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May 27, 2021

Eric Matzner  
Golder Associates Inc.  
2201 Double Creek Drive  
Suite 4004  
Round Rock, TX 78664

Work Order: **HS21050676**

Laboratory Results for: **Houston TX-Wood Preserving Works IDWW**

Dear Eric Matzner,

ALS Environmental received 1 sample(s) on May 13, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dane J. Wacasey'.

Generated By: DAYNA.FISHER  
Dane J. Wacasey

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**Work Order:** HS21050676

**SAMPLE SUMMARY**

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Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21050676-01	WW-1620-ToteWater-20210512	Liquid		12-May-2021 16:00	13-May-2021 14:00	<input type="checkbox"/>

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**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**Work Order:** HS21050676

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**CASE NARRATIVE**

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**Work Order Comments**

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.  
The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.
- 

**GC Semivolatiles by Method TX1005**

**Batch ID: 165827**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
- 

**GCMS Semivolatiles by Method SW8270**

**Batch ID: 165870**

**Sample ID: LCSD-165870**

- The RPD between the LCS and LCSD was outside of the control limit.
- 

**GCMS Volatiles by Method SW8260**

**Batch ID: R383669**

**Sample ID: WW-1620-ToteWater-20210512 (HS21050676-01)**

- Lowest practical dilution due to sample matrix.
- 

**Metals by Method SW6020A**

**Batch ID: 166038**

**Sample ID: HS21050786-01MS**

- MS and MSD are for an unrelated sample (Arsenic)
- 

**Metals by Method SW7470A**

**Batch ID: 165906**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
- 

**WetChemistry by Method SW9040C**

**Batch ID: R383753**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
- 

**WetChemistry by Method SW1010**

**Batch ID: R383647**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

Client: Golder Associates Inc.  
 Project: Houston TX-Wood Preserving Works IDWW  
 Sample ID: WW-1620-ToteWater-20210512  
 Collection Date: 12-May-2021 16:00

**ANALYTICAL REPORT**  
 WorkOrder:HS21050676  
 Lab ID:HS21050676-01  
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW LEVEL VOLATILES BY SW8260C</b>		<b>Method:SW8260</b>		Analyst: AKP			
1,1,1-Trichloroethane	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
1,1,2,2-Tetrachloroethane	< 0.025		0.025	0.050	mg/L	50	14-May-2021 18:40
1,1,2-Trichloroethane	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
1,1-Dichloroethane	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
1,1-Dichloroethene	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
1,2-Dichlorobenzene	< 0.025		0.025	0.050	mg/L	50	14-May-2021 18:40
1,2-Dichloroethane	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
1,2-Dichloropropane	< 0.025		0.025	0.050	mg/L	50	14-May-2021 18:40
1,3-Dichlorobenzene	< 0.020		0.020	0.050	mg/L	50	14-May-2021 18:40
1,4-Dichlorobenzene	< 0.020		0.020	0.050	mg/L	50	14-May-2021 18:40
2-Butanone	< 0.025		0.025	0.10	mg/L	50	14-May-2021 18:40
2-Hexanone	< 0.050		0.050	0.10	mg/L	50	14-May-2021 18:40
4-Methyl-2-pentanone	< 0.035		0.035	0.10	mg/L	50	14-May-2021 18:40
Acetone	< 0.10		0.10	0.10	mg/L	50	14-May-2021 18:40
Benzene	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Bromochloromethane	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Bromodichloromethane	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Bromoform	< 0.020		0.020	0.050	mg/L	50	14-May-2021 18:40
Bromomethane	< 0.020		0.020	0.050	mg/L	50	14-May-2021 18:40
Carbon disulfide	< 0.030		0.030	0.10	mg/L	50	14-May-2021 18:40
Carbon tetrachloride	< 0.025		0.025	0.050	mg/L	50	14-May-2021 18:40
Chlorobenzene	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
Chloroethane	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
Chloroform	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Chloromethane	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
cis-1,2-Dichloroethene	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
cis-1,3-Dichloropropene	< 0.0050		0.0050	0.050	mg/L	50	14-May-2021 18:40
Dibromochloromethane	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
Ethylbenzene	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
m,p-Xylene	< 0.025		0.025	0.10	mg/L	50	14-May-2021 18:40
Methylene chloride	< 0.050		0.050	0.10	mg/L	50	14-May-2021 18:40
o-Xylene	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
Styrene	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
Tetrachloroethene	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
Toluene	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
trans-1,2-Dichloroethene	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
trans-1,3-Dichloropropene	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Trichloroethene	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Vinyl acetate	< 0.025		0.025	0.050	mg/L	50	14-May-2021 18:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.  
 Project: Houston TX-Wood Preserving Works IDWW  
 Sample ID: WW-1620-ToteWater-20210512  
 Collection Date: 12-May-2021 16:00

**ANALYTICAL REPORT**

WorkOrder:HS21050676  
 Lab ID:HS21050676-01  
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW LEVEL VOLATILES BY SW8260C</b>		<b>Method:SW8260</b>			Analyst: AKP		
Vinyl chloride	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Xylenes, Total	< 0.015		0.015	0.050	mg/L	50	14-May-2021 18:40
1,2-Dichloroethene, Total	< 0.010		0.010	0.050	mg/L	50	14-May-2021 18:40
Surr: 1,2-Dichloroethane-d4	99.6			70-126	%REC	50	14-May-2021 18:40
Surr: 4-Bromofluorobenzene	96.4			81-113	%REC	50	14-May-2021 18:40
Surr: Dibromofluoromethane	103			77-123	%REC	50	14-May-2021 18:40
Surr: Toluene-d8	101			82-127	%REC	50	14-May-2021 18:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.  
 Project: Houston TX-Wood Preserving Works IDWW  
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 Collection Date: 12-May-2021 16:00

**ANALYTICAL REPORT**  
 WorkOrder:HS21050676  
 Lab ID:HS21050676-01  
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES BY 8270D</b>		<b>Method:SW8270</b>			Prep:SW3510 / 17-May-2021		Analyst: ACN
1,2,4-Trichlorobenzene	< 0.00016		0.00016	0.0011	mg/L	1	20-May-2021 17:32
2,4,5-Trichlorophenol	< 0.00030		0.00030	0.0011	mg/L	1	20-May-2021 17:32
2,4,6-Trichlorophenol	< 0.00025		0.00025	0.0011	mg/L	1	20-May-2021 17:32
2,4-Dichlorophenol	< 0.00023		0.00023	0.0011	mg/L	1	20-May-2021 17:32
2,4-Dimethylphenol	< 0.00021		0.00021	0.0011	mg/L	1	20-May-2021 17:32
2,4-Dinitrophenol	< 0.00053		0.00053	0.0053	mg/L	1	20-May-2021 17:32
2,4-Dinitrotoluene	< 0.00031		0.00031	0.0011	mg/L	1	20-May-2021 17:32
2,6-Dinitrotoluene	< 0.00022		0.00022	0.0011	mg/L	1	20-May-2021 17:32
2-Chloronaphthalene	< 0.00011		0.00011	0.0011	mg/L	1	20-May-2021 17:32
2-Chlorophenol	< 0.00019		0.00019	0.0011	mg/L	1	20-May-2021 17:32
<b>2-Methylnaphthalene</b>	<b>0.0016</b>		<b>0.00010</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
2-Methylphenol	< 0.00024		0.00024	0.0011	mg/L	1	20-May-2021 17:32
2-Nitroaniline	< 0.00022		0.00022	0.0011	mg/L	1	20-May-2021 17:32
2-Nitrophenol	< 0.00018		0.00018	0.0011	mg/L	1	20-May-2021 17:32
<b>3&amp;4-Methylphenol</b>	<b>0.0014</b>		<b>0.00019</b>	<b>0.0011</b>	<b>mg/L</b>	1	20-May-2021 17:32
3,3'-Dichlorobenzidine	< 0.00023		0.00023	0.0011	mg/L	1	20-May-2021 17:32
3-Nitroaniline	< 0.00026		0.00026	0.0011	mg/L	1	20-May-2021 17:32
4,6-Dinitro-2-methylphenol	< 0.00011		0.00011	0.0011	mg/L	1	20-May-2021 17:32
4-Bromophenyl phenyl ether	< 0.00027		0.00027	0.0011	mg/L	1	20-May-2021 17:32
4-Chloro-3-methylphenol	< 0.00017		0.00017	0.0011	mg/L	1	20-May-2021 17:32
4-Chloroaniline	< 0.00021		0.00021	0.0011	mg/L	1	20-May-2021 17:32
4-Chlorophenyl phenyl ether	< 0.00023		0.00023	0.0011	mg/L	1	20-May-2021 17:32
4-Nitroaniline	< 0.00018		0.00018	0.0011	mg/L	1	20-May-2021 17:32
4-Nitrophenol	< 0.00025		0.00025	0.0053	mg/L	1	20-May-2021 17:32
Acenaphthene	< 0.00014		0.00014	0.00053	mg/L	1	20-May-2021 17:32
Acenaphthylene	< 0.000079		0.000079	0.00053	mg/L	1	20-May-2021 17:32
<b>Anthracene</b>	<b>0.00046</b>	J	<b>0.000074</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
Benz(a)anthracene	< 0.00026		0.00026	0.00053	mg/L	1	20-May-2021 17:32
Benzidine	< 0.00053		0.00053	0.0011	mg/L	1	20-May-2021 17:32
Benzo(a)pyrene	< 0.00011		0.00011	0.00053	mg/L	1	20-May-2021 17:32
Benzo(b)fluoranthene	< 0.00012		0.00012	0.00053	mg/L	1	20-May-2021 17:32
Benzo(g,h,i)perylene	< 0.000074		0.000074	0.00053	mg/L	1	20-May-2021 17:32
Benzo(k)fluoranthene	< 0.00010		0.00010	0.00053	mg/L	1	20-May-2021 17:32
Benzyl alcohol	< 0.00028		0.00028	0.0011	mg/L	1	20-May-2021 17:32
Bis(2-chloroethoxy)methane	< 0.00016		0.00016	0.0011	mg/L	1	20-May-2021 17:32
Bis(2-chloroethyl)ether	< 0.00014		0.00014	0.0011	mg/L	1	20-May-2021 17:32
Bis(2-chloroisopropyl)ether	< 0.00037		0.00037	0.0011	mg/L	1	20-May-2021 17:32
<b>Bis(2-ethylhexyl)phthalate</b>	<b>0.19</b>		<b>0.0019</b>	<b>0.011</b>	<b>mg/L</b>	10	22-May-2021 02:31
<b>Butyl benzyl phthalate</b>	<b>0.012</b>		<b>0.00010</b>	<b>0.0011</b>	<b>mg/L</b>	1	20-May-2021 17:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.  
 Project: Houston TX-Wood Preserving Works IDWW  
 Sample ID: WW-1620-ToteWater-20210512  
 Collection Date: 12-May-2021 16:00

**ANALYTICAL REPORT**  
 WorkOrder:HS21050676  
 Lab ID:HS21050676-01  
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES BY 8270D</b>		<b>Method:SW8270</b>		Prep:SW3510 / 17-May-2021		Analyst: ACN	
Carbazole	< 0.00013		0.00013	0.0011	mg/L	1	20-May-2021 17:32
Chrysene	< 0.00011		0.00011	0.00053	mg/L	1	20-May-2021 17:32
<b>Di-n-butyl phthalate</b>	<b>0.021</b>		<b>0.00011</b>	<b>0.0011</b>	<b>mg/L</b>	1	20-May-2021 17:32
<b>Di-n-octyl phthalate</b>	<b>0.013</b>		<b>0.00011</b>	<b>0.0011</b>	<b>mg/L</b>	1	20-May-2021 17:32
Dibenz(a,h)anthracene	< 0.00013		0.00013	0.00053	mg/L	1	20-May-2021 17:32
<b>Dibenzofuran</b>	<b>0.00044</b>	J	<b>0.00011</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
<b>Diethyl phthalate</b>	<b>0.0012</b>		<b>0.00016</b>	<b>0.0011</b>	<b>mg/L</b>	1	20-May-2021 17:32
Dimethyl phthalate	< 0.00022		0.00022	0.0011	mg/L	1	20-May-2021 17:32
<b>Fluoranthene</b>	<b>0.0034</b>		<b>0.000053</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
<b>Fluorene</b>	<b>0.00060</b>		<b>0.00016</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
Hexachlorobenzene	< 0.00023		0.00023	0.0011	mg/L	1	20-May-2021 17:32
Hexachlorobutadiene	< 0.00016		0.00016	0.0011	mg/L	1	20-May-2021 17:32
Hexachlorocyclopentadiene	< 0.00016		0.00016	0.0011	mg/L	1	20-May-2021 17:32
Hexachloroethane	< 0.00031		0.00031	0.0011	mg/L	1	20-May-2021 17:32
Indeno(1,2,3-cd)pyrene	< 0.00012		0.00012	0.00053	mg/L	1	20-May-2021 17:32
Isophorone	< 0.00013		0.00013	0.0011	mg/L	1	20-May-2021 17:32
N-Nitrosodi-n-propylamine	< 0.00017		0.00017	0.0011	mg/L	1	20-May-2021 17:32
N-Nitrosodimethylamine	< 0.00053		0.00053	0.0011	mg/L	1	20-May-2021 17:32
N-Nitrosodiphenylamine	< 0.00013		0.00013	0.0011	mg/L	1	20-May-2021 17:32
<b>Naphthalene</b>	<b>0.0015</b>		<b>0.00011</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
Nitrobenzene	< 0.00013		0.00013	0.0011	mg/L	1	20-May-2021 17:32
Pentachlorophenol	< 0.00042		0.00042	0.0011	mg/L	1	20-May-2021 17:32
<b>Phenanthrene</b>	<b>0.0049</b>		<b>0.00011</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
<b>Phenol</b>	<b>0.00083</b>	J	<b>0.00018</b>	<b>0.0011</b>	<b>mg/L</b>	1	20-May-2021 17:32
<b>Pyrene</b>	<b>0.0031</b>		<b>0.00010</b>	<b>0.00053</b>	<b>mg/L</b>	1	20-May-2021 17:32
Pyridine	< 0.00016		0.00016	0.0053	mg/L	1	20-May-2021 17:32
<i>Surr: 2,4,6-Tribromophenol</i>	<i>77.6</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>20-May-2021 17:32</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>111</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>22-May-2021 02:31</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>103</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>22-May-2021 02:31</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>77.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>20-May-2021 17:32</i>
<i>Surr: 2-Fluorophenol</i>	<i>95.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>20-May-2021 17:32</i>
<i>Surr: 2-Fluorophenol</i>	<i>93.6</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>22-May-2021 02:31</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>106</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>22-May-2021 02:31</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>101</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>20-May-2021 17:32</i>
<i>Surr: Nitrobenzene-d5</i>	<i>92.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>20-May-2021 17:32</i>
<i>Surr: Nitrobenzene-d5</i>	<i>96.4</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>22-May-2021 02:31</i>
<i>Surr: Phenol-d6</i>	<i>94.7</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>22-May-2021 02:31</i>
<i>Surr: Phenol-d6</i>	<i>102</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>20-May-2021 17:32</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.  
 Project: Houston TX-Wood Preserving Works IDWW  
 Sample ID: WW-1620-ToteWater-20210512  
 Collection Date: 12-May-2021 16:00

**ANALYTICAL REPORT**  
 WorkOrder:HS21050676  
 Lab ID:HS21050676-01  
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL TEXAS TPH BY TX1005</b>		<b>Method:TX1005</b>		Prep:TX1005PR / 14-May-2021		Analyst: MBG	
nC6 to nC12	< 0.20		0.20	0.49	mg/L	1	15-May-2021 06:18
>nC12 to nC28	< 0.20		0.20	0.49	mg/L	1	15-May-2021 06:18
>nC28 to nC35	< 0.20		0.20	0.49	mg/L	1	15-May-2021 06:18
Total Petroleum Hydrocarbon	< 0.20		0.20	0.49	mg/L	1	15-May-2021 06:18
Surr: 2-Fluorobiphenyl	89.8			70-130	%REC	1	15-May-2021 06:18
Surr: Trifluoromethyl benzene	92.3			70-130	%REC	1	15-May-2021 06:18
<b>ICP-MS METALS BY SW6020A</b>		<b>Method:SW6020A</b>		Prep:SW3010A / 20-May-2021		Analyst: JHD	
Antimony	0.0724		0.00400	0.0200	mg/L	1	21-May-2021 14:11
Arsenic	0.591		0.00400	0.0200	mg/L	1	21-May-2021 14:11
Barium	0.436		0.0190	0.0400	mg/L	1	21-May-2021 14:11
Beryllium	< 0.00200		0.00200	0.0200	mg/L	1	21-May-2021 14:11
Cadmium	0.00657	J	0.00200	0.0200	mg/L	1	21-May-2021 14:11
Chromium	0.301		0.00400	0.0400	mg/L	1	21-May-2021 14:11
Lead	0.311		0.00600	0.0200	mg/L	1	21-May-2021 14:11
Nickel	0.988		0.00600	0.0200	mg/L	1	21-May-2021 14:11
Selenium	0.0125	J	0.0110	0.0200	mg/L	1	21-May-2021 14:11
Silver	0.0125	J	0.00200	0.0200	mg/L	1	21-May-2021 14:11
<b>MERCURY BY SW7470A</b>		<b>Method:SW7470A</b>		Prep:SW7470A / 18-May-2021		Analyst: MSC	
Mercury	0.00138	J	0.000300	0.00200	mg/L	1	18-May-2021 12:36
<b>FLASH POINT BY PENSKY-MARTENS SW1010A</b>		<b>Method:SW1010</b>				Analyst: TH	
Ignitability	> 212		70.0	70.0	°F	1	14-May-2021 08:00
<b>PH BY SW9040C</b>		<b>Method:SW9040C</b>				Analyst: JAC	
pH	9.96	H	0.100	0.100	pH Units	1	17-May-2021 14:18
Temp Deg C @pH	23.3	H	0	0	DEG C	1	17-May-2021 14:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.



Weight / Prep Log

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**Batch ID:** 165827      **Start Date:** 14 May 2021 13:49      **End Date:** 14 May 2021 16:00  
**Method:** TX 1005 PREP      **Prep Code:** TX 1005\_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21050676-01	1	30.36 (g)	3 (mL)	0.09881	2-oz glass, Neat

**Batch ID:** 165870      **Start Date:** 17 May 2021 11:43      **End Date:** 17 May 2021 15:00  
**Method:** SV AQ SEP FUN EXTRACT-LOWLEV - 3510C      **Prep Code:** 3510\_B\_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21050676-01	1	190 (mL)	1 (mL)	0.005263	4-oz glass, Neat

**Batch ID:** 165906      **Start Date:** 18 May 2021 08:30      **End Date:** 18 May 2021 11:30  
**Method:** MERCURY PREP BY 7470A- WATER      **Prep Code:** HG\_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21050676-01		1 (mL)	10 (mL)	10	4-oz glass, Neat

**Batch ID:** 166038      **Start Date:** 20 May 2021 13:30      **End Date:** 20 May 2021 17:30  
**Method:** WATER - SW3010A      **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21050676-01		1 (mL)	10 (mL)	10	4-oz glass, Neat

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
<b>Batch ID:</b> 165827 ( 0 )		<b>Test Name :</b> LOW-LEVEL TEXAS TPH BY TX1005			<b>Matrix:</b> Liquid	
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00		14 May 2021 13:49	15 May 2021 06:18	1
<b>Batch ID:</b> 165870 ( 0 )		<b>Test Name :</b> LOW-LEVEL SEMIVOLATILES BY 8270D			<b>Matrix:</b> Liquid	
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00		17 May 2021 11:43	22 May 2021 02:31	10
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00		17 May 2021 11:43	20 May 2021 17:32	1
<b>Batch ID:</b> 165906 ( 0 )		<b>Test Name :</b> MERCURY BY SW7470A			<b>Matrix:</b> Liquid	
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00		18 May 2021 11:30	18 May 2021 12:36	1
<b>Batch ID:</b> 166038 ( 0 )		<b>Test Name :</b> ICP-MS METALS BY SW6020A			<b>Matrix:</b> Liquid	
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00		20 May 2021 17:30	21 May 2021 14:11	1
<b>Batch ID:</b> R383647 ( 0 )		<b>Test Name :</b> FLASH POINT BY PENSKY-MARTENS SW1010A			<b>Matrix:</b> Liquid	
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00			14 May 2021 08:00	1
<b>Batch ID:</b> R383669 ( 0 )		<b>Test Name :</b> LOW LEVEL VOLATILES BY SW8260C			<b>Matrix:</b> Liquid	
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00			14 May 2021 18:40	50
<b>Batch ID:</b> R383753 ( 0 )		<b>Test Name :</b> PH BY SW9040C			<b>Matrix:</b> Liquid	
HS21050676-01	WW-1620-ToteWater-20210512	12 May 2021 16:00			17 May 2021 14:18	1

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

**Batch ID:** 165827 ( 0 )      **Instrument:** FID-10      **Method:** LOW-LEVEL TEXAS TPH BY TX1005

<b>MBLK</b>		Sample ID: <b>MBLK-165827</b>		Units: <b>mg/L</b>		Analysis Date: <b>14-May-2021 17:50</b>				
Client ID:		Run ID: <b>FID-10_383792</b>		SeqNo: <b>6096120</b>		PrepDate: <b>14-May-2021</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 0.20	0.50								
>nC12 to nC28	< 0.20	0.50								
>nC28 to nC35	< 0.20	0.50								
Total Petroleum Hydrocarbon	< 0.20	0.50								
Surr: 2-Fluorobiphenyl	2.637	0	2.5	0	105	70 - 130				
Surr: Trifluoromethyl benzene	2.554	0	2.5	0	102	70 - 130				

<b>LCS</b>		Sample ID: <b>LCS-165827</b>		Units: <b>mg/L</b>		Analysis Date: <b>14-May-2021 18:18</b>				
Client ID:		Run ID: <b>FID-10_383792</b>		SeqNo: <b>6096121</b>		PrepDate: <b>14-May-2021</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	22.15	0.50	25	0	88.6	75 - 125				
>nC12 to nC28	26.24	0.50	25	0	105	75 - 125				
Surr: 2-Fluorobiphenyl	2.439	0	2.5	0	97.5	70 - 130				
Surr: Trifluoromethyl benzene	2.367	0	2.5	0	94.7	70 - 130				

<b>LCSD</b>		Sample ID: <b>LCSD-165827</b>		Units: <b>mg/L</b>		Analysis Date: <b>14-May-2021 18:47</b>				
Client ID:		Run ID: <b>FID-10_383792</b>		SeqNo: <b>6096122</b>		PrepDate: <b>14-May-2021</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	21.07	0.50	25	0	84.3	75 - 125	22.15	5.02	20	
>nC12 to nC28	24.75	0.50	25	0	99.0	75 - 125	26.24	5.84	20	
Surr: 2-Fluorobiphenyl	2.433	0	2.5	0	97.3	70 - 130	2.439	0.222	20	
Surr: Trifluoromethyl benzene	2.348	0	2.5	0	93.9	70 - 130	2.367	0.832	20	

<b>MS</b>		Sample ID: <b>HS21050671-01MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>14-May-2021 19:45</b>				
Client ID:		Run ID: <b>FID-10_383792</b>		SeqNo: <b>6096124</b>		PrepDate: <b>14-May-2021</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	21.7	0.50	24.8	0	87.5	75 - 125				
>nC12 to nC28	26.12	0.50	24.8	0	105	75 - 125				
Surr: 2-Fluorobiphenyl	2.766	0	2.48	0	112	70 - 130				
Surr: Trifluoromethyl benzene	2.631	0	2.48	0	106	70 - 130				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

<b>Batch ID:</b> 165827 ( 0 )		<b>Instrument:</b> FID-10		<b>Method:</b> LOW-LEVEL TEXAS TPH BY TX1005						
<b>MSD</b>	Sample ID: <b>HS21050671-01MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>14-May-2021 20:14</b>					
Client ID:	Run ID: <b>FID-10_383792</b>	SeqNo: <b>6096125</b>		PrepDate: <b>14-May-2021</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

nC6 to nC12	22.79	0.50	24.77	0	92.0	75 - 125	21.7	4.87	20
>nC12 to nC28	27.73	0.50	24.77	0	112	75 - 125	26.12	6	20
Surr: 2-Fluorobiphenyl	2.751	0	2.477	0	111	70 - 130	2.766	0.545	20
Surr: Trifluoromethyl benzene	2.587	0	2.477	0	104	70 - 130	2.631	1.71	20

The following samples were analyzed in this batch: HS21050676-01

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

<b>Batch ID:</b> 165906 ( 0 )	<b>Instrument:</b> HG03	<b>Method:</b> MERCURY BY SW7470A
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<b>MBLK</b>	Sample ID: <b>MBLK-165906</b>	Units: <b>mg/L</b>	Analysis Date: <b>18-May-2021 12:15</b>							
Client ID:	Run ID: <b>HG03_383835</b>	SeqNo: <b>6097328</b>	PrepDate: <b>18-May-2021</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury < 0.0000300 0.000200

<b>LCS</b>	Sample ID: <b>LCS-165906</b>	Units: <b>mg/L</b>	Analysis Date: <b>18-May-2021 12:22</b>							
Client ID:	Run ID: <b>HG03_383835</b>	SeqNo: <b>6097331</b>	PrepDate: <b>18-May-2021</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00472 0.000200 0.005 0 94.4 80 - 120

<b>MS</b>	Sample ID: <b>HS21050706-02MS</b>	Units: <b>mg/L</b>	Analysis Date: <b>18-May-2021 12:25</b>							
Client ID:	Run ID: <b>HG03_383835</b>	SeqNo: <b>6097333</b>	PrepDate: <b>18-May-2021</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00472 0.000200 0.005 -0.000022 94.8 75 - 125

<b>MSD</b>	Sample ID: <b>HS21050706-02MSD</b>	Units: <b>mg/L</b>	Analysis Date: <b>18-May-2021 12:27</b>							
Client ID:	Run ID: <b>HG03_383835</b>	SeqNo: <b>6097334</b>	PrepDate: <b>18-May-2021</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00408 0.000200 0.005 -0.000022 82.0 75 - 125 0.00472 14.5 20

The following samples were analyzed in this batch: HS21050676-01

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

**Batch ID:** 166038 ( 0 )      **Instrument:** ICPMS06      **Method:** ICP-MS METALS BY SW6020A

<b>MBLK</b>		Sample ID: <b>MBLK-166038</b>		Units: <b>mg/L</b>		Analysis Date: <b>20-May-2021 18:52</b>			
Client ID:		Run ID: <b>ICPMS06_384036</b>		SeqNo: <b>6103135</b>		PrepDate: <b>20-May-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	< 0.000400	0.00200							
Arsenic	< 0.000400	0.00200							
Barium	< 0.00190	0.00400							
Beryllium	< 0.000200	0.00200							
Cadmium	< 0.000200	0.00200							
Chromium	< 0.000400	0.00400							
Lead	< 0.000600	0.00200							
Nickel	< 0.000600	0.00200							
Selenium	< 0.00110	0.00200							
Silver	< 0.000200	0.00200							

<b>LCS</b>		Sample ID: <b>LCS-166038</b>		Units: <b>mg/L</b>		Analysis Date: <b>20-May-2021 18:54</b>			
Client ID:		Run ID: <b>ICPMS06_384036</b>		SeqNo: <b>6103136</b>		PrepDate: <b>20-May-2021</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.05435	0.00200	0.05	0	109	80 - 120			
Arsenic	0.0505	0.00200	0.05	0	101	80 - 120			
Barium	0.04784	0.00400	0.05	0	95.7	80 - 120			
Beryllium	0.04617	0.00200	0.05	0	92.3	80 - 120			
Cadmium	0.04828	0.00200	0.05	0	96.6	80 - 120			
Chromium	0.0516	0.00400	0.05	0	103	80 - 120			
Lead	0.0472	0.00200	0.05	0	94.4	80 - 120			
Nickel	0.05479	0.00200	0.05	0	110	80 - 120			
Selenium	0.05438	0.00200	0.05	0	109	80 - 120			
Silver	0.04608	0.00200	0.05	0	92.2	80 - 120			

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

<b>Batch ID:</b> 166038 ( 0 )		<b>Instrument:</b> ICPMS06		<b>Method:</b> ICP-MS METALS BY SW6020A					
<b>MS</b>	Sample ID: <b>HS21050786-01MS</b>	Units: <b>mg/L</b>			Analysis Date: <b>20-May-2021 22:02</b>				
Client ID:	Run ID: <b>ICPMS06_384036</b>	SeqNo: <b>6103138</b>		PrepDate: <b>20-May-2021</b>		DF: <b>5</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	0.04708	0.0100	0.05	0	94.2	80 - 120			
Arsenic	0.943	0.0100	0.05	0.7293	427	80 - 120			SO
Barium	0.07268	0.0200	0.05	0.01896	107	80 - 120			
Beryllium	0.04914	0.0100	0.05	0	98.3	80 - 120			
Cadmium	0.05073	0.0100	0.05	0	101	80 - 120			
Chromium	0.04908	0.0200	0.05	0	98.2	80 - 120			
Lead	0.04991	0.0100	0.05	0	99.8	80 - 120			
Nickel	0.07641	0.0100	0.05	0.02098	111	80 - 120			
Selenium	0.05287	0.0100	0.05	0	106	80 - 120			
Silver	0.04705	0.0100	0.05	0	94.1	80 - 120			

<b>MSD</b>	Sample ID: <b>HS21050786-01MSD</b>	Units: <b>mg/L</b>			Analysis Date: <b>20-May-2021 22:04</b>				
Client ID:	Run ID: <b>ICPMS06_384036</b>	SeqNo: <b>6103139</b>		PrepDate: <b>20-May-2021</b>		DF: <b>5</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	0.04347	0.0100	0.05	0	86.9	80 - 120	0.04708	7.98	20
Arsenic	0.9018	0.0100	0.05	0.7293	345	80 - 120	0.943	4.46	20 SO
Barium	0.06895	0.0200	0.05	0.01896	100.0	80 - 120	0.07268	5.26	20
Beryllium	0.04572	0.0100	0.05	0	91.4	80 - 120	0.04914	7.22	20
Cadmium	0.04659	0.0100	0.05	0	93.2	80 - 120	0.05073	8.52	20
Chromium	0.04534	0.0200	0.05	0	90.7	80 - 120	0.04908	7.91	20
Lead	0.04569	0.0100	0.05	0	91.4	80 - 120	0.04991	8.82	20
Nickel	0.07061	0.0100	0.05	0.02098	99.3	80 - 120	0.07641	7.9	20
Selenium	0.04936	0.0100	0.05	0	98.7	80 - 120	0.05287	6.87	20
Silver	0.0408	0.0100	0.05	0	81.6	80 - 120	0.04705	14.2	20

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

<b>Batch ID:</b> 166038 ( 0 )	<b>Instrument:</b> ICPMS06	<b>Method:</b> ICP-MS METALS BY SW6020A
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<b>PDS</b>		Sample ID: <b>HS21050786-01PDS</b>			Units: <b>mg/L</b>		Analysis Date: <b>20-May-2021 22:06</b>			
Client ID:		Run ID: <b>ICPMS06_384036</b>			SeqNo: <b>6103140</b>		PrepDate: <b>20-May-2021</b>		DF: <b>5</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.9475	0.0100	1	0	94.8	75 - 125				
Barium	1.016	0.0200	1	0.01896	99.7	75 - 125				
Beryllium	0.9262	0.0100	1	0	92.6	75 - 125				
Cadmium	0.9463	0.0100	1	0	94.6	75 - 125				
Chromium	0.9611	0.0200	1	0	96.1	75 - 125				
Lead	0.9657	0.0100	1	0	96.6	75 - 125				
Nickel	0.9779	0.0100	1	0.02098	95.7	75 - 125				
Selenium	1.016	0.0100	1	0	102	75 - 125				
Silver	0.8957	0.0100	1	0	89.6	75 - 125				

<b>PDS</b>		Sample ID: <b>HS21050786-01PDS</b>			Units: <b>mg/L</b>		Analysis Date: <b>21-May-2021 13:44</b>			
Client ID:		Run ID: <b>ICPMS06_384111</b>			SeqNo: <b>6104437</b>		PrepDate: <b>20-May-2021</b>		DF: <b>100</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.47	0.200	10	0.8177	96.6	75 - 125				

<b>SD</b>		Sample ID: <b>HS21050786-01SD</b>			Units: <b>mg/L</b>		Analysis Date: <b>20-May-2021 22:00</b>			
Client ID:		Run ID: <b>ICPMS06_384036</b>			SeqNo: <b>6103137</b>		PrepDate: <b>20-May-2021</b>		DF: <b>25</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	RPD Limit	Qual
Antimony	< 0.0100	0.0500					0.000032	0	10	
Barium	< 0.0475	0.100					0.01896	0	10	
Beryllium	< 0.00500	0.0500					0.000105	0	10	
Cadmium	< 0.00500	0.0500					0.00065	0	10	
Chromium	< 0.0100	0.100					0.00024	0	10	
Lead	< 0.0150	0.0500					0.000225	0	10	
Nickel	0.02701	0.0500					0.02098	0	10	J
Selenium	< 0.0275	0.0500					0.000991	0	10	
Silver	< 0.00500	0.0500					0.000013	0	10	



**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

<b>Batch ID:</b> 166038 ( 0 )		<b>Instrument:</b> ICPMS06		<b>Method:</b> ICP-MS METALS BY SW6020A						
<b>SD</b>	<b>Sample ID:</b> HS21050786-01SD		<b>Units:</b> mg/L		<b>Analysis Date:</b> 21-May-2021 13:42					
<b>Client ID:</b>	<b>Run ID:</b> ICPMS06_384111		<b>SeqNo:</b> 6104436		<b>PrepDate:</b> 20-May-2021		<b>DF:</b> 500			
<b>Analyte</b>	<b>Result</b>	<b>PQL</b>	<b>SPK Val</b>	<b>SPK Ref Value</b>	<b>%REC</b>	<b>Control Limit</b>	<b>RPD Ref Value</b>	<b>%D</b>	<b>Limit</b>	<b>Qual</b>

Arsenic	0.8877	1.00					0.8177	0	10	J
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The following samples were analyzed in this batch:

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-165870	Units: ug/L			Analysis Date: 20-May-2021 14:45					
Client ID:	Run ID: SV-8_384070	SeqNo: 6102973	PrepDate: 17-May-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	< 0.030	0.20								
2,4,5-Trichlorophenol	< 0.057	0.20								
2,4,6-Trichlorophenol	< 0.048	0.20								
2,4-Dichlorophenol	< 0.043	0.20								
2,4-Dimethylphenol	< 0.040	0.20								
2,4-Dinitrophenol	< 0.10	1.0								
2,4-Dinitrotoluene	< 0.058	0.20								
2,6-Dinitrotoluene	< 0.042	0.20								
2-Chloronaphthalene	< 0.021	0.20								
2-Chlorophenol	< 0.036	0.20								
2-Methylnaphthalene	< 0.019	0.10								
2-Methylphenol	< 0.045	0.20								
2-Nitroaniline	< 0.041	0.20								
2-Nitrophenol	< 0.034	0.20								
3&4-Methylphenol	< 0.036	0.20								
3,3'-Dichlorobenzidine	< 0.044	0.20								
3-Nitroaniline	< 0.049	0.20								
4,6-Dinitro-2-methylphenol	< 0.020	0.20								
4-Bromophenyl phenyl ether	< 0.051	0.20								
4-Chloro-3-methylphenol	< 0.032	0.20								
4-Chloroaniline	< 0.039	0.20								
4-Chlorophenyl phenyl ether	< 0.044	0.20								
4-Nitroaniline	< 0.035	0.20								
4-Nitrophenol	< 0.047	1.0								
Acenaphthene	< 0.027	0.10								
Acenaphthylene	< 0.015	0.10								
Anthracene	< 0.014	0.10								
Benz(a)anthracene	< 0.050	0.10								
Benzidine	< 0.10	0.20								
Benzo(a)pyrene	< 0.020	0.10								
Benzo(b)fluoranthene	< 0.023	0.10								
Benzo(g,h,i)perylene	< 0.014	0.10								
Benzo(k)fluoranthene	< 0.019	0.10								
Benzyl alcohol	< 0.054	0.20								

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
<b>MBLK</b>	Sample ID: <b>MBLK-165870</b>	Units: <b>ug/L</b>			Analysis Date: <b>20-May-2021 14:45</b>					
Client ID:	Run ID: <b>SV-8_384070</b>	SeqNo: <b>6102973</b>		PrepDate: <b>17-May-2021</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Bis(2-chloroethoxy)methane	< 0.030	0.20								
Bis(2-chloroethyl)ether	< 0.026	0.20								
Bis(2-chloroisopropyl)ether	< 0.070	0.20								
Bis(2-ethylhexyl)phthalate	< 0.037	0.20								
Butyl benzyl phthalate	< 0.019	0.20								
Carbazole	< 0.025	0.20								
Chrysene	< 0.021	0.10								
Dibenz(a,h)anthracene	< 0.024	0.10								
Dibenzofuran	< 0.020	0.10								
Diethyl phthalate	< 0.030	0.20								
Dimethyl phthalate	< 0.041	0.20								
Di-n-butyl phthalate	< 0.020	0.20								
Di-n-octyl phthalate	< 0.020	0.20								
Fluoranthene	< 0.010	0.10								
Fluorene	< 0.030	0.10								
Hexachlorobenzene	< 0.044	0.20								
Hexachlorobutadiene	< 0.030	0.20								
Hexachlorocyclopentadiene	< 0.030	0.20								
Hexachloroethane	< 0.059	0.20								
Indeno(1,2,3-cd)pyrene	< 0.022	0.10								
Isophorone	< 0.025	0.20								
Naphthalene	< 0.020	0.10								
Nitrobenzene	< 0.024	0.20								
N-Nitrosodimethylamine	< 0.10	0.20								
N-Nitrosodi-n-propylamine	< 0.032	0.20								
N-Nitrosodiphenylamine	< 0.025	0.20								
Pentachlorophenol	< 0.079	0.20								
Phenanthrene	< 0.021	0.10								
Phenol	< 0.035	0.20								
Pyrene	< 0.019	0.10								
Pyridine	< 0.030	1.0								
<i>Surr: 2,4,6-Tribromophenol</i>	4.238	0.20	5	0	84.8	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	5.122	0.20	5	0	102	40 - 125				
<i>Surr: 2-Fluorophenol</i>	5.598	0.20	5	0	112	20 - 120				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
<b>MBLK</b>	Sample ID: <b>MBLK-165870</b>	Units: <b>ug/L</b>			Analysis Date: <b>20-May-2021 14:45</b>					
Client ID:	Run ID: <b>SV-8_384070</b>	SeqNo: <b>6102973</b>		PrepDate: <b>17-May-2021</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	5.831	0.20	5	0	117	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	4.774	0.20	5	0	95.5	41 - 120				
<i>Surr: Phenol-d6</i>	5.364	0.20	5	0	107	20 - 120				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-165870	Units: ug/L			Analysis Date: 20-May-2021 15:05					
Client ID:	Run ID: SV-8_384070	SeqNo: 6102974	PrepDate: 17-May-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3.953	0.20	5	0	79.1	45 - 120				
2,4,5-Trichlorophenol	4.333	0.20	5	0	86.7	46 - 120				
2,4,6-Trichlorophenol	4.376	0.20	5	0	87.5	42 - 120				
2,4-Dichlorophenol	4.505	0.20	5	0	90.1	49 - 120				
2,4-Dimethylphenol	5.03	0.20	5	0	101	35 - 120				
2,4-Dinitrophenol	3.195	1.0	5	0	63.9	15 - 120				
2,4-Dinitrotoluene	5.279	0.20	5	0	106	50 - 122				
2,6-Dinitrotoluene	5.099	0.20	5	0	102	50 - 120				
2-Chloronaphthalene	5.212	0.20	5	0	104	50 - 120				
2-Chlorophenol	5.019	0.20	5	0	100	40 - 120				
2-Methylnaphthalene	4.856	0.10	5	0	97.1	50 - 120				
2-Methylphenol	5.133	0.20	5	0	103	45 - 120				
2-Nitroaniline	5.951	0.20	5	0	119	28 - 139				
2-Nitrophenol	4.661	0.20	5	0	93.2	40 - 120				
3&4-Methylphenol	5.509	0.20	5	0	110	35 - 120				
3,3'-Dichlorobenzidine	4.465	0.20	5	0	89.3	15 - 120				
3-Nitroaniline	5.744	0.20	5	0	115	30 - 120				
4,6-Dinitro-2-methylphenol	3.997	0.20	5	0	79.9	25 - 121				
4-Bromophenyl phenyl ether	4.292	0.20	5	0	85.8	45 - 120				
4-Chloro-3-methylphenol	5.386	0.20	5	0	108	47 - 120				
4-Chloroaniline	5.794	0.20	5	0	116	20 - 120				
4-Chlorophenyl phenyl ether	4.134	0.20	5	0	82.7	50 - 120				
4-Nitroaniline	5.504	0.20	5	0	110	30 - 133				
4-Nitrophenol	6.372	1.0	5	0	127	30 - 130				
Acenaphthene	4.469	0.10	5	0	89.4	45 - 120				
Acenaphthylene	4.901	0.10	5	0	98.0	47 - 120				
Anthracene	5.542	0.10	5	0	111	45 - 120				
Benz(a)anthracene	5.235	0.10	5	0	105	40 - 120				
Benzidine	2.383	0.20	5	0	47.7	10 - 120				
Benzo(a)pyrene	5.693	0.10	5	0	114	45 - 120				
Benzo(b)fluoranthene	5.57	0.10	5	0	111	50 - 120				
Benzo(g,h,i)perylene	4.55	0.10	5	0	91.0	42 - 127				
Benzo(k)fluoranthene	5.558	0.10	5	0	111	45 - 127				
Benzyl alcohol	5.229	0.20	5	0	105	35 - 122				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-165870	Units: ug/L			Analysis Date: 20-May-2021 15:05					
Client ID:	Run ID: SV-8_384070	SeqNo: 6102974	PrepDate: 17-May-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	4.98	0.20	5	0	99.6	45 - 120				
Bis(2-chloroethyl)ether	4.825	0.20	5	0	96.5	37 - 121				
Bis(2-chloroisopropyl)ether	4.748	0.20	5	0	95.0	40 - 120				
Bis(2-ethylhexyl)phthalate	6.862	0.20	5	0	137	40 - 139				
Butyl benzyl phthalate	6.017	0.20	5	0	120	47 - 123				
Carbazole	5.953	0.20	5	0	119	42 - 128				
Chrysene	5.582	0.10	5	0	112	43 - 120				
Dibenz(a,h)anthracene	4.658	0.10	5	0	93.2	45 - 125				
Dibenzofuran	4.922	0.10	5	0	98.4	50 - 120				
Diethyl phthalate	5.366	0.20	5	0	107	41 - 120				
Dimethyl phthalate	5.025	0.20	5	0	100	40 - 122				
Di-n-butyl phthalate	6.123	0.20	5	0	122	45 - 123				
Di-n-octyl phthalate	5.538	0.20	5	0	111	45 - 129				
Fluoranthene	5.121	0.10	5	0	102	45 - 125				
Fluorene	5.255	0.10	5	0	105	49 - 120				
Hexachlorobenzene	4.283	0.20	5	0	85.7	48 - 120				
Hexachlorobutadiene	3.5	0.20	5	0	70.0	40 - 120				
Hexachlorocyclopentadiene	3.23	0.20	5	0	64.6	34 - 136				
Hexachloroethane	5.048	0.20	5	0	101	40 - 120				
Indeno(1,2,3-cd)pyrene	4.566	0.10	5	0	91.3	41 - 128				
Isophorone	4.754	0.20	5	0	95.1	40 - 121				
Naphthalene	5.251	0.10	5	0	105	45 - 120				
Nitrobenzene	4.834	0.20	5	0	96.7	44 - 120				
N-Nitrosodimethylamine	3.825	0.20	5	0	76.5	30 - 121				
N-Nitrosodi-n-propylamine	5.054	0.20	5	0	101	40 - 120				
N-Nitrosodiphenylamine	5.564	0.20	5	0	111	40 - 125				
Pentachlorophenol	3.34	0.20	5	0	66.8	19 - 121				
Phenanthrene	5.555	0.10	5	0	111	45 - 121				
Phenol	5.046	0.20	5	0	101	20 - 124				
Pyrene	5.924	0.10	5	0	118	40 - 130				
Pyridine	3.392	1.0	5	0	67.8	15 - 120				
Surr: 2,4,6-Tribromophenol	4.368	0.20	5	0	87.4	34 - 129				
Surr: 2-Fluorobiphenyl	4.976	0.20	5	0	99.5	40 - 125				
Surr: 2-Fluorophenol	5.01	0.20	5	0	100	20 - 120				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
<b>LCS</b>	Sample ID: <b>LCS-165870</b>	Units: <b>ug/L</b>			Analysis Date: <b>20-May-2021 15:05</b>					
Client ID:	Run ID: <b>SV-8_384070</b>	SeqNo: <b>6102974</b>		PrepDate: <b>17-May-2021</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	5.497	0.20	5	0	110	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	4.871	0.20	5	0	97.4	41 - 120				
<i>Surr: Phenol-d6</i>	5.034	0.20	5	0	101	20 - 120				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCSD		Sample ID: LCSD-165870		Units: ug/L		Analysis Date: 20-May-2021 15:25				
Client ID:		Run ID: SV-8_384070		SeqNo: 6102975		PrepDate: 17-May-2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3.953	0.20	5	0	79.1	45 - 120	3.953	0.00402	20	
2,4,5-Trichlorophenol	4.22	0.20	5	0	84.4	46 - 120	4.333	2.64	20	
2,4,6-Trichlorophenol	4.207	0.20	5	0	84.1	42 - 120	4.376	3.94	20	
2,4-Dichlorophenol	4.508	0.20	5	0	90.2	49 - 120	4.505	0.0638	20	
2,4-Dimethylphenol	5.249	0.20	5	0	105	35 - 120	5.03	4.25	20	
2,4-Dinitrophenol	3.246	1.0	5	0	64.9	15 - 120	3.195	1.6	50	
2,4-Dinitrotoluene	5.552	0.20	5	0	111	50 - 122	5.279	5.05	20	
2,6-Dinitrotoluene	5.014	0.20	5	0	100	50 - 120	5.099	1.68	20	
2-Chloronaphthalene	4.948	0.20	5	0	99.0	50 - 120	5.212	5.19	20	
2-Chlorophenol	5.658	0.20	5	0	113	40 - 120	5.019	12	20	
2-Methylnaphthalene	4.771	0.10	5	0	95.4	50 - 120	4.856	1.76	20	
2-Methylphenol	5.524	0.20	5	0	110	45 - 120	5.133	7.34	20	
2-Nitroaniline	5.829	0.20	5	0	117	28 - 139	5.951	2.06	20	
2-Nitrophenol	4.925	0.20	5	0	98.5	40 - 120	4.661	5.51	20	
3&4-Methylphenol	5.746	0.20	5	0	115	35 - 120	5.509	4.21	20	
3,3'-Dichlorobenzidine	4.355	0.20	5	0	87.1	15 - 120	4.465	2.48	20	
3-Nitroaniline	5.263	0.20	5	0	105	30 - 120	5.744	8.74	20	
4,6-Dinitro-2-methylphenol	4.508	0.20	5	0	90.2	25 - 121	3.997	12	30	
4-Bromophenyl phenyl ether	4.312	0.20	5	0	86.2	45 - 120	4.292	0.468	20	
4-Chloro-3-methylphenol	5.388	0.20	5	0	108	47 - 120	5.386	0.0397	20	
4-Chloroaniline	5.647	0.20	5	0	113	20 - 120	5.794	2.57	20	
4-Chlorophenyl phenyl ether	4.012	0.20	5	0	80.2	50 - 120	4.134	3.01	20	
4-Nitroaniline	5.94	0.20	5	0	119	30 - 133	5.504	7.62	20	
4-Nitrophenol	6.223	1.0	5	0	124	30 - 130	6.372	2.36	20	
Acenaphthene	4.346	0.10	5	0	86.9	45 - 120	4.469	2.79	20	
Acenaphthylene	4.867	0.10	5	0	97.3	47 - 120	4.901	0.686	20	
Anthracene	5.53	0.10	5	0	111	45 - 120	5.542	0.218	20	
Benz(a)anthracene	5.27	0.10	5	0	105	40 - 120	5.235	0.66	20	
Benzidine	2.167	0.20	5	0	43.3	10 - 120	2.383	9.49	30	
Benzo(a)pyrene	5.674	0.10	5	0	113	45 - 120	5.693	0.335	20	
Benzo(b)fluoranthene	5.407	0.10	5	0	108	50 - 120	5.57	2.96	20	
Benzo(g,h,i)perylene	4.673	0.10	5	0	93.5	42 - 127	4.55	2.67	20	
Benzo(k)fluoranthene	5.296	0.10	5	0	106	45 - 127	5.558	4.84	20	
Benzyl alcohol	5.433	0.20	5	0	109	35 - 122	5.229	3.82	20	



**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8			Method: LOW-LEVEL SEMIVOLATILES BY 8270D					
<b>LCSD</b>	Sample ID: <b>LCSD-165870</b>	Units: <b>ug/L</b>			Analysis Date: <b>20-May-2021 15:25</b>					
Client ID:	Run ID: <b>SV-8_384070</b>	SeqNo: <b>6102975</b>		PrepDate: <b>17-May-2021</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	4.926	0.20	5	0	98.5	45 - 120	4.98	1.09	20	
Bis(2-chloroethyl)ether	5.196	0.20	5	0	104	37 - 121	4.825	7.4	20	
Bis(2-chloroisopropyl)ether	5.227	0.20	5	0	105	40 - 120	4.748	9.61	20	
Bis(2-ethylhexyl)phthalate	6.804	0.20	5	0	136	40 - 139	6.862	0.854	20	
Butyl benzyl phthalate	6.125	0.20	5	0	122	47 - 123	6.017	1.78	20	
Carbazole	5.816	0.20	5	0	116	42 - 128	5.953	2.32	20	
Chrysene	5.619	0.10	5	0	112	43 - 120	5.582	0.673	20	
Dibenz(a,h)anthracene	4.619	0.10	5	0	92.4	45 - 125	4.658	0.831	20	
Dibenzofuran	4.773	0.10	5	0	95.5	50 - 120	4.922	3.07	20	
Diethyl phthalate	5.245	0.20	5	0	105	41 - 120	5.366	2.29	20	
Dimethyl phthalate	4.978	0.20	5	0	99.6	40 - 122	5.025	0.923	20	
Di-n-butyl phthalate	6.018	0.20	5	0	120	45 - 123	6.123	1.72	20	
Di-n-octyl phthalate	6.175	0.20	5	0	124	45 - 129	5.538	10.9	20	
Fluoranthene	5.056	0.10	5	0	101	45 - 125	5.121	1.28	20	
Fluorene	5.108	0.10	5	0	102	49 - 120	5.255	2.84	20	
Hexachlorobenzene	4.139	0.20	5	0	82.8	48 - 120	4.283	3.42	20	
Hexachlorobutadiene	3.612	0.20	5	0	72.2	40 - 120	3.5	3.15	20	
Hexachlorocyclopentadiene	3.12	0.20	5	0	62.4	34 - 136	3.23	3.45	20	
Hexachloroethane	5.338	0.20	5	0	107	40 - 120	5.048	5.59	20	
Indeno(1,2,3-cd)pyrene	4.531	0.10	5	0	90.6	41 - 128	4.566	0.783	20	
Isophorone	4.751	0.20	5	0	95.0	40 - 121	4.754	0.0645	20	
Naphthalene	5.221	0.10	5	0	104	45 - 120	5.251	0.571	20	
Nitrobenzene	4.778	0.20	5	0	95.6	44 - 120	4.834	1.15	20	
N-Nitrosodimethylamine	4.675	0.20	5	0	93.5	30 - 121	3.825	20	20	R
N-Nitrosodi-n-propylamine	5.34	0.20	5	0	107	40 - 120	5.054	5.49	20	
N-Nitrosodiphenylamine	5.467	0.20	5	0	109	40 - 125	5.564	1.76	20	
Pentachlorophenol	3.614	0.20	5	0	72.3	19 - 121	3.34	7.88	20	
Phenanthrene	5.48	0.10	5	0	110	45 - 121	5.555	1.36	20	
Phenol	5.278	0.20	5	0	106	20 - 124	5.046	4.51	20	
Pyrene	5.969	0.10	5	0	119	40 - 130	5.924	0.761	20	
Pyridine	3.666	1.0	5	0	73.3	15 - 120	3.392	7.76	20	
Surr: 2,4,6-Tribromophenol	4.489	0.20	5	0	89.8	34 - 129	4.368	2.73	20	
Surr: 2-Fluorobiphenyl	4.863	0.20	5	0	97.3	40 - 125	4.976	2.31	20	
Surr: 2-Fluorophenol	5.434	0.20	5	0	109	20 - 120	5.01	8.11	20	

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: 165870 ( 0 )		Instrument: SV-8		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
<b>LCSD</b>	Sample ID: <b>LCSD-165870</b>	Units: <b>ug/L</b>			Analysis Date: <b>20-May-2021 15:25</b>					
Client ID:	Run ID: <b>SV-8_384070</b>	SeqNo: <b>6102975</b>		PrepDate: <b>17-May-2021</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
<i>Surr: 4-Terphenyl-d14</i>	5.536	0.20	5	0	111	40 - 135	5.497	0.71	20	
<i>Surr: Nitrobenzene-d5</i>	4.904	0.20	5	0	98.1	41 - 120	4.871	0.689	20	
<i>Surr: Phenol-d6</i>	5.47	0.20	5	0	109	20 - 120	5.034	8.3	20	

The following samples were analyzed in this batch: HS21050676-01

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: R383669 ( 0 )		Instrument: VOA4		Method: LOW LEVEL VOLATILES BY SW8260C						
MBLK	Sample ID: VBLKW-210514	Units: ug/L			Analysis Date: 14-May-2021 12:04					
Client ID:	Run ID: VOA4_383669	SeqNo: 6092645	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	< 0.20	1.0								
1,1,2,2-Tetrachloroethane	< 0.50	1.0								
1,1,2-Trichloroethane	< 0.30	1.0								
1,1-Dichloroethane	< 0.20	1.0								
1,1-Dichloroethene	< 0.20	1.0								
1,2-Dichlorobenzene	< 0.50	1.0								
1,2-Dichloroethane	< 0.20	1.0								
1,2-Dichloropropane	< 0.50	1.0								
1,3-Dichlorobenzene	< 0.40	1.0								
1,4-Dichlorobenzene	< 0.40	1.0								
2-Butanone	< 0.50	2.0								
2-Hexanone	< 1.0	2.0								
4-Methyl-2-pentanone	< 0.70	2.0								
Acetone	< 2.0	2.0								
Benzene	< 0.20	1.0								
Bromochloromethane	< 0.20	1.0								
Bromodichloromethane	< 0.20	1.0								
Bromoform	< 0.40	1.0								
Bromomethane	< 0.40	1.0								
Carbon disulfide	< 0.60	2.0								
Carbon tetrachloride	< 0.50	1.0								
Chlorobenzene	< 0.30	1.0								
Chloroethane	< 0.30	1.0								
Chloroform	< 0.20	1.0								
Chloromethane	< 0.20	1.0								
cis-1,2-Dichloroethene	< 0.20	1.0								
cis-1,3-Dichloropropene	< 0.10	1.0								
Dibromochloromethane	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								
m,p-Xylene	< 0.50	2.0								
Methylene chloride	< 1.0	2.0								
o-Xylene	< 0.30	1.0								
Styrene	< 0.30	1.0								
Tetrachloroethene	< 0.30	1.0								

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: R383669 ( 0 )		Instrument: VOA4		Method: LOW LEVEL VOLATILES BY SW8260C						
MBLK	Sample ID: VBLKW-210514	Units: ug/L			Analysis Date: 14-May-2021 12:04					
Client ID:	Run ID: VOA4_383669	SeqNo: 6092645		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	< 0.20	1.0								
trans-1,2-Dichloroethene	< 0.20	1.0								
trans-1,3-Dichloropropene	< 0.20	1.0								
Trichloroethene	< 0.20	1.0								
Vinyl acetate	< 0.50	1.0								
Vinyl chloride	< 0.20	1.0								
Xylenes, Total	< 0.30	1.0								
1,2-Dichloroethene, Total	< 0.20	1.0								
<i>Surr: 1,2-Dichloroethane-d4</i>	50.65	1.0	50	0	101	70 - 123				
<i>Surr: 4-Bromofluorobenzene</i>	47.43	1.0	50	0	94.9	82 - 115				
<i>Surr: Dibromofluoromethane</i>	49.39	1.0	50	0	98.8	73 - 126				
<i>Surr: Toluene-d8</i>	51.34	1.0	50	0	103	81 - 120				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: R383669 ( 0 )		Instrument: VOA4		Method: LOW LEVEL VOLATILES BY SW8260C						
LCS	Sample ID: VLCSW-210514	Units: ug/L			Analysis Date: 14-May-2021 11:20					
Client ID:	Run ID: VOA4_383669	SeqNo: 6092644	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.79	1.0	20	0	98.9	70 - 130				
1,1,2,2-Tetrachloroethane	18.06	1.0	20	0	90.3	70 - 120				
1,1,2-Trichloroethane	18.51	1.0	20	0	92.6	77 - 113				
1,1-Dichloroethane	19.68	1.0	20	0	98.4	71 - 122				
1,1-Dichloroethene	20.04	1.0	20	0	100	70 - 130				
1,2-Dichlorobenzene	19.67	1.0	20	0	98.4	77 - 113				
1,2-Dichloroethane	18.11	1.0	20	0	90.5	70 - 124				
1,2-Dichloropropane	19.48	1.0	20	0	97.4	72 - 119				
1,3-Dichlorobenzene	20.01	1.0	20	0	100	78 - 118				
1,4-Dichlorobenzene	20.89	1.0	20	0	104	79 - 113				
2-Butanone	34.07	2.0	40	0	85.2	70 - 130				
2-Hexanone	35.99	2.0	40	0	90.0	70 - 130				
4-Methyl-2-pentanone	36.55	2.0	40	0	91.4	70 - 130				
Acetone	34.71	2.0	40	0	86.8	70 - 130				
Benzene	19.51	1.0	20	0	97.6	74 - 120				
Bromochloromethane	19.84	1.0	20	0	99.2	76 - 124				
Bromodichloromethane	19.6	1.0	20	0	98.0	74 - 122				
Bromoform	18.63	1.0	20	0	93.2	73 - 128				
Bromomethane	21.52	1.0	20	0	108	70 - 130				
Carbon disulfide	40.93	2.0	40	0	102	70 - 130				
Carbon tetrachloride	19.09	1.0	20	0	95.4	71 - 125				
Chlorobenzene	19.28	1.0	20	0	96.4	76 - 113				
Chloroethane	22.14	1.0	20	0	111	70 - 130				
Chloroform	19.57	1.0	20	0	97.8	71 - 121				
Chloromethane	21.34	1.0	20	0	107	70 - 129				
cis-1,2-Dichloroethene	18.73	1.0	20	0	93.6	75 - 122				
cis-1,3-Dichloropropene	20.25	1.0	20	0	101	73 - 127				
Dibromochloromethane	19.33	1.0	20	0	96.6	77 - 122				
Ethylbenzene	19.85	1.0	20	0	99.3	77 - 117				
m,p-Xylene	41.01	2.0	40	0	103	77 - 122				
Methylene chloride	20.21	2.0	20	0	101	70 - 127				
o-Xylene	21.16	1.0	20	0	106	75 - 119				
Styrene	21.08	1.0	20	0	105	72 - 126				
Tetrachloroethene	19.18	1.0	20	0	95.9	76 - 119				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: R383669 ( 0 )		Instrument: VOA4		Method: LOW LEVEL VOLATILES BY SW8260C						
<b>LCS</b>	Sample ID: <b>VLCSW-210514</b>	Units: <b>ug/L</b>			Analysis Date: <b>14-May-2021 11:20</b>					
Client ID:	Run ID: <b>VOA4_383669</b>	SeqNo: <b>6092644</b>		PrepDate:			DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Toluene	19.44	1.0	20	0	97.2	77 - 118				
trans-1,2-Dichloroethene	18.59	1.0	20	0	93.0	72 - 127				
trans-1,3-Dichloropropene	18.2	1.0	20	0	91.0	77 - 119				
Trichloroethene	18.95	1.0	20	0	94.8	77 - 121				
Vinyl acetate	33.52	1.0	40	0	83.8	70 - 130				
Vinyl chloride	19.64	1.0	20	0	98.2	70 - 130				
Xylenes, Total	62.17	1.0	60	0	104	75 - 122				
1,2-Dichloroethene, Total	37.32	1.0	40	0	93.3	72 - 127				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.84</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.7</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.41</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>51.48</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>81 - 120</i>				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: R383669 ( 0 )		Instrument: VOA4		Method: LOW LEVEL VOLATILES BY SW8260C						
MS	Sample ID: HS21050330-01MS	Units: ug/L			Analysis Date: 14-May-2021 13:32					
Client ID:	Run ID: VOA4_383669	SeqNo: 6092649	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.61	1.0	20	0	98.1	70 - 130				
1,1,2,2-Tetrachloroethane	17.18	1.0	20	0	85.9	70 - 123				
1,1,2-Trichloroethane	16.48	1.0	20	0	82.4	70 - 117				
1,1-Dichloroethane	19.14	1.0	20	0	95.7	70 - 127				
1,1-Dichloroethene	20.08	1.0	20	0	100	70 - 130				
1,2-Dichlorobenzene	18.51	1.0	20	0	92.5	70 - 115				
1,2-Dichloroethane	15.79	1.0	20	0	79.0	70 - 127				
1,2-Dichloropropane	18.44	1.0	20	0	92.2	70 - 122				
1,3-Dichlorobenzene	18.84	1.0	20	0	94.2	70 - 119				
1,4-Dichlorobenzene	19.79	1.0	20	0	99.0	70 - 114				
2-Butanone	30.56	2.0	40	0	76.4	70 - 130				
2-Hexanone	31.73	2.0	40	0	79.3	70 - 130				
4-Methyl-2-pentanone	32.35	2.0	40	0	80.9	70 - 130				
Acetone	33.77	2.0	40	0	84.4	70 - 130				
Benzene	18.8	1.0	20	0	94.0	70 - 127				
Bromochloromethane	19.09	1.0	20	0	95.5	70 - 127				
Bromodichloromethane	18.52	1.0	20	0	92.6	70 - 124				
Bromoform	16.57	1.0	20	0	82.9	70 - 129				
Bromomethane	21.76	1.0	20	0	109	70 - 130				
Carbon disulfide	40.65	2.0	40	0	102	70 - 130				
Carbon tetrachloride	19.01	1.0	20	0	95.0	70 - 130				
Chlorobenzene	18.18	1.0	20	0	90.9	70 - 114				
Chloroethane	22.59	1.0	20	0	113	70 - 130				
Chloroform	18.57	1.0	20	0	92.8	70 - 125				
Chloromethane	21.92	1.0	20	0	110	70 - 130				
cis-1,2-Dichloroethene	19.26	1.0	20	0	96.3	70 - 128				
cis-1,3-Dichloropropene	18.6	1.0	20	0	93.0	70 - 125				
Dibromochloromethane	17.85	1.0	20	0	89.3	70 - 124				
Ethylbenzene	19.21	1.0	20	0	96.0	70 - 124				
m,p-Xylene	38.69	2.0	40	0	96.7	70 - 130				
Methylene chloride	19.06	2.0	20	0	95.3	70 - 128				
o-Xylene	18.98	1.0	20	0	94.9	70 - 124				
Styrene	19.74	1.0	20	0	98.7	70 - 130				
Tetrachloroethene	18.81	1.0	20	0	94.0	70 - 130				

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

**Batch ID:** R383669 ( 0 )      **Instrument:** VOA4      **Method:** LOW LEVEL VOLATILES BY SW8260C

MS		Sample ID: HS21050330-01MS			Units: ug/L		Analysis Date: 14-May-2021 13:32			
Client ID:		Run ID: VOA4_383669			SeqNo: 6092649		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	19	1.0	20	0	95.0	70 - 123				
trans-1,2-Dichloroethene	18.38	1.0	20	0	91.9	70 - 130				
trans-1,3-Dichloropropene	16.66	1.0	20	0	83.3	70 - 121				
Trichloroethene	17.66	1.0	20	0	88.3	70 - 129				
Vinyl acetate	31.75	1.0	40	0	79.4	70 - 130				
Vinyl chloride	19.41	1.0	20	0	97.0	70 - 130				
Xylenes, Total	57.68	1.0	60	0	96.1	70 - 130				
1,2-Dichloroethene, Total	37.64	1.0	40	0	94.1	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.72</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.4</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.27</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.5</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.68</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>49.65</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.3</i>	<i>82 - 127</i>				



**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

Batch ID: R383669 ( 0 )		Instrument: VOA4		Method: LOW LEVEL VOLATILES BY SW8260C						
MSD	Sample ID: HS21050330-01MSD	Units: ug/L			Analysis Date: 14-May-2021 13:54					
Client ID:	Run ID: VOA4_383669	SeqNo: 6092650	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.03	1.0	20	0	100	70 - 130	19.61	2.08	20	
1,1,2,2-Tetrachloroethane	16.86	1.0	20	0	84.3	70 - 123	17.18	1.87	20	
1,1,2-Trichloroethane	17.27	1.0	20	0	86.4	70 - 117	16.48	4.69	20	
1,1-Dichloroethane	18.89	1.0	20	0	94.5	70 - 127	19.14	1.29	20	
1,1-Dichloroethene	19.37	1.0	20	0	96.8	70 - 130	20.08	3.59	20	
1,2-Dichlorobenzene	18.24	1.0	20	0	91.2	70 - 115	18.51	1.47	20	
1,2-Dichloroethane	16.83	1.0	20	0	84.2	70 - 127	15.79	6.36	20	
1,2-Dichloropropane	18.72	1.0	20	0	93.6	70 - 122	18.44	1.51	20	
1,3-Dichlorobenzene	19.1	1.0	20	0	95.5	70 - 119	18.84	1.37	20	
1,4-Dichlorobenzene	19.56	1.0	20	0	97.8	70 - 114	19.79	1.2	20	
2-Butanone	30.62	2.0	40	0	76.6	70 - 130	30.56	0.188	20	
2-Hexanone	31.36	2.0	40	0	78.4	70 - 130	31.73	1.19	20	
4-Methyl-2-pentanone	32.71	2.0	40	0	81.8	70 - 130	32.35	1.12	20	
Acetone	34.43	2.0	40	0	86.1	70 - 130	33.77	1.95	20	
Benzene	18.81	1.0	20	0	94.0	70 - 127	18.8	0.0571	20	
Bromochloromethane	18.5	1.0	20	0	92.5	70 - 127	19.09	3.12	20	
Bromodichloromethane	18.95	1.0	20	0	94.8	70 - 124	18.52	2.31	20	
Bromoform	16.7	1.0	20	0	83.5	70 - 129	16.57	0.754	20	
Bromomethane	20.11	1.0	20	0	101	70 - 130	21.76	7.88	20	
Carbon disulfide	39.71	2.0	40	0	99.3	70 - 130	40.65	2.33	20	
Carbon tetrachloride	19.21	1.0	20	0	96.0	70 - 130	19.01	1.04	20	
Chlorobenzene	17.79	1.0	20	0	89.0	70 - 114	18.18	2.17	20	
Chloroethane	19.4	1.0	20	0	97.0	70 - 130	22.59	15.2	20	
Chloroform	18.72	1.0	20	0	93.6	70 - 125	18.57	0.817	20	
Chloromethane	21.89	1.0	20	0	109	70 - 130	21.92	0.159	20	
cis-1,2-Dichloroethene	18.2	1.0	20	0	91.0	70 - 128	19.26	5.66	20	
cis-1,3-Dichloropropene	18.6	1.0	20	0	93.0	70 - 125	18.6	0.00685	20	
Dibromochloromethane	17.25	1.0	20	0	86.3	70 - 124	17.85	3.4	20	
Ethylbenzene	19.09	1.0	20	0	95.5	70 - 124	19.21	0.585	20	
m,p-Xylene	38.68	2.0	40	0	96.7	70 - 130	38.69	0.0242	20	
Methylene chloride	18.54	2.0	20	0	92.7	70 - 128	19.06	2.75	20	
o-Xylene	19.75	1.0	20	0	98.7	70 - 124	18.98	3.95	20	
Styrene	19.48	1.0	20	0	97.4	70 - 130	19.74	1.35	20	
Tetrachloroethene	18.08	1.0	20	0	90.4	70 - 130	18.81	3.93	20	

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

**Batch ID:** R383669 ( 0 )      **Instrument:** VOA4      **Method:** LOW LEVEL VOLATILES BY SW8260C

MSD		Sample ID: HS21050330-01MSD			Units: ug/L		Analysis Date: 14-May-2021 13:54			
Client ID:		Run ID: VOA4_383669			SeqNo: 6092650		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	18.39	1.0	20	0	91.9	70 - 123	19	3.25	20	
trans-1,2-Dichloroethene	18.59	1.0	20	0	93.0	70 - 130	18.38	1.15	20	
trans-1,3-Dichloropropene	16.53	1.0	20	0	82.6	70 - 121	16.66	0.807	20	
Trichloroethene	18.47	1.0	20	0	92.4	70 - 129	17.66	4.48	20	
Vinyl acetate	31.86	1.0	40	0	79.6	70 - 130	31.75	0.352	20	
Vinyl chloride	19.56	1.0	20	0	97.8	70 - 130	19.41	0.772	20	
Xylenes, Total	58.43	1.0	60	0	97.4	70 - 130	57.68	1.3	20	
1,2-Dichloroethene, Total	36.79	1.0	40	0	92.0	70 - 130	37.64	2.28	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.06</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.1</i>	<i>70 - 126</i>	<i>49.72</i>	<i>5.5</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.72</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.4</i>	<i>81 - 113</i>	<i>49.27</i>	<i>1.12</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>50.65</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>77 - 123</i>	<i>50.68</i>	<i>0.0529</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>49.19</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.4</i>	<i>82 - 127</i>	<i>49.65</i>	<i>0.942</i>	<i>20</i>	

The following samples were analyzed in this batch: HS21050676-01

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

**Batch ID:** R383647 ( 0 )      **Instrument:** WetChem\_HS      **Method:** FLASH POINT BY PENSKY-MARTENS SW1010A

**LCS**      Sample ID: **LCS-R383647**      Units: °F      Analysis Date: **14-May-2021 08:00**  
 Client ID:      Run ID: **WetChem\_HS\_383647** SeqNo: **6092235** PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ignitability      80.13      70.0      81      0      98.9      95 - 105

**DUP**      Sample ID: **HS21050386-01DUP**      Units: °F      Analysis Date: **14-May-2021 08:00**  
 Client ID:      Run ID: **WetChem\_HS\_383647** SeqNo: **6092236** PrepDate:      DF: **1**  
 Analyte      Result      PQL      SPK Val      SPK Ref Value      %REC      Control Limit      RPD Ref Value      %RPD      RPD Limit Qual

Ignitability      > 212      70.0                               0      0 20

The following samples were analyzed in this batch:

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QC BATCH REPORT**

<b>Batch ID:</b> R383753 ( 0 )		<b>Instrument:</b> WetChem_HS		<b>Method:</b> PH BY SM4500H+ B					
<b>DUP</b>	Sample ID: <b>HS21050379-01DUP</b>	Units: <b>pH Units</b>			Analysis Date: <b>17-May-2021 14:18</b>				
Client ID:	Run ID: <b>WetChem_HS_383753</b>	SeqNo: <b>6094976</b>		PrepDate:			DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

pH	6.79	0.100					6.71	1.19	10
Temp Deg C @pH	23.3	0					23.2	0.43	10

The following samples were analyzed in this batch: HS21050676-01

**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**WorkOrder:** HS21050676

**QUALIFIERS,  
ACRONYMS, UNITS**

<b>Qualifier</b>	<b>Description</b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

<b>Acronym</b>	<b>Description</b>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<b>Unit Reported</b>	<b>Description</b>
mg/L	Milligrams per Liter

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**CERTIFICATIONS,ACCREDITATIONS & LICENSES**

<b>Agency</b>	<b>Number</b>	<b>Expire Date</b>
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-21-27	30-Apr-2022

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**Client:** Golder Associates Inc.  
**Project:** Houston TX-Wood Preserving Works IDWW  
**Work Order:** HS21050676

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**SAMPLE TRACKING**

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Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS21050676-01	WW-1620-ToteWater-20210512	Login	5/13/2021 7:49:43 PM	PJM	VOA244
HS21050676-01	WW-1620-ToteWater-20210512	Login	5/13/2021 7:49:43 PM	PJM	SPA341
HS21050676-01	WW-1620-ToteWater-20210512	Login	5/13/2021 7:49:43 PM	PJM	SPA341

Sample Receipt Checklist

Work Order ID: HS21050676

Date/Time Received: 13-May-2021 14:00

Client Name: PBW

Received by: Jared R. Makan

Completed By: <u>/S/ Pablo Martinez</u>	13-May-2021 19:50	Reviewed by:		
eSignature	Date/Time	eSignature	Date/Time	

Matrices: **OIL**

Carrier name: **Client**

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes  No  Not Present
- Chain of custody present? Yes  No  1 Page(s)
- Chain of custody signed when relinquished and received? Yes  No  COC IDs:237973
- Samplers name present on COC? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Yes  No

Temperature(s)/Thermometer(s): 0.8°C UC/C IR 31

Cooler(s)/Kit(s): 43398

Date/Time sample(s) sent to storage: 5/13/21 19:55

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt? Yes  No  N/A

pH adjusted? Yes  No  N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:





Cincinnati, OH  
+1 513 733 5336

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+1 425 356 2600

Holland, MI  
+1 616 399 6070

# Chain of Custody Form

Page \_\_\_\_ of \_\_\_\_

COC ID: 237973

## HS21050676

Golder Associates Inc.  
Houston TX-Wood Preserving Works IDWS




Customer Information		Project Information		ALS Project Manager:	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works IDWS	A	8260_S (5632528 Volatile Organics (IDWS))
Work Order		Project Number	1620-15-Rev2 SR 92683	B	TX1005_S_REV3 (5643233 TPH TX1005)
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_S (5632532 SVOC (IDWS))
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	RCRA 8 Metals Plus Sb, Be & Ni (5652643 5652646)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	PH_S (5652651 pH - RCI)
				F	IGN_S 1030 (5652637 Ignitability - RCI)
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	CONTINGENCY (Hold for TCLP Metals)
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO 1620 IDW 292405			Solid	0	3	X	X	X	X	X	X	X				
2	SO 1620 IDW 292405			Solid	0	3	X	X	X	X	X	X	X				
3	WW-1620-Total water-20210512	5-12-21	1600	W	8	3	X	X	X	X	X	X	X				
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Timothy J. Matzner</i>		Shipment Method <i>Hand delivery</i>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> 7 <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>[Signature]</i>	Date: <i>5/13/21</i>	Time: <i>1400</i>	Received by:	Notes: UPRR HWPW 1620-15 WR#004614				
Relinquished by: <i>[Signature]</i>	Date: <i>5/13/21</i>	Time: <i>14:00</i>	Received by (Laboratory): <i>J. Muzerian</i>	Cooler ID: <i>43398</i>	Cooler Temp.: <i>UC</i> <i>0.8°C</i>	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist			<input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV	
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other <u>8-4°C</u> 9-5035				<input type="checkbox"/> Level IV SWB: 6/CLP			<input type="checkbox"/> Other	

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.

 <b>ALS</b> 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	<b>CUSTODY SEAL</b>		Seal Broken By: <i>[Signature]</i>
	Date: <i>5-13-10</i>	Time: <i>16:30</i>	Date: <i>7/13/21</i>
	Name: <i>Jim Mrs. Patta</i>	Company: <i>Golda</i>	