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May 17, 2021

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

Work Order: **HS21041584**

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

Dear Eric Matzner,

ALS Environmental received 1 sample(s) on Apr 29, 2021 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
Work Order: HS21041584

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21041584-01	SO-1620-IDW01-20210428	Solid		28-Apr-2021 15:00	29-Apr-2021 10:27	<input type="checkbox"/>

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
Work Order: HS21041584

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: 165330

Sample ID: SO-1620-IDW01-20210428 (HS21041584-01)

- The surrogate recoveries could not be determined due to dilution below the calibration range.

GCMS Semivolatiles by Method SW8270

Batch ID: 165358

Sample ID: HS21041685-01MS

- MS and MSD are for an unrelated sample
Sample ID: SO-1620-IDW01-20210428 (HS21041584-01)
- The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.
- The surrogate recoveries could not be determined due to dilution below the calibration range.

GCMS Volatiles by Method SW8260

Batch ID: R383079

Sample ID: HS21041632-06MS

- MS and MSD are for an unrelated sample
Sample ID: SO-1620-IDW01-20210428 (HS21041584-01)
- Lowest practical dilution for HS21041584-01 due to sample matrix.

Metals by Method SW1311/6020

Batch ID: 165746

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

Metals by Method SW6020A

Batch ID: 165487

Sample ID: HS21041427-09MS

- MS and MSD are for an unrelated sample

Metals by Method SW7471B

Batch ID: 165431

- 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 IDWS
Work Order: HS21041584

CASE NARRATIVE

WetChemistry by Method SW1030

Batch ID: R383028

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

WetChemistry by Method SW9045D

Batch ID: R382951

- 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 IDWS
 Sample ID: SO-1620-IDW01-20210428
 Collection Date: 28-Apr-2021 15:00

ANALYTICAL REPORT
 WorkOrder:HS21041584
 Lab ID:HS21041584-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED	
VOLATILES BY SW8260C		Method:SW8260			Analyst: WLR			
1,1,1-Trichloroethane	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
1,1,2,2-Tetrachloroethane	U		0.040	0.25	mg/Kg	50	06-May-2021 13:51	
1,1,2-Trichloroethane	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
1,1-Dichloroethane	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
1,1-Dichloroethene	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
1,2-Dichlorobenzene	U		0.050	0.25	mg/Kg	50	06-May-2021 13:51	
1,2-Dichloroethane	U		0.030	0.25	mg/Kg	50	06-May-2021 13:51	
1,2-Dichloropropane	U		0.040	0.25	mg/Kg	50	06-May-2021 13:51	
1,3-Dichlorobenzene	U		0.050	0.25	mg/Kg	50	06-May-2021 13:51	
1,4-Dichlorobenzene	U		0.050	0.25	mg/Kg	50	06-May-2021 13:51	
2-Butanone	U		0.065	0.50	mg/Kg	50	06-May-2021 13:51	
2-Hexanone	U		0.070	0.50	mg/Kg	50	06-May-2021 13:51	
4-Methyl-2-pentanone	U		0.10	0.50	mg/Kg	50	06-May-2021 13:51	
Acetone	U		0.10	1.0	mg/Kg	50	06-May-2021 13:51	
Benzene	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
Bromochloromethane	U		0.045	0.25	mg/Kg	50	06-May-2021 13:51	
Bromodichloromethane	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
Bromoform	U		0.030	0.25	mg/Kg	50	06-May-2021 13:51	
Bromomethane	U		0.050	0.50	mg/Kg	50	06-May-2021 13:51	
Carbon disulfide	U		0.030	0.50	mg/Kg	50	06-May-2021 13:51	
Carbon tetrachloride	U		0.030	0.25	mg/Kg	50	06-May-2021 13:51	
Chlorobenzene	U		0.030	0.25	mg/Kg	50	06-May-2021 13:51	
Chloroethane	U		0.040	0.50	mg/Kg	50	06-May-2021 13:51	
Chloroform	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
Chloromethane	U		0.025	0.50	mg/Kg	50	06-May-2021 13:51	
cis-1,2-Dichloroethene	U		0.040	0.25	mg/Kg	50	06-May-2021 13:51	
cis-1,3-Dichloropropene	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
Dibromochloromethane	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
Ethylbenzene	0.85		0.035	0.25	mg/Kg	50	06-May-2021 13:51	
m,p-Xylene	0.27	J	0.080	0.50	mg/Kg	50	06-May-2021 13:51	
Methylene chloride	U		0.050	0.50	mg/Kg	50	06-May-2021 13:51	
o-Xylene	0.48		0.050	0.25	mg/Kg	50	06-May-2021 13:51	
Styrene	U		0.035	0.25	mg/Kg	50	06-May-2021 13:51	
Tetrachloroethene	U		0.035	0.25	mg/Kg	50	06-May-2021 13:51	
Toluene	0.056	J	0.030	0.25	mg/Kg	50	06-May-2021 13:51	
trans-1,2-Dichloroethene	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51	
trans-1,3-Dichloropropene	U		0.030	0.25	mg/Kg	50	06-May-2021 13:51	
Trichloroethene	U		0.030	0.25	mg/Kg	50	06-May-2021 13:51	
Vinyl acetate	U		0.050	0.50	mg/Kg	50	06-May-2021 13:51	

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDWS
 Sample ID: SO-1620-IDW01-20210428
 Collection Date: 28-Apr-2021 15:00

ANALYTICAL REPORT

WorkOrder:HS21041584
 Lab ID:HS21041584-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	ML	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Vinyl chloride	U		0.040	0.10	mg/Kg	50	06-May-2021 13:51
Xylenes, Total	0.75		0.050	0.25	mg/Kg	50	06-May-2021 13:51
1,2-Dichloroethene, Total	U		0.025	0.25	mg/Kg	50	06-May-2021 13:51
Surr: 1,2-Dichloroethane-d4	102			70-126	%REC	50	06-May-2021 13:51
Surr: 4-Bromofluorobenzene	97.3			70-130	%REC	50	06-May-2021 13:51
Surr: Dibromofluoromethane	94.1			70-130	%REC	50	06-May-2021 13:51
Surr: Toluene-d8	99.8			70-130	%REC	50	06-May-2021 13:51

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDWS
 Sample ID: SO-1620-IDW01-20210428
 Collection Date: 28-Apr-2021 15:00

ANALYTICAL REPORT
 WorkOrder:HS21041584
 Lab ID:HS21041584-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3541 / 04-May-2021		Analyst: GEY	
1,2,4-Trichlorobenzene	U		0.36	2.0	mg/Kg	10	06-May-2021 21:59
2,4,5-Trichlorophenol	U		0.75	2.0	mg/Kg	10	06-May-2021 21:59
2,4,6-Trichlorophenol	U		0.51	2.0	mg/Kg	10	06-May-2021 21:59
2,4-Dichlorophenol	U		0.39	2.0	mg/Kg	10	06-May-2021 21:59
2,4-Dimethylphenol	U		0.99	2.0	mg/Kg	10	06-May-2021 21:59
2,4-Dinitrophenol	U		1.3	3.9	mg/Kg	10	06-May-2021 21:59
2,4-Dinitrotoluene	U		0.27	2.0	mg/Kg	10	06-May-2021 21:59
2,6-Dinitrotoluene	U		0.99	2.0	mg/Kg	10	06-May-2021 21:59
2-Chloronaphthalene	U		0.39	2.0	mg/Kg	10	06-May-2021 21:59
2-Chlorophenol	U		0.39	2.0	mg/Kg	10	06-May-2021 21:59
2-Methylnaphthalene	39		0.15	0.99	mg/Kg	10	06-May-2021 21:59
2-Methylphenol	U		0.33	2.0	mg/Kg	10	06-May-2021 21:59
2-Nitroaniline	U		0.57	2.0	mg/Kg	10	06-May-2021 21:59
2-Nitrophenol	U		0.75	2.0	mg/Kg	10	06-May-2021 21:59
3&4-Methylphenol	1.5	J	0.30	2.0	mg/Kg	10	06-May-2021 21:59
3,3'-Dichlorobenzidine	U		0.75	2.0	mg/Kg	10	06-May-2021 21:59
3-Nitroaniline	U		0.57	2.0	mg/Kg	10	06-May-2021 21:59
4,6-Dinitro-2-methylphenol	U		0.63	2.0	mg/Kg	10	06-May-2021 21:59
4-Bromophenyl phenyl ether	U		0.48	2.0	mg/Kg	10	06-May-2021 21:59
4-Chloro-3-methylphenol	U		0.21	2.0	mg/Kg	10	06-May-2021 21:59
4-Chloroaniline	U		0.33	2.0	mg/Kg	10	06-May-2021 21:59
4-Chlorophenyl phenyl ether	U		0.45	2.0	mg/Kg	10	06-May-2021 21:59
4-Nitroaniline	U		0.66	2.0	mg/Kg	10	06-May-2021 21:59
4-Nitrophenol	U		0.57	3.9	mg/Kg	10	06-May-2021 21:59
Acenaphthene	370		1.5	9.9	mg/Kg	100	10-May-2021 21:34
Acenaphthylene	22		0.30	0.99	mg/Kg	10	06-May-2021 21:59
Anthracene	410		1.5	9.9	mg/Kg	100	10-May-2021 21:34
Benz(a)anthracene	480		4.8	9.9	mg/Kg	100	10-May-2021 21:34
Benzidine	U		0.42	2.0	mg/Kg	10	06-May-2021 21:59
Benzo(a)pyrene	230		3.0	9.9	mg/Kg	100	10-May-2021 21:34
Benzo(b)fluoranthene	350		3.6	9.9	mg/Kg	100	10-May-2021 21:34
Benzo(g,h,i)perylene	47		0.21	0.99	mg/Kg	10	06-May-2021 21:59
Benzo(k)fluoranthene	240		2.7	9.9	mg/Kg	100	10-May-2021 21:34
Benzyl alcohol	U		0.21	2.0	mg/Kg	10	06-May-2021 21:59
Bis(2-chloroethoxy)methane	U		0.27	2.0	mg/Kg	10	06-May-2021 21:59
Bis(2-chloroethyl)ether	U		0.33	2.0	mg/Kg	10	06-May-2021 21:59
Bis(2-chloroisopropyl)ether	U		0.42	2.0	mg/Kg	10	06-May-2021 21:59
Bis(2-ethylhexyl)phthalate	U		0.51	2.0	mg/Kg	10	06-May-2021 21:59
Butyl benzyl phthalate	U		0.39	2.0	mg/Kg	10	06-May-2021 21:59

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDWS
 Sample ID: SO-1620-IDW01-20210428
 Collection Date: 28-Apr-2021 15:00

ANALYTICAL REPORT
 WorkOrder:HS21041584
 Lab ID:HS21041584-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3541 / 04-May-2021		Analyst: GEY	
Carbazole	11		0.36	2.0	mg/Kg	10	06-May-2021 21:59
Chrysene	420		2.4	9.9	mg/Kg	100	10-May-2021 21:34
Di-n-butyl phthalate	U		0.36	2.0	mg/Kg	10	06-May-2021 21:59
Di-n-octyl phthalate	U		0.27	2.0	mg/Kg	10	06-May-2021 21:59
Dibenz(a,h)anthracene	21		0.48	0.99	mg/Kg	10	06-May-2021 21:59
Dibenzofuran	210		2.1	9.9	mg/Kg	100	10-May-2021 21:34
Diethyl phthalate	U		0.30	2.0	mg/Kg	10	06-May-2021 21:59
Dimethyl phthalate	U		0.24	2.0	mg/Kg	10	06-May-2021 21:59
Fluoranthene	3,600		33	99	mg/Kg	1000	10-May-2021 14:55
Fluorene	600		3.3	9.9	mg/Kg	100	10-May-2021 21:34
Hexachlorobenzene	U		0.27	2.0	mg/Kg	10	06-May-2021 21:59
Hexachlorobutadiene	U		0.36	2.0	mg/Kg	10	06-May-2021 21:59
Hexachlorocyclopentadiene	U		0.24	2.0	mg/Kg	10	06-May-2021 21:59
Hexachloroethane	U		0.45	2.0	mg/Kg	10	06-May-2021 21:59
Indeno(1,2,3-cd)pyrene	47		0.24	0.99	mg/Kg	10	06-May-2021 21:59
Isophorone	U		0.24	2.0	mg/Kg	10	06-May-2021 21:59
N-Nitrosodi-n-propylamine	U		0.33	2.0	mg/Kg	10	06-May-2021 21:59
N-Nitrosodimethylamine	U		0.36	2.0	mg/Kg	10	06-May-2021 21:59
N-Nitrosodiphenylamine	U		0.21	2.0	mg/Kg	10	06-May-2021 21:59
Naphthalene	35		0.18	0.99	mg/Kg	10	06-May-2021 21:59
Nitrobenzene	U		0.27	2.0	mg/Kg	10	06-May-2021 21:59
Pentachlorophenol	U		0.99	2.0	mg/Kg	10	06-May-2021 21:59
Phenanthrene	2,200		45	99	mg/Kg	1000	10-May-2021 14:55
Phenol	0.49	J	0.33	2.0	mg/Kg	10	06-May-2021 21:59
Pyrene	2,000		18	99	mg/Kg	1000	10-May-2021 14:55
Pyridine	U		0.27	2.0	mg/Kg	10	06-May-2021 21:59
Surr: 2,4,6-Tribromophenol	0	S		36-126	%REC	1000	10-May-2021 14:55
Surr: 2,4,6-Tribromophenol	0	S		36-126	%REC	100	10-May-2021 21:34
Surr: 2,4,6-Tribromophenol	67.5			36-126	%REC	10	06-May-2021 21:59
Surr: 2-Fluorobiphenyl	87.5			43-125	%REC	10	06-May-2021 21:59
Surr: 2-Fluorobiphenyl	0	S		43-125	%REC	1000	10-May-2021 14:55
Surr: 2-Fluorobiphenyl	0	S		43-125	%REC	100	10-May-2021 21:34
Surr: 2-Fluorophenol	0	S		37-125	%REC	1000	10-May-2021 14:55
Surr: 2-Fluorophenol	0	S		37-125	%REC	100	10-May-2021 21:34
Surr: 2-Fluorophenol	56.0			37-125	%REC	10	06-May-2021 21:59
Surr: 4-Terphenyl-d14	59.6			32-125	%REC	10	06-May-2021 21:59
Surr: 4-Terphenyl-d14	0	S		32-125	%REC	100	10-May-2021 21:34
Surr: 4-Terphenyl-d14	0	S		32-125	%REC	1000	10-May-2021 14:55
Surr: Nitrobenzene-d5	0	S		37-125	%REC	1000	10-May-2021 14:55

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

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDWS
 Sample ID: SO-1620-IDW01-20210428
 Collection Date: 28-Apr-2021 15:00

ANALYTICAL REPORT
 WorkOrder:HS21041584
 Lab ID:HS21041584-01
 Matrix:Solid

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270				Prep:SW3541 / 04-May-2021	Analyst: GEY
Surr: Nitrobenzene-d5	0	S		37-125	%REC	100	10-May-2021 21:34
Surr: Nitrobenzene-d5	66.0			37-125	%REC	10	06-May-2021 21:59
Surr: Phenol-d6	75.2			40-125	%REC	10	06-May-2021 21:59
Surr: Phenol-d6	0	S		40-125	%REC	1000	10-May-2021 14:55
Surr: Phenol-d6	0	S		40-125	%REC	100	10-May-2021 21:34
TEXAS TPH BY TX1005		Method:TX1005				Prep:TX1005PR / 03-May-2021	Analyst: MBG
nC6 to nC12		U	6900	47000	mg/Kg	100	03-May-2021 20:10
>nC12 to nC28	120,000		9100	47000	mg/Kg	100	03-May-2021 20:10
>nC28 to nC35	20,000	J	9100	47000	mg/Kg	100	03-May-2021 20:10
Total Petroleum Hydrocarbon	140,000		6900	47000	mg/Kg	100	03-May-2021 20:10
Surr: 2-Fluorobiphenyl	0	S		70-130	%REC	100	03-May-2021 20:10
Surr: Trifluoromethyl benzene	0	S		70-130	%REC	100	03-May-2021 20:10
TCLP METALS BY SW6020A		Method:SW1311/6020		Leache:SW1311 / 12-May-2021		Prep:SW3010A / 13-May-2021	Analyst: JHD
Lead	0.0735		0.00600	0.0500	mg/L	1	13-May-2021 20:36
METALS BY SW6020A		Method:SW6020A				Prep:SW3050B / 07-May-2021	Analyst: JC
Antimony	0.341	J	0.0639	0.492	mg/Kg	1	07-May-2021 18:39
Arsenic	1.42		0.0689	0.492	mg/Kg	1	07-May-2021 18:39
Barium	31.2		0.0295	0.492	mg/Kg	1	07-May-2021 18:39
Beryllium	0.0241	J	0.0207	0.492	mg/Kg	1	07-May-2021 18:39
Cadmium	0.814		0.0266	0.492	mg/Kg	1	07-May-2021 18:39
Chromium	5.47		0.0226	0.492	mg/Kg	1	07-May-2021 18:39
Lead	66.5		0.0128	0.492	mg/Kg	1	07-May-2021 18:39
Nickel	9.60		0.0472	0.492	mg/Kg	1	07-May-2021 18:39
Selenium	0.168	J	0.0895	0.492	mg/Kg	1	07-May-2021 18:39
Silver	0.117	J	0.0148	0.492	mg/Kg	1	07-May-2021 18:39
MERCURY BY SW7471B		Method:SW7471B				Prep:SW7471B / 06-May-2021	Analyst: MSC
Mercury	0.103		0.000482	0.00341	mg/Kg	1	06-May-2021 12:46
BURN RATE BY METHOD SW1030		Method:SW1030					Analyst: TH
Ignitability, Solid	0		0	0	Burn Rate, mm/sec	1	05-May-2021 09:00
PH SOIL BY SW9045D		Method:SW9045D					Analyst: KVL
pH	7.94	H	0.100	0.100	pH Units	1	04-May-2021 14:30
Temp Deg C @pH	21.8	H	0	0	°C	1	04-May-2021 14:30

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 IDWS
WorkOrder: HS21041584

Batch ID: 4259 **Start Date:** 05 May 2021 11:33 **End Date:** 05 May 2021 11:33

Method: VOLATILES BY SW8260C

Sample ID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS21041584-01	1	4.976 (g)	5 (mL)	1	Bulk (5030B)

Batch ID: 165330 **Start Date:** 03 May 2021 11:00 **End Date:** 03 May 2021 13:30

Method: TX 1005 PREP

Prep Code: TX 1005_S PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041584-01	1	1.07 (g)	10 (mL)	9.346	2-oz glass, Neat

Batch ID: 165358 **Start Date:** 04 May 2021 08:00 **End Date:** 04 May 2021 11:30

Method: SV SOXHLET EXTRACT-LOWLEVEL-SW3541

Prep Code: 3541_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041584-01	1	5.02 (g)	5 (mL)	0.996	8-oz glass, Neat

Batch ID: 165431 **Start Date:** 06 May 2021 08:30 **End Date:** 06 May 2021 11:30

Method: MERCURY PREP - SOLID - 7471B

Prep Code: HG_S_LOWPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041584-01		0.5845 (grams)	40 (mL)	68.43	8-oz glass, Neat

Batch ID: 165487 **Start Date:** 07 May 2021 08:30 **End Date:** 07 May 2021 14:30

Method: METALS PREP - SOLIDS - SW3050B

Prep Code: 3050_I_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041584-01		0.5083 (g)	50 (mL)	98.37	8-oz glass, Neat

Batch ID: 165657 **Start Date:** 11 May 2021 17:00 **End Date:** 12 May 2021 10:00

Method: TCLP METALS EXTRACTION BY SW1311

Prep Code: 1311LM EXT

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041584-01		100 (grams)	2000 (mL)	20	8-oz glass, Neat

Batch ID: 165746 **Start Date:** 13 May 2021 09:00 **End Date:** 13 May 2021 13:00

Method: TCLP LEACHATE DIGESTION BY SW3010A

Prep Code: 3010A_TCLP

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21041584-01		1 (mL)	10 (mL)	10	8-oz glass, Neat

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 165330 (0)		Test Name : TEXAS TPH BY TX1005			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00		03 May 2021 11:00	03 May 2021 20:10	100
Batch ID: 165358 (0)		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00		04 May 2021 08:00	10 May 2021 21:34	100
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00		04 May 2021 08:00	10 May 2021 14:55	1000
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00		04 May 2021 08:00	06 May 2021 21:59	10
Batch ID: 165431 (0)		Test Name : MERCURY BY SW7471B			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00		06 May 2021 10:30	06 May 2021 12:46	1
Batch ID: 165487 (0)		Test Name : METALS BY SW6020A			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00		07 May 2021 14:30	07 May 2021 18:39	1
Batch ID: 165746 (0)		Test Name : TCLP METALS BY SW6020A			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00	12 May 2021 10:00	13 May 2021 13:00	13 May 2021 20:36	1
Batch ID: R382951 (0)		Test Name : PH SOIL BY SW9045D			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00			04 May 2021 14:30	1
Batch ID: R383028 (0)		Test Name : BURN RATE BY METHOD SW1030			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00			05 May 2021 09:00	1
Batch ID: R383079 (0)		Test Name : VOLATILES BY SW8260C			Matrix: Solid	
HS21041584-01	SO-1620-IDW01-20210428	28 Apr 2021 15:00			06 May 2021 13:51	50

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165330 (0) **Instrument:** FID-13 **Method:** TEXAS TPH BY TX1005

MBLK		Sample ID: MBLK-165330		Units: mg/Kg		Analysis Date: 03-May-2021 17:14			
Client ID:		Run ID: FID-13_383083		SeqNo: 6078047		PrepDate: 03-May-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
nC6 to nC12	U	50							
>nC12 to nC28	U	50							
>nC28 to nC35	U	50							
Total Petroleum Hydrocarbon	U	50							
Surr: 2-Fluorobiphenyl	24.13	0	25	0	96.5	70 - 130			
Surr: Trifluoromethyl benzene	28.75	0	25	0	115	70 - 130			

LCS		Sample ID: LCS-165330		Units: mg/Kg		Analysis Date: 03-May-2021 17:43			
Client ID:		Run ID: FID-13_383083		SeqNo: 6078048		PrepDate: 03-May-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
nC6 to nC12	285.9	50	250	0	114	75 - 125			
>nC12 to nC28	292.8	50	250	0	117	75 - 125			
Surr: 2-Fluorobiphenyl	30.01	0	25	0	120	70 - 130			
Surr: Trifluoromethyl benzene	30.84	0	25	0	123	70 - 130			

LCSD		Sample ID: LCSD-165330		Units: mg/Kg		Analysis Date: 03-May-2021 18:13			
Client ID:		Run ID: FID-13_383083		SeqNo: 6078049		PrepDate: 03-May-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
nC6 to nC12	270.6	50	250	0	108	75 - 125	285.9	5.49	20
>nC12 to nC28	271.3	50	250	0	109	75 - 125	292.8	7.61	20
Surr: 2-Fluorobiphenyl	28.01	0	25	0	112	70 - 130	30.01	6.89	20
Surr: Trifluoromethyl benzene	28.49	0	25	0	114	70 - 130	30.84	7.93	20

MS		Sample ID: HS21041613-02MS		Units: mg/Kg		Analysis Date: 03-May-2021 19:12			
Client ID:		Run ID: FID-13_383083		SeqNo: 6078051		PrepDate: 03-May-2021		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
nC6 to nC12	299.5	49	246.8	2.941	120	75 - 125			
>nC12 to nC28	291.2	49	246.8	0	118	75 - 125			
Surr: 2-Fluorobiphenyl	30.95	0	24.68	0	125	70 - 130			
Surr: Trifluoromethyl benzene	30.75	0	24.68	0	125	70 - 130			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165330 (0) Instrument: FID-13 Method: TEXAS TPH BY TX1005

MSD Sample ID: HS21041613-02MSD Units: mg/Kg Analysis Date: 03-May-2021 19:41
Client ID: Run ID: FID-13_383083 SeqNo: 6078052 PrepDate: 03-May-2021 DF: 1
Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

nC6 to nC12	303	50	247.5	2.941	121	75 - 125	299.5	1.17	20
>nC12 to nC28	301.3	50	247.5	0	122	75 - 125	291.2	3.41	20
Surr: 2-Fluorobiphenyl	30.86	0	24.75	0	125	70 - 130	30.95	0.282	20
Surr: Trifluoromethyl benzene	30.61	0	24.75	0	124	70 - 130	30.75	0.443	20

The following samples were analyzed in this batch: HS21041584-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165431 (0)	Instrument: HG03	Method: MERCURY BY SW7471B
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MBLK	Sample ID: MBLK-165431	Units: ug/Kg	Analysis Date: 06-May-2021 12:24							
Client ID:	Run ID: HG03_383104	SeqNo: 6078623	PrepDate: 06-May-2021 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury U 3.45

LCS	Sample ID: LCS-165431	Units: ug/Kg	Analysis Date: 06-May-2021 12:26							
Client ID:	Run ID: HG03_383104	SeqNo: 6078624	PrepDate: 06-May-2021 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 377.2 3.40 340.4 0 111 80 - 120

MS	Sample ID: HS21040813-06MS	Units: ug/Kg	Analysis Date: 06-May-2021 12:29							
Client ID:	Run ID: HG03_383104	SeqNo: 6078626	PrepDate: 06-May-2021 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 373.1 3.50 350.7 -3.91 108 80 - 120

MSD	Sample ID: HS21040813-06MSD	Units: ug/Kg	Analysis Date: 06-May-2021 12:31							
Client ID:	Run ID: HG03_383104	SeqNo: 6078627	PrepDate: 06-May-2021 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 372.2 3.47 347.8 -3.91 108 80 - 120 373.1 0.258 20

The following samples were analyzed in this batch: HS21041584-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165487 (0)	Instrument: ICPMS05	Method: METALS BY SW6020A
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MBLK	Sample ID: MBLK-165487	Units: mg/Kg	Analysis Date: 07-May-2021 17:30							
Client ID:	Run ID: ICPMS05_383196	SeqNo: 6081470	PrepDate: 07-May-2021 DF: 1							
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Antimony	U	0.496								
Arsenic	U	0.496								
Barium	U	0.496								
Beryllium	U	0.496								
Cadmium	U	0.496								
Chromium	U	0.496								
Lead	U	0.496								
Nickel	U	0.496								
Selenium	U	0.496								
Silver	U	0.496								

LCS	Sample ID: LCS-165487	Units: mg/Kg	Analysis Date: 07-May-2021 17:32							
Client ID:	Run ID: ICPMS05_383196	SeqNo: 6081471	PrepDate: 07-May-2021 DF: 1							
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Antimony	9.24	0.491	9.829	0	94.0	80 - 120				
Arsenic	9.401	0.491	9.829	0	95.6	80 - 120				
Barium	9.449	0.491	9.829	0	96.1	80 - 120				
Beryllium	8.955	0.491	9.829	0	91.1	80 - 120				
Cadmium	9.753	0.491	9.829	0	99.2	80 - 120				
Chromium	9.332	0.491	9.829	0	94.9	80 - 120				
Lead	9.19	0.491	9.829	0	93.5	80 - 120				
Nickel	9.49	0.491	9.829	0	96.6	80 - 120				
Selenium	9.011	0.491	9.829	0	91.7	80 - 120				
Silver	9.539	0.491	9.829	0	97.0	80 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165487 (0)		Instrument: ICPMS05		Method: METALS BY SW6020A						
MS	Sample ID: HS21041427-09MS	Units: mg/Kg			Analysis Date: 07-May-2021 17:38					
Client ID:	Run ID: ICPMS05_383196	SeqNo: 6081474		PrepDate: 07-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	2.224	0.473	9.468	0.2098	21.3	75 - 125				S
Arsenic	14.18	0.473	9.468	4.716	100.0	75 - 125				
Barium	135.5	0.473	9.468	119.8	165	75 - 125				SO
Beryllium	9.823	0.473	9.468	0.6911	96.5	75 - 125				
Cadmium	9.436	0.473	9.468	0.07837	98.8	75 - 125				
Chromium	19.59	0.473	9.468	10.95	91.2	75 - 125				
Lead	14.55	0.473	9.468	5.134	99.4	75 - 125				
Nickel	16.72	0.473	9.468	8.637	85.4	75 - 125				
Selenium	8.92	0.473	9.468	0.4906	89.0	75 - 125				
Silver	8.984	0.473	9.468	0.02713	94.6	75 - 125				

MSD	Sample ID: HS21041427-09MSD	Units: mg/Kg			Analysis Date: 07-May-2021 17:40					
Client ID:	Run ID: ICPMS05_383196	SeqNo: 6081475		PrepDate: 07-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	2.465	0.484	9.679	0.2098	23.3	75 - 125	2.224	10.3	20	S
Arsenic	14.16	0.484	9.679	4.716	97.5	75 - 125	14.18	0.187	20	
Barium	110.1	0.484	9.679	119.8	-100	75 - 125	135.5	20.7	20	SRO
Beryllium	9.823	0.484	9.679	0.6911	94.3	75 - 125	9.823	0.00365	20	
Cadmium	9.417	0.484	9.679	0.07837	96.5	75 - 125	9.436	0.194	20	
Chromium	19.49	0.484	9.679	10.95	88.2	75 - 125	19.59	0.484	20	
Lead	14.23	0.484	9.679	5.134	94.0	75 - 125	14.55	2.21	20	
Nickel	16.56	0.484	9.679	8.637	81.9	75 - 125	16.72	0.931	20	
Selenium	9.301	0.484	9.679	0.4906	91.0	75 - 125	8.92	4.19	20	
Silver	8.903	0.484	9.679	0.02713	91.7	75 - 125	8.984	0.907	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165487 (0)	Instrument: ICPMS05	Method: METALS BY SW6020A								
PDS	Sample ID: HS21041427-09PDS	Units: mg/Kg	Analysis Date: 07-May-2021 17:42							
Client ID:	Run ID: ICPMS05_383196	SeqNo: 6081476	PrepDate: 07-May-2021 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	9.203	0.471	9.42	0.2098	95.5	75 - 125				
Arsenic	14.36	0.471	9.42	4.716	102	75 - 125				
Barium	127.9	0.471	9.42	119.8	86.2	75 - 125				O
Beryllium	10.26	0.471	9.42	0.6911	102	75 - 125				
Cadmium	9.998	0.471	9.42	0.07837	105	75 - 125				
Chromium	20.42	0.471	9.42	10.95	101	75 - 125				
Lead	14.75	0.471	9.42	5.134	102	75 - 125				
Nickel	17.75	0.471	9.42	8.637	96.7	75 - 125				
Selenium	10.08	0.471	9.42	0.4906	102	75 - 125				
Silver	8.282	0.471	9.42	0.02713	87.6	75 - 125				

SD	Sample ID: HS21041427-09SD	Units: mg/Kg	Analysis Date: 07-May-2021 17:36							
Client ID:	Run ID: ICPMS05_383196	SeqNo: 6081473	PrepDate: 07-May-2021 DF: 5							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	RPD Limit	Qual

Antimony	0.3523	2.35					0.2098	0	10	J
Arsenic	4.856	2.35					4.716	2.97	10	
Barium	111.8	2.35					119.8	6.68	10	
Beryllium	0.6686	2.35					0.6911	0	10	J
Cadmium	U	2.35					0.07837	0	10	
Chromium	11.21	2.35					10.95	2.35	10	
Lead	4.977	2.35					5.134	3.05	10	
Nickel	9.032	2.35					8.637	4.57	10	
Selenium	0.5494	2.35					0.4906	0	10	J
Silver	U	2.35					0.02713	0	10	

The following samples were analyzed in this batch:

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165746 (0)		Instrument: ICPMS06		Method: TCLP METALS BY SW6020A					
MBLK	Sample ID: MBLKT2-165746	Units: mg/L		Analysis Date: 13-May-2021 20:01					
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091062		PrepDate: 13-May-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD Limit Qual	
Lead	U	0.0500							
MBLK	Sample ID: MBLKT4-165746	Units: mg/L		Analysis Date: 13-May-2021 20:05					
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091064		PrepDate: 13-May-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD Limit Qual	
Lead	U	0.0500							
MBLK	Sample ID: MBLKT6-165746	Units: mg/L		Analysis Date: 13-May-2021 20:09					
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091066		PrepDate: 13-May-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD Limit Qual	
Lead	U	0.0500							
MBLK	Sample ID: MBLKT8-165746	Units: mg/L		Analysis Date: 14-May-2021 15:12					
Client ID:	Run ID: ICPMS06_383639	SeqNo: 6092895		PrepDate: 13-May-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD Limit Qual	
Lead	U	0.00500							
MBLK	Sample ID: MBLKT7-165746	Units: mg/L		Analysis Date: 13-May-2021 20:11					
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091067		PrepDate: 13-May-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD Limit Qual	
Lead	U	0.0500							
MBLK	Sample ID: MBLKT5-165746	Units: mg/L		Analysis Date: 13-May-2021 20:07					
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091065		PrepDate: 13-May-2021		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD Limit Qual	
Lead	U	0.0500							

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165746 (0)		Instrument: ICPMS06		Method: TCLP METALS BY SW6020A						
MBLK	Sample ID: MBLKT3-165746	Units: mg/L		Analysis Date: 13-May-2021 20:03						
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091063		PrepDate: 13-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Lead	U	0.0500								
MBLK	Sample ID: MBLKT1-165746	Units: mg/L		Analysis Date: 13-May-2021 19:59						
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091061		PrepDate: 13-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Lead	U	0.0500								
MBLK	Sample ID: MBLK-165746	Units: mg/L		Analysis Date: 13-May-2021 19:57						
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091060		PrepDate: 13-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Lead	U	0.00500								
LCS	Sample ID: LCS-165746	Units: mg/L		Analysis Date: 13-May-2021 20:14						
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091068		PrepDate: 13-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Lead	0.05145	0.00500	0.05	0	103	80 - 120				
MS	Sample ID: HS21050049-01MS	Units: mg/L		Analysis Date: 13-May-2021 20:24						
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091073		PrepDate: 13-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Lead	0.5376	0.0500	0.5	0.00103	107	80 - 120				
MSD	Sample ID: HS21050049-01MSD	Units: mg/L		Analysis Date: 13-May-2021 20:26						
Client ID:	Run ID: ICPMS06_383557	SeqNo: 6091074		PrepDate: 13-May-2021		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Lead	0.5205	0.0500	0.5	0.00103	104	80 - 120	0.5376	3.23	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165746 (0) **Instrument:** ICPMS06 **Method:** TCLP METALS BY SW6020A

PDS Sample ID: **HS21050049-01PDS** Units: **mg/L** Analysis Date: **13-May-2021 20:28**
 Client ID: Run ID: **ICPMS06_383557** SeqNo: **6091075** PrepDate: **13-May-2021** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Lead 1.048 0.0500 1 0.00103 105 75 - 125

SD Sample ID: **HS21050049-01SD** Units: **mg/L** Analysis Date: **13-May-2021 20:22**
 Client ID: Run ID: **ICPMS06_383557** SeqNo: **6091072** PrepDate: **13-May-2021** DF: **5**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %D %D Limit Qual

Lead U 0.250 0.00103 0 10

The following samples were analyzed in this batch: HS21041584-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-165358	Units: ug/Kg			Analysis Date: 05-May-2021 11:28					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078077	PrepDate: 04-May-2021	DF: 1						
Analyte	Result	SQL	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 IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-165358	Units: ug/Kg			Analysis Date: 05-May-2021 11:28					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078077		PrepDate: 04-May-2021		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	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	129.4	0	167	0	77.5	36 - 126				
Surr: 2-Fluorobiphenyl	145.2	0	167	0	86.9	43 - 125				
Surr: 2-Fluorophenol	124.2	0	167	0	74.4	37 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-165358	Units: ug/Kg			Analysis Date: 05-May-2021 11:28					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078077		PrepDate: 04-May-2021		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>	144.5	0	167	0	86.5	32 - 125				
<i>Surr: Nitrobenzene-d5</i>	104.4	0	167	0	62.5	37 - 125				
<i>Surr: Phenol-d6</i>	125.2	0	167	0	75.0	40 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-165358	Units: ug/Kg			Analysis Date: 05-May-2021 11:46					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078078		PrepDate: 04-May-2021		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	145.9	6.6	167	0	87.4	50 - 120				
2,4,5-Trichlorophenol	145.3	6.6	167	0	87.0	45 - 127				
2,4,6-Trichlorophenol	137.6	6.6	167	0	82.4	45 - 130				
2,4-Dichlorophenol	137.6	6.6	167	0	82.4	45 - 125				
2,4-Dimethylphenol	116.3	6.6	167	0	69.6	45 - 120				
2,4-Dinitrophenol	164.9	13	167	0	98.7	10 - 126				
2,4-Dinitrotoluene	148.8	6.6	167	0	89.1	50 - 130				
2,6-Dinitrotoluene	151.5	6.6	167	0	90.7	50 - 125				
2-Chloronaphthalene	147.6	6.6	167	0	88.4	50 - 145				
2-Chlorophenol	133	6.6	167	0	79.6	45 - 120				
2-Methylnaphthalene	142.5	3.3	167	0	85.3	50 - 120				
2-Methylphenol	115.8	6.6	167	0	69.4	45 - 120				
2-Nitroaniline	129.1	6.6	167	0	77.3	45 - 138				
2-Nitrophenol	132.2	6.6	167	0	79.2	45 - 125				
3&4-Methylphenol	122	6.6	167	0	73.1	45 - 120				
3,3'-Dichlorobenzidine	173.5	6.6	167	0	104	15 - 120				
3-Nitroaniline	141.1	6.6	167	0	84.5	40 - 120				
4,6-Dinitro-2-methylphenol	147.3	6.6	167	0	88.2	15 - 135				
4-Bromophenyl phenyl ether	145.8	6.6	167	0	87.3	50 - 125				
4-Chloro-3-methylphenol	129.5	6.6	167	0	77.5	45 - 130				
4-Chloroaniline	130.1	6.6	167	0	77.9	20 - 120				
4-Chlorophenyl phenyl ether	152	6.6	167	0	91.0	50 - 120				
4-Nitroaniline	157.8	6.6	167	0	94.5	50 - 127				
4-Nitrophenol	156.7	13	167	0	93.8	40 - 147				
Acenaphthene	136.3	3.3	167	0	81.6	50 - 120				
Acenaphthylene	146.7	3.3	167	0	87.9	50 - 120				
Anthracene	144	3.3	167	0	86.2	50 - 123				
Benz(a)anthracene	147.6	3.3	167	0	88.4	50 - 131				
Benzidine	30.81	6.6	167	0	18.4	10 - 120				
Benzo(a)pyrene	153.1	3.3	167	0	91.7	50 - 130				
Benzo(b)fluoranthene	142.7	3.3	167	0	85.5	50 - 137				
Benzo(g,h,i)perylene	149.5	3.3	167	0	89.5	50 - 130				
Benzo(k)fluoranthene	170.4	3.3	167	0	102	50 - 143				
Benzyl alcohol	118.4	6.6	167	0	70.9	40 - 143				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-165358	Units: ug/Kg			Analysis Date: 05-May-2021 11:46					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078078		PrepDate: 04-May-2021		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Bis(2-chloroethoxy)methane	119.1	6.6	167	0	71.3	50 - 120				
Bis(2-chloroethyl)ether	111.4	6.6	167	0	66.7	45 - 127				
Bis(2-chloroisopropyl)ether	128.1	6.6	167	0	76.7	50 - 120				
Bis(2-ethylhexyl)phthalate	150.5	6.6	167	0	90.1	21 - 148				
Butyl benzyl phthalate	145.4	6.6	167	0	87.0	50 - 136				
Carbazole	128.9	6.6	167	0	77.2	50 - 143				
Chrysene	140.5	3.3	167	0	84.1	50 - 130				
Dibenz(a,h)anthracene	158.5	3.3	167	0	94.9	50 - 130				
Dibenzofuran	145.7	3.3	167	0	87.3	50 - 125				
Diethyl phthalate	148.4	6.6	167	0	88.9	50 - 125				
Dimethyl phthalate	146.8	6.6	167	0	87.9	50 - 125				
Di-n-butyl phthalate	149.7	6.6	167	0	89.7	50 - 140				
Di-n-octyl phthalate	132.6	6.6	167	0	79.4	50 - 140				
Fluoranthene	151.2	3.3	167	0	90.6	50 - 131				
Fluorene	148	3.3	167	0	88.6	50 - 125				
Hexachlorobenzene	162.9	6.6	167	0	97.6	50 - 124				
Hexachlorobutadiene	145.8	6.6	167	0	87.3	50 - 125				
Hexachlorocyclopentadiene	134.9	6.6	167	0	80.8	45 - 135				
Hexachloroethane	121.1	6.6	167	0	72.5	45 - 125				
Indeno(1,2,3-cd)pyrene	166	3.3	167	0	99.4	45 - 139				
Isophorone	105.6	6.6	167	0	63.3	45 - 130				
Naphthalene	136.9	3.3	167	0	82.0	50 - 125				
Nitrobenzene	107.2	6.6	167	0	64.2	50 - 125				
N-Nitrosodimethylamine	154.5	6.6	167	0	92.5	20 - 140				
N-Nitrosodi-n-propylamine	108.7	6.6	167	0	65.1	45 - 120				
N-Nitrosodiphenylamine	132.5	6.6	167	0	79.3	50 - 130				
Pentachlorophenol	181.6	6.6	167	0	109	23 - 136				
Phenanthrene	142.9	3.3	167	0	85.6	50 - 125				
Phenol	120.7	6.6	167	0	72.3	45 - 130				
Pyrene	140.6	3.3	167	0	84.2	45 - 130				
Pyridine	129.5	6.6	167	0	77.6	15 - 120				
Surr: 2,4,6-Tribromophenol	137.8	0	167	0	82.5	36 - 126				
Surr: 2-Fluorobiphenyl	146.1	0	167	0	87.5	43 - 125				
Surr: 2-Fluorophenol	127.4	0	167	0	76.3	37 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-165358	Units: ug/Kg			Analysis Date: 05-May-2021 11:46					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078078		PrepDate: 04-May-2021		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>	147.3	0	167	0	88.2	32 - 125				
<i>Surr: Nitrobenzene-d5</i>	102.7	0	167	0	61.5	37 - 125				
<i>Surr: Phenol-d6</i>	124.1	0	167	0	74.3	40 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS		Sample ID: HS21041685-01MS		Units: ug/Kg		Analysis Date: 05-May-2021 13:02				
Client ID:		Run ID: SV-7_383084		SeqNo: 6078082		PrepDate: 04-May-2021		DF: 1		
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	161.4	6.6	166.8	0	96.8	50 - 120				
2,4,5-Trichlorophenol	159.2	6.6	166.8	0	95.5	45 - 127				
2,4,6-Trichlorophenol	145.7	6.6	166.8	0	87.4	45 - 130				
2,4-Dichlorophenol	157.3	6.6	166.8	0	94.3	45 - 125				
2,4-Dimethylphenol	136.7	6.6	166.8	0	82.0	45 - 120				
2,4-Dinitrophenol	158.7	13	166.8	0	95.1	10 - 126				
2,4-Dinitrotoluene	153.9	6.6	166.8	0	92.3	50 - 130				
2,6-Dinitrotoluene	164	6.6	166.8	0	98.3	50 - 125				
2-Chloronaphthalene	156.2	6.6	166.8	0	93.6	50 - 145				
2-Chlorophenol	143.9	6.6	166.8	0	86.3	45 - 120				
2-Methylnaphthalene	153.7	3.3	166.8	0	92.1	50 - 120				
2-Methylphenol	131.6	6.6	166.8	0	78.9	45 - 120				
2-Nitroaniline	138.4	6.6	166.8	0	83.0	45 - 138				
2-Nitrophenol	141	6.6	166.8	0	84.5	45 - 125				
3&4-Methylphenol	133.2	6.6	166.8	0	79.9	45 - 120				
3,3'-Dichlorobenzidine	150.7	6.6	166.8	0	90.3	15 - 120				
3-Nitroaniline	80.33	6.6	166.8	0	48.2	40 - 120				
4,6-Dinitro-2-methylphenol	163.4	6.6	166.8	0	98.0	15 - 135				
4-Bromophenyl phenyl ether	161.2	6.6	166.8	0	96.6	50 - 125				
4-Chloro-3-methylphenol	142.9	6.6	166.8	0	85.7	45 - 130				
4-Chloroaniline	79.64	6.6	166.8	0	47.8	20 - 120				
4-Chlorophenyl phenyl ether	163.1	6.6	166.8	0	97.8	50 - 120				
4-Nitroaniline	97.42	6.6	166.8	0	58.4	50 - 127				
4-Nitrophenol	126.5	13	166.8	0	75.8	40 - 147				
Acenaphthene	146.1	3.3	166.8	0	87.6	50 - 120				
Acenaphthylene	155.4	3.3	166.8	0	93.2	50 - 120				
Anthracene	159.3	3.3	166.8	0	95.5	50 - 123				
Benz(a)anthracene	170.5	3.3	166.8	0	102	50 - 131				
Benzidine	20.46	6.6	166.8	0	12.3	10 - 120				
Benzo(a)pyrene	154.8	3.3	166.8	0	92.8	50 - 130				
Benzo(b)fluoranthene	159.8	3.3	166.8	0	95.8	50 - 137				
Benzo(g,h,i)perylene	158.6	3.3	166.8	0	95.1	50 - 130				
Benzo(k)fluoranthene	170.7	3.3	166.8	0	102	50 - 143				
Benzyl alcohol	130.7	6.6	166.8	0	78.4	40 - 143				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS21041685-01MS	Units: ug/Kg			Analysis Date: 05-May-2021 13:02					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078082	PrepDate: 04-May-2021	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	130.4	6.6	166.8	0	78.2	50 - 120				
Bis(2-chloroethyl)ether	119.7	6.6	166.8	0	71.8	45 - 127				
Bis(2-chloroisopropyl)ether	140.1	6.6	166.8	0	84.0	50 - 120				
Bis(2-ethylhexyl)phthalate	172.8	6.6	166.8	0	104	21 - 148				
Butyl benzyl phthalate	159.3	6.6	166.8	0	95.5	50 - 136				
Carbazole	169.3	6.6	166.8	0	102	50 - 143				
Chrysene	156.5	3.3	166.8	0	93.8	50 - 130				
Dibenz(a,h)anthracene	168	3.3	166.8	0	101	50 - 130				
Dibenzofuran	149.1	3.3	166.8	0	89.4	50 - 125				
Diethyl phthalate	154.8	6.6	166.8	0	92.8	50 - 125				
Dimethyl phthalate	152.6	6.6	166.8	0	91.5	50 - 125				
Di-n-butyl phthalate	158.2	6.6	166.8	0	94.8	50 - 140				
Di-n-octyl phthalate	135.2	6.6	166.8	0	81.1	50 - 140				
Fluoranthene	166	3.3	166.8	0	99.6	50 - 131				
Fluorene	155.6	3.3	166.8	0	93.3	50 - 125				
Hexachlorobenzene	198.9	6.6	166.8	8.961	114	50 - 124				
Hexachlorobutadiene	156.8	6.6	166.8	0	94.0	50 - 125				
Hexachlorocyclopentadiene	53.75	6.6	166.8	0	32.2	45 - 135				S
Hexachloroethane	123.7	6.6	166.8	0	74.2	45 - 125				
Indeno(1,2,3-cd)pyrene	174.2	3.3	166.8	0	104	45 - 139				
Isophorone	117.9	6.6	166.8	0	70.7	45 - 130				
Naphthalene	151.9	3.3	166.8	2.244	89.7	50 - 125				
Nitrobenzene	113.2	6.6	166.8	0	67.9	50 - 125				
N-Nitrosodimethylamine	132.7	6.6	166.8	0	79.6	20 - 140				
N-Nitrosodi-n-propylamine	112.3	6.6	166.8	0	67.3	45 - 120				
N-Nitrosodiphenylamine	154.6	6.6	166.8	0	92.7	50 - 130				
Pentachlorophenol	145	6.6	166.8	0	86.9	23 - 136				
Phenanthrene	159.6	3.3	166.8	1.727	94.7	50 - 125				
Phenol	143.3	6.6	166.8	0	85.9	45 - 130				
Pyrene	157.8	3.3	166.8	0	94.6	45 - 130				
Pyridine	246.4	6.6	166.8	0	148	15 - 120				S
Surr: 2,4,6-Tribromophenol	163.8	0	166.8	0	98.2	36 - 126				
Surr: 2-Fluorobiphenyl	152.6	0	166.8	0	91.5	43 - 125				
Surr: 2-Fluorophenol	146.2	0	166.8	0	87.7	37 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS21041685-01MS	Units: ug/Kg			Analysis Date: 05-May-2021 13:02					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078082		PrepDate: 04-May-2021		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>	164	0	166.8	0	98.3	32 - 125				
<i>Surr: Nitrobenzene-d5</i>	105.9	0	166.8	0	63.5	37 - 125				
<i>Surr: Phenol-d6</i>	129.6	0	166.8	0	77.7	40 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS21041685-01MSD	Units: ug/Kg			Analysis Date: 05-May-2021 13:21					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078083		PrepDate: 04-May-2021		DF: 1				
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	161.1	6.6	166.6	0	96.7	50 - 120	161.4	0.22	30	
2,4,5-Trichlorophenol	130	6.6	166.6	0	78.0	45 - 127	159.2	20.2	30	
2,4,6-Trichlorophenol	132.8	6.6	166.6	0	79.7	45 - 130	145.7	9.28	30	
2,4-Dichlorophenol	149.2	6.6	166.6	0	89.6	45 - 125	157.3	5.24	30	
2,4-Dimethylphenol	129.2	6.6	166.6	0	77.5	45 - 120	136.7	5.67	30	
2,4-Dinitrophenol	148.5	13	166.6	0	89.1	10 - 126	158.7	6.61	30	
2,4-Dinitrotoluene	145.3	6.6	166.6	0	87.2	50 - 130	153.9	5.79	30	
2,6-Dinitrotoluene	155.3	6.6	166.6	0	93.2	50 - 125	164	5.43	30	
2-Chloronaphthalene	145.6	6.6	166.6	0	87.4	50 - 145	156.2	6.99	30	
2-Chlorophenol	141.1	6.6	166.6	0	84.7	45 - 120	143.9	1.96	30	
2-Methylnaphthalene	151.8	3.3	166.6	0	91.1	50 - 120	153.7	1.2	30	
2-Methylphenol	120.9	6.6	166.6	0	72.6	45 - 120	131.6	8.45	30	
2-Nitroaniline	128.5	6.6	166.6	0	77.1	45 - 138	138.4	7.37	30	
2-Nitrophenol	140.2	6.6	166.6	0	84.1	45 - 125	141	0.578	30	
3&4-Methylphenol	128.8	6.6	166.6	0	77.3	45 - 120	133.2	3.4	30	
3,3'-Dichlorobenzidine	142.4	6.6	166.6	0	85.5	15 - 120	150.7	5.61	30	
3-Nitroaniline	109.1	6.6	166.6	0	65.5	40 - 120	80.33	30.4	30	R
4,6-Dinitro-2-methylphenol	155.9	6.6	166.6	0	93.6	15 - 135	163.4	4.71	30	
4-Bromophenyl phenyl ether	165.3	6.6	166.6	0	99.2	50 - 125	161.2	2.53	30	
4-Chloro-3-methylphenol	138.6	6.6	166.6	0	83.2	45 - 130	142.9	3.02	30	
4-Chloroaniline	102.1	6.6	166.6	0	61.3	20 - 120	79.64	24.7	30	
4-Chlorophenyl phenyl ether	162.4	6.6	166.6	0	97.5	50 - 120	163.1	0.415	30	
4-Nitroaniline	130	6.6	166.6	0	78.0	50 - 127	97.42	28.7	30	
4-Nitrophenol	167.7	13	166.6	0	101	40 - 147	126.5	28	30	
Acenaphthene	140.1	3.3	166.6	0	84.1	50 - 120	146.1	4.21	30	
Acenaphthylene	150.3	3.3	166.6	0	90.2	50 - 120	155.4	3.37	30	
Anthracene	160.9	3.3	166.6	0	96.6	50 - 123	159.3	1.02	30	
Benz(a)anthracene	156.7	3.3	166.6	0	94.1	50 - 131	170.5	8.43	30	
Benzidine	13.48	6.6	166.6	0	8.09	10 - 120	20.46	41.1	30	SR
Benzo(a)pyrene	159.7	3.3	166.6	0	95.9	50 - 130	154.8	3.13	30	
Benzo(b)fluoranthene	157.8	3.3	166.6	0	94.7	50 - 137	159.8	1.28	30	
Benzo(g,h,i)perylene	162.1	3.3	166.6	0	97.3	50 - 130	158.6	2.18	30	
Benzo(k)fluoranthene	172.3	3.3	166.6	0	103	50 - 143	170.7	0.919	30	
Benzyl alcohol	127.9	6.6	166.6	0	76.8	40 - 143	130.7	2.15	30	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS21041685-01MSD	Units: ug/Kg			Analysis Date: 05-May-2021 13:21					
Client ID:	Run ID: SV-7_383084	SeqNo: 6078083	PrepDate: 04-May-2021	DF: 1						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	127.8	6.6	166.6	0	76.7	50 - 120	130.4	2.05	30	
Bis(2-chloroethyl)ether	124.8	6.6	166.6	0	74.9	45 - 127	119.7	4.11	30	
Bis(2-chloroisopropyl)ether	140.7	6.6	166.6	0	84.4	50 - 120	140.1	0.404	30	
Bis(2-ethylhexyl)phthalate	157.3	6.6	166.6	0	94.4	21 - 148	172.8	9.45	30	
Butyl benzyl phthalate	147.1	6.6	166.6	0	88.3	50 - 136	159.3	7.99	30	
Carbazole	181.6	6.6	166.6	0	109	50 - 143	169.3	7.03	30	
Chrysene	143.4	3.3	166.6	0	86.0	50 - 130	156.5	8.74	30	
Dibenz(a,h)anthracene	169.8	3.3	166.6	0	102	50 - 130	168	1.08	30	
Dibenzofuran	147.8	3.3	166.6	0	88.7	50 - 125	149.1	0.891	30	
Diethyl phthalate	147.4	6.6	166.6	0	88.5	50 - 125	154.8	4.91	30	
Dimethyl phthalate	149.7	6.6	166.6	0	89.9	50 - 125	152.6	1.87	30	
Di-n-butyl phthalate	159.4	6.6	166.6	0	95.7	50 - 140	158.2	0.788	30	
Di-n-octyl phthalate	136.2	6.6	166.6	0	81.8	50 - 140	135.2	0.734	30	
Fluoranthene	175.8	3.3	166.6	0	106	50 - 131	166	5.72	30	
Fluorene	151.7	3.3	166.6	0	91.0	50 - 125	155.6	2.54	30	
Hexachlorobenzene	188.6	6.6	166.6	8.961	108	50 - 124	198.9	5.27	30	
Hexachlorobutadiene	161.2	6.6	166.6	0	96.7	50 - 125	156.8	2.74	30	
Hexachlorocyclopentadiene	49.79	6.6	166.6	0	29.9	45 - 135	53.75	7.65	30	S
Hexachloroethane	125.1	6.6	166.6	0	75.1	45 - 125	123.7	1.09	30	
Indeno(1,2,3-cd)pyrene	174.9	3.3	166.6	0	105	45 - 139	174.2	0.387	30	
Isophorone	119.8	6.6	166.6	0	71.9	45 - 130	117.9	1.56	30	
Naphthalene	152.2	3.3	166.6	2.244	90.0	50 - 125	151.9	0.181	30	
Nitrobenzene	116.1	6.6	166.6	0	69.7	50 - 125	113.2	2.54	30	
N-Nitrosodimethylamine	138.2	6.6	166.6	0	82.9	20 - 140	132.7	4.03	30	
N-Nitrosodi-n-propylamine	114.5	6.6	166.6	0	68.7	45 - 120	112.3	1.99	30	
N-Nitrosodiphenylamine	149	6.6	166.6	0	89.4	50 - 130	154.6	3.68	30	
Pentachlorophenol	105.5	6.6	166.6	0	63.3	23 - 136	145	31.6	30	R
Phenanthrene	155.1	3.3	166.6	1.727	92.0	50 - 125	159.6	2.88	30	
Phenol	143.6	6.6	166.6	0	86.2	45 - 130	143.3	0.266	30	
Pyrene	145.4	3.3	166.6	0	87.2	45 - 130	157.8	8.2	30	
Pyridine	247.1	6.6	166.6	0	148	15 - 120	246.4	0.269	30	S
Surr: 2,4,6-Tribromophenol	119.1	0	166.6	0	71.5	36 - 126	163.8	31.6	30	R
Surr: 2-Fluorobiphenyl	146.9	0	166.6	0	88.2	43 - 125	152.6	3.81	30	
Surr: 2-Fluorophenol	133.4	0	166.6	0	80.1	37 - 125	146.2	9.17	30	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: 165358 (0) **Instrument:** SV-7 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D

MSD Sample ID: **HS21041685-01MSD** Units: **ug/Kg** Analysis Date: **05-May-2021 13:21**
Client ID: Run ID: **SV-7_383084** SeqNo: **6078083** PrepDate: **04-May-2021** 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>	150.2	0	166.6	0	90.2	32 - 125	164	8.77	30
<i>Surr: Nitrobenzene-d5</i>	109.3	0	166.6	0	65.6	37 - 125	105.9	3.18	30
<i>Surr: Phenol-d6</i>	127.1	0	166.6	0	76.3	40 - 125	129.6	2	30

The following samples were analyzed in this batch: HS21041584-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MBLK	Sample ID: MBLKW1-050621	Units: ug/Kg			Analysis Date: 06-May-2021 08:51					
Client ID:	Run ID: VOA8_383079	SeqNo: 6077899	PrepDate:	DF: 50						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	250								
1,1,2,2-Tetrachloroethane	U	250								
1,1,2-Trichloroethane	U	250								
1,1-Dichloroethane	U	250								
1,1-Dichloroethene	U	250								
1,2-Dichlorobenzene	U	250								
1,2-Dichloroethane	U	250								
1,2-Dichloropropane	U	250								
1,3-Dichlorobenzene	U	250								
1,4-Dichlorobenzene	U	250								
2-Butanone	U	500								
2-Hexanone	U	500								
4-Methyl-2-pentanone	U	500								
Acetone	U	1000								
Benzene	U	250								
Bromochloromethane	U	250								
Bromodichloromethane	U	250								
Bromoform	U	250								
Bromomethane	U	500								
Carbon disulfide	U	500								
Carbon tetrachloride	U	250								
Chlorobenzene	U	250								
Chloroethane	U	500								
Chloroform	U	250								
Chloromethane	U	500								
cis-1,2-Dichloroethene	U	250								
cis-1,3-Dichloropropene	U	250								
Dibromochloromethane	U	250								
Ethylbenzene	U	250								
m,p-Xylene	U	500								
Methylene chloride	U	500								
o-Xylene	U	250								
Styrene	U	250								
Tetrachloroethene	U	250								

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C					
MBLK	Sample ID: MBLKW1-050621	Units: ug/Kg			Analysis Date: 06-May-2021 08:51				
Client ID:	Run ID: VOA8_383079	SeqNo: 6077899		PrepDate:		DF: 50			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Toluene	U	250							
trans-1,2-Dichloroethene	U	250							
trans-1,3-Dichloropropene	U	250							
Trichloroethene	U	250							
Vinyl acetate	U	500							
Vinyl chloride	U	100							
Xylenes, Total	U	250							
1,2-Dichloroethene, Total	U	250							
<i>Surr: 1,2-Dichloroethane-d4</i>	2586	0	2500	0	103	76 - 125			
<i>Surr: 4-Bromofluorobenzene</i>	2484	0	2500	0	99.3	80 - 120			
<i>Surr: Dibromofluoromethane</i>	2484	0	2500	0	99.4	80 - 119			
<i>Surr: Toluene-d8</i>	2572	0	2500	0	103	81 - 118			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
LCS	Sample ID: VLCSW1-050621	Units: ug/Kg			Analysis Date: 06-May-2021 08:01					
Client ID:	Run ID: VOA8_383079	SeqNo: 6077898		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	56.36	5.0	50	0	113	72 - 130				
1,1,2,2-Tetrachloroethane	52.43	5.0	50	0	105	71 - 124				
1,1,2-Trichloroethane	52.65	5.0	50	0	105	78 - 117				
1,1-Dichloroethane	51.75	5.0	50	0	103	76 - 128				
1,1-Dichloroethene	54.37	5.0	50	0	109	72 - 130				
1,2-Dichlorobenzene	52.47	5.0	50	0	105	79 - 121				
1,2-Dichloroethane	52.83	5.0	50	0	106	77 - 120				
1,2-Dichloropropane	54.75	5.0	50	0	109	77 - 121				
1,3-Dichlorobenzene	52.49	5.0	50	0	105	78 - 121				
1,4-Dichlorobenzene	52	5.0	50	0	104	78 - 120				
2-Butanone	106.7	10	100	0	107	70 - 128				
2-Hexanone	105.9	10	100	0	106	72 - 127				
4-Methyl-2-pentanone	101.6	10	100	0	102	70 - 128				
Acetone	102.6	20	100	0	103	70 - 130				
Benzene	53.12	5.0	50	0	106	75 - 124				
Bromochloromethane	56.15	5.0	50	0	112	74 - 124				
Bromodichloromethane	54.28	5.0	50	0	109	78 - 122				
Bromoform	48.13	5.0	50	0	96.3	74 - 120				
Bromomethane	49.29	10	50	0	98.6	70 - 130				
Carbon disulfide	110.2	10	100	0	110	70 - 122				
Carbon tetrachloride	50.18	5.0	50	0	100	72 - 128				
Chlorobenzene	52.9	5.0	50	0	106	78 - 122				
Chloroethane	49.87	10	50	0	99.7	70 - 130				
Chloroform	55.61	5.0	50	0	111	73 - 127				
Chloromethane	50.67	10	50	0	101	70 - 130				
cis-1,2-Dichloroethene	54.38	5.0	50	0	109	77 - 125				
cis-1,3-Dichloropropene	49.11	5.0	50	0	98.2	78 - 122				
Dibromochloromethane	53.84	5.0	50	0	108	78 - 120				
Ethylbenzene	53.22	5.0	50	0	106	70 - 123				
m,p-Xylene	106.4	10	100	0	106	77 - 125				
Methylene chloride	53.7	10	50	0	107	71 - 125				
o-Xylene	53.53	5.0	50	0	107	78 - 122				
Styrene	54.76	5.0	50	0	110	80 - 123				
Tetrachloroethene	53.64	5.0	50	0	107	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
LCS	Sample ID: VLCSW1-050621	Units: ug/Kg			Analysis Date: 06-May-2021 08:01					
Client ID:	Run ID: VOA8_383079	SeqNo: 6077898		PrepDate:			DF: 1			
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	

Toluene	52.95	5.0	50	0	106	76 - 122			
trans-1,2-Dichloroethene	54.12	5.0	50	0	108	75 - 128			
trans-1,3-Dichloropropene	48.52	5.0	50	0	97.0	75 - 123			
Trichloroethene	53.53	5.0	50	0	107	78 - 125			
Vinyl acetate	100.8	10	100	0	101	70 - 130			
Vinyl chloride	54.03	2.0	50	0	108	70 - 130			
Xylenes, Total	159.9	5.0	150	0	107	77 - 128			
1,2-Dichloroethene, Total	108.5	5.0	100	0	109	75 - 128			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.12</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>76 - 125</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.29</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>98.6</i>	<i>80 - 120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.3</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>80 - 119</i>			
<i>Surr: Toluene-d8</i>	<i>49.41</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>81 - 118</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MS	Sample ID: HS21041632-06MS	Units: ug/Kg			Analysis Date: 06-May-2021 11:46					
Client ID:	Run ID: VOA8_383079	SeqNo: 6078544	PrepDate:	DF: 500						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	23770	1900	19250	0	124	70 - 130				
1,1,2,2-Tetrachloroethane	22120	1900	19250	0	115	70 - 130				
1,1,2-Trichloroethane	23930	1900	19250	0	124	70 - 130				
1,1-Dichloroethane	23830	1900	19250	0	124	70 - 130				
1,1-Dichloroethene	22990	1900	19250	0	119	70 - 130				
1,2-Dichlorobenzene	22840	1900	19250	0	119	70 - 130				
1,2-Dichloroethane	23580	1900	19250	0	122	70 - 130				
1,2-Dichloropropane	23710	1900	19250	0	123	70 - 130				
1,3-Dichlorobenzene	22670	1900	19250	0	118	70 - 130				
1,4-Dichlorobenzene	22500	1900	19250	0	117	70 - 130				
2-Butanone	40560	3800	38500	0	105	70 - 130				
2-Hexanone	40660	3800	38500	0	106	70 - 130				
4-Methyl-2-pentanone	67240	3800	38500	0	175	70 - 128				S
Acetone	45450	7700	38500	0	118	70 - 130				
Benzene	72180	1900	19250	49080	120	70 - 130				
Bromochloromethane	22870	1900	19250	0	119	70 - 130				
Bromodichloromethane	23300	1900	19250	0	121	70 - 130				
Bromoform	19360	1900	19250	0	101	70 - 130				
Bromomethane	15350	3800	19250	0	79.7	70 - 130				
Carbon disulfide	47190	3800	38500	0	123	70 - 130				
Carbon tetrachloride	20860	1900	19250	0	108	70 - 130				
Chlorobenzene	23230	1900	19250	0	121	70 - 130				
Chloroethane	22220	3800	19250	0	115	70 - 130				
Chloroform	24220	1900	19250	0	126	70 - 130				
Chloromethane	21620	3800	19250	0	112	70 - 130				
cis-1,2-Dichloroethene	23140	1900	19250	0	120	70 - 130				
cis-1,3-Dichloropropene	20860	1900	19250	0	108	70 - 130				
Dibromochloromethane	21800	1900	19250	0	113	70 - 130				
Ethylbenzene	96920	1900	19250	0	503	70 - 130				SE
m,p-Xylene	303800	3800	38500	0	789	70 - 130				SE
Methylene chloride	21500	3800	19250	0	112	70 - 130				
o-Xylene	119400	1900	19250	0	621	70 - 130				SE
Styrene	38980	1900	19250	0	202	70 - 130				S
Tetrachloroethene	23480	1900	19250	0	122	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MS	Sample ID: HS21041632-06MS	Units: ug/Kg			Analysis Date: 06-May-2021 11:46					
Client ID:	Run ID: VOA8_383079	SeqNo: 6078544	PrepDate:	DF: 500						
Analyte	Result	SQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	240300	1900	19250	0	1250	70 - 130				SE
trans-1,2-Dichloroethene	23690	1900	19250	0	123	70 - 130				
trans-1,3-Dichloropropene	20360	1900	19250	0	106	70 - 130				
Trichloroethene	23820	1900	19250	0	124	70 - 130				
Vinyl acetate	43920	3800	38500	0	114	70 - 130				
Vinyl chloride	24070	770	19250	0	125	70 - 130				
Xylenes, Total	423200	1900	57750	0	733	70 - 130				SE
1,2-Dichloroethene, Total	46830	1900	38500	0	122	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18170</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>94.4</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>19180</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>99.7</i>	<i>70 - 130</i>				
<i>Surr: Dibromofluoromethane</i>	<i>18910</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>98.2</i>	<i>70 - 130</i>				
<i>Surr: Toluene-d8</i>	<i>19110</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>99.3</i>	<i>70 - 130</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0) Instrument: VOA8 Method: VOLATILES BY SW8260C											
MSD	Sample ID: HS21041632-06MSD	Units: ug/Kg				Analysis Date: 06-May-2021 12:11					
Client ID:	Run ID: VOA8_383079	SeqNo: 6078545	PrepDate:	DF: 500							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	26750	1900	19250	0	139	70 - 130	23770	11.8	30	S	
1,1,2,2-Tetrachloroethane	24860	1900	19250	0	129	70 - 130	22120	11.6	30		
1,1,2-Trichloroethane	26710	1900	19250	0	139	70 - 130	23930	11	30	S	
1,1-Dichloroethane	26640	1900	19250	0	138	70 - 130	23830	11.1	30	S	
1,1-Dichloroethene	26070	1900	19250	0	135	70 - 130	22990	12.5	30	S	
1,2-Dichlorobenzene	25590	1900	19250	0	133	70 - 130	22840	11.3	30	S	
1,2-Dichloroethane	26310	1900	19250	0	137	70 - 130	23580	11	30	S	
1,2-Dichloropropane	27070	1900	19250	0	141	70 - 130	23710	13.2	30	S	
1,3-Dichlorobenzene	25470	1900	19250	0	132	70 - 130	22670	11.6	30	S	
1,4-Dichlorobenzene	25520	1900	19250	0	133	70 - 130	22500	12.5	30	S	
2-Butanone	46430	3800	38500	0	121	70 - 130	40560	13.5	30		
2-Hexanone	44270	3800	38500	0	115	70 - 130	40660	8.51	30		
4-Methyl-2-pentanone	72170	3800	38500	0	187	70 - 128	67240	7.07	30	S	
Acetone	48450	7700	38500	0	126	70 - 130	45450	6.39	30		
Benzene	77360	1900	19250	49080	147	70 - 130	72180	6.93	30	SE	
Bromochloromethane	25650	1900	19250	0	133	70 - 130	22870	11.5	30	S	
Bromodichloromethane	26170	1900	19250	0	136	70 - 130	23300	11.6	30	S	
Bromoform	21450	1900	19250	0	111	70 - 130	19360	10.3	30		
Bromomethane	16400	3800	19250	0	85.2	70 - 130	15350	6.65	30		
Carbon disulfide	53580	3800	38500	0	139	70 - 130	47190	12.7	30	S	
Carbon tetrachloride	23710	1900	19250	0	123	70 - 130	20860	12.8	30		
Chlorobenzene	25790	1900	19250	0	134	70 - 130	23230	10.4	30	S	
Chloroethane	24740	3800	19250	0	129	70 - 130	22220	10.7	30		
Chloroform	27640	1900	19250	0	144	70 - 130	24220	13.2	30	S	
Chloromethane	24290	3800	19250	0	126	70 - 130	21620	11.6	30		
cis-1,2-Dichloroethene	26020	1900	19250	0	135	70 - 130	23140	11.7	30	S	
cis-1,3-Dichloropropene	23510	1900	19250	0	122	70 - 130	20860	11.9	30		
Dibromochloromethane	24360	1900	19250	0	127	70 - 130	21800	11.1	30		
Ethylbenzene	102500	1900	19250	0	533	70 - 130	96920	5.63	30	SE	
m,p-Xylene	319000	3800	38500	0	829	70 - 130	303800	4.9	30	SE	
Methylene chloride	23890	3800	19250	0	124	70 - 130	21500	10.5	30		
o-Xylene	125100	1900	19250	0	650	70 - 130	119400	4.62	30	SE	
Styrene	42270	1900	19250	0	220	70 - 130	38980	8.1	30	S	
Tetrachloroethene	26010	1900	19250	0	135	70 - 130	23480	10.2	30	S	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383079 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C							
MSD	Sample ID: HS21041632-06MSD	Units: ug/Kg			Analysis Date: 06-May-2021 12:11						
Client ID:	Run ID: VOA8_383079	SeqNo: 6078545		PrepDate:		DF: 500					
Analyte	Result	MLL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Toluene	250800	1900	19250	0	1300	70 - 130	240300	4.29	30	SE	
trans-1,2-Dichloroethene	26280	1900	19250	0	137	70 - 130	23690	10.4	30	S	
trans-1,3-Dichloropropene	22870	1900	19250	0	119	70 - 130	20360	11.6	30		
Trichloroethene	26760	1900	19250	0	139	70 - 130	23820	11.6	30	S	
Vinyl acetate	50740	3800	38500	0	132	70 - 130	43920	14.4	30	S	
Vinyl chloride	27220	770	19250	0	141	70 - 130	24070	12.3	30	S	
Xylenes, Total	444100	1900	57750	0	769	70 - 130	423200	4.82	30	SE	
1,2-Dichloroethene, Total	52310	1900	38500	0	136	70 - 130	46830	11	30	S	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18340</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>95.3</i>	<i>70 - 126</i>	<i>18170</i>	<i>0.92</i>	<i>30</i>		
<i>Surr: 4-Bromofluorobenzene</i>	<i>19710</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>102</i>	<i>70 - 130</i>	<i>19180</i>	<i>2.73</i>	<i>30</i>		
<i>Surr: Dibromofluoromethane</i>	<i>19160</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>99.5</i>	<i>70 - 130</i>	<i>18910</i>	<i>1.3</i>	<i>30</i>		
<i>Surr: Toluene-d8</i>	<i>19070</i>	<i>0</i>	<i>19250</i>	<i>0</i>	<i>99.1</i>	<i>70 - 130</i>	<i>19110</i>	<i>0.177</i>	<i>30</i>		

The following samples were analyzed in this batch: HS21041584-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R382951 (0)		Instrument: WetChem_HS		Method: PH SOIL BY SW9045D						
DUP	Sample ID: HS21041673-09DUP	Units: pH Units		Analysis Date: 04-May-2021 14:30						
Client ID:	Run ID: WetChem_HS_382951	SeqNo: 6074855		PrepDate:		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	7.86	0.100					7.94	1.01	10	
Temp Deg C @pH	21.7	0					21.7	0	10	

The following samples were analyzed in this batch:

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

QC BATCH REPORT

Batch ID: R383028 (0) **Instrument:** WetChem_HS **Method:** BURN RATE BY METHOD SW1030

DUP	Sample ID: HS21041613-02DUP	Units: Burn Rate, mm/sec	Analysis Date: 05-May-2021 09:00							
Client ID:	Run ID: WetChem_HS_383028	SeqNo: 6076653	PrepDate: DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Ignitability, Solid	0	0					0	0	25	
---------------------	---	---	--	--	--	--	---	---	----	--

The following samples were analyzed in this batch:

HS21041584-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDWS
WorkOrder: HS21041584

**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
Date	
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

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

Sample Receipt Checklist

Work Order ID: HS21041584

Date/Time Received: 29-Apr-2021 10:27

Client Name: PBW

Received by: Si Ma

Completed By: /S/ Pablo Martinez	29-Apr-2021 16:58	Reviewed by: /S/ Dane J. Wacasey	30-Apr-2021 08:27
eSignature	Date/Time	eSignature	Date/Time

Matrices: **SOLID**

Carrier name: **FedEx**

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes No Not Present
- Chain of custody present? Yes No 1 Page(s)
- Chain of custody signed when relinquished and received? Yes No COC IDs:237024
- Samplers name present on COC? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No

Temperature(s)/Thermometer(s):	1.0°C UC/C	IR 31
Cooler(s)/Kit(s):	45762	
Date/Time sample(s) sent to storage:	4/29/21 17:05	

- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No N/A
- pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 237024

HS21041584

MV

Golder Associates Inc.

Houston TX-Wood Preserving Works IDWS



ALS Project Manager:


Customer Information		Project Information		
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works IDWS	A
Work Order		Project Number	1620-15-Rev0 SR 92688	B
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P	C
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E
				F
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G
Phone	(512) 671-3434	Phone		H
Fax	(512) 671-3446	Fax		I
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address		J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SO-1620-IDWS-20210428	4-28-21	1500	Solid	8	3	X	X	X	X	X	X	X				
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Tim Spodden</i>		Shipment Method <i>Delivered</i>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> 7 Wk Days <input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:	
Relinquished by: <i>[Signature]</i>	Date: <i>7-29-21</i>	Time: <i>10:27</i>	Received by:	Notes: UPRR HWPW 1620-15 <i>WR#004444</i>					
Relinquished by: <i>[Signature]</i>	Date: <i>7-29-21</i>	Time: <i>10:27</i>	Received by (Laboratory): <i>Sm 04/29/21 10:27</i>	Cooler ID <i>45762</i>	Cooler Temp. <i>1.0</i>	QC Package: (Check One Box Below)			
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input checked="" type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist		
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV		
						<input type="checkbox"/> Level IV SW846/CLP			
						<input type="checkbox"/> Other			

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: 4/28/21	Time: 1:00	SM
45762	Name: J. M. [Signature]	Company: [Signature]	Date: 04/29/21

45762 APR 29 2021