485058

URS

September 01, 2000

US EPA Region VIII
Attn. Mr. Paul Peronard, 8EPR-EP
On-Scene Coordinator
999 18th Street, Suite 500
Denver, CO. 80202-2466

501 Mineral Avenue
Libby, MT 59923

RE: US EPA Region VIII Unilateral Administrative Order (UAO) No. CERCLA-8-2000-10, Libby, Mt. Export Plant Weekly Report for August 25-31, 2000.

Dear Mr. Peronard:

Per the above referenced Unilateral Administrative Order, please find attached a weekly report describing the activities that occurred during the week of August 25-31, 2000, at the Libby, Mt. Export Plant.

Please call if you have any questions concerning this submittal.

Sincerely,

For Jim Stout

Mr. Jim Stout
Site Project Manager

Attachment

cc:	John Constan	Montana DEQ
	Ken Lund	Holme, Roberts & Owen
	Bob Mariam	W.R. Grace
	David Cleary	W.R. Grace
	Karen Brown	W.R. Grace
	Matthew Cohn	US EPA
	Ray Lidstrom	URS

URS Corporation
707 17th Street, Suite 3400
Denver, CO 80202
Tel: 303.292.0800
Fax: 303.292.5860

September 01, 2000

US EPA Region VIII
Attn. Mr. Paul Peronard, 8EPR-EP
On-Scene Coordinator
999 18th Street, Suite 500
Denver, CO. 80202-2466

501 Mineral Avenue
Libby, MT 59923

Dear Mr. Peronard:

Progress Report for the Week of August 25 – August 31, 2000

The Weekly Progress Report for the week of August 18 though August 24, 2000 was submitted to the EPA and State on August 25, 2000

At Millwork West

- Addendum No. 3 revising the scope of work for the Planer Shop cleaning, was signed on August 25, 2000.
- Removed 2 truckloads of debris from Planer Shop to mine disposal site. This represents the remainder of the material from the Planer Shop.
- Power washing and encapsulation at the Planer Shop was completed on 8/31/00.
- Mel Burnett (Millwork West) approved sign designs indicating Millwork West move and new location. Received quote from Fleet Graphics for cost of signs.
- URS personnel continue to clean the Millwork West retail office.

At Millwork West Temporary Relocation Site

- A building permit for construction of the temporary pole structures has been approved and delivered to the site.
- URS delivered its back hoe to the pole building location to assist in construction.
- The building contractor, with the help of URS personnel, completed the footings for the large building, installed poles, and completed the majority of the framing.
- URS personnel assisted the pole contractor in completing all footings for the small building.
- Hired Arrowhead Engineering, Inc. to engineer designs for two fire hydrants.
- Requested estimates from two local contractors for installation of two fire hydrants.

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- Made arrangements with B&B drilling, per International Paper engineers, for flush-mounting two monitoring wells at the pole building location.
- Completed putting down gravel inside the large pole building.

At Proposed Mine Disposal Site

- Calcium chloride was applied to the road to the mine disposal site, from the mine gate to the mine disposal area. This completes the calcium chloride application to the road leading to the mine disposal site.
- 2 truckloads of debris were delivered to the mine disposal site representing the remainder of the debris from the Planer Building.
- Full level C PPE is now required at the mine site per Paul Peronard.
- Tarps for trucks have been delivered and tested.

Problems and Issues

- Have not received approved copies of Addendum No.2 or Addendum No.5.
- Addendum No.4 to amend cleaning activities for the Small Shed was submitted to the EPA but has not been approved.
- The EPA is now requiring perimeter air sampling, at the seven previously designated locations at the Export Plant. These samples are being collected in areas where the public has complete access.
- Perimeter air samples are to be analyzed by ISO 10.312 per Paul Peronard.
- Mel Burnett (Millwork West) is using rooftops and spacer blocks, previously purchased by W.R. Grace, on newly delivered lumber. Mel Burnett was informed by URS personnel that he did not have permission to do this and that doing so may contaminate the new lumber.
- The fire hydrants at the pole building location require a state-approved engineered plan.
- All visitors, workers, and contractors conducting activities within the mine site must adhere to level C PPE restrictions per EPA request on August 24, 2000.
- No cleanup or removal activities are allowed to take place at the west yard of Millwork West.

Analytical Data Received

- No TEM results were received during this period.
- PCM results for all area and personal air sampling are attached.

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Material Movement and Disposal

- Two truckloads of debris were removed from the Planer Shop and disposed of at the mine site disposal area. Each truck contained seven to ten yards of double poly-wrapped packages. This represents the remainder of the debris from the Planer Shop. A total of 11 truckloads were removed from the Planer Shop and disposed of at the mine site disposal area.
- One truckload of debris created from encapsulation and decon dismantling activities is being staged in a tarped dump truck on site at the Export Plant awaiting disposal at the mine site.

Health and Safety

- All visitors, workers, and contractors conducting activities within the mine site must adhere to level C PPE restrictions.
- All personnel participating in mine site activities adhered to level C PPE restrictions.
- Outside and inside work area air samples and personal air samples were collected per the Health and Safety Plan (Results are attached).
- A 40-hour HAZWOPER course for URS contractor personnel was conducted beginning August 28, 2000.
- No incidents or accidents.

Anticipated Developments Next Week

- Power washing within the Planer Shop will be completed. The Planer Shop will be encapsulated and cleared.
- Will complete the large pole building and begin construction on the small pole building.
- Will flush-mount the two monitoring wells at the pole building location.
- Will remove the fences at the pole building location.
- Complete plans and receive state approval for two fire hydrants at pole building location.
- Begin installation of two fire hydrants at new pole building location.
- Issue draft for review of Appendix J, Disposal Site Restoration Plan.

Planned Resolutions or Anticipated Problems

- Issues concerning use of rooftops and spacer blocks by Millwork West.
- Approval of Addendum No.4 so that preparation work can begin on the Small Shed.

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Schedule

- The Planer Shop at Millwork West will be ready for use by September 4, 2000.
- The first pole structure at the Millwork West temporary relocation site will be completed by September 9, 2000.
- Both pole structures at the Millwork West temporary relocation site will be completed by September 23, 2000.
- The final movement of the Millwork West retail business will be completed by September 30, 2000.

Respectfully,

Peter Plenderleith
for Jim Stout

Jim Stout
Project Coordinator
Libby Asbestos Site

Attachments (21)

URS Corporation
707 17th Street, Suite 3400
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Fax: 303.292.5860

KOCH ENVIRONMENTAL HEALTH, INC.
7342 South Moore Court
Littleton, CO 80127
Phone: (303) 932-8484 FAX: (303) 932-8585

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Project No. 805169
File Code No. 4.5.6.2.52
Doc No.

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: ACES **Project:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** WR Grace Vermiculite Plant Libby, MT	**KEH Rep:** Patrick McGuire **Analysis By:** Patrick McGuire

Date:	**Calibration:**	**Microscope Field Area:**	**PCM Filter:**	**Other Media:**
8/25/00	___ Rotameter ___ ID ✓ Other DC-Lite ID	✓ 0.00785 sq mm ___ other ___ sq mm	✓ 0.8 um25mm Mft. ___ ___ 0.8 um37mm Lot# ___	___ Type Mft. ___ ___ Type Mft. ___

Name: Jose G. Perez **SSN:** 437-71-5970	**Name:** Jose G. Aguilar **SSN:** 456-99-5860	**Name:** Victor Rojas **SSN:** 645-65-4365	**Name:** — **SSN:**

TOTAL				TOTAL				TOTAL				TOTAL			
Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc
P03	180	338.40	0.072	P04	30	52.20	0.117	P06	220	396.00	0.335				
P07	particulate overload		—	P05	140	242.20	0.028								

TWA: 0.027 f/cc TWA: 0.015 f/cc TWA: 0.154 f/cc TWA: n/a

Comments:
Sample # P07 was a particulate overload
12.96/480

Comments:
3.510 + 3.920/480
7.43/480

Comments:
73.7/480

Comments

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/25/00	AC & S PROJECT #: 01001-043	Chuck Shaw	WR Grace Vermiculite Plant WORK AREA: Libby MT	Patrick McGuire ANALYSIS BY: Patrick McGuire

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-L 739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other 0.45 Teflon	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ___ F/cc ___ other ___ ppm ___ mg/M³
B01	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
P03/4125	P	Inside Planer building setting up decon-work by: JOSE G PEREZ	Blower installation	0856	1156	180	1.85 ~~1.62~~	1.90 ~~1.00~~	1.88	338.40	0.008	50.0/100	0.072
P04/7351	EX	Inside Planer building setting up decon-work by: JOSE G. AGUILAR	↓	0902	0932	30	1.75	1.73	1.74	52.20	0.052	12.5/100	0.117
P05/7351	P	Inside Planer building setting up decon-work by: JOSE G. AGUILAR	↓	0932	1152	140	1.75	1.71	1.73	242.20	0.011	14.0/100	0.028
P06/7351	P	Inside Planer building VICTOR ROJAS	↓	1310	1650	220	1.69	1.90	1.80	396.00	0.007	100.0/37	0.335
P07/4125	P	Inside Planer building JOSE G. PEREZ	↓	1308	1651	223	1.62	1.00	1.31	292.13	0.009	—	particulate overload
Blind Recount													

Key:

Sample Type:			Activity:		
	P = Personal	BAK = Background		PREP = Work Area Preparation	BO = Bagout
	Ex = Excursion	A = Ambient Air		REM - Removal	TD = Tear Down
	IWA = Inside Work Area	HEX = HEPA Exhaust		GB - Glovebag	PP - Paint Prep
	OWA = Outside Work Area	CL = Clearance Sample		FC - Final Cleaning	

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Project No. 805169
File Code No. 4.5.6.2.54
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/25/00	KEH PROJECT #: 01001 - 043	KEH REP: Patrick McGuire
	MICROSCOPE ID #: 1	ANALYST: Patrick McGuire

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	Ø	Ø/100	—	—	—	—	—	Field Blank
Field Blank B02	Ø	Ø/100	—	—	—	—	—	Field Blank
P03	50.0	50.0/100	50.0/100/.00785	63.69	338.40	0.008	0.072	—
P04	12.5	12.5/100	12.5/100/.00785	15.92	52.20	0.052	0.117	—
P05	14.0	14.0/100	14.0/100/.00785	17.83	242.20	0.011	0.028	—
P06	100.0	100.0/37	100.0/37/.00785	344.29	396.00	0.007	0.335	—
P07	—	—	—	—	292.13	0.009	—	particulate overload
Blind Recount								

SAMPLING INFORMATION:

Effective Collection Area of Filter:	Microscope Field Area:	NIOSH 7400 Method A Rules ✓
✓ 385 mm², 25 mm filter	✓ 0.00785 mm²	
855 mm², 37 mm filter	other (list)	Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS:	✓ phase test	✓ micrometer	✓ adjust field iris	✓ adjust phase rings	✓ focus on samples

ANALYST INFORMATION:

DATE: 8/27/00	ANALYST: Patrick McGuire	SIGNATURE: [signature]

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/25/00	URS Radian PROJECT #: 21001 - 001	Tim Gish	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGuire ANALYSIS BY: Patrick McGuire

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-L 739	✓ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other 45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ F/cc ___ other ___ ppm ___ mg/M³
B01	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
A03/A-1	IWA	Between NE corner of Planer building & NW corner of Pole Barn	Blower installation	0825	1604	456	7.39	7.40	7.40	3374.40	0.001	1.0/100	< LOQ
A04/A-25	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	0834	1611	457	7.36	7.32	7.34	3354.38	0.001	6.5/100	0.001
A05/A-23	↓	Location #4 - SW of Planer building - on perimeter	↓	0839	1616	457	7.60	7.55	7.58	3464.06	0.001	3.0/100	< LOQ
A06/A-24	↓	West of Planer building	↓	0846	1621	455	7.46	7.41	7.44	3385.20	0.001	0.5/100	< LOQ
A07/3000	~~IWA~~ OWA	Inside Planer building clean room - decon	↓	0858	1629	451	4.11	4.17	4.14	1867.14	0.001	36.5/100	0.010
A08/A-03	~~IWA~~ IWA	Inside Planer building center of containment	↓	0809	1635	506	4.45	4.81	4.63	2342.78	0.001	100.0/54	0.039
Blind Recount													

Key:

Sample Type: P = Personal; Ex = Excursion; IWA = Inside Work Area; OWA = Outside Work Area; BAK = Background; A = Ambient Air; HEX = HEPA Exhaust; CL = Clearance Sample

Activity: PREP = Work Area Preparation; REM - Removal; GB - Glovebag; FC - Final Cleaning; BO = Bagout; TD = Tear Down; PP - Paint Prep

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Project No. 805169
File Code No. 4.5.6.4.37
Doc No. _____

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KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/25/00	KEH PROJECT #: 21001-001 MICROSCOPE ID #: 1	KEH REP: Patrick McGurren ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	Ø	0/100	—	—	—	—	—	Field Blank
Field Blank B02	Ø	0/100	—	—	—	—	—	Field Blank
A03	1.0	1.0/100	1.0/100/.00785	1.27	3374.40	0.001	<LOQ	—
A04	6.5	6.5/100	6.5/100/.00785	8.28	3354.38	0.001	0.001	—
A05	3.0	3.0/100	3.0/100/.00785	3.82	3464.06	0.001	<LOQ	—
A06	0.5	0.5/100	0.5/100/.00785	0.64	3385.20	0.001	<LOQ	—
A07	36.5	36.5/100	36.5/100/.00785	46.50	1867.14	0.001	0.010	—
A08	100.0	100.0/54/.	100.0/54/.00785	235.90	3342.78	0.001	0.039	—
Blind Recount								

SAMPLING INFORMATION:

Effective Collection Area of Filter:	Microscope Field Area:	NIOSH 7400 Method A Rules ✓
✓ 385 mm², 25 mm filter	✓ 0.00785 mm²	
855 mm², 37 mm filter	other (list)	Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/27/00 ANALYST: Patrick McGurren SIGNATURE:

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Project No. 805167
File Code No. 4.5.b.4.38
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

ATE:	CLIENT: URS Radian	PROJECT CONTACT: Tim Gish	PROJECT LOCATION: W.R. Grace Vermiculite Plant	SAMPLING REP: Patrick McGurran
/28/00	PROJECT #: 21001-001		WORK AREA: Libby, MT	ANALYSIS BY: Patrick McGurran

AMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
bestos ☑ (NIOSH 7400)	Rotameter ☐	___ 0.8 um 25 mm MCE	✓ MCE <0.45um 25mm	✓ 385 mm²	✓ 0.00785 mm²
ad ☐ (NIOSH 7082)	ID ___	___ charcoal tubes	___ PC <0.45um 37mm	___ mm²	___ mm²
her ☐ ___	Other: DC-Lite Dry Cal DCL-739	___ Silica Gel	Mft. ___	___ NA	___ NA
ethod: ___		___	Lot No. 1337		
		Other: 45 TEM			

AMPLE UMBER/ JMP UMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ F/cc ___ other ___ ppm ___ mg/M³
01	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
02	Field Blank	—	—	—	—	—	—	—	—	—	—	2.0/100	Field Blank
03/A1	OWA	Between NE corner of Planer building & NW corner of Pole Barn	power-washing —	1028	1609	341	8.94	9.38	9.16	3123.56	0.001	13.0/100	0.002
04/A24	↓	Between SE corner of Planer building & SW corner of Pole Barn	power washing —	1031	1611	340	9.05	9.75	9.40	3196.00	0.001	11.0/100	0.002
05/A03	Perimeter	Location #1 North of Pole Barn - on perimeter	—	1035	1619	344	5.52	6.09	5.81	1998.64	0.001	3.0/100	< LOQ
06/	↓	Location #2 NW of Planer building on perimeter	—	1046	1622	336	7.96	8.19	8.08	2714.88	0.001	6.0/100	LOQ
07/A-25	↓	Location #3 West of Planer building - on perimeter	—	1052	1632	340	9.00	9.36	9.18	3121.20	0.001	9.0/100	0.001
08/A-23	↓	Location #4 SW of Planer building on perimeter	—	1057	1640	343	8.96	9.32	9.14	3135.02	0.001	16.0/100	0.002
09/	↓	Location #5 South of warehouse building - on perimeter	—	1102	1647	345	6.12	6.59	6.36	2194.20	0.001	8.0/100	0.002
10/	↓	Location #6 NE of lumber storage building - on perimeter	—	1108	1651	343	7.39	7.69	7.54	2586.22	0.001	7.0/100	0.001
Blind Recount	—	—	—	—	—	—	—	—	—	—	—	—	—

Key:

Sample Type:
- P = Personal
- Ex = Excursion
- IWA = Inside Work Area
- OWA = Outside Work Area
- BAK = Background
- A = Ambient Air
- HEX = HEPA Exhaust
- CL = Clearance Sample

Activity:
- PREP = Work Area Preparation
- REM - Removal
- GB - Glovebag
- FC - Final Cleaning
- BO = Bagout
- TD = Tear Down
- PP - Paint Prep

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Project No. 805169
File Code No. 4.5.b.4.39
Doc No. ___

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

ATE:	CLIENT: URS Radian	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
/28/00	PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGuire ANALYSIS BY: Patrick McGuire

AMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
bestos ☑ (NIOSH 7400) ad ☐ (NIOSH 7082) her ☐ _____ ethod: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-L7391	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfr. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

AMPLE UMBER/ MP UMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ f/cc ___ other ___ ppm ___ mg/M³
~~B01~~ pm	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
~~B02~~ pm	Field Blank	—	—	—	—	—	—	—	—	—	—	2.0/100	Field Blank
411	Perimeter	Location #7 NE corner of property on road sign - paved road	—	1113	1656	343	6.08	6.38	6.23	2136.89	0.001	4.5/100	<LOQ
lind ecount													

Key:

Sample Type: P = Personal; Ex = Excursion; IWA = Inside Work Area; OWA = Outside Work Area; BAK = Background; A = Ambient Air; HEX = HEPA Exhaust; CL = Clearance Sample

Activity: PREP = Work Area Preparation; REM - Removal; GB - Glovebag; FC - Final Cleaning; BO = Bagout; TD = Tear Down; PP - Paint Prep

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Project No. 805169
File Code No. 4.5.6.4.40
Doc No. _____

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Project No. 805169
File Code No. 4.5.b.4.41
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/28/00	KEH PROJECT #: 21001-001 MICROSCOPE ID #: 1	KEH REP: Patrick McGurren ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	0	0/100	—	—	—	—	—	Field Blank
Field Blank B02	2.0	2.0/100	—	—	—	—	—	Field Blank
A03	12.0	12.0/100	12.0/100/.00785	15.29	3123.56	0.001	0.002	—
A04	10.0 PM	10.0/100 PM	10.0/100/	12.74	3196.00	0.001	0.002	—
PM 05	3.0	3.0/100	2.0/100/.00785	2.55	1998.64	0.001	< LOQ	—
PM06	6.0	6.0/100	5.0/100/.00785	6.37	2714.88	0.001	LOQ	—
PM07	9.0	9.0/100	8.0/100/.00785	10.19	3121.20	0.001	0.001	—
PM08	11.0	11.0/100	10.0/100/.00785	12.74	3135.02	0.001	0.002	—
PM09	8.0	8.0/100	7.0/100/.00785	8.92	2194.20	0.001	0.002	—
PM10	7.0	7.0/100	6.0/100/.00785	7.64	2586.22	0.001	0.001	—
Blind Recount	—	—	—	—	—	—	—	—

SAMPLING INFORMATION:

Effective Collection Area of Filter:	Microscope Field Area:	NIOSH 7400 Method A Rules ✓
✓ 385 mm², 25 mm filter	✓ 0.00785 mm²	
855 mm², 37 mm filter	other (list)	Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/28/00 ANALYST: Patrick McGurren SIGNATURE: Patrick McGurren

URS COPY

Project No. 805169
File Code No. 4.5.b.4.42
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/28/00

KEH PROJECT #: 21001-001

MICROSCOPE ID #: 1

KEH REP: Patrick McGurren

ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank	0	0/100	—	—	—	—	—	Field Blank
Field Blank	2.0	2.0/100	—	—	—	—	—	Field Blank
PM 11	4.5	4.5/100	3.5/100/.00785	4.46	2136.89	0.001	<LOQ	—
Blind Recount								

SAMPLING INFORMATION:

Effective Collection Area of Filter:
✓ 385 mm², 25 mm filter
855 mm², 37 mm filter

Microscope Field Area:
✓ 0.00785 mm²
other (list)

NIOSH 7400 Method A Rules ✓
Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/28/00 ANALYST: Patrick McGurren SIGNATURE: Patrick McGurren

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/29/00	URS Radian PROJECT #: Z1001-001	Tim Gish	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGuire ANALYSIS BY: Patrick McGuire

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: ~~145~~ DC-Lite Dry DC-739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other 145 TGM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ f/cc ___ other ___ ppm ___ mg/M³
B01	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	2.0/100	Field Blank
A03/A-24	OWA	Between NE corner of Planer building & NW corner of Pole Barn		0931	1625	414	5.62	5.46	5.54	2293.56	0.001	4.0/100	LOQ
A04/A-1	↓	Between SE corner of Planer building & SW corner of Pole Barn		0936	1628	412	5.66	5.59	5.63	2319.56	0.001	5.0/100	LOQ
PM05/A-07	Perimeter	Location #1 - North of Pole Barn - on perimeter		0822	1546	444	5.24	5.93	5.59	2481.96	0.001	4.5/100	LOQ
PM06/A-03	↓	Location #2 - NW of Planer building - on perimeter		0836	1559	443	5.55	5.77	5.66	2507.38	0.001	7.0/100	LOQ
PM07/A-23	↓	Location #3 - West of Planer building - on perimeter		0844	1602	438	5.57	6.20	5.89	2579.82	0.001	8.0/100	LOQ
PM08/A-25	↓	Location #4 - SW of Planer building - on perimeter		0855	1607	432	5.46	6.35	6.01	2596.32	0.001	6.0/100	LOQ
PM09/A-89	↓	Location #5 - South of warehouse building - on perimeter		0903	1611	428	5.50	5.46	5.48	2345.44	0.001	3.0/100	<LOQ
PM10/A-90	↓	Location #6 - NE of Lumber storage building - on perimeter		0913	1617	424	5.57	5.49	5.53	2344.72	0.001	4.0/100	LOQ
Blind Recount	—	—	—	—	—	—	—	—	—	—	—	—	—

Key:

Sample Type:			Activity:		
	P = Personal	BAK = Background		PREP = Work Area Preparation	BO = Bagout
	Ex = Excursion	A = Ambient Air		REM - Removal	TD = Tear Down
	IWA = Inside Work Area	HEX = HEPA Exhaust		GB - Glovebag	PP - Paint Prep
	OWA = Outside Work Area	CL = Clearance Sample		FC - Final Cleaning	

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Project No. 805169
File Code No. 4.5.6.4.43
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/29/05	URS Radian PROJECT #: 21001-001	Tim Gish	WR Grace Vermiculite Plant WORK AREA: Libby MT	Patrick McGurran ANALYSIS BY: Patrick McGurran

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-6739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ F/cc ___ other ___ ppm ___ mg/M³
B-01	Field Blank	—	—	—	—	—	—	—	—	—	—	—	Field Blank
B-02	Field Blank	—	—	—	—	—	—	—	—	—	—	—	Field Blank
PM11/A-27	Perimeter	Location #7 - NE corner of property - on stop sign - Hgwy 37		0920	1620	420	6.44	6.40	6.42	2696.40	0.001	7.0/100	LOQ
A12/4-87	OWA	~~Show~~ Inside Planer building - clean room decon		1009	~~1625~~ 1645 pm	396	5.50	~~5.48~~ 5.65 pm	5.58	2209.68	0.001	20.5/100	0.004
Blind Recount													

Key:

Sample Type:			Activity:		
	P = Personal	BAK = Background		PREP = Work Area Preparation	BO = Bagout
	Ex = Excursion	A = Ambient Air		REM - Removal	TD = Tear Down
	IWA = Inside Work Area	HEX = HEPA Exhaust		GB - Glovebag	PP - Paint Prep
	OWA = Outside Work Area	CL = Clearance Sample		FC - Final Cleaning	

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Project No. 805169
File Code No. 4.5.6.4.44
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/29/00

KEH PROJECT #: 21001-001

MICROSCOPE ID #: 1

KEH REP: Patrick McGurren

ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	0	0/100	—	—	—	—	—	Field Blank
Field Blank B02	2.0	2.0/100	—	—	—	—	—	Field Blank
A03	4.0	4.0/100	3.0/100/.00785	3.82	2293.56	0.001	< LOQ	—
A04	5.0	5.0/100	4.0/100/.00785	5.10	2319.56	0.001	< LOQ	—
PM05	4.5	4.5/100	3.5/100/.00785	4.46	2481.96	0.001	< LOQ	—
PM06	7.0	7.0/100	6.0/100/.00785	7.64	2507.38	0.001	~~0.001~~ PM LOQ	—
PM07	8.0	8.0/100	7.0/100/.00785	8.92	2579.82	0.001	~~0.001~~ PM LOQ	—
PM08	6.0	6.0/100	5.0/100/.00785	6.37	2596.32	0.001	< LOQ	—
PM09	3.0	3.0/100	2.0/100/.00785	2.55	2345.44	0.001	< LOQ	—
PM10	4.0	4.0/100	3.0/100/.00785	3.82	2344.72	0.001	< LOQ	—
Blind Recount	—	—	—	—	—	—	—	—

SAMPLING INFORMATION:

Effective Collection Area of Filter:
- ✓ 385 mm², 25 mm filter
- 855 mm², 37 mm filter

Microscope Field Area:
- ✓ 0.00785 mm²
- other (list)

NIOSH 7400 Method A Rules ✓

Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/29/00

ANALYST: Patrick McGurren

SIGNATURE: [signature]

URS

Project No. 805169

File Code No. 4.5.6.4.45

Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/29/00	KEH PROJECT #: 21001-001 MICROSCOPE ID #: 1	KEH REP: Patrick McGurren ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	0	0/100	—	—	—	—	—	Field Blank
Field Blank B02	2.0	2.0/100	—	—	—	—	—	Field Blank
PM11	7.0	7.0/100	6.8/100/.00785	7.64	26962.40	0.001	~~0.001~~ 0.00	—
A12	20.5	20.5/100	19.5/100/.00785	24.84	2209.68	0.001	0.004	—
Blind Recount								

SAMPLING INFORMATION:

Effective Collection Area of Filter:	Microscope Field Area:	NIOSH 7400 Method A Rules ✓
✓ 385 mm², 25 mm filter	✓ 0.00785 mm²	
855 mm², 37 mm filter	other (list)	Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS:	✓ phase test	✓ micrometer	✓ adjust field iris	✓ adjust phase rings	✓ focus on samples

ANALYST INFORMATION:

DATE: 8/29/00	ANALYST: Patrick McGurren	SIGNATURE: [signature]

URS

Project No. 805169
File Code No. 4.5.6.4.46
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/30/00	URS Radian PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGuire ANALYSIS BY: Patrick McGuire

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-L 739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ F/cc ___ other ___ ppm ___ mg/M³
B01	Field Blank	—	—	—	—	—	—	—	—	—	—	1.0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	1.0/100	Field Blank
A-03/A-24	OWA	Between NE corner of Planer building & NW corner of Pole Barn	FC	0928	1716	468	5.48	5.52	5.50	2574.00	0.001	5.0/100	LOQ
A04/A-25	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	0931	1719	468	5.61	6.45	5.53	2580.04	0.001	6.5/100	LOQ
PM05/A-09	Perimeter	Location #1 - North of Pole Barn - on perimeter	—	0958 ~~0934~~	1640	402	7.59 ~~5.61~~	7.95	7.77	3123.54	0.001	2.0/100	< LOQ
PM06/AV-03	↓	Location #2 - NW of Planer building - on perimeter	—	1038 ~~0938~~	1645	367	5.90	6.04	5.92	2172.64	0.001	4.0/100	LOQ
PM07/A-23	↓	Location #3 - West of Planer building - on perimeter	—	1042	1650	368	6.10	6.36	6.23	2292.64	0.001	5.0/100	LOQ
PM08/A-1	↓	Location #4 - SW of Planer building - on perimeter	—	0934	1655	441	5.61	6.54	6.08	2681.28	0.001	6.5/100	LOQ
PM09/A89	↓	Location #5 - South of warehouse building - on perimeter	—	0938	1702	444	5.41	5.52	5.47	2428.68	0.001	2.5/100	< LOQ
PM10/A90	↓	Location #6 - NE of Lumber storage building - on perimeter	—	0947	1707	440	5.48	5.60	5.54	2437.60	0.001	3.0/100	< LOQ
Blind Recount	—	—	—	—	—	—	—	—	—	—	—	—	—

Key:

Sample Type: P = Personal; Ex = Excursion; IWA = Inside Work Area; OWA = Outside Work Area; BAK = Background; A = Ambient Air; HEX = HEPA Exhaust; CL = Clearance Sample

Activity: PREP = Work Area Preparation; REM - Removal; GB - Glovebag; FC - Final Cleaning; BO = Bagout; TD = Tear Down; PP - Paint Prep

URS COPY

Project No. 805169
File Code No. 4.5.6.4.47
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/30/00	URS Radian PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGurren ANALYSIS BY: Patrick McGurren

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-L 739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ F/cc ___ other ___ ppm ___ mg/M³
B01 —	Field Blank	—	—	—	—	—	—	—	—	—	—	1.0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	1.0/100	Field Blank
PM11/A27		Location #7 - NE corner of property - on Stop sign - Hgwy 37		0951	1711	440	6.27	6.44	6.36	2798.40	0.001	5.0/100	LOQ
A12/307	OWA	Planer building - clean room decon		1100	1726	386	2.03	1.85	1.94	748.84	0.004	17.5/100	0.011
Blind Recount													

Key:

Sample Type:			Activity:		
	P = Personal	BAK = Background		PREP = Work Area Preparation	BO = Bagout
	Ex = Excursion	A = Ambient Air		REM - Removal	TD = Tear Down
	IWA = Inside Work Area	HEX = HEPA Exhaust		GB - Glovebag	PP - Paint Prep
	OWA = Outside Work Area	CL = Clearance Sample		FC - Final Cleaning	

URS COPY

Project No. 805169
File Code No. 4.5.b.4.48
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/30/00	KEH PROJECT #: 21001-001	KEH REP: Patrick McGurren
	MICROSCOPE ID #: (	ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	1.0	1.0/100	—	—	—	—	—	Field Blank
Field Blank B02	1.0	1.0/100	—	—	—	—	—	Field Blank
A03	5.0	5.0/100	4.0/100/.00785	5.10	2574.00	0.001	LOQ	—
A04	6.5	6.5/100	5.5/100/.00785	7.01	2580.04	0.001	LOQ	—
PM05	2.0	2.0/100	1.0/100/.00785	1.27	3123.54	0.001	< LOQ	—
PM06	4.0	4.0/100	3.0/100/.00785	3.82	2172.64	0.001	LOQ	—
PM07	5.0	5.0/100	4.0/100/.00785	5.10	2292.64	0.001	LOQ	—
PM08	6.5	6.5/100	5.5/100/.00785	7.01	2681.28	0.001	LOQ	—
PM09	2.5	2.5/100	1.5/100/.00785	1.91	2428.68	0.001	<LOQ	—
PM10	3.0	3.0/100	2.0/100/.00785	2.55	2437.60	0.001	< LOQ	—
Blind Recount	—	—	—	—	—	—	—	—

SAMPLING INFORMATION:

Effective Collection Area of Filter:	Microscope Field Area:	NIOSH 7400 Method A Rules ✓
✓ 385 mm², 25 mm filter	✓ 0.00785 mm²	
855 mm², 37 mm filter	other (list)	Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/30/00	ANALYST: Patrick McGurren	SIGNATURE: Patrick McGurren

URS

Project No. 805169

File Code No. 4.5.5.4.49

Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/30/00	KEH PROJECT #: 21001-001 MICROSCOPE ID #: 1	KEH REP: Patrick McGurren ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	1.0	1.0/100	—	—	—	—	—	Field Blank
Field Blank B02	1.0	1.0/100	—	—	—	—	—	Field Blank
RM11	5.0	5.0/100	4.0/100/.00785	5.10	2798.40	0.001	LOQ	—
A12	17.5	17.5/100	16.5/100/.00785	21.02	748.84	0.004	0.011	—
Blind Recount								

SAMPLING INFORMATION:

Effective Collection Area of Filter:	Microscope Field Area:	NIOSH 7400 Method A Rules ✓
✓ 385 mm², 25 mm filter	✓ 0.00785 mm²	
855 mm², 37 mm filter	other (list)	Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/30/00 ANALYST: Patrick McGurren SIGNATURE: Patrick McGurren

URS

Project No. 805169
File Code No. 4.5.b.4.50
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/31/00	URS Radian PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGovern ANALYSIS BY: Patrick McGovern

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-L 739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK) Start	Stop	Total	FLOW RATE (L/MIN) Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ F/cc ___ other ___ ppm ___ mg/M³
B01	Field Blank	—	—	—	—	—	—	—	—	—	—	2.0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	1.0/100	Field Blank
A03/A-25	OWA	Between NE corner of Planer building & NW corner of Pole Barn	FC	0839	1606	447	5.66	6.31	5.99	2677.53	0.001	9.5/100	0.001
A04/A-24	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	0843	1610	447	5.56	5.45	5.51	2462.97	0.001	30/100	<LOQ
PM05/A09	Perimeter	Location #1 - North of Pole Barn - on perimeter	—	0741	1521	460	7.07	7.84	7.46	3431.60	0.001	8.5/100	0.001
PM06/A-27	↓	Location #2 - NW of Planer building - on perimeter	—	0752	1527	455	6.29	6.34	6.32	2875.60	0.001	6.5/100	LOQ
PM07/A-23	↓	Location #3 - West of Planer building - on perimeter	—	0759	1531	452	5.59	5.44	5.52	2495.04	0.001	4.5/100	LOQ
PM08/A-1	↓	Location #4 - SW of Planer building - on perimeter	—	0807	1538	451	5.50	6.37	5.94	2678.94	0.001	6.0/100	LOQ
PM09/A-87	↓	Location #5 - South of Warehouse building - on perimeter	—	0816	1544	448	5.28	5.74	5.51	2468.48	0.001	4.5/100	LOQ
PM10/A-9	↓	Location #6 - NE of lumber storage building - on perimeter	—	0823	1549	446	5.32	5.30	5.31	2368.26	0.001	3.5/100	<LOQ
Blind Recount	—	—	—	—	—	—	—	—	—	—	—	—	—

Key:

Sample Type:
- P = Personal
- Ex = Excursion
- IWA = Inside Work Area
- OWA = Outside Work Area
- BAK = Background
- A = Ambient Air
- HEX = HEPA Exhaust
- CL = Clearance Sample

Activity:
- PREP = Work Area Preparation
- REM - Removal
- GB - Glovebag
- FC - Final Cleaning
- BO = Bagout
- TD = Tear Down
- PP - Paint Prep

URS

Project No. 805169
File Code No. 4.5.6.4.51
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/31/00	URS Radian PROJECT #: Z1001-001	Tim Gish	WR Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGovern ANALYSIS BY: Patrick McGovern

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☐ ID _____ Other: DC-Lite Dry Cal DC-L 739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1337	✓ 385 mm² _____ mm² ___ NA	✓ 0.00785 mm² _____ mm² ___ NA

SAMPLE NUMBER/ PUMP NUMBER.	SAMPLE TYPE	SAMPLE DESCRIPTION, LOCATION	ACTIVITY	TIME (24 HOUR CLOCK). Start	Stop	Total	FLOW RATE (L/MIN). Start	Stop	Avg.	AIR VOLUME (L)	DETECT. LIMIT OR LOQ	FIBERS/ PER FIELD	CONCENTRATION ✓ F/cc ___ other ___ ppm ___ mg/M³
B01	Field Blank	—	—	—	—	—	—	—	—	—	—	2.0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	1.0/100	Field Blank
PM1/A-89	Perimeter	Location #7 - NE corner of property - on stop sign - Highway 37	~~PM~~ FC —	0830	1555	445	5.32	5.34	5.33	2371.85	0.001	5.0/100	LOQ
A12	OWA	~~Location #3~~ Planer building - clean room decon	FC	0904	1616	432	1.93	1.85	1.89	816.48	0.003	—	Filter overloaded with encapsulation
Blind Recount													

Key:

Sample Type:			Activity:		
	P = Personal	BAK = Background		PREP = Work Area Preparation	BO = Bagout
	Ex = Excursion	A = Ambient Air		REM - Removal	TD = Tear Down
	IWA = Inside Work Area	HEX = HEPA Exhaust		GB - Glovebag	PP - Paint Prep
	OWA = Outside Work Area	CL = Clearance Sample		FC - Final Cleaning	

URS

Project No. 805169
File Code No. 4.5.6.4.52
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/31/00	KEH PROJECT #: 21001-001	KEH REP: Patrick McGurren
	MICROSCOPE ID #: 1	ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N - B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	2.0	2.0/100	–	–	–	–	–	Field Blank
Field Blank B02	1.0	1.0/100	–	–	–	–	–	Field Blank
A03	9.5	9.5/100	8.0/100/.00785	10.19	2677.53	0.001	~~0.001~~	–
A04	3.0	3.0/100	1.5/100/.00785	1.91	2462.97	0.001	<LOQ	–
RM05	8.5	8.5/100	7.0/100/.00785	8.92	3431.60	0.001	0.001	–
RM06	6.5	6.5/100	5.0/100/.00785	6.37	2875.60	0.001	LOQ	–
RM07	4.5	4.5/100	3.0/100/.00785	3.82	2495.04	0.001	LOQ	–
RM08	6.0	6.0/100	4.5/100/.00785	5.73	2678.94	0.001	LOQ	–
RM09	4.5	4.5/100	3.0/100/.00785	3.82	2469.48	0.001	LOQ	–
RM10	3.5	3.5/100	2.0/100/.00785	2.55	2368.26	0.001	<LOQ	–
Blind Recount	–	–	–	–	–	–	–	–

SAMPLING INFORMATION:

Effective Collection Area of Filter:	Microscope Field Area:	NIOSH 7400 Method A Rules ✓
✓ 385 mm², 25 mm filter	✓ 0.00785 mm²	
855 mm², 37 mm filter	other (list)	Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/31/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

URS

Project No. 805169

File Code No. 4.5.6.4.53

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/31/00

KEH PROJECT #: 21001-001

MICROSCOPE ID #: 1

KEH REP: Patrick McGurren

ANALYST: Patrick McGurren

SAMPLE #	FIBER COUNT	F/N	F/N -B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
Field Blank B01	2.0	2.0/100	—	—	—	—	—	Field Blank
Field Blank B02	1.0	1.0/100	—	—	—	—	—	Field Blank
PM 11	5.0	5.0/100	35/100/0.0785	4.46	2371.85	0.001	LOQ	—
A 12	filter — overload	—	—	—	816.48	0.003	—	encap overload
Blind Recount								

SAMPLING INFORMATION:

Effective Collection Area of Filter:
✓ 385 mm², 25 mm filter
855 mm², 37 mm filter

Microscope Field Area:
✓ 0.00785 mm²
other (list)

NIOSH 7400 Method A Rules ✓

Other Method

ANALYTICAL INFORMATION:

MICROSCOPE ADJUSTMENTS: ✓ phase test ✓ micrometer ✓ adjust field iris ✓ adjust phase rings ✓ focus on samples

ANALYST INFORMATION:

DATE: 8/31/00

ANALYST: Patrick McGurren

SIGNATURE: [signature]

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Project No. 805169

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