

Table 4-1. Rank Sum Test Results (p-Values)

Panel A: Total LA, Year 1 (October 2006 - September 2007)

Area	OU4 (N)	OU4 (E)	OU4 (C)	OU4 (S)	Eureka
OU4 (E)	0.97				
OU4 (C)	0.50	0.49			
OU4 (S)	0.21	0.22	0.58		
Eureka	0.006	0.021	0.060	0.14	
Helena	0.089	0.18	0.32	0.52	0.55

Panel B: Total LA, Year 2 (July 2007 - June 2008)

Area	Helena	OU2
OU2	0.83	
OU6	0.43	0.55

P values less than 0.05 have been shaded grey.

Values shown are based on data available in Libby2 as of 9-30-08.

Table 4-2. Comparison of Paired Measurements at Adult and Child Height

Libby Amphibole Air Concentrations (total LA s/cc)

Sampling Dates	Address	Child Height						Adult Height						Poisson Ratio Rate Comparison (CI=95%)			
		IndexID	Sample Height (ft)	Sample Date Begin	N LA Struc	Volume Analyzed (cc)	Sens (cc)-1	LA Air Conc (s/cc)	IndexID	Sample Height (ft)	Sample Date Begin	N LA Struc	Volume Analyzed (cc)		Sens (cc)-1	LA Air Conc (s/cc)	
Oct 3 - 8 (2006)	1915 Kootenai River Rd	AA-00061	3	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	AA-00063	6	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	247 Indian Head Rd	AA-00069	3	10/03/06	1	2.6E+04	3.8E-05	3.8E-05	AA-00072	6	10/03/06	1	2.6E+04	3.8E-05	3.8E-05		[0.01-78.36] The rates are not different
	60 Port Blvd	AA-00083	3	10/04/06	1	2.3E+04	4.3E-05	4.3E-05	AA-00081	6	10/04/06	1	2.4E+04	4.2E-05	4.2E-05		[0.01-79.57] The rates are not different
	378 Cabinet View Rd - Pump House	AA-00077	3	10/04/06	1	2.2E+04	4.5E-05	4.5E-05	AA-00125	6	10/04/06	0	2.6E+04	3.9E-05	0.0E+00		[0-33.78] The rates are not different
	475 Fish Hatchery Rd	AA-00087	3	10/05/06	0	2.3E+04	4.3E-05	0.0E+00	AA-00089	6	10/05/06	0	2.3E+04	4.4E-05	0.0E+00		Both counts are 0; the rates are not different
	119 Evans Rd	AA-00093	3	10/05/06	0	2.1E+04	4.7E-05	0.0E+00	AA-00095	6	10/05/06	0	2.5E+04	4.1E-05	0.0E+00		Both counts are 0; the rates are not different
Oct 13 - 17 (2006)	1915 Kootenai River Rd	AA-00143	3	10/14/06	1	2.4E+04	4.3E-05	4.3E-05	AA-00145	6	10/14/06	0	2.4E+04	4.2E-05	0.0E+00	[0-38.28] The rates are not different	
	247 Indian Head Rd	AA-00156	3	10/14/06	0	2.3E+04	4.4E-05	0.0E+00	AA-00160	6	10/14/06	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different	
	60 Port Blvd	AA-00183	3	10/15/06	1	1.6E+04	6.1E-05	6.1E-05	AA-00181	6	10/15/06	1	1.9E+04	5.4E-05	5.4E-05	[0.01-88.07] The rates are not different	
	378 Cabinet View Rd - Pump House	AA-00187	3	10/15/06	1	2.4E+04	4.1E-05	4.1E-05	AA-00189	6	10/15/06	0	2.5E+04	4.0E-05	0.0E+00	[0-37.85] The rates are not different	
	475 Fish Hatchery Rd	AA-00177	3	10/16/06	0	1.8E+04	5.6E-05	0.0E+00	AA-00178	6	10/16/06	0	1.7E+04	5.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	119 Evans Rd	AA-00163	3	10/16/06	0	1.9E+04	5.3E-05	0.0E+00	AA-00165	6	10/16/06	0	1.4E+04	7.3E-05	0.0E+00	Both counts are 0; the rates are not different	
Feb 1 - 8 (2007)	101 Ski Rd	AA-00606	3	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	AA-00647	5	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	899 Farm to Market Rd	AA-00631	3	02/03/07	0	2.7E+04	3.7E-05	0.0E+00	AA-00633	5	02/03/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different	
Feb 12 - 19 (2007)	101 Ski Rd	AA-00661	3	02/12/07	0	2.7E+04	3.7E-05	0.0E+00	AA-00659	5	02/12/07	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	899 Farm to Market Rd	AA-00710	3	02/14/07	0	2.8E+04	3.6E-05	0.0E+00	AA-00708	5	02/14/07	0	2.5E+04	4.0E-05	0.0E+00	Both counts are 0; the rates are not different	
Jun 2 - 9 (2007)	501 Mineral Ave	AA-01156	3	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	AA-01158	5	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	3088 Highway 37 N	AA-01166	3	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	AA-01168	5	06/02/07	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
Jun 13 - 20 (2007)	501 Mineral Ave	AA-01229	3	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01231	5	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different	
	3088 Highway 37 N	AA-01242	3	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01244	5	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different	

Summary			
Basis	Same	Different	% Different
LA	20	0	0%
C	20	0	0%

Chrysotile Air Concentrations (total C s/cc)

Sampling Dates	Address	Child Height						Adult Height						Poisson Ratio Rate Comparison (CI=95%)		
		IndexID	Sample Height (ft)	Sample Date Begin	N C Struc	Volume Analyzed (cc)	Sens (cc)-1	C Air Conc (s/cc)	IndexID	Sample Height (ft)	Sample Date Begin	N C Struc	Volume Analyzed (cc)		Sens (cc)-1	C Air Conc (s/cc)
Oct 3 - 8 (2006)	1915 Kootenai River Rd	AA-00061	3	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	AA-00063	6	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
	247 Indian Head Rd	AA-00069	3	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	AA-00072	6	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
	60 Port Blvd	AA-00083	3	10/04/06	0	2.3E+04	4.3E-05	0.0E+00	AA-00081	6	10/04/06	0	2.4E+04	4.2E-05	0.0E+00	Both counts are 0; the rates are not different
	378 Cabinet View Rd - Pump House	AA-00077	3	10/04/06	0	2.2E+04	4.5E-05	0.0E+00	AA-00125	6	10/04/06	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
	475 Fish Hatchery Rd	AA-00087	3	10/05/06	0	2.3E+04	4.3E-05	0.0E+00	AA-00089	6	10/05/06	0	2.3E+04	4.4E-05	0.0E+00	Both counts are 0; the rates are not different
	119 Evans Rd	AA-00093	3	10/05/06	0	2.1E+04	4.7E-05	0.0E+00	AA-00095	6	10/05/06	0	2.5E+04	4.1E-05	0.0E+00	Both counts are 0; the rates are not different
Oct 13 - 17 (2006)	1915 Kootenai River Rd	AA-00143	3	10/14/06	0	2.4E+04	4.3E-05	0.0E+00	AA-00145	6	10/14/06	0	2.4E+04	4.2E-05	0.0E+00	Both counts are 0; the rates are not different
	247 Indian Head Rd	AA-00156	3	10/14/06	0	2.3E+04	4.4E-05	0.0E+00	AA-00160	6	10/14/06	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
	60 Port Blvd	AA-00183	3	10/15/06	0	1.6E+04	6.1E-05	0.0E+00	AA-00181	6	10/15/06	0	1.9E+04	5.4E-05	0.0E+00	Both counts are 0; the rates are not different
	378 Cabinet View Rd - Pump House	AA-00187	3	10/15/06	0	2.4E+04	4.1E-05	0.0E+00	AA-00189	6	10/15/06	0	2.5E+04	4.0E-05	0.0E+00	Both counts are 0; the rates are not different
	475 Fish Hatchery Rd	AA-00177	3	10/16/06	0	1.8E+04	5.6E-05	0.0E+00	AA-00178	6	10/16/06	0	1.7E+04	5.8E-05	0.0E+00	Both counts are 0; the rates are not different
	119 Evans Rd	AA-00163	3	10/16/06	0	1.9E+04	5.3E-05	0.0E+00	AA-00165	6	10/16/06	0	1.4E+04	7.3E-05	0.0E+00	Both counts are 0; the rates are not different
Feb 1 - 8 (2007)	101 Ski Rd	AA-00606	3	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	AA-00647	5	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
	899 Farm to Market Rd	AA-00631	3	02/03/07	0	2.7E+04	3.7E-05	0.0E+00	AA-00633	5	02/03/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
Feb 12 - 19 (2007)	101 Ski Rd	AA-00661	3	02/12/07	0	2.7E+04	3.7E-05	0.0E+00	AA-00659	5	02/12/07	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
	899 Farm to Market Rd	AA-00710	3	02/14/07	0	2.8E+04	3.6E-05	0.0E+00	AA-00708	5	02/14/07	0	2.5E+04	4.0E-05	0.0E+00	Both counts are 0; the rates are not different
Jun 2 - 9 (2007)	501 Mineral Ave	AA-01156	3	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	AA-01158	5	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
	3088 Highway 37 N	AA-01166	3	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	AA-01168	5	06/02/07	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
Jun 13 - 20 (2007)	501 Mineral Ave	AA-01229	3	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01231	5	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
	3088 Highway 37 N	AA-01242	3	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01244	5	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different

Note: AA-00072 is a low volume sample. This was used because the high volume sample was overloaded. Values shown are based on data available in Libby2 as of 9-30-08.

Table 4-3. Comparison of Paired Measurements with Varying Pore Sizes

Libby Amphibole Air Concentrations (total LA s/cc)

Sampling Dates	Address	0.8 µm pore size						0.45 µm pore size					Poisson Ratio Rate Comparison (CI=95%)		
		IndexID	Sample Date Begin	N LA Struc	Volume Analyzed (cc)	Sens (cc)-1	LA Air Conc (s/cc)	IndexID	Sample Date Begin	N LA Struc	Volume Analyzed (cc)	Sens (cc)-1		LA Air Conc (s/cc)	
Oct 3 - 8 (2006)	1915 Kootenai River Rd	AA-00063	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	AA-00066	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	247 Indian Head Rd	AA-00072	10/03/06	1	2.6E+04	3.8E-05	3.8E-05	AA-00073	10/03/06	0	2.6E+04	3.8E-05	0.0E+00		[0-38.77] The rates are not different
	60 Port Blvd	AA-00081	10/04/06	1	2.4E+04	4.2E-05	4.2E-05	AA-00085	10/04/06	0	2.3E+04	4.3E-05	0.0E+00		[0-39.94] The rates are not different
	378 Cabinet View Rd - Pump House	AA-00125	10/04/06	0	2.6E+04	3.9E-05	0.0E+00	AA-00079	10/04/06	1	2.4E+04	4.2E-05	4.2E-05		[0-36] The rates are not different
	475 Fish Hatchery Rd	AA-00089	10/05/06	0	2.3E+04	4.4E-05	0.0E+00	AA-00091	10/05/06	0	2.5E+04	4.0E-05	0.0E+00		Both counts are 0; the rates are not different
	119 Evans Rd	AA-00095	10/05/06	0	2.5E+04	4.1E-05	0.0E+00	AA-00097	10/05/06	0	2.4E+04	4.1E-05	0.0E+00		Both counts are 0; the rates are not different
Oct 13 - 17 (2006)	1915 Kootenai River Rd	AA-00145	10/14/06	0	2.4E+04	4.2E-05	0.0E+00	AA-00142	10/14/06	0	2.4E+04	4.1E-05	0.0E+00	Both counts are 0; the rates are not different	
	247 Indian Head Rd	AA-00160	10/14/06	0	2.6E+04	3.9E-05	0.0E+00	AA-00158	10/14/06	1	2.4E+04	4.1E-05	4.1E-05		[0-36.83] The rates are not different
	60 Port Blvd	AA-00181	10/15/06	1	1.9E+04	5.4E-05	5.4E-05	AA-00185	10/15/06	1	2.2E+04	4.6E-05	4.6E-05		[0.01-92.15] The rates are not different
	378 Cabinet View Rd - Pump House	AA-00189	10/15/06	0	2.5E+04	4.0E-05	0.0E+00	AA-00188	10/15/06	0	2.0E+04	5.1E-05	0.0E+00		Both counts are 0; the rates are not different
	475 Fish Hatchery Rd	AA-00178	10/16/06	0	1.7E+04	5.8E-05	0.0E+00	AA-00180	10/16/06	0	1.9E+04	5.3E-05	0.0E+00		Both counts are 0; the rates are not different
	119 Evans Rd	AA-00165	10/16/06	0	1.4E+04	7.3E-05	0.0E+00	AA-00167	10/16/06	0	1.6E+04	6.2E-05	0.0E+00		Both counts are 0; the rates are not different
Feb 1 - 8 (2007)	101 Ski Rd	AA-00647	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	AA-00649	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	899 Farm to Market Rd	AA-00633	02/03/07	0	2.7E+04	3.7E-05	0.0E+00	AA-00635	02/03/07	0	2.7E+04	3.7E-05	0.0E+00		
Feb 12 - 19 (2007)	101 Ski Rd	AA-00659	02/12/07	0	2.7E+04	3.8E-05	0.0E+00	AA-00663	02/12/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	899 Farm to Market Rd	AA-00708	02/14/07	0	2.5E+04	4.0E-05	0.0E+00	AA-00714	02/14/07	1	2.6E+04	3.8E-05	3.8E-05		[0-40.29] The rates are not different
Jun 2 - 9 (2007)	501 Mineral Ave	AA-01158	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	AA-01160	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	3088 Highway 37 N	AA-01168	06/02/07	0	2.7E+04	3.8E-05	0.0E+00	AA-01170	06/02/07	0	2.6E+04	3.8E-05	0.0E+00		
Jun 13 - 20 (2007)	501 Mineral Ave	AA-01231	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01233	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different	
	3088 Highway 37 N	AA-01244	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01246	06/13/07	0	2.7E+04	3.7E-05	0.0E+00		

Basis	Summary		
	Same	Different	% Different
LA	20	0	0%
C	19	1	5%

Chrysotile Air Concentrations (total C s/cc)

Sampling Dates	Address	0.8 µm pore size					0.45 µm pore size				Poisson Ratio Rate Comparison (CI=95%)				
		IndexID	Sample Date Begin	N C Struc	Volume Analyzed (cc)	Sens (cc)-1	C Air Conc (s/cc)	IndexID	Sample Date Begin	N C Struc		Volume Analyzed (cc)	Sens (cc)-1	C Air Conc (s/cc)	
Sampling Round 1	1915 Kootenai River Rd	AA-00063	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	AA-00066	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	247 Indian Head Rd	AA-00072	10/03/06	0	2.6E+04	3.8E-05	0.0E+00	AA-00073	10/03/06	0	2.6E+04	3.8E-05	0.0E+00		Both counts are 0; the rates are not different
	60 Port Blvd	AA-00081	10/04/06	0	2.4E+04	4.2E-05	0.0E+00	AA-00085	10/04/06	0	2.3E+04	4.3E-05	0.0E+00		Both counts are 0; the rates are not different
	378 Cabinet View Rd - Pump House	AA-00125	10/04/06	0	2.6E+04	3.9E-05	0.0E+00	AA-00079	10/04/06	15	2.4E+04	4.2E-05	6.4E-04		[0-0.26] Rate 1 is less than Rate 2
	475 Fish Hatchery Rd	AA-00089	10/05/06	0	2.3E+04	4.4E-05	0.0E+00	AA-00091	10/05/06	0	2.5E+04	4.0E-05	0.0E+00		Both counts are 0; the rates are not different
	119 Evans Rd	AA-00095	10/05/06	0	2.5E+04	4.1E-05	0.0E+00	AA-00097	10/05/06	0	2.4E+04	4.1E-05	0.0E+00		Both counts are 0; the rates are not different
Sampling Round 2	1915 Kootenai River Rd	AA-00145	10/14/06	0	2.4E+04	4.2E-05	0.0E+00	AA-00142	10/14/06	0	2.4E+04	4.1E-05	0.0E+00	Both counts are 0; the rates are not different	
	247 Indian Head Rd	AA-00160	10/14/06	0	2.6E+04	3.9E-05	0.0E+00	AA-00158	10/14/06	0	2.4E+04	4.1E-05	0.0E+00		Both counts are 0; the rates are not different
	60 Port Blvd	AA-00181	10/15/06	0	1.9E+04	5.4E-05	0.0E+00	AA-00185	10/15/06	1	2.2E+04	4.6E-05	4.6E-05		[0-45.78] The rates are not different
	378 Cabinet View Rd - Pump House	AA-00189	10/15/06	0	2.5E+04	4.0E-05	0.0E+00	AA-00188	10/15/06	0	2.0E+04	5.1E-05	0.0E+00		Both counts are 0; the rates are not different
	475 Fish Hatchery Rd	AA-00178	10/16/06	0	1.7E+04	5.8E-05	0.0E+00	AA-00180	10/16/06	0	1.9E+04	5.3E-05	0.0E+00		Both counts are 0; the rates are not different
	119 Evans Rd	AA-00165	10/16/06	0	1.4E+04	7.3E-05	0.0E+00	AA-00167	10/16/06	0	1.6E+04	6.2E-05	0.0E+00		Both counts are 0; the rates are not different
Feb 1 - 8 (2007)	101 Ski Rd	AA-00647	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	AA-00649	02/01/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	899 Farm to Market Rd	AA-00633	02/03/07	0	2.7E+04	3.7E-05	0.0E+00	AA-00635	02/03/07	0	2.7E+04	3.7E-05	0.0E+00		
Feb 12 - 19 (2007)	101 Ski Rd	AA-00659	02/12/07	0	2.7E+04	3.8E-05	0.0E+00	AA-00663	02/12/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	899 Farm to Market Rd	AA-00708	02/14/07	0	2.5E+04	4.0E-05	0.0E+00	AA-00714	02/14/07	0	2.6E+04	3.8E-05	0.0E+00		
Jun 2 - 9 (2007)	501 Mineral Ave	AA-01158	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	AA-01160	06/02/07	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different	
	3088 Highway 37 N	AA-01168	06/02/07	0	2.7E+04	3.8E-05	0.0E+00	AA-01170	06/02/07	0	2.6E+04	3.8E-05	0.0E+00		
Jun 13 - 20 (2007)	501 Mineral Ave	AA-01231	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01233	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different	
	3088 Highway 37 N	AA-01244	06/13/07	0	2.7E+04	3.7E-05	0.0E+00	AA-01246	06/13/07	0	2.7E+04	3.7E-05	0.0E+00		

AA-00072 is the low volume sample. This was used for comparison because the high volume sample was overloaded.

Table 4-4. Validation Summary for Ambient Air Samples

Laboratory Benchsheets

Error Type	Data Item	# Errors	# Validated	Error Percentage
Type 1 (critical - corrected)	Analysis Comments	2	383	1%
	Preparation Method	2	383	1%
	Grid Opening(s)	2	383	1%
Total		6	1,149	0.5%
Type 2 (not critical - corrected)	Analysis Date	3	383	1%
	Laboratory job #	2	383	1%
Total		5	766	1%

FSDS Forms

Error Type	Data Item	# Validated	# Errors	Error Percentage
Type 1 (critical - corrected)	Volume	784	0	0%
	Sample Date Begin	784	0	0%
	Location Address	784	4	1%
	Location Description (HV vs. LV, 3ft vs. 6ft)	784	5	1%
	Sample QC Type	784	0	0%
	Pore Size	784	9	1%
	Start Date & Time	2362	1	0%
	Start Flow (L/min)	2362	0	0%
	Stop Date & Time	2362	0	0%
	Stop Flow (L/min)	2362	0	0%
Total		14,152	19	0.1%
Type 2 (not critical- correction pending)	Field Logbook No.	784	1	0.1%
	Location ID	784	11	1%
	Buisness Name	784	69	9%
	Land Use	784	38	5%
	Sampling Team	784	7	1%
	Sample Group	784	5	1%
	Matrix	784	0	0%
	Filter Diameter	784	2	0%
	Pre Post Clear	784	0	0%
	SampleComments	784	15	2%
	Pump Flow Meter Type	2362	6	0%
	Pump ID	2362	21	1%
	Pump Flow Meter ID	2362	3	0%
Pump Fault	2362	0	0%	
Total		17,288	178	1.0%

Table 4-5. Sample Completeness

Area	Station	Year 1			Year 2		
		Planned	Obtained	% Complete	Planned	Obtained	% Complete
OU4	L1	32	32	100%	18	5	28%
	L2	32	30	94%	NA	NA	NA
	L3	32	32	100%	NA	NA	NA
	L4	32	32	100%	18	6	33%
	L5	32	32	100%	18	6	33%
	L6	32	30	94%	18	6	33%
	L7	32	30	94%	18	6	33%
	L8	32	32	100%	NA	NA	NA
	L9	32	32	100%	18	6	33%
	L10	32	32	100%	NA	NA	NA
	L11	32	30	94%	NA	NA	NA
	L12	32	32	100%	NA	NA	NA
	L13	32	31	97%	NA	NA	NA
	L14	32	32	100%	18	6	33%
OU2	L15	NA	NA	NA	18	16	89%
	L16	NA	NA	NA	18	18	100%
OU6	L17	NA	NA	NA	18	17	94%
	L18	NA	NA	NA	18	18	100%
Eureka	R1	32	32	100%	NA	NA	NA
Helena	R2	25	25	100%	14	14	100%

NA = sampling not scheduled

Table 4-6. Results of Paired Original and Co-Located Samples

Panel A: Libby Amphibole Air Concentrations (total LA s/cc)

Sample Date	Original Sample					Co-Located Sample					Poisson Ratio Rate Comparison (CI=95%)
	IndexID	N LA Struc	Volume Analyzed (cc)	Sens (cc) ⁻¹	LA Air Conc (s/cc)	IndexID	N LA Struc	Volume Analyzed (cc)	Sens (cc) ⁻¹	LA Air Conc (s/cc)	
10/05/06	AA-00130	0	2.6E+04	3.9E-05	0.0E+00	AA-00128	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
10/16/06	AA-00165	0	2.3E+04	4.3E-05	0.0E+00	AA-00170	0	2.4E+04	4.2E-05	0.0E+00	Both counts are 0; the rates are not different
10/27/06	AA-00231	0	2.7E+04	3.7E-05	0.0E+00	AA-00132	0	2.8E+04	3.6E-05	0.0E+00	Both counts are 0; the rates are not different
11/06/06	AA-00259	0	2.6E+04	3.8E-05	0.0E+00	AA-00281	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
11/16/06	AA-00287	0	2.6E+04	3.8E-05	0.0E+00	AA-00289	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
11/28/06	AA-00377	0	2.7E+04	3.7E-05	0.0E+00	AA-00379	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
12/09/06	AA-00421	0	2.6E+04	3.9E-05	0.0E+00	AA-00426	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
12/17/06	AA-00445	0	2.6E+04	3.8E-05	0.0E+00	AA-00459	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
12/30/06	AA-00480	0	2.7E+04	3.7E-05	0.0E+00	AA-00486	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
01/10/07	AA-00524	0	2.7E+04	3.7E-05	0.0E+00	AA-00526	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
01/21/07	AA-00564	0	2.7E+04	3.8E-05	0.0E+00	AA-00568	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
02/01/07	AA-00606	0	2.6E+04	3.8E-05	0.0E+00	AA-00636	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
02/23/07	AA-00692	0	2.7E+04	3.8E-05	0.0E+00	AA-00694	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
02/14/07	AA-00708	0	2.5E+04	4.0E-05	0.0E+00	AA-00712	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
03/18/07	AA-00834	0	2.6E+04	3.8E-05	0.0E+00	AA-00833	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
03/29/07	AA-00897	0	2.7E+04	3.8E-05	0.0E+00	AA-00899	0	5.4E+04	1.9E-05	0.0E+00	Both counts are 0; the rates are not different
04/09/07	AA-00978	0	2.7E+04	3.7E-05	0.0E+00	AA-00980	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
04/20/07	AA-01022	0	2.6E+04	3.8E-05	0.0E+00	AA-01024	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/02/07	AA-01066	0	2.7E+04	3.8E-05	0.0E+00	AA-01073	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/13/07	AA-01103	0	2.7E+04	3.8E-05	0.0E+00	AA-01105	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/24/07	AA-01148	0	2.6E+04	3.8E-05	0.0E+00	AA-01146	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
06/02/07	AA-01168	0	2.7E+04	3.8E-05	0.0E+00	AA-01175	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
06/13/07	AA-01231	0	2.7E+04	3.7E-05	0.0E+00	AA-01238	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
06/26/07	AA-01305	0	2.5E+04	4.0E-05	0.0E+00	AA-01307	0	2.5E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
07/05/07	AA-01312	0	2.5E+04	4.0E-05	0.0E+00	AA-01314	0	2.5E+04	4.0E-05	0.0E+00	Both counts are 0; the rates are not different
07/16/07	AA-01353	1	2.7E+04	3.7E-05	3.7E-05	AA-01355	0	2.7E+04	3.7E-05	0.0E+00	[0-39.17] The rates are not different
07/27/07	AA-01449	1	2.8E+04	3.6E-05	3.6E-05	AA-01451	0	2.8E+04	3.6E-05	0.0E+00	[0-39] The rates are not different
08/07/07	AA-01494	0	2.7E+04	3.7E-05	0.0E+00	AA-01496	1	2.7E+04	3.7E-05	3.7E-05	[0-38.3] The rates are not different
08/18/07	AA-01533	2	2.6E+04	3.9E-05	7.8E-05	AA-01535	0	2.5E+04	4.0E-05	0.0E+00	[0-5.41] The rates are not different
10/22/07	AA-01542	0	2.6E+04	3.8E-05	0.0E+00	AA-01544	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
08/29/07	AA-01605	3	2.7E+04	3.7E-05	1.1E-04	AA-01607	5	2.7E+04	3.8E-05	1.9E-04	[0.09-3.04] The rates are not different
09/10/07	AA-01657	0	2.6E+04	3.9E-05	0.0E+00	AA-01659	3	2.5E+04	3.9E-05	1.2E-04	[0-2.39] The rates are not different
09/21/07	AA-01712	0	2.7E+04	3.7E-05	0.0E+00	AA-01714	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
10/01/07	AA-01749	0	2.6E+04	3.8E-05	0.0E+00	AA-01770	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/19/08	AA-01964	0	2.7E+04	3.8E-05	0.0E+00	AA-01960	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
06/09/08	AA-01976	0	2.6E+04	3.9E-05	0.0E+00	AA-01978	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
11/12/07	AA-01793	0	2.6E+04	3.8E-05	0.0E+00	AA-01795	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
01/14/08	AA-01853	0	2.6E+04	3.9E-05	0.0E+00	AA-01855	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
03/17/08	AA-01921	0	2.7E+04	3.7E-05	0.0E+00	AA-01923	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
02/04/08	AA-01889	0	2.6E+04	3.9E-05	0.0E+00	AA-01891	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
02/25/08	AA-01903	0	2.6E+04	3.8E-05	0.0E+00	AA-01905	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
04/07/08	AA-01937	0	2.7E+04	3.8E-05	0.0E+00	AA-01939	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
12/03/07	AA-01829	0	2.7E+04	3.7E-05	0.0E+00	AA-01831	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
04/28/08	AA-01945	0	2.7E+04	3.7E-05	0.0E+00	AA-01947	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different

Table 4-6. Results of Paired Original and Co-Located Samples

Panel B: Chrysotile Air Concentrations (total C s/cc)

Sample Date	Original Sample					Co-Located Sample					Poisson Ratio Rate Comparison (CI=95%)
	IndexID	N C Struc	Volume Analyzed (cc)	Sens (cc) ⁻¹	CAir Conc (s/cc)	IndexID	N C Struc	Volume Analyzed (cc)	Sens (cc) ⁻¹	C Air Conc (s/cc)	
10/05/06	AA-00130	0	2.6E+04	3.9E-05	0.0E+00	AA-00128	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
10/16/06	AA-00165	0	2.3E+04	4.3E-05	0.0E+00	AA-00170	0	2.4E+04	4.2E-05	0.0E+00	Both counts are 0; the rates are not different
10/27/06	AA-00231	1	2.7E+04	3.7E-05	3.7E-05	AA-00132	2	2.8E+04	3.6E-05	7.2E-05	[0.01-9.78] The rates are not different
11/06/06	AA-00259	0	2.6E+04	3.8E-05	0.0E+00	AA-00281	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
11/16/06	AA-00287	0	2.6E+04	3.8E-05	0.0E+00	AA-00289	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
11/28/06	AA-00377	0	2.7E+04	3.7E-05	0.0E+00	AA-00379	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
12/09/06	AA-00421	2	2.6E+04	3.9E-05	7.7E-05	AA-00426	0	2.6E+04	3.8E-05	0.0E+00	[0-5.2] The rates are not different
12/17/06	AA-00445	0	2.6E+04	3.8E-05	0.0E+00	AA-00459	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
12/30/06	AA-00480	0	2.7E+04	3.7E-05	0.0E+00	AA-00486	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
01/10/07	AA-00524	0	2.7E+04	3.7E-05	0.0E+00	AA-00526	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
01/21/07	AA-00564	0	2.7E+04	3.8E-05	0.0E+00	AA-00568	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
02/01/07	AA-00606	0	2.6E+04	3.8E-05	0.0E+00	AA-00636	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
02/23/07	AA-00692	0	2.7E+04	3.8E-05	0.0E+00	AA-00694	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
02/14/07	AA-00708	0	2.5E+04	4.0E-05	0.0E+00	AA-00712	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
03/18/07	AA-00834	0	2.6E+04	3.8E-05	0.0E+00	AA-00833	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
03/29/07	AA-00897	0	2.7E+04	3.8E-05	0.0E+00	AA-00899	0	5.4E+04	1.9E-05	0.0E+00	Both counts are 0; the rates are not different
04/09/07	AA-00978	0	2.7E+04	3.7E-05	0.0E+00	AA-00980	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
04/20/07	AA-01022	0	2.6E+04	3.8E-05	0.0E+00	AA-01024	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/02/07	AA-01066	0	2.7E+04	3.8E-05	0.0E+00	AA-01073	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/13/07	AA-01103	0	2.7E+04	3.8E-05	0.0E+00	AA-01105	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/24/07	AA-01148	0	2.6E+04	3.8E-05	0.0E+00	AA-01146	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
06/02/07	AA-01168	0	2.7E+04	3.8E-05	0.0E+00	AA-01175	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
06/13/07	AA-01231	0	2.7E+04	3.7E-05	0.0E+00	AA-01238	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
06/26/07	AA-01305	1	2.5E+04	4.0E-05	4.0E-05	AA-01307	0	2.5E+04	3.9E-05	0.0E+00	[0-38.85] The rates are not different
07/05/07	AA-01312	0	2.5E+04	4.0E-05	0.0E+00	AA-01314	2	2.5E+04	4.0E-05	8.0E-05	[0-5.32] The rates are not different
07/16/07	AA-01353	0	2.7E+04	3.7E-05	0.0E+00	AA-01355	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
07/27/07	AA-01449	0	2.8E+04	3.6E-05	0.0E+00	AA-01451	1	2.8E+04	3.6E-05	3.6E-05	[0-39] The rates are not different
08/07/07	AA-01494	0	2.7E+04	3.7E-05	0.0E+00	AA-01496	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
08/18/07	AA-01533	0	2.6E+04	3.9E-05	0.0E+00	AA-01535	0	2.5E+04	4.0E-05	0.0E+00	Both counts are 0; the rates are not different
10/22/07	AA-01542	0	2.6E+04	3.8E-05	0.0E+00	AA-01544	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
08/29/07	AA-01605	1	2.7E+04	3.7E-05	3.7E-05	AA-01607	0	2.7E+04	3.8E-05	0.0E+00	[0-39.6] The rates are not different
09/10/07	AA-01657	0	2.6E+04	3.9E-05	0.0E+00	AA-01659	0	2.5E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
09/21/07	AA-01712	0	2.7E+04	3.7E-05	0.0E+00	AA-01714	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
10/01/07	AA-01749	0	2.6E+04	3.8E-05	0.0E+00	AA-01770	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
05/19/08	AA-01964	0	2.7E+04	3.8E-05	0.0E+00	AA-01960	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
06/09/08	AA-01976	0	2.6E+04	3.9E-05	0.0E+00	AA-01978	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
11/12/07	AA-01793	0	2.6E+04	3.8E-05	0.0E+00	AA-01795	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
01/14/08	AA-01853	0	2.6E+04	3.9E-05	0.0E+00	AA-01855	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
03/17/08	AA-01921	0	2.7E+04	3.7E-05	0.0E+00	AA-01923	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
02/04/08	AA-01889	0	2.6E+04	3.9E-05	0.0E+00	AA-01891	0	2.6E+04	3.9E-05	0.0E+00	Both counts are 0; the rates are not different
02/25/08	AA-01903	0	2.6E+04	3.8E-05	0.0E+00	AA-01905	0	2.6E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
04/07/08	AA-01937	0	2.7E+04	3.8E-05	0.0E+00	AA-01939	0	2.7E+04	3.8E-05	0.0E+00	Both counts are 0; the rates are not different
12/03/07	AA-01829	0	2.7E+04	3.7E-05	0.0E+00	AA-01831	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different
04/28/08	AA-01945	0	2.7E+04	3.7E-05	0.0E+00	AA-01947	0	2.7E+04	3.7E-05	0.0E+00	Both counts are 0; the rates are not different

Values shown are based on data available in Libby2 as of 9-30-08

Table 4-7. Impact Assessment for Field and Laboratory Modifications

Type	Number	Description	Impact on Data Evaluation
Field Mods	99	Notify data users that the Eureka MET station did not record data on the following dates: 11/27/06 through 12/4/06, 12/20/06, and part of the day on 12/21/06.	None.
	100	Notify data users that during flow rate checks for sampling events 1 through 6, pumps may have been halted for small time increments (i.e., portions of minutes) and not recorded on the field sample data sheets. Start and stop times could vary from actual sample collection times by up to 5 minutes.	None. Pumps continued to collect air between recorded stop and start times, but the volume of air was negligible (i.e., 0.1% to 0.2% of the total volume collected) and will not affect analytical sensitivity or results.
	101	Add one additional field blank at 247 Indian Head Road for Event 7 and 501 Mineral Avenue for Event 8. Expose them for the duration of the required sample collection period (5 days).	None.
	102	Adjust flow rates to 2 L/min and 1.5 L/min for high and low volume samples, respectively for samples collected at the Helena location.	None.
	103	Notify data users that the Eureka MET station did not record data on the following dates: 01/02/07, 01/03/07, 01/11/07 through 01/16/07, and 01/22/07.	None.
	104	Notify data users that the Eureka MET station did not record data on the following dates: 02/05/07 through 02/08/07 and 02/12/07 through 02/15/07.	None.
	108	Change the title of CDM-LIBBY-07 for ambient air sample to CDM-LIBBY-12 to avoid duplication in SOP numbering.	None.
	110	Notify data users that the Eureka MET station did not record data on the following dates: 05/23/07 through 05/24/07.	None.
	119	Cease the collection of paired samples used to compare the effect of pore size and sample height was ceased. Decrease the number of stations from 16 to 8 (7 OU4 stations and 1 reference station). Change the sampling frequency to one 5-day sample per station collected every 21 days.	None.
Lab Mods	LB-000016	Clarify ISO 10312 counting rules	None.
	LB-000019	Standardize the recording format of grid openings where no countable structures are seen ("ND")	None.
	LB-000028	Standardize the selection of additional grids for reanalysis of TEM samples	None.
	LB-000029b	Standardize the frequency of preparation of laboratory QC samples by TEM and procedures for interpretation of results	None.
	LB-000030	Standardize procedure used for recording sketches of asbestos structures	None.
	LB-000066c	Require all laboratories to provide information on the elemental composition of particles classified as LA with the primary focus on sodium and potassium.	None.