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February 10, 2021

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

Work Order: **HS21020087**

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

Dear Eric Matzner,

ALS Environmental received 1 sample(s) on Feb 02, 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 IDW
Work Order: HS21020087

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21020087-01	WW-1620-IDW-20210202	Water		02-Feb-2021 12:00	02-Feb-2021 13:10	<input type="checkbox"/>

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS21020087

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: 162240

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

GCMS Semivolatiles by Method SW8270

Batch ID: 162242

Sample ID: HS21020037-01MS

- MS and MSD are for an unrelated sample

Sample ID: WW-1620-IDW-20210202 (HS21020087-01)

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

GCMS Volatiles by Method SW8260

Batch ID: R377645

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

Metals by Method SW7470

Batch ID: 162327

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

Metals by Method SW6020

Batch ID: 162322

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

WetChemistry by Method SW9040C

Batch ID: R377524

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

WetChemistry by Method SW1010

Batch ID: R377470

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

WetChemistry by Method SM4500 S2-F

Batch ID: R377430

- 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: HS21020087

CASE NARRATIVE

WetChemistry by Method SW9014

Batch ID: 162434

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
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Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works IDW
 Sample ID: WW-1620-IDW-20210202
 Collection Date: 02-Feb-2021 12:00

ANALYTICAL REPORT
 WorkOrder:HS21020087
 Lab ID:HS21020087-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260					Analyst: AKP
1,1,1-Trichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
1,1,2,2-Tetrachloroethane	< 0.00050		0.00050	0.0010	mg/L	1	06-Feb-2021 00:41
1,1,2-Trichloroethane	< 0.00030		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
1,1-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
1,1-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
1,2-Dichlorobenzene	< 0.00050		0.00050	0.0010	mg/L	1	06-Feb-2021 00:41
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
1,2-Dichloropropane	< 0.00050		0.00050	0.0010	mg/L	1	06-Feb-2021 00:41
1,3-Dichlorobenzene	< 0.00040		0.00040	0.0010	mg/L	1	06-Feb-2021 00:41
1,4-Dichlorobenzene	< 0.00040		0.00040	0.0010	mg/L	1	06-Feb-2021 00:41
2-Butanone	< 0.00050		0.00050	0.0020	mg/L	1	06-Feb-2021 00:41
2-Hexanone	< 0.0010		0.0010	0.0020	mg/L	1	06-Feb-2021 00:41
4-Methyl-2-pentanone	< 0.00070		0.00070	0.0020	mg/L	1	06-Feb-2021 00:41
Acetone	< 0.0020		0.0020	0.0020	mg/L	1	06-Feb-2021 00:41
Benzene	0.018		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Bromochloromethane	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Bromodichloromethane	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Bromoform	< 0.00040		0.00040	0.0010	mg/L	1	06-Feb-2021 00:41
Bromomethane	< 0.00040		0.00040	0.0010	mg/L	1	06-Feb-2021 00:41
Carbon disulfide	< 0.00060		0.00060	0.0020	mg/L	1	06-Feb-2021 00:41
Carbon tetrachloride	< 0.00050		0.00050	0.0010	mg/L	1	06-Feb-2021 00:41
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
Chloroethane	< 0.00030		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
Chloroform	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Chloromethane	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
cis-1,2-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
cis-1,3-Dichloropropene	< 0.00010		0.00010	0.0010	mg/L	1	06-Feb-2021 00:41
Dibromochloromethane	< 0.00030		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
Ethylbenzene	0.0030		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
m,p-Xylene	0.0053		0.00050	0.0020	mg/L	1	06-Feb-2021 00:41
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	06-Feb-2021 00:41
o-Xylene	0.0027		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
Styrene	< 0.00030		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
Tetrachloroethene	< 0.00030		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
Toluene	0.014		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
trans-1,2-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
trans-1,3-Dichloropropene	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Trichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Vinyl acetate	< 0.00050		0.00050	0.0010	mg/L	1	06-Feb-2021 00:41

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-20210202
 Collection Date: 02-Feb-2021 12:00

ANALYTICAL REPORT
 WorkOrder:HS21020087
 Lab ID:HS21020087-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260					Analyst: AKP
Vinyl chloride	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Xylenes, Total	0.0081		0.00030	0.0010	mg/L	1	06-Feb-2021 00:41
1,2-Dichloroethene, Total	< 0.00020		0.00020	0.0010	mg/L	1	06-Feb-2021 00:41
Surr: 1,2-Dichloroethane-d4	94.4			70-126	%REC	1	06-Feb-2021 00:41
Surr: 4-Bromofluorobenzene	95.6			81-113	%REC	1	06-Feb-2021 00:41
Surr: Dibromofluoromethane	99.0			77-123	%REC	1	06-Feb-2021 00:41
Surr: Toluene-d8	99.6			82-127	%REC	1	06-Feb-2021 00:41

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-20210202
 Collection Date: 02-Feb-2021 12:00

ANALYTICAL REPORT
 WorkOrder:HS21020087
 Lab ID:HS21020087-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 04-Feb-2021		Analyst: GEY	
1,2,4-Trichlorobenzene	< 0.000030		0.000030	0.00020	mg/L	1	09-Feb-2021 14:52
2,4,5-Trichlorophenol	< 0.000057		0.000057	0.00020	mg/L	1	09-Feb-2021 14:52
2,4,6-Trichlorophenol	< 0.000048		0.000048	0.00020	mg/L	1	09-Feb-2021 14:52
2,4-Dichlorophenol	< 0.000043		0.000043	0.00020	mg/L	1	09-Feb-2021 14:52
2,4-Dimethylphenol	0.071		0.00040	0.0020	mg/L	10	09-Feb-2021 15:11
2,4-Dinitrophenol	< 0.00010		0.00010	0.0010	mg/L	1	09-Feb-2021 14:52
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	09-Feb-2021 14:52
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	09-Feb-2021 14:52
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	09-Feb-2021 14:52
2-Chlorophenol	< 0.000036		0.000036	0.00020	mg/L	1	09-Feb-2021 14:52
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	09-Feb-2021 14:52
2-Methylphenol	0.25		0.0045	0.020	mg/L	100	09-Feb-2021 16:48
2-Nitroaniline	< 0.000041		0.000041	0.00020	mg/L	1	09-Feb-2021 14:52
2-Nitrophenol	< 0.000034		0.000034	0.00020	mg/L	1	09-Feb-2021 14:52
3&4-Methylphenol	0.31		0.0036	0.020	mg/L	100	09-Feb-2021 16:48
3,3'-Dichlorobenzidine	< 0.000044		0.000044	0.00020	mg/L	1	09-Feb-2021 14:52
3-Nitroaniline	< 0.000049		0.000049	0.00020	mg/L	1	09-Feb-2021 14:52
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	09-Feb-2021 14:52
4-Bromophenyl phenyl ether	< 0.000051		0.000051	0.00020	mg/L	1	09-Feb-2021 14:52
4-Chloro-3-methylphenol	< 0.000032		0.000032	0.00020	mg/L	1	09-Feb-2021 14:52
4-Chloroaniline	< 0.000039		0.000039	0.00020	mg/L	1	09-Feb-2021 14:52
4-Chlorophenyl phenyl ether	< 0.000044		0.000044	0.00020	mg/L	1	09-Feb-2021 14:52
4-Nitroaniline	< 0.000035		0.000035	0.00020	mg/L	1	09-Feb-2021 14:52
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	09-Feb-2021 14:52
Acenaphthene	0.0018		0.000027	0.00010	mg/L	1	09-Feb-2021 14:52
Acenaphthylene	0.000064	J	0.000015	0.00010	mg/L	1	09-Feb-2021 14:52
Anthracene	0.00021		0.000014	0.00010	mg/L	1	09-Feb-2021 14:52
Benz(a)anthracene	0.000061	J	0.000050	0.00010	mg/L	1	09-Feb-2021 14:52
Benzidine	< 0.00010		0.00010	0.00020	mg/L	1	09-Feb-2021 14:52
Benzo(a)pyrene	0.000037	J	0.000020	0.00010	mg/L	1	09-Feb-2021 14:52
Benzo(b)fluoranthene	0.000029	J	0.000023	0.00010	mg/L	1	09-Feb-2021 14:52
Benzo(g,h,i)perylene	0.000028	J	0.000014	0.00010	mg/L	1	09-Feb-2021 14:52
Benzo(k)fluoranthene	0.000024	J	0.000019	0.00010	mg/L	1	09-Feb-2021 14:52
Benzyl alcohol	< 0.000054		0.000054	0.00020	mg/L	1	09-Feb-2021 14:52
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	09-Feb-2021 14:52
Bis(2-chloroethyl)ether	< 0.000026		0.000026	0.00020	mg/L	1	09-Feb-2021 14:52
Bis(2-chloroisopropyl)ether	< 0.000070		0.000070	0.00020	mg/L	1	09-Feb-2021 14:52
Bis(2-ethylhexyl)phthalate	0.00015	J	0.000037	0.00020	mg/L	1	09-Feb-2021 14:52
Butyl benzyl phthalate	< 0.000019		0.000019	0.00020	mg/L	1	09-Feb-2021 14:52

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-20210202
 Collection Date: 02-Feb-2021 12:00

ANALYTICAL REPORT
 WorkOrder:HS21020087
 Lab ID:HS21020087-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 04-Feb-2021		Analyst: GEY	
Carbazole	0.0016		0.000025	0.00020	mg/L	1	09-Feb-2021 14:52
Chrysene	0.000054	J	0.000021	0.00010	mg/L	1	09-Feb-2021 14:52
Di-n-butyl phthalate	0.000081	J	0.000020	0.00020	mg/L	1	09-Feb-2021 14:52
Di-n-octyl phthalate	0.000083	J	0.000020	0.00020	mg/L	1	09-Feb-2021 14:52
Dibenz(a,h)anthracene	< 0.000024		0.000024	0.00010	mg/L	1	09-Feb-2021 14:52
Dibenzofuran	0.00060		0.000020	0.00010	mg/L	1	09-Feb-2021 14:52
Diethyl phthalate	< 0.000030		0.000030	0.00020	mg/L	1	09-Feb-2021 14:52
Dimethyl phthalate	< 0.000041		0.000041	0.00020	mg/L	1	09-Feb-2021 14:52
Fluoranthene	0.00029		0.000010	0.00010	mg/L	1	09-Feb-2021 14:52
Fluorene	0.00050		0.000030	0.00010	mg/L	1	09-Feb-2021 14:52
Hexachlorobenzene	< 0.000044		0.000044	0.00020	mg/L	1	09-Feb-2021 14:52
Hexachlorobutadiene	< 0.000030		0.000030	0.00020	mg/L	1	09-Feb-2021 14:52
Hexachlorocyclopentadiene	< 0.000030		0.000030	0.00020	mg/L	1	09-Feb-2021 14:52
Hexachloroethane	< 0.000059		0.000059	0.00020	mg/L	1	09-Feb-2021 14:52
Indeno(1,2,3-cd)pyrene	0.000036	J	0.000022	0.00010	mg/L	1	09-Feb-2021 14:52
Isophorone	< 0.000025		0.000025	0.00020	mg/L	1	09-Feb-2021 14:52
N-Nitrosodi-n-propylamine	< 0.000032		0.000032	0.00020	mg/L	1	09-Feb-2021 14:52
N-Nitrosodimethylamine	< 0.00010		0.00010	0.00020	mg/L	1	09-Feb-2021 14:52
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	09-Feb-2021 14:52
Naphthalene	0.00013		0.000020	0.00010	mg/L	1	09-Feb-2021 14:52
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	09-Feb-2021 14:52
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	09-Feb-2021 14:52
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	09-Feb-2021 14:52
Phenol	0.010		0.00035	0.0020	mg/L	10	09-Feb-2021 15:11
Pyrene	0.00017		0.000019	0.00010	mg/L	1	09-Feb-2021 14:52
Pyridine	< 0.000030		0.000030	0.0010	mg/L	1	09-Feb-2021 14:52
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	100	09-Feb-2021 16:48
Surr: 2,4,6-Tribromophenol	84.0			34-129	%REC	10	09-Feb-2021 15:11
Surr: 2,4,6-Tribromophenol	83.3			34-129	%REC	1	09-Feb-2021 14:52
Surr: 2-Fluorobiphenyl	73.1			40-125	%REC	1	09-Feb-2021 14:52
Surr: 2-Fluorobiphenyl	72.0			40-125	%REC	10	09-Feb-2021 15:11
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	100	09-Feb-2021 16:48
Surr: 2-Fluorophenol	0	JS		20-120	%REC	100	09-Feb-2021 16:48
Surr: 2-Fluorophenol	63.8			20-120	%REC	10	09-Feb-2021 15:11
Surr: 2-Fluorophenol	76.4			20-120	%REC	1	09-Feb-2021 14:52
Surr: 4-Terphenyl-d14	99.0			40-135	%REC	1	09-Feb-2021 14:52
Surr: 4-Terphenyl-d14	95.9			40-135	%REC	10	09-Feb-2021 15:11
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	09-Feb-2021 16:48
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	09-Feb-2021 16:48

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-20210202
 Collection Date: 02-Feb-2021 12:00

ANALYTICAL REPORT
 WorkOrder:HS21020087
 Lab ID:HS21020087-01
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270				Prep:SW3510 / 04-Feb-2021	Analyst: GEY
Surr: Nitrobenzene-d5	69.6			41-120	%REC	1	09-Feb-2021 14:52
Surr: Nitrobenzene-d5	73.7			41-120	%REC	10	09-Feb-2021 15:11
Surr: Phenol-d6	76.6			20-120	%REC	1	09-Feb-2021 14:52
Surr: Phenol-d6	54.8			20-120	%REC	10	09-Feb-2021 15:11
Surr: Phenol-d6	0	JS		20-120	%REC	100	09-Feb-2021 16:48
LOW-LEVEL TEXAS TPH BY TX1005		Method:TX1005				Prep:TX1005PR / 04-Feb-2021	Analyst: MBG
nC6 to nC12	0.65		0.20	0.49	mg/L	1	05-Feb-2021 00:23
>nC12 to nC28	0.47	J	0.20	0.49	mg/L	1	05-Feb-2021 00:23
>nC28 to nC35	< 0.20		0.20	0.49	mg/L	1	05-Feb-2021 00:23
Total Petroleum Hydrocarbon	1.12		0.20	0.49	mg/L	1	05-Feb-2021 00:23
Surr: 2-Fluorobiphenyl	93.7			70-130	%REC	1	05-Feb-2021 00:23
Surr: Trifluoromethyl benzene	97.8			70-130	%REC	1	05-Feb-2021 00:23
ICP-MS METALS BY SW6020A		Method:SW6020				Prep:SW3010A / 06-Feb-2021	Analyst: JHD
Arsenic	0.000684	J	0.000400	0.00200	mg/L	1	09-Feb-2021 02:41
Barium	0.124		0.00190	0.00400	mg/L	1	09-Feb-2021 02:41
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	09-Feb-2021 02:41
Chromium	0.00125	J	0.000400	0.00400	mg/L	1	09-Feb-2021 02:41
Lead	< 0.000600		0.000600	0.00200	mg/L	1	09-Feb-2021 02:41
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	09-Feb-2021 02:41
Silver	< 0.000200		0.000200	0.00200	mg/L	1	09-Feb-2021 02:41
MERCURY BY SW7470A		Method:SW7470				Prep:SW7470 / 06-Feb-2021	Analyst: MSC
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	06-Feb-2021 19:51
SULFIDE BY SM4500 S2-F		Method:SM4500 S2-F					Analyst: KVL
Sulfide	2.64		1.00	1.00	mg/L	1	03-Feb-2021 11:10
FLASH POINT BY PENSKEY-MARTENS SW1010A		Method:SW1010					Analyst: TH
Ignitability	> 212		70.0	70.0	°F	1	04-Feb-2021 07:30
CYANIDE - SW9014		Method:SW9014				Prep:SW9010C / 09-Feb-2021	Analyst: KVL
Cyanide	< 0.00200		0.00200	0.00500	mg/L	1	09-Feb-2021 15:00
PH BY SW9040C		Method:SW9040C					Analyst: JAC
pH	7.44	H	0.100	0.100	pH Units	1	04-Feb-2021 14:25
Temp Deg C @pH	21.7	H	0	0	DEG C	1	04-Feb-2021 14:25

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: HS21020087

Batch ID: 162240 **Start Date:** 04 Feb 2021 15:38 **End Date:** 04 Feb 2021 17:00
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21020087-01	1	30.34 (g)	3 (mL)	0.09888	40 mL VOA w/ HCL

Batch ID: 162242 **Start Date:** 04 Feb 2021 10:30 **End Date:** 04 Feb 2021 17:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21020087-01		1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 162322 **Start Date:** 06 Feb 2021 12:00 **End Date:** 06 Feb 2021 16:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21020087-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 162327 **Start Date:** 06 Feb 2021 18:30 **End Date:** 06 Feb 2021 20:30
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21020087-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 162434 **Start Date:** 09 Feb 2021 13:30 **End Date:** 09 Feb 2021 15:00
Method: CYANIDE PREP - SW9010C **Prep Code:** CN_TW_PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21020087-01		50 (mL)	50 (mL)	1	250 mL plastic, NaOH/ASE

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 162240 (0)		Test Name : LOW-LEVEL TEXAS TPH BY TX1005			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00		04 Feb 2021 13:38	05 Feb 2021 00:23	1
Batch ID: 162242 (1)		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00		04 Feb 2021 08:30	09 Feb 2021 16:48	100
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00		04 Feb 2021 08:30	09 Feb 2021 15:11	10
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00		04 Feb 2021 08:30	09 Feb 2021 14:52	1
Batch ID: 162322 (0)		Test Name : ICP-MS METALS BY SW6020A			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00		06 Feb 2021 14:00	09 Feb 2021 02:41	1
Batch ID: 162327 (0)		Test Name : MERCURY BY SW7470A			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00		06 Feb 2021 16:30	06 Feb 2021 19:51	1
Batch ID: 162434 (0)		Test Name : CYANIDE - SW9014			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00		09 Feb 2021 11:30	09 Feb 2021 15:00	1
Batch ID: R377430 (0)		Test Name : SULFIDE BY SM4500 S2-F			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00			03 Feb 2021 11:10	1
Batch ID: R377470 (0)		Test Name : FLASH POINT BY PENSKY-MARTENS SW1010A			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00			04 Feb 2021 07:30	1
Batch ID: R377524 (0)		Test Name : PH BY SW9040C			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00			04 Feb 2021 14:25	1
Batch ID: R377645 (0)		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Water	
HS21020087-01	WW-1620-IDW-20210202	02 Feb 2021 12:00			06 Feb 2021 00:41	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162240 (0) **Instrument:** FID-11 **Method:** LOW-LEVEL TEXAS TPH BY TX1005

MBLK		Sample ID: MBLK-162240		Units: mg/L		Analysis Date: 04-Feb-2021 17:59				
Client ID:		Run ID: FID-11_377566		SeqNo: 5945239		PrepDate: 04-Feb-2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 0.20	0.50								
>nC12 to nC28	< 0.20	0.50								
>nC28 to nC35	< 0.20	0.50								
Total Petroleum Hydrocarbon	< 0.20	0.50								
Surr: 2-Fluorobiphenyl	2.416	0	2.5	0	96.6	70 - 130				
Surr: Trifluoromethyl benzene	2.592	0	2.5	0	104	70 - 130				

LCS		Sample ID: LCS-162240		Units: mg/L		Analysis Date: 04-Feb-2021 18:29				
Client ID:		Run ID: FID-11_377566		SeqNo: 5945240		PrepDate: 04-Feb-2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	27.05	0.50	25	0	108	75 - 125				
>nC12 to nC28	28.66	0.50	25	0	115	75 - 125				
Surr: 2-Fluorobiphenyl	2.469	0	2.5	0	98.8	70 - 130				
Surr: Trifluoromethyl benzene	2.599	0	2.5	0	104	70 - 130				

LCSD		Sample ID: LCSD-162240		Units: mg/L		Analysis Date: 04-Feb-2021 18:58				
Client ID:		Run ID: FID-11_377566		SeqNo: 5945241		PrepDate: 04-Feb-2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	26.2	0.50	25	0	105	75 - 125	27.05	3.18	20	
>nC12 to nC28	27.73	0.50	25	0	111	75 - 125	28.66	3.3	20	
Surr: 2-Fluorobiphenyl	2.328	0	2.5	0	93.1	70 - 130	2.469	5.87	20	
Surr: Trifluoromethyl benzene	2.479	0	2.5	0	99.2	70 - 130	2.599	4.71	20	

MS		Sample ID: HS21020185-02MS		Units: mg/L		Analysis Date: 04-Feb-2021 19:57				
Client ID:		Run ID: FID-11_377566		SeqNo: 5945243		PrepDate: 04-Feb-2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	28.31	0.50	24.98	0	113	75 - 125				
>nC12 to nC28	29.09	0.50	24.98	0	116	75 - 125				
Surr: 2-Fluorobiphenyl	2.355	0	2.498	0	94.3	70 - 130				
Surr: Trifluoromethyl benzene	2.548	0	2.498	0	102	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162240 (0) Instrument: FID-11 Method: LOW-LEVEL TEXAS TPH BY TX1005

MSD Sample ID: HS21020185-02MSD Units: mg/L Analysis Date: 04-Feb-2021 20:27
Client ID: Run ID: FID-11_377566 SeqNo: 5945244 PrepDate: 04-Feb-2021 DF: 1
Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

nC6 to nC12	28.83	0.49	24.51	0	118	75 - 125	28.31	1.84	20
>nC12 to nC28	28.65	0.49	24.51	0	117	75 - 125	29.09	1.54	20
Surr: 2-Fluorobiphenyl	2.426	0	2.451	0	99.0	70 - 130	2.355	2.99	20
Surr: Trifluoromethyl benzene	2.601	0	2.451	0	106	70 - 130	2.548	2.04	20

The following samples were analyzed in this batch: HS21020087-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162322 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

MBLK		Sample ID: MBLK-162322		Units: mg/L		Analysis Date: 09-Feb-2021 01:51			
Client ID:		Run ID: ICPMS05_377716		SeqNo: 5949249		PrepDate: 06-Feb-2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	< 0.000400	0.00200							
Barium	< 0.00190	0.00400							
Cadmium	< 0.000200	0.00200							
Chromium	< 0.000400	0.00400							
Lead	< 0.000600	0.00200							
Selenium	< 0.00110	0.00200							
Silver	< 0.000200	0.00200							

LCS		Sample ID: LCS-162322		Units: mg/L		Analysis Date: 09-Feb-2021 01:53			
Client ID:		Run ID: ICPMS05_377716		SeqNo: 5949250		PrepDate: 06-Feb-2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	0.04528	0.00200	0.05	0	90.6	80 - 120			
Barium	0.04378	0.00400	0.05	0	87.6	80 - 120			
Cadmium	0.04607	0.00200	0.05	0	92.1	80 - 120			
Chromium	0.04702	0.00400	0.05	0	94.0	80 - 120			
Lead	0.0408	0.00200	0.05	0	81.6	80 - 120			
Selenium	0.04924	0.00200	0.05	0	98.5	80 - 120			
Silver	0.04358	0.00200	0.05	0	87.2	80 - 120			

MS		Sample ID: HS21020080-05MS		Units: mg/L		Analysis Date: 09-Feb-2021 01:59			
Client ID:		Run ID: ICPMS05_377716		SeqNo: 5949253		PrepDate: 06-Feb-2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	0.0458	0.00200	0.05	0.000059	91.5	80 - 120			
Barium	0.044	0.00400	0.05	0.00003	87.9	80 - 120			
Cadmium	0.04614	0.00200	0.05	0.000014	92.2	80 - 120			
Chromium	0.04779	0.00400	0.05	0.000281	95.0	80 - 120			
Lead	0.04067	0.00200	0.05	0.000043	81.3	80 - 120			
Selenium	0.04743	0.00200	0.05	0.000283	94.3	80 - 120			
Silver	0.04412	0.00200	0.05	0.000019	88.2	80 - 120			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162322 (0) **Instrument:** ICPMS05 **Method:** ICP-MS METALS BY SW6020A

MSD		Sample ID: HS21020080-05MSD			Units: mg/L		Analysis Date: 09-Feb-2021 02:01			
Client ID:		Run ID: ICPMS05_377716			SeqNo: 5949254		PrepDate: 06-Feb-2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04694	0.00200	0.05	0.000059	93.8	80 - 120	0.0458	2.45	20	
Barium	0.04625	0.00400	0.05	0.00003	92.4	80 - 120	0.044	4.98	20	
Cadmium	0.0483	0.00200	0.05	0.000014	96.6	80 - 120	0.04614	4.58	20	
Chromium	0.04907	0.00400	0.05	0.000281	97.6	80 - 120	0.04779	2.63	20	
Lead	0.04326	0.00200	0.05	0.000043	86.4	80 - 120	0.04067	6.17	20	
Selenium	0.05044	0.00200	0.05	0.000283	100	80 - 120	0.04743	6.15	20	
Silver	0.04567	0.00200	0.05	0.000019	91.3	80 - 120	0.04412	3.45	20	

PDS		Sample ID: HS21020080-05PDS			Units: mg/L		Analysis Date: 09-Feb-2021 02:03			
Client ID:		Run ID: ICPMS05_377716			SeqNo: 5949255		PrepDate: 06-Feb-2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1038	0.00200	0.1	0.000059	104	75 - 125				
Barium	0.1009	0.00400	0.1	0.00003	101	75 - 125				
Cadmium	0.1043	0.00200	0.1	0.000014	104	75 - 125				
Chromium	0.1054	0.00400	0.1	0.000281	105	75 - 125				
Lead	0.09938	0.00200	0.1	0.000043	99.3	75 - 125				
Selenium	0.1095	0.00200	0.1	0.000283	109	75 - 125				
Silver	0.09176	0.00200	0.1	0.000019	91.7	75 - 125				

SD		Sample ID: HS21020080-05SD			Units: mg/L		Analysis Date: 09-Feb-2021 01:57			
Client ID:		Run ID: ICPMS05_377716			SeqNo: 5949252		PrepDate: 06-Feb-2021		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	< 0.00200	0.0100					0.000059	0	10	
Barium	< 0.00950	0.0200					0.00003	0	10	
Cadmium	< 0.00100	0.0100					0.000014	0	10	
Chromium	< 0.00200	0.0200					0.000281	0	10	
Lead	< 0.00300	0.0100					0.000043	0	10	
Selenium	< 0.00550	0.0100					0.000283	0	10	
Silver	< 0.00100	0.0100					0.000019	0	10	

The following samples were analyzed in this batch: HS21020087-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162327 (0)	Instrument: HG03	Method: MERCURY BY SW7470A
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MBLK	Sample ID: MBLK-162327	Units: mg/L	Analysis Date: 06-Feb-2021 19:24							
Client ID:	Run ID: HG03_377652	SeqNo: 5947095	PrepDate: 06-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury < 0.0000300 0.000200

LCS	Sample ID: LCS-162327	Units: mg/L	Analysis Date: 06-Feb-2021 19:25							
Client ID:	Run ID: HG03_377652	SeqNo: 5947096	PrepDate: 06-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00529 0.000200 0.005 0 106 80 - 120

MS	Sample ID: HS21020099-13MS	Units: mg/L	Analysis Date: 06-Feb-2021 19:32							
Client ID:	Run ID: HG03_377652	SeqNo: 5947098	PrepDate: 06-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.00475 0.000200 0.005 -0.000008 95.2 75 - 125

MSD	Sample ID: HS21020099-13MSD	Units: mg/L	Analysis Date: 06-Feb-2021 19:33							
Client ID:	Run ID: HG03_377652	SeqNo: 5947099	PrepDate: 06-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Mercury 0.0045 0.000200 0.005 -0.000008 90.2 75 - 125 0.00475 5.41 20

The following samples were analyzed in this batch: HS21020087-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-162242	Units: ug/L			Analysis Date: 05-Feb-2021 10:38					
Client ID:	Run ID: SV-7_377601	SeqNo: 5950956	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	< 0.030	0.20								
2,4,5-Trichlorophenol	< 0.057	0.20								
2,4,6-Trichlorophenol	< 0.048	0.20								
2,4-Dichlorophenol	< 0.043	0.20								
2,4-Dimethylphenol	< 0.040	0.20								
2,4-Dinitrophenol	< 0.10	1.0								
2,4-Dinitrotoluene	< 0.058	0.20								
2,6-Dinitrotoluene	< 0.042	0.20								
2-Chloronaphthalene	< 0.021	0.20								
2-Chlorophenol	< 0.036	0.20								
2-Methylnaphthalene	< 0.019	0.10								
2-Methylphenol	< 0.045	0.20								
2-Nitroaniline	< 0.041	0.20								
2-Nitrophenol	< 0.034	0.20								
3&4-Methylphenol	< 0.036	0.20								
3,3'-Dichlorobenzidine	< 0.044	0.20								
3-Nitroaniline	< 0.049	0.20								
4,6-Dinitro-2-methylphenol	< 0.020	0.20								
4-Bromophenyl phenyl ether	< 0.051	0.20								
4-Chloro-3-methylphenol	< 0.032	0.20								
4-Chloroaniline	< 0.039	0.20								
4-Chlorophenyl phenyl ether	< 0.044	0.20								
4-Nitroaniline	< 0.035	0.20								
4-Nitrophenol	< 0.047	1.0								
Acenaphthene	< 0.027	0.10								
Acenaphthylene	< 0.015	0.10								
Anthracene	< 0.014	0.10								
Benz(a)anthracene	< 0.050	0.10								
Benzidine	< 0.10	0.20								
Benzo(a)pyrene	< 0.020	0.10								
Benzo(b)fluoranthene	< 0.023	0.10								
Benzo(g,h,i)perylene	< 0.014	0.10								
Benzo(k)fluoranthene	< 0.019	0.10								
Benzyl alcohol	< 0.054	0.20								

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-162242	Units: ug/L			Analysis Date: 05-Feb-2021 10:38					
Client ID:	Run ID: SV-7_377601	SeqNo: 5950956	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	< 0.030	0.20								
Bis(2-chloroethyl)ether	< 0.026	0.20								
Bis(2-chloroisopropyl)ether	< 0.070	0.20								
Bis(2-ethylhexyl)phthalate	< 0.037	0.20								
Butyl benzyl phthalate	< 0.019	0.20								
Carbazole	< 0.025	0.20								
Chrysene	< 0.021	0.10								
Dibenz(a,h)anthracene	< 0.024	0.10								
Dibenzofuran	< 0.020	0.10								
Diethyl phthalate	< 0.030	0.20								
Dimethyl phthalate	< 0.041	0.20								
Di-n-butyl phthalate	< 0.020	0.20								
Di-n-octyl phthalate	< 0.020	0.20								
Fluoranthene	< 0.010	0.10								
Fluorene	< 0.030	0.10								
Hexachlorobenzene	< 0.044	0.20								
Hexachlorobutadiene	< 0.030	0.20								
Hexachlorocyclopentadiene	< 0.030	0.20								
Hexachloroethane	< 0.059	0.20								
Indeno(1,2,3-cd)pyrene	< 0.022	0.10								
Isophorone	< 0.025	0.20								
Naphthalene	< 0.020	0.10								
Nitrobenzene	< 0.024	0.20								
N-Nitrosodimethylamine	< 0.10	0.20								
N-Nitrosodi-n-propylamine	< 0.032	0.20								
N-Nitrosodiphenylamine	< 0.025	0.20								
Pentachlorophenol	< 0.079	0.20								
Phenanthrene	< 0.021	0.10								
Phenol	< 0.035	0.20								
Pyrene	< 0.019	0.10								
Pyridine	< 0.030	1.0								
Surr: 2,4,6-Tribromophenol	3.918	0.20	5	0	78.4	34 - 129				
Surr: 2-Fluorobiphenyl	4.93	0.20	5	0	98.6	40 - 125				
Surr: 2-Fluorophenol	3.869	0.20	5	0	77.4	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MBLK	Sample ID: MBLK-162242	Units: ug/L			Analysis Date: 05-Feb-2021 10:38					
Client ID:	Run ID: SV-7_377601	SeqNo: 5950956		PrepDate: 04-Feb-2021		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	4.966	0.20	5	0	99.3	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	4.953	0.20	5	0	99.1	41 - 120				
<i>Surr: Phenol-d6</i>	3.813	0.20	5	0	76.3	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-162242	Units: ug/L			Analysis Date: 05-Feb-2021 10:57					
Client ID:	Run ID: SV-7_377601	SeqNo: 5950957	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	4.863	0.20	5	0	97.3	45 - 120				
2,4,5-Trichlorophenol	5.111	0.20	5	0	102	46 - 120				
2,4,6-Trichlorophenol	4.76	0.20	5	0	95.2	42 - 120				
2,4-Dichlorophenol	5.058	0.20	5	0	101	49 - 120				
2,4-Dimethylphenol	2.464	0.20	5	0	49.3	35 - 120				
2,4-Dinitrophenol	3.024	1.0	5	0	60.5	15 - 120				
2,4-Dinitrotoluene	4.917	0.20	5	0	98.3	50 - 122				
2,6-Dinitrotoluene	4.49	0.20	5	0	89.8	50 - 120				
2-Chloronaphthalene	4.838	0.20	5	0	96.8	50 - 120				
2-Chlorophenol	4.7	0.20	5	0	94.0	40 - 120				
2-Methylnaphthalene	5.676	0.10	5	0	114	50 - 120				
2-Methylphenol	3.883	0.20	5	0	77.7	45 - 120				
2-Nitroaniline	4.084	0.20	5	0	81.7	28 - 139				
2-Nitrophenol	4.621	0.20	5	0	92.4	40 - 120				
3&4-Methylphenol	3.834	0.20	5	0	76.7	35 - 120				
3,3'-Dichlorobenzidine	4.227	0.20	5	0	84.5	15 - 120				
3-Nitroaniline	4.525	0.20	5	0	90.5	30 - 120				
4,6-Dinitro-2-methylphenol	4.016	0.20	5	0	80.3	25 - 121				
4-Bromophenyl phenyl ether	5.075	0.20	5	0	101	45 - 120				
4-Chloro-3-methylphenol	4.955	0.20	5	0	99.1	47 - 120				
4-Chloroaniline	4.518	0.20	5	0	90.4	20 - 120				
4-Chlorophenyl phenyl ether	4.165	0.20	5	0	83.3	50 - 120				
4-Nitroaniline	4.064	0.20	5	0	81.3	30 - 133				
4-Nitrophenol	4.9	1.0	5	0	98.0	30 - 130				
Acenaphthene	4.229	0.10	5	0	84.6	45 - 120				
Acenaphthylene	4.375	0.10	5	0	87.5	47 - 120				
Anthracene	4.702	0.10	5	0	94.0	45 - 120				
Benz(a)anthracene	4.874	0.10	5	0	97.5	40 - 120				
Benzidine	0.688	0.20	5	0	13.8	10 - 120				
Benzo(a)pyrene	5.132	0.10	5	0	103	45 - 120				
Benzo(b)fluoranthene	5.907	0.10	5	0	118	50 - 120				
Benzo(g,h,i)perylene	4.948	0.10	5	0	99.0	42 - 127				
Benzo(k)fluoranthene	5.219	0.10	5	0	104	45 - 127				
Benzyl alcohol	3.813	0.20	5	0	76.3	35 - 122				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-162242	Units: ug/L			Analysis Date: 05-Feb-2021 10:57					
Client ID:	Run ID: SV-7_377601	SeqNo: 5950957	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	3.841	0.20	5	0	76.8	45 - 120				
Bis(2-chloroethyl)ether	4.561	0.20	5	0	91.2	37 - 121				
Bis(2-chloroisopropyl)ether	2.589	0.20	5	0	51.8	40 - 120				
Bis(2-ethylhexyl)phthalate	4.248	0.20	5	0	85.0	40 - 139				
Butyl benzyl phthalate	4.288	0.20	5	0	85.8	47 - 123				
Carbazole	4.749	0.20	5	0	95.0	42 - 128				
Chrysene	4.616	0.10	5	0	92.3	43 - 120				
Dibenz(a,h)anthracene	5.294	0.10	5	0	106	45 - 125				
Dibenzofuran	4.653	0.10	5	0	93.1	50 - 120				
Diethyl phthalate	3.8	0.20	5	0	76.0	41 - 120				
Dimethyl phthalate	4.493	0.20	5	0	89.9	40 - 122				
Di-n-butyl phthalate	4.835	0.20	5	0	96.7	45 - 123				
Di-n-octyl phthalate	4.583	0.20	5	0	91.7	45 - 129				
Fluoranthene	4.987	0.10	5	0	99.7	45 - 125				
Fluorene	4.023	0.10	5	0	80.5	49 - 120				
Hexachlorobenzene	5.121	0.20	5	0	102	48 - 120				
Hexachlorobutadiene	5.256	0.20	5	0	105	40 - 120				
Hexachlorocyclopentadiene	4.085	0.20	5	0	81.7	34 - 136				
Hexachloroethane	3.975	0.20	5	0	79.5	40 - 120				
Indeno(1,2,3-cd)pyrene	5.814	0.10	5	0	116	41 - 128				
Isophorone	3.514	0.20	5	0	70.3	40 - 121				
Naphthalene	4.423	0.10	5	0	88.5	45 - 120				
Nitrobenzene	3.506	0.20	5	0	70.1	44 - 120				
N-Nitrosodimethylamine	4.016	0.20	5	0	80.3	30 - 121				
N-Nitrosodi-n-propylamine	3.342	0.20	5	0	66.8	40 - 120				
N-Nitrosodiphenylamine	4.644	0.20	5	0	92.9	40 - 125				
Pentachlorophenol	3.798	0.20	5	0	76.0	19 - 121				
Phenanthrene	4.606	0.10	5	0	92.1	45 - 121				
Phenol	3.593	0.20	5	0	71.9	20 - 124				
Pyrene	4.613	0.10	5	0	92.3	40 - 130				
Pyridine	4.066	1.0	5	0	81.3	15 - 120				
Surr: 2,4,6-Tribromophenol	3.44	0.20	5	0	68.8	34 - 129				
Surr: 2-Fluorobiphenyl	4.698	0.20	5	0	94.0	40 - 125				
Surr: 2-Fluorophenol	4.557	0.20	5	0	91.1	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
LCS	Sample ID: LCS-162242	Units: ug/L			Analysis Date: 05-Feb-2021 10:57					
Client ID:	Run ID: SV-7_377601	SeqNo: 5950957		PrepDate: 04-Feb-2021		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	4.881	0.20	5	0	97.6	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.885	0.20	5	0	77.7	41 - 120				
<i>Surr: Phenol-d6</i>	3.998	0.20	5	0	80.0	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS21020037-01MS	Units: ug/L			Analysis Date: 04-Feb-2021 21:09					
Client ID:	Run ID: SV-7_377545	SeqNo: 5950959	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	4.043	0.20	5	0	80.9	45 - 120				
2,4,5-Trichlorophenol	4.08	0.20	5	0	81.6	46 - 120				
2,4,6-Trichlorophenol	5.11	0.20	5	0	102	42 - 120				
2,4-Dichlorophenol	2.998	0.20	5	0	60.0	49 - 120				
2,4-Dimethylphenol	3.702	0.20	5	0	74.0	35 - 120				
2,4-Dinitrophenol	3.166	1.0	5	0	63.3	15 - 120				
2,4-Dinitrotoluene	4.173	0.20	5	0	83.5	50 - 122				
2,6-Dinitrotoluene	4.242	0.20	5	0	84.8	50 - 120				
2-Chloronaphthalene	5.164	0.20	5	0	103	50 - 120				
2-Chlorophenol	3.969	0.20	5	0	79.4	40 - 120				
2-Methylnaphthalene	6.074	0.10	5	2.554	70.4	50 - 120				
2-Methylphenol	4.077	0.20	5	0	81.5	45 - 120				
2-Nitroaniline	3.528	0.20	5	0	70.6	28 - 139				
2-Nitrophenol	4.411	0.20	5	0	88.2	40 - 120				
3&4-Methylphenol	8.008	0.20	5	4.778	64.6	35 - 120				
3,3'-Dichlorobenzidine	0.06402	0.20	5	0	1.28	15 - 120				JS
3-Nitroaniline	2.18	0.20	5	0	43.6	30 - 120				
4,6-Dinitro-2-methylphenol	3.412	0.20	5	0	68.2	25 - 121				
4-Bromophenyl phenyl ether	4.787	0.20	5	0	95.7	45 - 120				
4-Chloro-3-methylphenol	3.171	0.20	5	0	63.4	47 - 120				
4-Chloroaniline	0.5925	0.20	5	0	11.8	20 - 120				S
4-Chlorophenyl phenyl ether	4.615	0.20	5	0	92.3	50 - 120				
4-Nitroaniline	1.463	0.20	5	0	29.3	30 - 133				S
4-Nitrophenol	3.035	1.0	5	0	60.7	30 - 130				
Acenaphthene	4.549	0.10	5	0.5847	79.3	45 - 120				
Acenaphthylene	4.786	0.10	5	0.9601	76.5	47 - 120				
Anthracene	4.172	0.10	5	0.07445	81.9	45 - 120				
Benz(a)anthracene	4.858	0.10	5	0	97.2	40 - 120				
Benzidine	< 0.10	0.20	5	0	0	10 - 120				S
Benzo(a)pyrene	4.923	0.10	5	0	98.5	45 - 120				
Benzo(b)fluoranthene	5.247	0.10	5	0	105	50 - 120				
Benzo(g,h,i)perylene	4.619	0.10	5	0	92.4	42 - 127				
Benzo(k)fluoranthene	4.598	0.10	5	0	92.0	45 - 127				
Benzyl alcohol	3.563	0.20	5	0	71.3	35 - 122				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS21020037-01MS	Units: ug/L			Analysis Date: 04-Feb-2021 21:09					
Client ID:	Run ID: SV-7_377545	SeqNo: 5950959	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	3.297	0.20	5	0	65.9	45 - 120				
Bis(2-chloroethyl)ether	4.208	0.20	5	0.5448	73.3	37 - 121				
Bis(2-chloroisopropyl)ether	2.441	0.20	5	0	48.8	40 - 120				
Bis(2-ethylhexyl)phthalate	3.704	0.20	5	0.1392	71.3	40 - 139				
Butyl benzyl phthalate	3.743	0.20	5	0	74.9	47 - 123				
Carbazole	5.123	0.20	5	0	102	42 - 128				
Chrysene	4.225	0.10	5	0	84.5	43 - 120				
Dibenz(a,h)anthracene	5.088	0.10	5	0	102	45 - 125				
Dibenzofuran	4.023	0.10	5	0	80.5	50 - 120				
Diethyl phthalate	4.327	0.20	5	0	86.5	41 - 120				
Dimethyl phthalate	4.223	0.20	5	0	84.5	40 - 122				
Di-n-butyl phthalate	5.526	0.20	5	0.6446	97.6	45 - 123				
Di-n-octyl phthalate	4.457	0.20	5	0	89.1	45 - 129				
Fluoranthene	4.093	0.10	5	0	81.9	45 - 125				
Fluorene	5.192	0.10	5	0.7923	88.0	49 - 120				
Hexachlorobenzene	4.669	0.20	5	0	93.4	48 - 120				
Hexachlorobutadiene	4.323	0.20	5	0	86.5	40 - 120				
Hexachlorocyclopentadiene	3.097	0.20	5	0	61.9	34 - 136				
Hexachloroethane	3.434	0.20	5	0	68.7	40 - 120				
Indeno(1,2,3-cd)pyrene	5.593	0.10	5	0	112	41 - 128				
Isophorone	3.231	0.20	5	0	64.6	40 - 121				
Naphthalene	30.72	0.10	5	30.55	3.47	45 - 120				SEO
Nitrobenzene	2.934	0.20	5	0	58.7	44 - 120				
N-Nitrosodimethylamine	3.347	0.20	5	0	66.9	30 - 121				
N-Nitrosodi-n-propylamine	3.012	0.20	5	0	60.2	40 - 120				
N-Nitrosodiphenylamine	4.507	0.20	5	0	90.1	40 - 125				
Pentachlorophenol	5.135	0.20	5	0	103	19 - 121				
Phenanthrene	5.013	0.10	5	0.322	93.8	45 - 121				
Phenol	15.25	0.20	5	12.28	59.4	20 - 124				E
Pyrene	4.01	0.10	5	0	80.2	40 - 130				
Pyridine	3.454	1.0	5	0	69.1	15 - 120				
Surr: 2,4,6-Tribromophenol	3.352	0.20	5	0	67.0	34 - 129				
Surr: 2-Fluorobiphenyl	4.201	0.20	5	0	84.0	40 - 125				
Surr: 2-Fluorophenol	3.586	0.20	5	0	71.7	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MS	Sample ID: HS21020037-01MS	Units: ug/L			Analysis Date: 04-Feb-2021 21:09					
Client ID:	Run ID: SV-7_377545	SeqNo: 5950959		PrepDate: 04-Feb-2021		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
<i>Surr: 4-Terphenyl-d14</i>	4.513	0.20	5	0	90.3	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.238	0.20	5	0	64.8	41 - 120				
<i>Surr: Phenol-d6</i>	3.709	0.20	5	0	74.2	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS21020037-01MSD	Units: ug/L			Analysis Date: 04-Feb-2021 21:28					
Client ID:	Run ID: SV-7_377545	SeqNo: 5950960	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3.952	0.20	5	0	79.0	45 - 120	4.043	2.26	20	
2,4,5-Trichlorophenol	3.317	0.20	5	0	66.3	46 - 120	4.08	20.6	20	R
2,4,6-Trichlorophenol	4.474	0.20	5	0	89.5	42 - 120	5.11	13.3	20	
2,4-Dichlorophenol	16.59	0.20	5	0	332	49 - 120	2.998	139	20	SRE
2,4-Dimethylphenol	3.77	0.20	5	0	75.4	35 - 120	3.702	1.8	20	
2,4-Dinitrophenol	2.316	1.0	5	0	46.3	15 - 120	3.166	31	50	
2,4-Dinitrotoluene	3.316	0.20	5	0	66.3	50 - 122	4.173	22.9	20	R
2,6-Dinitrotoluene	3.493	0.20	5	0	69.9	50 - 120	4.242	19.4	20	
2-Chloronaphthalene	4.48	0.20	5	0	89.6	50 - 120	5.164	14.2	20	
2-Chlorophenol	3.651	0.20	5	0	73.0	40 - 120	3.969	8.34	20	
2-Methylnaphthalene	6.277	0.10	5	2.554	74.5	50 - 120	6.074	3.28	20	
2-Methylphenol	4.121	0.20	5	0	82.4	45 - 120	4.077	1.06	20	
2-Nitroaniline	2.838	0.20	5	0	56.8	28 - 139	3.528	21.7	20	R
2-Nitrophenol	4.339	0.20	5	0	86.8	40 - 120	4.411	1.64	20	
3&4-Methylphenol	8.585	0.20	5	4.778	76.1	35 - 120	8.008	6.95	20	
3,3'-Dichlorobenzidine	0.1093	0.20	5	0	2.19	15 - 120	0.06402	0	20	JS
3-Nitroaniline	2.174	0.20	5	0	43.5	30 - 120	2.18	0.235	20	
4,6-Dinitro-2-methylphenol	3.084	0.20	5	0	61.7	25 - 121	3.412	10.1	30	
4-Bromophenyl phenyl ether	3.895	0.20	5	0	77.9	45 - 120	4.787	20.6	20	R
4-Chloro-3-methylphenol	5.661	0.20	5	0	113	47 - 120	3.171	56.4	20	R
4-Chloroaniline	0.9903	0.20	5	0	19.8	20 - 120	0.5925	50.3	20	SR
4-Chlorophenyl phenyl ether	3.648	0.20	5	0	73.0	50 - 120	4.615	23.4	20	R
4-Nitroaniline	1.739	0.20	5	0	34.8	30 - 133	1.463	17.2	20	
4-Nitrophenol	2.114	1.0	5	0	42.3	30 - 130	3.035	35.8	20	R
Acenaphthene	3.804	0.10	5	0.5847	64.4	45 - 120	4.549	17.8	20	
Acenaphthylene	4.243	0.10	5	0.9601	65.7	47 - 120	4.786	12	20	
Anthracene	3.83	0.10	5	0.07445	75.1	45 - 120	4.172	8.54	20	
Benz(a)anthracene	4.408	0.10	5	0	88.2	40 - 120	4.858	9.7	20	
Benzidine	0.1031	0.20	5	0	2.06	10 - 120	0	0	30	JS
Benzo(a)pyrene	4.681	0.10	5	0	93.6	45 - 120	4.923	5.03	20	
Benzo(b)fluoranthene	5	0.10	5	0	100	50 - 120	5.247	4.82	20	
Benzo(g,h,i)perylene	4.391	0.10	5	0	87.8	42 - 127	4.619	5.05	20	
Benzo(k)fluoranthene	4.625	0.10	5	0	92.5	45 - 127	4.598	0.605	20	
Benzyl alcohol	3.719	0.20	5	0	74.4	35 - 122	3.563	4.27	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS21020037-01MSD	Units: ug/L			Analysis Date: 04-Feb-2021 21:28					
Client ID:	Run ID: SV-7_377545	SeqNo: 5950960	PrepDate: 04-Feb-2021	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bis(2-chloroethoxy)methane	3.137	0.20	5	0	62.7	45 - 120	3.297	4.98	20	
Bis(2-chloroethyl)ether	4.237	0.20	5	0.5448	73.8	37 - 121	4.208	0.67	20	
Bis(2-chloroisopropyl)ether	2.36	0.20	5	0	47.2	40 - 120	2.441	3.4	20	
Bis(2-ethylhexyl)phthalate	3.564	0.20	5	0.1392	68.5	40 - 139	3.704	3.84	20	
Butyl benzyl phthalate	3.517	0.20	5	0	70.3	47 - 123	3.743	6.23	20	
Carbazole	4.36	0.20	5	0	87.2	42 - 128	5.123	16.1	20	
Chrysene	3.897	0.10	5	0	77.9	43 - 120	4.225	8.07	20	
Dibenz(a,h)anthracene	4.529	0.10	5	0	90.6	45 - 125	5.088	11.6	20	
Dibenzofuran	3.587	0.10	5	0	71.7	50 - 120	4.023	11.5	20	
Diethyl phthalate	3.603	0.20	5	0	72.1	41 - 120	4.327	18.3	20	
Dimethyl phthalate	3.561	0.20	5	0	71.2	40 - 122	4.223	17	20	
Di-n-butyl phthalate	4.913	0.20	5	0.6446	85.4	45 - 123	5.526	11.8	20	
Di-n-octyl phthalate	4.216	0.20	5	0	84.3	45 - 129	4.457	5.56	20	
Fluoranthene	4.895	0.10	5	0	97.9	45 - 125	4.093	17.8	20	
Fluorene	4.481	0.10	5	0.7923	73.8	49 - 120	5.192	14.7	20	
Hexachlorobenzene	4.172	0.20	5	0	83.4	48 - 120	4.669	11.2	20	
Hexachlorobutadiene	4.171	0.20	5	0	83.4	40 - 120	4.323	3.58	20	
Hexachlorocyclopentadiene	2.714	0.20	5	0	54.3	34 - 136	3.097	13.2	20	
Hexachloroethane	3.344	0.20	5	0	66.9	40 - 120	3.434	2.66	20	
Indeno(1,2,3-cd)pyrene	5.295	0.10	5	0	106	41 - 128	5.593	5.48	20	
Isophorone	3.179	0.20	5	0	63.6	40 - 121	3.231	1.62	20	
Naphthalene	34.43	0.10	5	30.55	77.7	45 - 120	30.72	11.4	20	EO
Nitrobenzene	2.817	0.20	5	0	56.3	44 - 120	2.934	4.09	20	
N-Nitrosodimethylamine	2.733	0.20	5	0	54.7	30 - 121	3.347	20.2	20	R
N-Nitrosodi-n-propylamine	3.017	0.20	5	0	60.3	40 - 120	3.012	0.176	20	
N-Nitrosodiphenylamine	3.762	0.20	5	0	75.2	40 - 125	4.507	18	20	
Pentachlorophenol	4.279	0.20	5	0	85.6	19 - 121	5.135	18.2	20	
Phenanthrene	4.656	0.10	5	0.322	86.7	45 - 121	5.013	7.38	20	
Phenol	17.64	0.20	5	12.28	107	20 - 124	15.25	14.6	20	E
Pyrene	4.399	0.10	5	0	88.0	40 - 130	4.01	9.26	20	
Pyridine	3.104	1.0	5	0	62.1	15 - 120	3.454	10.7	20	
Surr: 2,4,6-Tribromophenol	4.45	0.20	5	0	89.0	34 - 129	3.352	28.2	20	R
Surr: 2-Fluorobiphenyl	3.404	0.20	5	0	68.1	40 - 125	4.201	21	20	R
Surr: 2-Fluorophenol	4.008	0.20	5	0	80.2	20 - 120	3.586	11.1	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162242 (1)		Instrument: SV-7		Method: LOW-LEVEL SEMIVOLATILES BY 8270D						
MSD	Sample ID: HS21020037-01MSD	Units: ug/L			Analysis Date: 04-Feb-2021 21:28					
Client ID:	Run ID: SV-7_377545	SeqNo: 5950960		PrepDate: 04-Feb-2021		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
<i>Surr: 4-Terphenyl-d14</i>	4.865	0.20	5	0	97.3	40 - 135	4.513	7.51	20	
<i>Surr: Nitrobenzene-d5</i>	3.09	0.20	5	0	61.8	41 - 120	3.238	4.68	20	
<i>Surr: Phenol-d6</i>	3.001	0.20	5	0	60.0	20 - 120	3.709	21.1	20	R

The following samples were analyzed in this batch: HS21020087-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0)		Instrument: VOA7		Method: LOW LEVEL VOLATILES BY SW8260C						
MBLK	Sample ID: VBLKW-210205	Units: ug/L			Analysis Date: 05-Feb-2021 23:33					
Client ID:	Run ID: VOA7_377645	SeqNo: 5946850	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	< 0.20	1.0								
1,1,2,2-Tetrachloroethane	< 0.50	1.0								
1,1,2-Trichloroethane	< 0.30	1.0								
1,1-Dichloroethane	< 0.20	1.0								
1,1-Dichloroethene	< 0.20	1.0								
1,2-Dichlorobenzene	< 0.50	1.0								
1,2-Dichloroethane	< 0.20	1.0								
1,2-Dichloropropane	< 0.50	1.0								
1,3-Dichlorobenzene	< 0.40	1.0								
1,4-Dichlorobenzene	< 0.40	1.0								
2-Butanone	< 0.50	2.0								
2-Hexanone	< 1.0	2.0								
4-Methyl-2-pentanone	< 0.70	2.0								
Acetone	< 2.0	2.0								
Benzene	< 0.20	1.0								
Bromochloromethane	< 0.20	1.0								
Bromodichloromethane	< 0.20	1.0								
Bromoform	< 0.40	1.0								
Bromomethane	< 0.40	1.0								
Carbon disulfide	< 0.60	2.0								
Carbon tetrachloride	< 0.50	1.0								
Chlorobenzene	< 0.30	1.0								
Chloroethane	< 0.30	1.0								
Chloroform	< 0.20	1.0								
Chloromethane	< 0.20	1.0								
cis-1,2-Dichloroethene	< 0.20	1.0								
cis-1,3-Dichloropropene	< 0.10	1.0								
Dibromochloromethane	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								
m,p-Xylene	< 0.50	2.0								
Methylene chloride	< 1.0	2.0								
o-Xylene	< 0.30	1.0								
Styrene	< 0.30	1.0								
Tetrachloroethene	< 0.30	1.0								

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0)		Instrument: VOA7		Method: LOW LEVEL VOLATILES BY SW8260C						
MBLK	Sample ID: VBLKW-210205	Units: ug/L			Analysis Date: 05-Feb-2021 23:33					
Client ID:	Run ID: VOA7_377645	SeqNo: 5946850		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	< 0.20	1.0								
trans-1,2-Dichloroethene	< 0.20	1.0								
trans-1,3-Dichloropropene	< 0.20	1.0								
Trichloroethene	< 0.20	1.0								
Vinyl acetate	< 0.50	1.0								
Vinyl chloride	< 0.20	1.0								
Xylenes, Total	< 0.30	1.0								
1,2-Dichloroethene, Total	< 0.20	1.0								
<i>Surr: 1,2-Dichloroethane-d4</i>	47.33	1.0	50	0	94.7	70 - 123				
<i>Surr: 4-Bromofluorobenzene</i>	46.8	1.0	50	0	93.6	82 - 115				
<i>Surr: Dibromofluoromethane</i>	49.5	1.0	50	0	99.0	73 - 126				
<i>Surr: Toluene-d8</i>	49.7	1.0	50	0	99.4	81 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0)		Instrument: VOA7		Method: LOW LEVEL VOLATILES BY SW8260C						
LCS	Sample ID: VLCSW-210205	Units: ug/L			Analysis Date: 05-Feb-2021 22:48					
Client ID:	Run ID: VOA7_377645	SeqNo: 5946849	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.57	1.0	20	0	97.9	70 - 130				
1,1,2,2-Tetrachloroethane	19.58	1.0	20	0	97.9	70 - 120				
1,1,2-Trichloroethane	19.12	1.0	20	0	95.6	77 - 113				
1,1-Dichloroethane	20.86	1.0	20	0	104	71 - 122				
1,1-Dichloroethene	19.79	1.0	20	0	99.0	70 - 130				
1,2-Dichlorobenzene	20.06	1.0	20	0	100	77 - 113				
1,2-Dichloroethane	17.73	1.0	20	0	88.6	70 - 124				
1,2-Dichloropropane	19.89	1.0	20	0	99.5	72 - 119				
1,3-Dichlorobenzene	20.11	1.0	20	0	101	78 - 118				
1,4-Dichlorobenzene	19.22	1.0	20	0	96.1	79 - 113				
2-Butanone	33.43	2.0	40	0	83.6	70 - 130				
2-Hexanone	39.79	2.0	40	0	99.5	70 - 130				
4-Methyl-2-pentanone	41.78	2.0	40	0	104	70 - 130				
Acetone	39.61	2.0	40	0	99.0	70 - 130				
Benzene	20.71	1.0	20	0	104	74 - 120				
Bromochloromethane	18.92	1.0	20	0	94.6	76 - 124				
Bromodichloromethane	18.55	1.0	20	0	92.8	74 - 122				
Bromoform	18.75	1.0	20	0	93.7	73 - 128				
Bromomethane	19.79	1.0	20	0	99.0	70 - 130				
Carbon disulfide	41.94	2.0	40	0	105	70 - 130				
Carbon tetrachloride	16.54	1.0	20	0	82.7	71 - 125				
Chlorobenzene	19.53	1.0	20	0	97.6	76 - 113				
Chloroethane	18.48	1.0	20	0	92.4	70 - 130				
Chloroform	19.6	1.0	20	0	98.0	71 - 121				
Chloromethane	25.4	1.0	20	0	127	70 - 129				
cis-1,2-Dichloroethene	19.64	1.0	20	0	98.2	75 - 122				
cis-1,3-Dichloropropene	18.72	1.0	20	0	93.6	73 - 127				
Dibromochloromethane	18.43	1.0	20	0	92.2	77 - 122				
Ethylbenzene	19.57	1.0	20	0	97.8	77 - 117				
m,p-Xylene	39.34	2.0	40	0	98.3	77 - 122				
Methylene chloride	22.11	2.0	20	0	111	70 - 127				
o-Xylene	19.31	1.0	20	0	96.6	75 - 119				
Styrene	19.16	1.0	20	0	95.8	72 - 126				
Tetrachloroethene	20.9	1.0	20	0	104	76 - 119				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0) **Instrument:** VOA7 **Method:** LOW LEVEL VOLATILES BY SW8260C

LCS		Sample ID: VLCSW-210205			Units: ug/L		Analysis Date: 05-Feb-2021 22:48			
Client ID:		Run ID: VOA7_377645			SeqNo: 5946849		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	20.12	1.0	20	0	101	77 - 118				
trans-1,2-Dichloroethene	20.96	1.0	20	0	105	72 - 127				
trans-1,3-Dichloropropene	18.02	1.0	20	0	90.1	77 - 119				
Trichloroethene	20.33	1.0	20	0	102	77 - 121				
Vinyl acetate	35.22	1.0	40	0	88.0	70 - 130				
Vinyl chloride	20.34	1.0	20	0	102	70 - 130				
Xylenes, Total	58.65	1.0	60	0	97.7	75 - 122				
1,2-Dichloroethene, Total	40.59	1.0	40	0	101	72 - 127				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.22</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.4</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.16</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.3</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>48.49</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.0</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>50.07</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: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0)		Instrument: VOA7		Method: LOW LEVEL VOLATILES BY SW8260C						
MS	Sample ID: HS21020248-01MS	Units: ug/L			Analysis Date: 06-Feb-2021 01:04					
Client ID:	Run ID: VOA7_377645	SeqNo: 5946854	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	18.35	1.0	20	0	91.7	70 - 130				
1,1,2,2-Tetrachloroethane	19.5	1.0	20	0	97.5	70 - 123				
1,1,2-Trichloroethane	17.73	1.0	20	0	88.7	70 - 117				
1,1-Dichloroethane	19.46	1.0	20	0	97.3	70 - 127				
1,1-Dichloroethene	18.52	1.0	20	0	92.6	70 - 130				
1,2-Dichlorobenzene	18.38	1.0	20	0	91.9	70 - 115				
1,2-Dichloroethane	16.86	1.0	20	0	84.3	70 - 127				
1,2-Dichloropropane	17.88	1.0	20	0	89.4	70 - 122				
1,3-Dichlorobenzene	18.5	1.0	20	0	92.5	70 - 119				
1,4-Dichlorobenzene	17.53	1.0	20	0	87.6	70 - 114				
2-Butanone	33.79	2.0	40	0	84.5	70 - 130				
2-Hexanone	42.55	2.0	40	0	106	70 - 130				
4-Methyl-2-pentanone	45.42	2.0	40	0	114	70 - 130				
Acetone	38.14	2.0	40	0	95.3	70 - 130				
Benzene	19.01	1.0	20	0	95.0	70 - 127				
Bromochloromethane	17.64	1.0	20	0	88.2	70 - 127				
Bromodichloromethane	16.7	1.0	20	0	83.5	70 - 124				
Bromoform	17.74	1.0	20	0	88.7	70 - 129				
Bromomethane	18.18	1.0	20	0	90.9	70 - 130				
Carbon disulfide	38.86	2.0	40	0	97.1	70 - 130				
Carbon tetrachloride	14.84	1.0	20	0	74.2	70 - 130				
Chlorobenzene	17.59	1.0	20	0	87.9	70 - 114				
Chloroethane	17.13	1.0	20	0	85.7	70 - 130				
Chloroform	17.96	1.0	20	0	89.8	70 - 125				
Chloromethane	24.71	1.0	20	0	124	70 - 130				
cis-1,2-Dichloroethene	18.1	1.0	20	0	90.5	70 - 128				
cis-1,3-Dichloropropene	16.47	1.0	20	0	82.4	70 - 125				
Dibromochloromethane	17.08	1.0	20	0	85.4	70 - 124				
Ethylbenzene	17.73	1.0	20	0	88.6	70 - 124				
m,p-Xylene	35.34	2.0	40	0	88.4	70 - 130				
Methylene chloride	20.08	2.0	20	0	100	70 - 128				
o-Xylene	17.59	1.0	20	0	87.9	70 - 124				
Styrene	17.12	1.0	20	0	85.6	70 - 130				
Tetrachloroethene	19.2	1.0	20	0	96.0	70 - 130				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0) **Instrument:** VOA7 **Method:** LOW LEVEL VOLATILES BY SW8260C

MS		Sample ID: HS21020248-01MS			Units: ug/L		Analysis Date: 06-Feb-2021 01:04			
Client ID:		Run ID: VOA7_377645			SeqNo: 5946854		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	18.41	1.0	20	0	92.0	70 - 123				
trans-1,2-Dichloroethene	18.97	1.0	20	0	94.8	70 - 130				
trans-1,3-Dichloropropene	16.34	1.0	20	0	81.7	70 - 121				
Trichloroethene	18.63	1.0	20	0	93.1	70 - 129				
Vinyl acetate	35.78	1.0	40	0	89.5	70 - 130				
Vinyl chloride	19.59	1.0	20	0	97.9	70 - 130				
Xylenes, Total	52.93	1.0	60	0	88.2	70 - 130				
1,2-Dichloroethene, Total	37.06	1.0	40	0	92.7	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.4</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.19</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.4</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>48.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.5</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.67</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0)		Instrument: VOA7		Method: LOW LEVEL VOLATILES BY SW8260C						
MSD	Sample ID: HS21020248-01MSD	Units: ug/L			Analysis Date: 06-Feb-2021 01:26					
Client ID:	Run ID: VOA7_377645	SeqNo: 5946855		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	17.5	1.0	20	0	87.5	70 - 130	18.35	4.74	20	
1,1,2,2-Tetrachloroethane	17.33	1.0	20	0	86.6	70 - 123	19.5	11.8	20	
1,1,2-Trichloroethane	16.76	1.0	20	0	83.8	70 - 117	17.73	5.67	20	
1,1-Dichloroethane	18.27	1.0	20	0	91.4	70 - 127	19.46	6.29	20	
1,1-Dichloroethene	17.46	1.0	20	0	87.3	70 - 130	18.52	5.89	20	
1,2-Dichlorobenzene	16.33	1.0	20	0	81.7	70 - 115	18.38	11.8	20	
1,2-Dichloroethane	15.36	1.0	20	0	76.8	70 - 127	16.86	9.31	20	
1,2-Dichloropropane	17.15	1.0	20	0	85.8	70 - 122	17.88	4.13	20	
1,3-Dichlorobenzene	16.19	1.0	20	0	80.9	70 - 119	18.5	13.3	20	
1,4-Dichlorobenzene	15.58	1.0	20	0	77.9	70 - 114	17.53	11.8	20	
2-Butanone	31.19	2.0	40	0	78.0	70 - 130	33.79	8	20	
2-Hexanone	39.34	2.0	40	0	98.3	70 - 130	42.55	7.84	20	
4-Methyl-2-pentanone	41.66	2.0	40	0	104	70 - 130	45.42	8.63	20	
Acetone	35.2	2.0	40	0	88.0	70 - 130	38.14	8	20	
Benzene	18.11	1.0	20	0	90.6	70 - 127	19.01	4.84	20	
Bromochloromethane	15.7	1.0	20	0	78.5	70 - 127	17.64	11.6	20	
Bromodichloromethane	15.69	1.0	20	0	78.4	70 - 124	16.7	6.25	20	
Bromoform	16.57	1.0	20	0	82.9	70 - 129	17.74	6.8	20	
Bromomethane	16.69	1.0	20	0	83.4	70 - 130	18.18	8.55	20	
Carbon disulfide	36.7	2.0	40	0	91.7	70 - 130	38.86	5.72	20	
Carbon tetrachloride	14.73	1.0	20	0	73.6	70 - 130	14.84	0.745	20	
Chlorobenzene	16.28	1.0	20	0	81.4	70 - 114	17.59	7.73	20	
Chloroethane	16.4	1.0	20	0	82.0	70 - 130	17.13	4.33	20	
Chloroform	16.88	1.0	20	0	84.4	70 - 125	17.96	6.21	20	
Chloromethane	22.92	1.0	20	0	115	70 - 130	24.71	7.5	20	
cis-1,2-Dichloroethene	16.69	1.0	20	0	83.4	70 - 128	18.1	8.1	20	
cis-1,3-Dichloropropene	15.67	1.0	20	0	78.3	70 - 125	16.47	5.02	20	
Dibromochloromethane	15.98	1.0	20	0	79.9	70 - 124	17.08	6.62	20	
Ethylbenzene	16.5	1.0	20	0	82.5	70 - 124	17.73	7.2	20	
m,p-Xylene	33.3	2.0	40	0	83.3	70 - 130	35.34	5.94	20	
Methylene chloride	18.69	2.0	20	0	93.4	70 - 128	20.08	7.18	20	
o-Xylene	16.22	1.0	20	0	81.1	70 - 124	17.59	8.09	20	
Styrene	15.76	1.0	20	0	78.8	70 - 130	17.12	8.29	20	
Tetrachloroethene	18.17	1.0	20	0	90.8	70 - 130	19.2	5.53	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377645 (0) **Instrument:** VOA7 **Method:** LOW LEVEL VOLATILES BY SW8260C

MSD	Sample ID: HS21020248-01MSD	Units: ug/L			Analysis Date: 06-Feb-2021 01:26					
Client ID:	Run ID: VOA7_377645	SeqNo: 5946855	PrepDate:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	17.29	1.0	20	0	86.5	70 - 123	18.41	6.25	20	
trans-1,2-Dichloroethene	18.19	1.0	20	0	91.0	70 - 130	18.97	4.17	20	
trans-1,3-Dichloropropene	15.33	1.0	20	0	76.7	70 - 121	16.34	6.38	20	
Trichloroethene	17.52	1.0	20	0	87.6	70 - 129	18.63	6.12	20	
Vinyl acetate	33.53	1.0	40	0	83.8	70 - 130	35.78	6.5	20	
Vinyl chloride	18.75	1.0	20	0	93.7	70 - 130	19.59	4.39	20	
Xylenes, Total	49.53	1.0	60	0	82.5	70 - 130	52.93	6.65	20	
1,2-Dichloroethene, Total	34.88	1.0	40	0	87.2	70 - 130	37.06	6.07	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.1</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.2</i>	<i>70 - 126</i>	<i>48.71</i>	<i>1.25</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.4</i>	<i>81 - 113</i>	<i>49.19</i>	<i>1.06</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>48.55</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.1</i>	<i>77 - 123</i>	<i>48.73</i>	<i>0.375</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.35</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>	<i>50.67</i>	<i>0.632</i>	<i>20</i>	

The following samples were analyzed in this batch: HS21020087-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: 162434 (0)	Instrument: UV-2450	Method: CYANIDE - SW9014
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MBLK	Sample ID: MBLK-162434	Units: mg/L	Analysis Date: 09-Feb-2021 15:00							
Client ID:	Run ID: UV-2450_377816	SeqNo: 5950714	PrepDate: 09-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide < 0.00200 0.00500

LCS	Sample ID: LCS-162434	Units: mg/L	Analysis Date: 09-Feb-2021 15:00							
Client ID:	Run ID: UV-2450_377816	SeqNo: 5950713	PrepDate: 09-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide 0.179 0.00500 0.2 0 89.5 80 - 120

MS	Sample ID: HS21020215-01MS	Units: mg/L	Analysis Date: 09-Feb-2021 15:00							
Client ID:	Run ID: UV-2450_377816	SeqNo: 5950711	PrepDate: 09-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide 0.173 0.00500 0.2 0 86.5 80 - 120

MSD	Sample ID: HS21020215-01MSD	Units: mg/L	Analysis Date: 09-Feb-2021 15:00							
Client ID:	Run ID: UV-2450_377816	SeqNo: 5950712	PrepDate: 09-Feb-2021 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual

Cyanide 0.185 0.00500 0.2 0 92.5 80 - 120 0.173 6.7 20

The following samples were analyzed in this batch: HS21020087-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377430 (0)	Instrument: WetChem_HS	Method: SULFIDE BY SM4500 S2-F
--------------------------------	-------------------------------	---------------------------------------

MBLK	Sample ID: MBLK-R377430	Units: mg/L	Analysis Date: 03-Feb-2021 11:10							
Client ID:	Run ID: WetChem_HS_377430	SeqNo: 5942364	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide < 1.00 1.00

LCS	Sample ID: LCS-R377430	Units: mg/L	Analysis Date: 03-Feb-2021 11:10							
Client ID:	Run ID: WetChem_HS_377430	SeqNo: 5942363	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide 24.04 1.00 25 0 96.2 85 - 115

LCSD	Sample ID: LCSD-R377430	Units: mg/L	Analysis Date: 03-Feb-2021 11:10							
Client ID:	Run ID: WetChem_HS_377430	SeqNo: 5942362	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide 23.84 1.00 25 0 95.4 85 - 115 24.04 0.835 20

MS	Sample ID: HS21011100-01MS	Units: mg/L	Analysis Date: 03-Feb-2021 11:10							
Client ID:	Run ID: WetChem_HS_377430	SeqNo: 5942365	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Sulfide 23.04 1.00 25 -1.16 96.8 80 - 120

The following samples were analyzed in this batch: HS21020087-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377470 (0) **Instrument:** WetChem_HS **Method:** FLASH POINT BY PENSKY-MARTENS SW1010A

LCS Sample ID: **LCS-R377470** Units: °F Analysis Date: **04-Feb-2021 07:30**
 Client ID: Run ID: **WetChem_HS_377470** SeqNo: **5943317** PrepDate: DF: **1**
 Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Ignitability 80.21 70.0 81 0 99.0 95 - 105

DUP Sample ID: **HS21011187-02DUP** Units: °F Analysis Date: **04-Feb-2021 07:30**
 Client ID: Run ID: **WetChem_HS_377470** SeqNo: **5943318** PrepDate: DF: **1**
 Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Ignitability > 212 70.0 0 0 20

The following samples were analyzed in this batch:

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

QC BATCH REPORT

Batch ID: R377524 (0)		Instrument: WetChem_HS		Method: PH BY SM4500H+ B						
DUP	Sample ID: HS21020186-01DUP	Units: pH Units		Analysis Date: 04-Feb-2021 14:25						
Client ID:	Run ID: WetChem_HS_377524	SeqNo: 5944187		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	6.77	0.100					6.79	0.295	10	
Temp Deg C @pH	22.6	0					22.5	0.443	10	

The following samples were analyzed in this batch:

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS21020087

**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/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2021	31-Dec-2021
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2020-165	31-Aug-2021
Texas	T104704231-20-26	30-Apr-2021

Sample Receipt Checklist

Work Order ID: HS21020087

Date/Time Received: **02-Feb-2021 13:10**

Client Name: PBW

Received by: **Jared R. Makan**

Completed By: <u>/S/ Jared R. Makan</u>	02-Feb-2021 17:52	Reviewed by: <u>/S/ Dane J. Wacasey</u>	09-Feb-2021 23:03
eSignature	Date/Time	eSignature	Date/Time

Matrices: **Water**

Carrier name: **Client**

- | | | | |
|---|---|-----------------------------|---|
| 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 type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" 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 type="checkbox"/> | Not Present <input checked="" 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:212140 |
| 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):	0.6°C UC/C
Cooler(s)/Kit(s):	46386
Date/Time sample(s) sent to storage:	02/02/2021 15:55

- | | | | |
|--|---|--|---|
| 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

Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511

Holland, MI
+1 616 399 6070

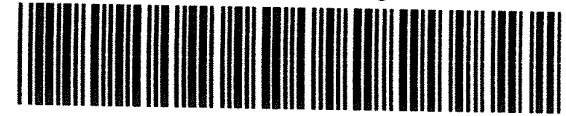
Chain of Custody Form

Page of

COC ID: 212140

HS21020087

Golder Associates Inc.
Houston TX-Wood Preserving Works IDW



ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs 1620-24	Project Name	Houston TX-Wood Preserving Works IDWW
Work Order		Project Number	1620-24-Rev0 SR 92688
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P Accounts
Send Report To	Eric Matzner	Invoice Attn	Payable
Address	2201 Double Creek Drive	Address	1400 Douglas Street
	Suite 4004		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	WW-1620-1DW-20210202	2-2-21	1200	Water	1,2,4,7,8	12	X	X	X	X	X	X	X	X			
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Tim McSpedde</i> <i>J. Matzner</i>		Shipment Method <i>Hand Delivered</i>		Required Turnaround Time: (Check Box) <input type="checkbox"/> Other <input type="checkbox"/> STD 10 Wk Days <input checked="" 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>2/2/21</i>	Time: <i>13:10</i>	Received by: <i>[Signature]</i>		Notes: UPRR HWPW 1620-24 <i>WR#00354</i>		
Relinquished by: <i>[Signature]</i>		Date: <i>2/2/21</i>	Time: <i>13:10</i>	Received by (Laboratory): <i>J. Matzner</i>		Cooler ID: <i>46386</i>	Cooler Temp: <i>0.6°C</i>	QC Package: (Check One Box Below)
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		<input checked="" type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist	
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 Data	<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SWB#4/CLP	<input type="checkbox"/> Other	

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

1025 CFO

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