485054

URS

August 25, 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 18-24, 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 18-24, 2000, at the Libby, Mt. Export Plant.

Please call if you have any questions concerning this submittal.

Sincerely,

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

August 25, 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 18 – August 24, 2000

The Weekly Progress Report for the week of August 12 though August 17, 2000 was submitted to the EPA on August 18, 2000

At Millwork West

- Addendum No.2 updating the implementation schedule for the temporary relocation of Millwork West's retail business, was approved.
- Addendum No.3 revising the work scope for the Planer Shop cleaning, was approved.
- Demolition of the interior walls of the Planer Shop was completed.
- Removal of debris materials from the Planer Shop was started.
- A bladder to contain water during power-washing activities was attached to the exterior base of the Planer Shop.

At Millwork West Temporary Relocation Site

- Steve Young, The Building Company, received a signed contract from W.R. Grace to begin construction of the two temporary pole structures at the temporary relocation site of Millwork West.
- The layout of the first of two buildings was completed.
- The building contractor began setting the footings for the temporary pole structures.

At Proposed Mine Disposal Site

- A revised traffic control plan (Addendum No.5) was approved.
- A decontamination (wheel-wash) pad was constructed inside the gated area on the road leading to the mine disposal site.

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Fax: 303.292.5860

- Calcium chloride was applied to the road to the mine disposal site, from the start of the dirt road to the gate leading to the mine.
- A second track dozer was delivered to the mine disposal site.

Problems and Issues

- Work at the temporary relocation site of Millwork West was temporarily postponed while EPA reviewed the work plan for this activity.
- Cleaned materials from within the Planer Shop will not be allowed to be staged outside of the building, all materials must be moved directly to trucks for hauling.
- Addendum No.4 to amend cleaning activities for the Small Shed was submitted to the EPA but was not approved.
- 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.

Material Movement and Disposal

- Nine 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.

Health and Safety

- All visitors, workers, and contractors conducting activities within the mine site, must adhere 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 will be conducted starting August 28, 2000.

Anticipated Developments Next Week

- The remaining debris within the Planer Shop will be disposed of at the mine site disposal area.
- Power-washing within the Planer Shop is planned to be completed.
- EPA Approval of Addendum No.4 so that preparation work can begin on the Small Shed.

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707 17th Street, Suite 3400
Denver, CO 80202
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Fax: 303.292.5860

Planned Resolutions or Anticipated Problems

- Approval of Addendum No.4 so that preparation work can begin on the Small Shed.

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,

Jim Stout
Project Coordinator
Libby Asbestos Site

Attachments (30)

URS Corporation
707 17th Street, Suite 3400
Denver, CO 80202
Tel: 303.292.0800
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.b.2.34
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: 8/18/00	**Calibration:** ___ Rotameter ___ ID ✓ Other DC-Lite ID	**Microscope Field Area:** ✓ 0.00785 sq mm ___ other ___ sq mm	**PCM Filter:** ✓ 0.8 um25mm Mft. ___ ___ 0.8 um37mm Lot# ___	**Other Media:** ___ Type Mft. ___ ___ Type Mft. ___

Name: Guillermo Martinez **SSN:** 622-09-2411	**Name:** Jose Perez **SSN:** 437-71-5970	**Name:** — **SSN:**	**Name:** — **SSN:**

Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc
	TOTAL				TOTAL				TOTAL				TOTAL		
P03	30	65.4	0.70	P04	253	425.04	0.11								
P05	229	pump died	pump died	P06	237	pump died	pump died								
P07	237	327.06	0.13												

TWA: 0.11 f/cc (pump died P05)	TWA: 0.06 f/cc (pump P06 died)	TWA: —	TWA: —
Comments: 21 + 30.81 / 480	Comments: 27.83 / 480	Comments:	Comments
P05- the pump battery ran out of power.	P06- the pump battery ran out of power.		

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/18/00	AC&S PROJECT #: 01001-043	Chuck Shaw	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 Mfr. _____ Lot No. 1337	✓ 585 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
P03/7318	EX-	Planer Building - inside Demoing walls - worn by - Guillermo Martinez	Demo	0900	0930	30	2.24	2.12	2.18	65.4	0.041	93.5/100	0.70
P04/4125	P	Planer Building - inside Demoing walls - worn by - Jose Perez		0905	1318	253	1.68	1.68	1.68	425.04	0.006	94.0/100	0.11
P05/7318	P	Planer Building - inside Demoing walls - worn by - Guillermo Martinez		0930	1319	229	1.58	Dead pump	–	VOID		–	Pump died
P06/7351	P	Planer building - inside Demoing walls - worn by - Jose Perez		1318	1715	237	2.06	Dead pump	–				Pump died
P07/4729	P	Planer building - inside Demoing walls - worn by - Guillermo Martinez		1319	1716	237	2.03	0.73	1.38	327.06	0.008	90.0/100	0.13
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. 4.5.6.2.36
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/18/00

KEH PROJECT #: 01001-043

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	—	—	—	—	—	—	Field Blank
Field Blank B02	0	—	—	—	—	—	—	Field Blank
P03	93.5	93.5/.100	93.5/.785	119.11	165.4	0.041	0.7012	—
P04	94.0	94.0/100	94.0/.785	119.75	425.04	0.006	0.1085	—
P05	VOID	—	—	—	—	—	—	pump died
P06		—	—	—	—	—	—	pump died
P07	90.0	90.0/100	90.0/.785	114.65	327.06	0.006	0.13~~58~~ 49	—
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: 8/18/00

ANALYST: Patrick McGurren

SIGNATURE: Patrick McGurren

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/18/00	PROJECT #: 21001-001	Tim Gish	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: SC-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 Mfr. _____ Lot No. _____	✓ 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	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
A03/A-25	OWA	Between NE corner of Planer building & NW corner of Pole Barn	Demo	0803	1635	512	7.32	10.49	8.91	4561.42	0.001	6.0/100	0.001
A04/A-24	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	—	—	—	—	—	—	—	0.001	—	Filter was damaged prior to opening cassette
A05/A-23	↓	Location # 4 - SW of Planer building - on perimeter	↓	0815	1644	509	7.69	10.40	9.05	4606.45	0.001	5.0/100	< LOQ
A06/A-1	↓	West of Planer building	↓	0821	1649	508	7.50	10.46	8.98	4561.34	0.001	5.5/100	LOQ
A07/300104	↓	Inside Planer building clean room - decon	↓	0835	1658	503	4.02	3.59	3.46	1991.38	0.001	28.0/100	0.007
A08/A-03	IWA	Inside Planer building center of containment	↓	0853	1727	489	4.37	5.30	4.79	2342.31	0.001	100/36	0.058
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. 805168
File Code No. 4.516.4.23
Doc No. _____

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KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/18/00	KEH PROJECT #: 21001-001	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	0	–	–	–	–	–	–	Field Blank
Field Blank B02	0	–	–	–	–	–	–	Field Blank
A03	6.0	6.0/100	6.0/100/.00785	7.64	4561.93	0.001	0.001	–
A04	Damaged Filter	–	–	–	–	–	–	Filter was damaged prior to opening cassette
A05	5.0	5.0/100	5.0/100/.00785	6.37	4[illegible].45	0.001	0.001	–
A06	5.5	5.5/100	5.5/100/.00785	7.01	4561.84	0.001	0.001	–
A07	28.0	28.0/100	28.0/100/.00785	35.67	1497.83	0.001	0.007	–
A08	100.0	100.0/36	100.0/36/.00785	353.86	2342.31	0.001	0.058	–
~~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: 8/18/00 ANALYST: Patrick McGuire SIGNATURE: [signature]

URS

Project No. 805169
File Code No. 4.5.6.4.24
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/19/00	KEH PROJECT #: 21001-001 MICROSCOPE ID #: 1	KEH REP: Patrick McGowan ANALYST: Patrick McGowan

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	1	1.0/100	—	—	—	—	—	Field Blank
A03	21.5	21.5/100	21.5/100/.00785	27.39	4489.2	0.001	0.002	—
A04	23.0	23.0/100	23.0/100/.00785	29.30	4565.6	0.001	0.002	—
A05	2.0	2.0/100	2.0/100/.00785	2.55	4645.8	0.001	< LOQ	—
A06	2.0	2.0/100	2.0/100/.00785	2.55	3399.5	0.001	< LOQ	—
A07	20.0	20.0/100	20.0/100/.00785	25.48	1881.23	0.001	0.005	—
A08	100.0	100.0/49	100.0/49/.00785	259.98	2044.5	0.001	0.049	—
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: 8/21/00	ANALYST: Patrick McGowan	SIGNATURE:

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Project No. 805169
File Code No. 4.5.6.4.26
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
7/19/00	URS Radian PROJECT #: 2001-001	Tim Osh	WR Grace Vermiculite Plant WORK AREA: Lathrop, MT	Patrick McGuire ANALYSIS BY: Frank 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-L739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TGM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. _____	✓ 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		—	—	—	—	—	—	—	—	—	1/100	Field Blank
A03/4-25	Between OWA	corner NE of Planer building & NW corner of Pole Barn	Demo	0802	1638	516	7.39	10.00	8.70	4489.2	0.001	215/100 ~~0.002~~ (fm)	0.002
A04*/4-27	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	0808	1648	520	7.46	10.09	8.78	4565.6	0.001	23.0/100 ~~0.002~~ (fm)	0.002
A05/4-23	↓	Location # 4 - SW of Planer building - on perimeter	↓	0813	1655	522	7.77	10.02	8.90	4645.3	0.001	2.0/100	< LOQ
A06/A-1	↓	West of Planer building	↓	0818	1701	523	6.51	6.49	6.50	3399.5	0.001	2.0/100	< LOQ
A07/3019	↓	Inside Planer building Clean room - decon	↓	0850	1709	499	3.77	3.76	3.77	1881.23	0.001	20.0/100	0.005
A08/1103	IWA	Inside Planer bldg. center of containment	↓	0930	1720	470	4.38	4.32	4.35	2044.5	0.001	100.0/49	0.049
Blind Recount													

* - Stand with sample cassette kept falling over (cassette on the ground) I picked it up twice.

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. 4.5.6.4.25
Doc No. _____

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KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/19/00	AC&S PROJECT #: 01001-043	Chuck Shaw	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-L739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other	___ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. _____	___ 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
BO1	Field Blank	—	--	-	-	-	-	--	-	--	-	0/100	FIELD BLANK
BO2	Field Blank	-	--		—	-	-	—	--	--	--	1/100	FIELD BLANK
P03	EX ~~OWA~~	Inside Planer building - ~~building~~ Demoing walls worn by: VICTOR ROJAS	Demo	0858	0931	33	2.02	2.18	2.13	70.29	0.039	100.0/92	0.851
P04	P	Inside Planer building - Demoing walls - worn by: CAYETANO MONTOYA		0926	1322	236	2.11	2.01	2.06	500.76	0.005	100.0/54	0.178
P05	P	Inside Planer building - worn by: Demoing walls VICTOR ROJAS	-	0931	1323	232	2.18	2.13	2.16	501.12	0.005	100.0/64	0.153
P06/7318	P	Inside Planer building - Demoing walls - worn by: CAYTANO MONTOYA		1322	1725	243	1.65	0.64	1.15	279.45	0.010	100.0/58	0.303
P07/4125	P	Inside Planer building Demoing walls - worn by: VICTOR ROJAS		1323	pump died	—	1.67	pump died	—	—	—	—	pump died
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. 4.5.6.2.~~8~~7 38 (88)

Doc No. _____

KEH\FORMS\AIRFRM97

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

URSCOPY

Project No. 805 169
File Code No. 4.5.6.2.37
Doc No.

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: AC&S **Project:** 01001-043	**Project Contact:** Check Shaw	**Location:** WR Grace Vermiculite Plant Libby, MT	**KEH Rep:** Patrick McGuire **Analysis By:** Patrick McGuire
Date: 8/19/00	**Calibration:** ___ Rotameter ___ ID; ✓ Other Dx-Lite ID	**Microscope Field Area:** ✓ 0.00785 sq mm; ___ other ___ sq mm	**PCM Filter:** ✓ 0.8 um25mm Mft.___; ___ 0.8 um37mm Lot#___
			Other Media: ___ Type Mft.___; ___ Type Mft.___
Name: Victor Rojas **SSN:** 645-65-4365	**Name:** Cayetano Montoya **SSN:** 645-22-6340	**Name:** — **SSN:**	**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	33	70.29	0.851	P04	236	503.76	0.178								
P05	232	501.12	0.153	P06	243	279.45	0.303								
P07	the battery on the pump ran out of power														

TWA: 0.132 F/cc | TWA: 0.241 F/cc | TWA: n/a | TWA: n/a

Comments: 28,083 + 35,496 / 480
the battery on the pump with sample # P07 ran out of power

Comments: 42,408 + 73,629 / 480

Comments:

Comments

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Project No. 805169
File Code No. 4.5.6.2.39
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/19/00

KEH PROJECT #: 01001-043

MICROSCOPE ID #: 1

KEH REP: Patrick McGuire

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	0/100	–	–	–	–	–	–	Field Blank
Field Blank B02	1.0/100	–	–	–	–	–	–	Field Blank
P03	100.0	100.0/82	100.0/82/.00785	155.35	70.29	0.039	0.851	—
P04	100.0	100.0/54	100.0/54/.00785	235.40	509.76	0.005	0.178	—
P05	100.0	100.0/64	100.0/64/.00785	199.04	501.12	0.005	0.153	—
P06	100.0	100.0/58	100.0/58/.00785	219.64	279.45	0.010	0.303	pump dry (Pin)
P07	pump died	—	—	—	—	—	—	Pump died
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: 8/19/00 ANALYST: Patrick McGuire SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.b.4.27

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP: Doc No.
8/21/00	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 IX-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	—	—	—	—	—	—	—	—	—	—	1.0/100	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	DEMO	0809	1658	529	7.34	no power	7.34	3882.86	0.001	18.0/100	0.002
* A04/A-23	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	0812	1659	527	7.33	↓	7.33	3862.91	0.001	9.0/100	0.001
* A05/A-21	↓	Location #4 - SW of Planer building - on perimeter	↓	0843	1701	498	7.51	↓	7.51	3739.98	0.001	6.0/100	0.001
* A06/A-1	↓	west of Planer building	↓	0846	1704	498	7.57	↓	7.57	3769.86	0.001	14.0/100	0.002
* A07/Bank	↓	Planer building - clean room - decon	↓	0851	1709	498	3.75	↓	3.75	1867.15	0.001	20.5/100	0.005
A08/A-3	IWA	Inside Planer building - center of containment	↓	0911	1719	488	4.32	4.51	4.42	2156.96	0.001	particulate overload	
Blind Recount													

* Problems with the pumps - we had power & lost power. Power to the pumps is back on. No power when sample was collected. Power was known on & off for an un-~~specified~~ amount of time throughout the shift.

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

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/21/00	KEH PROJECT #: Z1201-001	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	1.0	1.0/100	—	—	—	—	—	Field Blank
Field Blank B02	1.0	1.0/100	—	—	—	—	—	Field Blank
A03	18.0	18.0/100	18.0/100/.00785	22.93	3382.86	0.001	0.002	—
A04	9.0	9.0/100	9.0/100/.00785	11.46	3362.91	0.001	0.001	—
A05	6.0	6.0/100	6.0/100/.00785	7.64	3339.95	0.001	0.001	—
A06	14.0	14.0/100	14.0/100/.00785	17.83	3369.86	0.001	0.002	—
A07	20.5	20.5/100	20.5/100/.00785	26.11	1867.50	0.001	0.005	—
A08	particulate overload	—	—	—	2156.96	0.001	—	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: 8/22/00	ANALYST: Patrick McGurren	SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.6.4.28
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/21/00	AC & S PROJECT #: 01001 - 043	Chuck Shaw	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGowan ANALYSIS BY: Patrick McGowan

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 DryCal DCL 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
	Field Blank	–	–	–	–	–	–	–	–	–	–	1.0/100	Field Blank
	Field Blank	–	–	–	–	–	–	–	–	–	–	1.0/100	Field Blank
+ 4125 P03	EX	Inside Planer building worn by Demoing walls Margarito Rivera	DEMO	0836	0907	31	1.56	1.71	1.64	50.84	0.054	36.0/100	0.330
+ 7318 P04	P	Inside Planer building Demoing walls - worn by Isabel Herrera	↓	0837	1156	199	2.28	1.93	2.11	419.89	0.006	100/42	0.278
+ 4125 P05	P	Inside Planer building Demoing walls - worn by Margarito Rivera	↓	0907	1158	171	1.76	1.83	1.80	307.8	0.009	100/46	0.346
+ 7351 P06	P	Inside Planer building Demoing walls - worn by Isabel Herrera	↓	1306	1715	249	2.11	2.32	2.22	552.78	0.005	100/56	0.158
+ 7318 P07	P	Inside Planer building Demoing walls - worn by Margarito Rivera	↓	1320	1717	237	2.28	2.32	2.30	545.1	0.005	100/34	0.265
Blind Recount													

+ pump #'s.

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. 4.5.6.2.41
Doc No. _____

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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. 4.5.6.2.40
Doc No.

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: AC & S **Project:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** WR Grace Vermiculite Plant Libby, MT	**KEH Rep:** Patrick McGurren **Analysis By:** Patrick McGurren

Date: 8/21/00	**Calibration:** ___ Rotameter ___ ID; ✓ Other Dx-Lite ID	**Microscope Field Area:** ✓ 0.00785 sq mm; ___ other ___ sq mm	**PCM Filter:** ✓ 0.8 um25mm Mft.___; ___ 0.8 um37mm Lot#___	**Other Media:** ___ Type Mft.___; ___ Type Mft.___

Name: Magarito Rivera **SSN:** 438-20-3756	**Name:** Isabel Herrera **SSN:** 456-71-9753	**Name:** — **SSN:**	**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	31	50.84	0.830	P04	199	419.89	0.278								
P05	171	307.80	0.346	P06	249	552.73	0.158								
P07	237	545.10	0.265												

TWA: 0.308 TWA: 0.197 TWA: n/a TWA: n/a

Comments: 25.73 + 59.166 + 62.805 / 480

Comments: 55.322 + 39.312 / 480

Comments:

Comments

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Project No. 805169
File Code No. 4.5.6.2.42
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/21/00

KEH PROJECT #: 01001-043

MICROSCOPE ID #: 1

KEH REP: Patrick McGuire

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	1.0	1.0/100	—	—	—	—	—	—
Field Blank B02	1.0	1.0/100	—	—	—	—	—	—
P03	86.0	86.0/100	86/100/.00785	109.55	50.84	0.054	0.830	—
P04	100	100/42	100/42/.00785	303.31	419.89	0.006	0.278	—
P05	100	100/46	100/46/.00785	276.93	307.80	0.009	0.346	—
P06	100	100/56	100/56/.00785	227.48	552.78	0.005	0.158	—
P07	100	100/34	100/34/.00785	374.67	545.10	0.005	0.265	—
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: 8/22/00 ANALYST: Patrick McGuire SIGNATURE: [signature]

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/22/00	URS Radian PROJECT #: 21001-001	Tim Gish	WR Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGuiren ANALYSIS BY: Patrick McGuiren

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 Mfr. _____ Lot No. 13337	✓ 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	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
* A03/A24	OWA	Between NE corner of Planer building & NW corner of Pole Barn	Demo	0731	1702	571	7.32	7.84	7.58	4328.18	0.001	4.0/100	< LOQ
* A04/A25	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	0737	1707	570	7.13	10.04	8.61	4907.7	0.001	7.0/100	< LOQ
* A05/A23	↓	Location #4 - SW of Planer building - on perimeter	↓	0741	1711	570	7.45	10.21	8.83	5033.1	0.001	5.0/100	< LOQ
* A06/A.1	↓	West of Planer building	↓	0747	1717	570	7.25	10.30	8.78	5004.6	0.001	5.0/100	< LOQ
* A07/300H	↓	Planer building - clean room decon	↓	0803	1725	562	3.82	3.96	3.89	2186.18	0.001	59.0/100	0.013
A08/A002	IWA	Inside Planer building center of containment	↓	0835	1732	537	4.25	4.68	4.47	2400.39	0.001	100.0/35	0.057
Blind Recount													

* The power ~~was~~ to the area pumps (ours & EPA's) was kicking on & off earlier in the shift. It was later resolved around approximately 0830.

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.b.4.29
Doc No. _____

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KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/22/00	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	0	0/100	—	—	—	—	—	Field Blank
A03	4.0	4.0/100	2.0/100/.00785	~~5.10~~ 2.55	4328.18	0.001	< LOQ	—
A04	7.0	7.0/100	5.0/100/.00785	6.37	4907.70	0.001	~~0.00~~ < LOQ	—
A05	5.0	5.0/100	3.0/100/.00785	3.82	5033.10	0.001	< LOQ	—
A06	5.0	5.0/100	3.0/100/.00785	3.82	5004.60	0.001	< LOQ	—
A07	59.0	59.0/100	57.0/100/.00785	72.61	2186.18	0.001	0.013	—
A08	100.0	100.0/35	98.0/35/.00785	356.69	1400.39	0.001	0.057	—
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: 8/23/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.6.4.30
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/22/00	AC & S PROJECT #: 01001-043	Chuck Slaw	WR Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGurren ANALYSIS BY: Patrick McGurren

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER PCA:	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	—	—	—	—	—	—	—	—	—	—	20/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	9/100	Field Blank
P03/~~A0~~4125	EX	Planer building - inside Demoing walls - worn by Jose Perez	DEMO	0800	0832	32	1.82	1.79	1.81	57.92	0.047	100.0/53	1.598
P04/02018	P	Inside Planer building Demoing walls - worn by Jose Aguilar		0801	1301	300	1.36	Dead pump	1.36	408.00	0.007	100.0/50	0.240
P05/4125	P	Inside Planer building Demoing walls - worn by Jose Perez		0832	1300	268 pm ~~468~~	1.74	1.79	1.77	474.36 pm ~~828.36~~	0.006 pm ~~0.003~~	100.0/37	0.279
P06/	P	Inside Planer building Demoing walls - worn by Guillermo Martinez		1316 pm ~~1.70~~	1728 pm ~~2.00~~	252	1.76	2.06	1.91	481.32	0.006	100.0/97	0.105
P07/1318	P	Inside Planer building Demoing walls - worn by Jose G. Perez		1315	1727	252	2.06	1.41	1.74	438.48	0.006	100.0/70	0.160
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.2.44
Doc No. _____

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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.b.2.43
Doc No.

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: AC & S **Project:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** W.R. Grace Vermiculite Plant Libby, MT	**KEH Rep:** Patrick McGurren **Analysis By:** Patrick McGurren

Date: 8/22/00	**Calibration:** ___ Rotameter ___ ID; ✓ Other DX-Lite ID	**Microscope Field Area:** ✓ 0.00785 sq mm; ___ other ___ sq mm	**PCM Filter:** ✓ 0.8 um25mm Mft. ___; ___ 0.8 um37mm Lot# ___	**Other Media:** ___ Type Mft. ___; ___ Type Mft. ___

Name: Jose G. Perez **SSN:** 437-71-5970	**Name:** Jose G. Aguilar **SSN:** 456-99-8860	**Name:** Guillermo Martinez **SSN:** 622-09-2411	**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	32	57.92	1.598	P04	300	408.00	0.240	P06	252	451.32	0.105				
P05	268	474.36	0.279												
P07	252	438.48	0.160												

TWA: 0.301 f/cc	TWA: 0.150 f/cc	TWA: 0.055	TWA: n/a
Comments: 51.136 + 74.772 + 40.32 / 552 166.228 / 552	Comments: 72 / 480	Comments: 26.46 / 480	Comments

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/22/00	KEH PROJECT #: 01001-043 MICROSCOPE ID #: 1	KEH REP: Patrick McGuiren ANALYST: Patrick McGuiren

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	0	0/100	–	–	–	–	–	Field Blank
P03	100.0	100/53/~~.00785~~ .00785	100/53/.00785	240.36	57.92	0.047	1.598	–
P04	100.0	100/50/.00785	100/50/.00785	254.78	408.0	0.007	0.240	–
P05	100.0	100/37/	100/37/.00785	344.29	474.36	0.006	0.279	–
P06	100.0	100/97	100/97/.00785	131.33	481.32	0.006	0.105	–
P07	100.0	100/70	100/70/.00785	181.98	438.48	0.006	0.160	–
~~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: 8/23/00 ANALYST: Patrick McGuiren SIGNATURE: [signature]

URS COPY

Project No. 805169
File Code No. 2.5.6.2.45
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/23/00	URS Radian PROJECT #: 21001-001	Tim Gish	WR 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 DryCal 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	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
A03/A-1	OWA	Between NE corner of Planer building & NW corner of Pole Barn	DEMO	0733	1645	552	7.49	10.61 ~~7.35~~	9.05	4995.60	0.001	8.0/100	0.001
A04/A-25	↓	Between SE corner of Planer building & SW corner of Pole Barn	↓	0740	1650	550	7.35	10.34	8.85	4867.50	0.001	5.0/100	LOQ
A05/A-23	↓	Location #4 SW of Planer building on Perimeter	↓	0745	1654	549	7.68	10.47	9.08	4984.92	0.001	6.0/100	0.001
A06/A-24	↓	West of Planer building	↓	0751	1659	548	7.58	7.95	7.77	4257.96	0.001	5.5/100	LOQ
A07/	↓	Inside Planer building - Clean room decon	↓	0806	1708	542	3.90	4.10	4.00	2168.00	0.001	71.5/100	0.016
A08/	IWA	Inside Planer building center of containment	↓	0832	1728	536	4.25	4.25	4.25	2278.00	0.001	100/30	0.072
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. 4.5.6.4.31
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/23/00	KEH PROJECT #: Z1001-001	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	0	0/100	–	–	–	–	–	Field Blank
Field Blank B02	0	0/100	–	–	–	–	–	Field Blank
A03	8.0	8.0/100	8.0/100/.00785	10.19	4995.60	0.001	0.001	–
A04	5.0	5.0/100	5.0/100/.00785	6.37	4867.50	0.001	LOQ	–
A05	6.0	6.0/100	6.0/100/.00785	7.64	4984.92	0.001	0.001	–
A06	5.5	5.5/100	5.5/100/.00785	7.01	4357.96	0.001	LOQ	–
A07	71.5	=71.5/100	71.5/100/.00785	91.08	2168.00	0.001	0.016	–
A08	100.0	100.0/30	100.0/30/.00785	424.63	2278.00 =	0.001	0.072	–
~~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: 8/24/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.6.4.32
Doc No.

KEH97/FORMS/FIBERFRM

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Project No. 805169
File Code No. 4.5.6.2.48
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/23/00

KEH PROJECT #: 01001-043

MICROSCOPE ID #: 1

KEH REP: Patrick McGurre

ANALYST: Patrick McGurre

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	0	0/100	–	–	–	–	–	Field Blank
P03	34.5	34.5/100	34.5/100/.00785	43.95	61.60	0.044	0.275	–
P04	100.0	100.0/41	100/41/.00785	310.70	557.14	0.005	0.215	–
P05	pump failure	–	–	–	–	–	–	pump failure
P06	pump failure	–	–	–	–	–	–	pump failure
P07	pump failure	–	–	–	–	–	–	pump failure
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: 8/24/00

ANALYST: Patrick McGurre

SIGNATURE:

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. 4.5.6.2.46
Doc No.

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: AC & S **Project:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** W.R. Grace Vermiculite Plant Libby, MT	**KEH Rep:** Patrick McGurren **Analysis By:** Patrick McGurren

Date:	**Calibration:**	**Microscope Field Area:**	**PCM Filter:**	**Other Media:**
8/23/00	___ 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:	**Name:**	**Name:**	**Name:**
VICTOR ROJAS	FERNANDO JUAREZ	—	—
SSN: 645-65-4365	**SSN:** 619-34-6943	**SSN:**	**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	35	61.60	0.275	P04	313	557.14	0.215								
P05	290	VOID	Pump failure	P06	240	VOID	Pump failure								
P07	228	VOID	Pump failure												

TWA: 0.020 - P05 & P07 Pump failure

TWA: 0.140 P06 - Pump failure

TWA: ___

TWA: ___

Comments: 9.625/480

Comments: 67.295/480

Comments:

Comments

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT: ~~URS Radian~~ Pin AC&S	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/23/00	PROJECT #: 01001-043	Chuck Shaw	W.R. Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGowan ANALYSIS BY: Patrick McGowan

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~~ Pin 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	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
P03/7318	EX	Inside Planer building Demoing walls - worn by VICTOR ROJAS	DEMO	0800	0835	35	1.73	1.79	1.76	61.60	0.044	34.5/100	0.275
P04/4125	P	Inside Planer building Demoing walls - worn by FERNANDO JUAREZ	↓	0801	1314	313	1.76	1.79	1.78	557.14	0.005	100/41	0.215
P05/7318	P	Inside Planer building Demoing walls - worn by VICTOR ROJAS	↓	0835	1325	290	1.56	dead pump	~~1.56~~ —	—	—	—	pump failure - no power V010
P06/	P	Inside Planer building Demoing walls - worn by FERNANDO JUAREZ	↓	1314	1714	240	1.60	dead pump	—	—	—	—	pump failure - no power V010
P07/	P	Inside Planer building Demoing walls - worn by VICTOR ROJAS	↓	1325	1713	228	1.31	dead pump	—	—	—	—	pump failure - no power V010
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. 805167

File Code No. 4.5.6.2.47

Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
5/24/00	URS Radian PROJECT #: Z1001-001	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	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
A03/A24	OWA	* Between NE corner of Planer building & NW corner of Pole Barn	DEMO	0737	1719	582	7.28	7.34	7.31	4254.42	0.001	1.5/100 ~~<LOQ~~	< LOQ
A04/A-25	↓	* Between SE corner of Planer building & SW corner of Pole Barn	↓	0743	1723	580	7.42	9.87	8.65	5017.00	0.001	6.0/100	0.001
A05/A-23		Location #4 SW of Planer building - on perimeter		0751	1731	580	7.74	10.01	8.88	5150.40	0.001	2.0/100	< LOQ
X A06/A-1		west of Planer building		0756	1738	578	7.52	10.03	8.78	5074.84	0.001	7.0/100	0.001
A07/300101		inside Planer building - clean room decon		0812	1741	572	3.63	4.21	4.02	2299.44	0.001	45.5/100	0.010
A08/A003	IWA	Inside Planer building center of containment		0849	1756	547	1.25 ~~7.19~~	1.18	1.22	667.34	0.004	~~33.5~~ 33/100	0.025
A09/A-24	OWA	* Between NE corner of Planer building & NW corner of Pole Barn	blatter installation	1719	1853	94	4.34 ~~7.45~~	7.27	7.36	691.84	0.004	~~33.5~~ 4.0/100	< LOQ
A10/A-25	↓	* Between SE corner of Planer building & SW corner of Pole Barn	blatter installation	1723	1858	95	9.84	9.68	9.76	927.2	0.003	9.5/100	0.005
Blind Recount	—	—	—	—	—	—	—	—	—	—	—	—	—

* A little bit further east than usual due to work taking place around the outside of the Planer building - Pulling weeds

X - The sample had fallen over & was found lying on the ground.

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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805169

URS 4.5.b.4.33

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
5/24/00	URS Radian PROJECT #: 21001-001	Tim Gish	WR Grace Vermiculite Plant WORK AREA: Libby, MT	Patrick McGurk ANALYSIS BY: Patrick McGurk

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-4739	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 13337	✓ 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
~~B03~~ Plant	Field Blank	—	—	—	—	—	—	—	—	—	—	—	—
~~B04~~ Plant	Field Blank	—	—	—	—	—	—	—	—	—	—	—	—
A11/A-23	OWA	Location #4 - SW of Planer building - on perimeter	blotter installation	1731	1903	92	7.59	7.46	7.53	692.76	0.004	2.0/100	< LOQ
A12/A-1	↓	west of Planer building	blotter installation	1738	1908	90	7.32	7.22	7.27	654.30	0.004	2.0/100	< 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 805169

Project No. 4.5.b.4.34
File Code No. _____
Doc No. _____

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KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/24/00	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	0	0/100	—	—	—	—	—	Field Blank
Field Blank B02	0	0/100	—	—	—	—	—	Field Blank
A03	1.5	1.5/100	1.5/100/.00785	1.91	4254.42	0.001	<LOQ	—
A04	6.0	6.0/100	6.0/100/.00785	7.64	5017.00	0.001	0.001	—
A05	2.0	2.0/100	2.0/100/.00785	2.55	5150.40	0.001	<LOQ	—
A06	7.0	7.0/100	7.0/100/.00785	8.92	5074.84	0.001	0.001	—
A07	45.5	45.5/100	45.5/100/.00785	57.96	2299.44	0.001	0.010	—
A08	33.5	33.5/100	33.5/100/.00785	42.68	667.34	0.004	0.025	—
A09	4.0	4.0/100	4.0/100/.00785	5.10	691.84	0.004	<LOQ	—
A10	9.5	9.5/100	9.5/100/.00785	12.10	927.20	0.003	0.005	—
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: 8/25/00 ANALYST: Patrick McGurren SIGNATURE: Patrick McGurren

URS COPY 8/25/00

Project No. 4.5.6.4.35
File Code No.
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/24/00	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~~	—	—	—	—	—	—	—	—
Field Blank ~~B02~~	—	—	—	—	—	—	—	—
A11	2.0	2.0/100	2.0/100/.00785	2.55	692.76	0.004	< LOQ	
A12	2.0	2.0/100	2.0/100/.00785	2.55	654.30	0.004	< 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: 8/25/00	ANALYST: Patrick McGurren	SIGNATURE: [signature]

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Project No. 4.5.6.4.36
File Code No.
Doc No.

KEH97/FORMS/FIBERFRM

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Project No. 805169
File Code No. 4.5.b.2.49
Doc No.

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

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: AC & S	Project Contact: Chuck Shaw	Location: W.R. Grace Vermiculite Plant Libby, MT	KEH Rep: Patrick McGarrey
Project: 01001-043			Analysis By: Patrick McGarrey

Date:	Calibration:	Microscope Field Area:	PCM Filter:	Other Media:
8/24/00	___ 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: Margarito Rivera	Name: Cayetano Montoya	Name: Rick Rowe (URS)	Name: —
SSN: 438-20-3756	SSN: 645-22-6340	SSN: 561-15-3581	SSN:

Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc	Sample #	Minutes	Volume	F/cc
TOTAL				TOTAL				TOTAL				TOTAL			
P03	30	33.9	0.087	P04	Pump	failure	—	P08	30	50.10	<LOQ				
P05	205	213.20	0.089	P06	240	408.00	0.038								
P07	Pump failure		—												

TWA: 0.043 f/cc	TWA: 0.019 f/cc	TWA: < LOQ	TWA: n/a
Comments: Sample # P07 is void due to pump failure 2.61 + 18.245 / 480	Comments: Sample # P04 is void due to pump failure 9.12 / 480	Comments: 30 x 0.001 / 480 0.03 / 480	Comments

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
8/24/00	AC & S PROJECT #: 01001-043	Chuck Shaw	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 Mfr. ____ 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
7326 P03	EX	Inside Planer building prepping for powerwash worn by MARGARITO RIVERA	Prep	0814	0844	30	1.18	1.07	1.13	33.9	0.082	6.0/100	0.087
7324 P04	P	Inside planer building prepping for powerwash worn by CAYETANO MONTOYA	↓	0815	—	—	1.90	Dead pump	—	VOID		—	Dead pump
P05/7326 ~~A318~~	P	Inside planer building prepping for powerwash worn by Margarito Rivera		0844	1209	205	1.00	1.08	1.04	213.20	0.013	38.5/100	0.089
P06/7318	P	Inside Planer building prepping for powerwash worn by Cayetano Montoya		1330	1730	240	1.70	1.70	1.70	408.00	0.007	32.0/100	0.038
P07/7326	P	Inside Planer building prepping for powerwash worn by Margarito Rivera		1332	—	pump died ~~tt~~	1.17	dead pump	—	VOID	—	—	pump battery died.
~~P08~~/P08/~~P05~~	P (pm) EX	Outside planer building east side - pulling weeds worn by Rick Rowe (URS)		1800	1830	30	1.60	1.74	1.67	50.10	0.054	1.0/100	< 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. 4.5.6.2.50
Doc No. ____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 8/24/00	KEH PROJECT #: 01001 - 043	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	Ø	—	—	—	—	—	—	Field Blank
Field Blank B02	Ø	—	—	—	—	—	—	Field Blank
P03	6.0	6.0/100	6.0/100/.00785	7.64	33.90	0.082	0.087	—
P04	VOID	—	—	—	—	—	—	Pump failure
P05	38.5	38.5/100	38.5/100/.00785	49.04	213.20	0.013	0.089	—
P06	32.0	32.0/100	32.0/100/.00785	40.76	408.00	0.007	0.038	—
P07	VOID	—	—	—	—	—	—	Pump failure
P08	1.0	1.0/100	1.0/100/.00785	1.27	50.10	0.054	~~0.010~~ <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: 8/25/00	ANALYST: Patrick McGurren	SIGNATURE: [signature]

URS COPY

Project No. 805169
File Code No. ~~4.5.b.4.51~~
Doc No. 4.5.b.2.51 PP

KEH97/FORMS/FIBERFRM