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June 30, 2020

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

Work Order: **HS20060998**

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

Dear Eric Matzner,

ALS Environmental received 2 sample(s) on Jun 19, 2020 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 IDW
Work Order: HS20060998

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060998-01	SO-1620-IDW-20200619	Solid		19-Jun-2020 08:00	19-Jun-2020 13:00	<input type="checkbox"/>
HS20060998-02	WW-1620-IDW-20200619	Water		19-Jun-2020 08:00	19-Jun-2020 13:00	<input type="checkbox"/>

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS20060998

CASE NARRATIVE**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: 154819**

Sample ID: HS20060949-01MSD

- MSD is for an unrelated sample (>nC12 to nC28)

Batch ID: 154794

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

GCMS Semivolatiles by Method SW8270**Batch ID: 154767**

Sample ID: HS20061011-02MS

- MS and MSD are for an unrelated sample

Batch ID: 154746

Sample ID: HS20060921-02MS

- MS and MSD are for an unrelated sample

Sample ID: HS20060955-04MS

- MS and MSD are for an unrelated sample

Sample ID: WW-1620-IDW-20200619 (HS20060998-02)

- Low area counts for internal standards 1, 4-Dichlorobenzene, Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12 and Perylene-d12. Sample was re-ran with similar results indicating matrix interference.

GCMS Volatiles by Method SW8260**Batch ID: R363649**

Sample ID: HS20060951-11MS

- MS and MSD are for an unrelated sample

Batch ID: R364139

Sample ID: HS20060952-01MS

- MS is for an unrelated sample

Metals by Method SW7471A**Batch ID: 154758**

- 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 IDW
Work Order: HS20060998

CASE NARRATIVE

Metals by Method SW6020

Batch ID: 154875

Sample ID: HS20061090-08MS

- MS and MSD are for an unrelated sample

Batch ID: 154686

Sample ID: HS20061007-89MS

- MS/MSD and DUPs are for an unrelated sample
-

Metals by Method SW7470

Batch ID: 154671

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

WetChemistry by Method SW9040C

Batch ID: R363887

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

WetChemistry by Method SW9045D

Batch ID: R364129

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

WetChemistry by Method SM4500 S2-F

Batch ID: R363865

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

WetChemistry by Method SW1010

Batch ID: R363807

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

WetChemistry by Method SW9014

Batch ID: 154983

- 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 IDW
 Sample ID: SO-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260			Analyst: WLR			
1,1,1-Trichloroethane	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,1,2,2-Tetrachloroethane	U		0.00078	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,1,2-Trichloroethane	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,1-Dichloroethane	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,1-Dichloroethene	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,2-Dichlorobenzene	U		0.00097	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,2-Dichloroethane	U		0.00058	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,2-Dichloropropane	U		0.00078	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,3-Dichlorobenzene	U		0.00097	0.0048	mg/Kg	1	22-Jun-2020 16:26	
1,4-Dichlorobenzene	U		0.00097	0.0048	mg/Kg	1	22-Jun-2020 16:26	
2-Butanone	U		0.0013	0.0097	mg/Kg	1	22-Jun-2020 16:26	
2-Hexanone	U		0.0014	0.0097	mg/Kg	1	22-Jun-2020 16:26	
4-Methyl-2-pentanone	U		0.0019	0.0097	mg/Kg	1	22-Jun-2020 16:26	
Acetone	U		0.0019	0.019	mg/Kg	1	22-Jun-2020 16:26	
Benzene	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Bromochloromethane	U		0.00087	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Bromodichloromethane	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Bromoform	U		0.00058	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Bromomethane	U		0.00097	0.0097	mg/Kg	1	22-Jun-2020 16:26	
Carbon disulfide	U		0.00058	0.0097	mg/Kg	1	22-Jun-2020 16:26	
Carbon tetrachloride	U		0.00058	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Chlorobenzene	U		0.00058	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Chloroethane	U		0.00078	0.0097	mg/Kg	1	22-Jun-2020 16:26	
Chloroform	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Chloromethane	U		0.00048	0.0097	mg/Kg	1	22-Jun-2020 16:26	
cis-1,2-Dichloroethene	U		0.00078	0.0048	mg/Kg	1	22-Jun-2020 16:26	
cis-1,3-Dichloropropene	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Dibromochloromethane	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Ethylbenzene	U		0.00068	0.0048	mg/Kg	1	22-Jun-2020 16:26	
m,p-Xylene	U		0.0016	0.0097	mg/Kg	1	22-Jun-2020 16:26	
Methylene chloride	U		0.00097	0.0097	mg/Kg	1	22-Jun-2020 16:26	
o-Xylene	U		0.00097	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Styrene	U		0.00068	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Tetrachloroethene	U		0.00068	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Toluene	U		0.00058	0.0048	mg/Kg	1	22-Jun-2020 16:26	
trans-1,2-Dichloroethene	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26	
trans-1,3-Dichloropropene	U		0.00058	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Trichloroethene	U		0.00058	0.0048	mg/Kg	1	22-Jun-2020 16:26	
Vinyl acetate	U		0.00097	0.0097	mg/Kg	1	22-Jun-2020 16:26	

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: SO-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260			Analyst: WLR		
Vinyl chloride	U		0.00078	0.0019	mg/Kg	1	22-Jun-2020 16:26
Xylenes, Total	U		0.00097	0.0048	mg/Kg	1	22-Jun-2020 16:26
1,2-Dichloroethene, Total	U		0.00048	0.0048	mg/Kg	1	22-Jun-2020 16:26
Surr: 1,2-Dichloroethane-d4	90.7			70-126	%REC	1	22-Jun-2020 16:26
Surr: 4-Bromofluorobenzene	98.7			70-130	%REC	1	22-Jun-2020 16:26
Surr: Dibromofluoromethane	91.8			70-130	%REC	1	22-Jun-2020 16:26
Surr: Toluene-d8	94.6			70-130	%REC	1	22-Jun-2020 16:26

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: SO-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3541 / 23-Jun-2020		Analyst: GEY	
1,2,4-Trichlorobenzene	U		0.0012	0.0065	mg/Kg	1	27-Jun-2020 19:05
2,4,5-Trichlorophenol	U		0.0025	0.0065	mg/Kg	1	27-Jun-2020 19:05
2,4,6-Trichlorophenol	U		0.0017	0.0065	mg/Kg	1	27-Jun-2020 19:05
2,4-Dichlorophenol	U		0.0013	0.0065	mg/Kg	1	27-Jun-2020 19:05
2,4-Dimethylphenol	U		0.0033	0.0065	mg/Kg	1	27-Jun-2020 19:05
2,4-Dinitrophenol	U		0.0045	0.013	mg/Kg	1	27-Jun-2020 19:05
2,4-Dinitrotoluene	U		0.00089	0.0065	mg/Kg	1	27-Jun-2020 19:05
2,6-Dinitrotoluene	U		0.0033	0.0065	mg/Kg	1	27-Jun-2020 19:05
2-Chloronaphthalene	U		0.0013	0.0065	mg/Kg	1	27-Jun-2020 19:05
2-Chlorophenol	U		0.0013	0.0065	mg/Kg	1	27-Jun-2020 19:05
2-Methylnaphthalene	U		0.00049	0.0033	mg/Kg	1	27-Jun-2020 19:05
2-Methylphenol	U		0.0011	0.0065	mg/Kg	1	27-Jun-2020 19:05
2-Nitroaniline	U		0.0019	0.0065	mg/Kg	1	27-Jun-2020 19:05
2-Nitrophenol	U		0.0025	0.0065	mg/Kg	1	27-Jun-2020 19:05
3&4-Methylphenol	U		0.00099	0.0065	mg/Kg	1	27-Jun-2020 19:05
3,3'-Dichlorobenzidine	U		0.0025	0.0065	mg/Kg	1	27-Jun-2020 19:05
3-Nitroaniline	U		0.0019	0.0065	mg/Kg	1	27-Jun-2020 19:05
4,6-Dinitro-2-methylphenol	U		0.0021	0.0065	mg/Kg	1	27-Jun-2020 19:05
4-Bromophenyl phenyl ether	U		0.0016	0.0065	mg/Kg	1	27-Jun-2020 19:05
4-Chloro-3-methylphenol	U		0.00069	0.0065	mg/Kg	1	27-Jun-2020 19:05
4-Chloroaniline	U		0.0011	0.0065	mg/Kg	1	27-Jun-2020 19:05
4-Chlorophenyl phenyl ether	U		0.0015	0.0065	mg/Kg	1	27-Jun-2020 19:05
4-Nitroaniline	U		0.0022	0.0065	mg/Kg	1	27-Jun-2020 19:05
4-Nitrophenol	U		0.0019	0.013	mg/Kg	1	27-Jun-2020 19:05
Acenaphthene	U		0.00049	0.0033	mg/Kg	1	27-Jun-2020 19:05
Acenaphthylene	U		0.00099	0.0033	mg/Kg	1	27-Jun-2020 19:05
Anthracene	U		0.00049	0.0033	mg/Kg	1	27-Jun-2020 19:05
Benz(a)anthracene	U		0.0016	0.0033	mg/Kg	1	27-Jun-2020 19:05
Benzidine	U		0.0014	0.0065	mg/Kg	1	27-Jun-2020 19:05
Benzo(a)pyrene	U		0.00099	0.0033	mg/Kg	1	27-Jun-2020 19:05
Benzo(b)fluoranthene	0.0015	J	0.0012	0.0033	mg/Kg	1	27-Jun-2020 19:05
Benzo(g,h,i)perylene	U		0.00069	0.0033	mg/Kg	1	27-Jun-2020 19:05
Benzo(k)fluoranthene	U		0.00089	0.0033	mg/Kg	1	27-Jun-2020 19:05
Benzyl alcohol	U		0.00069	0.0065	mg/Kg	1	27-Jun-2020 19:05
Bis(2-chloroethoxy)methane	U		0.00089	0.0065	mg/Kg	1	27-Jun-2020 19:05
Bis(2-chloroethyl)ether	U		0.0011	0.0065	mg/Kg	1	27-Jun-2020 19:05
Bis(2-chloroisopropyl)ether	U		0.0014	0.0065	mg/Kg	1	27-Jun-2020 19:05
Bis(2-ethylhexyl)phthalate	0.0034	J	0.0017	0.0065	mg/Kg	1	27-Jun-2020 19:05
Butyl benzyl phthalate	U		0.0013	0.0065	mg/Kg	1	27-Jun-2020 19:05

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: SO-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3541 / 23-Jun-2020		Analyst: GEY	
Carbazole	U		0.0012	0.0065	mg/Kg	1	27-Jun-2020 19:05
Chrysene	U		0.00079	0.0033	mg/Kg	1	27-Jun-2020 19:05
Di-n-butyl phthalate	U		0.0012	0.0065	mg/Kg	1	27-Jun-2020 19:05
Di-n-octyl phthalate	0.0064	J	0.00089	0.0065	mg/Kg	1	27-Jun-2020 19:05
Dibenz(a,h)anthracene	U		0.0016	0.0033	mg/Kg	1	27-Jun-2020 19:05
Dibenzofuran	U		0.00069	0.0033	mg/Kg	1	27-Jun-2020 19:05
Diethyl phthalate	U		0.00099	0.0065	mg/Kg	1	27-Jun-2020 19:05
Dimethyl phthalate	U		0.00079	0.0065	mg/Kg	1	27-Jun-2020 19:05
Fluoranthene	U		0.0011	0.0033	mg/Kg	1	27-Jun-2020 19:05
Fluorene	U		0.0011	0.0033	mg/Kg	1	27-Jun-2020 19:05
Hexachlorobenzene	U		0.00089	0.0065	mg/Kg	1	27-Jun-2020 19:05
Hexachlorobutadiene	U		0.0012	0.0065	mg/Kg	1	27-Jun-2020 19:05
Hexachlorocyclopentadiene	U		0.00079	0.0065	mg/Kg	1	27-Jun-2020 19:05
Hexachloroethane	U		0.0015	0.0065	mg/Kg	1	27-Jun-2020 19:05
Indeno(1,2,3-cd)pyrene	U		0.00079	0.0033	mg/Kg	1	27-Jun-2020 19:05
Isophorone	U		0.00079	0.0065	mg/Kg	1	27-Jun-2020 19:05
N-Nitrosodi-n-propylamine	U		0.0011	0.0065	mg/Kg	1	27-Jun-2020 19:05
N-Nitrosodimethylamine	U		0.0012	0.0065	mg/Kg	1	27-Jun-2020 19:05
N-Nitrosodiphenylamine	U		0.00069	0.0065	mg/Kg	1	27-Jun-2020 19:05
Naphthalene	U		0.00059	0.0033	mg/Kg	1	27-Jun-2020 19:05
Nitrobenzene	U		0.00089	0.0065	mg/Kg	1	27-Jun-2020 19:05
Pentachlorophenol	U		0.0033	0.0065	mg/Kg	1	27-Jun-2020 19:05
Phenanthrene	U		0.0015	0.0033	mg/Kg	1	27-Jun-2020 19:05
Phenol	U		0.0011	0.0065	mg/Kg	1	27-Jun-2020 19:05
Pyrene	U		0.00059	0.0033	mg/Kg	1	27-Jun-2020 19:05
Pyridine	U		0.00089	0.0065	mg/Kg	1	27-Jun-2020 19:05
<i>Surr: 2,4,6-Tribromophenol</i>	<i>72.5</i>			<i>36-126</i>	<i>%REC</i>	<i>1</i>	<i>27-Jun-2020 19:05</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>65.4</i>			<i>43-125</i>	<i>%REC</i>	<i>1</i>	<i>27-Jun-2020 19:05</i>
<i>Surr: 2-Fluorophenol</i>	<i>73.6</i>			<i>37-125</i>	<i>%REC</i>	<i>1</i>	<i>27-Jun-2020 19:05</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>79.1</i>			<i>32-125</i>	<i>%REC</i>	<i>1</i>	<i>27-Jun-2020 19:05</i>
<i>Surr: Nitrobenzene-d5</i>	<i>61.5</i>			<i>37-125</i>	<i>%REC</i>	<i>1</i>	<i>27-Jun-2020 19:05</i>
<i>Surr: Phenol-d6</i>	<i>72.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>27-Jun-2020 19:05</i>
TEXAS TPH BY TX1005		Method:TX1005		Prep:TX1005PR / 24-Jun-2020		Analyst: MBG	
nC6 to nC12	U		7.3	49	mg/Kg	1	25-Jun-2020 08:32
>nC12 to nC28	U		9.6	49	mg/Kg	1	25-Jun-2020 08:32
>nC28 to nC35	U		9.6	49	mg/Kg	1	25-Jun-2020 08:32
Total Petroleum Hydrocarbon	U		7.3	49	mg/Kg	1	25-Jun-2020 08:32
<i>Surr: 2-Fluorobiphenyl</i>	<i>70.1</i>			<i>70-130</i>	<i>%REC</i>	<i>1</i>	<i>25-Jun-2020 08:32</i>
<i>Surr: Trifluoromethyl benzene</i>	<i>75.3</i>			<i>70-130</i>	<i>%REC</i>	<i>1</i>	<i>25-Jun-2020 08:32</i>

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: SO-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY SW6020A		Method:SW6020			Prep:SW3050A / 23-Jun-2020		Analyst: JC
Antimony	0.593		0.0625	0.481	mg/Kg	1	24-Jun-2020 17:12
Arsenic	1.03		0.0674	0.481	mg/Kg	1	24-Jun-2020 17:12
Barium	39.9		0.0289	0.481	mg/Kg	1	24-Jun-2020 17:12
Beryllium	0.342	J	0.0202	0.481	mg/Kg	1	24-Jun-2020 17:12
Cadmium		U	0.0260	0.481	mg/Kg	1	24-Jun-2020 17:12
Chromium	11.0		0.0221	0.481	mg/Kg	1	24-Jun-2020 17:12
Lead	5.92		0.0125	0.481	mg/Kg	1	24-Jun-2020 17:12
Nickel	3.79		0.0462	0.481	mg/Kg	1	24-Jun-2020 17:12
Selenium	0.279	J	0.0876	0.481	mg/Kg	1	24-Jun-2020 17:12
Silver	0.0556	J	0.0144	0.481	mg/Kg	1	24-Jun-2020 17:12
MERCURY BY SW7471B		Method:SW7471A			Prep:SW7471A / 23-Jun-2020		Analyst: FO
Mercury	0.00581		0.000488	0.00345	mg/Kg	1	23-Jun-2020 17:56
PH SOIL BY SW9045D		Method:SW9045D			Analyst: JAC		
pH	7.94	H	0.100	0.100	pH Units	1	29-Jun-2020 14:30
Temp Deg C @pH	23.7	H	0	0	°C	1	29-Jun-2020 14:30

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: WW-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-02
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,1,1-Trichloroethane	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
1,1,2,2-Tetrachloroethane	U		0.00050	0.0010	mg/L	1	29-Jun-2020 14:44
1,1,2-Trichloroethane	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
1,1-Dichloroethane	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
1,1-Dichloroethene	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
1,2-Dichlorobenzene	U		0.00050	0.0010	mg/L	1	29-Jun-2020 14:44
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
1,2-Dichloropropane	U		0.00050	0.0010	mg/L	1	29-Jun-2020 14:44
1,3-Dichlorobenzene	U		0.00040	0.0010	mg/L	1	29-Jun-2020 14:44
1,4-Dichlorobenzene	U		0.00040	0.0010	mg/L	1	29-Jun-2020 14:44
2-Butanone	U		0.00050	0.0020	mg/L	1	29-Jun-2020 14:44
2-Hexanone	U		0.0010	0.0020	mg/L	1	29-Jun-2020 14:44
4-Methyl-2-pentanone	U		0.00070	0.0020	mg/L	1	29-Jun-2020 14:44
Acetone	U		0.0020	0.0020	mg/L	1	29-Jun-2020 14:44
Benzene	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Bromochloromethane	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Bromodichloromethane	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Bromoform	U		0.00040	0.0010	mg/L	1	29-Jun-2020 14:44
Bromomethane	U		0.00040	0.0010	mg/L	1	29-Jun-2020 14:44
Carbon disulfide	U		0.00060	0.0020	mg/L	1	29-Jun-2020 14:44
Carbon tetrachloride	U		0.00050	0.0010	mg/L	1	29-Jun-2020 14:44
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
Chloroethane	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
Chloroform	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Chloromethane	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
cis-1,2-Dichloroethene	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
cis-1,3-Dichloropropene	U		0.00010	0.0010	mg/L	1	29-Jun-2020 14:44
Dibromochloromethane	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
m,p-Xylene	U		0.00050	0.0020	mg/L	1	29-Jun-2020 14:44
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jun-2020 14:44
o-Xylene	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
Styrene	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
Tetrachloroethene	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
Toluene	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
trans-1,2-Dichloroethene	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
trans-1,3-Dichloropropene	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Trichloroethene	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Vinyl acetate	U		0.00050	0.0010	mg/L	1	29-Jun-2020 14:44

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: WW-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-02
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
Vinyl chloride	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jun-2020 14:44
1,2-Dichloroethene, Total	U		0.00020	0.0010	mg/L	1	29-Jun-2020 14:44
Surr: 1,2-Dichloroethane-d4	92.2			70-126	%REC	1	29-Jun-2020 14:44
Surr: 4-Bromofluorobenzene	97.4			81-113	%REC	1	29-Jun-2020 14:44
Surr: Dibromofluoromethane	97.7			77-123	%REC	1	29-Jun-2020 14:44
Surr: Toluene-d8	98.3			82-127	%REC	1	29-Jun-2020 14:44

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: WW-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-02
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	Method:SW8270					Prep:SW3510 / 23-Jun-2020	Analyst: GEY
1,2,4-Trichlorobenzene	U		0.000030	0.00020	mg/L	1	28-Jun-2020 23:24
2,4,5-Trichlorophenol	U		0.000057	0.00020	mg/L	1	28-Jun-2020 23:24
2,4,6-Trichlorophenol	U		0.000048	0.00020	mg/L	1	28-Jun-2020 23:24
2,4-Dichlorophenol	U		0.000043	0.00020	mg/L	1	28-Jun-2020 23:24
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	28-Jun-2020 23:24
2,4-Dinitrophenol	U		0.00010	0.0010	mg/L	1	28-Jun-2020 23:24
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	28-Jun-2020 23:24
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	28-Jun-2020 23:24
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	28-Jun-2020 23:24
2-Chlorophenol	U		0.000036	0.00020	mg/L	1	28-Jun-2020 23:24
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	28-Jun-2020 23:24
2-Methylphenol	U		0.000045	0.00020	mg/L	1	28-Jun-2020 23:24
2-Nitroaniline	U		0.000041	0.00020	mg/L	1	28-Jun-2020 23:24
2-Nitrophenol	U		0.000034	0.00020	mg/L	1	28-Jun-2020 23:24
3&4-Methylphenol	U		0.000036	0.00020	mg/L	1	28-Jun-2020 23:24
3,3'-Dichlorobenzidine	U		0.000044	0.00020	mg/L	1	28-Jun-2020 23:24
3-Nitroaniline	U		0.000049	0.00020	mg/L	1	28-Jun-2020 23:24
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	28-Jun-2020 23:24
4-Bromophenyl phenyl ether	U		0.000051	0.00020	mg/L	1	28-Jun-2020 23:24
4-Chloro-3-methylphenol	U		0.000032	0.00020	mg/L	1	28-Jun-2020 23:24
4-Chloroaniline	U		0.000039	0.00020	mg/L	1	28-Jun-2020 23:24
4-Chlorophenyl phenyl ether	U		0.000044	0.00020	mg/L	1	28-Jun-2020 23:24
4-Nitroaniline	U		0.000035	0.00020	mg/L	1	28-Jun-2020 23:24
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	28-Jun-2020 23:24
Acenaphthene	U		0.000027	0.00010	mg/L	1	28-Jun-2020 23:24
Acenaphthylene	U		0.000015	0.00010	mg/L	1	28-Jun-2020 23:24
Anthracene	U		0.000014	0.00010	mg/L	1	28-Jun-2020 23:24
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	28-Jun-2020 23:24
Benzdine	U		0.00010	0.00020	mg/L	1	28-Jun-2020 23:24
Benzo(a)pyrene	0.000045	J	0.000020	0.00010	mg/L	1	28-Jun-2020 23:24
Benzo(b)fluoranthene	0.000075	J	0.000023	0.00010	mg/L	1	28-Jun-2020 23:24
Benzo(g,h,i)perylene	U		0.000014	0.00010	mg/L	1	28-Jun-2020 23:24
Benzo(k)fluoranthene	0.000024	J	0.000019	0.00010	mg/L	1	28-Jun-2020 23:24
Benzyl alcohol	U		0.000054	0.00020	mg/L	1	28-Jun-2020 23:24
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	28-Jun-2020 23:24
Bis(2-chloroethyl)ether	U		0.000026	0.00020	mg/L	1	28-Jun-2020 23:24
Bis(2-chloroisopropyl)ether	0.0015		0.000070	0.00020	mg/L	1	28-Jun-2020 23:24
Bis(2-ethylhexyl)phthalate	0.00071		0.000037	0.00020	mg/L	1	28-Jun-2020 23:24
Butyl benzyl phthalate	U		0.000019	0.00020	mg/L	1	28-Jun-2020 23:24

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: WW-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-02
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 23-Jun-2020		Analyst: GEY	
Carbazole		U	0.000025	0.00020	mg/L	1	28-Jun-2020 23:24
Chrysene	0.000034	J	0.000021	0.00010	mg/L	1	28-Jun-2020 23:24
Di-n-butyl phthalate	0.000069	J	0.000020	0.00020	mg/L	1	28-Jun-2020 23:24
Di-n-octyl phthalate	0.00017	J	0.000020	0.00020	mg/L	1	28-Jun-2020 23:24
Dibenz(a,h)anthracene		U	0.000024	0.00010	mg/L	1	28-Jun-2020 23:24
Dibenzofuran		U	0.000020	0.00010	mg/L	1	28-Jun-2020 23:24
Diethyl phthalate		U	0.000030	0.00020	mg/L	1	28-Jun-2020 23:24
Dimethyl phthalate		U	0.000041	0.00020	mg/L	1	28-Jun-2020 23:24
Fluoranthene	0.000038	J	0.000010	0.00010	mg/L	1	28-Jun-2020 23:24
Fluorene		U	0.000030	0.00010	mg/L	1	28-Jun-2020 23:24
Hexachlorobenzene		U	0.000044	0.00020	mg/L	1	28-Jun-2020 23:24
Hexachlorobutadiene		U	0.000030	0.00020	mg/L	1	28-Jun-2020 23:24
Hexachlorocyclopentadiene		U	0.000030	0.00020	mg/L	1	28-Jun-2020 23:24
Hexachloroethane		U	0.000059	0.00020	mg/L	1	28-Jun-2020 23:24
Indeno(1,2,3-cd)pyrene		U	0.000022	0.00010	mg/L	1	28-Jun-2020 23:24
Isophorone		U	0.000025	0.00020	mg/L	1	28-Jun-2020 23:24
N-Nitrosodi-n-propylamine		U	0.000032	0.00020	mg/L	1	28-Jun-2020 23:24
N-Nitrosodimethylamine		U	0.000010	0.00020	mg/L	1	28-Jun-2020 23:24
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	28-Jun-2020 23:24
Naphthalene		U	0.000020	0.00010	mg/L	1	28-Jun-2020 23:24
Nitrobenzene		U	0.000024	0.00020	mg/L	1	28-Jun-2020 23:24
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	28-Jun-2020 23:24
Phenanthrene		U	0.000021	0.00010	mg/L	1	28-Jun-2020 23:24
Phenol		U	0.000035	0.00020	mg/L	1	28-Jun-2020 23:24
Pyrene	0.000036	J	0.000019	0.00010	mg/L	1	28-Jun-2020 23:24
Pyridine		U	0.000030	0.0010	mg/L	1	28-Jun-2020 23:24
<i>Surr: 2,4,6-Tribromophenol</i>	<i>69.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>28-Jun-2020 23:24</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>57.2</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>28-Jun-2020 23:24</i>
<i>Surr: 2-Fluorophenol</i>	<i>46.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>28-Jun-2020 23:24</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>75.4</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>28-Jun-2020 23:24</i>
<i>Surr: Nitrobenzene-d5</i>	<i>63.0</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>28-Jun-2020 23:24</i>
<i>Surr: Phenol-d6</i>	<i>70.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>28-Jun-2020 23:24</i>
LOW-LEVEL TEXAS TPH BY TX1005		Method:TX1005		Prep:TX1005PR / 25-Jun-2020		Analyst: MBG	
nC6 to nC12		U	0.20	0.49	mg/L	1	26-Jun-2020 02:39
>nC12 to nC28		U	0.20	0.49	mg/L	1	26-Jun-2020 02:39
>nC28 to nC35		U	0.20	0.49	mg/L	1	26-Jun-2020 02:39
Total Petroleum Hydrocarbon		U	0.20	0.49	mg/L	1	26-Jun-2020 02:39
<i>Surr: 2-Fluorobiphenyl</i>	<i>93.9</i>			<i>70-130</i>	<i>%REC</i>	<i>1</i>	<i>26-Jun-2020 02:39</i>
<i>Surr: Trifluoromethyl benzene</i>	<i>99.8</i>			<i>70-130</i>	<i>%REC</i>	<i>1</i>	<i>26-Jun-2020 02:39</i>

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: WW-1620-IDW-20200619
 Collection Date: 19-Jun-2020 08:00

ANALYTICAL REPORT
 WorkOrder:HS20060998
 Lab ID:HS20060998-02
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 26-Jun-2020		Analyst: JHD	
Antimony	U		0.000400	0.00200	mg/L	1	27-Jun-2020 15:11
Arsenic	0.0349		0.000400	0.00200	mg/L	1	27-Jun-2020 15:11
Barium	11.5		0.190	0.400	mg/L	100	27-Jun-2020 15:13
Beryllium	0.0373		0.000200	0.00200	mg/L	1	27-Jun-2020 15:11
Cadmium	0.00444		0.000200	0.00200	mg/L	1	27-Jun-2020 15:11
Chromium	0.281		0.000400	0.00400	mg/L	1	27-Jun-2020 15:11
Lead	1.34		0.000600	0.00200	mg/L	1	27-Jun-2020 15:11
Nickel	0.272		0.000600	0.00200	mg/L	1	27-Jun-2020 15:11
Selenium	0.0223		0.00110	0.00200	mg/L	1	27-Jun-2020 15:11
Silver	0.00242		0.000200	0.00200	mg/L	1	27-Jun-2020 15:11
MERCURY BY SW7470A		Method:SW7470		Prep:SW7470 / 22-Jun-2020		Analyst: FO	
Mercury	0.000141	J	0.0000300	0.000200	mg/L	1	22-Jun-2020 17:44
SULFIDE BY SM4500 S2-F		Method:SM4500 S2-F				Analyst: KVL	
Sulfide	U		1.00	1.00	mg/L	1	23-Jun-2020 16:00
FLASH POINT BY PENSKEY-MARTENS SW1010A		Method:SW1010				Analyst: TH	
Ignitability	> 212		70.0	70.0	°F	1	24-Jun-2020 07:30
CYANIDE - SW9014		Method:SW9014		Prep:SW9010C / 23-Jun-2020		Analyst: KVL	
Cyanide	0.00600		0.00200	0.00500	mg/L	1	23-Jun-2020 14:30
PH BY SW9040C		Method:SW9040C				Analyst: KVL	
pH	7.94	H	0.100	0.100	pH Units	1	25-Jun-2020 10:30
Temp Deg C @pH	24.5	H	0	0	DEG C	1	25-Jun-2020 10:30

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 IDW
WorkOrder: HS20060998

Batch ID: 3787 **Start Date:** 22 Jun 2020 06:57 **End Date:** 22 Jun 2020 06:57

Method: VOLATILES BY SW8260C

Sample ID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS20060998-01	1	5.166 (g)	5 (mL)	0.97	Bulk (5030B)

Batch ID: 154671 **Start Date:** 22 Jun 2020 10:00 **End Date:** 22 Jun 2020 12:00

Method: MERCURY PREP BY 7470A- WATER

Prep Code: HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-02		10 (mL)	10 (mL)	1

Batch ID: 154686 **Start Date:** 23 Jun 2020 08:00 **End Date:** 23 Jun 2020 14:00

Method: METALS PREP - SOLIDS - SW3050B

Prep Code: 3050_I_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-01		0.5196 (g)	50 (mL)	96.23

Batch ID: 154746 **Start Date:** 23 Jun 2020 10:29 **End Date:** 23 Jun 2020 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
HS20060998-02	1	1000 (mL)	1 (mL)	0.001

Batch ID: 154758 **Start Date:** 23 Jun 2020 10:30 **End Date:** 23 Jun 2020 12:30

Method: MERCURY PREP - SOLID - 7471B

Prep Code: HG_S_LOWPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-01		0.5784 (grams)	40 (mL)	69.16

Batch ID: 154767 **Start Date:** 23 Jun 2020 10:30 **End Date:** 23 Jun 2020 18:00

Method: SV SOXHLET EXTRACT-LOWLEVEL-SW3541

Prep Code: 3541_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-01		30.33 (g)	1 (mL)	0.03297

Batch ID: 154794 **Start Date:** 24 Jun 2020 11:53 **End Date:** 24 Jun 2020 13:20

Method: TX 1005 PREP

Prep Code: TX 1005_S PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-01	1	10.23 (g)	10 (mL)	0.9775

Batch ID: 154819 **Start Date:** 25 Jun 2020 08:40 **End Date:** 25 Jun 2020 11:00

Method: TX 1005 PREP

Prep Code: TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-02	1	30.69 (g)	3 (mL)	0.09775

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

Batch ID: 154875 **Start Date:** 26 Jun 2020 09:00 **End Date:** 26 Jun 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-02		10 (mL)	10 (mL)	1

Batch ID: 154983 **Start Date:** 23 Jun 2020 10:30 **End Date:** 23 Jun 2020 12:00
Method: CYANIDE PREP - SW9010C **Prep Code:** CN_TW_PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060998-02		50 (mL)	50 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 154671 (0)		Test Name : MERCURY BY SW7470A			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00		22 Jun 2020 10:00	22 Jun 2020 17:44	1
Batch ID: 154686 (0)		Test Name : METALS BY SW6020A			Matrix: Solid	
HS20060998-01	SO-1620-IDW-20200619	19 Jun 2020 08:00		23 Jun 2020 14:00	24 Jun 2020 17:12	1
Batch ID: 154746 (0)		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00		23 Jun 2020 10:29	28 Jun 2020 23:24	1
Batch ID: 154758 (0)		Test Name : MERCURY BY SW7471B			Matrix: Solid	
HS20060998-01	SO-1620-IDW-20200619	19 Jun 2020 08:00		23 Jun 2020 10:30	23 Jun 2020 17:56	1
Batch ID: 154767 (1)		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Solid	
HS20060998-01	SO-1620-IDW-20200619	19 Jun 2020 08:00		23 Jun 2020 10:30	27 Jun 2020 19:05	1
Batch ID: 154794 (0)		Test Name : TEXAS TPH BY TX1005			Matrix: Solid	
HS20060998-01	SO-1620-IDW-20200619	19 Jun 2020 08:00		24 Jun 2020 11:53	25 Jun 2020 08:32	1
Batch ID: 154819 (0)		Test Name : LOW-LEVEL TEXAS TPH BY TX1005			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00		25 Jun 2020 08:40	26 Jun 2020 02:39	1
Batch ID: 154875 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00		26 Jun 2020 13:00	27 Jun 2020 15:13	100
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00		26 Jun 2020 13:00	27 Jun 2020 15:11	1
Batch ID: 154983 (0)		Test Name : CYANIDE - SW9014			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00		23 Jun 2020 10:30	23 Jun 2020 14:30	1
Batch ID: R363649 (0)		Test Name : VOLATILES BY SW8260C			Matrix: Solid	
HS20060998-01	SO-1620-IDW-20200619	19 Jun 2020 08:00			22 Jun 2020 16:26	1
Batch ID: R363807 (0)		Test Name : FLASH POINT BY PENSKEY-MARTENS SW1010A			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00			24 Jun 2020 07:30	1
Batch ID: R363865 (0)		Test Name : SULFIDE BY SM4500 S2-F			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00			23 Jun 2020 16:00	1
Batch ID: R363887 (0)		Test Name : PH BY SW9040C			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00			25 Jun 2020 10:30	1
Batch ID: R364129 (0)		Test Name : PH SOIL BY SW9045D			Matrix: Solid	
HS20060998-01	SO-1620-IDW-20200619	19 Jun 2020 08:00			29 Jun 2020 14:30	1
Batch ID: R364139 (0)		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Water	
HS20060998-02	WW-1620-IDW-20200619	19 Jun 2020 08:00			29 Jun 2020 14:44	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154794 (0)		Instrument: FID-11		Method: TEXAS TPH BY TX1005						
MBLK	Sample ID: MBLK-154794	Units: mg/Kg			Analysis Date: 25-Jun-2020 00:47					
Client ID:	Run ID: FID-11_363847	SeqNo: 5635346		PrepDate: 24-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
nC6 to nC12	U	50								
>nC12 to nC28	U	50								
>nC28 to nC35	U	50								
Total Petroleum Hydrocarbon	U	50								
<i>Surr: 2-Fluorobiphenyl</i>	18.26	0	25	0	73.0	70 - 130				
<i>Surr: Trifluoromethyl benzene</i>	21.3	0	25	0	85.2	70 - 130				
LCS	Sample ID: LCS-154794	Units: mg/Kg			Analysis Date: 25-Jun-2020 01:16					
Client ID:	Run ID: FID-11_363847	SeqNo: 5635347		PrepDate: 24-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
nC6 to nC12	227.6	50	250	0	91.0	75 - 125				
>nC12 to nC28	245.4	50	250	0	98.2	75 - 125				
<i>Surr: 2-Fluorobiphenyl</i>	21.21	0	25	0	84.8	70 - 130				
<i>Surr: Trifluoromethyl benzene</i>	21.18	0	25	0	84.7	70 - 130				
LCSD	Sample ID: LCSD-154794	Units: mg/Kg			Analysis Date: 25-Jun-2020 01:45					
Client ID:	Run ID: FID-11_363847	SeqNo: 5635348		PrepDate: 24-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
nC6 to nC12	230.4	50	250	0	92.1	75 - 125	227.6	1.22	20	
>nC12 to nC28	248.7	50	250	0	99.5	75 - 125	245.4	1.34	20	
<i>Surr: 2-Fluorobiphenyl</i>	21.68	0	25	0	86.7	70 - 130	21.21	2.19	20	
<i>Surr: Trifluoromethyl benzene</i>	21.46	0	25	0	85.8	70 - 130	21.18	1.31	20	
MS	Sample ID: HS20061115-04MS	Units: mg/Kg			Analysis Date: 25-Jun-2020 02:14					
Client ID:	Run ID: FID-11_363847	SeqNo: 5635349		PrepDate: 24-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
nC6 to nC12	211.8	47	233.6	0	90.6	75 - 125				
>nC12 to nC28	233.7	47	233.6	0	100	75 - 125				
<i>Surr: 2-Fluorobiphenyl</i>	18.16	0	23.36	0	77.7	70 - 130				
<i>Surr: Trifluoromethyl benzene</i>	17.33	0	23.36	0	74.2	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154794 (0)		Instrument: FID-11		Method: TEXAS TPH BY TX1005						
MSD	Sample ID: HS20061115-04MSD	Units: mg/Kg		Analysis Date: 25-Jun-2020 02:43						
Client ID:	Run ID: FID-11_363847	SeqNo: 5635350		PrepDate: 24-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

nC6 to nC12	218.3	47	235.2	0	92.8	75 - 125	211.8	3.02	20
>nC12 to nC28	248.4	47	235.2	0	106	75 - 125	233.7	6.13	20
<i>Surr: 2-Fluorobiphenyl</i>	19.08	0	23.52	0	81.1	70 - 130	18.16	4.94	20
<i>Surr: Trifluoromethyl benzene</i>	17.98	0	23.52	0	76.5	70 - 130	17.33	3.71	20

The following samples were analyzed in this batch: HS20060998-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154819 (0)		Instrument: FID-10		Method: LOW-LEVEL TEXAS TPH BY TX1005					
MBLK	Sample ID: MBLK-154819	Units: mg/L		Analysis Date: 25-Jun-2020 18:54					
Client ID:	Run ID: FID-10_363984	SeqNo: 5637416		PrepDate: 25-Jun-2020		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

nC6 to nC12	U	0.50							
>nC12 to nC28	U	0.50							
>nC28 to nC35	U	0.50							
Total Petroleum Hydrocarbon	U	0.50							
Surr: 2-Fluorobiphenyl	2.221	0	2.5	0	88.8	70 - 130			
Surr: Trifluoromethyl benzene	2.558	0	2.5	0	102	70 - 130			

LCS	Sample ID: LCS-154819	Units: mg/L		Analysis Date: 25-Jun-2020 19:23					
Client ID:	Run ID: FID-10_363984	SeqNo: 5637417		PrepDate: 25-Jun-2020		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
nC6 to nC12	23.31	0.50	25	0	93.2	75 - 125			
>nC12 to nC28	23.58	0.50	25	0	94.3	75 - 125			
Surr: 2-Fluorobiphenyl	2.795	0	2.5	0	112	70 - 130			
Surr: Trifluoromethyl benzene	2.789	0	2.5	0	112	70 - 130			

LCSD	Sample ID: LCSD-154819	Units: mg/L		Analysis Date: 25-Jun-2020 19:52					
Client ID:	Run ID: FID-10_363984	SeqNo: 5637418		PrepDate: 25-Jun-2020		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
nC6 to nC12	22.74	0.50	25	0	91.0	75 - 125	23.31	2.47	20
>nC12 to nC28	22.06	0.50	25	0	88.3	75 - 125	23.58	6.66	20
Surr: 2-Fluorobiphenyl	2.712	0	2.5	0	108	70 - 130	2.795	3.01	20
Surr: Trifluoromethyl benzene	2.679	0	2.5	0	107	70 - 130	2.789	4.02	20

MS	Sample ID: HS20060949-01MS	Units: mg/L		Analysis Date: 25-Jun-2020 20:51					
Client ID:	Run ID: FID-10_363984	SeqNo: 5637420		PrepDate: 25-Jun-2020		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
nC6 to nC12	21.17	0.49	24.68	0	85.8	75 - 125			
>nC12 to nC28	20.24	0.49	24.68	0	82.0	75 - 125			
Surr: 2-Fluorobiphenyl	2.049	0	2.468	0	83.0	70 - 130			
Surr: Trifluoromethyl benzene	2.011	0	2.468	0	81.5	70 - 130			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154819 (0) **Instrument:** FID-10 **Method:** LOW-LEVEL TEXAS TPH BY TX1005

MSD		Sample ID: HS20060949-01MSD			Units: mg/L		Analysis Date: 25-Jun-2020 21:20			
Client ID:		Run ID: FID-10_363984			SeqNo: 5637421		PrepDate: 25-Jun-2020		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	25.04	0.49	24.37	0	103	75 - 125	21.17	16.8	20	
>nC12 to nC28	25.96	0.49	24.37	0	106	75 - 125	20.24	24.8	20	R
<i>Surr: 2-Fluorobiphenyl</i>	2.504	0	2.437	0	103	70 - 130	2.049	20	20	
<i>Surr: Trifluoromethyl benzene</i>	2.377	0	2.437	0	97.5	70 - 130	2.011	16.7	20	

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154671 (0)	Instrument: HG03	Method: MERCURY BY SW7470A
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MBLK	Sample ID: MBLK-154671	Units: mg/L	Analysis Date: 22-Jun-2020 17:00							
Client ID:	Run ID: HG03_363747	SeqNo: 5631388	PrepDate: 22-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury U 0.000200

LCS	Sample ID: LCS-154671	Units: mg/L	Analysis Date: 22-Jun-2020 17:02							
Client ID:	Run ID: HG03_363747	SeqNo: 5631389	PrepDate: 22-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00516 0.000200 0.005 0 103 80 - 120

MS	Sample ID: HS20060955-04MS	Units: mg/L	Analysis Date: 22-Jun-2020 17:05							
Client ID:	Run ID: HG03_363747	SeqNo: 5631391	PrepDate: 22-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00498 0.000200 0.005 -0.000005 99.7 75 - 125

MSD	Sample ID: HS20060955-04MSD	Units: mg/L	Analysis Date: 22-Jun-2020 17:07							
Client ID:	Run ID: HG03_363747	SeqNo: 5631392	PrepDate: 22-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00517 0.000200 0.005 -0.000005 104 75 - 125 0.00498 3.74 20

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154686 (0)		Instrument: ICPMS04		Method: METALS BY SW6020A					
MBLK	Sample ID: MBLK-154686	Units: mg/Kg			Analysis Date: 24-Jun-2020 17:00				
Client ID:	Run ID: ICPMS04_363852	SeqNo: 5634352		PrepDate: 23-Jun-2020		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	U	0.487							
Arsenic	U	0.487							
Barium	U	0.487							
Beryllium	U	0.487							
Cadmium	U	0.487							
Chromium	U	0.487							
Lead	U	0.487							
Nickel	U	0.487							
Selenium	U	0.487							
Silver	U	0.487							

LCS	Sample ID: LCS-154686	Units: mg/Kg			Analysis Date: 23-Jun-2020 23:07				
Client ID:	Run ID: ICPMS04_363733	SeqNo: 5632371		PrepDate: 23-Jun-2020		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	9.883	0.489	9.777	0	101	80 - 120			
Arsenic	9.716	0.489	9.777	0	99.4	80 - 120			
Barium	10.03	0.489	9.777	0	103	80 - 120			
Beryllium	9.353	0.489	9.777	0	95.7	80 - 120			
Cadmium	9.989	0.489	9.777	0	102	80 - 120			
Chromium	9.526	0.489	9.777	0	97.4	80 - 120			
Lead	9.947	0.489	9.777	0	102	80 - 120			
Nickel	9.777	0.489	9.777	0	100.0	80 - 120			
Selenium	9.984	0.489	9.777	0	102	80 - 120			
Silver	10.1	0.489	9.777	0	103	80 - 120			

MS	Sample ID: HS20061007-89MS	Units: mg/Kg			Analysis Date: 24-Jun-2020 17:06				
Client ID:	Run ID: ICPMS04_363852	SeqNo: 5634355		PrepDate: 23-Jun-2020		DF: 50			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	205.9	24.5	9.819	278.3	-738	75 - 125			SO
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Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154686 (0)		Instrument: ICPMS04			Method: METALS BY SW6020A					
MS	Sample ID: HS20061007-89MS	Units: mg/Kg			Analysis Date: 23-Jun-2020 23:14					
Client ID:	Run ID: ICPMS04_363733	SeqNo: 5632374		PrepDate: 23-Jun-2020		DF: 2				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	59.34	0.982	9.819	46.23	133	75 - 125				SO
Barium	316.2	0.982	9.819	341.1	-254	75 - 125				SO
Beryllium	11.08	0.982	9.819	1.174	101	75 - 125				
Cadmium	10.61	0.982	9.819	1.058	97.3	75 - 125				
Chromium	110.1	0.982	9.819	112.3	-22.3	75 - 125				SO
Lead	318.8	0.982	9.819	310.4	85.6	75 - 125				O
Nickel	81.85	0.982	9.819	68.87	132	75 - 125				SO
Selenium	12.18	0.982	9.819	3.037	93.1	75 - 125				
Silver	9.943	0.982	9.819	0.7863	93.3	75 - 125				

MSD	Sample ID: HS20061007-89MSD	Units: mg/Kg			Analysis Date: 24-Jun-2020 17:08					
Client ID:	Run ID: ICPMS04_363852	SeqNo: 5634356		PrepDate: 23-Jun-2020		DF: 50				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	301	25.2	10.09	278.3	224	75 - 125	205.9	37.5	20	SRO

MSD	Sample ID: HS20061007-89MSD	Units: mg/Kg			Analysis Date: 23-Jun-2020 23:16					
Client ID:	Run ID: ICPMS04_363733	SeqNo: 5632375		PrepDate: 23-Jun-2020		DF: 2				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	75.65	1.01	10.09	46.23	292	75 - 125	59.34	24.2	20	SRO
Barium	410.3	1.01	10.09	341.1	686	75 - 125	316.2	25.9	20	SREO
Beryllium	12.02	1.01	10.09	1.174	108	75 - 125	11.08	8.1	20	
Cadmium	11.17	1.01	10.09	1.058	100	75 - 125	10.61	5.12	20	
Chromium	136.5	1.01	10.09	112.3	240	75 - 125	110.1	21.4	20	SRO
Lead	437.9	1.01	10.09	310.4	1260	75 - 125	318.8	31.5	20	SREO
Nickel	101.6	1.01	10.09	68.87	324	75 - 125	81.85	21.5	20	SRO
Selenium	13.37	1.01	10.09	3.037	102	75 - 125	12.18	9.33	20	
Silver	10.45	1.01	10.09	0.7863	95.8	75 - 125	9.943	4.96	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154686 (0)	Instrument: ICPMS04	Method: METALS BY SW6020A								
PDS	Sample ID: HS20061007-89PDS	Units: mg/Kg	Analysis Date: 24-Jun-2020 17:10							
Client ID:	Run ID: ICPMS04_363852	SeqNo: 5634357	PrepDate: 23-Jun-2020 DF: 50							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Antimony	741	24.4	488.1	278.3	94.8	75 - 125				
Barium	818.8	24.4	488.1	329.1	100	75 - 125				

PDS	Sample ID: HS20061007-89PDS	Units: mg/Kg	Analysis Date: 23-Jun-2020 23:18							
Client ID:	Run ID: ICPMS04_363733	SeqNo: 5632376	PrepDate: 23-Jun-2020 DF: 2							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Arsenic	64.54	0.976	19.52	46.23	93.8	75 - 125				
Beryllium	18.68	0.976	19.52	1.174	89.7	75 - 125				
Cadmium	17.83	0.976	19.52	1.058	85.9	75 - 125				
Chromium	128.5	0.976	19.52	112.3	83.1	75 - 125				O
Lead	321.5	0.976	19.52	310.4	57.0	75 - 125				SO
Nickel	83.8	0.976	19.52	68.87	76.5	75 - 125				
Selenium	22.41	0.976	19.52	3.037	99.2	75 - 125				
Silver	16.5	0.976	19.52	0.7863	80.5	75 - 125				

SD	Sample ID: HS20061007-89SD	Units: mg/Kg	Analysis Date: 24-Jun-2020 17:04							
Client ID:	Run ID: ICPMS04_363852	SeqNo: 5634354	PrepDate: 23-Jun-2020 DF: 250							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	RPD Limit	Qual

Antimony	307	122					278.3	10.3	10	R
Barium	332.9	122					329.1	1.17	10	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154686 (0)		Instrument: ICPMS04		Method: METALS BY SW6020A						
SD	Sample ID: HS20061007-89SD	Units: mg/Kg		Analysis Date: 23-Jun-2020 23:12						
Client ID:	Run ID: ICPMS04_363733	SeqNo: 5632373		PrepDate: 23-Jun-2020		DF: 10				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Arsenic	44.3	4.88					46.23	4.17	10	
Beryllium	1.073	4.88					1.174	0	10	J
Cadmium	1.063	4.88					1.058	0	10	J
Chromium	105.1	4.88					112.3	6.44	10	
Lead	305.3	4.88					310.4	1.62	10	
Nickel	70.53	4.88					68.87	2.42	10	
Selenium	3.661	4.88					3.037	0	10	J
Silver	0.8204	4.88					0.7863	0	10	J

The following samples were analyzed in this batch: HS20060998-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154758 (0)		Instrument: HG03		Method: MERCURY BY SW7471B						
MBLK	Sample ID: MBLK-154758	Units: ug/Kg			Analysis Date: 23-Jun-2020 17:40					
Client ID:	Run ID: HG03_363782	SeqNo: 5632118		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual		
Mercury	0.6	3.32								
LCS	Sample ID: LCS-154758	Units: ug/Kg			Analysis Date: 23-Jun-2020 17:42					
Client ID:	Run ID: HG03_363782	SeqNo: 5632119		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual		
Mercury	344.7	3.32	333.3	0	103	80 - 120				
MS	Sample ID: HS20060992-01MS	Units: ug/Kg			Analysis Date: 23-Jun-2020 17:47					
Client ID:	Run ID: HG03_363782	SeqNo: 5632121		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual		
Mercury	375.8	3.46	347.3	2.082	108	80 - 120				
MSD	Sample ID: HS20060992-01MSD	Units: ug/Kg			Analysis Date: 23-Jun-2020 17:49					
Client ID:	Run ID: HG03_363782	SeqNo: 5632122		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual		
Mercury	367.7	3.49	350.2	2.082	104	80 - 120	375.8	2.18 20		

The following samples were analyzed in this batch: HS20060998-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154875 (0) **Instrument:** ICPMS04 **Method:** ICP-MS METALS BY SW6020A

MBLK		Sample ID: MBLK-154875			Units: mg/L		Analysis Date: 27-Jun-2020 11:01			
Client ID:		Run ID: ICPMS04_364038			SeqNo: 5639260		PrepDate: 26-Jun-2020		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.00200								
Arsenic	U	0.00200								
Barium	U	0.00400								
Beryllium	U	0.00200								
Cadmium	U	0.00200								
Chromium	U	0.00400								
Lead	U	0.00200								
Nickel	U	0.00200								
Selenium	U	0.00200								
Silver	U	0.00200								

LCS		Sample ID: LCS-154875			Units: mg/L		Analysis Date: 27-Jun-2020 11:03			
Client ID:		Run ID: ICPMS04_364038			SeqNo: 5639261		PrepDate: 26-Jun-2020		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04575	0.00200	0.05	0	91.5	80 - 120				
Arsenic	0.04965	0.00200	0.05	0	99.3	80 - 120				
Barium	0.04674	0.00400	0.05	0	93.5	80 - 120				
Beryllium	0.04774	0.00200	0.05	0	95.5	80 - 120				
Cadmium	0.04849	0.00200	0.05	0	97.0	80 - 120				
Chromium	0.04735	0.00400	0.05	0	94.7	80 - 120				
Lead	0.04783	0.00200	0.05	0	95.7	80 - 120				
Nickel	0.04991	0.00200	0.05	0	99.8	80 - 120				
Selenium	0.05152	0.00200	0.05	0	103	80 - 120				
Silver	0.04702	0.00200	0.05	0	94.0	80 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154875 (0)		Instrument: ICPMS04			Method: ICP-MS METALS BY SW6020A					
MS	Sample ID: HS20061090-08MS	Units: mg/L			Analysis Date: 27-Jun-2020 11:18					
Client ID:	Run ID: ICPMS04_364038	SeqNo: 5639268		PrepDate: 26-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.03818	0.00200	0.05	0.000354	75.7	80 - 120				S
Arsenic	0.1076	0.00200	0.05	0.05966	95.8	80 - 120				
Barium	0.1308	0.00400	0.05	0.08644	88.7	80 - 120				
Beryllium	0.04833	0.00200	0.05	0.000247	96.2	80 - 120				
Cadmium	0.04598	0.00200	0.05	0.000048	91.9	80 - 120				
Chromium	0.04843	0.00400	0.05	0.002683	91.5	80 - 120				
Lead	0.0465	0.00200	0.05	0.001172	90.7	80 - 120				
Nickel	0.04887	0.00200	0.05	0.002385	93.0	80 - 120				
Selenium	0.04752	0.00200	0.05	0.000689	93.7	80 - 120				
Silver	0.04341	0.00200	0.05	0.000024	86.8	80 - 120				

MSD	Sample ID: HS20061090-08MSD	Units: mg/L			Analysis Date: 27-Jun-2020 11:20					
Client ID:	Run ID: ICPMS04_364038	SeqNo: 5639269		PrepDate: 26-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.03942	0.00200	0.05	0.000354	78.1	80 - 120	0.03818	3.2	20	S
Arsenic	0.1072	0.00200	0.05	0.05966	95.2	80 - 120	0.1076	0.311	20	
Barium	0.1301	0.00400	0.05	0.08644	87.3	80 - 120	0.1308	0.533	20	
Beryllium	0.04874	0.00200	0.05	0.000247	97.0	80 - 120	0.04833	0.861	20	
Cadmium	0.04546	0.00200	0.05	0.000048	90.8	80 - 120	0.04598	1.15	20	
Chromium	0.0484	0.00400	0.05	0.002683	91.4	80 - 120	0.04843	0.0744	20	
Lead	0.0468	0.00200	0.05	0.001172	91.3	80 - 120	0.0465	0.643	20	
Nickel	0.04803	0.00200	0.05	0.002385	91.3	80 - 120	0.04887	1.73	20	
Selenium	0.04753	0.00200	0.05	0.000689	93.7	80 - 120	0.04752	0.0189	20	
Silver	0.04322	0.00200	0.05	0.000024	86.4	80 - 120	0.04341	0.455	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154875 (0) **Instrument:** ICPMS04 **Method:** ICP-MS METALS BY SW6020A

PDS		Sample ID: HS20061090-08PDS			Units: mg/L		Analysis Date: 27-Jun-2020 11:22			
Client ID:		Run ID: ICPMS04_364038			SeqNo: 5639270		PrepDate: 26-Jun-2020		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.07641	0.00200	0.1	0.000354	76.1	75 - 125				
Arsenic	0.1594	0.00200	0.1	0.05966	99.7	75 - 125				
Barium	0.194	0.00400	0.1	0.08644	108	75 - 125				
Beryllium	0.1017	0.00200	0.1	0.000247	102	75 - 125				
Cadmium	0.09812	0.00200	0.1	0.000048	98.1	75 - 125				
Chromium	0.1004	0.00400	0.1	0.002683	97.7	75 - 125				
Lead	0.1031	0.00200	0.1	0.001172	102	75 - 125				
Nickel	0.1012	0.00200	0.1	0.002385	98.8	75 - 125				
Selenium	0.09913	0.00200	0.1	0.000689	98.4	75 - 125				
Silver	0.09765	0.00200	0.1	0.000024	97.6	75 - 125				

SD		Sample ID: HS20061090-08SD			Units: mg/L		Analysis Date: 27-Jun-2020 11:16			
Client ID:		Run ID: ICPMS04_364038			SeqNo: 5639267		PrepDate: 26-Jun-2020		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	RPD Limit	Qual
Antimony	U	0.0100					0.000354	0	10	
Arsenic	0.05948	0.0100					0.05966	0.305	10	
Barium	0.08892	0.0200					0.08644	2.87	10	
Beryllium	U	0.0100					0.000247	0	10	
Cadmium	U	0.0100					0.000048	0	10	
Chromium	0.002898	0.0200					0.002683	0	10	J
Lead	U	0.0100					0.001172	0	10	
Nickel	U	0.0100					0.002385	0	10	
Selenium	U	0.0100					0.000689	0	10	
Silver	U	0.0100					0.000024	0	10	

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-154746	Units: ug/L			Analysis Date: 29-Jun-2020 13:03					
Client ID:	Run ID: SV-7_364126	SeqNo: 5643175		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	U	0.20								
2,4,5-Trichlorophenol	U	0.20								
2,4,6-Trichlorophenol	U	0.20								
2,4-Dichlorophenol	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrophenol	U	1.0								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Chlorophenol	U	0.20								
2-Methylnaphthalene	U	0.10								
2-Methylphenol	U	0.20								
2-Nitroaniline	U	0.20								
2-Nitrophenol	U	0.20								
3&4-Methylphenol	U	0.20								
3,3'-Dichlorobenzidine	U	0.20								
3-Nitroaniline	U	0.20								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Bromophenyl phenyl ether	U	0.20								
4-Chloro-3-methylphenol	U	0.20								
4-Chloroaniline	U	0.20								
4-Chlorophenyl phenyl ether	U	0.20								
4-Nitroaniline	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzidine	U	0.20								
Benzo(a)pyrene	U	0.10								
Benzo(b)fluoranthene	U	0.10								
Benzo(g,h,i)perylene	U	0.10								
Benzo(k)fluoranthene	U	0.10								
Benzyl alcohol	U	0.20								

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-154746	Units: ug/L			Analysis Date: 29-Jun-2020 13:03					
Client ID:	Run ID: SV-7_364126	SeqNo: 5643175		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-chloroethyl)ether	U	0.20								
Bis(2-chloroisopropyl)ether	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Butyl benzyl phthalate	U	0.20								
Carbazole	U	0.20								
Chrysene	U	0.10								
Dibenz(a,h)anthracene	U	0.10								
Dibenzofuran	U	0.10								
Diethyl phthalate	U	0.20								
Dimethyl phthalate	U	0.20								
Di-n-butyl phthalate	U	0.20								
Di-n-octyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Hexachlorobenzene	U	0.20								
Hexachlorobutadiene	U	0.20								
Hexachlorocyclopentadiene	U	0.20								
Hexachloroethane	U	0.20								
Indeno(1,2,3-cd)pyrene	U	0.10								
Isophorone	U	0.20								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodimethylamine	U	0.20								
N-Nitrosodi-n-propylamine	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Pyridine	U	1.0								
Surr: 2,4,6-Tribromophenol	3.396	0.20	5	0	67.9	34 - 129				
Surr: 2-Fluorobiphenyl	2.291	0.20	5	0	45.8	40 - 125				
Surr: 2-Fluorophenol	2.824	0.20	5	0	56.5	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-154746	Units: ug/L			Analysis Date: 29-Jun-2020 13:03					
Client ID:	Run ID: SV-7_364126	SeqNo: 5643175		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	3.333	0.20	5	0	66.7	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	2.45	0.20	5	0	49.0	41 - 120				
<i>Surr: Phenol-d6</i>	3.228	0.20	5	0	64.6	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7			Method: LOW-LEVEL SEMIVOLATILES BY 8270D					
LCS	Sample ID: LCS-154746	Units: ug/L			Analysis Date: 30-Jun-2020 10:50					
Client ID:	Run ID: SV-7_364251	SeqNo: 5644598		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3.224	0.20	5	0	64.5	45 - 120				
2,4,5-Trichlorophenol	3.073	0.20	5	0	61.5	46 - 120				
2,4,6-Trichlorophenol	2.762	0.20	5	0	55.2	42 - 120				
2,4-Dichlorophenol	3.34	0.20	5	0	66.8	49 - 120				
2,4-Dimethylphenol	2.77	0.20	5	0	55.4	35 - 120				
2,4-Dinitrophenol	3.149	1.0	5	0	63.0	15 - 120				
2,4-Dinitrotoluene	3.072	0.20	5	0	61.4	50 - 122				
2,6-Dinitrotoluene	3.051	0.20	5	0	61.0	50 - 120				
2-Chloronaphthalene	3.354	0.20	5	0	67.1	50 - 120				
2-Chlorophenol	3.136	0.20	5	0	62.7	40 - 120				
2-Methylnaphthalene	3.161	0.10	5	0	63.2	50 - 120				
2-Methylphenol	3.058	0.20	5	0	61.2	45 - 120				
2-Nitroaniline	3.366	0.20	5	0	67.3	28 - 139				
2-Nitrophenol	3.422	0.20	5	0	68.4	40 - 120				
3&4-Methylphenol	3.115	0.20	5	0	62.3	35 - 120				
3,3'-Dichlorobenzidine	1.984	0.20	5	0	39.7	15 - 120				
3-Nitroaniline	2.807	0.20	5	0	56.1	30 - 120				
4,6-Dinitro-2-methylphenol	3.81	0.20	5	0	76.2	25 - 121				
4-Bromophenyl phenyl ether	3.026	0.20	5	0	60.5	45 - 120				
4-Chloro-3-methylphenol	3.141	0.20	5	0	62.8	47 - 120				
4-Chloroaniline	2.443	0.20	5	0	48.9	20 - 120				
4-Chlorophenyl phenyl ether	3.412	0.20	5	0	68.2	50 - 120				
4-Nitroaniline	2.949	0.20	5	0	59.0	30 - 133				
4-Nitrophenol	3.328	1.0	5	0	66.6	30 - 130				
Acenaphthene	3.451	0.10	5	0	69.0	45 - 120				
Acenaphthylene	2.98	0.10	5	0	59.6	47 - 120				
Anthracene	3.421	0.10	5	0	68.4	45 - 120				
Benz(a)anthracene	3.674	0.10	5	0	73.5	40 - 120				
Benzidine	0.6596	0.20	5	0	13.2	10 - 120				
Benzo(a)pyrene	3.781	0.10	5	0	75.6	45 - 120				
Benzo(b)fluoranthene	3.518	0.10	5	0	70.4	50 - 120				
Benzo(g,h,i)perylene	3.988	0.10	5	0	79.8	42 - 127				
Benzo(k)fluoranthene	3.992	0.10	5	0	79.8	45 - 127				
Benzyl alcohol	2.778	0.20	5	0	55.6	35 - 122				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-154746	Units: ug/L			Analysis Date: 30-Jun-2020 10:50					
Client ID:	Run ID: SV-7_364251	SeqNo: 5644598		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	3.598	0.20	5	0	72.0	45 - 120				
Bis(2-chloroethyl)ether	3.544	0.20	5	0	70.9	37 - 121				
Bis(2-chloroisopropyl)ether	3.216	0.20	5	0	64.3	40 - 120				
Bis(2-ethylhexyl)phthalate	3.795	0.20	5	0	75.9	40 - 139				
Butyl benzyl phthalate	3.644	0.20	5	0	72.9	47 - 123				
Carbazole	3.372	0.20	5	0	67.4	42 - 128				
Chrysene	3.51	0.10	5	0	70.2	43 - 120				
Dibenz(a,h)anthracene	4.408	0.10	5	0	88.2	45 - 125				
Dibenzofuran	2.871	0.10	5	0	57.4	50 - 120				
Diethyl phthalate	3.093	0.20	5	0	61.9	41 - 120				
Dimethyl phthalate	2.942	0.20	5	0	58.8	40 - 122				
Di-n-butyl phthalate	3.952	0.20	5	0	79.0	45 - 123				
Di-n-octyl phthalate	3.736	0.20	5	0	74.7	45 - 129				
Fluoranthene	3.822	0.10	5	0	76.4	45 - 125				
Fluorene	3.287	0.10	5	0	65.7	49 - 120				
Hexachlorobenzene	2.978	0.20	5	0	59.6	48 - 120				
Hexachlorobutadiene	3.162	0.20	5	0	63.2	40 - 120				
Hexachlorocyclopentadiene	2.42	0.20	5	0	48.4	34 - 136				
Hexachloroethane	2.929	0.20	5	0	58.6	40 - 120				
Indeno(1,2,3-cd)pyrene	5.254	0.10	5	0	105	41 - 128				
Isophorone	3.258	0.20	5	0	65.2	40 - 121				
Naphthalene	3.189	0.10	5	0	63.8	45 - 120				
Nitrobenzene	3.245	0.20	5	0	64.9	44 - 120				
N-Nitrosodimethylamine	2.913	0.20	5	0	58.3	30 - 121				
N-Nitrosodi-n-propylamine	3.076	0.20	5	0	61.5	40 - 120				
N-Nitrosodiphenylamine	3.27	0.20	5	0	65.4	40 - 125				
Pentachlorophenol	3.331	0.20	5	0	66.6	19 - 121				
Phenanthrene	3.413	0.10	5	0	68.3	45 - 121				
Phenol	3.463	0.20	5	0	69.3	20 - 124				
Pyrene	3.396	0.10	5	0	67.9	40 - 130				
Pyridine	2.749	1.0	5	0	55.0	15 - 120				
Surr: 2,4,6-Tribromophenol	3.978	0.20	5	0	79.6	34 - 129				
Surr: 2-Fluorobiphenyl	2.786	0.20	5	0	55.7	40 - 125				
Surr: 2-Fluorophenol	3.292	0.20	5	0	65.8	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-154746	Units: ug/L			Analysis Date: 30-Jun-2020 10:50					
Client ID:	Run ID: SV-7_364251	SeqNo: 5644598		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	3.553	0.20	5	0	71.1	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.064	0.20	5	0	61.3	41 - 120				
<i>Surr: Phenol-d6</i>	3.979	0.20	5	0	79.6	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS20060955-04MS	Units: ug/L			Analysis Date: 29-Jun-2020 20:17					
Client ID:	Run ID: SV-7_364126	SeqNo: 5644494	PrepDate: 23-Jun-2020	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3.336	0.20	5	0	66.7	45 - 120				
2,4,5-Trichlorophenol	3.386	0.20	5	0	67.7	46 - 120				
2,4,6-Trichlorophenol	3.237	0.20	5	0	64.7	42 - 120				
2,4-Dichlorophenol	3.433	0.20	5	0	68.7	49 - 120				
2,4-Dimethylphenol	3.09	0.20	5	0	61.8	35 - 120				
2,4-Dinitrophenol	2.978	1.0	5	0	59.6	15 - 120				
2,4-Dinitrotoluene	3.184	0.20	5	0	63.7	50 - 122				
2,6-Dinitrotoluene	3.395	0.20	5	0	67.9	50 - 120				
2-Chloronaphthalene	3.239	0.20	5	0	64.8	50 - 120				
2-Chlorophenol	2.804	0.20	5	0	56.1	40 - 120				
2-Methylnaphthalene	3.252	0.10	5	0	65.0	50 - 120				
2-Methylphenol	2.869	0.20	5	0	57.4	45 - 120				
2-Nitroaniline	2.688	0.20	5	0	53.8	28 - 139				
2-Nitrophenol	3.29	0.20	5	0	65.8	40 - 120				
3&4-Methylphenol	2.728	0.20	5	0	54.6	35 - 120				
3,3'-Dichlorobenzidine	7.592	0.20	5	0	152	15 - 120				S
3-Nitroaniline	3.759	0.20	5	0	75.2	30 - 120				
4,6-Dinitro-2-methylphenol	3.471	0.20	5	0	69.4	25 - 121				
4-Bromophenyl phenyl ether	3.554	0.20	5	0	71.1	45 - 120				
4-Chloro-3-methylphenol	3.066	0.20	5	0	61.3	47 - 120				
4-Chloroaniline	3.328	0.20	5	0	66.6	20 - 120				
4-Chlorophenyl phenyl ether	3.579	0.20	5	0	71.6	50 - 120				
4-Nitroaniline	3.374	0.20	5	0	67.5	30 - 133				
4-Nitrophenol	3.176	1.0	5	0	63.5	30 - 130				
Acenaphthene	2.864	0.10	5	0	57.3	45 - 120				
Acenaphthylene	2.951	0.10	5	0	59.0	47 - 120				
Anthracene	3.395	0.10	5	0	67.9	45 - 120				
Benz(a)anthracene	3.841	0.10	5	0	76.8	40 - 120				
Benzidine	1.581	0.20	5	0	31.6	10 - 120				
Benzo(a)pyrene	4.082	0.10	5	0	81.6	45 - 120				
Benzo(b)fluoranthene	4.103	0.10	5	0	82.1	50 - 120				
Benzo(g,h,i)perylene	4.27	0.10	5	0	85.4	42 - 127				
Benzo(k)fluoranthene	3.557	0.10	5	0	71.1	45 - 127				
Benzyl alcohol	2.847	0.20	5	0	56.9	35 - 122				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS20060955-04MS	Units: ug/L			Analysis Date: 29-Jun-2020 20:17					
Client ID:	Run ID: SV-7_364126	SeqNo: 5644494	PrepDate: 23-Jun-2020	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	2.756	0.20	5	0	55.1	45 - 120				
Bis(2-chloroethyl)ether	3.284	0.20	5	0.7132	51.4	37 - 121				
Bis(2-chloroisopropyl)ether	21.28	0.20	5	22.91	-32.5	40 - 120				SEO
Bis(2-ethylhexyl)phthalate	3.608	0.20	5	0	72.2	40 - 139				
Butyl benzyl phthalate	3.309	0.20	5	0	66.2	47 - 123				
Carbazole	3.687	0.20	5	0	73.7	42 - 128				
Chrysene	3.473	0.10	5	0	69.5	43 - 120				
Dibenz(a,h)anthracene	4.539	0.10	5	0	90.8	45 - 125				
Dibenzofuran	3.172	0.10	5	0	63.4	50 - 120				
Diethyl phthalate	2.957	0.20	5	0	59.1	41 - 120				
Dimethyl phthalate	3.042	0.20	5	0	60.8	40 - 122				
Di-n-butyl phthalate	3.161	0.20	5	0	63.2	45 - 123				
Di-n-octyl phthalate	3.191	0.20	5	0	63.8	45 - 129				
Fluoranthene	3.546	0.10	5	0	70.9	45 - 125				
Fluorene	3.282	0.10	5	0	65.6	49 - 120				
Hexachlorobenzene	3.427	0.20	5	0	68.5	48 - 120				
Hexachlorobutadiene	3.48	0.20	5	0	69.6	40 - 120				
Hexachlorocyclopentadiene	2.427	0.20	5	0	48.5	34 - 136				
Hexachloroethane	2.784	0.20	5	0	55.7	40 - 120				
Indeno(1,2,3-cd)pyrene	5.071	0.10	5	0	101	41 - 128				
Isophorone	2.713	0.20	5	0	54.3	40 - 121				
Naphthalene	3.054	0.10	5	0	61.1	45 - 120				
Nitrobenzene	2.618	0.20	5	0	52.4	44 - 120				
N-Nitrosodimethylamine	2.115	0.20	5	0	42.3	30 - 121				
N-Nitrosodi-n-propylamine	2.622	0.20	5	0	52.4	40 - 120				
N-Nitrosodiphenylamine	3.321	0.20	5	0	66.4	40 - 125				
Pentachlorophenol	3.2	0.20	5	0	64.0	19 - 121				
Phenanthrene	3.312	0.10	5	0	66.2	45 - 121				
Phenol	2.646	0.20	5	0	52.9	20 - 124				
Pyrene	3.317	0.10	5	0	66.3	40 - 130				
Pyridine	2.022	1.0	5	0	40.4	15 - 120				
Surr: 2,4,6-Tribromophenol	4.474	0.20	5	0	89.5	34 - 129				
Surr: 2-Fluorobiphenyl	3.064	0.20	5	0	61.3	40 - 125				
Surr: 2-Fluorophenol	2.699	0.20	5	0	54.0	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS20060955-04MS	Units: ug/L			Analysis Date: 29-Jun-2020 20:17					
Client ID:	Run ID: SV-7_364126	SeqNo: 5644494		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	3.664	0.20	5	0	73.3	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	2.598	0.20	5	0	52.0	41 - 120				
<i>Surr: Phenol-d6</i>	2.989	0.20	5	0	59.8	20 - 120				
MS	Sample ID: HS20060921-02MS	Units: ug/L			Analysis Date: 28-Jun-2020 22:06					
Client ID:	Run ID: SV-7_364083	SeqNo: 5643158		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
2-Methylnaphthalene	3.256	0.10	5	0	65.1	50 - 120				
2-Methylphenol	2.695	0.20	5	0	53.9	45 - 120				
3&4-Methylphenol	2.551	0.20	5	0	51.0	35 - 120				
Acenaphthene	2.942	0.10	5	0	58.8	45 - 120				
Acenaphthylene	1.447	0.10	5	0	28.9	47 - 120			S	
Anthracene	3.374	0.10	5	0	67.5	45 - 120				
Bis(2-chloroethyl)ether	2.692	0.20	5	0	53.8	37 - 121				
Bis(2-chloroisopropyl)ether	2.382	0.20	5	0	47.6	40 - 120				
Bis(2-ethylhexyl)phthalate	4.882	0.20	5	0	97.6	40 - 139				
Di-n-butyl phthalate	3.446	0.20	5	0	68.9	45 - 123				
Fluoranthene	4.049	0.10	5	0	81.0	45 - 125				
Fluorene	3.475	0.10	5	0	69.5	49 - 120				
Naphthalene	2.981	0.10	5	0	59.6	45 - 120				
Phenanthrene	3.749	0.10	5	0	75.0	45 - 121				
Phenol	2.839	0.20	5	0	56.8	20 - 124				
<i>Surr: 2,4,6-Tribromophenol</i>	4.912	0.20	5	0	98.2	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	3.033	0.20	5	0	60.7	40 - 125				
<i>Surr: 2-Fluorophenol</i>	2.829	0.20	5	0	56.6	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	4.12	0.20	5	0	82.4	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	2.32	0.20	5	0	46.4	41 - 120				
<i>Surr: Phenol-d6</i>	3.118	0.20	5	0	62.4	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS20060955-04MSD	Units: ug/L			Analysis Date: 29-Jun-2020 20:37					
Client ID:	Run ID: SV-7_364126	SeqNo: 5644495	PrepDate: 23-Jun-2020	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3.227	0.20	5	0	64.5	45 - 120	3.336	3.34	20	
2,4,5-Trichlorophenol	3.379	0.20	5	0	67.6	46 - 120	3.386	0.179	20	
2,4,6-Trichlorophenol	3.462	0.20	5	0	69.2	42 - 120	3.237	6.74	20	
2,4-Dichlorophenol	3.353	0.20	5	0	67.1	49 - 120	3.433	2.36	20	
2,4-Dimethylphenol	2.844	0.20	5	0	56.9	35 - 120	3.09	8.28	20	
2,4-Dinitrophenol	2.869	1.0	5	0	57.4	15 - 120	2.978	3.73	50	
2,4-Dinitrotoluene	3.093	0.20	5	0	61.9	50 - 122	3.184	2.89	20	
2,6-Dinitrotoluene	3.767	0.20	5	0	75.3	50 - 120	3.395	10.4	20	
2-Chloronaphthalene	3.208	0.20	5	0	64.2	50 - 120	3.239	0.98	20	
2-Chlorophenol	3.345	0.20	5	0	66.9	40 - 120	2.804	17.6	20	
2-Methylnaphthalene	3.763	0.10	5	0	75.3	50 - 120	3.252	14.6	20	
2-Methylphenol	3.399	0.20	5	0	68.0	45 - 120	2.869	16.9	20	
2-Nitroaniline	3.078	0.20	5	0	61.6	28 - 139	2.688	13.5	20	
2-Nitrophenol	3.605	0.20	5	0	72.1	40 - 120	3.29	9.15	20	
3&4-Methylphenol	3.382	0.20	5	0	67.6	35 - 120	2.728	21.4	20	R
3,3'-Dichlorobenzidine	7.673	0.20	5	0	153	15 - 120	7.592	1.05	20	S
3-Nitroaniline	4.675	0.20	5	0	93.5	30 - 120	3.759	21.7	20	R
4,6-Dinitro-2-methylphenol	4.262	0.20	5	0	85.2	25 - 121	3.471	20.5	30	
4-Bromophenyl phenyl ether	3.55	0.20	5	0	71.0	45 - 120	3.554	0.0923	20	
4-Chloro-3-methylphenol	4.052	0.20	5	0	81.0	47 - 120	3.066	27.7	20	R
4-Chloroaniline	3.232	0.20	5	0	64.6	20 - 120	3.328	2.93	20	
4-Chlorophenyl phenyl ether	3.869	0.20	5	0	77.4	50 - 120	3.579	7.79	20	
4-Nitroaniline	4.185	0.20	5	0	83.7	30 - 133	3.374	21.5	20	R
4-Nitrophenol	3.393	1.0	5	0	67.9	30 - 130	3.176	6.61	20	
Acenaphthene	3.286	0.10	5	0	65.7	45 - 120	2.864	13.7	20	
Acenaphthylene	2.685	0.10	5	0	53.7	47 - 120	2.951	9.43	20	
Anthracene	3.52	0.10	5	0	70.4	45 - 120	3.395	3.62	20	
Benz(a)anthracene	4.037	0.10	5	0	80.7	40 - 120	3.841	4.99	20	
Benzidine	0.7474	0.20	5	0	14.9	10 - 120	1.581	71.6	30	R
Benzo(a)pyrene	4.265	0.10	5	0	85.3	45 - 120	4.082	4.38	20	
Benzo(b)fluoranthene	3.579	0.10	5	0	71.6	50 - 120	4.103	13.6	20	
Benzo(g,h,i)perylene	3.829	0.10	5	0	76.6	42 - 127	4.27	10.9	20	
Benzo(k)fluoranthene	4.054	0.10	5	0	81.1	45 - 127	3.557	13	20	
Benzyl alcohol	3.633	0.20	5	0	72.7	35 - 122	2.847	24.3	20	R

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D							
MSD	Sample ID: HS20060955-04MSD	Units: ug/L			Analysis Date: 29-Jun-2020 20:37						
Client ID:	Run ID: SV-7_364126	SeqNo: 5644495	PrepDate: 23-Jun-2020	DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Bis(2-chloroethoxy)methane	3.619	0.20	5	0	72.4	45 - 120	2.756	27.1	20	R	
Bis(2-chloroethyl)ether	4.055	0.20	5	0.7132	66.8	37 - 121	3.284	21	20	R	
Bis(2-chloroisopropyl)ether	31.02	0.20	5	22.91	162	40 - 120	21.28	37.2	20	SREO	
Bis(2-ethylhexyl)phthalate	4.338	0.20	5	0	86.8	40 - 139	3.608	18.4	20		
Butyl benzyl phthalate	4.228	0.20	5	0	84.6	47 - 123	3.309	24.4	20	R	
Carbazole	4.165	0.20	5	0	83.3	42 - 128	3.687	12.2	20		
Chrysene	3.889	0.10	5	0	77.8	43 - 120	3.473	11.3	20		
Dibenz(a,h)anthracene	4.17	0.10	5	0	83.4	45 - 125	4.539	8.48	20		
Dibenzofuran	3.353	0.10	5	0	67.1	50 - 120	3.172	5.53	20		
Diethyl phthalate	3.745	0.20	5	0	74.9	41 - 120	2.957	23.5	20	R	
Dimethyl phthalate	2.885	0.20	5	0	57.7	40 - 122	3.042	5.3	20		
Di-n-butyl phthalate	3.751	0.20	5	0	75.0	45 - 123	3.161	17.1	20		
Di-n-octyl phthalate	3.985	0.20	5	0	79.7	45 - 129	3.191	22.1	20	R	
Fluoranthene	3.824	0.10	5	0	76.5	45 - 125	3.546	7.56	20		
Fluorene	3.837	0.10	5	0	76.7	49 - 120	3.282	15.6	20		
Hexachlorobenzene	3.286	0.20	5	0	65.7	48 - 120	3.427	4.2	20		
Hexachlorobutadiene	3.058	0.20	5	0	61.2	40 - 120	3.48	12.9	20		
Hexachlorocyclopentadiene	2.937	0.20	5	0	58.7	34 - 136	2.427	19	20		
Hexachloroethane	3.425	0.20	5	0	68.5	40 - 120	2.784	20.7	20	R	
Indeno(1,2,3-cd)pyrene	3.76	0.10	5	0	75.2	41 - 128	5.071	29.7	20	R	
Isophorone	3.828	0.20	5	0	76.6	40 - 121	2.713	34.1	20	R	
Naphthalene	3.228	0.10	5	0	64.6	45 - 120	3.054	5.54	20		
Nitrobenzene	2.711	0.20	5	0	54.2	44 - 120	2.618	3.5	20		
N-Nitrosodimethylamine	3.654	0.20	5	0	73.1	30 - 121	2.115	53.4	20	R	
N-Nitrosodi-n-propylamine	3.254	0.20	5	0	65.1	40 - 120	2.622	21.5	20	R	
N-Nitrosodiphenylamine	3.882	0.20	5	0	77.6	40 - 125	3.321	15.6	20		
Pentachlorophenol	3.142	0.20	5	0	62.8	19 - 121	3.2	1.82	20		
Phenanthrene	3.38	0.10	5	0	67.6	45 - 121	3.312	2.05	20		
Phenol	3.303	0.20	5	0	66.1	20 - 124	2.646	22.1	20	R	
Pyrene	3.773	0.10	5	0	75.5	40 - 130	3.317	12.8	20		
Pyridine	2.638	1.0	5	0	52.8	15 - 120	2.022	26.4	20	R	
Surr: 2,4,6-Tribromophenol	4.131	0.20	5	0	82.6	34 - 129	4.474	7.98	20		
Surr: 2-Fluorobiphenyl	3.002	0.20	5	0	60.0	40 - 125	3.064	2.05	20		
Surr: 2-Fluorophenol	3.151	0.20	5	0	63.0	20 - 120	2.699	15.4	20		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154746 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS20060955-04MSD	Units: ug/L			Analysis Date: 29-Jun-2020 20:37					
Client ID:	Run ID: SV-7_364126	SeqNo: 5644495		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	3.934	0.20	5	0	78.7	40 - 135	3.664	7.1	20	
Surr: Nitrobenzene-d5	2.604	0.20	5	0	52.1	41 - 120	2.598	0.201	20	
Surr: Phenol-d6	3.741	0.20	5	0	74.8	20 - 120	2.989	22.3	20	R
MSD	Sample ID: HS20060921-02MSD	Units: ug/L			Analysis Date: 28-Jun-2020 22:26					
Client ID:	Run ID: SV-7_364083	SeqNo: 5643159		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	3.545	0.10	5	0	70.9	50 - 120	3.256	8.5	20	
2-Methylphenol	2.813	0.20	5	0	56.3	45 - 120	2.695	4.26	20	
3&4-Methylphenol	2.624	0.20	5	0	52.5	35 - 120	2.551	2.81	20	
Acenaphthene	3.054	0.10	5	0	61.1	45 - 120	2.942	3.74	20	
Acenaphthylene	2.461	0.10	5	0	49.2	47 - 120	1.447	51.9	20	R
Anthracene	3.709	0.10	5	0	74.2	45 - 120	3.374	9.48	20	
Bis(2-chloroethyl)ether	2.654	0.20	5	0	53.1	37 - 121	2.692	1.39	20	
Bis(2-chloroisopropyl)ether	2.203	0.20	5	0	44.1	40 - 120	2.382	7.81	20	
Bis(2-ethylhexyl)phthalate	4.165	0.20	5	0	83.3	40 - 139	4.882	15.9	20	
Di-n-butyl phthalate	3.959	0.20	5	0	79.2	45 - 123	3.446	13.9	20	
Fluoranthene	3.955	0.10	5	0	79.1	45 - 125	4.049	2.35	20	
Fluorene	4.85	0.10	5	0	97.0	49 - 120	3.475	33	20	R
Naphthalene	3.184	0.10	5	0	63.7	45 - 120	2.981	6.61	20	
Phenanthrene	3.657	0.10	5	0	73.1	45 - 121	3.749	2.49	20	
Phenol	2.678	0.20	5	0	53.6	20 - 124	2.839	5.83	20	
Surr: 2,4,6-Tribromophenol	6.205	0.20	5	0	124	34 - 129	4.912	23.3	20	R
Surr: 2-Fluorobiphenyl	3.08	0.20	5	0	61.6	40 - 125	3.033	1.56	20	
Surr: 2-Fluorophenol	2.736	0.20	5	0	54.7	20 - 120	2.829	3.33	20	
Surr: 4-Terphenyl-d14	4.053	0.20	5	0	81.1	40 - 135	4.12	1.62	20	
Surr: Nitrobenzene-d5	2.63	0.20	5	0	52.6	41 - 120	2.32	12.5	20	
Surr: Phenol-d6	3.103	0.20	5	0	62.1	20 - 120	3.118	0.476	20	

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-154767	Units: ug/Kg			Analysis Date: 25-Jun-2020 11:55					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637804		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	U	6.6								
2,4,5-Trichlorophenol	U	6.6								
2,4,6-Trichlorophenol	U	6.6								
2,4-Dichlorophenol	U	6.6								
2,4-Dimethylphenol	U	6.6								
2,4-Dinitrophenol	U	13								
2,4-Dinitrotoluene	U	6.6								
2,6-Dinitrotoluene	U	6.6								
2-Chloronaphthalene	U	6.6								
2-Chlorophenol	U	6.6								
2-Methylnaphthalene	U	3.3								
2-Methylphenol	U	6.6								
2-Nitroaniline	U	6.6								
2-Nitrophenol	U	6.6								
3&4-Methylphenol	U	6.6								
3,3'-Dichlorobenzidine	U	6.6								
3-Nitroaniline	U	6.6								
4,6-Dinitro-2-methylphenol	U	6.6								
4-Bromophenyl phenyl ether	U	6.6								
4-Chloro-3-methylphenol	U	6.6								
4-Chloroaniline	U	6.6								
4-Chlorophenyl phenyl ether	U	6.6								
4-Nitroaniline	U	6.6								
4-Nitrophenol	U	13								
Acenaphthene	U	3.3								
Acenaphthylene	U	3.3								
Anthracene	U	3.3								
Benz(a)anthracene	U	3.3								
Benzidine	U	6.6								
Benzo(a)pyrene	U	3.3								
Benzo(b)fluoranthene	U	3.3								
Benzo(g,h,i)perylene	U	3.3								
Benzo(k)fluoranthene	U	3.3								
Benzyl alcohol	U	6.6								

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-154767	Units: ug/Kg			Analysis Date: 25-Jun-2020 11:55					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637804	PrepDate: 23-Jun-2020	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	U	6.6								
Bis(2-chloroethyl)ether	U	6.6								
Bis(2-chloroisopropyl)ether	U	6.6								
Bis(2-ethylhexyl)phthalate	U	6.6								
Butyl benzyl phthalate	U	6.6								
Carbazole	U	6.6								
Chrysene	U	3.3								
Dibenz(a,h)anthracene	U	3.3								
Dibenzofuran	U	3.3								
Diethyl phthalate	U	6.6								
Dimethyl phthalate	U	6.6								
Di-n-butyl phthalate	U	6.6								
Di-n-octyl phthalate	U	6.6								
Fluoranthene	U	3.3								
Fluorene	U	3.3								
Hexachlorobenzene	U	6.6								
Hexachlorobutadiene	U	6.6								
Hexachlorocyclopentadiene	U	6.6								
Hexachloroethane	U	6.6								
Indeno(1,2,3-cd)pyrene	U	3.3								
Isophorone	U	6.6								
Naphthalene	U	3.3								
Nitrobenzene	U	6.6								
N-Nitrosodimethylamine	U	6.6								
N-Nitrosodi-n-propylamine	U	6.6								
N-Nitrosodiphenylamine	U	6.6								
Pentachlorophenol	U	6.6								
Phenanthrene	U	3.3								
Phenol	U	6.6								
Pyrene	U	3.3								
Pyridine	U	6.6								
Surr: 2,4,6-Tribromophenol	118.5	0	167	0	71.0	36 - 126				
Surr: 2-Fluorobiphenyl	111.6	0	167	0	66.8	43 - 125				
Surr: 2-Fluorophenol	122.2	0	167	0	73.2	37 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1) **Instrument:** SV-7 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D

MBLK Sample ID: **MBLK-154767** Units: **ug/Kg** Analysis Date: **25-Jun-2020 11:55**
Client ID: Run ID: **SV-7_363901** SeqNo: **5637804** PrepDate: **23-Jun-2020** DF: **1**
Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

<i>Surr: 4-Terphenyl-d14</i>	131.5	0	167	0	78.8	32 - 125				
<i>Surr: Nitrobenzene-d5</i>	126.4	0	167	0	75.7	37 - 125				
<i>Surr: Phenol-d6</i>	128.2	0	167	0	76.8	40 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-154767	Units: ug/Kg			Analysis Date: 25-Jun-2020 12:15					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637805		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
1,2,4-Trichlorobenzene	121.4	6.6	167	0	72.7	50 - 120				
2,4,5-Trichlorophenol	160.5	6.6	167	0	96.1	45 - 127				
2,4,6-Trichlorophenol	153.1	6.6	167	0	91.7	45 - 130				
2,4-Dichlorophenol	122.1	6.6	167	0	73.1	45 - 125				
2,4-Dimethylphenol	116	6.6	167	0	69.5	45 - 120				
2,4-Dinitrophenol	161.3	13	167	0	96.6	10 - 126				
2,4-Dinitrotoluene	180.8	6.6	167	0	108	50 - 130				
2,6-Dinitrotoluene	157.5	6.6	167	0	94.3	50 - 125				
2-Chloronaphthalene	179.8	6.6	167	0	108	50 - 145				
2-Chlorophenol	124.2	6.6	167	0	74.4	45 - 120				
2-Methylnaphthalene	101.3	3.3	167	0	60.6	50 - 120				
2-Methylphenol	120.1	6.6	167	0	71.9	45 - 120				
2-Nitroaniline	190.5	6.6	167	0	114	45 - 138				
2-Nitrophenol	125.9	6.6	167	0	75.4	45 - 125				
3&4-Methylphenol	125.2	6.6	167	0	75.0	45 - 120				
3,3'-Dichlorobenzidine	194.3	6.6	167	0	116	15 - 120				
3-Nitroaniline	174.1	6.6	167	0	104	40 - 120				
4,6-Dinitro-2-methylphenol	154.6	6.6	167	0	92.6	15 - 135				
4-Bromophenyl phenyl ether	151.8	6.6	167	0	90.9	50 - 125				
4-Chloro-3-methylphenol	102.8	6.6	167	0	61.6	45 - 130				
4-Chloroaniline	131.5	6.6	167	0	78.8	20 - 120				
4-Chlorophenyl phenyl ether	195.6	6.6	167	0	117	50 - 120				
4-Nitroaniline	199.5	6.6	167	0	119	50 - 127				
4-Nitrophenol	186.3	13	167	0	112	40 - 147				
Acenaphthene	147.2	3.3	167	0	88.2	50 - 120				
Acenaphthylene	153.2	3.3	167	0	91.7	50 - 120				
Anthracene	124.8	3.3	167	0	74.7	50 - 123				
Benz(a)anthracene	140.1	3.3	167	0	83.9	50 - 131				
Benzdine	149.5	6.6	167	0	89.5	10 - 120				
Benzo(a)pyrene	148.1	3.3	167	0	88.7	50 - 130				
Benzo(b)fluoranthene	167.4	3.3	167	0	100	50 - 137				
Benzo(g,h,i)perylene	160.8	3.3	167	0	96.3	50 - 130				
Benzo(k)fluoranthene	154.1	3.3	167	0	92.3	50 - 143				
Benzyl alcohol	119.7	6.6	167	0	71.7	40 - 143				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-154767	Units: ug/Kg			Analysis Date: 25-Jun-2020 12:15					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637805	PrepDate: 23-Jun-2020	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	133.5	6.6	167	0	79.9	50 - 120				
Bis(2-chloroethyl)ether	113	6.6	167	0	67.7	45 - 127				
Bis(2-chloroisopropyl)ether	127.7	6.6	167	0	76.4	50 - 120				
Bis(2-ethylhexyl)phthalate	152.7	6.6	167	0	91.4	21 - 148				
Butyl benzyl phthalate	142.3	6.6	167	0	85.2	50 - 136				
Carbazole	137.5	6.6	167	0	82.4	50 - 143				
Chrysene	130.3	3.3	167	0	78.0	50 - 130				
Dibenz(a,h)anthracene	160.9	3.3	167	0	96.4	50 - 130				
Dibenzofuran	179.1	3.3	167	0	107	50 - 125				
Diethyl phthalate	165.2	6.6	167	0	98.9	50 - 125				
Dimethyl phthalate	150.2	6.6	167	0	89.9	50 - 125				
Di-n-butyl phthalate	148.4	6.6	167	0	88.9	50 - 140				
Di-n-octyl phthalate	144.6	6.6	167	0	86.6	50 - 140				
Fluoranthene	155.4	3.3	167	0	93.0	50 - 131				
Fluorene	201.4	3.3	167	0	121	50 - 125				
Hexachlorobenzene	125.1	6.6	167	0	74.9	50 - 124				
Hexachlorobutadiene	105.9	6.6	167	0	63.4	50 - 125				
Hexachlorocyclopentadiene	153.3	6.6	167	0	91.8	45 - 135				
Hexachloroethane	127.1	6.6	167	0	76.1	45 - 125				
Indeno(1,2,3-cd)pyrene	190.8	3.3	167	0	114	45 - 139				
Isophorone	131	6.6	167	0	78.4	45 - 130				
Naphthalene	135.9	3.3	167	0	81.4	50 - 125				
Nitrobenzene	106.4	6.6	167	0	63.7	50 - 125				
N-Nitrosodimethylamine	103.3	6.6	167	0	61.9	20 - 140				
N-Nitrosodi-n-propylamine	125.9	6.6	167	0	75.4	45 - 120				
N-Nitrosodiphenylamine	143	6.6	167	0	85.6	50 - 130				
Pentachlorophenol	126	6.6	167	0	75.5	23 - 136				
Phenanthrene	123.2	3.3	167	0	73.8	50 - 125				
Phenol	121.2	6.6	167	0	72.6	45 - 130				
Pyrene	128.5	3.3	167	0	77.0	45 - 130				
Pyridine	67.98	6.6	167	0	40.7	15 - 120				
Surr: 2,4,6-Tribromophenol	209.6	0	167	0	126	36 - 126				
Surr: 2-Fluorobiphenyl	156.5	0	167	0	93.7	43 - 125				
Surr: 2-Fluorophenol	120.6	0	167	0	72.2	37 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-154767	Units: ug/Kg			Analysis Date: 25-Jun-2020 12:15					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637805		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	134.3	0	167	0	80.4	32 - 125				
<i>Surr: Nitrobenzene-d5</i>	110.6	0	167	0	66.3	37 - 125				
<i>Surr: Phenol-d6</i>	147.2	0	167	0	88.2	40 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS20061011-02MS	Units: ug/Kg			Analysis Date: 25-Jun-2020 13:53					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637807	PrepDate: 23-Jun-2020	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	118.2	6.5	164.9	0	71.7	50 - 120				
2,4,5-Trichlorophenol	129.9	6.5	164.9	0	78.8	45 - 127				
2,4,6-Trichlorophenol	109	6.5	164.9	0	66.1	45 - 130				
2,4-Dichlorophenol	114.3	6.5	164.9	0	69.3	45 - 125				
2,4-Dimethylphenol	97.98	6.5	164.9	0	59.4	45 - 120				
2,4-Dinitrophenol	103.1	13	164.9	0	62.6	10 - 126				
2,4-Dinitrotoluene	120.5	6.5	164.9	0	73.1	50 - 130				
2,6-Dinitrotoluene	122.2	6.5	164.9	0	74.1	50 - 125				
2-Chloronaphthalene	132.7	6.5	164.9	0	80.5	50 - 145				
2-Chlorophenol	108.7	6.5	164.9	0	65.9	45 - 120				
2-Methylnaphthalene	180.7	3.3	164.9	67.87	68.4	50 - 120				
2-Methylphenol	108.4	6.5	164.9	0	65.7	45 - 120				
2-Nitroaniline	139	6.5	164.9	0	84.3	45 - 138				
2-Nitrophenol	118.9	6.5	164.9	0	72.1	45 - 125				
3&4-Methylphenol	115.7	6.5	164.9	0	70.2	45 - 120				
3,3'-Dichlorobenzidine	165.6	6.5	164.9	0	100	15 - 120				
3-Nitroaniline	113.8	6.5	164.9	0	69.0	40 - 120				
4,6-Dinitro-2-methylphenol	125	6.5	164.9	0	75.8	15 - 135				
4-Bromophenyl phenyl ether	116.9	6.5	164.9	0	70.9	50 - 125				
4-Chloro-3-methylphenol	113.6	6.5	164.9	0	68.9	45 - 130				
4-Chloroaniline	110	6.5	164.9	0	66.8	20 - 120				
4-Chlorophenyl phenyl ether	116.9	6.5	164.9	0	70.9	50 - 120				
4-Nitroaniline	127.1	6.5	164.9	0	77.1	50 - 127				
4-Nitrophenol	121.1	13	164.9	0	73.5	40 - 147				
Acenaphthene	110.1	3.3	164.9	0.6939	66.4	50 - 120				
Acenaphthylene	117.3	3.3	164.9	0	71.1	50 - 120				
Anthracene	120.5	3.3	164.9	1.112	72.4	50 - 123				
Benz(a)anthracene	127.8	3.3	164.9	2.889	75.8	50 - 131				
Benzidine	13.36	6.5	164.9	0	8.11	10 - 120				S
Benzo(a)pyrene	139.9	3.3	164.9	1.412	84.0	50 - 130				
Benzo(b)fluoranthene	141.8	3.3	164.9	2.857	84.3	50 - 137				
Benzo(g,h,i)perylene	144.8	3.3	164.9	0	87.8	50 - 130				
Benzo(k)fluoranthene	132	3.3	164.9	1.058	79.4	50 - 143				
Benzyl alcohol	130.1	6.5	164.9	0	78.9	40 - 143				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS20061011-02MS	Units: ug/Kg			Analysis Date: 25-Jun-2020 13:53					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637807	PrepDate: 23-Jun-2020	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	113.2	6.5	164.9	0	68.6	50 - 120				
Bis(2-chloroethyl)ether	110.3	6.5	164.9	0	66.9	45 - 127				
Bis(2-chloroisopropyl)ether	106.2	6.5	164.9	0	64.4	50 - 120				
Bis(2-ethylhexyl)phthalate	143.8	6.5	164.9	2.84	85.5	21 - 148				
Butyl benzyl phthalate	128.6	6.5	164.9	0	78.0	50 - 136				
Carbazole	145.4	6.5	164.9	0	88.2	50 - 143				
Chrysene	121.4	3.3	164.9	3.133	71.7	50 - 130				
Dibenz(a,h)anthracene	143.2	3.3	164.9	0	86.9	50 - 130				
Dibenzofuran	114.5	3.3	164.9	0	69.4	50 - 125				
Diethyl phthalate	116.8	6.5	164.9	0	70.8	50 - 125				
Dimethyl phthalate	114.5	6.5	164.9	0	69.5	50 - 125				
Di-n-butyl phthalate	127.4	6.5	164.9	0.9413	76.7	50 - 140				
Di-n-octyl phthalate	131.4	6.5	164.9	0	79.7	50 - 140				
Fluoranthene	129.3	3.3	164.9	4.848	75.5	50 - 131				
Fluorene	120.5	3.3	164.9	0	73.1	50 - 125				
Hexachlorobenzene	110.6	6.5	164.9	0	67.1	50 - 124				
Hexachlorobutadiene	113.2	6.5	164.9	0	68.7	50 - 125				
Hexachlorocyclopentadiene	102.1	6.5	164.9	0	61.9	45 - 135				
Hexachloroethane	165	6.5	164.9	0	100	45 - 125				
Indeno(1,2,3-cd)pyrene	172.8	3.3	164.9	0	105	45 - 139				
Isophorone	119.8	6.5	164.9	0	72.6	45 - 130				
Naphthalene	180.2	3.3	164.9	66.09	69.2	50 - 125				
Nitrobenzene	113.7	6.5	164.9	0	69.0	50 - 125				
N-Nitrosodimethylamine	64.02	6.5	164.9	0	38.8	20 - 140				
N-Nitrosodi-n-propylamine	138.7	6.5	164.9	0	84.1	45 - 120				
N-Nitrosodiphenylamine	117.1	6.5	164.9	0	71.0	50 - 130				
Pentachlorophenol	111.5	6.5	164.9	0	67.7	23 - 136				
Phenanthrene	121.6	3.3	164.9	3.545	71.6	50 - 125				
Phenol	106.6	6.5	164.9	0	64.6	45 - 130				
Pyrene	114.7	3.3	164.9	4.771	66.7	45 - 130				
Pyridine	62.35	6.5	164.9	0	37.8	15 - 120				
Surr: 2,4,6-Tribromophenol	126.8	0	164.9	0	76.9	36 - 126				
Surr: 2-Fluorobiphenyl	111	0	164.9	0	67.3	43 - 125				
Surr: 2-Fluorophenol	99.73	0	164.9	0	60.5	37 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
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QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS20061011-02MS	Units: ug/Kg			Analysis Date: 25-Jun-2020 13:53					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637807		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	111.1	0	164.9	0	67.4	32 - 125				
<i>Surr: Nitrobenzene-d5</i>	133.5	0	164.9	0	81.0	37 - 125				
<i>Surr: Phenol-d6</i>	124	0	164.9	0	75.2	40 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS20061011-02MSD	Units: ug/Kg			Analysis Date: 25-Jun-2020 14:13					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637808		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	108.1	6.6	165.9	0	65.2	50 - 120	118.2	8.85	30	
2,4,5-Trichlorophenol	111	6.6	165.9	0	66.9	45 - 127	129.9	15.7	30	
2,4,6-Trichlorophenol	109.3	6.6	165.9	0	65.9	45 - 130	109	0.247	30	
2,4-Dichlorophenol	112.5	6.6	165.9	0	67.8	45 - 125	114.3	1.58	30	
2,4-Dimethylphenol	111.9	6.6	165.9	0	67.4	45 - 120	97.98	13.3	30	
2,4-Dinitrophenol	66.77	13	165.9	0	40.2	10 - 126	103.1	42.8	30	R
2,4-Dinitrotoluene	110.3	6.6	165.9	0	66.5	50 - 130	120.5	8.84	30	
2,6-Dinitrotoluene	109.3	6.6	165.9	0	65.9	50 - 125	122.2	11.1	30	
2-Chloronaphthalene	121.8	6.6	165.9	0	73.4	50 - 145	132.7	8.58	30	
2-Chlorophenol	104.4	6.6	165.9	0	62.9	45 - 120	108.7	4.05	30	
2-Methylnaphthalene	192.3	3.3	165.9	67.87	75.0	50 - 120	180.7	6.21	30	
2-Methylphenol	107.2	6.6	165.9	0	64.6	45 - 120	108.4	1.04	30	
2-Nitroaniline	121.8	6.6	165.9	0	73.4	45 - 138	139	13.2	30	
2-Nitrophenol	107.7	6.6	165.9	0	64.9	45 - 125	118.9	9.82	30	
3&4-Methylphenol	108.4	6.6	165.9	0	65.4	45 - 120	115.7	6.49	30	
3,3'-Dichlorobenzidine	193.2	6.6	165.9	0	116	15 - 120	165.6	15.4	30	
3-Nitroaniline	129.3	6.6	165.9	0	77.9	40 - 120	113.8	12.8	30	
4,6-Dinitro-2-methylphenol	83.36	6.6	165.9	0	50.2	15 - 135	125	40	30	R
4-Bromophenyl phenyl ether	88.87	6.6	165.9	0	53.6	50 - 125	116.9	27.2	30	
4-Chloro-3-methylphenol	107.9	6.6	165.9	0	65.0	45 - 130	113.6	5.14	30	
4-Chloroaniline	113.7	6.6	165.9	0	68.5	20 - 120	110	3.24	30	
4-Chlorophenyl phenyl ether	112.9	6.6	165.9	0	68.0	50 - 120	116.9	3.47	30	
4-Nitroaniline	124	6.6	165.9	0	74.7	50 - 127	127.1	2.45	30	
4-Nitrophenol	109.5	13	165.9	0	66.0	40 - 147	121.1	10.1	30	
Acenaphthene	105.2	3.3	165.9	0.6939	63.0	50 - 120	110.1	4.5	30	
Acenaphthylene	108.6	3.3	165.9	0	65.5	50 - 120	117.3	7.69	30	
Anthracene	90.07	3.3	165.9	1.112	53.6	50 - 123	120.5	28.9	30	
Benz(a)anthracene	121.4	3.3	165.9	2.889	71.5	50 - 131	127.8	5.15	30	
Benzidine	16.13	6.6	165.9	0	9.72	10 - 120	13.36	18.8	30	S
Benzo(a)pyrene	124.2	3.3	165.9	1.412	74.0	50 - 130	139.9	11.8	30	
Benzo(b)fluoranthene	125.4	3.3	165.9	2.857	73.9	50 - 137	141.8	12.3	30	
Benzo(g,h,i)perylene	126.2	3.3	165.9	0	76.1	50 - 130	144.8	13.7	30	
Benzo(k)fluoranthene	105	3.3	165.9	1.058	62.7	50 - 143	132	22.8	30	
Benzyl alcohol	117.7	6.6	165.9	0	71.0	40 - 143	130.1	9.98	30	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS20061011-02MSD	Units: ug/Kg			Analysis Date: 25-Jun-2020 14:13					
Client ID:	Run ID: SV-7_363901	SeqNo: 5637808		PrepDate: 23-Jun-2020		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	107.7	6.6	165.9	0	64.9	50 - 120	113.2	4.94	30	
Bis(2-chloroethyl)ether	112.6	6.6	165.9	0	67.9	45 - 127	110.3	2.12	30	
Bis(2-chloroisopropyl)ether	103.6	6.6	165.9	0	62.5	50 - 120	106.2	2.44	30	
Bis(2-ethylhexyl)phthalate	140.6	6.6	165.9	2.84	83.0	21 - 148	143.8	2.29	30	
Butyl benzyl phthalate	118	6.6	165.9	0	71.1	50 - 136	128.6	8.57	30	
Carbazole	114.8	6.6	165.9	0	69.2	50 - 143	145.4	23.5	30	
Chrysene	112.7	3.3	165.9	3.133	66.1	50 - 130	121.4	7.38	30	
Dibenz(a,h)anthracene	130.4	3.3	165.9	0	78.6	50 - 130	143.2	9.39	30	
Dibenzofuran	107.9	3.3	165.9	0	65.1	50 - 125	114.5	5.89	30	
Diethyl phthalate	109.4	6.6	165.9	0	65.9	50 - 125	116.8	6.58	30	
Dimethyl phthalate	102.4	6.6	165.9	0	61.7	50 - 125	114.5	11.2	30	
Di-n-butyl phthalate	103	6.6	165.9	0.9413	61.5	50 - 140	127.4	21.2	30	
Di-n-octyl phthalate	132.2	6.6	165.9	0	79.7	50 - 140	131.4	0.594	30	
Fluoranthene	95.37	3.3	165.9	4.848	54.6	50 - 131	129.3	30.2	30	R
Fluorene	112.1	3.3	165.9	0	67.6	50 - 125	120.5	7.25	30	
Hexachlorobenzene	86.59	6.6	165.9	0	52.2	50 - 124	110.6	24.3	30	
Hexachlorobutadiene	101	6.6	165.9	0	60.9	50 - 125	113.2	11.4	30	
Hexachlorocyclopentadiene	94.27	6.6	165.9	0	56.8	45 - 135	102.1	7.99	30	
Hexachloroethane	182	6.6	165.9	0	110	45 - 125	165	9.8	30	
Indeno(1,2,3-cd)pyrene	157.2	3.3	165.9	0	94.8	45 - 139	172.8	9.43	30	
Isophorone	126.6	6.6	165.9	0	76.3	45 - 130	119.8	5.53	30	
Naphthalene	186.5	3.3	165.9	66.09	72.6	50 - 125	180.2	3.39	30	
Nitrobenzene	118.6	6.6	165.9	0	71.5	50 - 125	113.7	4.2	30	
N-Nitrosodimethylamine	83.76	6.6	165.9	0	50.5	20 - 140	64.02	26.7	30	
N-Nitrosodi-n-propylamine	149.9	6.6	165.9	0	90.4	45 - 120	138.7	7.76	30	
N-Nitrosodiphenylamine	93.46	6.6	165.9	0	56.3	50 - 130	117.1	22.5	30	
Pentachlorophenol	82.81	6.6	165.9	0	49.9	23 - 136	111.5	29.6	30	
Phenanthrene	104	3.3	165.9	3.545	60.6	50 - 125	121.6	15.6	30	
Phenol	99.57	6.6	165.9	0	60.0	45 - 130	106.6	6.78	30	
Pyrene	104.9	3.3	165.9	4.771	60.3	45 - 130	114.7	8.99	30	
Pyridine	74.37	6.6	165.9	0	44.8	15 - 120	62.35	17.6	30	
Surr: 2,4,6-Tribromophenol	148.4	0	165.9	0	89.5	36 - 126	126.8	15.7	30	
Surr: 2-Fluorobiphenyl	98.02	0	165.9	0	59.1	43 - 125	111	12.4	30	
Surr: 2-Fluorophenol	107.6	0	165.9	0	64.9	37 - 125	99.73	7.6	30	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154767 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D					
MSD	Sample ID: HS20061011-02MSD	Units: ug/Kg			Analysis Date: 25-Jun-2020 14:13				
Client ID:	Run ID: SV-7_363901	SeqNo: 5637808		PrepDate: 23-Jun-2020		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
<i>Surr: 4-Terphenyl-d14</i>	96.12	0	165.9	0	57.9	32 - 125	111.1	14.5	30
<i>Surr: Nitrobenzene-d5</i>	171.5	0	165.9	0	103	37 - 125	133.5	24.9	30
<i>Surr: Phenol-d6</i>	120.8	0	165.9	0	72.8	40 - 125	124	2.62	30

The following samples were analyzed in this batch: HS20060998-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MBLK	Sample ID: VBLKS2-062220	Units: ug/Kg			Analysis Date: 22-Jun-2020 08:48					
Client ID:	Run ID: VOA8_363649	SeqNo: 5629069	PrepDate:	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	5.0								
1,1,2,2-Tetrachloroethane	U	5.0								
1,1,2-Trichloroethane	U	5.0								
1,1-Dichloroethane	U	5.0								
1,1-Dichloroethene	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,2-Dichloroethane	U	5.0								
1,2-Dichloropropane	U	5.0								
1,3-Dichlorobenzene	U	5.0								
1,4-Dichlorobenzene	U	5.0								
2-Butanone	U	10								
2-Hexanone	U	10								
4-Methyl-2-pentanone	U	10								
Acetone	U	20								
Benzene	U	5.0								
Bromochloromethane	U	5.0								
Bromodichloromethane	U	5.0								
Bromoform	U	5.0								
Bromomethane	U	10								
Carbon disulfide	U	10								
Carbon tetrachloride	U	5.0								
Chlorobenzene	U	5.0								
Chloroethane	U	10								
Chloroform	U	5.0								
Chloromethane	U	10								
cis-1,2-Dichloroethene	U	5.0								
cis-1,3-Dichloropropene	U	5.0								
Dibromochloromethane	U	5.0								
Ethylbenzene	U	5.0								
m,p-Xylene	U	10								
Methylene chloride	U	10								
o-Xylene	U	5.0								
Styrene	U	5.0								
Tetrachloroethene	U	5.0								

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C					
MBLK	Sample ID: VBLKS2-062220	Units: ug/Kg			Analysis Date: 22-Jun-2020 08:48				
Client ID:	Run ID: VOA8_363649	SeqNo: 5629069		PrepDate:		DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Toluene	U	5.0							
trans-1,2-Dichloroethene	U	5.0							
trans-1,3-Dichloropropene	U	5.0							
Trichloroethene	U	5.0							
Vinyl acetate	U	10							
Vinyl chloride	U	2.0							
Xylenes, Total	U	5.0							
1,2-Dichloroethene, Total	U	5.0							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.18</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>92.4</i>	<i>76 - 125</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.6</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>80 - 120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>48.67</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>97.3</i>	<i>80 - 119</i>			
<i>Surr: Toluene-d8</i>	<i>49.82</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>81 - 118</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0)		Instrument: VOA8			Method: VOLATILES BY SW8260C					
LCS	Sample ID: VLCSS2-062220	Units: ug/Kg			Analysis Date: 22-Jun-2020 08:02					
Client ID:	Run ID: VOA8_363649	SeqNo: 5629068		PrepDate:		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	53.52	5.0	50	0	107	72 - 130				
1,1,2,2-Tetrachloroethane	51.43	5.0	50	0	103	71 - 124				
1,1,2-Trichloroethane	50.87	5.0	50	0	102	78 - 117				
1,1-Dichloroethane	50.15	5.0	50	0	100	76 - 128				
1,1-Dichloroethene	50.44	5.0	50	0	101	72 - 130				
1,2-Dichlorobenzene	49.69	5.0	50	0	99.4	79 - 121				
1,2-Dichloroethane	50.22	5.0	50	0	100	77 - 120				
1,2-Dichloropropane	47.69	5.0	50	0	95.4	77 - 121				
1,3-Dichlorobenzene	49.85	5.0	50	0	99.7	78 - 121				
1,4-Dichlorobenzene	50.5	5.0	50	0	101	78 - 120				
2-Butanone	108.6	10	100	0	109	70 - 128				
2-Hexanone	109.3	10	100	0	109	72 - 127				
4-Methyl-2-pentanone	105	10	100	0	105	70 - 128				
Acetone	92.48	20	100	0	92.5	70 - 130				
Benzene	50.11	5.0	50	0	100	75 - 124				
Bromochloromethane	48.82	5.0	50	0	97.6	74 - 124				
Bromodichloromethane	51.62	5.0	50	0	103	78 - 122				
Bromoform	53.92	5.0	50	0	108	74 - 120				
Bromomethane	50.43	10	50	0	101	70 - 130				
Carbon disulfide	109.2	10	100	0	109	70 - 122				
Carbon tetrachloride	52.45	5.0	50	0	105	72 - 128				
Chlorobenzene	51.49	5.0	50	0	103	78 - 122				
Chloroethane	44.77	10	50	0	89.5	70 - 130				
Chloroform	51.71	5.0	50	0	103	73 - 127				
Chloromethane	51.35	10	50	0	103	70 - 130				
cis-1,2-Dichloroethene	49.62	5.0	50	0	99.2	77 - 125				
cis-1,3-Dichloropropene	50.73	5.0	50	0	101	78 - 122				
Dibromochloromethane	50.32	5.0	50	0	101	78 - 120				
Ethylbenzene	51.07	5.0	50	0	102	70 - 123				
m,p-Xylene	103.4	10	100	0	103	77 - 125				
Methylene chloride	51.31	10	50	0	103	71 - 125				
o-Xylene	51.27	5.0	50	0	103	78 - 122				
Styrene	52.6	5.0	50	0	105	80 - 123				
Tetrachloroethene	52.97	5.0	50	0	106	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0) **Instrument:** VOA8 **Method:** VOLATILES BY SW8260C

LCS	Sample ID: VLCSS2-062220	Units: ug/Kg			Analysis Date: 22-Jun-2020 08:02					
Client ID:	Run ID: VOA8_363649	SeqNo: 5629068	PrepDate:	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	50.13	5.0	50	0	100	76 - 122				
trans-1,2-Dichloroethene	50.65	5.0	50	0	101	75 - 128				
trans-1,3-Dichloropropene	52.54	5.0	50	0	105	75 - 123				
Trichloroethene	50.96	5.0	50	0	102	78 - 125				
Vinyl acetate	95.3	10	100	0	95.3	70 - 130				
Vinyl chloride	50.55	2.0	50	0	101	70 - 130				
Xylenes, Total	154.7	5.0	150	0	103	77 - 128				
1,2-Dichloroethene, Total	100.3	5.0	100	0	100	75 - 128				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.79</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>95.6</i>	<i>76 - 125</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.11</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>96.2</i>	<i>80 - 120</i>				
<i>Surr: Dibromofluoromethane</i>	<i>48.49</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>97.0</i>	<i>80 - 119</i>				
<i>Surr: Toluene-d8</i>	<i>48.28</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>96.6</i>	<i>81 - 118</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MS	Sample ID: HS20060951-11MS	Units: ug/Kg			Analysis Date: 22-Jun-2020 10:42					
Client ID:	Run ID: VOA8_363649	SeqNo: 5629441	PrepDate:	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	50.37	4.4	43.5	0	116	70 - 130				
1,1,2,2-Tetrachloroethane	62.01	4.4	43.5	0	143	70 - 130				S
1,1,2-Trichloroethane	54.61	4.4	43.5	0	126	70 - 130				
1,1-Dichloroethane	48.9	4.4	43.5	0	112	70 - 130				
1,1-Dichloroethene	48.26	4.4	43.5	0	111	70 - 130				
1,2-Dichlorobenzene	40.88	4.4	43.5	0	94.0	70 - 130				
1,2-Dichloroethane	49.35	4.4	43.5	0	113	70 - 130				
1,2-Dichloropropane	48.42	4.4	43.5	0	111	70 - 130				
1,3-Dichlorobenzene	41.23	4.4	43.5	0	94.8	70 - 130				
1,4-Dichlorobenzene	39.39	4.4	43.5	0	90.6	70 - 130				
2-Butanone	122.5	8.7	87	0	141	70 - 130				S
2-Hexanone	123.6	8.7	87	0	142	70 - 130				S
4-Methyl-2-pentanone	131.4	8.7	87	0	151	70 - 128				S
Acetone	127.3	17	87	0	146	70 - 130				S
Benzene	48.88	4.4	43.5	0	112	70 - 130				
Bromochloromethane	49.26	4.4	43.5	0	113	70 - 130				
Bromodichloromethane	48.93	4.4	43.5	0	112	70 - 130				
Bromoform	52.05	4.4	43.5	0	120	70 - 130				
Bromomethane	52.27	8.7	43.5	0	120	70 - 130				
Carbon disulfide	101.6	8.7	87	0	117	70 - 130				
Carbon tetrachloride	50.67	4.4	43.5	0	116	70 - 130				
Chlorobenzene	44.33	4.4	43.5	0	102	70 - 130				
Chloroethane	51.86	8.7	43.5	0	119	70 - 130				
Chloroform	49.92	4.4	43.5	0	115	70 - 130				
Chloromethane	52.26	8.7	43.5	0	120	70 - 130				
cis-1,2-Dichloroethene	49.5	4.4	43.5	0	114	70 - 130				
cis-1,3-Dichloropropene	48.9	4.4	43.5	0	112	70 - 130				
Dibromochloromethane	50.61	4.4	43.5	0	116	70 - 130				
Ethylbenzene	46.44	4.4	43.5	0	107	70 - 130				
m,p-Xylene	91.66	8.7	87	0	105	70 - 130				
Methylene chloride	47.2	8.7	43.5	0	109	70 - 130				
o-Xylene	45.93	4.4	43.5	0	106	70 - 130				
Styrene	41.2	4.4	43.5	0	94.7	70 - 130				
Tetrachloroethene	49.93	4.4	43.5	0	115	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0) **Instrument:** VOA8 **Method:** VOLATILES BY SW8260C

MS	Sample ID: HS20060951-11MS	Units: ug/Kg			Analysis Date: 22-Jun-2020 10:42					
Client ID:	Run ID: VOA8_363649	SeqNo: 5629441	PrepDate:	DF: 1						
Analyte	Result	MLL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	48.83	4.4	43.5	0	112	70 - 130				
trans-1,2-Dichloroethene	47.45	4.4	43.5	0	109	70 - 130				
trans-1,3-Dichloropropene	48.78	4.4	43.5	0	112	70 - 130				
Trichloroethene	47.84	4.4	43.5	0	110	70 - 130				
Vinyl acetate	98.74	8.7	87	0	113	70 - 130				
Vinyl chloride	55.65	1.7	43.5	0	128	70 - 130				
Xylenes, Total	137.6	4.4	130.5	0	105	70 - 130				
1,2-Dichloroethene, Total	96.96	4.4	87	0	111	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>42.05</i>	<i>0</i>	<i>43.5</i>	<i>0</i>	<i>96.7</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>38.13</i>	<i>0</i>	<i>43.5</i>	<i>0</i>	<i>87.7</i>	<i>70 - 130</i>				
<i>Surr: Dibromofluoromethane</i>	<i>41.55</i>	<i>0</i>	<i>43.5</i>	<i>0</i>	<i>95.5</i>	<i>70 - 130</i>				
<i>Surr: Toluene-d8</i>	<i>44.58</i>	<i>0</i>	<i>43.5</i>	<i>0</i>	<i>102</i>	<i>70 - 130</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0)										
Instrument: VOA8				Method: VOLATILES BY SW8260C						
MSD	Sample ID: HS20060951-11MSD	Units: ug/Kg			Analysis Date: 22-Jun-2020 11:05					
Client ID:	Run ID: VOA8_363649	SeqNo: 5629442	PrepDate:	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	33.23	4.2	42.5	0	78.2	70 - 130	50.37	41	30	R
1,1,2,2-Tetrachloroethane	31.24	4.2	42.5	0	73.5	70 - 130	62.01	66	30	R
1,1,2-Trichloroethane	33.63	4.2	42.5	0	79.1	70 - 130	54.61	47.6	30	R
1,1-Dichloroethane	32.25	4.2	42.5	0	75.9	70 - 130	48.9	41	30	R
1,1-Dichloroethene	33.18	4.2	42.5	0	78.1	70 - 130	48.26	37	30	R
1,2-Dichlorobenzene	18.98	4.2	42.5	0	44.7	70 - 130	40.88	73.2	30	SR
1,2-Dichloroethane	34.79	4.2	42.5	0	81.9	70 - 130	49.35	34.6	30	R
1,2-Dichloropropane	31.24	4.2	42.5	0	73.5	70 - 130	48.42	43.1	30	R
1,3-Dichlorobenzene	18.89	4.2	42.5	0	44.4	70 - 130	41.23	74.3	30	SR
1,4-Dichlorobenzene	18.23	4.2	42.5	0	42.9	70 - 130	39.39	73.4	30	SR
2-Butanone	89.48	8.5	85	0	105	70 - 130	122.5	31.1	30	R
2-Hexanone	78.62	8.5	85	0	92.5	70 - 130	123.6	44.5	30	R
4-Methyl-2-pentanone	81.1	8.5	85	0	95.4	70 - 128	131.4	47.4	30	R
Acetone	87.9	17	85	0	103	70 - 130	127.3	36.6	30	R
Benzene	32.05	4.2	42.5	0	75.4	70 - 130	48.88	41.6	30	R
Bromochloromethane	34.83	4.2	42.5	0	81.9	70 - 130	49.26	34.3	30	R
Bromodichloromethane	32.93	4.2	42.5	0	77.5	70 - 130	48.93	39.1	30	R
Bromoform	30.35	4.2	42.5	0	71.4	70 - 130	52.05	52.7	30	R
Bromomethane	34.53	8.5	42.5	0	81.2	70 - 130	52.27	40.9	30	R
Carbon disulfide	68.95	8.5	85	0	81.1	70 - 130	101.6	38.3	30	R
Carbon tetrachloride	31.78	4.2	42.5	0	74.8	70 - 130	50.67	45.8	30	R
Chlorobenzene	26.57	4.2	42.5	0	62.5	70 - 130	44.33	50.1	30	SR
Chloroethane	30.82	8.5	42.5	0	72.5	70 - 130	51.86	50.9	30	R
Chloroform	34.07	4.2	42.5	0	80.2	70 - 130	49.92	37.7	30	R
Chloromethane	34.12	8.5	42.5	0	80.3	70 - 130	52.26	42	30	R
cis-1,2-Dichloroethene	32.49	4.2	42.5	0	76.4	70 - 130	49.5	41.5	30	R
cis-1,3-Dichloropropene	31.12	4.2	42.5	0	73.2	70 - 130	48.9	44.4	30	R
Dibromochloromethane	32.31	4.2	42.5	0	76.0	70 - 130	50.61	44.1	30	R
Ethylbenzene	27.43	4.2	42.5	0	64.5	70 - 130	46.44	51.5	30	SR
m,p-Xylene	52.38	8.5	85	0	61.6	70 - 130	91.66	54.5	30	SR
Methylene chloride	30.23	8.5	42.5	0	71.1	70 - 130	47.2	43.8	30	R
o-Xylene	26.65	4.2	42.5	0	62.7	70 - 130	45.93	53.1	30	SR
Styrene	24.02	4.2	42.5	0	56.5	70 - 130	41.2	52.7	30	SR
Tetrachloroethene	28.95	4.2	42.5	0	68.1	70 - 130	49.93	53.2	30	SR

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363649 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C							
MSD	Sample ID: HS20060951-11MSD	Units: ug/Kg			Analysis Date: 22-Jun-2020 11:05						
Client ID:	Run ID: VOA8_363649	SeqNo: 5629442		PrepDate:		DF: 1					
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Toluene	29.45	4.2	42.5	0	69.3	70 - 130	48.83	49.5	30	SR	
trans-1,2-Dichloroethene	34.84	4.2	42.5	0	82.0	70 - 130	47.45	30.7	30	R	
trans-1,3-Dichloropropene	30.31	4.2	42.5	0	71.3	70 - 130	48.78	46.7	30	R	
Trichloroethene	31.19	4.2	42.5	0	73.4	70 - 130	47.84	42.1	30	R	
Vinyl acetate	67.09	8.5	85	0	78.9	70 - 130	98.74	38.2	30	R	
Vinyl chloride	36.21	1.7	42.5	0	85.2	70 - 130	55.65	42.3	30	R	
Xylenes, Total	79.04	4.2	127.5	0	62.0	70 - 130	137.6	54.1	30	SR	
1,2-Dichloroethene, Total	67.33	4.2	85	0	79.2	70 - 130	96.96	36.1	30	R	
<i>Surr: 1,2-Dichloroethane-d4</i>	46	0	42.5	0	108	70 - 126	42.05	8.97	30		
<i>Surr: 4-Bromofluorobenzene</i>	42.44	0	42.5	0	99.9	70 - 130	38.13	10.7	30		
<i>Surr: Dibromofluoromethane</i>	42.89	0	42.5	0	101	70 - 130	41.55	3.19	30		
<i>Surr: Toluene-d8</i>	42.62	0	42.5	0	100	70 - 130	44.58	4.51	30		

The following samples were analyzed in this batch: HS20060998-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0)		Instrument: VOA2		Method: LOW LEVEL VOLATILES BY SW8260C						
MBLK	Sample ID: VBLKW-200629	Units: ug/L			Analysis Date: 29-Jun-2020 11:26					
Client ID:	Run ID: VOA2_364139	SeqNo: 5641751	PrepDate:	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
2-Butanone	U	2.0								
2-Hexanone	U	2.0								
4-Methyl-2-pentanone	U	2.0								
Acetone	U	2.0								
Benzene	U	1.0								
Bromochloromethane	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	2.0								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Dibromochloromethane	U	1.0								
Ethylbenzene	U	1.0								
m,p-Xylene	U	2.0								
Methylene chloride	U	2.0								
o-Xylene	U	1.0								
Styrene	U	1.0								
Tetrachloroethene	U	1.0								

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0)		Instrument: VOA2		Method: LOW LEVEL VOLATILES BY SW8260C						
MBLK	Sample ID: VBLKW-200629	Units: ug/L			Analysis Date: 29-Jun-2020 11:26					
Client ID:	Run ID: VOA2_364139	SeqNo: 5641751		PrepDate:		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	U	1.0								
trans-1,2-Dichloroethene	U	1.0								
trans-1,3-Dichloropropene	U	1.0								
Trichloroethene	U	1.0								
Vinyl acetate	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
1,2-Dichloroethene, Total	U	1.0								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.69</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>93.4</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.44</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.87</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>50.17</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0)		Instrument: VOA2		Method: LOW LEVEL VOLATILES BY SW8260C						
LCS	Sample ID: VLCSW-200629	Units: ug/L			Analysis Date: 29-Jun-2020 10:36					
Client ID:	Run ID: VOA2_364139	SeqNo: 5641750	PrepDate:	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	18.95	1.0	20	0	94.7	70 - 130				
1,1,2,2-Tetrachloroethane	20.28	1.0	20	0	101	70 - 120				
1,1,2-Trichloroethane	19.64	1.0	20	0	98.2	77 - 113				
1,1-Dichloroethane	17.99	1.0	20	0	89.9	71 - 122				
1,1-Dichloroethene	19.66	1.0	20	0	98.3	70 - 130				
1,2-Dichlorobenzene	20.79	1.0	20	0	104	77 - 113				
1,2-Dichloroethane	18.27	1.0	20	0	91.3	70 - 124				
1,2-Dichloropropane	18.5	1.0	20	0	92.5	72 - 119				
1,3-Dichlorobenzene	20.52	1.0	20	0	103	78 - 118				
1,4-Dichlorobenzene	20.05	1.0	20	0	100	79 - 113				
2-Butanone	33.75	2.0	40	0	84.4	70 - 130				
2-Hexanone	37.54	2.0	40	0	93.8	70 - 130				
4-Methyl-2-pentanone	37.55	2.0	40	0	93.9	70 - 130				
Acetone	35.46	2.0	40	0	88.7	70 - 130				
Benzene	17.81	1.0	20	0	89.0	74 - 120				
Bromochloromethane	20.97	1.0	20	0	105	76 - 124				
Bromodichloromethane	18.42	1.0	20	0	92.1	74 - 122				
Bromoform	20.34	1.0	20	0	102	73 - 128				
Bromomethane	20.82	1.0	20	0	104	70 - 130				
Carbon disulfide	33.7	2.0	40	0	84.2	70 - 130				
Carbon tetrachloride	18.73	1.0	20	0	93.6	71 - 125				
Chlorobenzene	19.08	1.0	20	0	95.4	76 - 113				
Chloroethane	16.75	1.0	20	0	83.7	70 - 130				
Chloroform	18.35	1.0	20	0	91.7	71 - 121				
Chloromethane	17.82	1.0	20	0	89.1	70 - 129				
cis-1,2-Dichloroethene	19.03	1.0	20	0	95.2	75 - 122				
cis-1,3-Dichloropropene	18.44	1.0	20	0	92.2	73 - 127				
Dibromochloromethane	19.8	1.0	20	0	99.0	77 - 122				
Ethylbenzene	19.44	1.0	20	0	97.2	77 - 117				
m,p-Xylene	38.95	2.0	40	0	97.4	77 - 122				
Methylene chloride	19.36	2.0	20	0	96.8	70 - 127				
o-Xylene	19.9	1.0	20	0	99.5	75 - 119				
Styrene	19.57	1.0	20	0	97.9	72 - 126				
Tetrachloroethene	21.36	1.0	20	0	107	76 - 119				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0) **Instrument:** VOA2 **Method:** LOW LEVEL VOLATILES BY SW8260C

LCS		Sample ID: VLCSW-200629			Units: ug/L		Analysis Date: 29-Jun-2020 10:36			
Client ID:		Run ID: VOA2_364139			SeqNo: 5641750		PrepDate:		DF: 1	
Analyte	Result	MLL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	18.64	1.0	20	0	93.2	77 - 118				
trans-1,2-Dichloroethene	19.47	1.0	20	0	97.4	72 - 127				
trans-1,3-Dichloropropene	18.37	1.0	20	0	91.8	77 - 119				
Trichloroethene	20.22	1.0	20	0	101	77 - 121				
Vinyl acetate	33.21	1.0	40	0	83.0	70 - 130				
Vinyl chloride	17.67	1.0	20	0	88.3	70 - 130				
Xylenes, Total	58.85	1.0	60	0	98.1	75 - 122				
1,2-Dichloroethene, Total	38.51	1.0	40	0	96.3	72 - 127				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.88</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.8</i>	<i>70 - 130</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>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.01</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.0</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.21</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.4</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0)		Instrument: VOA2		Method: LOW LEVEL VOLATILES BY SW8260C						
MS	Sample ID: HS20060952-01MS	Units: ug/L			Analysis Date: 29-Jun-2020 13:30					
Client ID:	Run ID: VOA2_364139	SeqNo: 5641756	PrepDate:	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.08	1.0	20	0	105	70 - 130				
1,1,2,2-Tetrachloroethane	21.94	1.0	20	0	110	70 - 123				
1,1,2-Trichloroethane	21.04	1.0	20	0	105	70 - 117				
1,1-Dichloroethane	19.71	1.0	20	0	98.6	70 - 127				
1,1-Dichloroethene	21.68	1.0	20	0	108	70 - 130				
1,2-Dichlorobenzene	23.03	1.0	20	0	115	70 - 115				S
1,2-Dichloroethane	19.42	1.0	20	0	97.1	70 - 127				
1,2-Dichloropropane	20.19	1.0	20	0	101	70 - 122				
1,3-Dichlorobenzene	22.86	1.0	20	0	114	70 - 119				
1,4-Dichlorobenzene	22.5	1.0	20	0	113	70 - 114				
2-Butanone	34.51	2.0	40	0	86.3	70 - 130				
2-Hexanone	39.76	2.0	40	0	99.4	70 - 130				
4-Methyl-2-pentanone	38.96	2.0	40	0	97.4	70 - 130				
Acetone	34.7	2.0	40	0	86.7	70 - 130				
Benzene	19.6	1.0	20	0	98.0	70 - 127				
Bromochloromethane	22.5	1.0	20	0	113	70 - 127				
Bromodichloromethane	19.61	1.0	20	0	98.1	70 - 124				
Bromoform	21.46	1.0	20	0	107	70 - 129				
Bromomethane	22.64	1.0	20	0	113	70 - 130				
Carbon disulfide	37.38	2.0	40	0	93.5	70 - 130				
Carbon tetrachloride	21.35	1.0	20	0	107	70 - 130				
Chlorobenzene	21.1	1.0	20	0	106	70 - 114				
Chloroethane	18.67	1.0	20	0	93.3	70 - 130				
Chloroform	19.82	1.0	20	0	99.1	70 - 125				
Chloromethane	16.93	1.0	20	0	84.7	70 - 130				
cis-1,2-Dichloroethene	20.39	1.0	20	0	102	70 - 128				
cis-1,3-Dichloropropene	19.85	1.0	20	0	99.3	70 - 125				
Dibromochloromethane	21.04	1.0	20	0	105	70 - 124				
Ethylbenzene	21.81	1.0	20	0	109	70 - 124				
m,p-Xylene	43.42	2.0	40	0	109	70 - 130				
Methylene chloride	19.98	2.0	20	0	99.9	70 - 128				
o-Xylene	22.11	1.0	20	0	111	70 - 124				
Styrene	21.44	1.0	20	0	107	70 - 130				
Tetrachloroethene	24.29	1.0	20	0	121	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0) **Instrument:** VOA2 **Method:** LOW LEVEL VOLATILES BY SW8260C

MS		Sample ID: HS20060952-01MS			Units: ug/L		Analysis Date: 29-Jun-2020 13:30			
Client ID:		Run ID: VOA2_364139			SeqNo: 5641756		PrepDate:		DF: 1	
Analyte	Result	MLL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	20.61	1.0	20	0	103	70 - 123				
trans-1,2-Dichloroethene	22.11	1.0	20	0	111	70 - 130				
trans-1,3-Dichloropropene	19.28	1.0	20	0	96.4	70 - 121				
Trichloroethene	22.07	1.0	20	0	110	70 - 129				
Vinyl acetate	34.38	1.0	40	0	85.9	70 - 130				
Vinyl chloride	18.91	1.0	20	0	94.6	70 - 130				
Xylenes, Total	65.52	1.0	60	0	109	70 - 130				
1,2-Dichloroethene, Total	42.5	1.0	40	0	106	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.43</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.9</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.5</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>47.88</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.8</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>49.29</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.6</i>	<i>82 - 127</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0)		Instrument: VOA2		Method: LOW LEVEL VOLATILES BY SW8260C						
MSD	Sample ID: HS20060952-01MSD	Units: ug/L			Analysis Date: 29-Jun-2020 13:54					
Client ID:	Run ID: VOA2_364139	SeqNo: 5641757	PrepDate:	DF: 1						
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.3	1.0	20	0	101	70 - 130	21.08	3.81	20	
1,1,2,2-Tetrachloroethane	20.58	1.0	20	0	103	70 - 123	21.94	6.4	20	
1,1,2-Trichloroethane	19.85	1.0	20	0	99.3	70 - 117	21.04	5.79	20	
1,1-Dichloroethane	18.67	1.0	20	0	93.4	70 - 127	19.71	5.42	20	
1,1-Dichloroethene	21.29	1.0	20	0	106	70 - 130	21.68	1.86	20	
1,2-Dichlorobenzene	21.28	1.0	20	0	106	70 - 115	23.03	7.9	20	
1,2-Dichloroethane	19.13	1.0	20	0	95.6	70 - 127	19.42	1.5	20	
1,2-Dichloropropane	19.31	1.0	20	0	96.5	70 - 122	20.19	4.47	20	
1,3-Dichlorobenzene	21.14	1.0	20	0	106	70 - 119	22.86	7.84	20	
1,4-Dichlorobenzene	20.44	1.0	20	0	102	70 - 114	22.5	9.62	20	
2-Butanone	33.79	2.0	40	0	84.5	70 - 130	34.51	2.13	20	
2-Hexanone	38.07	2.0	40	0	95.2	70 - 130	39.76	4.32	20	
4-Methyl-2-pentanone	37.93	2.0	40	0	94.8	70 - 130	38.96	2.68	20	
Acetone	35.22	2.0	40	0	88.1	70 - 130	34.7	1.49	20	
Benzene	18.99	1.0	20	0	95.0	70 - 127	19.6	3.16	20	
Bromochloromethane	21.58	1.0	20	0	108	70 - 127	22.5	4.18	20	
Bromodichloromethane	19.07	1.0	20	0	95.4	70 - 124	19.61	2.8	20	
Bromoform	20.72	1.0	20	0	104	70 - 129	21.46	3.51	20	
Bromomethane	21.25	1.0	20	0	106	70 - 130	22.64	6.37	20	
Carbon disulfide	36.55	2.0	40	0	91.4	70 - 130	37.38	2.27	20	
Carbon tetrachloride	21.44	1.0	20	0	107	70 - 130	21.35	0.41	20	
Chlorobenzene	19.81	1.0	20	0	99.0	70 - 114	21.1	6.33	20	
Chloroethane	17.81	1.0	20	0	89.0	70 - 130	18.67	4.73	20	
Chloroform	19.33	1.0	20	0	96.7	70 - 125	19.82	2.47	20	
Chloromethane	16.36	1.0	20	0	81.8	70 - 130	16.93	3.47	20	
cis-1,2-Dichloroethene	20.09	1.0	20	0	100	70 - 128	20.39	1.43	20	
cis-1,3-Dichloropropene	19.01	1.0	20	0	95.1	70 - 125	19.85	4.32	20	
Dibromochloromethane	20.13	1.0	20	0	101	70 - 124	21.04	4.44	20	
Ethylbenzene	20.58	1.0	20	0	103	70 - 124	21.81	5.8	20	
m,p-Xylene	41.4	2.0	40	0	103	70 - 130	43.42	4.75	20	
Methylene chloride	19.4	2.0	20	0	97.0	70 - 128	19.98	2.96	20	
o-Xylene	20.82	1.0	20	0	104	70 - 124	22.11	5.98	20	
Styrene	20.28	1.0	20	0	101	70 - 130	21.44	5.58	20	
Tetrachloroethene	23.46	1.0	20	0	117	70 - 130	24.29	3.47	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364139 (0)		Instrument: VOA2		Method: LOW LEVEL VOLATILES BY SW8260C						
MSD	Sample ID: HS20060952-01MSD	Units: ug/L			Analysis Date: 29-Jun-2020 13:54					
Client ID:	Run ID: VOA2_364139	SeqNo: 5641757		PrepDate:		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	19.41	1.0	20	0	97.0	70 - 123	20.61	6.03	20	
trans-1,2-Dichloroethene	21.13	1.0	20	0	106	70 - 130	22.11	4.55	20	
trans-1,3-Dichloropropene	18.96	1.0	20	0	94.8	70 - 121	19.28	1.69	20	
Trichloroethene	21.68	1.0	20	0	108	70 - 129	22.07	1.82	20	
Vinyl acetate	33.69	1.0	40	0	84.2	70 - 130	34.38	2.03	20	
Vinyl chloride	18.4	1.0	20	0	92.0	70 - 130	18.91	2.75	20	
Xylenes, Total	62.22	1.0	60	0	104	70 - 130	65.52	5.17	20	
1,2-Dichloroethene, Total	41.22	1.0	40	0	103	70 - 130	42.5	3.04	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.54</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.1</i>	<i>70 - 126</i>	<i>48.43</i>	<i>1.87</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.17</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.3</i>	<i>81 - 113</i>	<i>48.73</i>	<i>0.906</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>47.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.8</i>	<i>77 - 123</i>	<i>47.88</i>	<i>1.06</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>48.95</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.9</i>	<i>82 - 127</i>	<i>49.29</i>	<i>0.702</i>	<i>20</i>	

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: 154983 (0)	Instrument: UV-2450	Method: CYANIDE - SW9014
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MBLK	Sample ID: MBLK-154983	Units: mg/L	Analysis Date: 23-Jun-2020 14:30							
Client ID:	Run ID: UV-2450_364142	SeqNo: 5641831	PrepDate: 23-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide U 0.00500

LCS	Sample ID: LCS-154983	Units: mg/L	Analysis Date: 23-Jun-2020 14:30							
Client ID:	Run ID: UV-2450_364142	SeqNo: 5641830	PrepDate: 23-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide 0.2 0.00500 0.2 0 100 80 - 120

MS	Sample ID: HS20060955-04MS	Units: mg/L	Analysis Date: 23-Jun-2020 14:30							
Client ID:	Run ID: UV-2450_364142	SeqNo: 5641828	PrepDate: 23-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide 0.168 0.00500 0.2 0.002 83.0 80 - 120

MSD	Sample ID: HS20060955-04MSD	Units: mg/L	Analysis Date: 23-Jun-2020 14:30							
Client ID:	Run ID: UV-2450_364142	SeqNo: 5641829	PrepDate: 23-Jun-2020 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide 0.166 0.00500 0.2 0.002 82.0 80 - 120 0.168 1.2 20

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363807 (0) **Instrument:** WetChem_HS **Method:** FLASH POINT BY PENSKY-MARTENS SW1010A

LCS Sample ID: **LCS-R363807** Units: °F Analysis Date: **24-Jun-2020 07:30**
 Client ID: Run ID: **WetChem_HS_363807** SeqNo: **5632767** PrepDate: DF: 1
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Ignitability 80.61 70.0 81 0 99.5 95 - 105

DUP Sample ID: **HS20060998-02DUP** Units: °F Analysis Date: **24-Jun-2020 07:30**
 Client ID: **WW-1620-IDW-20200619** Run ID: **WetChem_HS_363807** SeqNo: **5632768** PrepDate: DF: 1
 Analyte Result MQL 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: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363865 (0)	Instrument: WetChem_HS	Method: SULFIDE BY SM4500 S2-F
--------------------------------	-------------------------------	---------------------------------------

MBLK	Sample ID: MBLK-R363865	Units: mg/L	Analysis Date: 23-Jun-2020 16:00							
Client ID:	Run ID: WetChem_HS_363865	SeqNo: 5634392	PrepDate: DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide U 1.00

LCS	Sample ID: LCS-R363865	Units: mg/L	Analysis Date: 23-Jun-2020 16:00							
Client ID:	Run ID: WetChem_HS_363865	SeqNo: 5634391	PrepDate: DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide 24.12 1.00 25 0 96.5 85 - 115

LCSD	Sample ID: LCSD-R363865	Units: mg/L	Analysis Date: 23-Jun-2020 16:00							
Client ID:	Run ID: WetChem_HS_363865	SeqNo: 5634390	PrepDate: DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide 23.92 1.00 25 0 95.7 85 - 115 24.12 0.833 20

MS	Sample ID: HS20061045-01MS	Units: mg/L	Analysis Date: 23-Jun-2020 16:00							
Client ID:	Run ID: WetChem_HS_363865	SeqNo: 5634393	PrepDate: DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide 23.92 1.00 25 -0.48 97.6 80 - 120

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R363887 (0) **Instrument:** WetChem_HS **Method:** PH BY SW9040C

DUP Sample ID: **HS20060998-02DUP** Units: **pH Units** Analysis Date: **25-Jun-2020 10:30**
 Client ID: **WW-1620-IDW-20200619** Run ID: **WetChem_HS_363887** SeqNo: **5635114** PrepDate: DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

pH	7.91	0.100						7.94	0.379	10
Temp Deg C @pH	24.3	0						24.5	0.82	10

The following samples were analyzed in this batch: HS20060998-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

QC BATCH REPORT

Batch ID: R364129 (0)		Instrument: WetChem_HS		Method: PH SOIL BY SW9045D					
DUP	Sample ID: HS20061170-01DUP	Units: pH Units			Analysis Date: 29-Jun-2020 14:30				
Client ID:	Run ID: WetChem_HS_364129	SeqNo: 5641548		PrepDate:			DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

pH	7.57	0.100					7.61	0.527	10
Temp Deg C @pH	23.5	0					23.4	0.426	10

The following samples were analyzed in this batch: HS20060998-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS20060998

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	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

Acronym	Description
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

Unit Reported	Description
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

Sample Receipt Checklist

Work Order ID: HS20060998

Date/Time Received: 19-Jun-2020 13:00

Client Name: PBW

Received by: Patrick Salome

Completed By: <u>/S/ Jared R. Makan</u>	19-Jun-2020 19:21	Reviewed by: <u>/S/ Dane J. Wacasey</u>	26-Jun-2020 18:33
eSignature	Date/Time	eSignature	Date/Time

Matrices: **Water, Soil**

Carrier name: **ALS Courier**

- | | | | |
|---|---|--|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| VOA/TX1005/TX1006 Solids in hermetically sealed vials? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Not Present <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 1 Page(s) |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | COC IDs:218856 |
| Samplers name present on COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

Temperature(s)/Thermometer(s):	0.9°C/0.9°C UC/C
Cooler(s)/Kit(s):	45730
Date/Time sample(s) sent to storage:	06/16/2020 19:25

- | | | | |
|--|---|--|---|
| Water - VOA vials have zero headspace? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | No VOA vials submitted <input type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| pH adjusted? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | N/A <input type="checkbox"/> |

pH adjusted by:

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

Corrective Action:



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

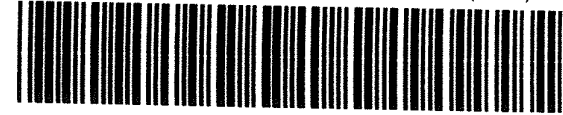
Chain of Custody Form

Page 1 of 1

COC ID: 218856

HS20060998

Golder Associates Inc.
Houston TX-Wood Preserving Works (IDW)



ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-18-Rev0 SR 92688 (IDW)
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street
			Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-IDW 20200619 20200619	6-19-20	0800	Solid	8	3	X	X	X	X		X					
2	WW-1620-IDW 20200619	6-19-20	0800	Water	1,2,4,7,8	12	X	X	X		X	X	X	X	X		
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign
 Anthony Reed *[Signature]*

Relinquished by: *[Signature]* Date: 6-19-20 Time: 1200
 Received by: *[Signature]*

Relinquished by: *[Signature]* Date: 6-19-20 Time: 1300
 Received by (Laboratory): *[Signature]*

Logged by (Laboratory): *[Signature]* Date: Time: Checked by (Laboratory):

Shipment Method: _____ Required Turnaround Time: (Check Box)
 STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Notes: UPRR HWPW 1620-18


QC Package: (Check One Box Below)
 Level II Std QC TRRP Checklist
 Level III Std QC/Raw Data TRRP Level IV
 Level IV SW846/CLP

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035


ote: 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.

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 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:
	Date: 6-19-20	Time: 0900	<i>SM</i>
	Name: Anthony Roldan	Company: Conalco	Date: 06/19/20

45730 JUN 19 2020

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:
	Date: 6-19-20	Time: 0900	<i>SM</i>
	Name: Anthony Roldan	Company: Conalco	Date: 06/19/20