

HURRICANE

Katrina

IN THE GULF COAST

I. Description of Sampling and Analytical Methods

As discussed in Chapter 8, samples of materials were collected from a number of flood-damaged buildings. Due to the damage to the materials in most of the buildings from the standing water, a large number of the samples were collected by breaking off a piece of already damaged wall finish. In other cases, a razor knife or drywall saw was used to cut through the surfaces and extract suitably sized samples. All bulk samples were then double sealed in plastic bags for transport to the Wonder Makers office in Kalamazoo, Michigan. Samples were then divided as necessary or prepared for submission to a laboratory for the requested analytical tests.

I.1 Biological Bulk Samples

I.1.1 Fungal Bulk Samples

For each sample collected in the field, a laboratory procedure was necessary to prepare it for analysis for mold, and particulates. The bagged samples were carefully opened under controlled conditions and visually examined. Any visibly suspected biological contamination was captured for analysis by using a commercially available Air-O-Cell cassette connected to a high volume vacuum pump. The pump/cassette sampling apparatus was calibrated to 15 liters per minute (lpm) according to the manufacturer's specifications. The cassette was then carefully

hovered over the surface to collect particles from the visibly impacted areas. Sample analysis was conducted in conformance with Wonder Makers Environmental's written analytical standard operating procedures, using light microscopy techniques. A minimum of 15 percent of the sample trace area was analyzed for each category of particulate (fungal spores, fibers, and opaque particles) identified, with fungal types identified to genus level when possible. An additional 12 to 17 percent of the sample was qualified to improve the accuracy of the analysis, noting any bioaerosols that were not quantified. For sample preparation, the collection slide was removed from the cassette, mounted under a cover slip, media side up, with Calberlas staining solution, and analyzed by direct microscopic examination at 1,000 times (1,000x) magnification with immersion oil used to connect the microscope objective to the cover slip. Sample results were reported as identified fungal spore types and presented in order of preponderance. If no spores were detected or observed during analysis, the result was reported as below minimum detectable limits (BMDL).

I.1.2 Bacterial Surface Swab Samples

As noted in the previous section, the bagged samples had to be prepared for submission to the laboratory. Each bag was carefully opened under controlled conditions and visually examined. Any visibly-suspect biological contamination was captured for analysis by using a commercially available sterile swab. These biological swabs were collected from various surfaces to yield quantitative and qualitative amounts of viable bacterial organisms. Sterile biological swabs and collection ampules containing a general transport medium were provided by a commercial manufacturer. Samples were collected based on a 2-inch by 2-inch template yielding 4 square inches of sample area. Samples were collected by wetting the cotton end in the transport medium and then rolling the swab completely across a surface to bring the entire surface of the swab into contact with the measured surface area. Disposable templates with predetermined dimensions were used to define the sampled area, which was then recorded on the sample collection log. The inoculated swabs were then inserted into the ampules and placed into a cooler containing fresh ice packs for overnight shipment to Aerotech Laboratories, Inc., in Phoenix, Arizona, for sample analysis. Cultures were propagated on standard blood agar medium for enumeration. Aerotech Laboratories is a recognized Environmental Microbiology Proficiency Analytical Testing (EMPAT) and Environmental Microbiology Laboratory Accreditation Program (EMLAP) certified laboratory. Sample results were reported as colony forming units per square centimeter (cfu/cm²).

I.2 Chemical Samples

Following preparation of the biological bulk samples and biological surface swab samples, the remaining sample materials were forwarded to Clayton Group Services in Detroit, Michigan. If enough sample material was present, the samples were divided and prepped for numerous chemical analyses. As authorized by the Building Engineering Sciences and Technology Team (BESTT), samples were analyzed using EPA methods for organochlorine pesticides, PCBs, diesel range organics (DROs), and 13 common heavy metals. The information was recorded on the chain of custody and collection log and sent with the samples to Clayton Group Services.

I.3 Sampling and Laboratory Test Results

The results of the various laboratory tests conducted on the material samples collected in the field are provided on the pages that follow. Please refer to the legends and notes listed at the end of this appendix when reviewing the sample results.

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Fungal Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-01	Residence at Elysian Fields: Wall Materials Below Water Line (Downstairs living room-east wall/Two layers of plaster, paint, and cloth from below the water line)	GNB (cfu/cm ²):	6,720	Indicator Organisms:	BMDL	Chlordane:	49	BMDL	18,000	Antimony:	BMDL
		GPB (cfu/cm ²):	746	Common/Target Organisms:	BMDL	alpha-Chlordane:	BMDL			Arsenic:	1,200
		Other:	BMDL	Hyphae:	BMDL	gamma-Chlordane:	5.7			Beryllium:	BMDL
		Total:	7,460			Other:				Cadmium:	670
						DDD:	6.7			Chromium:	3,300
						Heptachlor:	4.0			Copper:	1,000
										Lead:	64,000
										Mercury:	120
										Nickel:	8,600
										Selenium:	910
6379-02	Residence at Elysian Fields: Wall Materials Below Water Line (Downstairs living room – east wall/ Insulation from wall cavity below water line)	GNB (cfu/cm ²):	19,200	Indicator Organisms:	No	Chlordane:	92	BMDL	150,000	Antimony:	650
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Chaetomium	alpha-Chlordane:	6.0			Arsenic:	17,000
		Other:	BMDL	Hyphae:	Yes	gamma-Chlordane:	16			Beryllium:	850
		Total:	19,200			Other:				Cadmium:	42,000
						Heptachlor:	7.5			Chromium:	25,000
						Methoxychlor:	44			Copper:	81,000
										Lead:	130,000
										Mercury:	260
										Nickel:	14,000
										Selenium:	BMDL
										Silver:	350
										Thallium:	BMDL
										Zinc:	4,800,000

HURRICANE KATRINA IN THE GULF COAST MITIGATION ASSESSMENT TEAM REPORT I-5

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)	Biological Bulks ²	Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵
6379-05	Residence at Elysian Fields: Wall Materials Above Water Line (Sunroom, north wall/ Drywall above water line)	GNB (cfu/cm ²):	Indicator Organisms: Aspergillus/ Penicillium	Chlordane: 410	BMDL	77,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms: Chaetomium	Alpha-Chlordane: 30			Arsenic: 190
		Other:	Curvularia	Gamma-Chlordane: 14			Beryllium: BMDL
		Total:	Hyphae: Yes	Other:			Cadmium: 160
				DDD: 6.5			Chromium: 4,400
				DDT: 9.0			Copper: 840
				Endosulfan sulfate 5.0			Lead: 390
				Heptachlor: 16			Mercury: 89
							Nickel: 8,400
							Selenium: 1,800
6379-06	Residence at Elysian Fields: Wall Materials Above Water Line (Sunroom, north wall/ Drywall above water line [mold])	GNB (cfu/cm ²):	Indicator Organisms: No	Chlordane: 810	BMDL	84,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms: Chaetomium	Alpha-Chlordane: 73			Arsenic: 170
		Other:	Curvularia	Gamma-Chlordane: 87			Beryllium: BMDL
		Total:	Hyphae: Yes	Other:			Cadmium: 100
				DDT: 19			Chromium: 3,200
				Endosulfan sulfate 19			Copper: 780
				Heptachlor: 41			Lead: 380
							Mercury: 66
							Nickel: 8,900
							Selenium: 1,600
							Silver: BMDL
							Thallium: BMDL
							Zinc: 9,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)	Biological Bulks ²	Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵
6379-07	Residence at Elysian Fields: Dry Sludge (Exterior of house – Front sidewalk, 15' east of main door/ Sludge residue [dry])	GNB (cfu/cm ²):	Indicator Organisms:	No	BMDL	760,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	Epicoccum	BMDL		Arsenic: 9,700
		Other:		Curvularia	BMDL		Beryllium: 1,200
		Bacillus Species	Hyphae:	Yes	BMDL		Cadmium: 2,400
		Total:					Chromium: 33,000
							Copper: 64,000
							Lead: 170,000
							Mercury: 63
							Nickel: 26,000
							Selenium: BMDL
6379-08	Residence at Elysian Fields: Wall Materials Above Water Line (Center of west wall upstairs SW bedroom/Skim coat plaster on drywall on top of plaster)	GNB (cfu/cm ²):	Indicator Organisms:	No	250	650,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	Chaetomium	16		Arsenic: 1,900
		Other:	Hyphae:	No	28		Beryllium: 120
		Bacillus Species					Cadmium: BMDL
		Total:					Chromium: 3,400
							Copper: 4,800
							Lead: 3,400
							Mercury: 79
							Nickel: 14,000
							Selenium: BMDL
							Silver: BMDL
							Thallium: BMDL
							Zinc: 11,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
		GNB (cfu/cm ²):	GPB (cfu/cm ²):	Indicator Organisms:	Common/Target Organisms:	Chlordane:	alpha-Chlordane:	BMDL	110,000	Antimony:	BMDL
6379-09	Residence at General Diaz: Wall Materials Below Water Line (South wall of sunroom/Drywall from below water line)									Arsenic:	190
										Beryllium:	BMDL
										Cadmium:	BMDL
										Chromium:	1,400
										Copper:	610
										Lead:	1,000
										Mercury:	BMDL
										Nickel:	8,100
										Selenium:	BMDL
										Silver:	BMDL
6379-10	Residence at General Diaz: Wall Materials Above Water Line (South wall of sunroom/Drywall from above water line)									Thallium:	BMDL
										Zinc:	6,100
										Antimony:	300
										Arsenic:	1,100
										Beryllium:	1,400
										Cadmium:	BMDL
										Chromium:	1,400
										Copper:	540
										Lead:	750
										Mercury:	BMDL
6379-09	Residence at General Diaz: Wall Materials Below Water Line (South wall of sunroom/Drywall from below water line)									Nickel:	8,200
										Selenium:	BMDL
										Silver:	BMDL
										Thallium:	BMDL
										Zinc:	4,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)				Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵
6379-11	Residence at General Diaz: Wet Sludge (Sunroom/ living room/Sludge from floor [wet])	GNB (cfu/cm ²):	64,900	Sample was wet and could not be microvacuumed		Chlordane:	190	BMDL	130,000	Antimony:	BMDL	
		GPB (cfu/cm ²):	BMDL			alpha-Chlordane:	18		Arsenic:	23,000		
		Other:	BMDL			gamma-Chlordane:	39		Beryllium:	430		
		Total:	64,900			Other:			Cadmium:	5,700		
						DDT:	40		Chromium:	14,000		
						Dieldrin:	19		Copper:	62,000		
						Endrin ketone	43		Lead:	120,000		
						Heptaclor:	4.0		Mercury:	BMDL		
						Methoxychlor:	3.7		Nickel:	130,000		
									Selenium:	BMDL		
					Silver:	320						
					Thallium:	BMDL						
					Zinc:	2,300,000						
6379-12	Residence at General Diaz: Wall Materials Below Water Line (South wall of sunroom/Wood from wall stud below water level)	GNB (cfu/cm ²):	20,200	Indicator Organisms:	No	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Antimony:	BMDL			
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Cladosporium			Arsenic:	560			
		Other:	BMDL		Basidiospore			Beryllium:	BMDL			
		Total:	20,200	Hyphae:	No			Cadmium:	BMDL			
								Chromium:	1,200			
								Copper:	BMDL			
								Lead:	2,500			
								Mercury:	Insufficient sample			
								Nickel:	640			
								Selenium:	BMDL			
								Silver:	BMDL			
								Thallium:	BMDL			
					Zinc:	23,000						

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
		GNB (cfu/cm ²):	Indicator Organisms:	Indicator Organisms:		Chlordane:	BMDL	BMDL	230,000	Antimony:	BMDL
6379-13	Residence at Memphis Street: Wall Materials Below Water Line (Formal dining room/Drywall below water line)	GPB (cfu/cm ²):	Common/Target Organisms:	Basidiospore		alpha-Chlordane:	BMDL			Arsenic:	520
		Other:	Hyphae:	Yes		gamma-Chlordane:	BMDL			Beryllium:	BMDL
		Total:				Other:	BMDL			Cadmium:	76
										Chromium:	3,300
										Copper:	820
										Lead:	780
										Mercury:	120
										Nickel:	7,200
										Selenium:	1,300
										Silver:	BMDL
6379-14	Residence at Memphis Street: Wall Materials Above Water Line (Formal dining room/Drywall above water line)	GNB (cfu/cm ²):	Indicator Organisms:	Aspergillus/ Penicillium		Chlordane:	BMDL	BMDL	210,000	Antimony:	BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	No		alpha-Chlordane:	BMDL			Arsenic:	1,200
		Other:	Hyphae:	No		gamma-Chlordane:	BMDL			Beryllium:	150
		Total:				Other:	BMDL			Cadmium:	220
										Chromium:	4,800
										Copper:	1,400
										Lead:	780
										Mercury:	180
										Nickel:	13,000
										Selenium:	3,300
										Silver:	BMDL
										Thallium:	BMDL
										Zinc:	19,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)			Biological Bulks ²		Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-15	Residence at Memphis Street: Dry Sludge (Kitchen/ dining room/Sludge residue from floor)	GNB (cfu/cm ²):	BMDL	Indicator Organisms:	Aspergillus/ Penicillium	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insuffi- cient sample quantity	Analysis voided due to insufficient sample quantity	Antimony:	2,300
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Basidiospore					Arsenic:	60,000
		Other:			Chaetomium					Beryllium:	760
		Bacillus Species	590		Stachybotrys					Cadmium:	10,000
		Total:	590	Hyphae:	Yes					Chromium:	36,000
										Copper:	220,000
										Lead:	240,000
										Mercury:	140
										Nickel:	18,000
										Selenium:	3,100
6379-16	Residence at Memphis Street: Wall Materials Below Water Line (Dining room/Stud silver below water line)	GNB (cfu/cm ²):	260,000	Indicator Organisms:	Aspergillus/ Penicillium	Analysis voided due to insufficient sample quantity	Analysis voided due to insuffi- cient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Silver:	870
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Chaetomium					Thallium:	340
		Other:	BMDL	Hyphae:	No					Zinc:	32,000,000
		Total:	260,000							Antimony:	370
										Arsenic:	BMDL
										Beryllium:	BMDL
										Cadmium:	BMDL
										Chromium:	920
										Copper:	790
										Lead:	240
										Mercury:	BMDL
										Nickel:	660
										Selenium:	BMDL
										Silver:	BMDL
										Thallium:	BMDL
										Zinc:	28,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)	Biological Bulks ²	Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵
6379-17	Residence at Savoie Court: Wall Materials Below Water Line (Living room – east wall/Drywall and wallpaper below water line)	GNB (cfu/cm ²):	Indicator Organisms: Aspergillus/ Penicillium	Chlordane:	BMDL	82,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms: Chaetomium	alpha-Chlordane:			Arsenic: 2,500
		Other:	Hyphae: Yes	gamma-Chlordane:			Beryllium: BMDL
		Total:		Other:	BMDL		Cadmium: BMDL
							Chromium: 3,800
							Copper: 2,200
							Lead: 830
6379-18	Residence at Savoie Court: Wall Materials Below Water Line (Living room – east wall/Drywall and wallpaper below water line)						Mercury: 65
							Nickel: 11,000
							Selenium: BMDL
							Silver: BMDL
							Thallium: BMDL
							Zinc: 21,000
		GNB (cfu/cm ²):	Indicator Organisms: Aspergillus/ Penicillium	Chlordane:	BMDL	200,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms: Chaetomium	alpha-Chlordane:	11		Arsenic: 870
		Other:	Hyphae: Yes	gamma-Chlordane:	16		Beryllium: 150
		Total:		Other:	BMDL		Cadmium: BMDL
							Chromium: 1,800
							Copper: 1,600
							Lead: 900
							Mercury: 70
							Nickel: 13,000
							Selenium: BMDL
							Silver: BMDL
							Thallium: BMDL
							Zinc: 26,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Biological Bulks ²		Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-19	Residence at Savoie Court: Miscellaneous Materials (Living room – east wall/Carpet and pad under drywall sample)	GNB (cfu/cm ²):	BMDL	Indicator Organisms:	Aspergillus/ Penicillium	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Antimony:	BMDL
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Chaetomium				Arsenic:	BMDL
		Other:	BMDL	Hyphae:	Yes				Beryllium:	BMDL
		Total:	BMDL						Cadmium:	150
									Chromium:	3,500
									Copper:	15,000
									Lead:	1,900
									Mercury:	410
									Nickel:	2,000
									Selenium:	BMDL
6379-20	Residence at Savoie Court: Wall Materials Above Water Line (Living room – east wall/Wallpaper fold mold)	GNB (cfu/cm ²):	242,000	Indicator Organisms:	Aspergillus/ Penicillium	Analysis voided due to insufficient sample quantity	BMDL	380,000	Antimony:	BMDL
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	No				Arsenic:	BMDL
		Other:	BMDL	Hyphae:	No				Beryllium:	110
		Total:	242,000						Cadmium:	700
									Chromium:	5,400
									Copper:	6,800
									Lead:	3,600
									Mercury:	BMDL
									Nickel:	6,200
									Selenium:	BMDL
									Silver:	BMDL
									Thallium:	BMDL
									Zinc:	300,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)				Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
		GNB (cfu/cm ²):	GPB (cfu/cm ²):	Other:	Total:	Indicator Organisms:	Common/Target Organisms:	Analysis voided due to insufficient sample quantity		Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Antimony:	BMDL
6379-21	Residence at Savoie Court: Wall Materials Above Water Line (Living room – east wall/Stud silver)	27,000	BMDL	BMDL	27,000	Aspergillus/ Penicillium	Chaetomium	Analysis voided due to insufficient sample quantity		Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Arsenic:	3,000
							Myxomycetes					Beryllium:	BMDL
							Yes					Cadmium:	BMDL
												Chromium:	12,000
												Copper:	1,500
												Lead:	4,000
												Mercury:	Insufficient sample
												Nickel:	BMDL
												Selenium:	BMDL
												Silver:	BMDL
6379-22	Residence at Savoie Court: Wall Materials Below Water Line (Living room – east wall/Wooden baseboard)											Thallium:	BMDL
												Zinc:	13,000
												Antimony:	BMDL
		GNB (cfu/cm ²):	33,300			Indicator Organisms:	Aspergillus/ Penicillium	Chlordane:	87	BMDL	270,000	Arsenic:	1,100
		GPB (cfu/cm ²):	3,700			Common/Target Organisms:	Chaetomium	Alpha-Chlordane:	10			Beryllium:	BMDL
		Other:	BMDL				Ascospore	Gamma-Chlordane:	15			Cadmium:	BMDL
		Total:	37,000			Hyphae:	Yes	Other:				Chromium:	3,700
								Dieldrin:	10			Copper:	3,200
								Methoxychlor	86			Lead:	1,000
												Mercury:	BMDL
												Nickel:	3,200
												Selenium:	BMDL
												Silver:	160
												Thallium:	BMDL
												Zinc:	10,000

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Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)				Biological Bulks ²			Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵
		GNB (cfu/cm ²):	GPB (cfu/cm ²):	Other:	Total:	Indicator Organisms:	Common/Target Organisms:	Hyphae:				
6379-25	Residence at Savoie Court: Miscellaneous Materials (SW bedroom/Fungal growth on dresser leg)	144	BMDL	BMDL	144	Aspergillus/ Penicillium	Ascospore	Yes	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity
6379-26	Residence at Munster Boulevard: Dry Sludge (Dried sludge from driveway)	2,430	486			Aspergillus/ Penicillium	Basidiospore		Chlordane:	BMDL	520,000	Antimony: BMDL
									alpha-Chlordane:	BMDL		Arsenic: 8,200
						Ascospore			gamma-Chlordane:	BMDL		Beryllium: 1,100
						Curvularia			Other:	BMDL		Cadmium: 840
		1,940				Nigrospora						Chromium: 16,000
		4,860				Stachybotrys						Copper: 30,000
						Periconia						Lead: 35,000
						Yes						Mercury: BMDL
												Nickel: 26,000
												Selenium: 1,800
												Silver: 330
												Thallium: BMDL
												Zinc: 170,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Biological Bulks ² Sample was wet and could not be microvacuumed		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-27	Residence at Munster Boulevard: Wet Sludge (Living room inside front door/Wet sludge from inside living room)	GNB (cfu/cm ²):	5,610	Sample was wet and could not be microvacuumed	No	Chlordane:	BMDL	BMDL	69,000	Antimony:	BMDL
		GPB (cfu/cm ²):	BMDL			alpha-Chlordane:	BMDL			Arsenic:	3,200
		Other:				gamma-Chlordane:	BMDL			Beryllium:	320
		Bacillus Species	1,400			Other:	BMDL			Cadmium:	400
		Total:	7,020							Chromium:	5,600
										Copper:	10,000
										Lead:	12,000
6379-28	Residence at Munster Boulevard: Wall Materials Below Water Line (Living room inside front door/Drywall – east wall below water line)	GNB (cfu/cm ²):	456,000	Indicator Organisms: Common/Target Organisms: Hyphae:	Stachybotrys Memmonella Yes	Chlordane:	130	BMDL	170,000	Antimony:	BMDL
		GPB (cfu/cm ²):	BMDL			alpha-Chlordane:	21			Arsenic:	1,500
		Other:	BMDL			gamma-Chlordane:	24			Beryllium:	BMDL
		Total:	456,000			Other:				Cadmium:	BMDL
						DDD:	5.7			Chromium:	910
						DDE:	3.3			Copper:	590
						DDT:	6.0			Lead:	1,300
										Mercury:	120
										Nickel:	5,800
										Selenium:	BMDL
										Silver:	BMDL
										Thallium:	BMDL
										Zinc:	18,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)	Biological Bulks ²	Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵
6379-29	Residence at Papania: Flood water from pot in living room	Flood water sample voided due to excess holding time	Flood water sample could not be microvacuumed	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time
6379-30	Residence at Munster Boulevard: Flood water from jar in sink	Flood water sample voided due to excess holding time	Flood water sample could not be microvacuumed	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time
6379-31	Residence at Munster Boulevard: Flood water from jar in sink	Flood water sample voided due to excess holding time	Flood water sample could not be microvacuumed	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time	Flood water sample voided due to excess holding time
6379-32	Residence at Cleary Avenue: Wall Materials Below Water Line (East wall of lower floor SE bedroom/Drywall below water line)	GNB (cfu/cm ²):	Indicator Organisms:	Chlordane:	BMDL	190,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	alpha-Chlordane:			Arsenic: 1,200
		Other:	Hyphae:	gamma-Chlordane:			Beryllium: BMDL
		Bacillus Species		Other:	BMDL		Cadmium: BMDL
		Total:					Chromium: 1,200
							Copper: 10,000
							Lead: 1,500
							Mercury: 83
							Nickel: 8,400
							Selenium: 2,000
							Silver: 100
							Thallium: BMDL
							Zinc: 10,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-33	Residence at Cleary Avenue: Wall Materials Above Water Line (East wall of lower floor SE bedroom/Drywall above water line)	GNB (cfu/cm ²):	BMDL	Indicator Organisms:	Aspergillus/ Penicillium	Chlordane:	26	BMDL	200,000	Antimony:	BMDL
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Curvularia	alpha-Chlordane:	BMDL			Arsenic:	1,000
		Other:			Alternaria	gamma-Chlordane:	BMDL			Beryllium:	BMDL
		Gram Positive Cocci	Observed		Bipolaris	Other:	BMDL			Cadmium:	BMDL
		Total:	BMDL	Hyphae:	Yes					Chromium:	1,100
										Copper:	9,300
										Lead:	1,400
										Mercury:	66
										Nickel:	8,200
										Selenium:	1,600
6379-34	Residence at Cleary Avenue: Wall Materials Above Water Line (SE bedroom closet – east wall by entry/ Drywall above water line with mold on both sides)	GNB (cfu/cm ²):	3,330	Indicator Organisms:	Aspergillus/ Penicillium	Chlordane:	26	BMDL	130,000	Antimony:	BMDL
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Chaetomium	alpha-Chlordane:	BMDL			Arsenic:	1,700
		Other:	BMDL		Cladosporium	gamma-Chlordane:	BMDL			Beryllium:	BMDL
		Total:	3,330	Hyphae:	Yes	Other:	BMDL			Cadmium:	BMDL
										Chromium:	1,700
										Copper:	12,000
										Lead:	1,300
										Mercury:	160
										Nickel:	8,700
										Selenium:	2,100
										Silver:	120
										Thallium:	BMDL
										Zinc:	9,600

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)	Biological Bulks ²	Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵
6379-35	Residence at Cleary Avenue: Miscellaneous Materials (SE bedroom/Carpet below samples 32 and 33)	GNB (cfu/cm ²):	Indicator Organisms:	Chlordane:	BMDL	920,000	Antimony: 170,000
		GPB (cfu/cm ²):	Common/Target Organisms:	Alpha-Chlordane:	BMDL		Arsenic: 550
		Other:		Gamma-Chlordane:	BMDL		Beryllium: BMDL
		Bacillus Species	Hyphae:	Other:			Cadmium: 130
		Gram Positive Cocci		DDD:	50		Chromium: 3,800
		Total:		Endosulfan II:	100		Copper: 6,000
				Endosulfan sulfate:	700		Lead: 4,200
				Methoxychlor:	700		Mercury: BMDL
							Nickel: 6,300
							Selenium: 650
6379-36	Residence at Cleary Avenue: Wall Materials Above Water Line (Second floor hall ceiling/ Drywall with mold)						Silver: BMDL
							Thallium: BMDL
							Zinc: 54,000
		GNB (cfu/cm ²):	Indicator Organisms:	Chlordane:	BMDL	120,000	Antimony: BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	alpha-Chlordane:	BMDL		Arsenic: 390
		Other:		gamma-Chlordane:	BMDL		Beryllium: BMDL
		Total:	Hyphae:	Other:	BMDL		Cadmium: 83
							Chromium: 1,800
							Copper: 9,000
							Lead: 2,000
							Mercury: BMDL
							Nickel: 8,200
							Selenium: 1,500
							Silver: BMDL
							Thallium: BMDL
							Zinc: 11,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)	Biological Bulks ²		Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-37	Residence at Cleary Avenue: Wall Materials Above Water Line (Second floor hall ceiling/Stud silver)	GNB (cfu/cm ²):	Indicator Organisms:	Aspergillus/ Penicillium	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Antimony:	BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	Stachybotrys				Arsenic:	2,400
		Other:		Basidiospore				Beryllium:	BMDL
		Total:		Epicoccum				Cadmium:	150
			Hyphae:	No				Chromium:	1,600
								Copper:	700
								Lead:	1,300
								Mercury:	Insufficient sample
								Nickel:	3,300
								Selenium:	1,200
6379-38	Residence at Cleary Avenue: Wall Materials Below Water Line (SE lower bedroom/Stud silver from east wall)	GNB (cfu/cm ²):	Indicator Organisms:	Aspergillus/ Penicillium	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Silver:	BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	Stachybotrys				Thallium:	BMDL
		Other:	Hyphae:	Yes				Zinc:	12,000
		Bacillus Species						Antimony:	BMDL
		Total:						Arsenic:	BMDL
								Beryllium:	270
								Cadmium:	140
								Chromium:	2,400
								Copper:	BMDL
								Lead:	BMDL
								Mercury:	Insufficient sample
								Nickel:	BMDL
								Selenium:	1,500
								Silver:	BMDL
								Thallium:	BMDL
								Zinc:	8,200

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)			Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
		GNB (cfu/cm ²):	GPB (cfu/cm ²):	Other:	Indicator Organisms:	Common/Target Organisms:	Chlordane:	alpha-Chlordane:	BMDL	450,000	Antimony:	BMDL
6379-39	Residence at Cleary Avenue: Wall Materials Below Water Line (North wall of sunken family room/Masonite paneling)										Arsenic:	310
											Beryllium:	BMDL
											Cadmium:	BMDL
											Chromium:	13,000
											Copper:	5,800
											Lead:	47,000
											Mercury:	BMDL
											Nickel:	BMDL
											Selenium:	BMDL
											Silver:	BMDL
6379-40	Residence at Cleary Avenue: Dry Sludge (West kitchen floor/ Flood residue)										Thallium:	BMDL
											Zinc:	31,000
											Analysis voided due to insufficient sample quantity	
											Analysis voided due to insufficient sample quantity	

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)			Biological Bulks ²		Pesticides (µg/kg) ³	PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-41	Fire Station at Louisiana Avenue: Dry Sludge (Sludge from floor)	GNB (cfu/cm ²):	737	Indicator Organisms:	No		Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Antimony:	11,000
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Basidiospore					Arsenic:	45,000
		Other:			Myxomycete					Beryllium:	110
		Bacillus Species	1,840		Nigrospora					Cadmium:	22,000
		Gram Positive Cocci	1,110	Hyphae:	Yes					Chromium:	24,000
		Total:	3,690							Copper:	200,000
										Lead:	1,300,000
										Mercury:	470
										Nickel:	13,000
										Selenium:	1,000
6379-42	Fire Station at Louisiana Avenue: Wall Materials Below Water Line (Drywall from below water line at kitchen stains)						Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Analysis voided due to insufficient sample quantity	Silver:	890
										Thallium:	330
										Zinc:	5,400,000
		GNB (cfu/cm ²):	327,000	Indicator Organisms:	Aspergillus/ Penicillium					Antimony:	470
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Chaetomium					Arsenic:	2,700
		Other:	BMDL		Smut					Beryllium:	BMDL
		Total:	327,000	Hyphae:	Yes					Cadmium:	200
										Chromium:	2,600
										Copper:	4,200
										Lead:	7,400
										Mercury:	BMDL
										Nickel:	8,300
										Selenium:	BMDL
										Silver:	BMDL
										Thallium:	BMDL
										Zinc:	180,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
		GNB (cfu/cm ²):	Indicator Organisms:	Indicator Organisms:	Aspergillus/ Penicillium	Chlordane:	1,400			Antimony:	BMDL
6379-43	Fire Station at Louisiana Avenue: Wall Material Above Water Line (Drywall above water line at kitchen)	GPB (cfu/cm ²):	Common/Target Organisms:	Chaetomium	Chaetomium	alpha-Chlordane:	180			Arsenic:	2,100
		Other:		Stachybotrys	Stachybotrys	gamma-Chlordane:	260			Beryllium:	110
		Bacillus Species		Arthrinium	Arthrinium	Other:	BMDL			Cadmium:	53
		Total:	Hyphae:	Yes	Yes					Chromium:	1,900
										Copper:	1,300
										Lead:	2,300
										Mercury:	BMDL
										Nickel:	7,700
										Selenium:	800
										Silver:	BMDL
6379-44	Residence at Octavia: Wall Materials Above Water Line (Main hall to sunken family room – east wall/Wallpaper with fuzzy white growth)									Thallium:	430
										Zinc:	9,800
		GNB (cfu/cm ²):	Indicator Organisms:	Aspergillus/ Penicillium	Aspergillus/ Penicillium	Chlordane:	1,200	BMDL	1,500,000	Antimony:	BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	Basidiospore	Basidiospore	alpha-Chlordane:	150			Arsenic:	930
		Other:		Alternaria	Alternaria	gamma-Chlordane:	190			Beryllium:	140
		Total:		Ascospore	Ascospore	Other:				Cadmium:	BMDL
				Cladosporium	Cladosporium	DDD:	21			Chromium:	1,200
			Hyphae:	No	No					Copper:	1,100
										Lead:	1,700
										Mercury:	310
										Nickel:	5,800
										Selenium:	BMDL
										Silver:	BMDL
										Thallium:	BMDL
										Zinc:	5,600

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)		Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
		GNB (cfu/cm ²):	GPB (cfu/cm ²):	Indicator Organisms:	Common/Target Organisms:	Chlordane:	alpha-Chlordane:			Antimony:	Arsenic:
6379-45	Residence at Octavia: Wall Materials Below Water Line (Main hall to sunken family room – west wall/Wallpaper below water line)	251,000	BMDL	No	Chaetomium	2,200	220	BMDL	990,000		
			BMDL	Yes	Hyphae:	380	gamma-Chlordane:			Beryllium:	BMDL
		251,000			Other:	BMDL				Cadmium:	54
										Chromium:	5,600
										Copper:	1,300
										Lead:	25,000
										Mercury:	10,000
										Nickel:	BMDL
										Selenium:	BMDL
										Silver:	BMDL
6379-46	Residence at Octavia: Wall Materials Above Water Line (Main hall to sunken family room – west wall/Wallpaper above water line)									Thallium:	BMDL
										Zinc:	74,000
		168,000	BMDL	Aspergillus/ Penicillium	Indicator Organisms:	1,600	Chlordane:	BMDL	980,000	Antimony:	BMDL
		BMDL	BMDL	Chaetomium	Common/Target Organisms:	200	alpha-Chlordane:			Arsenic:	360
		BMDL	BMDL	No	Hyphae:	240	gamma-Chlordane:			Beryllium:	BMDL
		168,000			Other:	BMDL				Cadmium:	BMDL
										Chromium:	7,700
										Copper:	1,200
										Lead:	34,000
										Mercury:	230
										Nickel:	BMDL
										Selenium:	BMDL
										Silver:	BMDL
										Thallium:	BMDL
										Zinc:	19,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)			Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
		GNB (cfu/cm ²):	314,000	Indicator Organisms:	Aspergillus/ Penicillium	Chlordane:	880	BMDL		3,100,000	Antimony:	BMDL
6379-47	Residence at Octavia: Wall Materials Above Water Line (First floor office – east wall/ Released wallpaper)	GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Chaetomium	Alpha-Chlordane:	130				Arsenic:	1,400
		Other:	BMDL		Ascospore	Gamma-Chlordane:	150				Beryllium:	180
		Total:	314,000	Hyphae:	Yes	Other:					Cadmium:	670
						DDT:	250				Chromium:	16,000
											Copper:	8,800
											Lead:	4,800
											Mercury:	32,000
											Nickel:	7,300
											Selenium:	BMDL
											Silver:	100
6379-48	Fire Station at South Carrollton Avenue: Dry Sludge (Kitchen in back/Sludge from floor)										Thallium:	BMDL
		GNB (cfu/cm ²):	1,480	Indicator Organisms:	No						Zinc:	210,000
		GPB (cfu/cm ²):	BMDL	Common/Target Organisms:	Stachybotrys						Antimony:	330,000
		Other:			Memmonella						Arsenic:	81,000
		Bacillus Species	983		Basidiospore						Beryllium:	310
		Total:	2,460	Hyphae:	Yes						Cadmium:	24,000
											Chromium:	100,000
											Copper:	490,000
											Lead:	390,000
											Mercury:	1,600
											Nickel:	44,000
											Selenium:	BMDL
											Silver:	740
											Thallium:	BMDL
											Zinc:	8,500,000

Sample Number	Sample Location (Description)	Culturable Bacterial Swabs ¹ (GNB=Gram Negative Bacilli GPB=Gram Positive Bacilli)	Biological Bulks ²		Pesticides (µg/kg) ³		PCBs	Diesel Range Organics ⁴	Heavy Metals (µg/kg) ⁵	
6379-49	Fire Station at South Carrollton Avenue: Wall Materials Below Water Line (Kitchen in back – south wall/ Drywall below water line)	GNB (cfu/cm ²):	Indicator Organisms:	No	Chlordane:	100	BMDL	130,000	Antimony:	BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	Stachybotrys	alpha-Chlordane:	15			Arsenic:	730
		Other:		Cladosporium	gamma-Chlordane:	18			Beryllium:	140
		Total:	Hyphae:	Yes	Other:	BMDL			Cadmium:	60
									Chromium:	3,300
									Copper:	1,600
									Lead:	2,400
6379-50	Fire Station at South Carrollton Ave: Wall Materials Above Water Line (Kitchen in back – south wall/ Drywall above water line)								Mercury:	93
									Nickel:	7,300
									Selenium:	BMDL
									Silver:	BMDL
									Thallium:	BMDL
									Zinc:	9,800
		GNB (cfu/cm ²):	Indicator Organisms:	BMDL	Chlordane:	130	BMDL	190,000	Antimony:	BMDL
		GPB (cfu/cm ²):	Common/Target Organisms:	BMDL	alpha-Chlordane:	13			Arsenic:	1,000
		Other:	Hyphae:	BMDL	gamma-Chlordane:	11			Beryllium:	BMDL
		Total:	Other:	BMDL	Other:	BMDL			Cadmium:	BMDL
									Chromium:	2,500
									Copper:	930
									Lead:	3,600
									Mercury:	65
									Nickel:	8,400
									Selenium:	BMDL
									Silver:	BMDL
									Thallium:	BMDL
									Zinc:	6,000

1. For culturable bacterial swab sample results:

	Below the method detection limit (BMDL) is less than 18 cfu/cm ² .
	Moderate is between 18 cfu/cm ² and 1,000 cfu/cm ² .
	Extensive is between 1,100 cfu/cm ² and 20,000 cfu/cm ² .
	Extremely high is greater than 20,000 cfu/cm ² .

2. For fungal bulk sample results:

	No Organism Detected
	Indicator Organisms associated with potentially significant health problems detected = Aspergillus/Penicillium
	Common Organisms associated with minor health problems/ allergies, including Ascospore, Basidiospore, Cladosporium, Culvaria, Epicoccum, Fusarium, Myxmycete, Nigospora, Periconia, and Smut
	Target organisms associated with potentially serious health problems detected; which include Chaetomium, Fusarium, Memnomyella, Stachybotrys, and Trichoderma
	Hyphae: growth structures in addition to spores detected

3. For pesticide sample results:

Below the minimum detectable limit (BDML) is <17 µg/kg for Chlordane and <3.3µg/kg for other pesticides.

	Minimal: Values are less than 10% of the RECAP* screening standard.
	Low: Values are greater than 10% but less than 50% of the RECAP screening standard.
	Moderate: Values are greater than 50% but less than 100% of the RECAP screening standard.
	High: Values are greater than 100% of the RECAP screening standard.

4. For diesel range organics (DROs) sample results:

Below the minimum detectable limit (BDML) is <18,000 µg/kg.

	Minimal: Values are less than 10% of the RECAP* screening standard.
	Low: Values are greater than 10% but less than 50% of the RECAP screening standard.
	Moderate: Values are greater than 50% but less than 100% of the RECAP screening standard.
	High: Values are greater than 100% of the RECAP screening standard.

5. For heavy metals sample results:

Below the minimum detectable limit (BDML) is <50 µg/kg for Cadmium; <60 µg/kg for Mercury; <100 µg/kg for Arsenic, Beryllium, and Silver; <200 µg/kg for Lead; <300 µg/kg for Antimony, Chromium, Copper, Nickel, Thallium, and Zinc; <500 µg/kg for Selenium.



Minimal: Values are less than 10% of the RECAP* screening standard.

Low: Values are greater than 10% but less than 50% of the RECAP screening standard.

Moderate: Values are greater than 50% but less than 100% of the RECAP screening standard.

High: Values are greater than 100% of the RECAP screening standard.

* RECAP – Risk Evaluation/Corrective Action Program. This Louisiana Department of Environmental Quality (LDEQ) program is designed to provide guidance for contaminant levels in non-industrial soils based on values from the U.S. Environmental Protection Agency (USEPA) or estimated from other sources such as the LDEQ and health professionals. The RECAP screening standards are intended to be protective of children and adults in typical residential settings with long-term exposure (i.e., 30 years) and identify areas of concern. In addition to the screening standards, the following RECAP Management Option 1 (MO-1) standards are available for soils to determine if the contaminant levels require further evaluation.

Contaminant	RECAP MO-1 Standard µg/kg
Chlordane	1,600
alpha-Chlordane	1,600
gamma-Chlordane	1,600
DDT	1,700
Dieldrin	30
Heptachlor	16
DRO	650,000
Antimony	31,000
Arsenic	12,000
Beryllium	160,000
Cadmium	39,000
Chromium	230,000
Copper	3,100,000
Lead	400,000
Mercury	23,000
Nickel	1,600,000
Selenium	390,000
Silver	390,000
Thallium	5,500
Silver	390,000
Thallium	5,500
Zinc	23,000,000

6. Additional Details and Limitations Regarding Chemical Sample Results: According to Clayton Group Services, the quality control results associated with the samples were within acceptable limits and do not adversely affect the reported results, except as noted in the following bullets.
- Some samples and/or analyses had to be voided due to insufficient sample quantity. The entire sample had to be voided on Wonder Makers' samples 6379-24, -25 and -40. Mercury, pesticides/PCBs and DROs were voided on Wonder Makers' samples 6379-12, -21, -37 and -38. Pesticides/PCBs and DRO were voided on Wonder Makers' samples 6379-15, -16, -19 and -48.
 - For Wonder Makers' samples 6379-01 to -11, -13 and -14, the holding time for sample preparation for DRO and pesticide/PCB analyses was 15 days after sample collection; which exceeded the EPA's recommended holding time by 1 day.
 - For Wonder Makers' sample 6379-04, the spike recovery for zinc on the matrix spike duplicate (MSD) was 300%, above the statistical limit of 190%, due to matrix interference. The matrix spike (MS) recovery on this sample was within limits, at 107%. The MS/MSD recoveries on samples 6379-34 and -44 were all within acceptable limits for zinc.
 - For Wonder Makers' sample 6379-44, the matrix spike/matrix spike duplicate (MS/MSD) recoveries for mercury were 640% and 880%, above the statistical limit of 144%, due to matrix interference. However, the MS/MSD recoveries on samples 6379-04 and -34 were all within acceptable limits for mercury.
 - For Wonder Makers' samples 6379-01, -04, -05 and -08, the results reported for the organochlorine pesticide DDD are estimated and could be high, due to a high recovery of the continuing calibration verification (CCV) standard. The high CCV recovery was likely caused by the sample matrices.
 - For Wonder Makers' Samples 6379-07, -10, -20, -23, -26, -35, -36, and -42 through -47, the recoveries of the two surrogates (TCMX and DCB) for analysis of pesticides/PCBs were below statistical limits and lower reporting limits could not be achieved, due to matrix interference.
 - For Wonder Makers' Samples 6379-02, -03, -05, -06, -08, -18, -20, -22, -23, -32, -35, -39, -45 through -47, -49 and -50, the lower reporting limit for pesticides/PCBs could not be achieved, due to limited sample quantity.