Sample MR-ACM-007g **Lab Number** 2011-05827- 64 **Sampled:** 6/1/2011 13:59 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): polymer, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	95	black	1	n.d.	-	-	-	-	-
2	mastic	5	off-white	1	<=1%	-	-	-	-	-
	Total %	100		**Overall %**	<=1%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample MR-ACM-008h **Lab Number** 2011-05827- 65 **Sampled:** 6/1/2011 14:02 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): polymer, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	80	black	1	n.d.	-	-	-	-	-
2	mastic	20	off-white	1	<=1%	-	-	-	-	-
	Total %	100		**Overall %**	<=1%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample MR-ACM-009i **Lab Number** 2011-05827- 66 **Sampled:** 6/1/2011 14:06 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): polymer, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	95	black	1	n.d.	-	-	-	-	-
2	mastic	5	off-white	1	<=1%	-	-	-	-	-
	Total %	100		**Overall %**	<=1%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample MR-ACM-010j **Lab Number** 2011-05827- 67 **Sampled:** 6/1/2011 14:07 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): polymer, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	95	black	1	n.d.	-	-	-	-	-
2	mastic	5	off-white	1	<=1%	-	-	-	-	-
	Total %	100		**Overall %**	<=1%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample MR-ACM-011k **Lab Number** 2011-05827- 68 **Sampled:** 6/1/2011 14:11 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	10	off-white	1	n.d.	-	-	-	-	-
2	acoustical tile	90	brown	3	90-100%	-	-	-	-	-
	Total %	100		Overall %	80-90%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample MR-ACM-012l **Lab Number** 2011-05827- 69 **Sampled:** 6/1/2011 14:14 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	8	off-white	1	n.d.	-	-	-	-	-
2	acoustical tile	92	brown	3	90-100%	-	-	-	-	-
	Total %	100		Overall %	80-90%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample MR-ACM-013m **Lab Number** 2011-05827- 70 **Sampled:** 6/1/2011 14:17 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	5	off-white	1	n.d.	-	-	-	-	-
2	acoustical tile	95	brown	3	90-100%	-	-	-	-	-
	Total %	100		Overall %	90-100%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample MR-ACM-014n **Lab Number** 2011-05827- 71 **Sampled:** 6/1/2011 14:19 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous Yes **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 3
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	acoustical tile	100	brown	3	90-100%	-	-	-	-	-
	Total %	100		Overall %	90-100%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample MR-ACM-015o **Lab Number** 2011-05827- 72 **Sampled:** 6/1/2011 14:23 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	10	off-white	1	n.d.	-	-	-	-	-
2	acoustical tile	90	brown	3	90-100%	-	-	-	-	-
	Total %	100		Overall %	80-90%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample MR-ACM-016p **Lab Number** 2011-05827- 73 **Sampled:** 6/1/2011 14:30 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Fibrous Solid
Homogeneous No **# Layers** 4 **Pos Layer?** No **# Sub-Samples** 12
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	20	various	1	n.d.	n.d.	-	-	-	-
2	texture/joint compound	40	off-white	3	<=1%	n.d.	-	-	-	-
3	paper/cardboard	30	tan	2	n.d.	90-100%	-	-	-	-
4	drywall core	10	white	3	n.d.	>1-2%	-	-	-	-
	Total %	100		**Overall %**	<=1%	20-30%	-	-	-	-
				Fiber Identification:	chrysotile asbestos	cellulose fiber				

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	chrysotile asbestos	W	A	N	N	L	+	P	1.550	vb/g	sb/o	1.556	1.553
2	cellulose fiber	W	F	N	N	H	+	U					
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of joint compound/texture matrix using acid. Point Count: Layer Number 2; 0 asbestos counts per 400 total counts = Trace percent.

Sample MR-ACM-017p **Lab Number** 2011-05827- 74 **Sampled:** 6/1/2011 14:35 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	85	off-white	1	n.d.	-	-	-	-	-
2	texture/joint compound	15	off-white	3	<=1%	-	-	-	-	-
	Total %	100		**Overall %**	<=1%	-	-	-	-	-
				Fiber Identification:	chrysotile asbestos					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	chrysotile asbestos	W	A	N	N	L	+	P	1.550	vb/g	sb/o	1.556	1.553
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of joint compound/texture matrix using acid. Point Count: Layer Number 2; 0 asbestos counts per 400 total counts = Trace percent.

Sample MR-ACM-018r **Lab Number** 2011-05827- 75 **Sampled:** 6/1/2011 14:39 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	paint	50	off-white	1	n.d.	-	-	-	-	-
2	texture/joint compound	50	off-white	3	<=1%	-	-	-	-	-
	Total %	100		Overall %	<=1%	-	-	-	-	-
				Fiber Identification:	chrysotile asbestos					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
									Refractive Index Determinations				
1	chrysotile asbestos	W	A	N	N	L	+	P	1.550	vb/g	sb/o	1.556	1.553
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of joint compound/texture matrix using acid. Point Count: Layer Number 2; 0 asbestos counts per 400 total counts = Trace percent.

Sample MR-ACM-019s **Lab Number** 2011-05827- 76 **Sampled:** 6/1/2011 14:42 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 4 **Pos Layer?** No **# Sub-Samples** 12
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	paint	20	off-white	1	n.d.	n.d.	n.d.	-	-	-
2	texture/joint compound	40	off-white	3	<=1%	n.d.	n.d.	-	-	-
3	paper/cardboard	20	tan	2	n.d.	90-100%	n.d.	-	-	-
4	drywall core	20	white	3	n.d.	<=1%	<=1%	-	-	-
	Total %	100		Overall %	<=1%	10-20%	<=1%	-	-	-
				Fiber Identification:	chrysotile asbestos	cellulose fiber	glass fiber			

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
									Refractive Index Determinations				
1	chrysotile asbestos	W	A	N	N	L	+	P	1.550	vb/g	sb/o	1.556	1.553
2	cellulose fiber	W	F	N	N	H	+	U					
3	glass fiber	CL	D	Y									
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of joint compound/texture matrix using acid. Point Count: Layer Number 2; 0 asbestos counts per 400 total counts = Trace percent.

Sample MR-ACM-020t **Lab Number** 2011-05827- 77 **Sampled:** 6/1/2011 14:45 **Condition:** acceptable
Analyzed By US 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Fibrous Solid
Homogeneous No **# Layers** 3 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): filler, binder,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	20	off-white	1	n.d.	n.d.	-	-	-	-
2	paper/cardboard	40	tan	2	90-100%	n.d.	-	-	-	-
3	drywall core	40	white	3	<=1%	<=1%	-	-	-	-
	Total %	100		**Overall %**	30-40%	<=1%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent.

Sample RMB-ACM-001a **Lab Number** 2011-05827- 78 **Sampled:** 6/1/2011 15:21 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		**Overall %**	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample RMB-ACM-002b **Lab Number** 2011-05827- 79 **Sampled:** 6/1/2011 15:24 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample RMB-ACM-003c **Lab Number** 2011-05827- 80 **Sampled:** 6/1/2011 15:27 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample RMB-ACM-004d **Lab Number** 2011-05827- 81 **Sampled:** 6/1/2011 15:30 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): perlite, powder, binder

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	n.d.	-	-	-	-
2	acoustical tile	98	tan	3	20-30%	2-5%	-	-	-	-
	Total %	100		Overall %	20-30%	2-5%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample RMB-ACM-005e **Lab Number** 2011-05827- 82 **Sampled:** 6/1/2011 15:32 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): perlite, powder, binder

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	n.d.	-	-	-	-
2	acoustical tile	98	tan	3	20-30%	2-5%	-	-	-	-
	Total %	100		Overall %	20-30%	2-5%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample RMB-ACM-006f **Lab Number** 2011-05827- 83 **Sampled:** 6/1/2011 15:34 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): perlite, powder, binder

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	n.d.	-	-	-	-
2	acoustical tile	98	tan	3	20-30%	2-5%	-	-	-	-
	Total %	100		Overall %	20-30%	2-5%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample RMB-ACM-007g **Lab Number** 2011-05827- 84 **Sampled:** 6/1/2011 15:36 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	base cove	98	black	1	n.d.	-	-	-	-	-
2	mastic	2	brown	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
									Refractive Index Determinations				
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample RMB-ACM-008h **Lab Number** 2011-05827- 85 **Sampled:** 6/1/2011 15:38 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	base cove	98	black	1	n.d.	-	-	-	-	-
2	mastic	2	brown	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
									Refractive Index Determinations				
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample RMB-ACM-009i **Lab Number** 2011-05827- 86 **Sampled:** 6/1/2011 15:39 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 3 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	97	black	1	n.d.	-	-	-	-	-
2	mastic	2	brown	1	n.d.	-	-	-	-	-
3	mastic	1	white	1	n.d.	-	-	-	-	-
	Total %	100		**Overall %**	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample RMB-ACM-010j **Lab Number** 2011-05827- 87 **Sampled:** 6/1/2011 15:40 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 3 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	various	1	n.d.	-	-	-	-	-
2	texture/joint compound	95	white	3	n.d.	-	-	-	-	-
3	paper/cardboard	3	tan	2	90-100%	-	-	-	-	-
	Total %	100		**Overall %**	2-5%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.

Sample RMB-ACM-011k **Lab Number** 2011-05827- 88 **Sampled:** 6/1/2011 15:43 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 3 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	various	1	n.d.	-	-	-	-	-
2	texture/joint compound	95	white	3	n.d.	-	-	-	-	-
3	paper/cardboard	3	tan	2	90-100%	-	-	-	-	-
	Total %	100		**Overall %**	2-5%	-	-	-	-	-
				Fiber Identification:	cellulose fiber					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.

Sample RMB-ACM-012l **Lab Number** 2011-05827- 89 **Sampled:** 6/1/2011 15:45 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 4 **Pos Layer?** No **# Sub-Samples** 9
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	various	1	n.d.	n.d.	-	-	-	-
2	texture/joint compound	5	white	3	n.d.	n.d.	-	-	-	-
3	paper/cardboard	3	tan	2	90-100%	n.d.	-	-	-	-
4	drywall core	90	white	3	<=1%	<=1%	-	-	-	-
	Total %	100		**Overall %**	2-5%	<=1%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.

Sample RMA-ACM-001a **Lab Number** 2011-05827- 90 **Sampled:** 6/1/2011 15:48 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample RMA-ACM-002b **Lab Number** 2011-05827- 91 **Sampled:** 6/1/2011 15:50 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample RMA-ACM-003c **Lab Number** 2011-05827- 92 **Sampled:** 6/1/2011 15:53 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample RMA-ACM-004d **Lab Number** 2011-05827- 93 **Sampled:** 6/1/2011 15:55 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): perlite, powder, binder

Layers

#	Layer Type	%	Color	Friability	Percents of Each Fiber: Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	n.d.	-	-	-	-
2	acoustical tile	98	off-white	3	20-30%	2-5%	-	-	-	-
	Total %	100		Overall %	20-30%	2-5%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Fibers

		Color	Mrph	Iso	Pleo	Bl	Elg	Ext	Refractive Index Determinations: Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample RMA-ACM-005e **Lab Number** 2011-05827- 94 **Sampled:** 6/1/2011 15:56 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): perlite, powder, binder

Layers

#	Layer Type	%	Color	Friability	Percents of Each Fiber: Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	n.d.	-	-	-	-
2	acoustical tile	98	off-white	3	20-30%	2-5%	-	-	-	-
	Total %	100		Overall %	20-30%	2-5%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Fibers

		Color	Mrph	Iso	Pleo	Bl	Elg	Ext	Refractive Index Determinations: Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample RMA-ACM-006f **Lab Number** 2011-05827- 95 **Sampled:** 6/1/2011 15:58 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Acoustical Tile Fibrous Mat
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): perlite, powder, binder

Layers

#	Layer Type	%	Color	Friability	Percents of Each Fiber: Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	n.d.	-	-	-	-
2	acoustical tile	98	off-white	3	20-30%	2-5%	-	-	-	-
	Total %	100		Overall %	20-30%	2-5%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Fibers

		Color	Mrph	Iso	Pleo	Bl	Elg	Ext	Refractive Index Determinations: Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of paint matrix using solvent. Procedure: dissolution of acoustical tile using acid.

Sample RMA-ACM-007g **Lab Number** 2011-05827- 96 **Sampled:** 6/1/2011 16:00 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	98	black	1	n.d.	-	-	-	-	-
2	mastic	2	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample RMA-ACM-008h **Lab Number** 2011-05827- 97 **Sampled:** 6/1/2011 16:02 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	98	black	1	n.d.	-	-	-	-	-
2	mastic	2	off-white	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample RMA-ACM-009i **Lab Number** 2011-05827- 98 **Sampled:** 6/1/2011 16:05 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	base cove	98	black	1	n.d.	-	-	-	-	-
2	mastic	2	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Refractive Index Determinations: Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample RMA-ACM-010j **Lab Number** 2011-05827- 99 **Sampled:** 6/1/2011 16:08 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	paint	2	white	1	n.d.	-	-	-	-	-
2	texture/joint compound	98	white	3	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Refractive Index Determinations: Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.

Sample RMA-ACM-011k **Lab Number** 2011-05827- 100 **Sampled:** 6/1/2011 16:11 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	-	-	-	-	-
2	texture/joint compound	98	white	3	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.

Sample RMA-ACM-012l **Lab Number** 2011-05827- 101 **Sampled:** 6/1/2011 16:15 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 4 **Pos Layer?** No **# Sub-Samples** 9
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	off-white	1	n.d.	n.d.	-	-	-	-
2	texture/joint compound	48	white	3	n.d.	n.d.	-	-	-	-
3	paper/cardboard	5	tan	2	90-100%	n.d.	-	-	-	-
4	drywall core	45	white	3	<=1%	<=1%	-	-	-	-
	Total %	100		Overall %	2-5%	<=1%	-	-	-	-
				Fiber Identification:	cellulose fiber	glass fiber				

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	cellulose fiber	W	F	N	N	H	+	U					
2	glass fiber	CL	D	Y									
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.

Sample BRB-ACM-001a **Lab Number** 2011-05827- 102 **Sampled:** 6/1/2011 16:20 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample BRB-ACM-002b **Lab Number** 2011-05827- 103 **Sampled:** 6/1/2011 16:22 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample BRB-ACM-003c **Lab Number** 2011-05827- 104 **Sampled:** 6/1/2011 16:27 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Flooring Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): filler, polymer,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	floor tile	99	off-white	1	n.d.	-	-	-	-	-
2	mastic	1	yellow	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of floor tile matrix and mastic using solvent.

Sample BRB-ACM-004d **Lab Number** 2011-05827- 105 **Sampled:** 6/1/2011 16:30 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	-	-	-	-	-
2	texture/joint compound	98	white	3	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.

Sample BRB-ACM-005e **Lab Number** 2011-05827- 106 **Sampled:** 6/1/2011 16:33 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 4 **Pos Layer?** No **# Sub-Samples** 12
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	paint	2	white	1	n.d.	n.d.	n.d.	-	-	-
2	texture/joint compound	8	white	3	<=1%	n.d.	n.d.	-	-	-
3	paper/cardboard	5	tan	2	n.d.	90-100%	n.d.	-	-	-
4	drywall core	85	white	3	n.d.	<=1%	<=1%	-	-	-
	Total %	100		Overall %	<=1%	5-10%	<=1%	-	-	-
				Fiber Identification:	chrysotile asbestos	cellulose fiber	glass fiber			

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	chrysotile asbestos	W	A	N	N	L	+	P	1.550	vb/g	sb/o	1.556	1.553
2	cellulose fiber	W	F	N	N	H	+	U					
3	glass fiber	CL	D	Y									
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note
Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.Point Count: Layer Number 2; 0 asbestos counts per 400 total counts = Trace percent.

Sample BRB-ACM-006f **Lab Number** 2011-05827- 107 **Sampled:** 6/1/2011 16:38 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Wall System Non-fibrous Solid
Homogeneous No **# Layers** 6 **Pos Layer?** No **# Sub-Samples** 19
Non-Fibrous Components (in approx. decreasing order): powder, ,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	paint	2	white	1	n.d.	n.d.	n.d.	-	-	-
2	texture/joint compound	2	white	3	<=1%	n.d.	n.d.	-	-	-
3	paper/cardboard	5	off-white	2	n.d.	90-100%	n.d.	-	-	-
4	texture/joint compound	8	white	3	<=1%	n.d.	n.d.	-	-	-
5	paper/cardboard	5	tan	2	n.d.	90-100%	n.d.	-	-	-
6	drywall core	78	white	3	n.d.	<=1%	<=1%	-	-	-
	Total %	100		**Overall %**	<=1%	5-10%	<=1%	-	-	-
				Fiber Identification:	chrysotile asbestos	cellulose fiber	glass fiber			

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
									Refractive Index Determinations				
1	chrysotile asbestos	W	A	N	N	L	+	P	1.550	vb/g	sb/o	1.556	1.553
2	cellulose fiber	W	F	N	N	H	+	U					
3	glass fiber	CL	D	Y									
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using solvent. Procedure: dissolution of matrix using dilute HCl acid.Point Count: Layer Number 2,4; 0 asbestos counts per 400 total counts = Trace percent. Note: the texture/joint compound layers were identical in appearance and asbestos content. One point count was used to quantify them.

Sample BRB-ACM-007g **Lab Number** 2011-05827- 108 **Sampled:** 6/1/2011 16:42 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 5
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
					Percents of Each Fiber					
1	base cove	98	black	1	n.d.	-	-	-	-	-
2	mastic	2	off-white	1	n.d.	-	-	-	-	-
	Total %	100		**Overall %**	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
									Refractive Index Determinations				
1	none												
2													
3													
4													
5													
6													

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample BRB-ACM-008h **Lab Number** 2011-05827- 109 **Sampled:** 6/1/2011 16:45 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 3 **Pos Layer?** No **# Sub-Samples** 6
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	97	black	1	n.d.	-	-	-	-	-
2	mastic	2	off-white	1	n.d.	-	-	-	-	-
3	mastic	1	brown	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Sample BRB-ACM-009i **Lab Number** 2011-05827- 110 **Sampled:** 6/1/2011 16:48 **Condition:** acceptable
Analyzed By GV 6/16/2011 **An?** OK **Apparent Smp Type** Miscellaneous Rubbery
Homogeneous No **# Layers** 2 **Pos Layer?** No **# Sub-Samples** 4
Non-Fibrous Components (in approx. decreasing order): polymer, filler,

Layers

#	Layer Type	%	Color	Friability	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
1	base cove	97	black	1	n.d.	-	-	-	-	-
2	mastic	3	off-white	1	n.d.	-	-	-	-	-
	Total %	100		Overall %	n.d.	-	-	-	-	-
				Fiber Identification:	none					

Percents of Each Fiber

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext	Oil	Col Par	Col Per	RI Par	RI Per
1	none												
2													
3													
4													
5													
6													

Refractive Index Determinations

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of polymer matrix using solvent. Minor adhering wall paint and/or texture, etc. not analyzed.

Fr=Friability: 1=very non-friable; 2= non-friable; 3=friable; 4=highly friable
Colors: B=black;BL=blue;BR=brown;CL=clear;G=Green;GY=gray;OR=orange;OW=off-white;PN=pink;PU=purple;R=red;TN=tan;W=white;Y=yellow;V=various
Fiber Morphology: A=fine fibers/bundles, white, sinewy, flexible; B=fine fibers/bundles, w-br, straight, broomed ends; C=fine fibers/bundles, blue, straight, broomed ends; D=fine to coarse fibers, CL-B, brittle; E=coarse fibers,CL or dyed, striated; F=coarse fibers or splinters, W-BR, ribbon-like; G=lath-like or shards, low aspect ratio, may taper
Iso=isotropism - may be yes or no; Pleo=pleochroism - may be yes or no; Bi=birefringence - may be None, Low, Medium or High
Elg=sign of elongation - may be +, - or B (both); Ext=extinction - may be Parallel, Oblique, None or Undulating; Oil=medium used to for dispersion staining
Col Par=dispersion staining colors parallel to the fiber (fiber/halo): b/w=black/white; dg/py=dark gray/pale yellow; vg/y=violet gray/yellow; db/ly=dark blue/lemon yellow; vb/g= vivid blue/gold; sb/o=sky blue/orange; pb/r=pale blue/red; gb/dr=gray blue/dark red; w/b=white/black. Col Perp=same only perpendicular to fiber.
RI Par=refractive index parallel to fiber; RI Perp=refractive index perpendicular to fiber

Uwe Steimle

Analyst: UWE .. STEIMLE

Printed: 16-Jun-11

Original Print Date: 16-Jun-11

Larry S. Pierce

Larry S. Pierce, Approved Accreditation Signatory

5025 S. 33rd Street Phoenix, Arizona 85040-2816 Phone: 602-276-6139 1-800-743-2687 FAX: 602-276-4558

FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.; Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558; info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company)	BEC Environmental Inc
Address	7660 W. Sahara Ave, #150
City, State, Zip Code	Las Vegas NV 89117
Phone	702-304-9830
FAX	702-304-9839
Email	brian@becnv.com

Invoice to (Company)	Same as above
Address	
City, State, Zip Code	
Phone	
FAX	

Contact (print)	Brian Loffman
Sampled by (signature)	[signature]
Job Number or Project Name	031.11.003
PO Number	

Analysis Method Requested ONLY ONE METHOD per COC		Turn-around-time (circle one) Rush		Norm	Ext.
Asbestos by PLM	Improved Interim	Urg Rush <3 hrs	<6 hrs	1-3 days	15-30 days
	Analyze: AI ATPF; if ATPF then by: Layer or Sample				
	Single Layer Protocol: Yes No				
Fibers by PCM	7400(Area) ORM (Personal)	<4 hrs		24 hrs	-
Asbestos by TEM	AIR: AHERA Mod. AHERA	<6 hrs		24 hrs	3-5 days
	Water*: Water Sludge	1-2 days		3-5 days	N/A
	Annex2: Chatfield Full				
	Vacuum Dust (ASTM)	3-5 days		5-10 days	N/A
Metals by FLAA	Analyte: Pb Other	<6 hrs		2-3 days	N/A
	Matrix: Filter: MCE FG				
	Paint: by Area by Weight				
	Soil				
	Wipe				
	Initial here certifying wipes used are ASTM E1792 compliant				
Fungi	Air Sample: Zef Aller Other	<6 hrs		1-2 days	N/A
	ID/Count: Bulk Swab				
	Tape: Qualitative (%)				
	Tape Quantitative (cm2)				
Dust	NIOSH 500	<4 hrs		24 hrs	N/A
Other		Call		Call	

Sample Number	Description/Location	Sample Date	Sample Time	Vol/Area
1) RF-ACM-001a	Roofing material - asphaltic	6-1-2011	1042	≈5,000 □
2) RF-ACM-002b			1047	
3) RF-ACM-003c			1052	
4) RF-ACM-004d			1057	
5) RF-ACM-005e			1102	
6) RF-ACM-006f			1107	
7) RF-ACM-007g			1112	
8) RF-ACM-008h			1116	
9) RF-ACM-009i			1120	
10) SR-ACM-001a	Storage Room - textured wall board		1124	<1000 □
11) SR-ACM-002b			1128	
12) SR-ACM-003c			1133	
13) SR-ACM-004d	white/beige vinyl tile (12") - mastic		1135	
14) SR-ACM-005e			1137	
15) SR-ACM-006f			1140	
16) SR-ACM-007g	Ceiling acoustical texture - white		1142	
17) SR-ACM-008h			1146	
18) SR-ACM-009i			1148	
19) ENT-ACM-001a	2'x2' white ceiling tile		1205	<1000 □
20) ENT-ACM-002b			1208	"

1) Relinquished by: Brian Loffman [signature]	Date: 6-9-11	Time: 1145	3) Relinquished by:	Date:	Time:
2) Received by: [signature]	Date: 6-10-11	Time: 10[illegible]	4) Received by:	Date:	Time:
* TEM Water: Sampler's name Required by State of Arizona	Print Name	FIX			

Page 1 of 6

Review of Analysis Request (Initials) _____

20110582 7

Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

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FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.; Phoenix, AZ 85040; Phone: 602-276-6130; FAX: 602-276-4558; info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company)	BEC Environmental, Inc
Address	7660 W. Sahara Ave #150
City, State, Zip Code	Las Vegas, NV 89117
Phone	702-304-9830
FAX	702-304-9839
Email	brian@becnv.com
Invoice to (Company)	Same as above
Address	
City, State, Zip Code	
Phone	
FAX	
Contact (print)	Brian Loffman
Sampled by (signature)	[signature]
Job Number or Project Name	031.11.003
PO Number	

Analysis Method Requested ONLY ONE METHOD per COC		Turn-around-time (circle one) Rush		Norm	Ext.
Asbestos by PLM	Improved Interim; Analyze: (All) ATPF; If ATPF then by Layer or Sample; Single Layer Protocol Yes No	Urg Rush <3 hrs	<6 hrs	1-3 days	15-30 days
Fibers by PCM	7400(Area) ORM (Personal)	<4 hrs		24 hrs	-
Asbestos by TEM	AIR AHERA Mod AHERA	<6 hrs		24 hrs	3-5 days
	Water Water Sludge	1-2 days		3-5 days	N/A
	Annex2 Chatfield Full				
	Vacuum Dust (ASTM)	3-5 days		5-10 days	N/A
Metals by FLAA	Analyte Pb Other; Matrix Filter MCE PG; Paint by Area by Weight; Soil; Wipe; Initial here certifying wipes used are ASTM E1792 compliant	<6 hrs		2-3 days	N/A
Fungi	Air Sample Zef Alex Other; ID/Count Bulk Swab; Tape Qualitative (%); Tape Quantitative (cm2)	<6 hrs		1-2 days	N/A
Dust	NIOSH 500	<4 hrs		24 hrs	N/A
Other		Call		Call	

Sample Number	Description/Location	Sample Date	Sample Time	Vol/Area
1) ENT-ACM-003 c	2'x2' white ceiling tile	6-1-2011	1210	<1000 cm
2) ENT-ACM-004 d	12" beige vinyl tile & brown mastic	↓	1214	↓
3) ENT-ACM-005 e	↓		1218	
4) ENT-ACM-006 f			1221	
5) BRF-ACM-001 a	Grey cove base + brown mastic		1225	<1000 cm
6) BRF-ACM-002 b	↓		1226	↓
7) BRF-ACM-003 c			1229	
8) BRF-ACM-004 d	Wallboard + white texture		1230	
9) BRF-ACM-005 e	↓		1232	
10) BRF-ACM-006 f			1235	
11) BRF-ACM-007 g	12" Vinyl tile (Blue) + brown mastic		1237	
12) BRF-ACM-008 h	↓		1238	
13) BRF-ACM-009 i			1240	
14) BRF-ACM-010 j	12" white vinyl tile + brown mastic		1242	
15) BRF-ACM-011 k	↓		1245	
16) BRF-ACM-012 l			1247	
17) TR-ACM-001 a	Wallboard + white smooth texture		1251	<1000 cm
18) TR-ACM-002 b	↓		1253	↓
19) TR-ACM-003 c			1256	
20) TR-ACM-004 d	12" Grey vinyl tile + brown mastic		1259	

1) Relinquished by: Brian Loffman [signature]	Date: 6-9-11	Time: 1145	3) Relinquished by:	Date:	Time:
2) Received by: [signature]	Date: 6-10-11	Time: 1040	4) Received by:	Date:	Time:
* TEM Water: Sampler's name Required by State of Arizona	Print Name	FLK			

Page 2 of 6

Review of Analysis Request (Initials) _____

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FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5026 S. 33rd St.
Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558;
info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company)	BEC Environmental Inc
Address	7660 W. Sahara Ave #150
City, State, Zip Code	LV, NV 89117
Phone	702-304-9830
FAX	702-304-9839
Email	brian@becnv.com
Invoice to (Company)	Same as above
Address	
City, State, Zip Code	
Phone	
FAX	
Contact (print)	Brian Loffman
Sampled by (signature)	[signature]
Job Number or Project Name	031.11.003
PO Number	

Analysis Method Requested ONLY ONE METHOD per COC		Turn-around-time (circle one) Rush		Norm	Ext.
Asbestos by PLM	Interim Analyze (All) ATPF; If ATPF then by Layer or Sample; Single Layer Protocol Yes No	Urg Rush <3 hrs	<6 hrs	1-3 days	15-30 days
Fibers by PCM	7400(Area) OHM (Personal)	<4 hrs		24 hrs	-
Asbestos by TEM	AIR AHERA Mod AHERA	<6 hrs		24 hrs	3-5 days
	Water Water Sludge	1-2 days		3-5 days	N/A
	Acme2 Charles F-3				
	Vacuum Dust (ASTM)	3-5 days		5-10 days	N/A
Metals by FLAA	Analyte Pb Other; Matrix Filter UCE FG; Paint by Area by Weight; Soil; Wipe; Initial here certifying wipes used are ASTM E1792 compliant	<5 hrs		2-3 days	N/A
Fungi	Air Sample Zef Alter Other; ID Count Bulk Swab; Tape Qualitative (in); Tape Quantitative (cm2)	<6 hrs		1-2 days	N/A
Dust	NIOSH 500	<4 hrs		24 hrs	N/A
Other		Call		Call	

Sample Number	Description/Location	Sample Date	Sample Time	Vol/Area
1) TR-ACM-005 e	Grey 12" Vinyl tile + brown mastic	6-1-2011	1301	<1000 ft
2) TR-ACM-006 f	↓		1302	
3) TR-ACM-007 g	2'x2' white ceiling tile		1303	
4) TR-ACM-008 h	↓		1304	
5) TR-ACM-009 i	↓		1305	
6) KT-ACM-001 a	12" white Vinyl tile + Mastic		1310	<1000 ft
7) KT-ACM-002 b	↓		1312	
8) KT-ACM-003 c	↓		1314	
9) KT-ACM-004 d	2'x2' white ceiling tile		1317	
10) KT-ACM-005 e	↓		1316	
11) KT-ACM-006 f	↓		1318	
12) KT-ACM-007 g	Wallboard + texture		1323	
13) KT-ACM-008 h	↓		1326	
14) KT-ACM-009 i	↓		1330	
15) KT-ACM-010 j	black cove base + brown Mastic		1333	
16) KT-ACM-011 k	↓		1337	
17) KT-ACM-012 L	↓		1340	
18) MR-ACM-001 a	12" white Vinyl tile + brown Mastic		1350	<500 ft
19) MR-ACM-002 b	↓		1351	
20) MR-ACM-003 c	↓		1352	

1) Relinquished by: Brian Loffman [signature]	Date: 6-9-11	Time: 1145	3) Relinquished by:	Date:	Time:
2) Received by: [signature]	Date: 6-10-11	Time: 10:40	4) Received by:	Date:	Time:
* TEM Water: Sampler's name Required by State of Arizona	Print Name: F/x				

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Review of Analysis Request (Initials) _____

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Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

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FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.; Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558; info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company)	BEC Environmental Inc
Address	7660 W. Sahara Ave #150
City, State, Zip Code	LV, NV 89117
Phone	702-304-9830
FAX	702-304-9839
Email	brian@becnv.com
Invoice to (Company)	Same as above
Address	
City, State, Zip Code	
Phone	
FAX	
Contact (print)	Brian Loffman
Sampled by (signature)	Brian
Job Number or Project Name	031.11.003
PO Number	

Analysis Method Requested ONLY ONE METHOD per COC		Turn-around-time (circle one) Rush		Norm	Ext.
Asbestos by PLM	Approved Interim	Urg Rush <3 hrs	<6 hrs	1-3 days	15-30 days
	Analyze: (All) ATPF; if ATPF then by Layer or Sample				
	Single Layer Protocol Yes No				
Fibers by PCM	7400(Area) ORM (Personal)	<4 hrs		24 hrs	
Asbestos by TEM	Air: AHERA Mod. AHERA	<6 hrs		24 hrs	3-5 days
	Water* Water Sludge	1-2 days		3-5 days	N/A
	Areas2 Chatfield Full				
	Vacuum Dust (ASTM)	3-5 days		5-10 days	N/A
Metals by FLAA	Analyte: Pb Other	<6 hrs		2-3 days	N/A
	Matrix: Filter MCE FG				
	Paint: by Area by Weight				
	Soil				
	Wipe				
	Initial here certifying wipes used are ASTM E1792 compliant				
Fungi	Air Sample: Zef Alter Other	<6 hrs		1-2 days	N/A
	ID Count: Bulk Swab				
	Tape: Qualitative (%)				
	Tape Quantitative (cm2)				
Dust	NIOSH 500	<4 hrs		24 hrs	N/A
Other		Call		Call	

Sample Number	Description/Location	Sample Date	Sample Time	Vol/Area
1) MR-ACM-004 d	12" white Vinyl tile + mastic	6-1-2011	1353	7 1000 <5000 ¢
2) MR-ACM-005 e			1355	
3) MR-ACM-006 F	black cove base + brown mastic		1357	
4) MR-ACM-007 g			1359	
5) MR-ACM-008 h			1402	
6) MR-ACM-009 i			1406	
7) MR-ACM-010 j			1407	
8) MR-ACM-011 k	2'x2' white Ceiling tile		1411	
9) MR-ACM-012 L			1414	
10) MR-ACM-013 m			1417	
11) MR-ACM-014 n			1419	
12) MR-ACM-015 o			1423	
13) MR-ACM-016 P	Wallboard + Surface texture		1430	
14) MR-ACM-017 q			1435	
15) MR-ACM-018 r			1439	
16) MR-ACM-019 s			1442	
17) MR-ACM-020 t			1445	
18) RMB-ACM-001 a	12" white Vinyl tile + mastic		1521	<1000 ¢
19) RMB-ACM-002 b			1524	
20) RMB-ACM-003 c			1527	

1) Relinquished by: Brian Loffman Br	Date: 6-9-11	Time: 1145	3) Relinquished by:	Date:	Time:
2) Received by:	Date: 6-10-11	Time: 1040	4) Received by:	Date:	Time:
* TEM Water: Sampler's name Required by State of Arizona	Print Name:				

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Review of Analysis Request (Initials) _____

201105827

Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

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FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 43rd St.; Phoenix, AZ 85040; Phone: 602-276-6149; FAX: 602-276-4558; info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company)	BEC Environmental
Address	7660 W. Sahara Ave #150
City, State, Zip Code	LV, NV 89117
Phone 702-304-9830	FAX 702-304-9839
Email	brian@becnv.com

Invoice to (Company)	Same as above
Address	
City, State, Zip Code	
Phone	FAX

Contact (print)	Brian Loffman
Sampled by (signature)	B Loffman
Job Number or Project Name	031.11.003
PO Number	

Analysis Method Requested ONLY ONE METHOD per COC		Turn-around-time (circle one) Rush		Norm	Ext.
Asbestos by PLM	Approved Interim	Urg Rush <3 hrs	<6 hrs	1-3 days	15-30 days
	Analyze (All) ATPF; if ATPF then by Large or Sample				
	Single Layer Protocol Yes No				
Fibers by PCM	7400(Area) OHM (Personal)	<4 hrs		24 hrs	-
Asbestos by TEM	AHI AHERA Mod. AHERA	<6 hrs		24 hrs	3-5 days
	Water1 Water Sludge	1-2 days		3-5 days	N/A
	Area2 Chalk(s) Fut				
	Vacuum Dust (ASTM)	3-5 days		5-10 days	N/A
Metals by FLAA	Analyte Pb Other	<6 hrs		2-3 days	N/A
	Matrix Filter MCE FG				
	Paint by Area by Weight				
	Soil				
	Wipe				
	Initial here certifying wipes used are ASTM E1792 compliant				
Fungi	Air Sample Zef Alex Other	<6 hrs		1-2 days	N/A
	ID/Count Bulk Swab				
	Tape Qualitative (%)				
	Tape Quantitative (cm2)				
Dust	NIOSH 500	<4 hrs		24 hrs	N/A
Other		Call		Call	

Sample Number	Description/Location	Sample Date	Sample Time	Vol/Area
1) RMB-ACM-004 d	2'x2' white ceiling tile	6-1-2011	1530	< 1000 ft
2) RMB-ACM-005 e	↓		1532	↓
3) RMB-ACM-006 f			1534	
4) RMB-ACM-007 g	Black Cove base + brown mastic		1536	
5) RMB-ACM-008 h	↓		1538	
6) RMB-ACM-009 i			1539	
7) RMB-ACM-010 j	Wallboard + Surface texture		1540	
8) RMB-ACM-011 k			1543	
9) RMB-ACM-012 l	↓		1545	↓
10) RMA-ACM-001 a	white 12" vinyl tile + brown mastic		1548	< 1000 ft
11) RMA-ACM-002 b	↓		1550	↓
12) RMA-ACM-003 c			1553	
13) RMA-ACM-004 d	2x2 ceiling tile white		1555	
14) RMA-ACM-005 e	↓		1556	
15) RMA-ACM-006 f			1559	
16) RMA-ACM-007 g	black cove base + brown mastic		1600	
17) RMA-ACM-008 h	↓		1602	
18) RMA-ACM-009 i			1605	
19) RMA-ACM-010 j	wallboard + surface texture		1608	
20) RMA-ACM-011 k	↓		1611	↓

1)Relinquished by: Brian Loffman	Date: 6-9-11	Time: 1145	3)Relinquished by:	Date:	Time:
2)Received by:	Date: 6-10-11	Time: 1040	4)Received by:	Date:	Time:
* TEM Water: Sampler's name Required by State of Arizona	Print Name				

Review of Analysis Request (Initials) _____

201105827

Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

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FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 43rd St.
Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558;
info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company)	BEC Environmental, Inc
Address	7660 W. Sahara Ave #150
City, State, Zip Code	LV, NV 89117
Phone	702-304-8836
FAX	702-304-8839
Email	brian@becnv.com
Invoice to (Company)	Same as above
Address	
City, State, Zip Code	
Phone	
FAX	
Contact (print)	Brian Loffman
Sampled by (signature)	[signature]
Job Number or Project Name	031.11.003
PO Number	

Analysis Method Requested ONLY ONE METHOD per COC		Turn-around-time (circle one) Rush		Norm	Ext.
Asbestos by PLM	Improved / Interim; Analyze: AS / ATPF; If ATPF then by: Layer or Sample; Single Layer Protocol: Yes / No	Urg Rush <3 hrs	<6 hrs	1-5 days	15-30 days
Fibers by PCM	7400(Area) / ORM (Personal)	<4 hrs		24 hrs	
Asbestos by TEM	Air: AHERA / Mod AHERA; Water*: Water / Sludge; Anneal2: Chatfield / Full	<6 hrs		24 hrs	3-5 days
	Vacuum Dust (ASTM)	3-5 days		5-10 days	N/A
Metals by FLAA	Analyte: Pb / Other; Matrix: Filter: MCE / FG; Paint: by Area / by Weight; Soil; Wipe; Initial lead certifying wipes used are ASTM E1792 compliant	<6 hrs		2-3 days	N/A
Fungi	Air Sample: Zel / Alter / Other; ID/Count: Bulk / Swab; Tape: Qualitative (%); Tape Quantitative (cm2)	<6 hrs		1-2 days	N/A
Dust	NIOSH 500	<4 hrs		24 hrs	N/A
Other		Call		Call	

Sample Number	Description/Location	Sample Date	Sample Time	Vol/Area
1) RMA-ACM-012 L	Wallboard + Surface texture	6-1-2011	1615	<1000 [illegible]
2) BRB-ACM-001 a	12" Grey Vinyl tile + Mastic		1620	
3) BRB-ACM-002 b	↓		1622	
4) BRB-ACM-003 c	↓		1627	
5) BRB-ACM-004 d	Wallboard + Surface texture		1630	
6) BRB-ACM-005 e	↓		1633	
7) BRB-ACM-006 F	↓		1638	
8) BRB-ACM-007 g	black Cove base + brown mastic		1642	
9) BRB-ACM-008 h	↓		1645	
10) BRB-ACM-009 i	↓		1648	
11) ~~BRB-ACM-010 j~~				
12)				
13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				

1) Relinquished by: Brian Loffman	Date: 6/9/11	Time: 1145am	3) Relinquished by:	Date:	Time:
2) Received by: [signature]	Date: 6-10-11	Time: 1040	4) Received by:	Date:	Time:
* TEM Water: Sampler's name Required by State of Arizona	Print Name				

Page 6 of 6

Review of Analysis Request (Initials) _____

201105827

Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

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APPENDIX G

LEAD BASED PAINT REGULATORY OVERVIEW

REGULATORY OVERVIEW FOR LEAD BASED PAINT

The USEPA and US Department of Housing and Urban Development (HUD) define lead based paint (LBP) as paints containing greater than 1.0 milligrams per square centimeter (mg/cm^2) lead, or 0.5 percent lead by weight (% by weight), which is equivalent to 5,000 milligrams per kilogram (mg/kg) and 5,000 parts per million (ppm). Federal OSHA and Nevada OSHA regulations (Lead Construction Standard) do not provide a definition for "lead-based paint," but refer to the US EPA and HUD values discussed above. Nevada OSHA is primarily concerned with worker protection, and regulates any amount of lead contained within painted building components.

There are two OSHA lead standards. The OSHA Construction Lead Standard (29 CFR 1926.62) applies to new construction or renovation, demolition or salvage, installation of products that contain lead, and maintenance activities. The General Industry Standard (29 CFR 1910.1025) applies to non-construction activities.

The permissible exposure limit (PEL) for lead is 50 micrograms per cubic meter ($\mu g/m^3$) of air averaged over an 8-hour time period. In addition to the PEL, there is also an action level of 30 $\mu g/m^3$ of air averaged over an 8-hour time period. Employees who work in an area at or above the action level must receive medical surveillance and training on the hazards of working with lead. Therefore, demolition activities that include materials coated with lead paint in any concentration could, under certain circumstances, trigger Federal OSHA and Nevada OSHA regulations. Determination of airborne lead concentrations would require air monitoring by a trained lead professional during building material disturbance.

Results of the LBP survey should be provided to contractors and subcontractors performing work at the Site that may disturb lead-containing components that could generate airborne lead concentrations so that they can determine the OSHA Class category (I, II, or III) they need to plan for. The OSHA Classes are defined as follows.

Class I assumes exposure over the PEL (50 $\mu g/m^3$). Class I tasks include manual scraping or sanding, using a heat gun, and spray painting with lead paint.

Class II assumes exposure is at least ten times the PEL (500 $\mu g/m^3$). Class II tasks include using lead containing mortar, burning lead, rivet busting, power tool cleaning without dust collection systems, and removal of an abrasive blasting enclosure.

Class III assumes exposure is at least fifty times the PEL (2,500 $\mu g/m^3$). Class III tasks include abrasive blasting, cutting, welding, and torch burning.

APPENDIX H

LEAD BASED PAINT ANALYTICAL LABORATORY REPORT

FIBERQUANT ANALYTICAL SERVICES

Atomic Absorption Spectrometer (AAS) Analysis of Paint

JobNumber: **201105540**

Client: **KLEINFELDER INC**

6380 S POLARIS AVE

LAS VEGAS, NV 89118-3821

Office Phone: (702) 736-2936
FAX: (702) 361-9094

 # Samples: 13 AA **Rec:** 6/3/2011 **Method:** Modified SW 846 3050b/7420 Pb in paint by weight AA Analysis

Client Job: 117801/Bob Ruud Community Center **PO Number:** 117801

Report Date: 6/9/2011 **Date Analyzed:** 6/8/2011 **Routing Number:** -

Method and Analysis Information: **Fiberquant Internal SOP:** AApw

The received samples were analyzed for Pb (total) using "Test Methods for Evaluating Solid Waste" (SW 846, December 1996 updates). The extraction/digestion method was SW 3050b. The analytical method is "flame atomic absorption, direct aspiration", SW 7420.. Briefly the procedures are as follows. The incoming paint samples are first homogenized by mixing and crushing. A sub-sample is weighed to 0.0001 gm into a 50ml centrifuge tube. To the run stream are added the quality assurance samples described below. Six mls of concentrated HNO3 and one ml of 30% H2O2 are added to each container. The tubes are caped and heated for 1 hour at 95 deg. C. After cooling, the contents of the centrifuge tube are brought up to exactly 25 mls, completing the digestion/extraction.

The sample and quality assurance extractions are then analyzed on a TJA M5 flame atomic absorption spectrometer. The wavelengths and other instrumental settings are set according to the manufacturer's recommendations, or as otherwise specified in the published method. Absorptions are recorded from sample and standard solutions. A calibration curve is fitted to at least three standard solutions, and the concentrations of the sample extracts are calculated from the curve. The ppm (ug/gm) and weight percent for each sample is calculated from the sub-sample weight, extract volume, and extract concentration.

The results from this analysis is generally compared to either the HUD guidelines, in which a sample is positive if it contains >0.5% (5000 ppm) Pb, or the Consumer Products Safety Commission (CPSC) limit, in which a paint pr surface coating containing greater than 90 ppm is defined as lead-containing. The expected coefficient of variation for this method is approximately 20-30%. The results are reported to two significant figures. The Sample Reporting Limit (RL) listed below is twice the Sample Detection Limit, which is calculated for each sample from the experimentally determined Method Detection Limit. The limit of reliable quantitatiion is generally regarded as five to ten times the limit of detection. Therefore, samples smaller than 0.1 gm may give results too near the CPSC standard to be reliable. Problems in analysis or other information is provided in the "Analytical Notes" below. Blanks, if analyzed, are treated the same as samples and are not used for correcting non-blank results.

The following on-going quality assurance program was followed to ensure reproducible and dependable results: All analysts are degreed chemists trained extensively in-house for at least six months prior to un-supervised runs. Blank matrix samples are analyzed at a rate of 5% (at least one per run). Reference standards are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. Spiked matrix samples are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. Duplicate samples are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. For each instrumental run, the spectrometer is checked for sensitivity and stability. The calibration standards are made fresh weekly, and checked each run against a calibration verification standard from another source. All calculations are performed twice - once in a calibration spreadsheet, and once during the report generation, and also checked by hand. All quality checks performed for these samples were in control except as detailed in the "Analytical Notes" below. Fiberquant participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) program, is accredited by AIHA-LAP, LLC for environmental lead in paint (Lab # 101593), and is recognized by the National Lead Laboratory Accreditation Program (NLLAP) for the analysis of Pb in paint. Accreditation does not imply endorsement by the EPA, any other United States governmental agency or any private agency or association. Each lab analysis refers only to the sample tested, and may not, due to the sampling process, be representative of the material sampled. This report may not be reproduced except in full, without the approval of Fiberquant Analytical Services.

Some results may have been calculated using client supplied data, such as volume or area sampled, for which Fiberquant assumes no liability for accuracy.

Job Analysis Notes:

Calibration Curve:

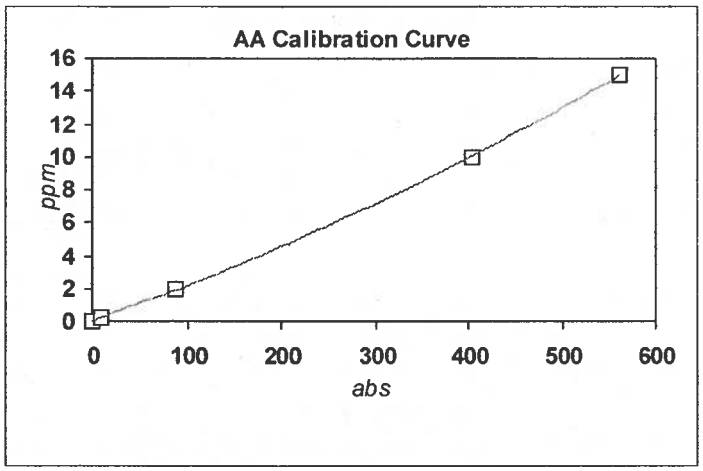
Pb

Run # ***7890*** ***6/8/2011***

Instrument: *M5-2*

Standards:	ppm	avg. mAbs.
1	0.2	9
2	2	88
3	10	403
4	15	562

ax2	0.00001089
bx	0.02046599
c	0.03431364
R2	0.9999383



Analysis Results:

Job Number:	201105540

AApw

Lab Number	Client Number	Date	Condition	Weight (gm)	ug/ml	ml	Dil	Analyte	wt %	ppm	RL(ppm)
2011-05540- 1	LBP-01	6/1/2011	acceptable	0.1169	0.03431	25	1	Pb	<0.0043	<43	43
2011-05540- 2	LBP-02	6/1/2011	acceptable	0.1036	0.03431	25	1	Pb	<0.0048	<48	48
2011-05540- 3	LBP-03	6/1/2011	acceptable	0.1005	0.03431	25	1	Pb	<0.005	<50	50
2011-05540- 4	LBP-04	6/1/2011	acceptable	0.1001	0.13692	25	1	Pb	<0.005	<50	50
2011-05540- 5	LBP-05	6/1/2011	acceptable	0.1115	0.03431	25	1	Pb	<0.0045	<45	45
2011-05540- 6	LBP-06	6/1/2011	acceptable	0.1011	0.03431	25	1	Pb	<0.0049	<49	49
2011-05540- 7	LBP-07	6/1/2011	acceptable	0.1026	0.03431	25	1	Pb	<0.0049	<49	49
2011-05540- 8	LBP-08	6/1/2011	acceptable	0.1062	0.09581	25	1	Pb	<0.0047	<47	47
2011-05540- 9	LBP-09	6/1/2011	acceptable	0.1022	0.03431	25	1	Pb	<0.0049	<49	49
2011-05540- 10	LBP-10	6/1/2011	acceptable	0.1083	0.03431	25	1	Pb	<0.0046	<46	46
2011-05540- 11	LBP-11	6/1/2011	acceptable	0.1068	0.05479	25	1	Pb	<0.0047	<47	47
2011-05540- 12	LBP-12	6/1/2011	acceptable	0.1019	0.36456	25	1	Pb	0.0089	89	49
2011-05540- 13	LBP-13	6/1/2011	acceptable	0.15	0.03431	25	1	Pb	<0.0033	<33	33

Martin Esquer

Analyst: MARTIN A. ESQUER

Printed: 09-Jun-2011

Original Print Date: 08-Jun-2011

Larry S. Pierce

Larry S. Pierce, Approved Accreditation Signatory

FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.; Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558; info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company) Kleinfelder	
Address 6380 S. Polaris Avenue	
City, State, Zip Code Las Vegas, NV 89118	
Phone 702-736-2936	FAX 702-361-9094
Email dburns@kleinfelder.com	

Invoice to (Company) Kleinfelder	
Address 6380 S. Polaris Avenue	
City, State, Zip Code Las Vegas, NV 89118	
Phone 702-260-5606	FAX 702-361-9094

Contact (print) Daniel Burns	
Sampled by (signature) Daniel C Burns	
Job Number or Project Name 117801 / Bob Ruud Community Center	
PO Number 117801	

Analysis Method Requested ONLY ONE METHOD per COC		Turn-around-time (circle one) Rush	Norm	Ext.
Asbestos by PLM	Improved ☐ Interim ☐	<6 hrs ☐	1-3 days ☐	15-30 days ☐
	Analyze ☐ All ☐ ATPF If so then by Layer ☐ or Sample ☐			
	Single Layer Protocol: Yes ☐ No ☐			
Fibers by PCM	7400(Area) ☐ ORM (Personal) ☐	<4 hr ☐	24hr ☐	3-5d ☐
Asbestos by TEM	AIR: AHERA ☐ Mod. AHERA ☐	<6hr ☐	24 hr ☐	3-5d ☐
	Water*: Water ☐ Sludge ☐	1-2d ☐	3-5d ☐	N/A
	Annex2 : Chatfield ☐ Full ☐			
	Vacuum Dust (ASTM)	3-5d ☐	5-10d ☐	N/A
Pb by FLAA	Analyte: Pb/Other	<6 hrs ☐	2-3 days ☒	N/A
	Matrix: Filter: MCE ☐			
	Paint: by Area ☐ by Weight ☒			
	Soil ☐			
	Wipe ☐			
	Initial here certifying wipes used are ASTM E1792 compliant ☐			
Fungi	Air Sample: Zef ☐ Aller ☐ Oth ☐	<6 hrs ☐	1-2 days ☐	N/A
	ID/Count: Bulk ☐ Swab ☐			
	Tape: Qual (%) ☐			
	Tape:Quant (cm2) ☐			
	Other			
Dust	NIOSH 500 ☐	<4hr ☐	24h ☐	N/A
Other		Call	Call	

Sample Number	Description/Location (include agar type/maker/exp. Date)	Sample Date	Sample Time	Vol/Area
1) LBP-01	Interior Stage handrail / Blue	6/1/2011	0910	
2) LBP-02	white, interior wallboard	6/1/2011	0920	
3) LBP-03	white, interior 16"x8" cmu wall	6/1/2011	0935	
4) LBP-04	white, interior 16"x3½" Brick wall	6/1/2011	0945	
5) LBP-05	Tan; exterior roof flashing	6/1/2011	0955	
6) LBP-06	Brown, exterior roof flashing/trim	6/1/2011	1005	
7) LBP-07	tan; exterior Block wall	6/1/2011	1025	
8) LBP-08	Blue; exterior stoop/stairs	6/1/2011	1045	
9) LBP-09	tan; interior window caulk	6/1/2011	1100	
10) LBP-10	white; exterior window caulk	6/1/2011	1110	
11) LBP-11	brown: exterior wood railing	6/1/2011	1130	
12) LBP-12	brown/green, roof cap flashing	6/1/2011	1140	
13) LBP-13	grey, exterior window caulk	6/1/2011	1145	
14)				
15)				
16)				
17)				
18)				
19)				
20)				

1)Relinquished by: Daniel C Burns	Date: 6/2/11	Time: 1000	3)Relinquished by: UPS Airbill	Date: 6/2/11	Time:
2)Received by: UPS Airbill	Date: 6/3/11	Time:	4)Received by: [signature]	Date: 6/3/11	Time: 9:55A
* TEM Water: Sampler's name Required by State of Arizona	Print Name				

Review of Analysis Request (Initials) _____

20110554 0 UPS

Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

Appendix B

Airborne, Surface, & Visual Fungal Inspection

Converse Consultants
Over 50 Years of Dedication in Geotechnical Engineering and Environmental Sciences

January 4, 2011

Donna J. Squires
ASC Nevada Insurance Pool
1755 East Plumb Lane, #148
Reno, NV 89502

Subject: **Report**
Airborne, Surface, & Visual Fungal Assessment
Water Damaged Bob Rudd Community Center
Highway 160
Pahrump, Nevada 89060
Converse Consultants Project No. 09-73109-11
Claim # P243-10-02298-01

Dear Ms. Squires:

In accordance with the *Authorization for Services,* Converse Consultants (Converse) provided the subject services on December 29, 2010. The assessment was requested to identify the extent of fungal contamination in the subject building. Water intrusion had reportedly occurred from a water leak from the roof.

Scope of Services

The airborne, surface, and visual fungal assessment included the professional services of Mr. Steven Havens, a Converse employed mold trained professional. The following services were provided:

1. The previously water damaged areas in the subject building were visually assessed for fungal contamination using non-destructive methods.

4840 Mill Street, Suite 5, Reno, Nevada 89502
Telephone: (775) 856-3833 ◆ Facsimile: (775) 856-3513 ◆ email: reno@converseconsultants.com

2. Air sampling was conducted at four areas (rooms A & B, restroom hall, and main area with the stage) for airborne fungal spore levels. In addition, two outdoor airborne fungal spore samples were collected for the purposes of comparison (front and back of the building).

3. Potential surface fungi from a discolored area were assessed on the wooden studs located on the arch in the restroom hall area by collecting a surface tape impression sample.

Methods

Samples were analyzed by EMLab P&K (EML) of San Bruno, California. EML participates in the American Industrial Hygiene Association's (AIHA) Environmental Microbiology Proficiency Analytical Testing (EMPAT) program and is accredited under the AIHA Environmental Microbiology Laboratory Accreditation Program (EMLAP).

Airborne fungal particulate samples were collected using current industry standard methods. Airborne samples were collected using Air-O-Cell cassettes with fifteen liters per minute of air drawn through them for five minutes (75 liters total). The flow rate of the preset constant flow pump (Bio Pump Plus) is checked regularly using a primary calibrator. The samples were collected at breathing zone heights (i.e., approximately five feet from the floor). The cassettes were placed in a zip lock poly bag and shipped to EML via FedEx using chain-of-custody procedures for microscopic analysis.

The fungal surface sample was collected and analyzed using methods prescribed by common industry practice and EML recommendations. The tape impression surface sampling was conducted by placing a 2 to 3 inch piece of clear adhesive tape on the visible potential fungal source. The debris containing tape was placed on a microscopic slide, then placed in a zip lock poly bag and shipped to EML via FedEx using chain-of-custody procedures for microscopic analysis.

Results and Discussion

Visual Assessment

There was readily visible potential fungal contamination in the restroom hall on the arch and on the wall behind the cove base on the lower wall below the arch. The areas were covered with black discoloration (possible fungal growth). There was water damage and staining on the wooden ceiling area above the drop ceiling (ceiling tiles) and fiberglass insulation. Photographs of the sample area and other related issues are enclosed.

Environmental Airborne Fungal Spore Analysis

The Air-O-Cell cassette sampling enclosed report titled *Spore Trap Report: Non-Viable Methodology* indicated that total airborne fungal levels in two (2) samples collected (middle of room B and restroom hall) were elevated above measured outdoor levels. The other two (2) samples collected (middle of room A and main area in front of the stage) were below the measured outdoor levels.

1. **Middle of Room B:**

   Alternaria (27 spores per cubic meter [s/M^3] compared zero outdoors), *Basidiospores* (330 & 110 s/M^3 compared to 210 & 160 s/M3 outdoors), Cladosporium (220 and 210 s/M^3 compared to 110 and 210 s/M^3 outdoors), *Penicillium/Aspergillus* type (560 s/M^3 compared to 270 & 480 outdoors), *Smuts, Periconia, Myxomycetes* (93 s/M^3 compared zero outdoors), and *Stachybotrys* (93 s/M^3 compared zero outdoors).

2. **Restroom Hall:**

   Penicillium/Aspergillus type (960 s/M^3] compared to 270 & 480 outdoors), *and Stachybotrys* (40 s/M3 compared zero outdoors).

Stachybotrys and *Chaetomium* are typically associated with indoor fungal growth on cellulose materials (e.g., drywall). *Penicillium/Aspergillus* type spores are common to the outdoors and can also be associated with indoor fungal growth.

The results of the Air-O-Cell cassette samples (enclosed reports titled *Spore Trap Report: Non-Viable Methodology*) indicated total fungal spore levels in two (2) indoor samples collected (middle of room A and main area in front of the stage) were less than the total average outdoor levels. The indoor fungal levels in these areas may be regularly detected

outdoors in Nevada and in the United States during December (refer to the enclosed *MoldRANGE: Extended Outdoor Comparison* sheets). Converse considers these fungal spore levels to be background.

Surface Sampling (Tape Impression)

The tape impression sampling results are described in the enclosed EML report titled *Direct Microscopic Examination Report.* The report indicated that the potential surface fungi from discolored wood in the arch in the restroom hall area was fungal growth consisting of *Stachybotrys* species (spores, hyphae, conidiophores) and colorless spores typical of *Penicillium/Aspergillus* (spores, hyphae).

Conclusions

Based upon the previously described results, the following conclusions are made:

1. The fungal air sampling indicated that fungal contamination was present in the contained areas of the building (rooms A & B and restroom area/hall between rooms A & B).

2. The tape lift sample indicates the presence of surface fungal growth.

Recommendations

Based upon the previously described results and conclusions, the following recommendations are made:

1. Individuals with compromised or undeveloped immune systems, allergies/asthma, fungal sensitivities, or other respiratory system problems should not enter the containment area set up in rooms A & B and the restroom area/hall between rooms A&B without proper training and protective equipment (e.g., respirator).

2. Before beginning fungal remediation, the cause of the water intrusion must be corrected / prevented (repair or replace the roof).

3. Before conducting the remediation described, the walls should be further assessed for the presence of fungal contamination using

minimally destructive methods (i.e., pulling back cove base, remove the insulation in the ceiling areas, etc.).

5. Ceiling tiles and insulation in rooms A and B should be removed to expose the wooden substrate and studs to inspect for mold contamination. The water stained and mold contaminated ceiling tiles and insulation should be discarded.

6. 100% removal of the ceiling and walls (drywall) in the restroom hall from the restroom wall over and past the archway. (Note: It is not necessary to remove the wall adjacent to the restrooms). See attached site map for area to be abated.

7. Fungal contaminated wood studs and substrate should be cleaned or brushed with a mild detergent to a point where there is no more removable contamination (removing all discoloration is not necessary). Previously water damaged insulation, if encountered, should be removed.

6 Before the remediated area is released for use, it should be visually assessed and the air should be tested to determine if it is normal fungal ecology. This should be done by a qualified Industrial Hygienist.

Limitations

This report is for the use of ASC, as it applies to the subject residence. Converse is not responsible for any claims or damages associated with interpretation of available information. Converse is not responsible for any contamination or its proliferation. We applied our conclusions and recommendations using appropriate professional standards, but cannot guarantee particular results. This assessment should not be regarded as a guarantee that no other hazardous conditions exist at the subject residence. In the event that changes in the nature of the property occur, or additional relevant information about the property is brought to our attention, the conclusions and recommendations contained in this assessment may not be valid unless these changes and additional relevant information are reviewed and our conclusions and recommendations are modified in writing.

The airborne spore trap (Air-O-Cell) sampling and analysis method used during this assessment is the current, most commonly used method in

the industry. However, it does not distinguish between the fungal spores associated with *Aspergillus* and *Penicillium* genera (as well as some other fungal genera) due to their microscopic similarities. There are hundreds of species of each of these fungal genera, and they are very commonly found in outdoor air samples (e.g., approximately 90% of the time as the *Aspergillus/Penicillium*-like group). The species of *Aspergillus* and/or *Penicillium* fungi present on the spore trap samples collected indoors during this assessment could be different from those collected outdoors. If this information were available the interpretation of the results could be affected. However, current technology is not adequate to cost effectively and properly distinguish the species of the *Aspergillus/Penicillium*-like spores collected on the spore trap samples. Therefore, the *Aspergillus/Penicillium*-like spore species populations on the spore trap samples are assumed to be similar between indoors and outdoors for the purposes of this assessment.

Thank you for the opportunity to be of service. Should you have any questions or comments regarding this report, please do not hesitate to call.

Respectfully submitted,

Converse Consultants

Kathi Brand

for
Steven Havens
Project Manager

Reviewed and Approved

Kathi Brand

Kathi Brandmueller, PE, CEM
Senior Engineer

Encl: EMLab P&K, Chain of Custody Form
EMLab P&K Laboratory Results

Attachments: A – Fungal Remediation Operating Procedures
B – EMLab P&K Laboratory Results
C – Photos
D – Site Maps

cc: Brad Gardener, Belfor

Attachment A
Fungal Remediation Operating Procedures

Step #1: Communication

1. Consult with Converse prior to remediation activities to define the areas of removal and provide oversight for the project (if desired by Owner).

2. Consult with the re-construction contractor prior to removal to facilitate efficient reconstruction of the space.

3. Develop a project time line and communicate this with building representative(s)/occupant(s) prior to the remediation and re-construction project. Provide contact numbers if occupants have questions about the project.

Step #2: Personnel

1. At least two abatement personnel should be present at all times during the abatement.

2. Ensure all abatement personnel are trained in the handling of fungal contaminated materials including their health effects and methods of controlling and protecting against exposure.

3. Because the fungal abatement will necessitate the use of respirators, the abatement personnel should be familiar with their company's written Respiratory Protection Program. They should also be medically qualified to wear a respirator, trained on its limitations and use, and fit tested within the last year.

4. The abatement company should have provided right-to-know training on exposure to any chemicals used during abatement (use not recommended) and the health effects, control methods and other pertinent information regarding exposure to these chemicals and/or microbial organisms.

Step #3: Personal Protective Equipment (PPE)

1. Full faced negative pressure respirators with cartridges that protect against micron size particulates (e.g., P100 [HEPA] filter) should be used during the abatement and/or disturbance of the fungal contamination. A similarly equipped half-mask with the use of goggles or safety glasses may be substituted, if appropriate. Fungal spores

should not be allowed to come in contact with mucous membranes (i.e., eyes, nose, mouth, etc.).

2. Disposable Tyvek (or equivalent) coveralls covering both the head and the shoes should be used.

3. Gloves (neoprene, rubber, nitrile, leather, or cotton depending on the material to be removed) should be used. Leather is recommended when sharp material is expected to be encountered during the fungal abatement.

4. Pliers or cutters to break up metal mesh in plaster walls should be used. These and other tools are used to reduce skin contact with sharp objects.

Step #4: Personal Hygiene

1. Wash hands after exiting the enclosure and prior to using the hands to place anything in the mouth. Fungal organisms can cause dermatitis. Ingestion of bacteria or fungi can cause severe diarrhea.

2. During the exit from the enclosure, remove the coveralls leaving them inside either the enclosure or the first stage (dirty room) of the two-stage decontamination room. In some cases, space will not allow for construction of the decontamination room.

3. In the change area, doff the respirator. Remove the cartridges. Clean the surfaces of the cartridges with a disinfectant wipe and keep the cartridges for reuse. Soak and clean the respirator in a gallon of disinfectant (1/2 oz. A-33 quaternary ammonium disinfectant per gallon of water). Rinse the respirator in water and dry with a clean towel.

4. After an exhaust fan with a HEPA filter is used on a job site the pre-filter is covered with 4 - 6 mil poly and sealed with duct tape.

Step #5: Containment of Affected Area

1. Isolate the work area from occupied spaces using plastic (4-6 mil poly or equivalent) sheeting sealed with duct tape (including ventilation ducts/grills, fixtures, and other openings). The duct tape should be secured in a manner that will not allow loss of adhesion during the anticipated life of the containment (i.e., use tack strips, rigid enclosures, staples, etc.).

2. Use a negative air machine with a HEPA filter to generate negative pressurization. Use the appropriate sized unit at the appropriate flow rate for the space. Do not use the same units for asbestos abatement and fungal abatement. If units are shared, a break in the HEPA filter could change a fungal contaminated area into an asbestos contaminated area as well.

3. The negative air machines should be ducted outdoors, especially if the space outside containment is occupied. This will prevent the indoor spread of contamination if the negative air machine malfunctions or other chemicals are used in the containment (not recommended) which is not filtered by the machines.

4. If space allows, construct a two-stage decontamination room with a changing area and a dirty room attached to the entrance of the containment area.

5. If the area of work outside is dusty, then a square hole may be cut in the containment and fitted with a pleated residential air filter (MERV 11 or better) to filter the make up air. The entry to the containment should be well sealed to prevent unfiltered outside air entry.

6. Contaminated materials removed in containment should be placed in poly bags or wrapped in plastic before being removed from inside containment. They should also be wiped before removal.

Step #6: Control of Exposure to Adjacent Areas

1. Vacating people from spaces is not necessary but is recommended for individuals with compromised immune systems, infants, recent surgery patients, people with chronic inflammatory lung diseases or individuals with respiratory health concerns (i.e., asthma, hypersensitivity pneumonitis, severe allergies, etc.).

2. In general, there are fewer occupant complaints about the remediation if the adjacent spaces are vacated. The complaints about construction related odors are reduced and there is more space to place cleanup supplies.

Step #7: Anti-Microbial Paint/Chemical Use and Water Use

1. Anti-microbial paint/chemical use during or after fungal abatement is **NOT** recommended. Use of these materials does little or nothing to assist in the fungal abatement, may be illegal with regard to pesticide use regulations, and can lead to occupant complaints from associated chemical odors. The goal of fungal abatement is removal of contamination; not killing the fungi or covering it up.

2. Water use during fungal abatement to reduce airborne dust levels is encouraged but should be minimal and should include the addition of a surfactant (e.g., mild detergent). Water should be applied by lightly misting to minimize fungal spore disturbance.

Step #8: Removal of Containment Materials

1. Contaminated materials generated in the containment that cannot be cleaned should be removed from the building in sealed plastic bags. The outside of the bags should be cleaned with a damp cloth and a detergent solution or HEPA vacuumed in the decontamination chamber prior to their transport to uncontaminated areas of the building. There are no special requirements for the disposal of fungal contaminated materials. However, some disposal companies (i.e., Republic at Apex, NV) request that the contaminated materials be sprayed with bleach (or equivalent). Fungal contaminated materials that are bagged can be disposed of with other general waste.

2. Debris and broken plaster or drywall with sharp edges should be placed in 55-gallon drums inside the containment area to prevent container puncture. Before removal from the containment area, close the drum and clean the outside surface.

Step #9: Cleaning of the Containment Area

1. The contained area and decontamination area should be HEPA vacuumed and cleaned with a damp cloth and/or mop with a mild detergent solution and be visibly clean prior to the removal of isolation barriers.

Step#10: Visual and Air Sampling Post-Abatement Verification

1. Prior to re-construction and re-occupancy of the previously fungal contaminated space a post abatement verification visual inspection

and air sampling should be done either by or under the supervision of a Industrial Hygienist who is familiar with fungal assessment and remediation. The surfaces in the containment should not be painted or coated before the post abatement verification. If surfaces remain discolored they may still pass visual inspection if the discolored material is not removable. Re-occupancy may occur when the space passes the visual inspection and airborne fungal spore sampling in the containment.

2. The configuration of the contained area during the post abatement verification should include 1) HEPA filtered negative air machine(s) adequate to create a negative pressurization in the enclosed area(s), 2) HEPA filtered air scrubber(s) with the exhaust pointed toward the abated area, and 3) tightly sealed entry/exit points.

3. The fungal spore levels detected in the containment during the post abatement verification should be less than or similar to outdoor air for the genera of spores detected. Before air sampling is conducted the visual assessment shall not have revealed any visible fungal contamination.

4. The containment and negative air pressure is not to be removed until air samples return with acceptable spore counts and the area is visibly free of fungal contamination.

Step #11: Containment Use During Reconstruction

1. After the fungal abatement containment area has been properly remediated the containment enclosure can be used to contain the dusts generated by the reconstruction (e.g., sheetrock sanding and cutting activities). This is done to reduce the problems with clean up when reconstruction is completed. The use of the HEPA exhaust filter is not required. The two-stage decontamination area is also not needed.

Attachment B
EMLab P&K Laboratory Results