GILES
ENGINEERING ASSOCIATES, INC.
GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

• Atlanta, GA
• Dallas, TX
• Los Angeles, CA
• Manassas, VA
• Milwaukee, WI

October 29, 2019

Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212

Attention: Mr. John Hnat, Hydrogeologist c/o Ms. Jennifer Dorman, Environmental Program Associate

Subject: Supplement to Site SI/RAP
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
BRRTS No. 02-41-562331
Giles Project No. 1E-1903017

Dear Mr. Hnat:

Premised on your request for additional soil data at the subject Site, Giles Engineering Associates, Inc. (Giles) provides the requested data as a supplement to the document titled: *Supplemental Site Investigation Report and Conceptual Remedial Action Plan, Proposed Glendale Apartments and Townhomes, 2510 West Good Hope Road, Glendale, Wisconsin* dated August 28, 2019.

Advancement of Soil Borings

Giles advanced four additional soil borings including one boring at the location of existing borings B-7 and B-9 where polycyclic aromatic hydrocarbon (PAH) samples were collected, and borings B-20 and B-21 on the eastern property boundary for analysis of PAHs and arsenic to verify conditions on the east property line (Figure 2). The borings were abandoned with bentonite pellets after sampling was completed.

Collection of Samples

Utilizing a direct-push (Geoprobe®) rig, Giles advanced the four borings on October 4, 2019. A continuous sequence of soil samples were recovered to a depth of 8' into acetate-lined, 4-foot-long split-spoon samplers. The logs for the borings serve as attachments to this document.

Analysis of Samples

Samples were collected from depths of 2 to 4 feet and 6 to 8 feet and submitted to a State-certified laboratory for PAH compound and arsenic analyses in accordance with United States Environmental Protection Agency Methods 8070 and 6010, respectively.

The analytical results are presented in Tables 1 and 2 and the associated laboratory reports serve as attachments to this document.

Closing

Please contact the undersigned with any comments you may have about the investigation, mitigation activities, or our request for a no further action assignment for this Site.

Sincerely yours,

Kevin T. Bugel, P.G., C.P.G.
Environmental Division Manager

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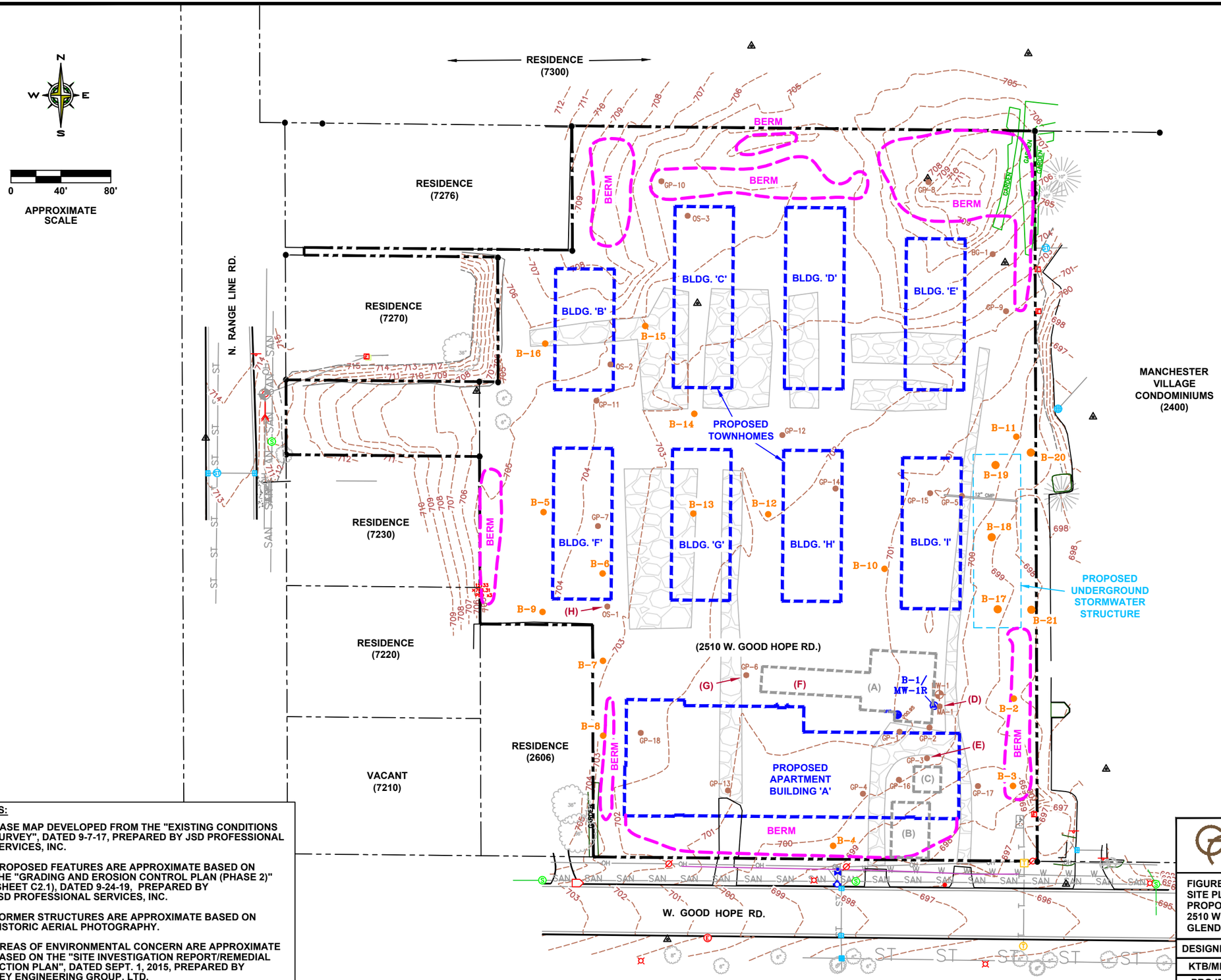
Attachments

Figure 2
Boring Logs
Data Tables 1 and 2
Analytical Reports



AREAS OF ENVIRONMENTAL CONCERN, IDENTIFIED BY KEY ENGINEERING:

(A)	FORMER BUILDING
(B)	FORMER HOUSE
(C)	FORMER GARAGE
(D)	SUSPECTED PESTICIDE / HERBICIDE MIXING AREA
(E)	SUSPECTED AREA OF GASOLINE UST
(F)	PESTICIDE STORAGE
(G)	FUEL OIL UST
(H)	PETROLEUM-BASED FUEL USE

LEGEND:

BERM	APPROXIMATE AREA OF PROPOSED BERM
(2510)	PROPERTY ADDRESS
B-1/ MW-1R	PREVIOUS GROUNDWATER MONITORING WELL (PROJECT NO. 1E-1603006)
B-2	SOIL SAMPLE
MW-1	MONITORING WELL (BY OTHERS)
MA-1 GP-1	BORINGS (BY OTHERS)

NOTES:

1.) BASE MAP DEVELOPED FROM THE "EXISTING CONDITIONS SURVEY", DATED 9-7-17, PREPARED BY JSD PROFESSIONAL SERVICES, INC.

2.) PROPOSED FEATURES ARE APPROXIMATE BASED ON THE "GRADING AND EROSION CONTROL PLAN (PHASE 2)" (SHEET C2.1), DATED 9-24-19, PREPARED BY JSD PROFESSIONAL SERVICES, INC.

3.) FORMER STRUCTURES ARE APPROXIMATE BASED ON HISTORIC AERIAL PHOTOGRAPHY.

4.) AREAS OF ENVIRONMENTAL CONCERN ARE APPROXIMATE BASED ON THE "SITE INVESTIGATION REPORT/REMEDIAL ACTION PLAN", DATED SEPT. 1, 2015, PREPARED BY KEY ENGINEERING GROUP, LTD.

GILES ENGINEERING ASSOCIATES, INC.
N8 W22350 JOHNSON DRIVE, SUITE A1
WAUKESHA, WI 53186 (262)544-0118

FIGURE 2
SITE PLAN
PROPOSED GLENDALE APARTMENTS AND TOWNHOMES
2510 WEST GOOD HOPE ROAD
GLENDALE, WISCONSIN

DESIGNED	DRAWN	SCALE	DATE	REVISED
KTB/MB	JSZ	approx. 1"=80'	09-24-19	10-29-19
PROJECT NO.: 1E-1903017			CAD No. 1E1903017Z3	

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Glendale Apartments and Townhomes 1E-1903017		B-7

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
James Blair, Giles Engineering Associates, Inc.	10/4/2019	10/4/2019	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☐)
State Plane S/C/N
SE 1/4 of SW 1/4 of Section 18, T 08 N, R 22 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
Feet ☐ N Feet ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Glendale

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Dark Brown Clayey Silt Topsoil with trace coarse Gravel, suspected Fill-Moist	OL			0.3						
DP-1	60/30		2	Tan-Brown Silt, some Clay and trace fine Gravel, Native-Moist										
			3					0.2						
			4											
			5		ML			0.3						
			6											
			7					0.3						
DP-2	36/36		8	Wet at 7.6 feet										
				Boring terminated at 8 feet below ground surface										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	Giles Engineering Associates, Inc. N8 W22350 Johnson Drive Suite A1 Waukesha, WI 53186	Tel: 262-544-0118 Fax: 262-549-5868

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completions of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Glendale Apartments and Townhomes 1E-1903017		B-9

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
James Blair, Giles Engineering Associates, Inc.	10/4/2019	10/4/2019	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☐)
State Plane S / C / N
SE 1/4 of SW 1/4 of Section 18, T 08 N, R 22 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Glendale

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Black Clayey Silt Topsoil with little coarse Gravel, Fill-Wet	OL									
				Tan-Brown Silt and Clay with trace coarse and fine Gravel				0.3						
DP-1	60/36		2											
			3					0.2						
			4		ML									
			5					0.1						
			6											
DP-2	36/36		7	Wet at 7 feet				0.1						
			8	Boring terminated at 8 feet below ground surface										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Giles Engineering Associates, Inc.
N8 W22350 Johnson Drive Suite A1 Waukesha, WI 53186
Tel: 262-544-0118
Fax: 262-549-5868

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Glendale Apartments and Townhomes 1E-1903017		B-20

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
James Blair, Giles Engineering Associates, Inc.	10/4/2019	10/4/2019	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☐)
State Plane S/C/N
SE 1/4 of SW 1/4 of Section 18, T 08 N, R 22 E
Lat. ° ' "
Long. ° ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Glendale

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Black Clayey Silt Topsoil with trace coarse Gravel, Fill-Moist				0.6						
DP-1	60/48		2		OL									
			3					0.2						
			4	Tan-Brown Silty Clay with Red to Gray mottling, and trace fine Gravel, Native-Moist										
			5		CL-ML			0.4						
			6											
			7	Fine Gravel and coarse Sand, Native-Moist	GP			0.4						
DP-2	36/36		8	Tan-Brown Silty Clay with Red-Brown mottling, Native-Wet	CL-ML									
				Boring terminated at 8 feet below ground surface										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Giles Engineering Associates, Inc.
N8 W22350 Johnson Drive Suite A1 Waukesha, WI 53186
Tel: 262-544-0118
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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-97

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Glendale Apartments and Townhomes 1E-1903017		B-21

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
James Blair, Giles Engineering Associates, Inc.	10/4/2019	10/4/2019	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 Inches

Boring Location or Local Grid Origin (Check if estimated: ☐)
State Plane
SE 1/4 of SW 1/4 of Section 18, T 08 N, R 22 E S/C/N

Lat. ° ' "
Long. ° ' "

Local Grid Location (If applicable)
☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Milwaukee	41	Glendale

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Black Clayey Silt Topsoil with trace Rootlets, Fill-Moist	OL			0.4						
DP-1	60/48		2	Tan-Brown Clayey Silt with trace coarse and fine Gravel, Native-Moist										
			3					0.4						
			4		CL-MI									
			5					0.6						
			6	Tan-Brown Silty Clay with some Red mottling and thin lense of fine Gravel at 7.5 feet, Native-Wet	CL									
DP-2	36/36		7					0.4						
			8	Boring terminated at 8 feet below ground surface										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	Giles Engineering Associates, Inc. N8 W22350 Johnson Drive Suite A1 Waukesha, WI 53186	262-544-0118 Fax: 262-549-5868

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TABLE 1
SOIL ANALYTICAL RESULTS SUMMARY-DETECTED PAHS (KEY)
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
1E-1903017

Analyte	Sample Location															NR 720 RCL[1] (µg/kg)	
	GP-1		GP-2			GP-3	GP-4	GP-5	GP-6	GP-8		GP-9		GP-10		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)
Sample Depth (feet)	2-4	5-7.5	2-4	2-4	5-7.5	5-7.5	5-7.5	2-4	5-7.5	2-4	8-10	2-4	8-10	2-4	8-10		
Sample Date	3/6/13	3/6/13	3/6/13	7/17/19	3/6/13	3/6/13	3/6/13	3/6/13	3/6/13	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14		
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		
Saturated/Unsaturated	U	U	U	U	S	U	S	U	S	U	S	U	S	U	S		
Detected PAHs (µg/kg)																	
Acenaphthene	<9.7	<9.8	226 J	<3.7	29.5	<9.5	<10.3	<10.6	<10.5	31	<9.9	<11	<9.5	<9.3	<9.3	NS	3,590,000
Acenaphthylene	<9.7	<9.8	<189	<3.7	<9.6	<9.5	<10.3	<10.6	<10.5	<9.0	<8.9	<9.7	<8.5	<8.3	<8.3	NS	NS
Anthracene	<2.0	<2.0	409	<3.7	56.5	<1.9	21.3	8.3 J	10.9 J	36	<10	<11	<9.9	<9.7	<9.6	196,949	17,900,000
Benzo (a) anthracene	<9.7	<9.8	(2,050)	21.6	212	<9.5	79.9	31.5	28.1	140	<6.9	20 J	<6.6	<6.5	<6.4	NS	1,140
Benzo (a) pyrene	<9.7	<9.8	(2,070)	27.9	206	<9.5	73.9	31.3	26.1	(150)	<7.1	20 J	<6.8	<6.7	<6.6	470	115
Benzo (b) fluoranthene	<2.8	<2.8	(2,050)	40.1	172	<2.7	86.5	29.0	23.9	150	<9.9	19 J	<9.5	<9.3	<9.3	478	1,150
Benzo (g,h,i) perylene	<9.7	<9.8	1,150	23.7	110	<9.5	57.36	20.1 J	18.4 J	99	<7.5	12 J	<7.2	<7.1	<7.1	NS	NS
Benzo (k) fluoranthene	<9.7	<9.8	1,990	20.0	233	<9.5	86.2	36.7	29.8	160	<11	21 J	<11	<10	<10	NS	11,500
Chrysene	<2.2	<2.2	2,390	30.9	243	3.3 J	107	42.0	37.1	190	<9.1	25	<8.8	<8.6	<8.6	144	115,000
Dibenz (a,h) anthracene	<9.7	<9.8	(474)	4.2J	46.7	<9.5	18.9 J	<10.6	<10.5	35	<7.3	<8.0	<7.0	<6.8	<6.8	NS	115
Fluoranthene	<9.7	<9.8	4,310	40.6	462	<9.5	210	75.6	75.3	420	<9.9	47	<9.5	<9.3	<9.3	88,878	2,390,000
Fluorene	<9.7	<9.8	<189	<4.7	23.9	<9.5	<10.3	<10.6	<10.5	24	<9.9	<11	<9.5	<9.3	<9.3	14,830	2,390,000
Indeno (1,2,3-cd) pyrene	<9.7	<9.8	1,060	18.2	105	<9.5	49.5	18.7 J	15.5 J	95	<7.5	11 J	<7.2	<7.1	<7.1	NS	1,150
1-Methylnaphthalene	<8.8	<8.9	<173	9.6J	<8.7	<8.6	<9.4	<9.7	<9.5	<10	<9.9	<11	<9.5	<9.3	<9.3	NS	17,600
2-Methylnaphthalene	<1.8	<1.8	<35.5	10.8J	6.9 J	<1.8	3.3 J	3.3 J	5.4 J	11 J	<9.9	<11	<9.5	<9.3	<9.3	NS	239,000
Naphthalene	<3.6	<3.7	<71.3	<9.6	<71.3	<3.6	5.0 J	5.8 J	4.1 J	27	<9.9	<11	<9.5	<9.3	<9.3	658	5,520
Phenanthrene	<2.5	<2.5	1,870	16.2J	1,870	3.1 J	83	43.6	54.6	270	<9.9	23	<9.5	<9.3	<9.3	NS	NS
Pyrene	<9.7	<9.8	3,920	34.2	3,920	<9.5	200	67.6	64.1	310	<9.9	37	<9.5	<9.3	<9.3	54,546	1,790,000

Notes:
(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.
RCLs: Residual Contaminant Levels
PID: Photoionization Detector
PAHs: Polynuclear Aromatic Hydrocarbons
µg/kg: Micrograms per kilogram; equivalent to parts per billion (ppb)
J: Concentration reported between the laboratory method detection limit and the reporting limit.
-- : Not analyzed
NS: No Standard
Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.
Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS SUMMARY-DETECTED PAHS (KEY)
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
1E-1903017

Analyte	Sample Location												NR 720 RCL[1] (µg/kg)	
	GP-11		GP-12		GP-13		GP-14			GP-15			Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)
Sample Depth (feet)	2-4	8-10	2-4	6-8	2-4	6-8	4-6	8-10	12-14	4-6	8-10	12-14		
Sample Date	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	4/22/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14		
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		
Saturated/Unsaturated	U	U	U	U	U	U	U	U	U	S	S	S		
Detected PAHs (µg/kg)														
Acenaphthene	42	<19	<10	<9.9	<11	<21	<21.1	<21.1	<21.1	<21.1	<21.1	<21.1	NS	3,590,000
Acenaphthylene	<9.5	<17	<9.0	<8.8	<9.8	<18	<19.5	<19.5	<19.5	<19.5	<19.5	<19.5	NS	NS
Anthracene	51	<19	<10	<10	<11	<21	<18.5	<18.5	<18.5	<18.5	<18.5	<18.5	196,949	17,900,000
Benzo (a) anthracene	170	<13	<6.9	<6.8	<7.6	<14	<18.4	<18.4	108	<18.4	<18.4	<18.4	NS	1,140
Benzo (a) pyrene	(180)	<13	<7.2	<7.1	<7.8	<15	<19	<19	136	<19	<19	<19	470	115
Benzo (b) fluoranthene	180	<19	<10	<9.9	<11	<21	<18	<18	220	<18	<18	<18	478	1,150
Benzo (g,h,i) perylene	110	<14	<7.6	<7.5	<8.3	<16	<23	<23	92	<23	<23	<23	NS	NS
Benzo (k) fluoranthene	180	<21	<11	<11	<12	<23	<20.6	<20.6	61 J	<20.6	<20.6	<20.6	NS	11,500
Chrysene	230	<17	<9.3	<9.1	<10	<19	<18.5	<18.5	152	<18.5	<18.5	<18.5	144	115,000
Dibenz (a,h) anthracene	39	<14	<7.4	<7.2	<8.0	<15	<22.4	<22.4	<22.4	<22.4	<22.4	<22.4	NS	115
Fluoranthene	500	<19	<10	<9.9	<11	<21	<18.1	<18.1	280	<18.1	<18.1	<18.1	88,878	2,390,000
Fluorene	31	<19	<10	<9.9	<11	<21	<20	<20	<20	<20	<20	<20	14,830	2,390,000
Indeno (1,2,3-cd) pyrene	100	<14	<7.6	<7.5	<8.3	<16	<24.4	<24.4	76 J	<24.4	<24.4	<24.4	NS	1,150
1-Methylnaphthalene	<11	<19	<10	<9.9	<11	<21	<19.5	<19.5	<19.5	<19.5	<19.5	<19.5	NS	17,600
2-Methylnaphthalene	<11	<19	<10	<9.9	<11	<21	<20.4	<20.4	<20.4	<20.4	<20.4	<20.4	NS	239,000
Naphthalene	<11	<19	<10	<9.9	<11	<21	<21.1	<21.1	<21.1	<21.1	<21.1	<21.1	658	5,520
Phenanthrene	340	<19	<10	<9.9	<11	<21	<24.7	<24.7	111	<24.7	<24.7	<24.7	NS	NS
Pyrene	360	<19	<10	<9.9	<11	<21	<20	<20	226	<20	<20	<20	54,546	1,790,000

Notes:
(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.
RCLs: Residual Contaminant Levels
PID: Photoionization Detector
PAHs: Polynuclear Aromatic Hydrocarbons
µg/kg: Micrograms per kilogram; equivalent to parts per billion (ppb)
J: Concentration reported between the laboratory method detection limit and the reporting limit.
-- : Not analyzed
NS: No Standard
Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.
Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS SUMMARY-DETECTED PAHS (KEY)
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
1E-1903017

Analyte	Sample Location												NR 720 RCL[1] (µg/kg)	
	GP-16		GP-17		GP-18		MW-1	OS-1	OS-2	OS-3		MA-1	Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)
Sample Depth (feet)	0-2	4-6	0-2	4-6	0-2	4-6	2-4	0-0.5	0-0.5	0-0.5	0.5-1	0-0.5		
Sample Date	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	4/22/14	7/8/14	7/8/14	7/8/14	7/8/14	7/8/14		
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		
Saturated/Unsaturated	U	U	U	U	U	U	U	U	U	U	U	U		
Detected PAHs (µg/kg)														
Acenaphthene	<21.1	<21.1	<21.1	<21.1	<21.1	<21.1	31	--	--	--	--	--	NS	3,590,000
Acenaphthylene	<19.5	<19.5	<19.5	<19.5	<19.5	<19.5	<10	--	--	--	--	--	NS	NS
Anthracene	<18.5	<18.5	36 J	<18.5	22.5 J	<18.5	36	--	--	--	--	--	196,949	17,900,000
Benzo (a) anthracene	29.7 J	<18.4	245	<18.4	124	<18.4	140	--	--	--	--	--	NS	1,140
Benzo (a) pyrene	24.2 J	<19	(340)	<19	(137)	<19	(150)	6,400	(120)	(120)	80	(140)	470	115
Benzo (b) fluoranthene	44 J	<18	560	<18	230	<18	150	--	--	--	--	--	478	1,150
Benzo (g,h,i) perylene	<23	<23	260	<23	78	<23	99	--	--	--	--	--	NS	NS
Benzo (k) fluoranthene	20.6 J	<20.6	166	<20.6	90	<20.6	160	--	--	--	--	--	NS	11,500
Chrysene	34 J	<18.5	350	<18.5	182	<18.5	190	--	--	--	--	--	144	115,000
Dibenz (a,h) anthracene	<22.4	<22.4	47 J	<22.4	<22.4	<22.4	35	--	--	--	--	--	NS	115
Fluoranthene	61	<18.1	570	<18.1	360	<18.1	420	--	--	--	--	--	88,878	2,390,000
Fluorene	<20	<20	<20	<20	<20	<20	24	--	--	--	--	--	14,830	2,390,000
Indeno (1,2,3-cd) pyrene	<24.4	<24.4	207	<24.4	71 J	<24.4	95	--	--	--	--	--	NS	1,150
1-Methylnaphthalene	<19.5	<19.5	<19.5	<19.5	<19.5	<19.5	<10	--	--	--	--	--	NS	17,600
2-Methylnaphthalene	<20.4	<20.4	<20.4	<20.4	<20.4	<20.4	11 J	--	--	--	--	--	NS	239,000
Naphthalene	<21.1	<21.1	<21.1	<21.1	<21.1	<21.1	27	--	--	--	--	--	658	5,520
Phenanthrene	<24.7	<24.7	222	<24.7	187	<24.7	270	--	--	--	--	--	NS	NS
Pyrene	49 J	<20	470	<20	290	<20	310	--	--	--	--	--	54,546	1,790,000

Notes:
(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.
RCLs: Residual Contaminant Levels
PID: Photoionization Detector
PAHs: Polynuclear Aromatic Hydrocarbons
µg/kg: Micrograms per kilogram; equivalent to parts per billion (ppb)
J: Concentration reported between the laboratory method detection limit and the reporting limit.
-- : Not analyzed
NS: No Standard
Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.
Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS SUMMARY-DETECTED PAHS (GILES)
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
1E-1903017

Analyte	Sample Location												NR 720 RCL[1] (µg/kg)	
	B-1		B-2		B-3		B-4		B-6		B-7		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)
Sample Depth (feet)	0-2	2-4	2-4	6-8	2-4	6-8	0-2	6-8	2-4	6-8	2-4	6-8		
Sample Date	4/6/16	4/6/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	10/4/19	10/4/19		
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		
Saturated/Unsaturated	U	U	U	S	U	S	U	U	U	U	U	S		
Detected PAHs (µg/kg)														
Acenaphthene	<10.3	<9.7	<10.6	<9.3	20.7 J	<9.6	21.5	<9.6	<10	<9.9	<6.7	<6.6	NS	3,590,000
Acenaphthylene	<9.2	<8.7	<9.4	<8.3	<9.7	<8.6	<8.8	<8.6	<8.9	<8.8	<4.9	<4.9	NS	NS
Anthracene	<10.7	<10.1	<10.9	<9.7	47.0	<10	76.7	<10	<10.3	<10.2	<6.2	<6.2	196,949	17,900,000
Benzo (a) anthracene	<7.1	<6.7	<7.3	<6.5	219	<6.7	257	<6.7	<6.9	<6.8	<5.0	<5.0	NS	1,140
Benzo (a) pyrene	<7.4	<6.9	<7.5	<6.7	(263)	<6.9	(273)	<6.9	<7.1	<7.1	10 J	<7.1	470	115
Benzo (b) fluoranthene	<10.3	<9.7	<10.6	<9.3	247	<9.6	249	<9.6	<10	<9.9	<8.0	<8.0	478	1,150
Benzo (g,h,i) perylene	<7.8	<7.4	<8.0	<7.1	165	<7.3	156	<7.3	<7.6	<7.5	<12	<12	NS	NS
Benzo (k) fluoranthene	<11.4	<10.7	<11.7	<10.3	280	<10.6	197	<10.6	<11.0	<10.9	<11	<11	NS	11,500
Chrysene	<9.5	<9.0	<9.8	<8.6	302	<8.9	341	<8.9	<9.2	<9.1	<10	<10	144	115,000
Dibenz (a,h) anthracene	<7.5	<7.1	<7.7	<6.8	66.0	<7.0	56.3	<7.0	<7.3	<7.2	<7.2	<7.1	NS	115
Fluoranthene	<10.3	<9.7	<10.6	<9.3	500	<9.6	447	<9.6	<10	<9.9	13 J	<6.8	88,878	2,390,000
Fluorene	<10.3	<9.7	<10.6	<9.3	14.7 J	<9.6	15.3 J	<9.6	<10	<9.9	<5.2	<5.2	14,830	2,390,000
Indeno (1,2,3-cd) pyrene	<7.8	<7.4	<8.0	<7.1	167	<7.3	135	<7.3	<7.6	<7.5	<9.6	<9.6	NS	1,150
1-Methylnaphthalene	<10.3	<9.7	<10.6	<9.3	<10.8	<9.6	10.9 J	<9.6	<10	<9.9	<9.0	<9.0	NS	17,600
2-Methylnaphthalene	<10.3	<9.7	<10.6	<9.3	<10.8	<9.6	14.0 J	<9.6	<10	<9.9	<6.8	<6.8	NS	239,000
Naphthalene	<10.3	<9.7	<10.6	<9.3	<10.8	<9.6	<9.9	<9.6	<10	<9.9	<5.7	<5.7	658	5,520
Phenanthrene	<10.3	<9.7	<10.6	<9.3	225	<9.6	370	<9.6	<10	<9.9	6.2 J	<5.1	NS	NS
Pyrene	<10.3	<9.7	<10.6	<9.3	379	<9.6	496	<9.6	<10	<9.9	13 J	<7.3	54,546	1,790,000

Notes:
(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.
RCLs: Residual Contaminant Levels
PID: Photoionization Detector
PAHs: Polynuclear Aromatic Hydrocarbons
µg/kg: Micrograms per kilogram; equivalent to parts per billion (ppb)
J: Concentration reported between the laboratory method detection limit and the reporting limit.
-- : Not analyzed
NS: No Standard
Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.
Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS SUMMARY-DETECTED PAHS (GILES)
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
1E-1903017

Analyte	Sample Location															NR 720 RCL[1] (µg/kg)	
	B-8		B-9		B-10		B-11			B-12		B-13	B-14	B-15	B-16	Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)
Sample Depth (feet)	2-4	6-8	2-4	6-8	0-2	6-8	0-2	0-2	6-8	0-1	1-2	0-1	0-1	0-1	0-1		
Sample Date	4/20/16	4/20/16	10/4/19	10/4/19	4/21/16	4/21/16	4/21/16	7/17/19	4/21/16	4/21/16	4/21/16	4/21/16	4/21/16	4/21/16	4/21/16		
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		
Saturated/Unsaturated	U	U	U	S	U	U	U	U	U	U	U	U	U	U	U		
Detected PAHs (µg/kg)																	
Acenaphthene	<10.4	<9.4	<6.6	<6.6	<10.3	<10	257 J	2,580	<10.1	26.0	<10.5	<10.6	<10.5	<9.6	<9.9	NS	3,590,000
Acenaphthylene	<9.3	<8.4	<4.9	<4.8	<9.2	<8.9	<190	<394	<9.1	<9.4	<9.4	<9.5	<9.4	<8.6	<8.8	NS	NS
Anthracene	<10.8	<9.8	<6.1	<6.1	<10.6	<10.3	377 J	3,890	<10.5	60.0	<10.9	<9.5	<10.9	<10	<10.2	196,949	17,900,000
Benzo (a) anthracene	<7.2	<6.5	<5.0	<4.9	12.0 J	<6.9	(1,640)	11,000	<7.0	235	<7.3	25.0	<7.3	<6.7	<6.8	NS	1,140
Benzo (a) pyrene	<7.4	<6.7	<7.1	<7.1	15.3 J	<7.1	1,870	11,500	<7.2	(302)	<7.5	29.2	<7.5	<6.9	<7.1	470	115
Benzo (b) fluoranthene	<10.4	<9.4	<7.9	<7.9	20.5 J	<10	2,640	17,000	<10.1	(294)	<10.5	23.9	<10.5	<9.6	<9.9	478	1,150
Benzo (g,h,i) perylene	<7.9	<7.2	<12	<12	9.1 J	<7.6	1,060	8,230	<7.7	224	<8.0	18.7 J	<8.0	<7.3	<7.5	NS	NS
Benzo (k) fluoranthene	<11.5	<10.4	<11	<11	<11.4	<11.0	1,190	6,510	<11.2	287	<11.6	33.5	<11.6	<10.6	<10.9	NS	11,500
Chrysene	<9.6	<8.7	<10	<10	16.8 J	<9.2	2,220	14,200	<9.4	312	<9.7	35.3	<9.7	<8.9	<9.1	144	115,000
Dibenz (a,h) anthracene	<7.6	<6.9	<7.1	<7.1	<7.5	<7.3	(313 J)	(2,220)	<7.4	85.6	<7.7	<7.8	<7.7	<7.0	<7.2	NS	115
Fluoranthene	<10.4	<9.4	<6.8	<6.8	25.9	<10	4,160	30,900	<10.1	500	<10.5	64.3	<10.5	<9.6	<9.9	88,878	2,390,000
Fluorene	<10.4	<9.4	<5.2	<5.1	<10.3	<10	<213	1,960	<10.1	19.6 J	<10.5	<10.6	<10.5	<9.6	<9.9	14,830	2,390,000
Indeno (1,2,3-cd) pyrene	<7.9	<7.2	<9.5	<9.5	8.1 J	<7.6	945	(7,410)	<7.7	207	<8.0	16.8 J	<8.0	<7.3	<7.5	NS	1,150
1-Methylnaphthalene	<10.4	<9.4	<9.0	<8.9	<10.3	<10	<213	<481	<10.1	<10.5	<10.5	<10.6	<10.5	<9.6	<9.9	NS	17,600
2-Methylnaphthalene	<10.4	<9.4	<6.8	<6.7	<10.3	<10	<213	<598	<10.1	<10.5	<10.5	<10.6	<10.5	<9.6	<9.9	NS	229,000
Naphthalene	<10.4	<9.4	<5.7	<5.6	<10.3	<10	<213	<1,010	<10.1	12.4 J	<10.5	<10.6	<10.5	<9.6	<9.9	658	5,520
Phenanthrene	<10.4	<9.4	<5.1	<5.1	11.3 J	<10	2,460	21,300	<10.1	266	<10.5	30.1	<10.5	<9.6	<9.9	NS	NS
Pyrene	<10.4	<9.4	<7.3	<7.3	22.2	<10	3,230	22,400	<10.1	364	<10.5	45.1	<10.5	<9.6	<9.9	54,546	1,790,000

Notes:
(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.
RCLs: Residual Contaminant Levels
PID: Photoionization Detector
PAHs: Polynuclear Aromatic Hydrocarbons
µg/kg: Micrograms per kilogram; equivalent to parts per billion (ppb)
J: Concentration reported between the laboratory method detection limit and the reporting limit.
-- : Not analyzed
NS: No Standard
Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.
Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS SUMMARY-DETECTED PAHS (GILES)
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
1E-1903017

Analyte	Sample Location										NR 720 RCL[1] (µg/kg)	
	B-17		B-18		B-19		B-20		B-21		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)
Sample Depth (feet)	0-2	6-8	0-2	6-8	0-2	6-8	2-4	6-8	2-4	6-8		
Sample Date	9/11/19	9/11/19	9/11/19	9/11/19	9/11/19	9/11/19	10/4/19	10/4/19	10/4/19	10/4/19		
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		
Saturated/Unsaturated	U	S	U	S	U	S	U	S	U	S		
Detected PAHs (µg/kg)												
Acenaphthene	62	<6.6	<7.1	<6.8	190	<6.8	1,200	<6.8	39 J	<6.5	NS	3,590,000
Acenaphthylene	<5.1	<4.9	<5.2	<5.0	12 J	<5.0	37 J	<5.0	<5.3	<4.8	NS	NS
Anthracene	71	<6.2	<6.6	<6.3	300	<6.3	1,700	<6.3	48	<6.1	196,949	17,900,000
Benzo (a) anthracene	650	<5.0	49	<5.1	(1300)	<5.1	(9,300)	<5.1	340	<4.9	NS	1,140
Benzo (a) pyrene	790	<7.1	55	<7.3	1300	<7.3	8,300	12 J	(380)	<7.1	470	115
Benzo (b) fluoranthene	1,000	<8.0	79	<8.2	1,800	<8.2	11,000	17 J	480	<7.9	478	1,150
Benzo (g,h,i) perylene	470 F1	<12	32 J	<12	750	<12	(2,700)	<12	260	<12	NS	NS
Benzo (k) fluoranthene	440	<11	18 J	<11	710	<11	(3,700)	<11	210	<11	NS	11,500
Chrysene	810	<10	57	<10	1,500	<10	11,000	<10	440	<9.9	144	115,000
Dibenz (a,h) anthracene	(140)	<7.1	11 J	<7.3	(210)	<7.3	(1,000)	<7.3	70	<7.0	NS	115
Fluoranthene	1200	<6.8	86	<7.0	3200	<7.0	23,000	21 J	700	<6.8	88,878	2,390,000
Fluorene	27 J	<5.2	<5.6	<5.3	150	<5.3	970	<5.3	26 J	<5.1	14,830	2,390,000
Indeno (1,2,3-cd) pyrene	460	<9.5	33 J	<9.8	750	<9.8	(4,200)	<9.8	240	<9.4	NS	1,150
1-Methylnaphthalene	<9.4	<9.0	<9.7	<9.3	23 J	<9.2	150	<9.3	<9.8	<8.9	NS	17,600
2-Methylnaphthalene	<7.1	<6.8	<7.3	<7.0	25 J	<7.0	220	<7.0	<7.4	<6.7	NS	229,000
Naphthalene	<5.9	<5.7	<6.1	<5.8	34 J	<5.8	500	<5.8	6.3 J	<5.6	658	5,520
Phenanthrene	430	<5.1	35 J	<5.3	1800	<5.3	15,000	8.0 J	350	<5.1	NS	NS
Pyrene	1200	<7.3	92	<7.5	2700	<7.5	18,000	17 J	640	<7.2	54,546	1,790,000

Notes:
(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.
RCLs: Residual Contaminant Levels
PID: Photoionization Detector
PAHs: Polynuclear Aromatic Hydrocarbons
µg/kg: Micrograms per kilogram; equivalent to parts per billion (ppb)
J: Concentration reported between the laboratory method detection limit and the reporting limit.
-- : Not analyzed
NS: No Standard
Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.
Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 2

SOIL ANALYTICAL RESULTS SUMMARY-DETECTED RCRA METALS (KEY)

Proposed Glendale Apartments and Townhomes

2510 West Good Hope Road

Glendale, Wisconsin

1E-1903017

Analyte		Sample Location													NR 720 RCL[1] (mg/kg)		
	GP-7	GP-7	GP-12	GP-13	GP-14			GP-15			GP-16		GP-17		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)	*Background Threshold Value
Sample Depth (feet)	2-4	2-4	2-4	2-4	4-6	8-10	12-14	4-6	8-10	12-14	0-2	4-6	0-2	4-6			
Sample Date	7/17/19	3/6/13	4/22/14	4/22/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14	8/4/14			
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
Saturated/Unsaturated	U	U	U	U	U	U	U	S	S	S	U	U	U	U			
Detected RCRA Metals (mg/kg)																	
Arsenic	6.5J	**(9.2)**	5.1 J	**(11.4)**	2.5	2.5	2.8	5.7	3.6	3.2	**(10)**	4.3	**(16)**	4.1	**0.584**	**0.677**	**8.0**
Barium	--	92.2	--	--	--	--	--	--	--	--	--	--	--	--	**164.8**	**15,300**	**364**
Cadmium	--	0.92	--	--	--	--	--	--	--	--	--	--	--	--	**0.752**	**71.1**	**1.0**
Chromium, Total	--	27.2	--	--	--	--	--	--	--	--	--	--	--	--	**360,000**	**NS**	**44**
Lead	--	17.3	--	--	6.4	6.6	6.2	13	8.4	8.4	24	7.6	53	9.6	**27**	**400**	**52**
Mercury	--	0.017	--	--	--	--	--	--	--	--	--	--	--	--	**0.208**	**3.13**	**NS**

Notes:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.

RCLs: Residual Contaminant Levels

RCRA: Resource Conservation and Recovery Act

*Background Threshold Value (BTV) applies to industrial and non-industrial contact in the upper 4 feet of soil

PID: Photoionization Detector

mg/kg: Milligrams per kilogram; equivalent to parts per million (ppm)

J: Concentration reported between the laboratory method detection limit and the reporting limit.

-- : Not analyzed

NS: No Standard

Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.

Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 2 (Continued)
SOIL ANALYTICAL RESULTS SUMMARY-DETECTED RCRA METALS (KEY)
Proposed Glendale Apartments and Townhomes
2510 West Good Hope Road
Glendale, Wisconsin
1E-1903017

Analyte	Sample Location												NR 720 RCL[1] (mg/kg)		
	GP-18		OS-1		OS-2		OS-3		BG-1		MA-1		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)	*Background Threshold Value
Sample Depth (feet)	0-2	4-6	0-0.5	0.5-1	0-0.5	0.5-1	0-0.5	0.5-1	0-0.5	0.5-1	0-0.5	0.5-1			
Sample Date	8/4/14	8/4/14	7/8/14	7/8/14	7/8/14	7/8/14	7/8/14	7/8/14	7/8/14	7/8/14	7/8/14	7/8/14			
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
Saturated/Unsaturated	U	U	U	U	U	U	U	U	U	U	U	U			
Detected RCRA Metals (mg/kg)															
Arsenic	(14)	6.9	(12.7)	(8.7)	(8.7)	(13.4)	(9.0)	(22.5)	(8.8)	(9.1)	(28.4)	(24.6)	0.584	0.677	8.0
Barium	--	--	--	--	--	--	--	--	--	--	--	--	164.8	15,300	364
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	0.752	71.1	1.0
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	--	360,000	NS	44
Lead	40	13	34.1	--	25.9	--	23.6	33.3	29.3	--	59.2	--	27	400	52
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	0.208	3.13	NS

Notes:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.

RCLs: Residual Contaminant Levels

RCRA: Resource Conservation and Recovery Act

***Background Threshold Value (BTV) applies to industrial and non-industrial contact in the upper 4 feet of soil

PID: Photoionization Detector

mg/kg: Milligrams per kilogram; equivalent to parts per million (ppm)

J: Concentration reported between the laboratory method detection limit and the reporting limit.

-- : Not analyzed

NS: No Standard

Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.

Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 2 (Continued)

SOIL ANALYTICAL RESULTS SUMMARY-DETECTED RCRA METALS (GILES)

Proposed Glendale Apartments and Townhomes

2510 West Good Hope Road

Glendale, Wisconsin

1E-1903017

Analyte	Sample Location												NR 720 RCL[1] (mg/kg)		
	B-2		B-3		B-4		B-5		B-6		B-7		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)	*Background Threshold Value
Sample Depth (feet)	2-4	6-8	2-4	6-8	0-2	6-8	0-2	6-8	2-4	6-8	2-4	6-8			
Sample Date	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/20/16	4/6/16	4/6/16			
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
Saturated/Unsaturated	U	S	U	S	U	U	U	U	U	U	U	U			
Detected RCRA Metals (mg/kg)															
Arsenic	(10)	9.7 J	6.4	5.2 J	(8.1)	4.1 J	4.4 J	6.0 J	5.1 J	4.4 J	4.9 J	8.7 J	0.584	0.677	8.0
Barium	--	--	--	--	--	--	--	--	--	--	--	--	164.8	15,300	364
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	0.752	71.1	1.0
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	--	360,000	NS	44
Lead	--	--	--	--	--	--	--	--	--	--	9.2	7.2	27	400	52
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	0.208	3.13	NS

Notes:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.

RCLs: Residual Contaminant Levels

RCRA: Resource Conservation and Recovery Act

*Background Threshold Value (BTV) applies to industrial and non-industrial contact in the upper 4 feet of soil

PID: Photoionization Detector

mg/kg: Milligrams per kilogram; equivalent to parts per million (ppm)

J: Concentration reported between the laboratory method detection limit and the reporting limit.

-- : Not analyzed

NS: No Standard

Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.

Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 2 (Continued)

SOIL ANALYTICAL RESULTS SUMMARY-DETECTED RCRA METALS (GILES)

Proposed Glendale Apartments and Townhomes

2510 West Good Hope Road

Glendale, Wisconsin

1E-1903017

Analyte	Sample Location													NR 720 RCL[1] (mg/kg)		
	B-8		B-9		B-10		B-11			B-12		B-13		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)	*Background Threshold Value
Sample Depth (feet)	2-4	6-8	2-4	6-8	0-2	6-8	0-2	0-2	6-8	0-1	1-2	0-1	1-2			
Sample Date	4/20/16	4/20/16	4/20/16	4/20/16	4/21/16	4/21/16	4/21/16	7/17/19	4/21/16	4/21/16	4/21/16	4/21/16	4/21/16			
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
Saturated/Unsaturated	U	U	U	U	U	U	U	U	U	U	U	U	U			
Detected RCRA Metals (mg/kg)																
Arsenic	(9.8)	5.9 J	7.2 J	8.1 J	(9.7)	7.1 J	(8.1)	(10)	6.8 J	(8.3)	4.6	(12.8)	(18.6)	0.584	0.677	8.0
Barium	--	--	--	--	--	--	--	--	--	--	--	--	--	164.8	15,300	364
Cadmium	--	--	--	--	--	--	--	--	--	--	--	--	--	0.752	71.1	1.0
Chromium, Total	--	--	--	--	--	--	--	--	--	--	--	--	--	360,000	NS	44
Lead	19.7	7.6	--	--	--	--	--	--	--	35.3	--	30.9	33.6	27	400	52
Mercury	--	--	--	--	--	--	--	--	--	--	--	--	--	0.208	3.13	NS

Notes:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.

RCLs: Residual Contaminant Levels

RCRA: Resource Conservation and Recovery Act

***Background Threshold Value (BTV) applies to industrial and non-industrial contact in the upper 4 feet of soil

PID: Photoionization Detector

mg/kg: Milligrams per kilogram; equivalent to parts per million (ppm)

J: Concentration reported between the laboratory method detection limit and the reporting limit.

-- : Not analyzed

NS: No Standard

Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.

Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

TABLE 2 (Continued)

SOIL ANALYTICAL RESULTS SUMMARY-DETECTED RCRA METALS (GILES)

Proposed Glendale Apartments and Townhomes

2510 West Good Hope Road

Glendale, Wisconsin

1E-1903017

Analyte	Sample Location										NR 720 RCL[1] (mg/kg)		
	B-14	B-15	B-16	B-17	B-18	B-19	B-20		B-21		Soil to Groundwater Pathway	Direct-Contact Pathway (Non-Industrial)	*Background Threshold Value
Sample Depth (feet)	0-1	0-1	0-1	0-2	0-2	0-2	2-4	6-8	2-4	6-8			
Sample Date	4/21/16	4/21/16	4/21/16	9/11/19	9/11/19	9/11/19	10/4/19	10/4/19	10/4/19	10/4/19			
PID (instrument units)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
Saturated/Unsaturated	U	U	U	U	U	U	U	S	U	S			
Detected RCRA Metals (mg/kg)													
Arsenic	5.6	6.2 J	6.9 J	6.6	8.4	5.9	7.3	3.5	6.6	3.3	0.584	0.677	8.0
Barium	--	--	--	--	--	--	--	--	--	--	164.8	15,300	364
Cadmium	--	--	--	--	--	--	--	--	--	--	0.752	71.1	1.0
Chromium, Total	--	--	--	--	--	--	--	--	--	--	360,000	NS	44
Lead	11.2	7.6	10.3	--	--	--	--	--	--	--	27	400	52
Mercury	--	--	--	--	--	--	--	--	--	--	0.208	3.13	NS

Notes:

(1): Wisconsin Administrative Code Natural Resources Chapter (NR) 720 Residual Contaminant Levels from WDNR RCL Spreadsheet updated December 2018.

RCLs: Residual Contaminant Levels

RCRA: Resource Conservation and Recovery Act

***Background Threshold Value (BTV) applies to industrial and non-industrial contact in the upper 4 feet of soil

PID: Photoionization Detector

mg/kg: Milligrams per kilogram; equivalent to parts per million (ppm)

J: Concentration reported between the laboratory method detection limit and the reporting limit.

-- : Not analyzed

NS: No Standard

Result shown "underlined/red" exceeds the calculated RCL for the soil to groundwater pathway.

Result shown "parenthesis /(green)" exceeds the calculated RCL for the non-industrial land use direct-contact pathway.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-171280-1
Client Project/Site: Glendale Manor - 1E-1903017

For:
Giles Engineering Associates
N8 W 22350 Johnson Road
Waukesha, Wisconsin 53186

Attn: Mr. Kevin Bugel

Authorized for release by:
10/16/2019 3:55:21 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Job ID: 500-171280-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-171280-1

Comments
No additional comments.

Receipt
The samples were received on 10/5/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.2º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Client Sample ID: B-20 (2-4) — Lab Sample ID: 500-171280-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	150		86	10	ug/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	220		86	7.9	ug/Kg	1	☼	8270D	Total/NA
Acenaphthene	1200		43	7.7	ug/Kg	1	☼	8270D	Total/NA
Acenaphthylene	37	J	43	5.7	ug/Kg	1	☼	8270D	Total/NA
Anthracene	1700		43	7.2	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	2700		43	14	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	1100		43	8.3	ug/Kg	1	☼	8270D	Total/NA
Fluorene	970		43	6.0	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	500		43	6.6	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene - DL	9300		430	58	ug/Kg	10	☼	8270D	Total/NA
Benzo[a]pyrene - DL	8300		430	83	ug/Kg	10	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	11000		430	93	ug/Kg	10	☼	8270D	Total/NA
Benzo[k]fluoranthene - DL	3700		430	130	ug/Kg	10	☼	8270D	Total/NA
Chrysene - DL	11000		430	120	ug/Kg	10	☼	8270D	Total/NA
Fluoranthene - DL	23000		430	79	ug/Kg	10	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene - DL	4200		430	110	ug/Kg	10	☼	8270D	Total/NA
Phenanthrene - DL	15000		430	60	ug/Kg	10	☼	8270D	Total/NA
Pyrene - DL	18000		430	85	ug/Kg	10	☼	8270D	Total/NA
Arsenic	7.3		1.2	0.42	mg/Kg	1	☼	6010B	Total/NA

Client Sample ID: B-20 (6-8) — Lab Sample ID: 500-171280-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	12	J	38	7.3	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	17	J	38	8.2	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	21	J	38	7.0	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	8.0	J	38	5.3	ug/Kg	1	☼	8270D	Total/NA
Pyrene	17	J	38	7.5	ug/Kg	1	☼	8270D	Total/NA
Arsenic	3.5		1.1	0.38	mg/Kg	1	☼	6010B	Total/NA

Client Sample ID: B-21 (2-4) — Lab Sample ID: 500-171280-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	39	J	40	7.2	ug/Kg	1	☼	8270D	Total/NA
Anthracene	48		40	6.7	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	340		40	5.4	ug/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	380		40	7.8	ug/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	480		40	8.7	ug/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	260		40	13	ug/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	210		40	12	ug/Kg	1	☼	8270D	Total/NA
Chrysene	440		40	11	ug/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	70		40	7.8	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	700		40	7.5	ug/Kg	1	☼	8270D	Total/NA
Fluorene	26	J	40	5.7	ug/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	240		40	10	ug/Kg	1	☼	8270D	Total/NA
Naphthalene	6.3	J	40	6.2	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	350		40	5.6	ug/Kg	1	☼	8270D	Total/NA
Pyrene	640		40	8.0	ug/Kg	1	☼	8270D	Total/NA
Arsenic	6.6		1.2	0.41	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Client Sample ID: B-21 (6-8) — Lab Sample ID: 500-171280-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.3		0.99	0.34	mg/Kg	1	☼	6010B	Total/NA

Client Sample ID: B-7 (2-4) — Lab Sample ID: 500-171280-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	10	J	37	7.2	ug/Kg	1	☼	8270D	Total/NA
Fluoranthene	13	J	37	6.9	ug/Kg	1	☼	8270D	Total/NA
Phenanthrene	6.2	J	37	5.2	ug/Kg	1	☼	8270D	Total/NA
Pyrene	13	J	37	7.4	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: B-7 (6-8) — Lab Sample ID: 500-171280-6

No Detections.

Client Sample ID: B-9 (2-4) — Lab Sample ID: 500-171280-7

No Detections.

Client Sample ID: B-9 (6-8) — Lab Sample ID: 500-171280-8

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
3050B	Preparation, Metals	SW846	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-171280-1	B-20 (2-4)	Solid	10/04/19 11:52	10/05/19 09:30	
500-171280-2	B-20 (6-8)	Solid	10/04/19 11:58	10/05/19 09:30	
500-171280-3	B-21 (2-4)	Solid	10/04/19 10:56	10/05/19 09:30	
500-171280-4	B-21 (6-8)	Solid	10/04/19 10:59	10/05/19 09:30	
500-171280-5	B-7 (2-4)	Solid	10/04/19 12:07	10/05/19 09:30	
500-171280-6	B-7 (6-8)	Solid	10/04/19 12:05	10/05/19 09:30	
500-171280-7	B-9 (2-4)	Solid	10/04/19 12:13	10/05/19 09:30	
500-171280-8	B-9 (6-8)	Solid	10/04/19 12:10	10/05/19 09:30	

Client Sample ID: B-20 (2-4)

Date Collected: 10/04/19 11:52
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-1

Matrix: Solid
Percent Solids: 75.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	150		86	10	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
2-Methylnaphthalene	220		86	7.9	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
Acenaphthene	1200		43	7.7	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
Acenaphthylene	37	J	43	5.7	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
Anthracene	1700		43	7.2	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
Benzo[g,h,i]perylene	2700		43	14	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
Dibenz(a,h)anthracene	1100		43	8.3	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
Fluorene	970		43	6.0	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1
Naphthalene	500		43	6.6	ug/Kg	☼	10/11/19 19:03	10/14/19 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*43 - 145*	*10/11/19 19:03*	*10/14/19 18:17*	*1*
Nitrobenzene-d5 (Surr)	*64*		*37 - 147*	*10/11/19 19:03*	*10/14/19 18:17*	*1*
Terphenyl-d14 (Surr)	*79*		*42 - 157*	*10/11/19 19:03*	*10/14/19 18:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	9300		430	58	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Benzo[a]pyrene	8300		430	83	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Benzo[b]fluoranthene	11000		430	93	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Benzo[k]fluoranthene	3700		430	130	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Chrysene	11000		430	120	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Fluoranthene	23000		430	79	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Indeno[1,2,3-cd]pyrene	4200		430	110	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Phenanthrene	15000		430	60	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10
Pyrene	18000		430	85	ug/Kg	☼	10/11/19 19:03	10/15/19 17:46	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*43 - 145*	*10/11/19 19:03*	*10/15/19 17:46*	*10*
Nitrobenzene-d5 (Surr)	*65*		*37 - 147*	*10/11/19 19:03*	*10/15/19 17:46*	*10*
Terphenyl-d14 (Surr)	*115*		*42 - 157*	*10/11/19 19:03*	*10/15/19 17:46*	*10*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.3		1.2	0.42	mg/Kg	☼	10/14/19 09:58	10/16/19 00:58	1

Client Sample ID: B-20 (6-8)

Date Collected: 10/04/19 11:58
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-2

Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<9.3		77	9.3	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
2-Methylnaphthalene	<7.0		77	7.0	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Acenaphthene	<6.8		38	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Acenaphthylene	<5.0		38	5.0	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Anthracene	<6.3		38	6.3	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Benzo[a]anthracene	<5.1		38	5.1	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Benzo[a]pyrene	12	J	38	7.3	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Benzo[b]fluoranthene	17	J	38	8.2	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Benzo[g,h,i]perylene	<12		38	12	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1

Client Sample ID: B-20 (6-8)

Date Collected: 10/04/19 11:58
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-2

Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<11		38	11	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Chrysene	<10		38	10	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Dibenz(a,h)anthracene	<7.3		38	7.3	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Fluoranthene	**21**	**J**	38	7.0	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Fluorene	<5.3		38	5.3	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Indeno[1,2,3-cd]pyrene	<9.8		38	9.8	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Naphthalene	<5.8		38	5.8	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Phenanthrene	**8.0**	**J**	38	5.3	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1
Pyrene	**17**	**J**	38	7.5	ug/Kg	☼	10/11/19 19:03	10/14/19 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*43 - 145*	*10/11/19 19:03*	*10/14/19 12:44*	*1*
Nitrobenzene-d5 (Surr)	*61*		*37 - 147*	*10/11/19 19:03*	*10/14/19 12:44*	*1*
Terphenyl-d14 (Surr)	*107*		*42 - 157*	*10/11/19 19:03*	*10/14/19 12:44*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.5**		1.1	0.38	mg/Kg	☼	10/14/19 09:58	10/16/19 01:02	1

Client Sample ID: B-21 (2-4)

Date Collected: 10/04/19 10:56
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-3

Matrix: Solid
Percent Solids: 82.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<9.8		81	9.8	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
2-Methylnaphthalene	<7.4		81	7.4	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Acenaphthene	**39**	**J**	40	7.2	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Acenaphthylene	<5.3		40	5.3	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Anthracene	**48**		40	6.7	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Benzo[a]anthracene	**340**		40	5.4	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Benzo[a]pyrene	**380**		40	7.8	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Benzo[b]fluoranthene	**480**		40	8.7	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Benzo[g,h,i]perylene	**260**		40	13	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Benzo[k]fluoranthene	**210**		40	12	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Chrysene	**440**		40	11	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Dibenz(a,h)anthracene	**70**		40	7.8	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Fluoranthene	**700**		40	7.5	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Fluorene	**26**	**J**	40	5.7	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Indeno[1,2,3-cd]pyrene	**240**		40	10	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Naphthalene	**6.3**	**J**	40	6.2	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Phenanthrene	**350**		40	5.6	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1
Pyrene	**640**		40	8.0	ug/Kg	☼	10/11/19 19:03	10/14/19 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*43 - 145*	*10/11/19 19:03*	*10/14/19 17:50*	*1*
Nitrobenzene-d5 (Surr)	*66*		*37 - 147*	*10/11/19 19:03*	*10/14/19 17:50*	*1*
Terphenyl-d14 (Surr)	*105*		*42 - 157*	*10/11/19 19:03*	*10/14/19 17:50*	*1*

Client Sample ID: B-21 (2-4)

Lab Sample ID: 500-171280-3
Date Collected: 10/04/19 10:56
Matrix: Solid
Date Received: 10/05/19 09:30
Percent Solids: 82.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.6**		1.2	0.41	mg/Kg	☼	10/14/19 09:58	10/16/19 01:06	1

Client Sample ID: B-21 (6-8)

Lab Sample ID: 500-171280-4
Date Collected: 10/04/19 10:59
Matrix: Solid
Date Received: 10/05/19 09:30
Percent Solids: 87.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.9		73	8.9	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
2-Methylnaphthalene	<6.7		73	6.7	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Acenaphthene	<6.5		36	6.5	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Acenaphthylene	<4.8		36	4.8	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Anthracene	<6.1		36	6.1	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Benzo[a]anthracene	<4.9		36	4.9	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Benzo[a]pyrene	<7.1		36	7.1	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Benzo[b]fluoranthene	<7.9		36	7.9	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Benzo[g,h,i]perylene	<12		36	12	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Benzo[k]fluoranthene	<11		36	11	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Chrysene	<9.9		36	9.9	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Dibenz(a,h)anthracene	<7.0		36	7.0	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Fluoranthene	<6.8		36	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Fluorene	<5.1		36	5.1	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Indeno[1,2,3-cd]pyrene	<9.4		36	9.4	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Naphthalene	<5.6		36	5.6	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Phenanthrene	<5.1		36	5.1	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1
Pyrene	<7.2		36	7.2	ug/Kg	☼	10/11/19 19:03	10/14/19 13:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*43 - 145*	*10/11/19 19:03*	*10/14/19 13:38*	*1*
Nitrobenzene-d5 (Surr)	*58*		*37 - 147*	*10/11/19 19:03*	*10/14/19 13:38*	*1*
Terphenyl-d14 (Surr)	*112*		*42 - 157*	*10/11/19 19:03*	*10/14/19 13:38*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.3**		0.99	0.34	mg/Kg	☼	10/14/19 09:58	10/16/19 01:10	1

Client Sample ID: B-7 (2-4)

Lab Sample ID: 500-171280-5
Date Collected: 10/04/19 12:07
Matrix: Solid
Date Received: 10/05/19 09:30
Percent Solids: 86.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<9.0		75	9.0	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
2-Methylnaphthalene	<6.8		75	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Acenaphthene	<6.7		37	6.7	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Acenaphthylene	<4.9		37	4.9	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Anthracene	<6.2		37	6.2	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Benzo[a]anthracene	<5.0		37	5.0	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Benzo[a]pyrene	**10**	**J**	37	7.2	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Benzo[b]fluoranthene	<8.0		37	8.0	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Benzo[g,h,i]perylene	<12		37	12	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1

Client Sample ID: B-7 (2-4)

Date Collected: 10/04/19 12:07
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-5

Matrix: Solid
Percent Solids: 86.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<11		37	11	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Chrysene	<10		37	10	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Dibenz(a,h)anthracene	<7.2		37	7.2	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Fluoranthene	**13**	**J**	37	6.9	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Fluorene	<5.2		37	5.2	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Indeno[1,2,3-cd]pyrene	<9.6		37	9.6	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Naphthalene	<5.7		37	5.7	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Phenanthrene	**6.2**	**J**	37	5.2	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1
Pyrene	**13**	**J**	37	7.4	ug/Kg	☼	10/11/19 19:03	10/14/19 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*43 - 145*	*10/11/19 19:03*	*10/14/19 14:40*	*1*
Nitrobenzene-d5 (Surr)	*72*		*37 - 147*	*10/11/19 19:03*	*10/14/19 14:40*	*1*
Terphenyl-d14 (Surr)	*110*		*42 - 157*	*10/11/19 19:03*	*10/14/19 14:40*	*1*

Client Sample ID: B-7 (6-8)

Date Collected: 10/04/19 12:05
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-6

Matrix: Solid
Percent Solids: 88.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<9.0		74	9.0	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
2-Methylnaphthalene	<6.8		74	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Acenaphthene	<6.6		37	6.6	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Acenaphthylene	<4.9		37	4.9	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Anthracene	<6.2		37	6.2	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Benzo[a]anthracene	<5.0		37	5.0	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Benzo[a]pyrene	<7.1		37	7.1	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Benzo[b]fluoranthene	<8.0		37	8.0	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Benzo[g,h,i]perylene	<12		37	12	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Benzo[k]fluoranthene	<11		37	11	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Chrysene	<10		37	10	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Dibenz(a,h)anthracene	<7.1		37	7.1	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Fluoranthene	<6.8		37	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Fluorene	<5.2		37	5.2	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Indeno[1,2,3-cd]pyrene	<9.6		37	9.6	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Naphthalene	<5.7		37	5.7	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Phenanthrene	<5.1		37	5.1	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1
Pyrene	<7.3		37	7.3	ug/Kg	☼	10/11/19 19:03	10/14/19 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*43 - 145*	*10/11/19 19:03*	*10/14/19 15:07*	*1*
Nitrobenzene-d5 (Surr)	*69*		*37 - 147*	*10/11/19 19:03*	*10/14/19 15:07*	*1*
Terphenyl-d14 (Surr)	*111*		*42 - 157*	*10/11/19 19:03*	*10/14/19 15:07*	*1*

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Client Sample ID: B-9 (2-4)

Date Collected: 10/04/19 12:13
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-7
Matrix: Solid
Percent Solids: 87.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<9.0		74	9.0	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
2-Methylnaphthalene	<6.8		74	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Acenaphthene	<6.6		37	6.6	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Acenaphthylene	<4.9		37	4.9	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Anthracene	<6.1		37	6.1	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Benzo[a]anthracene	<5.0		37	5.0	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Benzo[a]pyrene	<7.1		37	7.1	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Benzo[b]fluoranthene	<7.9		37	7.9	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Benzo[g,h,i]perylene	<12		37	12	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Benzo[k]fluoranthene	<11		37	11	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Chrysene	<10		37	10	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Dibenz(a,h)anthracene	<7.1		37	7.1	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Fluoranthene	<6.8		37	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Fluorene	<5.2		37	5.2	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Indeno[1,2,3-cd]pyrene	<9.5		37	9.5	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Naphthalene	<5.7		37	5.7	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Phenanthrene	<5.1		37	5.1	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1
Pyrene	<7.3		37	7.3	ug/Kg	☼	10/11/19 19:03	10/14/19 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*43 - 145*	*10/11/19 19:03*	*10/14/19 15:34*	*1*
Nitrobenzene-d5 (Surr)	*58*		*37 - 147*	*10/11/19 19:03*	*10/14/19 15:34*	*1*
Terphenyl-d14 (Surr)	*97*		*42 - 157*	*10/11/19 19:03*	*10/14/19 15:34*	*1*

Client Sample ID: B-9 (6-8)

Date Collected: 10/04/19 12:10
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-8
Matrix: Solid
Percent Solids: 87.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.9		74	8.9	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
2-Methylnaphthalene	<6.7		74	6.7	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Acenaphthene	<6.6		36	6.6	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Acenaphthylene	<4.8		36	4.8	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Anthracene	<6.1		36	6.1	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Benzo[a]anthracene	<4.9		36	4.9	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Benzo[a]pyrene	<7.1		36	7.1	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Benzo[b]fluoranthene	<7.9		36	7.9	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Benzo[g,h,i]perylene	<12		36	12	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Benzo[k]fluoranthene	<11		36	11	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Chrysene	<10		36	10	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Dibenz(a,h)anthracene	<7.1		36	7.1	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Fluoranthene	<6.8		36	6.8	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Fluorene	<5.1		36	5.1	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Indeno[1,2,3-cd]pyrene	<9.5		36	9.5	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Naphthalene	<5.6		36	5.6	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Phenanthrene	<5.1		36	5.1	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1
Pyrene	<7.3		36	7.3	ug/Kg	☼	10/11/19 19:03	10/14/19 16:01	1

Client Sample Results

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Client Sample ID: B-9 (6-8)
Date Collected: 10/04/19 12:10
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-8
Matrix: Solid
Percent Solids: 87.7

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		43 - 145	10/11/19 19:03	10/14/19 16:01	1
Nitrobenzene-d5 (Surr)	62		37 - 147	10/11/19 19:03	10/14/19 16:01	1
Terphenyl-d14 (Surr)	116		42 - 157	10/11/19 19:03	10/14/19 16:01	1

Definitions/Glossary

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS Semi VOA

Prep Batch: 509725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171280-1	B-20 (2-4)	Total/NA	Solid	3541	
500-171280-1 - DL	B-20 (2-4)	Total/NA	Solid	3541	
500-171280-2	B-20 (6-8)	Total/NA	Solid	3541	
500-171280-3	B-21 (2-4)	Total/NA	Solid	3541	
500-171280-4	B-21 (6-8)	Total/NA	Solid	3541	
500-171280-5	B-7 (2-4)	Total/NA	Solid	3541	
500-171280-6	B-7 (6-8)	Total/NA	Solid	3541	
500-171280-7	B-9 (2-4)	Total/NA	Solid	3541	
500-171280-8	B-9 (6-8)	Total/NA	Solid	3541	
MB 500-509725/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-509725/2-A	Lab Control Sample	Total/NA	Solid	3541	
500-171280-2 MS	B-20 (6-8)	Total/NA	Solid	3541	
500-171280-2 MSD	B-20 (6-8)	Total/NA	Solid	3541	

Analysis Batch: 509845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171280-1	B-20 (2-4)	Total/NA	Solid	8270D	509725
500-171280-2	B-20 (6-8)	Total/NA	Solid	8270D	509725
500-171280-3	B-21 (2-4)	Total/NA	Solid	8270D	509725
500-171280-4	B-21 (6-8)	Total/NA	Solid	8270D	509725
500-171280-5	B-7 (2-4)	Total/NA	Solid	8270D	509725
500-171280-6	B-7 (6-8)	Total/NA	Solid	8270D	509725
500-171280-7	B-9 (2-4)	Total/NA	Solid	8270D	509725
500-171280-8	B-9 (6-8)	Total/NA	Solid	8270D	509725
MB 500-509725/1-A	Method Blank	Total/NA	Solid	8270D	509725
LCS 500-509725/2-A	Lab Control Sample	Total/NA	Solid	8270D	509725
500-171280-2 MS	B-20 (6-8)	Total/NA	Solid	8270D	509725
500-171280-2 MSD	B-20 (6-8)	Total/NA	Solid	8270D	509725

Analysis Batch: 510050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171280-1 - DL	B-20 (2-4)	Total/NA	Solid	8270D	509725

Metals

Prep Batch: 509872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171280-1	B-20 (2-4)	Total/NA	Solid	3050B	
500-171280-2	B-20 (6-8)	Total/NA	Solid	3050B	
500-171280-3	B-21 (2-4)	Total/NA	Solid	3050B	
500-171280-4	B-21 (6-8)	Total/NA	Solid	3050B	
MB 500-509872/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-509872/2-A	Lab Control Sample	Total/NA	Solid	3050B	
500-171280-4 MS	B-21 (6-8)	Total/NA	Solid	3050B	
500-171280-4 MSD	B-21 (6-8)	Total/NA	Solid	3050B	
500-171280-4 DU	B-21 (6-8)	Total/NA	Solid	3050B	

Analysis Batch: 510209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171280-1	B-20 (2-4)	Total/NA	Solid	6010B	509872
500-171280-2	B-20 (6-8)	Total/NA	Solid	6010B	509872

Metals (Continued)

Analysis Batch: 510209 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171280-3	B-21 (2-4)	Total/NA	Solid	6010B	509872
500-171280-4	B-21 (6-8)	Total/NA	Solid	6010B	509872
MB 500-509872/1-A	Method Blank	Total/NA	Solid	6010B	509872
LCS 500-509872/2-A	Lab Control Sample	Total/NA	Solid	6010B	509872
500-171280-4 MS	B-21 (6-8)	Total/NA	Solid	6010B	509872
500-171280-4 MSD	B-21 (6-8)	Total/NA	Solid	6010B	509872
500-171280-4 DU	B-21 (6-8)	Total/NA	Solid	6010B	509872

General Chemistry

Analysis Batch: 509386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171280-1	B-20 (2-4)	Total/NA	Solid	Moisture	
500-171280-2	B-20 (6-8)	Total/NA	Solid	Moisture	
500-171280-3	B-21 (2-4)	Total/NA	Solid	Moisture	
500-171280-4	B-21 (6-8)	Total/NA	Solid	Moisture	
500-171280-5	B-7 (2-4)	Total/NA	Solid	Moisture	
500-171280-6	B-7 (6-8)	Total/NA	Solid	Moisture	
500-171280-7	B-9 (2-4)	Total/NA	Solid	Moisture	
500-171280-8	B-9 (6-8)	Total/NA	Solid	Moisture	

Surrogate Summary

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (43-145)	NBZ (37-147)	TPHL (42-157)
500-171280-1	B-20 (2-4)	86	64	79
500-171280-1 - DL	B-20 (2-4)	94	65	115
500-171280-2	B-20 (6-8)	86	61	107
500-171280-2 MS	B-20 (6-8)	86	69	96
500-171280-2 MSD	B-20 (6-8)	91	76	103
500-171280-3	B-21 (2-4)	96	66	105
500-171280-4	B-21 (6-8)	78	58	112
500-171280-5	B-7 (2-4)	82	72	110
500-171280-6	B-7 (6-8)	74	69	111
500-171280-7	B-9 (2-4)	73	58	97
500-171280-8	B-9 (6-8)	72	62	116
LCS 500-509725/2-A	Lab Control Sample	93	74	103
MB 500-509725/1-A	Method Blank	95	74	107

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-509725/1-A
Matrix: Solid
Analysis Batch: 509845

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.1		67	8.1	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
2-Methylnaphthalene	<6.1		67	6.1	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Acenaphthene	<6.0		33	6.0	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Acenaphthylene	<4.4		33	4.4	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Anthracene	<5.6		33	5.6	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Benzo[a]anthracene	<4.5		33	4.5	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Benzo[a]pyrene	<6.4		33	6.4	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Benzo[b]fluoranthene	<7.2		33	7.2	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Benzo[g,h,i]perylene	<11		33	11	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Benzo[k]fluoranthene	<9.8		33	9.8	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Chrysene	<9.1		33	9.1	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Dibenz(a,h)anthracene	<6.4		33	6.4	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Fluoranthene	<6.2		33	6.2	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Fluorene	<4.7		33	4.7	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Indeno[1,2,3-cd]pyrene	<8.6		33	8.6	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Naphthalene	<5.1		33	5.1	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Phenanthrene	<4.6		33	4.6	ug/Kg		10/11/19 19:03	10/14/19 10:28	1
Pyrene	<6.6		33	6.6	ug/Kg		10/11/19 19:03	10/14/19 10:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*43 - 145*	*10/11/19 19:03*	*10/14/19 10:28*	*1*
Nitrobenzene-d5 (Surr)	*74*		*37 - 147*	*10/11/19 19:03*	*10/14/19 10:28*	*1*
Terphenyl-d14 (Surr)	*107*		*42 - 157*	*10/11/19 19:03*	*10/14/19 10:28*	*1*

Lab Sample ID: LCS 500-509725/2-A
Matrix: Solid
Analysis Batch: 509845

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	1330	1190		ug/Kg		89	68 - 111
2-Methylnaphthalene	1330	1230		ug/Kg		92	69 - 112
Acenaphthene	1330	1160		ug/Kg		87	65 - 124
Acenaphthylene	1330	1160		ug/Kg		87	68 - 120
Anthracene	1330	1210		ug/Kg		91	70 - 114
Benzo[a]anthracene	1330	1200		ug/Kg		90	67 - 122
Benzo[a]pyrene	1330	1210		ug/Kg		91	65 - 133
Benzo[b]fluoranthene	1330	1200		ug/Kg		90	69 - 129
Benzo[g,h,i]perylene	1330	1260		ug/Kg		95	72 - 131
Benzo[k]fluoranthene	1330	1170		ug/Kg		88	68 - 127
Chrysene	1330	1290		ug/Kg		97	63 - 120
Dibenz(a,h)anthracene	1330	1280		ug/Kg		96	64 - 131
Fluoranthene	1330	1200		ug/Kg		90	62 - 120
Fluorene	1330	1220		ug/Kg		91	62 - 120
Indeno[1,2,3-cd]pyrene	1330	1250		ug/Kg		94	68 - 130
Naphthalene	1330	1190		ug/Kg		89	63 - 110
Phenanthrene	1330	1180		ug/Kg		89	62 - 120
Pyrene	1330	1250		ug/Kg		94	61 - 128

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-509725/2-A
Matrix: Solid
Analysis Batch: 509845

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509725

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	93		43 - 145
Nitrobenzene-d5 (Surr)	74		37 - 147
Terphenyl-d14 (Surr)	103		42 - 157

Lab Sample ID: 500-171280-2 MS
Matrix: Solid
Analysis Batch: 509845

Client Sample ID: B-20 (6-8)
Prep Type: Total/NA
Prep Batch: 509725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	<9.3		1500	1290		ug/Kg	☼	86	68 - 111
2-Methylnaphthalene	<7.0		1500	1370		ug/Kg	☼	91	69 - 112
Acenaphthene	<6.8		1500	1280		ug/Kg	☼	85	65 - 124
Acenaphthylene	<5.0		1500	1400		ug/Kg	☼	94	68 - 120
Anthracene	<6.3		1500	1380		ug/Kg	☼	92	70 - 114
Benzo[a]anthracene	<5.1		1500	1370		ug/Kg	☼	92	67 - 122
Benzo[a]pyrene	12	J	1500	1380		ug/Kg	☼	91	65 - 133
Benzo[b]fluoranthene	17	J	1500	1280		ug/Kg	☼	84	69 - 129
Benzo[g,h,i]perylene	<12		1500	1370		ug/Kg	☼	92	72 - 131
Benzo[k]fluoranthene	<11		1500	1410		ug/Kg	☼	94	68 - 127
Chrysene	<10		1500	1470		ug/Kg	☼	98	63 - 120
Dibenz(a,h)anthracene	<7.3		1500	1440		ug/Kg	☼	96	64 - 131
Fluoranthene	21	J	1500	1280		ug/Kg	☼	84	62 - 120
Fluorene	<5.3		1500	1370		ug/Kg	☼	92	62 - 120
Indeno[1,2,3-cd]pyrene	<9.8		1500	1400		ug/Kg	☼	93	68 - 130
Naphthalene	<5.8		1500	1290		ug/Kg	☼	86	63 - 110
Phenanthrene	8.0	J	1500	1340		ug/Kg	☼	89	62 - 120
Pyrene	17	J	1500	1360		ug/Kg	☼	90	61 - 128

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	86		43 - 145
Nitrobenzene-d5 (Surr)	69		37 - 147
Terphenyl-d14 (Surr)	96		42 - 157

Lab Sample ID: 500-171280-2 MSD
Matrix: Solid
Analysis Batch: 509845

Client Sample ID: B-20 (6-8)
Prep Type: Total/NA
Prep Batch: 509725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	<9.3		1550	1350		ug/Kg	☼	88	68 - 111	5	30
2-Methylnaphthalene	<7.0		1550	1480		ug/Kg	☼	96	69 - 112	8	30
Acenaphthene	<6.8		1550	1350		ug/Kg	☼	88	65 - 124	6	30
Acenaphthylene	<5.0		1550	1490		ug/Kg	☼	97	68 - 120	6	30
Anthracene	<6.3		1550	1480		ug/Kg	☼	96	70 - 114	7	30
Benzo[a]anthracene	<5.1		1550	1440		ug/Kg	☼	93	67 - 122	5	30
Benzo[a]pyrene	12	J	1550	1540		ug/Kg	☼	99	65 - 133	11	30
Benzo[b]fluoranthene	17	J	1550	1310		ug/Kg	☼	84	69 - 129	3	30
Benzo[g,h,i]perylene	<12		1550	1460		ug/Kg	☼	95	72 - 131	6	30
Benzo[k]fluoranthene	<11		1550	1550		ug/Kg	☼	100	68 - 127	9	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-171280-2 MSD
Matrix: Solid
Analysis Batch: 509845

Client Sample ID: B-20 (6-8)
Prep Type: Total/NA
Prep Batch: 509725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	<10		1550	1580		ug/Kg	☼	102	63 - 120	7	30
Dibenz(a,h)anthracene	<7.3		1550	1510		ug/Kg	☼	98	64 - 131	5	30
Fluoranthene	21	J	1550	1500		ug/Kg	☼	96	62 - 120	16	30
Fluorene	<5.3		1550	1440		ug/Kg	☼	93	62 - 120	5	30
Indeno[1,2,3-cd]pyrene	<9.8		1550	1480		ug/Kg	☼	96	68 - 130	6	30
Naphthalene	<5.8		1550	1360		ug/Kg	☼	88	63 - 110	5	30
Phenanthrene	8.0	J	1550	1410		ug/Kg	☼	91	62 - 120	5	30
Pyrene	17	J	1550	1450		ug/Kg	☼	93	61 - 128	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*91*		*43 - 145*
Nitrobenzene-d5 (Surr)	*76*		*37 - 147*
Terphenyl-d14 (Surr)	*103*		*42 - 157*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-509872/1-A
Matrix: Solid
Analysis Batch: 510209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.34		1.0	0.34	mg/Kg		10/14/19 09:58	10/15/19 23:30	1

Lab Sample ID: LCS 500-509872/2-A
Matrix: Solid
Analysis Batch: 510209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509872

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	10.0	8.35		mg/Kg		84	80 - 120

Lab Sample ID: 500-171280-4 MS
Matrix: Solid
Analysis Batch: 510209

Client Sample ID: B-21 (6-8)
Prep Type: Total/NA
Prep Batch: 509872

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.3		10.8	12.3		mg/Kg	☼	83	75 - 125

Lab Sample ID: 500-171280-4 MSD
Matrix: Solid
Analysis Batch: 510209

Client Sample ID: B-21 (6-8)
Prep Type: Total/NA
Prep Batch: 509872

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.3		10.0	11.8		mg/Kg	☼	85	75 - 125	4	20

Lab Sample ID: 500-171280-4 DU
Matrix: Solid
Analysis Batch: 510209

Client Sample ID: B-21 (6-8)
Prep Type: Total/NA
Prep Batch: 509872

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	3.3		3.43		mg/Kg	☼	4	20

Lab Chronicle

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Client Sample ID: B-20 (2-4)
Date Collected: 10/04/19 11:52
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Client Sample ID: B-20 (2-4)
Date Collected: 10/04/19 11:52
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-1
Matrix: Solid
Percent Solids: 75.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 18:17	AJD	TAL CHI
Total/NA	Prep	3541	DL		509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D	DL	10	510050	10/15/19 17:46	AJD	TAL CHI
Total/NA	Prep	3050B			509872	10/14/19 09:58	JEK	TAL CHI
Total/NA	Analysis	6010B		1	510209	10/16/19 00:58	JEF	TAL CHI

Client Sample ID: B-20 (6-8)
Date Collected: 10/04/19 11:58
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Client Sample ID: B-20 (6-8)
Date Collected: 10/04/19 11:58
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-2
Matrix: Solid
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 12:44	AJD	TAL CHI
Total/NA	Prep	3050B			509872	10/14/19 09:58	JEK	TAL CHI
Total/NA	Analysis	6010B		1	510209	10/16/19 01:02	JEF	TAL CHI

Client Sample ID: B-21 (2-4)
Date Collected: 10/04/19 10:56
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Client Sample ID: B-21 (2-4)
Date Collected: 10/04/19 10:56
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-3
Matrix: Solid
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 17:50	AJD	TAL CHI

Lab Chronicle

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Client Sample ID: B-21 (2-4)
Date Collected: 10/04/19 10:56
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-3
Matrix: Solid
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			509872	10/14/19 09:58	JEK	TAL CHI
Total/NA	Analysis	6010B		1	510209	10/16/19 01:06	JEF	TAL CHI

Client Sample ID: B-21 (6-8)
Date Collected: 10/04/19 10:59
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Client Sample ID: B-21 (6-8)
Date Collected: 10/04/19 10:59
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-4
Matrix: Solid
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 13:38	AJD	TAL CHI
Total/NA	Prep	3050B			509872	10/14/19 09:58	JEK	TAL CHI
Total/NA	Analysis	6010B		1	510209	10/16/19 01:10	JEF	TAL CHI

Client Sample ID: B-7 (2-4)
Date Collected: 10/04/19 12:07
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Client Sample ID: B-7 (2-4)
Date Collected: 10/04/19 12:07
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-5
Matrix: Solid
Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 14:40	AJD	TAL CHI

Client Sample ID: B-7 (6-8)
Date Collected: 10/04/19 12:05
Date Received: 10/05/19 09:30

Lab Sample ID: 500-171280-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Lab Chronicle

Client: Giles Engineering Associates
Project/Site: Glendale Manor - 1E-1903017

Job ID: 500-171280-1

Client Sample ID: B-7 (6-8)

Lab Sample ID: 500-171280-6
Date Collected: 10/04/19 12:05
Matrix: Solid
Date Received: 10/05/19 09:30
Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 15:07	AJD	TAL CHI

Client Sample ID: B-9 (2-4)

Lab Sample ID: 500-171280-7
Date Collected: 10/04/19 12:13
Matrix: Solid
Date Received: 10/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Client Sample ID: B-9 (2-4)

Lab Sample ID: 500-171280-7
Date Collected: 10/04/19 12:13
Matrix: Solid
Date Received: 10/05/19 09:30
Percent Solids: 87.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 15:34	AJD	TAL CHI

Client Sample ID: B-9 (6-8)

Lab Sample ID: 500-171280-8
Date Collected: 10/04/19 12:10
Matrix: Solid
Date Received: 10/05/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	509386	10/10/19 11:20	LWN	TAL CHI

Client Sample ID: B-9 (6-8)

Lab Sample ID: 500-171280-8
Date Collected: 10/04/19 12:10
Matrix: Solid
Date Received: 10/05/19 09:30
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			509725	10/11/19 19:03	JP1	TAL CHI
Total/NA	Analysis	8270D		1	509845	10/14/19 16:01	AJD	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Giles Engineering Associates
Job ID: 500-171280-1
Project/Site: Glendale Manor - 1E-1903017

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Chain of Custody Record

388521

eurofins | Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Kevin Bugel	Site Contact: Joseph Wolske	Date: 10/04/2019	COC No:
Company Name: Giles Engineering Associates	Tel/Email: jwolske@gilesengr.com	Lab Contact:	Carr	_____ of _____ COCs
Address: N8 W 22350 Johnson Rd.	Analysis Turnaround Time			Sampler:
City/State/Zip: Waukesha, WI 53186	☒ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 262-544-0118	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Glendale Manor IE-1903019	☒ 1 week		500-171280 COC	
Site: Glendale, WI.	☐ 2 days			Job / SDG No.: 500-171280
P O #	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PAH 8270	Arsenic 6010	Sample Specific Notes:
1	B-20 (2-4)	10/4/19	1152	G	S	2			X	X	
2	B-20 (6-8)		1158			2			X	X	
3	B-21 (2-4)		1056			2			X	X	
4	B-21 (6-8)		1059			2			X	X	
5	B-7 (2-4)		1207			1			X		
6	B-7 (6-8)		1205			1			X		
7	B-9 (2-4)		1213			1			X		
8	B-9 (6-8)		1210			1			X		

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company	Date/Time		Company	Date/Time
Relinquished by: Joseph Wolske	Giles	10/4/1340	Received by:	TA	10-4-19 13:40
Relinquished by:	TA	10-4-19 1700	Received by:		
Relinquished by:			Received in Laboratory by: Paula Buckley	TA	10/5/19 0930

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
ORIGIN ID:RRLA (262) 202-5965
SHIPPING
TESTAMERICA
4125 N 124TH ST
BROOKFIELD, WI 53005
UNITED STATES US
SHIP DATE: 04OCT19
ACTWGT: 49.70 LB
CAD: 5251554/AFE3211
BILL RECIPIENT
TO SAMPLE RECEIPT
TESTAMERICA LABS
2417 BOND STREET
UNIVERSITY PARK IL 60484
(708) 534-5200
INV:
PO:
REF:
DEPT:
FedEx
Express
FedEx
TRK# 0201 7125 4941 0525
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO JOTA
60484
IL-US
ORD
942599 050et 03:00 MEMH 564C3/2A3C/DD71
500-171280 Waybill

Login Sample Receipt Checklist

Client: Giles Engineering Associates

Job Number: 500-171280-1

Login Number: 171280
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	