35</b>					
1,3,5- trimethylbenzene,1,3,5-	108-67-8	110	2.3	<b>2.3</b>	480	550	9.3	<b>9.3</b>					
trichloroethene (TCE)	79-01-6	260	0.5	<b>0.5</b>	1300	1500	0.5	<b>0.5</b>					
trichlorofluoromethane (Freon 11)	75-69-4	10000	200	<b>200</b>	10000	10000	200	<b>200</b>					
vinyl chloride	75-01-4	1.9	0.2	<b>0.2</b>	110	580	0.2	<b>0.2</b>					
p,m-xylenes	1330-20-7	1900	1,000	<b>1,000</b>	8,000	9,100	1,000	<b>1,000</b>					
o-xylenes	Total Xylenes	(total xylenes)											

MSC Medium Specific Concentration  
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<sup>10</sup> This compound was below the method control limits in the Check Standard associated with this sample.  
<sup>11</sup> This compound was above the method control limits in the Check Standard associated with this sample.  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
<sup>07</sup> The reporting limits for this sample have been raised due to low sample weight, volume, and/or weight to methanol volume ratio.  
<sup>08</sup> The preservative in this sample produced ketones, the detection limits have been elevated for those compounds.



TABLE 2: Semi-Volatile Organic Compounds (SVOCs) in Soil  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes: Units:	PADEP RESIDENTIAL MSCs FOR SOIL				PADEP NON-RESIDENTIAL MSCs FOR SOIL				DISCRETE SOIL SAMPLES - Moonstone 2007										QA/QC SAMPLES
	CASRN	Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SS-1 (2') 2 5/24/07 NOTE: DILN	SS-1 (12') 12 5/24/07	SS-2 (2') 2 NOTE: DILN	SS-2 (9') 9 5/24/07	SS-3 (2') 2 5/24/07	SS-3 (12') 12 5/24/07	SS-4 (2') 2 5/24/07 NOTE: DILN	SS-4 (15') 15 5/24/07 NOTE: DILN	SS-5 (1') 1 5/24/07 NOTE: DILN	SS-5 (14') 14 5/24/07	SS-55 (1') 14 blind dup of SS-5 (1')
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
acenaphthene	83-32-9	13,000	2,700	2,700	170,000	190,000	4,700	4700	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
acenaphthylene	208-96-8	13,000	2,500	2,500	170,000	190,000	6,900	6900	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
aniline	62-53-3	19	0.21	0.21	79	91	0.88	0.88	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
anthracene	120-12-7	66,000	350	350	190,000	190,000	350	350	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	2.2	<1.4	<1.0	<1.0	<0.1
benzoic acid	65-85-0	190000	15000	15,000	190000	190000	41000	41000	<5.0	<0.5	<5.0	<0.54	<0.5	<0.5	<6.5	<6.9	<5.0	<5.0	<0.5
benzo(a)anthracene	56-55-3	5.7	25	5.7	110	190,000	320	2-2'=110 2-15'=320	<1.0 <sup>GO4</sup>	<0.1 <sup>GO4</sup>	<1.0 <sup>GO4</sup>	<0.11 <sup>GO4</sup>	<0.1 <sup>GO4</sup>	<0.1 <sup>GO4</sup>	8.1 <sup>GO4</sup>	<1.4 <sup>GO4</sup>	<1.0 <sup>GO4</sup>	<1.0 <sup>GO4</sup>	<0.1 <sup>GO4</sup>
benzo(a)pyrene	50-32-8	0.57	46	0.57	11	190,000	46	2-2'=110 2-15'=46	<1.0	<0.1	1.4	<0.11	<0.1	<0.1	9.7	<1.4	<1.0	<1.0	<0.1
benzo(b)fluoranthene	205-99-2	5.7	40	5.7	110	190,000	170	2-2'=110	<1.0	<0.1	1.5	<0.11	<0.1	<0.1	13	<1.4	<1.0	<1.0	<0.1
benzo(g,h,i)perylene	191-24-2	13,000	180	180	170,000	190,000	180	180	<1.0	<0.1	1.6	<0.11	<0.1	<0.1	8	<1.4	<1.0	<1.0	<0.1
benzo(k)fluoranthene	207-08-9	57	610	57	1,100	190,000	610	610	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	4.4	<1.4	<1.0	<1.0	<0.1
benzyl alcohol	100-51-6	10000	1800	1,800	10000	10000	5100	5100	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
bis(2-chloroethoxy)methane	111-91-1	660	11	11	8400	10000	31	31	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
bis(2-chloroethyl)ether	111-44-4	1.3	0.015	0.015	6.7	7.7	0.076	0.076	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
bis(2-chloroisopropyl)ether	108-60-1	44	30	30	220	250	30	30	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
bis(2-ethylhexyl)phthalate	117-81-7	1300	130	130	5700	10000	130	130	<3.3	<0.33	<3.3	<0.36	<0.33	<0.33	<4.3	<4.6	<3.3	<3.3	<0.33
4-bromophenyl phenyl ether	101-55-3	100	0.5	0.5	100	100	0.5	0.5	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
butyl benzyl phthalate	85-68-7	9400	3000	3000	10000	10000	10000	10000	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
carbazole	86-74-8	900	21	21	4000	190000	83	83	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
4-chloroaniline	106-47-8	90	0.42	0.42	400	190000	1.6	1.6	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
4-chloro-3-methylphenol (p-chloro-m-cresol)	59-50-7	1100	37	37	14000	190000	110	110	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
2-chloronaphthalene	91-58-7	18000	6200	6200	190000	190000	18000	18000	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
2-chlorophenol	95-57-8	1100	4.4	4.4	10000	10000	4.4	4.4	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
4-chlorophenyl phenyl ether	7005-72-3	100	0.5	0.5	100	100	0.5	0.5	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
chrysene	218-01-9	570	230	230	11000	190000	230	230	<1.0	<0.1	2.9	<0.11	<0.1	<0.1	11	<1.4	<1.0	<1.0	<0.1
dibenzo(a,h)anthracene	53-70-3	0.57	13	0.57	11	190,000	160	2-2'=110 2-15'=160	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	1.8	<1.4	<1.0	<1.0	<0.1
dibenzofuran	132-64-9	220	95	95	2800	190000	260	260	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
1,2-dichlorobenzene	95-50-1	3800	60	60	10000	10000	60	60	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
1,3-dichlorobenzene	541-73-1	660	61	61	8400	10000	61	61	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
1,4-dichlorobenzene	106-46-7	40	10	10	200	230	10	10	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
3,3-dichlorobenzidine	91-94-1	40	8.3	8.3	180	190000	32	32	<5.0	<0.5	<5.0	<0.54	<0.5	<0.5	<6.5	<6.9	<5.0	<5.0	<0.5
2,4-dichlorophenol	120-83-2	660	2	2	8400	190000	2	2	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
diethyl phthalate	84-66-2	10000	2900	2,900	10000	10000	8200	8200	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
2,4-dimethylphenol	105-67-9	4400	73	73	10000	10000	200	200	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
dimethyl phthalate	131-11-3	100	0.5	0.5	100	100	0.5	0.5	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
di-N-butyl phthalate	84-74-2	10000	1500	1500	10000	10000	4100	4100	<3.3	<0.33	<3.3	<0.36	<0.33	<0.33	<4.3	<4.6	<3.3	<3.3	<0.33
4,6-dinitro-2-methylphenol (4,6-dinitro-o-cresol)	534-52-1	22	0.37	0.37	280	190000	1	1	<5.0	<0.5	<5.0	<0.54	<0.5	<0.5	<6.5	<6.9	<5.0	<5.0	<0.5
2,4-dinitrophenol	51-28-5	440	7.3	7.3	5600	190000	20	20	<5.0	<0.5	<5.0	<0.54	<0.5	<0.5	<6.5	<6.9	<5.0	<5.0	<0.5
2,4-dinitrotoluene	121-14-2	58	0.21	0.21	260	190000	0.84	0.84	<1.0	<0.1	<1.0	<0.11	0.53	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
2,6-dinitrotoluene	606-20-2	220	3.7	3.7	2800	190000	10	10	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
diphenylamine	122-39-4	5500	91	91	70000	190000	260	260	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
di-N-octyl phthalate	117-84-0	8800	10000	8,800	10000	10000	10000	10000	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
fluoranthene	206-44-0	8,800	3,200	3,200	110,000	190,000	3,200	3200	<1.0	<0.1	2.8	<0.11	<0.1	<0.1	20	<1.4	<1.0	<1.0	<0.1
fluorene	86-73-7	8,800	3,000	3,000	110,000	190,000	3,800	3800	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
hexachlorobenzene	118-74-1	11	0.96	0.96	50	190000	0.96	0.96	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
hexachlorobutadiene	87-68-3	220	10	10	1000	10000	39	39	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
hexachlorocyclopentadiene	77-47-4	1300	91	91	10000	10000	91	91	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
hexachloroethane	67-72-1	110	0.56	0.56	550	640	0.56	0.56	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
indeno(1,2,3-cd)pyrene	193-39-5	5.7	2,200	5.7	110	190,000	28,000	2-2'=110 2-15'=28000	<1.0	<0.1	1.2	<0.11	<0.1	<0.1	9.5	<1.4	<1.0	<1.0	<0.1
isophorone	78-59-1	10,000	10	10	10,000	10,000	10	10	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
2-methylnaphthalene	91-57-6	880	600	600	11000	190000	1600	1600	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
2-methylphenol (o-cresol)	95-48-7	11000	180	180	140000	190000	510	510	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
4-methylphenol (p-cresol)	106-44-5	1100	18	18	14000	190000	51	51	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
naphthalene	91-20-3	4,400	25	25	56,000	190,000	25	25	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<1.3	<1.4	<1.0	<1.0	<0.1
2-nitroaniline	88-74-4	660	11	11	8400	190000	31	31	<5.0	<0.5	<5.0	<0.54	<0.5	<0.5	<6.5	<6.9	<5.0	<5.0	<0.5
3-nitroaniline	99-09-2	66	1.1	1.1	840	190000	3.1	3.1	<5.0	<0.5	<5.0	<0.54	<0.5	<0.5	<6.5	<6.9	<5.0	<5.0	<0.5
4-nitroaniline	100-01-6	880	3.3	3.3	4000	190000	13	13	<5.0	<0.5	<5.0	<0.54	<0.5	<0.5	<6.5	<6.9	<5.0	<5.0	<0.5
nitrobenzene	98-95-3	440	7.3	7.3	5,600	10,000	20	20	<1.0	<0.1	<1.0	<0.11	<0.1	<0.1	<				





TABLE 2: Semi-Volatile Organic Compounds (SVOCs) in Soil  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL																												
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SB42-A 1-2 11/14/2008	SB42-B 14-15 11/14/2008	SB43-A 1-2 11/14/2008	SB43-B 14-15 11/14/2008	SB44-A 1-2 11/14/2008	SB44-B 14-15 11/14/2008	SB45-A 1-2 11/14/2008	SB45-B 11-12 11/14/2008	SB46-A 1-2 11/12/2008	SB46-B 11-12 11/12/2008	SB47-A 1-2 11/12/2008	SB47-B 12-13 11/12/2008	SB48-A 0.5-1.5 11/12/2008	SB48-B 8-9 11/12/2008	SB50-A 1-2 11/13/2008	SB50-B 11-12 11/13/2008	SB51-A 1-2 11/13/2008	SB51-B 13-14 11/13/2008	SB52 12-13 11/12/2008 Dup. of SB48-B	SB53 10-11 11/14/2008 Dup. of SB09	SB54 14-15 11/17/2008 Dup. of SB27-B				
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
acenaphthene	83-32-9	13,000	2,700	2,700	170,000	190,000	4,700	4700							0.22	0.33	0.55															0.33	
acenaphthylene	208-96-8	13,000	2,500	2,500	170,000	190,000	6,900	6900	0.83	0.58	0.072						0.052	0.055	0.052														
aniline	62-53-3	19	0.21	0.21	79	91	0.88	0.88																									
anthracene	120-12-7	66,000	350	350	190,000	190,000	350	350	1.1	0.87	0.15			0.12	0.23	0.76				0.24											1.3		
benzoic acid	65-85-0	190000	15000	15,000	190000	190000	41000	41000																									
benzo(a)anthracene	56-55-3	5.7	25	5.7	110	190,000	320	2-15=110 2-15=320	4.3	3.9	1.8	0.16	0.17	0.52	1	3.7	0.065	0.13	1.6	0.067	0.092			0.15	<0.17	<0.17	<0.17	0.099	4.3				
benzo(a)pyrene	50-32-8	0.57	46	0.57	11	190,000	46	2-15=46	3.6	3.5	2	0.29	0.16	0.42	1.9	3.1	0.068	0.11	1.3	0.038	0.07			0.13			<0.17	0.096	4	0.046			
benzo(b)fluoranthene	205-99-2	5.7	40	5.7	110	190,000	170	2-15=110	2.4	1.9	1.8	0.27	0.17	0.33	2	1.9	0.062	0.088	1.2	0.041	0.066			0.14			<0.17	0.11	4.2	0.045			
benzo(g,h,i)perylene	191-24-2	13,000	180	180	170,000	190,000	180	180	2.7	2	1.7	0.33	0.16	0.24	1.8	2.7	0.075	0.08	0.89			0.06		0.12			<0.17	0.1	2.8	0.042			
benzo(k)fluoranthene	207-08-9	57	610	57	1,100	190,000	610	610	3.5	2.8	2	0.27	0.14	0.42	2.7	2.6	0.057	0.087	1.1			0.066		0.11			<0.17	0.076	2.6	0.051			
benzyl alcohol	100-51-6	10000	1800	1,800	10000	10000	5100	5100																									
bis(2-chloroethoxy)methane	111-91-1	660	11	11	8400	10000	31	31																									
bis(2-chloroethyl)ether	111-44-4	1.3	0.015	0.015	6.7	7.7	0.076	0.076																									
bis(2-chloroisopropyl)ether	108-60-1	44	30	30	220	250	30	30																									
bis(2-ethylhexyl)phthalate	117-81-7	1300	130	130	5700	10000	130	130										0.036															
4-bromophenyl phenyl ether	101-55-3	100	0.5	0.5	100	100	0.5	0.5																									
butyl benzyl phthalate	85-68-7	9400	3000	3,000	10000	10000	10000	10000																									
carbazole	86-74-8	900	21	21	4000	190000	83	83	0.78	0.73							0.049														0.94		
4-chloroaniline	106-47-8	90	0.42	0.42	400	190000	1.6	1.6																									
4-chloro-3-methylphenol (p-chloro-m-cresol)	59-50-7	1100	37	37	14000	190000	110	110																									
2-chloronaphthalene	91-58-7	18000	6200	6,200	190000	190000	18000	18000																									
2-chlorophenol	95-57-8	1100	4.4	4.4	10000	10000	4.4	4.4																									
4-chlorophenyl phenyl ether	7005-72-3	100	0.5	0.5	100	100	0.5	0.5																									
chrysene	218-01-9	570	230	230	11000	190000	230	230	3.7	3.5	1.7	0.18	0.25	0.46	1.3	4.6	0.083	0.14	1.6	0.14	0.096			0.17	<0.17	<0.17	<0.17	0.14	4.6	0.043			
dibenzo(a,h)anthracene	53-70-3	0.57	13	0.57	11	190,000	160	2-15=110	1.7	1.2	0.59		0.07	0.14	0.95	1.3		0.041	0.36						0.059			<0.17	1.2				
dibenzofuran	132-64-9	220	95	95	2800	190000	260	260	0.13	0.1							0.05													0.12			
1,2-dichlorobenzene	95-50-1	3800	60	60	10000	10000	60	60																									
1,3-dichlorobenzene	541-73-1	660	61	61	8400	10000	61	61																									
1,4-dichlorobenzene	106-46-7	40	10	10	200	230	10	10																									
3,3-dichlorobenzidine	91-94-1	40	8.3	8.3	180	190000	32	32																									
2,4-dichlorophenol	120-83-2	660	2	2	8400	190000	2	2																									
diethyl phthalate	84-66-2	10000	2900	2,900	10000	10000	8200	8200																									
2,4-dimethylphenol	105-67-9	4400	73	73	10000	10000	200	200																									
dimethyl phthalate	131-11-3	100	0.5	0.5	100	100	0.5	0.5																									
di-N-butyl phthalate	84-74-2	10000	1500	1,500	10000	10000	4100	4100																	0.041								
4,6-dinitro-2-methylphenol (4,6-dinitro-o-cresol)	534-52-1	22	0.37	0.37	280	190000	1	1																									
2,4-dinitrophenol	51-28-5	440	7.3	7.3	5600	190000	20	20																									
2,4-dinitrotoluene	121-14-2	58	0.21	0.21	260	190000	0.84	0.84																									
2,6-dinitrotoluene	606-20-2	220	3.7	3.7	2800	190000	10	10																									
diphenylamine	122-39-4	5500	91	91	70000	190000	260	260																									
di-N-octyl phthalate	117-84-0	8800	10000	8,800	10000	10000	10000	10000																									
fluoranthene	206-44-0	8,800	3,200	3,200	110,000	190,000	3,200	3200	8.4	8.1	2.1	0.1	0.26	0.88		5.8	0.15	0.22	3.3	0.041	0.19			0.27	<0.17	<0.17	<0.17	0.14	11	0.049			
fluorene	86-73-7	8,800	3,000	3,000	110,000	190,000	3,800	3800	0.11	0.1					0.16	0.25	1														0.22		
hexachlorobenzene	118-74-1	11	0.96	0.96	50	190000	0.96	0.96																									
hexachlorobutadiene	87-68-3	220	10	10	1000	10000	39	39																									
hexachlorocyclopentadiene	77-47-4	1300	91	91	10000	10000	91	91																									
hexachloroethane	67-72-1	110	0.56	0.56	560	640	0.56	0.56																									

**TABLE 3: Inorganics in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				DISCRETE SOIL SAMPLES - Moonstone 2007											QA/QC SAMPLES		
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	RS-1 (1') 1 5/25/07	RS-2 (1') 1 5/25/07	SS-1 (2') 2 5/24/07	SS-1 (12') 12 5/24/07	SS-2 (2') 2 5/24/07	SS-2 (9') 9 5/24/07	SS-3 (2') 2 5/24/07	SS-3 (12') 12 5/24/07	SS-4 (2') 2 5/24/07	SS-4 (15') 15 5/24/07	SS-5 (1') 1 5/24/07		SS-5 (14') 14 5/24/07	SS-5 (1') blind dup of SS-5 (1')
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg
aluminum	7429-90-5	190,000	N/A	190,000	190,000	190,000	N/A	190,000														
antimony	7440-36-0	88	27	27	1,100	190,000	27	27	<5.0 <sup>G02</sup>	<5.0	7.3	<5.0	11	<6.7	<5.0	<5.0	7.9	30	<5.0	12	<5.0	
arsenic	7440-38-2	12	29	12	53	190,000	29	29	2.1 <sup>DILN</sup>	8.7 <sup>DILN</sup>	13 <sup>DILN</sup>	6.1 <sup>DILN</sup>	260 <sup>DILN</sup>	30 <sup>DILN</sup>	2.2 <sup>DILN</sup>	4.2 <sup>DILN</sup>	7.5 <sup>DILN</sup>	43 <sup>DILN</sup>	<1.2 <sup>DILN</sup>	4.1 <sup>DILN</sup>	<1.2 <sup>DILN</sup>	
barium	7440-39-3	44,000	8,200	8,200	190,000	190,000	8,200	8,200														
beryllium	7440-41-7	440	320	320	5,600	190,000	320	320	<0.20	1.8	0.93	0.31	0.88	0.89	4.2	1.9	0.58	0.47	4.4	2.7	5.1	
cadmium	7440-43-9	110	38	38	1,400	190,000	38	38	<1.0	39	<1.0	<1.0	4.3	<1.3	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	
calcium	7789-78-8	NL	NL	NL	NL	NL	NL	NL														
chromium III	16065-83-1	190,000	190,000	190,000	190,000	190,000	190,000	190,000	5.8	13	28	16	84	19	100	9.1	77	9.7	14	24	16	
chromium VI	18540-29-9	660	190	190	8,400	20,000	190	190	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	(total Cr)	
cobalt	7440-48-4	66	50	50	840	190,000	140	140														
copper	7440-50-8	8,100	43,000	8,100	100,000	190,000	43,000	43,000	13	23	39	11	280	18	9.4	20	120	200	<50 <sup>G13</sup>	6,000	<50 <sup>G13</sup>	
iron	7439-89-6	150,000	N/A	150,000	190,000	190,000	N/A	190,000														
lead	7439-92-1	500	450	450	1,000	190,000	450	450	11 <sup>G02</sup>	210	120	13	2,100	54	33	25	230	60	21	600	<5.0	
magnesium	7439-95-4	NL	NL	NL	NL	NL	NL	NL														
manganese	7439-96-5	10,000	2,000	2,000	130,000	190,000	2,000	2,000														
mercury	7439-97-6	35	10	10	450	190,000	10	10	<0.100	<0.100	<0.100	<0.100	0.425	0.154	<0.100	<0.100	0.209	<0.100	<0.100	<0.100	<0.100	
nickel	7440-02-0	4,400	650	650	56,000	190,000	650	650	6.5 <sup>G02</sup>	11	12	8.5	59	15	16	9.3	21	72	4.6	17	<2.5	
potassium	7440-09-7	NL	NL	NL	NL	NL	NL	NL														
selenium	7782-49-2	1,100	26	26	14,000	190,000	26	26	<12	<250 <sup>G13a</sup>	<250 <sup>G13a</sup>	<12	<250 <sup>G13a</sup>	<17	<12	<12	<250 <sup>G13a</sup>	<340 <sup>G13a</sup>	<12	<12	<12	
silver	7440-22-4	1,100	84	84	14,000	190,000	84	84	<2.5	<2.5	<2.5	<2.5	<2.5	<3.3	<2.5	<2.5	<2.5	<3.4	<2.5	<2.5	<2.5	
sodium	82115-62-6	NL	NL	NL	NL	NL	NL	NL														
thallium	7440-28-0	15	14	14	200	190,000	14	14	<0.10	<0.10	<0.10	<0.10	0.23	0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
vanadium	7440-62-2	1,500	26,000	1,500	20,000	190,000	72,000	2-15'=72,000														
zinc	7440-66-6	66,000	12,000	12,000	190,000	190,000	12,000	12,000	38 <sup>G02</sup>	6,500 <sup>DILN</sup>	190	35	870	67	170	110	280	62	65	40	<2.5	
cyanide (free)	57-12-5	4,400	200	200	56,000	190,000	200	200														
pH									8.04	11.2	---	---	---	---	---	---	---	---	---	---	---	

pH of RS-1(15') = 7.33 pH of RS-2(15') = 7.09

MSC Medium Specific Concentration  
< Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.

**BOLD** Bold values indicate compound was detected.  
**Highlight** Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.  
**Highlight** Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.  
**Highlight** Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefore the results are inconclusive.

<sup>DILN</sup> Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.  
<sup>G02</sup> The matrix QC recoveries associated with this sample were below the laboratory's established acceptance criteria.  
<sup>G13</sup> This sample was diluted due to the high concentration of the interfering element: Ca.  
<sup>G13a</sup> This sample was diluted due to the high concentration of the interfering element: Fe.  
R Unreliable result



**TABLE 3: Inorganics in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				DISCRETE SOIL SAMPLES - Tetra Tech 2008 (analytical data given for detections only)																					
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	FLSS-SS-01	FLSS-SS-02	FLSS-SS-03	FLSS-SS-04	SB01-A 7-8 11/17/2008	SB01-B 14-15 11/17/2008	SB02-A 11-12 11/17/2008	SB02-B 14-15 11/17/2008	SB03-A 12-13 11/17/2008	SB03-B 14-15 11/17/2008	SB04-A 5-6 11/17/2008	SB04-B 13-14 11/17/2008	SB05-A 5-6 11/17/2008	SB05-B 14-15 11/17/2008	SB06-A 4-5 11/17/2008	SB06-B 14-15 11/17/2008	SB07-A 4-5 11/17/2008	SB07-B 7-8 11/17/2008	SB08-A 9-10 11/17/2008	SB08-B 13-14 11/17/2008	SB09 10-11 11/14/2008 Dup. of SB53	
Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
aluminum	7429-90-5	190,000	N/A	190,000	190,000	190,000	N/A	190,000	9580	10100	16400	7460																		24200
antimony	7440-36-0	88	27	27	1,100	190,000	27	27	R	1.2	R	R																		R
arsenic	7440-38-2	12	29	12	53	190,000	29	29	4.5	5.6	12.2	16.1																		2.9
barium	7440-39-3	44,000	8,200	8200	190,000	190,000	8,200	8200	53.8	85.2	166	211																		268
beryllium	7440-41-7	440	320	320	5,600	190,000	320	320	0.74	0.87	2.3	0.62																		4.2
cadmium	7440-43-9	110	38	38	1,400	190,000	38	38	<0.5	0.45	0.42	0.82																		
calcium	7789-78-8	NL	NL	NL	NL	NL	NL	NL	4880	64600	77400	43300																		193000
chromium III	16065-83-1	190,000	190,000	190,000	190,000	190,000	190,000	190,000	14.5	72	118	70.8																		67.8
chromium VI	18540-29-9	660	190	190	8,400	20,000	190	190																						
cobalt	7440-48-4	66	50	50	840	190,000	140	140	12	5.4	6.2	4.6																		0.54
copper	7440-50-8	8,100	43,000	8100	100,000	190,000	43,000	43000	16.5	60.3	48.6	59.1																		25.5
iron	7439-89-6	150,000	N/A	150000	190,000	190,000	N/A	190000	24700	36200	35500	29600																		15200
lead	7439-92-1	500	450	450	1,000	190,000	450	450	11	282	135	436	38.7	31.1	101	106	65.7	31.5	34.9	227	79	22.5	394	42.6	136	511	4250	15.6	304	
magnesium	7439-95-4	NL	NL	NL	NL	NL	NL	NL	3280	15800	15700	8800																		38600
manganese	7439-96-5	10,000	2000	2000	130,000	190,000	2000	2000	1190	2500	5390	1700																		3860
mercury	7439-97-6	35	10	10	450	190,000	10	10	0.04	0.053	0.39	<0.1																		<0.1
nickel	7440-02-0	4,400	650	650	56,000	190,000	650	650	20.9	18.2	16.2	16.2																		7.9
potassium	7440-09-7	NL	NL	NL	NL	NL	NL	NL	952	903	1270	1020																		2350
selenium	7782-49-2	1,100	26	26	14,000	190,000	26	26	<3.5	<3.5	<3.5	<3.5																		<3.5
silver	7440-22-4	1,100	84	84	14,000	190,000	84	84	<1	0.86	0.47	<1																		0.52
sodium	82115-62-6	NL	NL	NL	NL	NL	NL	NL	157	624	438	323																		854
thallium	7440-28-0	15	14	14	200	190,000	14	14	<2.5	2.6	0.6	2.4																		<2.7
vanadium	7440-62-2	1,500	26,000	1500	20,000	190,000	72,000	2-15=72,000	17	88.6	137	70.8																		66.6
zinc	7440-66-6	66,000	12,000	12000	190,000	190,000	12,000	12000	66.6	172	92.3	574																		70.7
cyanide (free)	57-12-5	4,400	200	200	56,000	190,000	200	200	<2.5	1.4	2.3	5.3																		
pH									---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

MSC Medium Specific Concentration  
< Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.

**BOLD** Bold values indicate compound was detected.

**Highlight** Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.

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**Highlight** Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and the

DILN Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.

G02 The matrix QC recoveries associated with this sample were below the laboratory's established acceptance criteria.

G13 This sample was diluted due to the high concentration of the interfering element: Ca.

G13a This sample was diluted due to the high concentration of the interfering element: Fe.

R Unreliable result

**TABLE 3: Inorganics in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL																									
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SB10 14-15 11/14/2008	SB13-A 1-2 11/12/2008	SB13-B 14-15 11/12/2008	SB14-A 1-2 11/12/2008	SB14-B 14-15 11/12/2008	SB15-A 1.5-2.5 11/10/2008	SB15-B 14.5-15.5 11/10/2008	SB16-A 1.5-2.5 11/10/2008	SB16-B 10-11 11/10/2008	SB17-A 1-2 11/10/2008	SB17-B 14-15 11/10/2008	SB18-A 1-2 11/10/2008	SB18-B 7.5-8.5 11/10/2008	SB19-A 1-2 11/11/2008	SB19-B 9-10 11/11/2008	SB20-A 1-2 11/11/2008	SB20-B 14-15 11/11/2008	SB21-A 1-2 11/11/2008	SB21-B 14-15 11/11/2008	SB22-A 1-2 11/10/2008	SB22-B 10.5-11.5 11/10/2008	
Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
aluminum	7429-90-5	190,000	N/A	190,000	190,000	190,000	N/A	190,000	11,000	11,000	8,540	9,370	7,820	7,810	3,620	9,960	10,100	5,960	9,220	5,620	3,110	2,110	3,820	20,000	1,450	6,930	3,090	8,180	1,890	
antimony	7440-36-0	88	27	27	1,100	190,000	27	27	0.88	<6	1.7	0.74	1.6	<6	0.72	3.6	<6	<6	0.61	<6	2	<6	1.3	<6	7.6	<6	<6	3.8	3.5	
arsenic	7440-38-2	12	29	12	53	190,000	29	29	5.8	5.3	12.9	7.1	9.1	4.5	4.7	8.9	4.1	4.9	6.9	3.9	17.7	4	10.2	3.1	4.4	4	5.3	14.3	11.1	
barium	7440-39-3	44,000	8,200	8,200	190,000	190,000	8,200	8,200	44.3	80.2	378	103	263	74	22.3	140	136	45.3	141	9.6	26.4	220	126	194	31.6	53.3	45	146	14	
beryllium	7440-41-7	440	320	320	5,600	190,000	320	320	0.94	1.1	0.49	1	0.33	0.76	0.28	1.1	1.2	0.56	1.1	0.64	0.25	3.1	0.3	2.9	0.054	0.83	0.095	0.69	0.044	
cadmium	7440-43-9	110	38	38	1,400	190,000	38	38	0.74	1.1	11.8	1.8	22.1	0.22	2.7	1.5	0.7	0.17	1.4	<0.5	3	<0.5	0.78	<0.5	1.3	<0.5	1.4	62.9	2.6	
calcium	7789-78-8	NL	NL	NL	NL	NL	NL	NL	7,930	49,400	2,750	32,400	14,400	47,000	3,230	52,600	109,000	138,000	37,600	23,900	15,300	154,000	6,480	156,000	3,020	28,900	4,840	14,800	3,770	
chromium III	16065-83-1	190,000	190,000	190,000	190,000	190,000	190,000	190,000	22.1	14.1	25.4	13	95.4	4.3	123	11.6	12.9	8	95.6	5.9	16.8	3.6	19.3	2.6	18.5	3.8	34.9	21.6	15.5	
chromium VI	18540-29-9	660	190	190	8,400	20,000	190	190																						
cobalt	7440-48-4	66	50	50	840	190,000	140	140	9.9	<5	3.1	1.6	13.8	<5	<5	6.4	1.9	<5	11	<5	16.6	0.12	<5	<5	2.4	<5	<5	6.4	<5	
copper	7440-50-8	8,100	43,000	8,100	100,000	190,000	43,000	43,000	23.4	41.2	48.4	232	192	16.2	38.8	48.1	26.7	21.9	186	17.6	75.2	31.2	32.7	18.6	28.9	28.3	25.1	1240	12	
iron	7439-89-6	150,000	N/A	150,000	190,000	190,000	N/A	190,000	24,900	12,400	19,800	21,200	161,000	6,850	93,000	50,600	21,500	10,800	43,300	8,490	157,000	12,700	35,200	7,560	51,800	9,360	94,200	32,200	112,000	
lead	7439-92-1	500	450	450	1,000	190,000	450	450	13.9	665	116	192	332	28.5	8.9	91.3	82.8	92.4	23.3	21.4	66.2	99.9	83.1	33.8	51.4	9.3	7.5	670	54.6	
magnesium	7439-95-4	NL	NL	NL	NL	NL	NL	NL	3,620	19,700	1,680	12,600	5,140	23,600	1,350	18,700	26,000	38,200	11,200	11,000	6,230	15,400	1,690	14,700	320	15,600	1,070	3,850	517	
manganese	7439-96-5	10,000	2,000	2,000	130,000	190,000	2,000	2,000	784	516	98.2	525	2,860	510	934	926	774	423	843	356	620	1,430	27.6	1,490	75.1	464	1,080	350	541	
mercury	7439-97-6	35	10	10	450	190,000	10	10	<0.1	0.18	0.33	0.39	0.17	0.049	0.12	<0.1	0.58	0.1	0.13	0.056	0.046	0.086	0.16	<0.1	0.038	0.064	0.058	0.13	0.038	
nickel	7440-02-0	4,400	650	650	56,000	190,000	650	650	16.5	8.4	11.5	12.7	26.6	2.6	12.6	19	9.1	5	71.5	2.9	26.8	4.1	4.2	2.8	8.2	3.1	5.7	16.9	6.4	
potassium	7440-09-7	NL	NL	NL	NL	NL	NL	NL	843	1,560	859	1,840	973	1,300	751	1,520	1,890	870	975	780	586	3,350	4,520	3,630	1,520	1,180	253	867	115	
selenium	7782-49-2	1,100	26	26	14,000	190,000	26	26	1.1	1.1	5.6	1.6	8.2	0.32	5.3	1.5	0.85	<3.5	1.7	0.46	3.3	0.77	2.3	0.83	3.1	0.41	2	2	2.4	
silver	7440-22-4	1,100	84	84	14,000	190,000	84	84					0.33																0.2	
sodium	82115-62-6	NL	NL	NL	NL	NL	NL	NL	162	2,610	1,630	1,430	563	425	206	543	566	404	443	375	207	960	426	10,300	523	513	101	846	61	
thallium	7440-28-0	15	14	14	200	190,000	14	14	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	R	
vanadium	7440-62-2	1,500	26,000	1,500	20,000	190,000	72,000	72,000	23.7	23.9	28.8	34.7	537	18.8	222	120	39.7	181	53.6	28.9	140	10.5	14.6	8.7	122	19.4	516	28.7	243	
zinc	7440-66-6	66,000	12,000	12,000	190,000	190,000	12,000	12,000	39.5	553	1,010	1,330	2,140	419	1,560	428	780	253	3,210	56.7	28.4	424	123	114	84.5	143	52.4	13,500	15.9	
cyanide (free)	57-12-5	4,400	200	200	56,000	190,000	200	200																						
pH										9.2	6.8	8.8	7.9	8.3	6.4	8.8	8.4	8.4	7.6	8.4	8.3	8.2	3.7	8.5	4.1	10.3	7.1	7.6	5.8	

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DILN Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.  
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City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL																												
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Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
aluminum	7429-90-5	190,000	N/A	190,000	190,000	190,000	N/A	190,000	9850	6670	1570	1140	2960	8660	8220	2710	6480	3830	10400	11700	3830	10400	2530	9730	10800	14700	6510	8730	4880				
antimony	7440-36-0	88	27	27	1,100	190,000	27	27	0.75	R	0.84	1.2	1.6	0.71	R	0.82	R	1.4	R	R	3.6	1.1	0.63	1.1	0.75	0.97	3	0.98	10.4				
arsenic	7440-38-2	12	29	12	53	190,000	29	29	4.8	11.3	6.9	3.4	4.5	3.9	5.5	11.6	3.5	5.3	3.3	1.6	10.9	4.2	7.8	6.4	5.1	5.6	19.2	9.2	24.7				
barium	7440-39-3	44,000	8,200	8200	190,000	190,000	8,200	8200	295	69.5	27.6	14.6	100	46.7	65.9	26.1	48.7	27.7	106	101	60.8	39.8	26.7	26.7	70.4	50.6	117	33.1	246				
beryllium	7440-41-7	440	320	320	5,600	190,000	320	320	0.97	0.85	0.3	0.15	0.045	0.5	0.77	0.16	0.87	<0.5	1.4	1.5	0.4	0.48	0.16	0.39	0.97	0.83	0.23	0.84	0.56				
cadmium	7440-43-9	110	38	38	1,400	190,000	38	38	0.19	2.1	4.8	2.4	7.6	0.52	1.6	5	<0.5	3.6	0.16		2.5		3.1	0.6	0.2	0.26	6.6	0.87	7.8				
calcium	7789-78-8	NL	NL	NL	NL	NL	NL	NL	4910	18400	4910	4690	6640	2890	30500	2260	26500	11900	91300	56900	6810	974	8140	1050	5660	1560	62400	961	20800				
chromium III	16065-83-1	190,000	190,000	190,000	190,000	190,000	190,000	190,000	12.4	9.1	25.3	33.4	59	16.7	39	48.6	19.9	34.5	8	3.5	43.1	11.6	29.5	12.7	15.7	17.3	305	16.7	28.7				
chromium VI	18540-29-9	660	190	190	8,400	20,000	190	190																									
cobalt	7440-48-4	66	50	50	840	190,000	140	140	5.7	11.9	1.5	8.7	10.2	8.5	4.9	8.4	<5	0.81	2	<5	9.1	11.3	3.5	11.5	10.9	11	10.6	13.6	11.9				
copper	7440-50-8	8,100	43,000	8100	100,000	190,000	43,000	43000	27.9	88.8	150	68.3	192	12	23.1	46.9	14.7	36.1	19.1	6.9	248	13.4	43.9	15.6	37.5	22.6	154	20.6	294				
iron	7439-89-6	150,000	N/A	150,000	190,000	190,000	N/A	190,000	17900	32800	76800	47400	120000	17000	18300	151000	7170	429000	18100	17000	5810	41000	20400	67900	21400	21300	103000	25600	80200				
lead	7439-92-1	500	450	450	1,000	190,000	450	450	51.2	149	161	32.7	121	16.5	173	8.9	14.5	13.9	40.1	6.2	141	11	36.8	11.5	106	18.4	360	13.8	714				
magnesium	7439-95-4	NL	NL	NL	NL	NL	NL	NL	3400	9880	1180	2090	3820	1620	9770	2330	15100	5150	21000	28400	2680	1990	1640	1740	4990	2650	7910	2230	9220				
manganese	7439-96-5	10,000	2000	2000	130,000	190,000	2000	2000	368	828	969	414	1780	1150	1650	1050	439	1370	545	453	519	1120	946	506	478	626	8700	842	725				
mercury	7439-97-6	35	10	10	450	190,000	10	10	0.057	0.074	0.17	<0.1	0.28	0.49	<0.1	0.088	<0.1	<0.1	<0.1	<0.1	0.17	0.05	0.18	0.11	0.061	0.056	0.31	<0.1	0.4				
nickel	7440-02-0	4,400	650	650	56,000	190,000	650	650	14	20.8	10.4	38.1	20.2	12.7	17.3	20.4	3.2	11.1	7	2.4	45.8	14	12.3	12.8	17.8	17.1	51	22.4	259				
potassium	7440-09-7	NL	NL	NL	NL	NL	NL	NL	1270	1620	193	175	416	504	692	346	1120	543	2430	2640	438	615	202	579	1240	1240	469	1000	674				
selenium	7782-49-2	1,100	26	26	14,000	190,000	26	26	1.1	1.5	3.9	3.2	6.1	0.47	<3.5	5.9	<3.5	2.9	1.3	0.9	3.2	0.69	3.8	1.4	0.9	1.3	<3.5	1.7	4.8				
silver	7440-22-4	1,100	84	84	14,000	190,000	84	84		0.75											0.24						0.91	0.55					
sodium	82115-62-6	NL	NL	NL	NL	NL	NL	NL	208	284	165	146	263	260	307	211	443	175	325	368	206	93.3	108	256	148	70.2	353	417	472				
thallium	7440-28-0	15	14	14	200	190,000	14	14	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	R	R	R	R	<2.5	<2.5	<2.5	<2.6	<2.5	<2.5	<2.9	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
vanadium	7440-62-2	1,500	26,000	1500	20,000	190,000	72,000	2-15=72,000	20.8	44.2	89.3	48.3	237	24.6	57.2	195	20.8	489	19.1	10.8	29	16.7	186	19.7	25.1	29.9	351	24.9	39.8				
zinc	7440-66-6	66,000	12,000	12000	190,000	190,000	12,000	12000	171	659	353	57.1	431	45.7	336	26	93.8	7.6	102	23.8	294	61.8	70.8	38.5	402	142	324	43.2	1020				
cyanide (free)	57-12-5	4,400	200	200	56,000	190,000	200	200																									
pH																																	

MSC Medium Specific Concentration  
< Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
**BOLD** Bold values indicate compound was detected.  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and the

DILN Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.  
 G02 The matrix QC recoveries associated with this sample were below the laboratory's established acceptance criteria.  
 G13 This sample was diluted due to the high concentration of the interfering element: Ca.  
 G13a This sample was diluted due to the high concentration of the interfering element: Fe.  
 R Unreliable result

**TABLE 3: Inorganics in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL																																
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SB37-B 14-15 11/14/2008	SB38-A 1-2 11/12/2008	SB38-B 14-15 11/12/2008	SB39-A 1-2 11/14/2008	SB39-B 13-14 11/14/2008	SB40-A 1-2 11/14/2008	SB40-B 6-7 11/14/2008	SB41-A 1-2 11/14/2008	SB41-B 14-15 11/14/2008	SB42-A 1-2 11/14/2008	SB42-B 14-15 11/14/2008	SB43-A 1-2 11/14/2008	SB43-B 14-15 11/14/2008	SB44-A 1-2 11/14/2008	SB44-B 14-15 11/14/2008	SB45-A 1-2 11/14/2008	SB45-B 11-12 11/14/2008	SB46-A 1-2 11/12/2008	SB46-B 11-12 11/12/2008	SB47-A 1-2 11/12/2008	SB47-B 12-13 11/12/2008								
Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
aluminum	7429-90-5	190,000	N/A	190,000	190,000	190,000	N/A	190,000	9080	3410	2580	6380	3290	4110	4530	4190	9380	5980	6310	2040	1690	7440	3500	15100	6470	7990	3390	5960	6240								
antimony	7440-36-0	88	27	27	1,100	190,000	27	27	0.93	1.4	3.1	2	1.1	R	R	4.4	0.87	R	R	2.7	1.9	1.1	1.5	0.79	1.9	R	0.95	R	1.5								
arsenic	7440-38-2	12	29	12	53	190,000	29	29	3.7	9.5	9.2	29.4	8.9	1.9	1.5	12	5.7	2.3	2.3	5.4	3.3	11.2	5.6	6.3	36.9	12.5	5.1	6.2	19.8								
barium	7440-39-3	44,000	8,200	8,200	190,000	190,000	8,200	8,200	83.6	147	47.3	146	31.3	27.7	26.7	34.7	28.8	47.2	52.7	17.8	14.3	118	38	51.5	171	86.9	48.2	77.6	61.2								
beryllium	7440-41-7	440	320	320	5,600	190,000	320	320	0.88	0.27	0.18	0.63	0.23	0.24	0.23	0.092	0.43	0.47	0.49			0.77	0.23	0.55	0.54	1.2	0.31	0.84	0.47								
cadmium	7440-43-9	110	38	38	1,400	190,000	38	38	0.23	2.9	1.1	4.7	3.2			0.8	0.17			15.2	2.6	2.6	11.8	11.3	10.5	18	1.8	1	2.8	1.3							
calcium	7789-78-8	NL	NL	NL	NL	NL	NL	NL	1540	12900	7050	7050	6440	24200	15300	3970	636	31900	30500	1040	1110	33300	1670	3350	18500	75600	20400	41200	2840								
chromium III	16065-83-1	190,000	190,000	190,000	190,000	190,000	190,000	190,000	9.6	38	12.1	19.7	41	7	1.9	19.5	11.8		5	5.4	51.8	61	21.3	14.3	16.1	35.1	17.4	9.7	11.8	15							
chromium VI	18540-29-9	660	190	190	8,400	20,000	190	190																													
cobalt	7440-48-4	66	50	50	840	190,000	140	140	8.1	7.9	4	8.3	13.3	<5	<5	5.1	8.6	<5	<5	9.2	8.9	3.3	7.3	6.5	10.4	3.6	5	1.1	8.5								
copper	7440-50-8	8,100	43,000	8,100	100,000	190,000	43,000	43,000	10.2	103	38.9	70.5	58.4	16.7	4.9	64.8	13.4	21.2	32	37.2	31.1	160	41.5	22.4	263	220	110	107	53.3								
iron	7439-89-6	150,000	N/A	150,000	190,000	190,000	N/A	190,000	13900	56200	38300	31500	66500	2380	1600	35300	22700	4980	4110	95900	101000	43200	22700	41700	24400	125000	25800	25200	16500	38800							
lead	7439-92-1	500	450	450	1,000	190,000	450	450	10.4	292	43.6	816	44.6	28.9	3.2	244	11.3	34.3	110	278	27.9	2020	122	41.7	2210	365	43.3	293	36.9								
magnesium	7439-95-4	NL	NL	NL	NL	NL	NL	NL	1580	1690	2110	1850	2350	9060	8580	1850	2350	13100	16200	2130	2490	10200	744	3000	5930	18500	6410	12200	925								
manganese	7439-96-5	10,000	2,000	2,000	130,000	190,000	2,000	2,000	213	591	574	606	782	385	261	612	620	277	1000	922	593	275	338	1060	496	254	402	868									
mercury	7439-97-6	35	10	10	450	190,000	10	10	<0.1	0.36	<0.1	0.18	<0.1	0.052	<0.1	0.043	0.068	<0.1	<0.1	<0.1	<0.1	0.89	0.15	0.035	0.19	0.1	0.081	0.15	<0.1								
nickel	7440-02-0	4,400	650	650	56,000	190,000	650	650	15.4	20.2	13.9	18.1	49.2	1.1	0.91	13.9	16.2	2.6	3.1	36.9	53.8	21.4	16.7	14.4	43.3	18.5	10.7	9.3	17.9								
potassium	7440-09-7	NL	NL	NL	NL	NL	NL	NL	542	344	432	955	413	637	761	449	607	951	930	217	154	1190	305	858	796	969	607	1110	1120								
selenium	7782-49-2	1,100	26	26	14,000	190,000	26	26	4.8	3.4	1.8	4.7	3.9	<3.5	<3.5	1.6	0.82	0.34	0.32	4.5	4.5	1.9	3.1	1.6	4.1	1.2	1.8	1.4	2.7								
silver	7440-22-4	1,100	84	84	14,000	190,000	84	84																													
sodium	82115-62-6	NL	NL	NL	NL	NL	NL	NL	137	232	190	353	61	276	370	336	192	306	438	79.2	71.1	387	173	188	2900	369	172	541	475								
thallium	7440-28-0	15	14	14	200	190,000	14	14	<2.5	R	R	<2.5	<2.5	0.59	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	R	R	R	R								
vanadium	7440-62-2	1,500	26,000	1500	20,000	190,000	72,000	2-15=72,000	13.3	108	106	25.8	189	12.6	8.9	67.3	19.5	14.6	12.1	261	355	26.2	55.8	26.3	63	30.2	22	23.9	53.2								
zinc	7440-66-6	66,000	12,000	12,000	190,000	190,000	12,000	12,000	57.6	246	35.7	1330	56.9	144	5.3	242	44.5	86.1	2270	92.7	54.1	2960	1790	2060	49300	581	93.6	1430	47.7								
cyanide (free)	57-12-5	4,400	200	200	56,000	190,000	200	200																													
pH																																					

MSC Medium Specific Concentration  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
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DILN Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.  
 G02 The matrix QC recoveries associated with this sample were below the laboratory's established acceptance criteria.  
 G13 This sample was diluted due to the high concentration of the interfering element: Ca.  
 G13a This sample was diluted due to the high concentration of the interfering element: Fe.  
 R Unreliable result

**TABLE 3: Inorganics in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes:	PADEP RESIDENTIAL MSCs FOR SOIL				PADEP NON-RESIDENTIAL MSCs FOR SOIL														
	CASRN	Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	SB48-A 0.5-1.5 11/12/2008	SB48-B 8-9 11/12/2008	SB49-A 1-2 11/12/2008	SB49-B 12-13 11/12/2008 Dup. of SB52	SB50-A 1-2 11/13/2008	SB50-B 11-12 11/13/2008	SB51-A 1-2 11/13/2008	SB51-B 13-14 11/13/2008	SB52 12-13 11/12/2008 Dup. of SB49-B	SB53 10-11 11/14/2008 Dup. of SB09	SB54 14-15 11/17/2008 Dup. of SB27-B
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
aluminum	7429-90-5	190,000	N/A	190,000	190,000	190,000	N/A	190,000	9940	9440	7290	10100	5780	6680	1330	9940	7410	26400	5730
antimony	7440-36-0	88	27	27	1,100	190,000	27	27	R	R	R	0.77	1.5	1.3	R	R	0.91	R	R
arsenic	7440-38-2	12	29	12	53	190,000	29	29	3.8	5.6	4.6	7.1	12.4	14.2	7.1	2.8	9.1	2.3	13.6
barium	7440-39-3	44,000	8,200	8,200	190,000	190,000	8,200	8,200	94.2	153	45	44.7	150	476	21.4	47.1	54.4	286	76
beryllium	7440-41-7	440	320	320	5,600	190,000	320	320	1.1	1.3	0.73	1.2	0.56	0.49	0.23	0.7	0.96	4.2	0.46
cadmium	7440-43-9	110	38	38	1,400	190,000	38	38	<0.5	0.12	<0.5	0.65	3	6.2	1.8	0.14	1.1		1.5
calcium	7789-78-8	NL	NL	NL	NL	NL	NL	NL	38300	37800	30700	1130	14100	17600	11400	836	1180	189000	9110
chromium III	16065-83-1	190,000	190,000	190,000	190,000	190,000	190,000	190,000	5.2	7.2	8.1	8.8	21.9	25.4	22.8	11.5	16.6	64.5	7.4
chromium VI	18540-29-9	660	190	190	8,400	20,000	190	190											
cobalt	7440-48-4	66	50	50	840	190,000	140	140	<5	<5	<5	3.9	6.2	11.3	<5	9.6	3.7	<5	4.3
copper	7440-50-8	8,100	43,000	8,100	100,000	190,000	43,000	43,000	31.1	11.7	12.3	57.6	114	238	42.8	8.5	53.2	14.5	74
iron	7439-89-6	150,000	N/A	150,000	190,000	190,000	N/A	190,000	4430	10500	10000	18600	41700	52000	54800	15500	28600	12800	42700
lead	7439-92-1	500	450	450	1,000	190,000	450	450	38.5	13.6	18.6	29.9	410	6420	74.6	9.3	38	91.1	231
magnesium	7439-95-4	NL	NL	NL	NL	NL	NL	NL	23200	22800	13700	1100	4480	3060	2680	1620	1230	36100	4420
manganese	7439-96-5	10,000	2000	2000	130,000	190,000	2000	2000	546	582	469	224	424	481	1110	1090	362	4400	906
mercury	7439-97-6	35	10	10	450	190,000	10	10	<0.1	0.76	<0.1	0.24	0.27	0.082	<0.1	<0.1	0.19	0.1	0.11
nickel	7440-02-0	4,400	650	650	56,000	190,000	650	650	1.8	2.1	3.1	13.4	22.5	29.5	6.8	13.1	22.4	4.2	10
potassium	7440-09-7	NL	NL	NL	NL	NL	NL	NL	1510	2190	857	509	807	1350	163	494	857	551	3070
selenium	7782-49-2	1,100	26	26	14,000	190,000	26	26	0.48	1.4	0.29	6.2	2.9	3.9	1.9	0.57	7.7	<3.5	2.4
silver	7440-22-4	1,100	84	84	14,000	190,000	84	84						4.9				0.52	1.4
sodium	82115-62-6	NL	NL	NL	NL	NL	NL	NL	547	470	387	191	1290	732	88.9	131	185	1040	539
thallium	7440-28-0	15	14	14	200	190,000	14	14	R	R	R	R	R	R	R	R	R	<2.8	<2.5
vanadium	7440-62-2	1,500	26,000	1,500	20,000	190,000	72,000	2-15=72,000	24.5	26.2	40.9	19	62.9	38.4	93.9	14	68	94.9	31.1
zinc	7440-66-6	66,000	12,000	12,000	190,000	190,000	12,000	12,000	289	239	169	843	611	751	129	48.6	823	33.7	657
cyanide (free)	57-12-5	4,400	200	200	56,000	190,000	200	200											
pH									---	---	---	---	---	---	---	---	---	---	---

MSC Medium Specific Concentration  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
**BOLD** Bold values indicate compound was detected.  
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 DILN Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.  
 G02 The matrix QC recoveries associated with this sample were below the laboratory's established acceptance criteria.  
 G13 This sample was diluted due to the high concentration of the interfering element: Ca.  
 G13a This sample was diluted due to the high concentration of the interfering element: Fe.  
 R Unreliable result



**TABLE 4: Petroleum Compounds in Soil**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Sample Depth (ft): Sample Date: Notes: Units:	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				DISCRETE SOIL SAMPLES - Moonstone 2007							
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	UST-F1 (6') 6 5/24/07	UST-F2 (5') 5 5/24/07	UST-G (8') 8 5/24/07	UST-N (3') 3 5/24/07	UST-K (6') 6 5/24/07	UST-D (7') 7 5/25/07	AST-D (1') 1 5/24/07	AST-M (2') 2 5/24/07
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
anthracene	120-12-7	66,000	350	<b>350</b>	190,000	190,000	350	<b>350</b>	<0.100	<0.140	---	<0.100	---	---	---	---
<b>benzene</b>	71-43-2	57	0.5	<b>0.5</b>	290	330	0.5	<b>0.5</b>	<0.150	<0.210	<b>1.1</b>	<0.150	<0.150	<0.150	<0.150	<0.150
benzo(a)anthracene	56-55-3	5.7	25	<b>5.7</b>	110	190,000	320	<b>0-2'=110 2-15'=320</b>	<0.100 <sup>G04</sup>	<0.140 <sup>G02, G04</sup>	---	<0.100 <sup>G04</sup>	---	---	---	<b>0.140<sup>G04</sup></b>
benzo(a)pyrene	50-32-8	0.57	46	<b>0.57</b>	11	190,000	46	<b>0-2'=11 2-15'=46</b>	<0.100	<0.140	---	<0.100	---	---	---	<b>0.18</b>
benzo(b)fluoranthene	205-99-2	5.7	40	<b>5.7</b>	110	190,000	170	<b>0-2'=110 2-15'=170</b>	<0.100	<0.140 <sup>RPD</sup>	---	<0.100	---	---	---	<b>0.25</b>
benzo(g,h,i)perylene	191-24-2	13,000	180	<b>180</b>	170,000	190,000	180	<b>180</b>	<0.100	<0.140	---	<0.100	---	---	---	<b>0.12</b>
chrysene	218-01-9	570	230	<b>230</b>	11000	190000	230	<b>230</b>	<0.100	<0.140	---	<0.100	---	---	---	<b>0.19</b>
1,2 dibromoethane (EDB)	106-93-4	0.74	0.005	<b>0.005</b>	3.7	4.3	0.005	<b>0.005</b>	---	---	<0.100	<0.100	---	---	---	---
1,2 dichloroethane (EDC)	107-06-2	17	0.5	<b>0.5</b>	86	98	0.5	<b>0.5</b>	---	---	<0.100	<0.100	---	---	---	---
ethylbenzene	100-41-4	10,000	70	<b>70</b>	10,000	10,000	70	<b>70</b>	<0.100	<0.140	<b>0.2<sup>C</sup></b>	<0.100	<0.100	<0.100	<0.100	<0.100
indeno (1,2,3-cd)pyrene	193-39-5	5.7	2,200	<b>5.7</b>	110	190,000	28,000	<b>0-2'=110 2-15'=28000</b>	---	---	---	<0.100	---	---	---	<b>0.14</b>
isopropylbenzene (cumene)	98-82-8	7700	600	<b>600</b>	10000	10000	2500	<b>2,500</b>	<0.100 <sup>10</sup>	<0.140 <sup>10</sup>	<0.100 <sup>10</sup>	<0.100 <sup>10</sup>	<0.100 <sup>10</sup>	<0.100 <sup>10</sup>	<0.100 <sup>10</sup>	<0.100 <sup>10</sup>
fluorene	86-73-7	8,800	3,000	<b>3,000</b>	110,000	190,000	3,800	<b>3800</b>	<0.100	<0.140	---	<0.100	<0.100	<0.100	<1.0	---
methyl tert-butyl ether (MTBE)	1634-04-4	620	2	<b>2</b>	3,200	3,700	2	<b>2</b>	---	---	<0.100	<0.100	---	---	---	---
naphthalene	91-20-3	4,400	25	<b>25</b>	56,000	190,000	25	<b>25</b>	<0.100	<0.140	<0.25	<0.25	<0.100	<0.100	<1.0	<0.100
phenanthrene	85-01-8	66,000	10,000	<b>10,000</b>	190,000	190,000	10,000	<b>10000</b>	<0.100	<0.140	---	<0.100	<0.100	<0.100	<1.0	---
pyrene	129-00-0	6,600	2,200	<b>2,200</b>	84,000	190,000	2,200	<b>2200</b>	<0.100	<0.140	---	<0.100	---	---	---	<b>0.27</b>
toluene	108-88-3	10,000	100	<b>100</b>	10,000	10,000	100	<b>100</b>	<0.100	<0.140	<b>0.36</b>	<0.100	<0.100	<0.100	<0.100	<0.100
xylene (total)	1330-20-7	1,900	1,000	<b>1,000</b>	8,000	9,100	1,000	<b>1,000</b>	---	---	<b>1.4</b>	<0.300	---	---	---	---
lead	7439-92-1	500	450	<b>450</b>	1,000	190,000	450	<b>450</b>	---	---	<b>42</b>	<5.0	---	---	---	<b>130</b>

- MSC Medium Specific Concentration
- < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.
- BOLD** Bold values indicate compound was detected.
- Highlight** Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.
- Highlight** Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.
- Highlight** Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefore the results are inconclusive.
- DILN Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.
- <sup>10</sup> This compound was below the method control limits in the Check Standard associated with this sample.
- <sup>C</sup> The concentration of this compound is above the reporting limit but below the calibration curve.
- <sup>G04</sup> The laboratory control spike recoveries associated with this sample were below the laboratory's established acceptance criteria.
- <sup>G02</sup> The matrix QC recoveries associated with this sample were below the laboratory's established acceptance criteria.
- <sup>O5</sup> One or more surrogate recoveries were above the laboratory's established acceptance criteria.
- <sup>RPD</sup> The Relative Percent Difference was above the acceptance limit of 20%.

**TABLE 5: Pesticides in Soil**  
 Former Lehigh Structural Steel Site  
 City of Allentown, Lehigh County, PA

	CASRN	PADEP RESIDENTIAL MSCs FOR SOIL			PADEP NON-RESIDENTIAL MSCs FOR SOIL				DISCRETE SOIL SAMPLES - Tetra Tech 2008 (analytical data given for detections only)			
		Direct Contact (0-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	Direct Contact (0-2')	Direct Contact (2-15')	Soil to GW (TDS<2500, used aquifer)	Statewide Health Standard	FLSS-SS-01	FLSS-SS-02	FLSS-SS-03	FLSS-SS-04
Sample ID: Sample Depth (ft): Sample Date: Notes:									7/8/2008	7/8/2008	7/8/2008	7/8/2008
Units:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
DDD, 4, 4-	72-54-8	75	31	<b>31</b>	330	190000	120	<b>120</b>		<b>0.00055</b>	<b>0.00028</b>	
DDE, 4, 4-	72-55-9	53	41	<b>41</b>	230	190000	170	<b>170</b>			<b>0.00011</b>	<b>0.00098</b>
DDT, 4, 4-	50-29-3	53	110	<b>53</b>	230	190000	330	<b>0-2'=230 2-15'=330</b>			<b>0.0022</b>	<b>0.0034</b>
Aldrin	309-00-2	1.1	0.47	<b>0.47</b>	4.7	190000	1.8	<b>1.8</b>				
BHC, alpha	319-84-6	2.8	0.046	<b>0.046</b>	13	190000	0.19	<b>0.19</b>				
endosulfan 1 (alpha)	959-98-8	1300	110	<b>110</b>	17000	190000	260	<b>260</b>				
BHC, beta	319-85-7	9.9	0.22	<b>0.22</b>	44	190000	0.82	<b>0.82</b>		<b>0.0003</b>	<b>0.000084</b>	<b>0.00025</b>
endosulfan 2 (beta)	33213-65-9	1300	130	<b>130</b>	17000	190000	260	<b>260</b>		<b>0.00031</b>	<b>0.00046</b>	<b>0.00032</b>
Chlordane	57-74-9	51	49	<b>49</b>	230	190000	49	<b>49</b>				
BHC, delta	319-86-8	130	11	<b>11</b>	1700	190000	30	<b>30</b>				
Dieldrin	60-57-1	1.1	0.11	<b>0.11</b>	5	190000	0.44	<b>0.44</b>				
Endosulfan Sulfate	1031-07-8	1300	70	<b>70</b>	17000	190000	70	<b>70</b>				<b>0.00021</b>
Endrin	72-20-8	66	5.5	<b>5.5</b>	840	190000	5.5	<b>5.5</b>			<b>0.0002</b>	<b>0.0004</b>
endrin aldehyde	7421-93-4	NL	NL	<b>NL</b>	NL	NL	NL	<b>NL</b>				
Ethion	563-12-2	110	39	<b>39</b>	1400	10000	110	<b>110</b>				
BHC, gamma (Lindane)	58-89-9	16	0.072	<b>0.072</b>	72	190000	0.072	<b>0.072</b>				
Heptachlor	76-44-8	4	0.68	<b>0.68</b>	18	190000	0.68	<b>0.68</b>			<b>0.00015</b>	<b>0.00033</b>
Heptachlor epoxide	1024-57-3	2	1.1	<b>1.1</b>	8.7	190000	1.1	<b>1.1</b>		<b>0.00026</b>	<b>0.00028</b>	<b>0.00016</b>
Methoxychlor	72-43-5	1100	630	<b>630</b>	14000	190000	630	<b>630</b>		<b>0.00057</b>	<b>0.00046</b>	<b>0.00054</b>
Toxaphene	8001-35-2	16	1.2	<b>1.2</b>	72	190000	1.2	<b>1.2</b>				

- MSC Medium Specific Concentration
- < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.
- BOLD** Bold values indicate compound was detected.
- Highlight** Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.
- Highlight** Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.
- Highlight** Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefor the results are inconclusive.

**TABLE 6: Volatile Organic Compounds (VOCs) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)		GROUNDWATER GRAB SAMPLES - Moonstone 2007/temporary points					QA/QC SAMPLES			GROUNDWATER GRAB SAMPLES - Tetra Tech 2008 (analytical data given for detections only)					GROUNDWATER GRAB SAMPLES - Moonstone 2013		
		Residential	Non-Residential	MW-1	MW-2	MW-3	MW-4	MW-5	MW-22 blind dup. of MW-2	RINSE BLANK	TRIP BLANK	FLSS-GW-01A	FLSS-GW-01B	MW-1	FLSS-GW-02A	FLSS-GW-02B	MW-2		
Sample ID: Well Depth (ft): TOC Elevation (ft above MSL): Sample Date: Depth to Groundwater (ft): Groundwater Elevation (ft above MSL):				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Notes: Units:		µg/L	µg/L	NOTE: DILN ug/L	ug/L	ug/L	NOTE: HCl ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
acetone	67-64-1	33,000	92,000	<250	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
benzene	71-43-2	5	5	5 <sup>c</sup>	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
bromodichloromethane	75-27-4	80	80	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
bromoform (tribromomethane)	75-25-2	80	80	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
bromomethane	74-83-9	10	10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
2-butanone (MEK)	78-93-3	4000	4000	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
carbon disulfide	75-15-0	1,500	6,200	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
carbon tetrachloride	56-23-5	5	5	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
chlorobenzene	108-90-7	100	100	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
chlorodibromomethane	124-48-1	80	80	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
chloroethane	75-00-3	230	900	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
chloroform	67-66-3	80	80	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
chloromethane (methyl chloride)	74-87-3	NL	NL	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
cyclohexane	110-82-7	13000	53000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
1,1-dichloroethane	75-34-3	31	160	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
1,2-dichloroethane (EDC)	107-06-2	5	5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-dichloroethene	75-35-4	7	7	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
cis 1,2-dichloroethene	156-59-2	70	70	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
trans 1,2-dichloroethene	156-60-5	100	100	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
1,2-dichloropropane	78-87-5	5	5	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
cis 1,3-dichloropropene	542-75-6	6.6	26	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
trans 1,3-dichloropropene	542-75-6	(total 1,3-dichloropropene)	(total 1,3-dichloropropene)	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
cumene (isopropyl benzene)	98-82-8	840	3500	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Dichlorodifluoromethane	75-71-8	1000	1000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
ethylbenzene	100-41-4	700	700	1,300	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Freon TF	76-13-1	63000	170000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	11	44	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Methyl acetate	79-20-9	37000	100000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
methylene chloride (dichloromethane)	75-09-2	5	5	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	2900	8200	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
methyl tert-butyl ether (MTBE)	1634-04-4	20	20	13 <sup>c</sup>	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
methylcyclohexane	108-87-2	NL	NL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
styrene	100-42-5	100	100	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
1,1,2,2-tetrachloroethane	79-34-5	0.3	0.3	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
tetrachloroethene (PCE)	127-18-4	5	5	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
toluene	108-88-3	1,000	1,000	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
1,1,1-trichloroethane	71-55-6	200	200	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
1,1,2-trichloroethane	79-00-5	5	5	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
trichloroethene (TCE)	79-01-6	5	5	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
trichlorofluoromethane (Freon 11)	75-69-4	2000	2000	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
vinyl chloride	75-01-4	2	2	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
p,m-xylenes	1330-20-7	10,000	10,000	5,400	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	
o-xylenes	Total Xylenes	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	(total xylenes)	
1,2-Dibromo-3-Chloropropane	96-12-8	0.2	0.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
1,2-dibromoethane (ethylene dibromide) (EDB)	106-93-4	0.05	0.05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

MSL Mean Sea Level  
 MSC Medium Specific Concentration  
**BOLD** Bold values indicate compound was detected.  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefore the results are inconclusive.

DILN Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.  
 11 This compound was above the method control limits in the Check Standard associated with this sample.  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
 HCl The sample was received with the proper HCl preservative, however the pH is still above 2.

**TABLE 6: Volatile Organic Compounds (VOCs) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

Sample ID: Well Depth (ft): TOC Elevation (ft above MSL): Sample Date: Depth to Groundwater (ft): Groundwater Elevation (ft above MSL):	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)		FLSS-GW-03A	FLSS-GW-03B	MW-3	FLSS-GW-04A	FLSS-GW-04B	MW-4	FLSS-GW-05A	FLSS-GW-05B	MW-5	FLSS-GW-06A	FLSS-GW-06B	MW-6
		Residential	Non-Residential												
						19.5 261.86	19.0	19.0	19.0	19.0	19.0	19.0 261.52	18.0	18.0	18.0 261.72
				7/8/08	7/21/08	6/21/13	7/8/08	7/21/08	well not surveyed	7/8/08	7/21/08	6/21/13	7/8/08	7/21/08	6/21/13
				---	---	14.27	---	---	---	---	---	12.30	---	---	15.00
				---	---	247.59	---	---	---	---	---	249.22	---	---	246.72
Notes: Units:		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
acetone	67-64-1	33,000	92,000			<2.7				14		<2.7			<2.7
benzene	71-43-2	5	5			<0.080						0.44			<0.080
bromodichloromethane	75-27-4	80	80			<0.12						<0.12			<0.12
bromoform (tribromomethane)	75-25-2	80	80			<0.19						<0.19			<0.19
bromomethane	74-83-9	10	10			<0.18						<0.18			<0.18
2-butanone (MEK)	78-93-3	4000	4000			<2.3						<2.3			<2.3
carbon disulfide	75-15-0	1,500	6,200			<0.13						<0.13			<0.13
carbon tetrachloride	56-23-5	5	5			<0.060						<0.060			<0.060
chlorobenzene	108-90-7	100	100			<0.11				17	20	16			<0.11
chlorodibromomethane	124-48-1	80	80			<0.20						<0.20			<0.20
chloroethane	75-00-3	230	900			<0.17						<0.17			<0.17
chloroform	67-66-3	80	80			<0.080						<0.080			<0.080
chloromethane (methyl chloride)	74-87-3	NL	NL			<0.10						<0.10			<0.10
cyclohexane	110-82-7	13000	53000			<0.16						<0.16			<0.16
1,1-dichloroethane	75-34-3	31	160			<0.13						<0.13			<0.13
1,2-dichloroethane (EDC)	107-06-2	5	5			<0.19						<0.19			<0.19
1,1-dichloroethene	75-35-4	7	7			<0.090						<0.090			<0.090
cis 1,2-dichloroethene	156-59-2	70	70			<0.18						<0.18			<0.18
trans 1,2-dichloroethene	156-60-5	100	100			<0.13						<0.13			<0.13
1,2-dichloropropane	78-87-5	5	5			<0.090						<0.090			<0.090
cis 1,3-dichloropropene	542-75-6	6.6	26			<0.18						<0.18			<0.18
trans 1,3-dichloropropene	542-75-6	(total 1,3-dichloropropene)				<0.24						<0.24			<0.24
cumene (isopropyl benzene)	98-82-8	840	3500			<0.08						0.41			<0.08
Dichlorodifluoromethane	75-71-8	1000	1000			<0.22						<0.22			<0.22
ethylbenzene	100-41-4	700	700			<0.10						<0.10			<0.10
Freon TF	76-13-1	63000	170000			<0.080						<0.080			<0.080
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	11	44			<0.50						<0.50			<0.50
Methyl acetate	79-20-9	37000	100000			<0.34						<0.34			<0.34
methylene chloride (dichloromethane)	75-09-2	5	5			<0.18						<0.18			<0.18
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	2900	8200			<0.99						<0.99			<0.99
methyl tert-butyl ether (MTBE)	1634-04-4	20	20			<0.14						<0.14			<0.14
methylcyclohexane	108-87-2	NL	NL			<0.14						<0.14			<0.14
styrene	100-42-5	100	100			<0.12						<0.12			<0.12
1,1,1,2-tetrachloroethane	79-34-5	0.3	0.3			<0.16						<0.16			<0.16
tetrachloroethene (PCE)	127-18-4	5	5			<0.10						<0.10			<0.10
toluene	108-88-3	1,000	1,000			<0.15						0.16			<0.15
1,1,1-trichloroethane	71-55-6	200	200			<0.060						<0.060			<0.060
1,1,2-trichloroethane	79-00-5	5	5			<0.19						<0.19			<0.19
trichloroethene (TCE)	79-01-6	5	5			<0.090						<0.090			<0.090
trichlorofluoromethane (Freon 11)	75-69-4	2000	2000			<0.15						<0.15			<0.15
vinyl chloride	75-01-4	2	2			<0.14						<0.14			<0.14
p,m-xylenes	1330-20-7	10,000	10,000			<0.13						<0.13			<0.13
o-xylenes	Total Xylenes	(total xylenes)	(total xylenes)			(total xylenes)						(total xylenes)			(total xylenes)
1,2-Dibromo-3-Chloropropane	96-12-8	0.2	0.2			<0.40						<0.40			<0.40
1,2-dibromoethane (ethylene dibromide) (EDB)	106-93-4	0.05	0.05			<0.28						<0.28			<0.28

MSL Mean Sea Level  
 MSC Medium Specific Concentration  
**BOLD** Bold values indicate compound was detected.  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory repo  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Stanc  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-R

DILN Due to matrix interference and or sample dilution the detection limits for this sample have been  
 11 This compound was above the method control limits in the Check Standard associated with this  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
 HCl The sample was received with the proper HCl preservative, however the pH is still above 2.

**TABLE 6: Volatile Organic Compounds (VOCs) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)								QA/QC SAMPLES								
		Residential	Non-Residential	FLSS-GW-07A	FLSS-GW-07B	MW-7	FLSS-GW-08A	FLSS-GW-08B	MW-8	FLSS-GW-09	FLSS-GW-09B	MW-9A	RINSE BLANK		TRIP BLANK			FIELD BLANK
Sample ID: Well Depth (ft): TOC Elevation (ft above MSL): Sample Date: Depth to Groundwater (ft): Groundwater Elevation (ft above MSL):				18.0	18.0	18.0	18.0	18.0	18.0	dup. of FLSS-GW-03A	dup. of FLSS-GW-04B	dup. of MW-1	N/A	N/A	N/A	N/A	N/A	N/A
Notes: Units:		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
acetone	67-64-1	33,000	92,000			<2.7			<2.7			<2.7			18		<2.7	
benzene	71-43-2	5	5			<0.080			<0.080			<0.080					<0.080	
bromodichloromethane	75-27-4	80	80			<0.12			<0.12			<0.12					<0.12	
bromoform (tribromomethane)	75-25-2	80	80			<0.19			<0.19			<0.19					<0.19	
bromomethane	74-83-9	10	10			<0.18			<0.18			<0.18					<0.18	
2-butanone (MEK)	78-93-3	4000	4000			<2.3			<2.3			<2.3					<2.3	
carbon disulfide	75-15-0	1,500	6,200			<0.13			<0.13			<0.13					<0.13	
carbon tetrachloride	56-23-5	5	5			<0.060			<0.060			<0.060					<0.060	
chlorobenzene	108-90-7	100	100			<0.11			<0.11			<0.11					<0.11	
chlorodibromomethane	124-48-1	80	80			<0.20			<0.20			<0.20					<0.20	
chloroethane	75-00-3	230	900			<0.17			<0.17			<0.17					<0.17	
chloroform	67-66-3	80	80			<0.080			<0.080			<0.080					<0.080	
chloromethane (methyl chloride)	74-87-3	NL	NL			<0.10			<0.10			<0.10					<0.10	
cyclohexane	110-82-7	13000	53000			<0.16			<0.16			<0.16					<0.16	
1,1-dichloroethane	75-34-3	31	160			<0.13			<0.13			<0.13					<0.13	
1,2-dichloroethane (EDC)	107-06-2	5	5			<0.19			<0.19			<0.19					<0.19	
1,1-dichloroethene	75-35-4	7	7			<0.090			<0.090			<0.090					<0.090	
cis 1,2-dichloroethene	156-59-2	70	70			<0.18			<0.18			<0.18					<0.18	
trans 1,2-dichloroethene	156-60-5	100	100			<0.13			<0.13			<0.13					<0.13	
1,2-dichloropropane	78-87-5	5	5			<0.090			<0.090			<0.090					<0.090	
cis 1,3-dichloropropene	542-75-6	6.6	26			<0.18			<0.18			<0.18					<0.18	
trans 1,3-dichloropropene	542-75-6	(total 1,3-dichloropropene)				<0.24			<0.24			<0.24					<0.24	
cumene (isopropyl benzene)	98-82-8	840	3500			1.2			<0.08			<0.08					<0.08	
Dichlorodifluoromethane	75-71-8	1000	1000			<0.22			<0.22			<0.22					<0.22	
ethylbenzene	100-41-4	700	700			<0.10			<0.10			<0.10					<0.10	
Freon TF	76-13-1	63000	170000			<0.080			<0.080			<0.080					<0.080	
2-hexanone (methyl n-butyl ketone) (MBK)	591-78-6	11	44			<0.50			<0.50			<0.50					<0.50	
Methyl acetate	79-20-9	37000	100000			<0.34			<0.34			<0.34					<0.34	
methylene chloride (dichloromethane)	75-09-2	5	5			<0.18			<0.18			<0.18					<0.18	
4-methyl-2-pentanone (methyl isobutyl ketone)	108-10-1	2900	8200			<0.99			<0.99			<0.99					<0.99	
methyl tert-butyl ether (MTBE)	1634-04-4	20	20			<0.14			<0.14			<0.14					<0.14	
methylcyclohexane	108-87-2	NL	NL			<0.14			<0.14			<0.14					<0.14	
styrene	100-42-5	100	100			<0.12			<0.12			<0.12					<0.12	
1,1,2,2-tetrachloroethane	79-34-5	0.3	0.3			<0.16			<0.16			<0.16					<0.16	
tetrachloroethene (PCE)	127-18-4	5	5			<0.10			<0.10			0.22					<0.10	
toluene	108-88-3	1,000	1,000			<0.15			<0.15			<0.15					<0.15	
1,1,1-trichloroethane	71-55-6	200	200			<0.060			<0.060			<0.060					<0.060	
1,1,2-trichloroethane	79-00-5	5	5			<0.19			<0.19			<0.19					<0.19	
trichloroethene (TCE)	79-01-6	5	5			<0.090			<0.090			<0.090					<0.090	
trichlorofluoromethane (Freon 11)	75-69-4	2000	2000			<0.15			<0.15			<0.15					<0.15	
vinyl chloride	75-01-4	2	2			<0.14			<0.14			<0.14					<0.14	
p,m-xylenes	1330-20-7	10,000	10,000			<0.13			<0.13			<0.13					<0.13	
o-xylenes	Total Xylenes	(total xylenes)	(total xylenes)			(total xylenes)			(total xylenes)			(total xylenes)					(total xylenes)	
1,2-Dibromo-3-Chloropropane	96-12-8	0.2	0.2			<0.40			<0.40			<0.40					<0.40	
1,2-dibromoethane (ethylene dibromide) (EDB)	106-93-4	0.05	0.05			<0.28			<0.28			<0.28					<0.28	

MSL Mean Sea Level  
 MSC Medium Specific Concentration  
**BOLD** Bold values indicate compound was detected.  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory repo  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Stanc  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-R

DILN Due to matrix interference and or sample dilution the detection limits for this sample have been  
 11 This compound was above the method control limits in the Check Standard associated with this  
 C The concentration of this compound is above the reporting limit but below the calibration curve.  
 HCl The sample was received with the proper HCl preservative, however the pH is still above 2.







Sample ID: Well Depth (ft): TOC Elevation (ft above MSL): Sample Date: Depth to Groundwater (ft): Groundwater Elevation (ft above MSL): Notes: Units:	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)		QA/QC SAMPLES									
		Residential	Non-Residential	FLSS-GW-09 dup. of FLSS-GW-03A ---	FLSS-GW-09B dup. of FLSS-GW-04B ---	MW-9A dup. of MW-1 ---	RINSE BLANK N/A N/A		TRIP BLANK N/A N/A		FIELD BLANK N/A N/A		
				7/8/08	7/21/08	6/21/13	7/8/08	7/21/08	7/7/08	7/21/08	6/21/13	7/8/08	7/21/08
		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
acenaphthene	83-32-9	2,200	3,800			<1.1							
acenaphthylene	208-96-8	2,200	6,100			<1.8							
Acetophenone	98-86-2	3700	10000			<0.89							
aniline	62-53-3	2.1	8.8			---							
anthracene	120-12-7	66	66			<0.85							
Atrazine	1912-24-9	3	3			<1.0							
Benzaldehyde	100-52-7	NL	NL			<2.1							
benzidine	92-87-5	0.00093	0.011			---							
benzoic acid	65-85-0	150000	410000			---							
benzo(a)anthracene	56-55-3	0.29	3.6			<0.18							
benzo(a)pyrene	50-32-8	0.2	0.2			<0.14							
benzo(b)fluoranthene	205-99-2	0.29	1.2			<0.21							
benzo(g,h,i)perylene	191-24-2	0.26	0.26			<0.93							
benzo(k)fluoranthene	207-08-9	0.55	0.55			<0.14							
benzyl alcohol	100-51-6	18000	51000			---							
bis(2-chloroethoxy)methane	111-91-1	110	310			<1.0							
bis(2-chloroethyl)ether	111-44-4	0.15	0.76			<0.30							
bis(2-chloroisopropyl)ether	108-60-1	300	300			<1.3							
bis(2-ethylhexyl)phthalate	117-81-7	6	6			<0.81							
4-bromophenyl phenyl ether	101-55-3	5	5			<1.1							
butyl benzyl phthalate	85-68-7	350	1400			<1.4							
4-chloroaniline	106-47-8	3.3	13			<0.32							
4-chloro-3-methylphenol (p-chloro-m-cresol)	59-50-7	180	510			<1.1							
2-chloronaphthalene	91-58-7	2900	8200			<1.3							
2-chlorophenol	95-57-8	40	40			<0.93							
4-chlorophenyl phenyl ether	7005-72-3	5	5			<1.5							
Caprolactam	105-60-2	NL	NL			<0.91							
Carbazole	86-74-8	33	130			<1.2							
chrysene	218-01-9	1.9	1.9			<1.4							
dibenzo(a,h)anthracene	53-70-3	0.029	0.36			<0.16							
dibenzofuran	132-64-9	37	100			<1.5							
1,2-dichlorobenzene	95-50-1	600	600			<0.21				<0.21			
1,3-dichlorobenzene	541-73-1	600	600			<0.14				<0.14			
1,4-dichlorobenzene	106-46-7	75	75			<0.23				<0.23			
3,3-dichlorobenzidine	91-94-1	1.5	5.8			<3.2				---			
2,4-dichlorophenol	120-83-2	20	20			<1.1				---			
diethyl phthalate	84-66-2	29000	82000			<1.4				---			
2,4-dimethylphenol	105-67-9	730	2000			<1.2				---			
dimethyl phthalate	131-11-3	5	5			<1.1				---			
di-N-butyl phthalate	84-74-2	3700	10000			<1.0				---			
4,6-dinitro-2-methylphenol (4,6-dinitro-o-cresol)	534-52-1	3.7	10			<3.0				---			
2,4-dinitrophenol	51-28-5	73	200			<2.0				---			
2,4-dinitrotoluene	121-14-2	2.1	8.4			<0.28				---			
2,6-dinitrotoluene	606-20-2	37	100			<0.27				---			
diphenylamine	122-39-4	910	2600			---				---			
di-N-octyl phthalate	117-84-0	1500	3000			<0.88				---			
Diphenyl	92-52-4	1800	5100			<1.8				---			
fluoranthene	206-44-0	260	260			<1.1				---			
fluorene	86-73-7	1,500	1,900			<1.7				---			
hexachlorobenzene	118-74-1	1	1			<0.20				---			
hexachlorobutadiene	87-68-3	8.5	33			<0.68				---			
hexachlorocyclopentadiene	77-47-4	50	50			<1.5				---			
hexachloroethane	67-72-1	1	1			<0.15				---			
indeno(1,2,3-cd)pyrene	193-39-5	0.29	3.6			<0.11				---			
isophorone	78-59-1	100	100			<1.3				---			
2-methylnaphthalene	91-57-6	150	410			<1.5				---			
2-methylphenol (o-cresol)	95-48-7	1800	5100			<1.4				---			
3&4-methylphenol (m&p-cresol)	106-44-5	180	510			<1.0				---			
naphthalene	91-20-3	100	100			<2.0				---			
2-nitroaniline	88-74-4	110	310			<2.0				---			
3-nitroaniline	99-09-2	11	31			<2.9				---			
4-nitroaniline	100-01-6	33	130			<2.9				---			
nitrobenzene	98-95-3	73	200			<0.34				---			
2-nitrophenol	88-75-5	290	820			<0.68				---			
4-nitrophenol	100-02-7	60	60			<2.0				---			
n-nitroso-di-n-propylamine	621-64-7	0.094	0.37			<0.27				---			
N-Nitrosodiphenylamine	86-30-6	130	530			<1.0				---			
pentachlorophenol	87-86-5	1	1			<2.7				---			
phenanthrene	85-01-8	1,100	1,100			<1.2				---			
phenol	108-95-2	2,000	2,000			<0.60				---			
pyrene	129-00-0	130	130			<1.1				---			
1,2,4-trichlorobenzene	120-82-1	70	70			<0.34				<0.34			
2,4,5-trichlorophenol	95-95-4	3,700	10,000			<2.2				---			
2,4,6-trichlorophenol	88-06-2	37	100			<1.4				---			

MSL Mean Sea Level  
 MSC Medium Specific Concentration  
**BOLD** Bold values indicate compound was detected.  
 < Less-than symbol (<) indicates compound was not detected above the indicated laboratory repo  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Stand  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-R

**TABLE 8: Inorganics (Dissolved) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)		GROUNDWATER GRAB SAMPLES - Moonstone 2007/temporary points					QA/QC SAMPLES	
		Residential	Non-Residential	MW-1	MW-2	MW-3	MW-4	MW-5	MW-22 blind dup. of MW-2	RINSE BLANK
Sample ID:										
Well Depth (ft):										
TOC Elevation (ft above MSL):										
Sample Date:				5/29/07	5/29/07	5/29/07	5/29/07	5/29/07	5/29/07	5/29/07
Depth to Groundwater (ft):										
undwater Elevation (ft above MSL):										
Notes:				NOTE: G10						
Units:		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
antimony	7440-36-0	6	6	<10	<10	<10	<10	<10	<10	<10
aluminum	7429-90-5	200 <sup>SMCL</sup>	200 <sup>SMCL</sup>	---	---	---	---	---	---	---
arsenic	7440-38-2	10	10	19 <sup>11</sup>	<0.50 <sup>11</sup>	0.87 <sup>11</sup>	2.4 <sup>11</sup>	3.3 <sup>11</sup>	<0.50 <sup>11</sup>	<0.50 <sup>11</sup>
barium	7440-39-3	2,000	2,000	---	---	---	---	---	---	---
beryllium	7440-41-7	4	4	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56
cadmium	7440-43-9	5	5	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55
calcium	7789-78-8	NL	NL	---	---	---	---	---	---	---
chromium III	16065-83-1	100	100	<0.76	<0.76	<0.76	<0.76	<0.76	<0.76	<0.76
chromium VI	18540-29-9	(total chromium)	(total chromium)	(total chromium)	(total chromium)	(total chromium)	(total chromium)	(total chromium)	(total chromium)	(total chromium)
copper	7440-50-8	1,000	1,000	7.2	11	2.2	6.3	1.8	10	3.4
iron	7439-89-6	300 <sup>SMCL</sup>	300 <sup>SMCL</sup>	---	---	---	---	---	---	---
lead	7439-92-1	5	5	64.0	4.2	0.8	8.6	<0.36	9.2	1.1
magnesium	7439-95-4	NL	NL	---	---	---	---	---	---	---
manganese	7439-96-5	300	300	---	---	---	---	---	---	---
mercury	7439-97-6	2	2	<1.0 <sup>G10</sup>	<1.0 <sup>G10</sup>	<1.0 <sup>G10</sup>	<1.0 <sup>G10</sup>	<1.0 <sup>G10</sup>	<1.0 <sup>G10</sup>	<1.0 <sup>G10</sup>
nickel	7440-02-0	100	100	4	1.7	1.5	8.6	8.2	1.8	0.63
potassium	7440-09-7	NL	NL	---	---	---	---	---	---	---
selenium	7782-49-2	50	50	6.4	9	14	14	15	8.3	<2.0
silver	7440-22-4	100	100	<.36	<.36	<.36	<.36	<.36	<.36	<.36
sodium	82115-62-6	NL	NL	---	---	---	---	---	---	---
thallium	7440-28-0	2	2	<0.2 <sup>G04</sup>	<0.2 <sup>G04</sup>	<0.2 <sup>G04</sup>	<0.2 <sup>G04</sup>	<0.2 <sup>G04</sup>	<0.2 <sup>G04</sup>	0.21 <sup>G04</sup>
zinc	7440-66-6	2,000	2,000	14	13	12	38	<10	12 <sup>G02</sup>	22

MSL Mean Sea Level

MSC Medium Specific Concentration

--- Not listed

**BOLD** Bold values indicate analyte was detected.

< Less-than symbol (<) indicates compound was not detected above the indicated laboratory reporting limit.

**Highlight** Yellow highlighting indicates sample result exceeds Residential PADEP Statewide Health Standard.

**Highlight** Orange highlighting indicates sample result exceeds Non-Residential PADEP Statewide Health Standard.

**Highlight** Green highlighting indicates the laboratory reporting limit is above the Residential and/or Non-Residential Statewide Health Standard and therefore the results are inconclusive.

<sup>11</sup> This compound was above the method control limits in the Check Standard associated with this sample.

<sup>G02</sup> The matrix QC recoveries associated with this sample were below the laboratory's established acceptance criteria.

<sup>G04</sup> The laboratory control spike recoveries associated with this sample were below the laboratory's established acceptance criteria.

<sup>G10</sup> This sample was filtered in the laboratory for dissolved metals.

**TABLE 8: Inorganics (Dissolved) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)		GROUNDWATER GRAB SAMPLES - Tetra Tech 2008 (analytical data given for detections only)								
		Residential	Non-Residential	GROUNDWATER GRAB SAMPLES - Moonstone 2013								
Sample ID: Well Depth (ft): TOC Elevation (ft above MSL): Sample Date: Depth to Groundwater (ft): undwater Elevation (ft above MSL):				FLSS-GW-01A 20.5	FLSS-GW-01B 20.5	MW-1 20.5	FLSS-GW-02A 19.5	FLSS-GW-02B 19.5	MW-2 19.5	FLSS-GW-03A	FLSS-GW-03B	MW-3 19.5
Notes: Units:		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
antimony	7440-36-0	6	6			<1.8			<1.8			<1.8
aluminum	7429-90-5	200 <sup>SMCL</sup>	200 <sup>SMCL</sup>			<32.7	<b>723</b>		<32.7			<32.7
arsenic	7440-38-2	10	10			<1.8			<b>8.4</b>			<1.8
barium	7440-39-3	2,000	2,000			---			---			---
beryllium	7440-41-7	4	4			<0.90			<0.90			<0.90
cadmium	7440-43-9	5	5			<1.9			<1.9			<1.9
calcium	7789-78-8	NL	NL	<b>72700</b>	<b>70600</b>	---	<b>81600</b>	<b>80800</b>	---	<b>83000</b>	<b>82600</b>	---
chromium III	16065-83-1	100	100			<4.0			<4.0			<4.0
chromium VI	18540-29-9	(total chromium)	(total chromium)			(total chromium)			(total chromium)			(total chromium)
copper	7440-50-8	1,000	1,000			<3.8			<3.8			<3.8
iron	7439-89-6	300 <sup>SMCL</sup>	300 <sup>SMCL</sup>			<129	<b>3390</b>	<b>457</b>	<b>5130</b>			<129
lead	7439-92-1	5	5			<1.2			<1.2			<1.2
magnesium	7439-95-4	NL	NL	<b>46700</b>	<b>45400</b>	---	<b>48000</b>	<b>45300</b>	---	<b>37400</b>	<b>37300</b>	---
manganese	7439-96-5	300	300	<b>77.1</b>	<b>30.3</b>	<7.7	<b>574</b>	<b>532</b>	<b>640</b>	<b>1280</b>	<b>1180</b>	<7.7
mercury	7439-97-6	2	2			<0.16			<0.16			<0.16
nickel	7440-02-0	100	100			<4.1			<4.1			<4.1
potassium	7440-09-7	NL	NL	<b>8490</b>	<b>8160</b>	---	<b>13600</b>	<b>12900</b>	---	<b>8540</b>	<b>8220</b>	---
selenium	7782-49-2	50	50			<b>7.7</b>			<1.9			<b>14.8</b>
silver	7440-22-4	100	100			<3.8			<3.8			<3.8
sodium	82115-62-6	NL	NL	<b>7430</b>	<b>7050</b>	---	<b>75300</b>	<b>74200</b>	---	<b>13300</b>	<b>11500</b>	---
thallium	7440-28-0	2	2			<0.75			<0.75			<0.75
zinc	7440-66-6	2,000	2,000			<15.3			<15.3			<15.3

MSL Mean Sea Level  
 MSC Medium Specific Concentration  
 --- Not listed  
**BOLD** Bold values indicate analyte was detected.  
 < Less-than symbol (<) indicates compound was not detected above the indicated labr  
 Highlight Yellow highlighting indicates sample result exceeds Residential PADEP Statewide H  
 Highlight Orange highlighting indicates sample result exceeds Non-Residential PADEP Statev  
 Highlight Green highlighting indicates the laboratory reporting limit is above the Residential ar

<sup>11</sup> This compound was above the method control limits in the Check Standard associat  
 G02 The matrix QC recoveries associated with this sample were below the laboratory's e  
 G04 The laboratory control spike recoveries associated with this sample were below the l  
 G10 This sample was filtered in the laboratory for dissolved metals.



**TABLE 8: Inorganics (Dissolved) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)										
		Residential	Non-Residential	FLSS-GW-04A	FLSS-GW-04B	MW-4	FLSS-GW-05A	FLSS-GW-05B	MW-5	FLSS-GW-06A	FLSS-GW-06B	MW-6
Sample ID:				19.0	19.0	19.0	19.0	19.0	19.0	18.0	18.0	18.0
Well Depth (ft):				19.0	19.0	19.0	19.0	19.0	19.0	18.0	18.0	18.0
TOC Elevation (ft above MSL):									261.52			261.72
Sample Date:				7/8/08	7/21/08	well not surveyed	7/8/08	7/21/08	6/21/13	7/8/08	7/21/08	6/21/13
Depth to Groundwater (ft):				---	---	---	---	---	12.30	---	---	15.00
undwater Elevation (ft above MSL):				---	---	---	---	---	249.22	---	---	246.72
Notes:												
Units:		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
antimony	7440-36-0	6	6						<1.8			<1.8
aluminum	7429-90-5	200 <sup>SMCL</sup>	200 <sup>SMCL</sup>						<32.7			<32.7
arsenic	7440-38-2	10	10						<1.8			<1.8
barium	7440-39-3	2,000	2,000						---			---
beryllium	7440-41-7	4	4						<0.90			<0.90
cadmium	7440-43-9	5	5						<1.9			<1.9
calcium	7789-78-8	NL	NL	79600	78000		137000	139000	---	78600	82500	---
chromium III	16065-83-1	100	100						<4.0			<4.0
chromium VI	18540-29-9	(total chromium)	(total chromium)						(total chromium)			(total chromium)
copper	7440-50-8	1,000	1,000						<3.8			<3.8
iron	7439-89-6	300 <sup>SMCL</sup>	300 <sup>SMCL</sup>				41800	43300	48900			1790
lead	7439-92-1	5	5						<1.2			<1.2
magnesium	7439-95-4	NL	NL	28500	26400		51700	50300	---	36800	36300	---
manganese	7439-96-5	300	300	1090	1160		311	305	953	282	287	275
mercury	7439-97-6	2	2	0.21					<0.16			<0.16
nickel	7440-02-0	100	100						<4.1			7.1
potassium	7440-09-7	NL	NL	7100	5900		16000	16200	---	9150	9610	---
selenium	7782-49-2	50	50						<1.9			4.8
silver	7440-22-4	100	100						<3.8			<3.8
sodium	82115-62-6	NL	NL	56500	64700		118000	119000	---	33600	30700	---
thallium	7440-28-0	2	2						<0.75			<0.75
zinc	7440-66-6	2,000	2,000	100	90				164			16.8

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**TABLE 8: Inorganics (Dissolved) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)							
		Residential	Non-Residential	FLSS-GW-07A	FLSS-GW-07B	MW-7	FLSS-GW-08A	FLSS-GW-08B	MW-8
Sample ID:				18.0	18.0	18.0	18.0	18.0	18.0
Well Depth (ft):									
TOC Elevation (ft above MSL):						260.73			260.16
Sample Date:				7/8/08	7/21/08	6/21/13	7/8/08	7/21/08	6/21/13
Depth to Groundwater (ft):				---	---	13.00	---	---	13.25
undwater Elevation (ft above MSL):				---	---	247.73	---	---	246.91
Notes:									
Units:		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
antimony	7440-36-0	6	6			<1.8			<1.8
aluminum	7429-90-5	200 <sup>SMCL</sup>	200 <sup>SMCL</sup>			225			<32.7
arsenic	7440-38-2	10	10			<1.8			<1.8
barium	7440-39-3	2,000	2,000	245	255	---			---
beryllium	7440-41-7	4	4			<0.90			<0.90
cadmium	7440-43-9	5	5			2.2			<1.9
calcium	7789-78-8	NL	NL	225000	219000	---	87000	85700	---
chromium III	16065-83-1	100	100			<4.0			<4.0
chromium VI	18540-29-9	(total chromium)	(total chromium)			(total chromium)			(total chromium)
copper	7440-50-8	1,000	1,000			<3.8			<3.8
iron	7439-89-6	300 <sup>SMCL</sup>	300 <sup>SMCL</sup>	82900	79000	1850	3080	4960	201
lead	7439-92-1	5	5			<1.2			<1.2
magnesium	7439-95-4	NL	NL	90000	87000	---	34900	34400	---
manganese	7439-96-5	300	300	3010	3160	1980	11700	12500	7970
mercury	7439-97-6	2	2			<0.16			<0.16
nickel	7440-02-0	100	100			34.3			<4.1
potassium	7440-09-7	NL	NL	16800	16500	---	10700	10400	---
selenium	7782-49-2	50	50			<1.9			<1.9
silver	7440-22-4	100	100			<3.8			<3.8
sodium	82115-62-6	NL	NL	148000	148000	---	46600	44900	---
thallium	7440-28-0	2	2			<0.75			<0.75
zinc	7440-66-6	2,000	2,000			53200			<15.3

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**TABLE 8: Inorganics (Dissolved) in Groundwater**  
Former Lehigh Structural Steel Site  
City of Allentown, Lehigh County, PA

	CASRN	PADEP MSCs for Groundwater (TDS<2500, used aquifer)		QA/QC SAMPLES								
		Residential	Non-Residential	FLSS-GW-09 dup. of FLSS-GW-03A	FLSS-GW-09B dup. of FLSS-GW-04B	RINSE BLANK		TRIP BLANK		FIELD BLANK		MW-9A dup. of MW-1
Sample ID: Well Depth (ft): TOC Elevation (ft above MSL): Sample Date: Depth to Groundwater (ft): undwater Elevation (ft above MSL):												
Notes: Units:		µg/L	µg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
antimony	7440-36-0	6	6									<1.8
aluminum	7429-90-5	200 <sup>SMCL</sup>	200 <sup>SMCL</sup>									<32.7
arsenic	7440-38-2	10	10									<1.8
barium	7440-39-3	2,000	2,000									---
beryllium	7440-41-7	4	4									<0.90
cadmium	7440-43-9	5	5									<1.9
calcium	7789-78-8	NL	NL	<b>87100</b>	<b>77500</b>							---
chromium III	16065-83-1	100	100									<4.0
chromium VI	18540-29-9	(total chromium)	(total chromium)									(total chromium)
copper	7440-50-8	1,000	1,000									<3.8
iron	7439-89-6	300 <sup>SMCL</sup>	300 <sup>SMCL</sup>									<129
lead	7439-92-1	5	5									<1.2
magnesium	7439-95-4	NL	NL	<b>39200</b>	<b>26100</b>							---
manganese	7439-96-5	300	300	<b>1190</b>	<b>1100</b>							<7.7
mercury	7439-97-6	2	2									<0.16
nickel	7440-02-0	100	100									<4.1
potassium	7440-09-7	NL	NL	<b>9320</b>	<b>5910</b>							---
selenium	7782-49-2	50	50									<b>8.0</b>
silver	7440-22-4	100	100									<3.8
sodium	82115-62-6	NL	NL	<b>14100</b>	<b>64900</b>							---
thallium	7440-28-0	2	2									<0.75
zinc	7440-66-6	2,000	2,000		<b>88.5</b>							<15.3

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