

Crystal Clean Case Study # 3

Address: Superior, CO

Report Date: August 15, 2006

Pre Test Results

<u>Sample No.</u>	<u>Area Sampled</u>	<u>Sample Type</u>	<u>Results</u> <u>($\mu\text{g}/\text{sample}$)</u>
60-1A	Kitchen FS# 1	Composite Wipe	0.353
60-2A	Family Room and Living Room FS# 2	Composite Wipe	0.512
60-2B	Family Room and Living Room FS# 2 (Duplicate)	Composite Wipe (Duplicate)	0.128
60-3A	Family Room and Living Room FS# 2	Composite Vac	0.33
60-3B	Family Room and Living Room (Duplicate)	Composite Vac (Duplicate)	0.314
60-4A	Bathrooms and Laundry/Bathrooms FS# 3	Composite Wipe	0.296
60-5A	Bedrooms and Upstairs Hallway FS# 4	Composite Wipe	0.06
60-5B	Bedrooms and Upstairs Hallway FS# 4 (Duplicate)	Composite Wipe (Duplicate)	0.063
60-6A	Bedrooms and Upstairs Hallway FS# 4	Composite Vac	0.556
60-6B	Bedrooms and Upstairs Hallway FS# 4 (Duplicate)	Composite Vac (Duplicate)	0.849
60-7A	Basement and Sub-floor Crawl Space FS# 5	Composite Wipe	1.24
60-8A	Garage FS# 6	Composite Wipe	1.07
60-9A	N/A	Composite Wipe Field Bank	<0.030
60-10A	NA	Composite Vac Field Blank	<0.030

Notes: All Sample Areas = 500 cm²

CDPHE Limit = 0.5 ug/100 cm²

The calculated limit based on compositing samples = 0.1 ug

Only discrete sampling was utilized during the post-remediation clearance sampling. In each functional space, as well as within the ventilation system, at least 500 cm² of surface was sampled, resulting in the collection of a minimum of (5) samples per functional space. Clearance samples were collected from selected areas within the functional space, with biased sampling utilized to attempt to identify areas which were not adequately decontaminated.

Post Test Results With Tri-Sodium Phosphate

<u>Sample No.</u>	<u>Area Sampled</u>	<u>Sample Type</u>	<u>Results</u> <u>($\mu\text{g}/100\text{ cm}^2$)</u>
60-1-11	#1 Kitchen - ceiling adjacent to light fixture	Discrete	0.87
60-1-12	#1 Kitchen - north wall above cabinets	Discrete	0.23
60-1-13	#1 Kitchen - counter top adjacent to refrigerator	Discrete	0.098



60-1-14	#1 Kitchen - floor adjacent to refrigerator	Discrete	0.038
60-1-15A	#1 Kitchen - wall adjacent to picture window	Discrete	0.21
60-1-15B	#1 Kitchen - wall adjacent to picture window (Duplicate)	Discrete	0.13
60-1-16	#1 Kitchen - refrigerator interior	Discrete	<.030
60-1-17	#1 Kitchen - stove interior	Discrete	0.058
60-1-18	#1 Kitchen - dishwasher interior	Discrete	<.030
60-1-19	#2 - Living room east wall	Discrete	0.056
60-2-20	#2 - Living room floor below window	Discrete	0.1
60-2-21	#2 - Living room east central ceiling	Discrete	0.1
60-2-22A	#2 - Family room floor at the northeast corner	Discrete	0.51
60-2-22B	#2 - Family room floor at the northeast corner (Duplicate)	Discrete	0.39
60-2-23	#2 - Family room south wall	Discrete	0.076
60-2-24	#2 - Family room north central ceiling	Discrete	0.5
60-3-25	#3 - Main floor bathroom/laundry (bathroom 1) south wall	Discrete	0.48
60-3-26	#3 - Main floor bathroom/laundry (bathroom 1) floor behind toilet	Discrete	0.091
60-3-27	#3 - Main floor bathroom/laundry (bathroom 1) ceiling by vent fan	Discrete	0.84
60-3-28	#3 - Second floor hall bathroom (bathroom 2) floor	Discrete	<.030
60-3-29A	#3 - Second floor master bathroom (bathroom 3) floor	Discrete	<.030
60-3-29B	#3 - Second floor master bathroom (bathroom 3) floor (Duplicate)	Discrete	<.030
60-4-30	#4 - Bedroom #3 floor at threshold	Discrete	0.073
60-4-31	#4 - Bedroom #2 south central floor	Discrete	0.74
60-4-32	#4 - Bedroom #1 southwest corner floor	Discrete	0.059
60-4-33	#4 - Bedroom #1 west wall of closet	Discrete	<.030
60-4-34A	#4 - Master bedroom closet shelf	Discrete	1.56
60-4-34B	#4 - Master bedroom closet shelf (Duplicate)	Discrete	3.71
60-5-35	#5 - Basement subfloor space vapor retardant liner	Discrete	11.5
60-5-36	#5 - Basement upper crawl space floor structure	Discrete	0.21
60-5-37	#5 - Basement furnace duct at ceiling level	Discrete	0.56
60-5-38	#5 - Basement north foundation wall	Discrete	<.030
60-5-39A	#5 - Basement floor adjacent to furnace	Discrete	0.69
60-5-39B	#5 - Basement floor adjacent to furnace (Duplicate)	Discrete	0.87
60-6-40	#6 - Garage drywall adjacent to house door at northeast corner	Discrete	0.067
60-6-41	#6 - Garage north concrete foundation wall	Discrete	0.05
60-6-42	#6 - Garage concrete floor southwest corner	Discrete	0.18
60-6-43	#6 - Garage concrete floor adjacent to east steps	Discrete	1.37
60-6-44A	#6 - Garage drywall ceiling at front of garage	Discrete	1.34
60-6-44B	#6 - Garage drywall ceiling at front of garage (Duplicate)	Discrete	1.24

60-7-45	Ventilation system - basement furnace return air duct (at filter)	Discrete	22.4
60-7-46	Ventilation system - family room return air duct	Discrete	1.24
60-7-47	Ventilation system - second floor hallway return air duct	Discrete	1.03
60-7-48	Ventilation system - kitchen supply duct	Discrete	0.21
60-7-49	Ventilation system - living room supply duct at front door	Discrete	0.052
60-B-1	Field Bank		<0.030
60-B-2	Field Bank		<0.030
60-B-3	Field Bank		<0.030
60-B-4	Field Bank		<0.030
60-B-5	Field Bank		<0.030

Notes: All Sample Areas = 100 cm²
 CDPHE Limit = 0.5 µg/100 cm²

Post Test Results With Crystal Clean

<u>Sample No.</u>	<u>Area Sampled</u>	<u>Sample Type</u>	<u>Results</u> (µg/100 cm ²)
60-1-51	Kitchen ceiling at NE corner	Discrete	<0.030
60-1-52	Kitchen at the top of divider wall	Discrete	0.037
60-1-53	Kitchen wall at the sink	Discrete	<0.030
60-1-54	Kitchen floor next to the stove	Discrete	<0.030
60-1-55A	Kitchen window above sink	Discrete	<0.030
60-1-55B	Kitchen window above sink (Duplicate)	Discrete	<0.030
60-2-56	Family room wall at window	Discrete	<0.030
60-2-57	Family room floor adjacent to kitchen stairs	Discrete	<0.030
60-2-58	Family room ceiling above the sliding door	Discrete	<0.030
60-2-59	Family room coat closet under the shelf	Discrete	<0.030
60-2-60A	Living room wall, west side, NW corner	Discrete	<0.030
60-2-60B	Living room wall, west side, NW corner (Duplicate)	Discrete	<0.030
60-3-61	Bathroom #3 from wall by toilet	Discrete	<0.030
60-3-62	Bathroom #2 from wall by toilet	Discrete	<0.030
60-3-63	Bathroom #3 from floor by sink	Discrete	<0.030
60-3-64	Bathroom #1 from floor behind door	Discrete	<0.030
60-3-65A	Bathroom #1 from center of ceiling	Discrete	<0.030
60-3-65B	Bathroom #1 from center of ceiling (Duplicate)	Discrete	<0.030
60-4-66	Bedroom #1 closet underneath lowest shelf	Discrete	<0.030
60-4-67	Bedroom #1 from floor adjacent to bathroom	Discrete	<0.030



60-4-68	Upstairs hallway closet from the bottom shelf	Discrete	<0.030
60-4-69	Bedroom #2 floor at east wall	Discrete	<0.030
60-4-70A	Bedroom #3 floor at north wall	Discrete	<0.030
60-4-70B	Bedroom #3 floor at north wall (Duplicate)	Discrete	<0.030
60-5-71	Basement floor at SE corner	Discrete	0.21
60-5-72	Basement floor at S next to furnace	Discrete	0.074
60-5-73	Basement - top of hot water heater	Discrete	<0.030
60-5-74	Subfloor space floor joist	Discrete	0.037
60-5-75A	Basement step	Discrete	0.065
60-5-75B	Basement step (Duplicate)	Discrete	<0.030
60-6-76	Garage - ceiling above steps	Discrete	0.03
60-6-77	Garage - step	Discrete	0.047
60-6-78	Garage - east wall	Discrete	<0.030
60-6-79	Garage - from the back of the overhead door	Discrete	<0.030
60-6-80A	Garage - south wall	Discrete	<0.030
60-6-80B	Garage - south wall (Duplicate)	Discrete	<0.030
60-7-81	Bedroom #1 furnace supply register	Discrete	<0.030
60-7-82	Family room return air register	Discrete	<0.030
60-7-83	Living room return air register	Discrete	<0.030
60-7-84	Bathroom #2 furnace supply register	Discrete	<0.030
60-7-85	Basement furnace return air plenum	Discrete	2.05
60-B-6	field blank	NA	
60-B-7	field blank	NA	
60-B-8	field blank	NA	
60-B-9	field blank	NA	
60-7-86	Basement inside furnace cover	Discrete	<0.030
60-7-87	Basement - inside furnace return air plenum	Discrete	0.3
60-7-88	Basement - inside furnace return air plenum from left wall	Discrete	0.21
60-7-89	From exterior of the furnace at the right side	Discrete	<0.030
60-7-90	From exterior of the furnace at the left side	Discrete	<0.030
60-7-FB01	field blank	NA	

Notes: All Sample Areas = 100cm²
 CDPHE Limit = 0.5 µg/100 cm²

Lab Tests Performed By:
 Analytical Chemistry, Inc.
 4611 S. 134th Place, Suite 200
 Tukwila, WA 98168-3240

