485132

URS

LETTER OF TRANSMITTAL

TO: Paul Peronard – US EPA

FROM: Jim Stout - URS

DATE: November 10, 2000

PROJECT TITLE: Export Plant Removal Action – Libby, MT – Weekly Progress Report

WE ARE SENDING YOU THE FOLLOWING ATTACHMENTS:

ITEM NO.	FILE CODE	DESCRIPTION	DATE	COPIES
1	6.2.b.1.15	Weekly Progress Report for November 3, 2000 through November 9, 2000	11/10/00	3
2	4.5.b.2.185-187	Personal air sample results inside Lumber Storage Shed for 11/3/00	11/3/00	1
3	4.5.b.2.188-190	Personal air sample results for truck drivers for 11/3/00	11/3/00	1
4	4.5.b.4.198-199	Perimeter and area air sample results at Export Plant for 11/37/00	11/3/00	1
5	4.5.b.2.191-193	Personal air sample results inside Lumber Storage Shed for 11/4/00	11/4/00	1
6	4.5.b.2.194-196	Personal air sample results for truck drivers for 11/4/00	11/4/00	1
7	4.5.b.4.200-201	Perimeter and area air sample results at Export Plant for 11/4/00	11/4/00	1
8	4.5.b.2.197-199	Personal air sample results inside Lumber Storage Shed for 11/6/00	11/6/00	1
9	4.5.b.2.200-202	Personal air sample results for truck drivers for 11/6/00	11/6/00	1
10	4.5.b.4.202-203	Perimeter and area air sample results at Export Plant for 11/6/00	11/6/00	1
11	4.5.b.2.203-205	Personal air sample results inside Lumber Storage Shed for 11/7/00	11/7/00	1
12	4.5.b.2.206-208	Personal air sample results for truck drivers for 11/7/00	11/7/00	1
13	4.5.b.4.204-205	Perimeter and area air sample results at Export Plant for 11/7/00	11/7/00	1
14	4.5.b.2.209-211	Personal air sample results inside Lumber Storage Shed for 11/8/00	11/8/00	1
15	4.5.b.2.212-214	Personal air sample results for truck drivers for 11/8/00	11/8/00	1
16	4.5.b.4.206-207	Perimeter and area air sample results at Export Plant for 11/8/00	11/8/00	1
17	4.5.b.2.215-217	Personal air sample results inside Lumber Storage Shed for 11/9/00	11/9/00	1
18	4.5.b.2.218-220	Personal air sample results for truck drivers for 11/9/00	11/9/00	1
19	4.5.b.4.208-209	Perimeter and area air sample results at Export Plant for 11/9/00.	11/9/00	1

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November 10, 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 November 3 through November 9, 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 November 3 through November 9, 2000, at the Libby, Mt. Export Plant.

Please call if you have any questions concerning this submittal.

Sincerely,

Peter Peronard
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
	Karen Brown	W.R. Grace
	Ray Lidstrom	URS

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November 10, 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 November 3 – November 9, 2000

The Weekly Progress Report for the period of October 27 – November 2, 2000 was submitted to the EPA and State on November 3, 2000.

At Export Plant

- An erosion inspection of the Export Plant site is conducted daily.
- Dust control measures continue to be utilized according to the Dust Control Plan (Appendix F).
- Soil removal activities have been completed at the west side of the site with the exception of one rail spur removal and minor excavation work around the rail spur that is to remain. Work on the western side of the site has been discontinued until the completion of the Millwork West planer run. The following grids have been excavated and soil confirmation samples have met the cleanup criteria in grids: A, B, C, D, J, K, L, M, and S. A partial section of grid U, located west of the planer building, has also met the cleanup criteria. Sixty percent of grid T has been excavated and soil confirmation samples have met the cleanup criteria.
- Addendum No. 9, to reduce the size of the exclusion zone, was approved on November 7, 2000.
- The size of the exclusion zone was reduced to allow back-filling and to accommodate the planned November 13, 2000 planer run by Millwork West. Currently the exclusion zone includes grids AA, AB, partial sections of grids T and U in addition to all grids to the east. An additional fence runs from the northern boundary between grids D and E and connects with the Pole Barn.
- Soil removal activities have been relocated to the eastern end of the site. Excavation has been completed to the first layer in grids I and Z. Excavation is currently underway in grids R and G.

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- Currently two excavators and 12 trucks are participating in soil excavation and hauling.
- To date approximately 1,700 yards of back-fill material from the Plum Creek gravel pit have been delivered to the Export Plant site. Two track dozers are currently working to grade the area to the original grade.

At Millwork West

- A quarter page add indicating the Millwork West move continued in The Western News newspaper.
- A television add indicating the Millwork West move continued to run.
- A pre-encapsulation inspection of the Lumber Storage Shed is scheduled for November 10, 2000.
- A "warming room" has been constructed inside the Planer Shop for the planned Millwork West planer run.
- All electrical needs have been met within the Planer Shop for the upcoming planer run.

At Mine Disposal Site

- URS continued to dispose of miscellaneous debris from the Export Plant location at the toe of the 12th level dump at the mine.
- URS continues to dispose of soil excavated from the Export Plant at the area adjacent to the Glory Hole at the mine.

Problems and Issues

- Miscellaneous issues pertaining to the Millwork West move have yet to be resolved. Those issues include but are not limited to: miscellaneous damaged lumber, employee wages, lift truck rental, air conditioner replacement.
- A cellular phone will be required for the extent of the next planer run for safety purposes.
- It is anticipated that Millwork West personnel will make necessary repairs to the planer on November 11, 2000.
- It is anticipated that Millwork West will initiate a planer run on November 13, 2000.
- URS is currently working with MDEQ to locate the excavated soil (approximately 30 yards) to a new land farm at the mine.
- Addendum No. 10 concerning back-fill source and specifications has been verbally approved.

Analytical Data Received

- No new TEM data has been received. PCM results for all perimeter, area, and personal samples are attached.

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- Analytical results of confirmation soil samples collected from grids B, C, D, K, L, M and T were received and are attached.

Material Movement and Disposal

- Four truckloads of debris were disposed of at the toe of the 12th level dump at the mine. This material included debris associated with demolition and cleaning the Lumber Storage Shed. To date 181 truckloads of debris have been disposed of at the mine site.
- 317 truckloads of soil excavated from the Export Plant site were disposed of at the area adjacent to the Glory Hole at the mine. To date 768 truckloads of soil have been disposed of at the mine site.
- To date approximately 1,700 yards of material have been delivered to the Export Plant site from the Plum Creek gravel pit.

Health and Safety

- All visitors, workers, and contractors conducting activities within the mine site must adhere to level C PPE restrictions.
- Koch Environmental continues to collect perimeter, area, and personal air samples at the Export Plant. Personal air samples are also being collected from the truck drivers and from workers at the mine disposal areas.
- No accidents or incidents.

Anticipated Developments Next Week

- It is anticipated that the Lumber Storage Shed will meet final air clearance criteria.
- Soil excavation activities will continue.
- Back-filling the Export Plant will continue.
- Excavation activities will continue at the eastern-end of the Export Plant site.
- URS will continue to collect soil confirmation samples.
- Millwork West personnel will initiate a planer run.

Planned Resolutions or Anticipated Problems

- Anticipate that the miscellaneous issues pertaining to the Millwork West move will be resolved.
- A disposal site for the excavated oily soil will be determined.

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Schedule

- Anticipate that the Planer Building will be available for operation on 11/13/00.
- Soil excavation activities will continue.

Respectfully,

Jim Stout
Project Coordinator
Libby Asbestos Site

Attachments

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MONTHLY CLIMATOLOGICAL SUMMARY for NOV. 2000

NAME: Export Plant - Libby, MT CITY: STATE:
ELEV: LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	34.4	45.6	3:00p	30.0	10:15p	27.2	0.0	0.01	1.1	6.0	12:49a	ESE
2	32.5	41.5	3:20p	26.3	10:50p	31.1	0.0	0.00	1.2	7.0	1:10p	SW
3	32.8	38.8	4:40p	27.0	12:20a	32.1	0.0	0.00	1.1	5.0	4:40a	SSE
4	34.6	42.9	5:10p	28.3	7:30a	29.4	0.0	0.18	1.4	11.0	5:10p	ESE
5	36.3	40.2	2:10p	32.1	7:30a	28.9	0.0	0.29	0.9	6.0	4:10p	NW
6	35.6	44.3	3:30p	29.5	11:10p	28.1	0.0	0.00	1.3	9.0	3:50p	SW
7	32.1	35.6	3:20p	28.4	1:20a	33.0	0.0	0.00	1.1	7.0	2:40p	SW
8	31.7	33.3	11:40a	30.5	7:10a	33.1	0.0	0.02	0.6	6.0	9:00a	SSE
9	28.8	33.1	1:00a	18.4	11:40p	39.3	0.0	0.10	1.3	8.0	1:50p	SE
10	13.7	19.1	12:10a	9.3	7:20a	0.0	0.0	0.00	2.1	5.0	2:40a	SE
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
	31.3	45.6	1	9.3	10	282.1	0.0	0.60	1.2	11.0	4	SE

Max >= 90.0: 0
Max <= 32.0: 1
Min <= 32.0: 9
Min <= 0.0: 0
Max Rain: 0.29 ON 11/05/00
Days of Rain: 4 (>.01 in) 2 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: (High + Low) / 2

MONTHLY CLIMATOLOGICAL SUMMARY for OCT. 2000

NAME: Export Plant - Libby, MT CITY: STATE:
ELEV: LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23	45.9	58.1	5:10p	32.2	11:50p	0.0	0.0	0.00	0.6	6.0	5:50p	WNW
24	38.4	59.6	4:50p	27.6	9:20a	21.4	0.0	0.00	0.7	6.0	9:00a	SSE
25	37.8	58.1	5:30p	29.6	6:40a	21.2	0.0	0.00	0.5	5.0	12:10p	SE
26	39.3	55.7	5:00p	30.9	5:00a	21.7	0.0	0.00	0.9	7.0	1:50p	SE
27	40.0	47.6	4:50p	33.1	4:30a	24.7	0.0	0.00	0.7	6.0	2:30p	SE
28	39.6	44.5	5:00p	34.9	9:00a	25.3	0.0	0.04	1.0	5.0	8:00a	SSE
29	41.6	50.3	3:40p	32.2	11:40p	23.8	0.0	0.00	0.8	8.0	5:10p	S
30	32.3	33.4	12:30a	31.3	1:30a	0.0	0.0	0.00	1.5	5.0	1:10a	SE
31	36.7	39.4	1:36p	33.6	11:04p	28.5	0.0	0.00	1.0	4.0	11:04a	WNW
	39.1	59.6	24	27.6	24	166.4	0.0	0.04	0.8	8.0	29	SSE

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 4
Min <= 0.0: 0
Max Rain: 0.04 ON 10/28/00
Days of Rain: 1 (>.01 in) 0 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: (High + Low) / 2

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KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/3/00	ACES PROJECT #: 01001-043	Chuck Shaw	W.R. Grace Vermiculite Plant - Lumber WORK AREA: Bldg. 47 storage building	Patrick [illegible] ANALYSIS BY: [illegible]

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400) Lead ☐ (NIOSH 7082) Other ☐ _____ Method: _____	Rotameter ☑ ID _____ Other: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other 45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfr. _____ Lot No. 15006	✓ 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	P	Inside Lumber storage building - worn by Gonzalo Mencado	Dumping walls	0903	1725	—	2.0	2.0	2.00	—	—	—	Particulate overload
P04	EX	Inside Lumber storage building - worn by Guillermo Martinez		0900	0930	30	2.0	2.0	2.00	60.00	0.045	19.5/100	0.159
P05	P	Inside Lumber storage building - worn by Guillermo Martinez		0930	1725	—	2.0	2.0	2.00	—	—	—	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. 4.5.6.2.185
Doc No. _____

KEH\FORMS\AIRFRM97

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: ACES **Project:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** WR Grace Vermiculite Plant - Lumber Storage Building, Libby, MT	**KEH Rep:** Patrick McGowan **Analysis By:** Patrick McGowan

Date: 11/3/00	**Calibration:** ✓ Rotameter ____ ID; ____ Other ____ 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: Gonzalo Mercado **SSN:** 522-31-2947	**Name:** Guillermo Martinez **SSN:** 622-09-2411	**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	—	—	—	P04	30	60.00	0.159								
				P05	—	—	—								

TWA: N/a	TWA: N/a	TWA: N/a	TWA: N/a
Comments: Particulate overload	Comments: Particulate Overload	Comments:	

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File Code No. 4.5.6.2.186
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: 01001-043	KEH REP: Patrick McGuire
11/3/00	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	0/100	—	—	—	—	—	Field Blank
Field Blank B02	0	0/100	—	—	—	—	—	Field Blank
P03	Particulate overload	—	—	—	—	—	—	Particulate Overload
P04	19.5	19.5/100	19.5/100/.00785	24.84	60.00	0.045	0.159	—
P05	Particulate overload	—	—	—	—	—	—	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 ✓ clean all phase rings ✓ check [illegible]

ANALYST INFORMATION:

DATE: 11/4/00 ANALYST: Patrick McGuire Supervisor: [illegible]

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Project No. 80569
File Code No. 4.5.b.2.187
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/3/00	URS Radian PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant - Lumber Storage Building WORK AREA: Libby, MT	Patrick McGowan ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other 145 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 15061	✓ 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	—	—	—	—	—	—	—	—	—	—	—	—
—	Field Blank	—	—	—	—	—	—		—	—	—	—	—
P11	P	Inside truck - worn by - Ben Cook	Loading soil @ exfoliation plant &	0747	1600	493	2.00	2.00	2.00	986.00	0.003	36/100	0.018
P12	EX	Inside truck - worn by - Bob Sanders	dumping it @ the mine	0749	0835	46	2.00	2.00	2.00	92.00	0.324	4/100	0.032
P13	P	Inside truck - worn by - Bob Sanders	↓	0835	1602	447	2.00	2.00	2.00	894.00	0.003	22/100	0.012
P14	P	Inside ~~truck - worn~~ ~~by~~ area - worn by - Leonard Shoemaker	decanning trucks	0909	1644	455	2.00	2.00	2.00	910.00	0.003	32/100	0.017
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
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7342 South Moore Court
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Phone: (303) 932-8484 FAX: (303) 932-8585

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: URS Radian **Project:** 21001-001	**Project Contact:** Tim Gish	**Location:** WR Grace Vermiculite Plant - Lumber Storage Building	**KEH Rep:** Patrick McGuire **Analysis By:** P. McGuire

Date: 11/3/00	**Calibration:** ✓ Rotameter ____ ID ____ Other ____ 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: Ben Cook **SSN:** 544-40-9834	**Name:** Bob Sanders **SSN:** 550-44-0403	**Name:** Leonard Shoemaker **SSN:** 529-72-8879	**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
P11	493	986.00	0.018	P12	46	92.00	0.032	P14	455	910.00	0.017				
				P13	447	894.00	0.012								

TWA: 0.018 f/cc TWA: 0.014 f/cc TWA: 0.016 f/cc TWA: n/a

Comments: 8.874/493

Comments: 1.472 + 5.364/493
6.836/493

Comments: 7.735/480

Comments:

URS COPY
Project No. 805169
File Code No. 4.5.6.2.189
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: 21001-001	KEH REP: Patrick McGurren
11/3/00	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~~	—	—	—	—	—	—	—	—
~~Field Blank~~	—	—	—	—	—	—	—	—
P11	~~12.0~~ 36.0	~~12/100~~ 36/100	36/100/.00785	45.86	986.00	0.003	0.018	—
P12	6.0	6/100	6/100/.00785	7.64	92.00	0.029	0.032	—
P13	22.0	22/100	22/100/.00785	28.03	394.00	0.003	0.012	—
P14	32.0	32/100	32/100/.00785	40.76	910.00	0.003	0.017	—
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 ✓ [illegible]

ANALYST INFORMATION:

DATE: 11/4/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.6.2.190
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/3/00	CLIENT: VRS - Radian PROJECT #: 21001-001	Tim Gish	WR Grace Vermiculite Plant - Lumber Storage Building WORK AREA: Libby, MT	Patrick McGovern ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1506	✓ 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
PM03	Perimeter	Location #1 - North of Pole Barn - on perimeter		0738	1616	518	5.00	5.00	5.00	2590.00	0.001	2.0/100	< LOQ
PM04		Location #2 - NW of Planer Building - on perimeter		0740	1618	518	5.00	5.00	5.00	2590.00	0.001	2.5/100	< LOQ
PM05		Location #3 - West of Planer Building - on perimeter		0742	1622	500	5.00	6.00	5.50	2750.00	0.001	4.0/100	LOQ
PM06		Location #4 - SW of Planer building - on perimeter		0758	1625	507	5.00	5.00	5.00	2535.00	0.001	1.0/100	< LOQ
PM07		Location #5 - South of Warehouse building - on perimeter		0756	1627	511	5.00	5.00	5.00	2555.00	0.001	3.0/100	LOQ
PM08		Location #6 - NE of Lumber storage building - on perimeter		0812	1631	499	5.00	5.50	5.25	2619.75	0.001	2.0/100	< LOQ
PM09		Location #7 - NE corner of property - on sign - Highway 37		0816	1634	498	5.50	5.50	5.50	2739.00	0.001	3.5/100	LOQ
A16	OWA	Inside Shower trailer Clean room		0825	1639	494	2.00	2.00	2.00	988.00	0.001	23.0/100	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	

VRS COPY

80 5169

4.5.6.4.198

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KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/3/00	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	0	0/100	—	—	—	—	—	Field Blank
PM03	2.0	2/100	2/100/.00785	2.55	2590.00	0.001	< LOQ	—
PM04	2.5	2.5/100	2.5/100/.00785	3.18	2590.00	0.001	< LOQ	—
PM05	4.0	4/100	4/100/.00785	5.10	2750.00	0.001	LOQ	—
PM06	1.0	1/100	1/100/.00785	1.27	2535.00	0.001	< LOQ	—
PM07	3.0	3/100	3/100/.00785	3.82	2555.00	0.001	LOQ	—
PM08	2.0	2/100	2/100/.00785	2.55	2619.75	0.001	< LOQ	—
PM09	3.5	3.5/100	3.5/100/.00785	4.46	2739.00	0.001	LOQ	—
A10	23.0	23/100	23/100/.00785	29.30	988.00	0.001	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 ✓ [illegible] samples

ANALYST INFORMATION:

DATE: 11/4/00 ANALYST: Patrick McGowan SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.b.4.199
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/4/00	AC&S PROJECT #: 01001-043	Chuck Shaw	WR Grace Vermiculite Plant - Lumber storage building WORK AREA: Libby, MT	Patrick McGurren ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1506	✓ 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	Ex	Inside Lumber Storage building - worn by Victor Rojas		0801	0840	39	2.0	2.0	2.00	78.00	0.035	20.0/100	0.126
P04	P	Inside Lumber storage building - worn by Excavator		0803	1257	294	2.0	2.0	2.00	588.00	0.005	48.5/100	0.040
P05	↓	Inside Lumber Storage building - worn by Victor Rojas		0840	1255	255	2.0	2.0	2.00	510.00	0.005	51.0/100	0.049
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. 4.5.6.2.191
Doc No. _____

KEH\FORMS\AIRFRM97

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:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** WR Grace Vermiculite Plant - Lumber storage building Libby, MT	**KEH Rep:** Patrick McGuren **Analysis By:** Patrick McGuren

Date:	Calibration:	Microscope Field Area:	PCM Filter:	Other Media:
11/4/00	✓ Rotameter ____ ID ____ Other ____ 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	Gonzalo Mancado	—	—
SSN: 645-65-4365	SSN: 522-31-2947	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	39	78.00	0.126	P04	294	588.00	0.040								
P05	255	510.00	0.049												

TWA: 0.036 f/cc TWA: 0.025 f/cc TWA: n/a TWA: n/a

Comments: 4.914 + 12.495 / 480 = 17.409 / 480

Comments: 11.76 / 480

Comments:

Comments:

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Project No. 805169
~~File Code No.~~
Doc No. 4.5.6.2.192

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/4/00	KEH PROJECT #: 01001-043	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
P03	20.0	20/100	20/100/.00785	25.48	78.00	0.035	0.126	—
P04	48.5	48.5/100	48.5/100/.00785	61.78	588.00	0.005	0.040	—
P05	51.0	51/100	51/100/.00785	64.97	510.00	0.005	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: 11/6/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

URS

Project No. 805169
File Code No. 4.5.b.2.183
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/4/00	URS Radian PROJECT #: 21001-001	Tim Gish	WR Grace Vermculite Plant - Lumber Storage building WORK AREA: Libby, MT	Patrick McGurren ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1500	✓ 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	—	—	—	—	—	—	—	—	—	—	—	~~Field~~
—	Field Blank	—	—	—	—	—	—	—	—	—	—	—	—
P11	EX	Inside Truck - worn by Terry Hoitheus		0725	0755	30	2.0	2.0	2.00	60.00	0.045	2/100	0.016
P12	P	Inside Truck - worn by Ben Cook		0730	1315	345	2.0	2.0	2.00	690.00	0.004	16/100	0.011
P13	↓	Inside Truck - worn by Terry Hoitheus		0755	1317	322	2.0	2.0	2.00	644.00	0.004	14/100	0.011
P14	↓	~~Inside~~ Decanning Trucks worn by Leonard Shoemaker		0920	0950	30	2.0	2.0	2.00	60.00	0.045	21.5/100	0.176
P15	↓	Decanning trucks - worn by Leonard Shoemaker		0950	1321	211	2.0	2.0	2.00	422.00	0.006	17.5/100	0.020
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.b.2.194
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

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: URS Radian **Project:** 21001-001	**Project Contact:** Tim Gish	**Location:** WR Grace Vermiculite Plant - Lumber Storage building Libby, MT	**KEH Rep:** Patrick McGurren **Analysis By:** P. McGurren

Date: 11/4/00	**Calibration:** ✓ Rotameter ____ ID ____ Other ____ 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: Terry Hoithaus **SSN:** 481-58-4024	**Name:** Ben Cook **SSN:** 544-40-9834	**Name:** Leonard Shoemaker **SSN:** 529-72-8879	**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
P11	30	60.00	0.016	P12	345	690.00	0.011	P14	30	60.00	0.176				
P13	322	644.00	0.011					P15	211	422.00	0.020				

TWA: 0.008 f/cc	TWA: 0.008 f/cc	TWA: 0.020 f/cc	TWA: n/a
Comments: 0.480 + 3.542 / 480 4.022 / 480	Comments: 3.795 / 480	Comments: 5.28 + 4.22 / 480 9.5 / 480	Comments:

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Project No. 805169
File Code No. 4.5.6.2.195
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: Z1001-001	KEH REP: Patrick McGurren
11/4/00	MICROSCOPE ID #: 1	ANALYST: P. McGurren

SAMPLE #	FIBER COUNT	F/N	F/N - B/NB / 100	FIBERS/MM²	SAMPLE VOL. (L)	LOQ (fibers/cc)	FIBERS/CC	COMMENTS
~~Field Blank~~	—	—	—	—	—	—	—	~~Field Blank~~
~~Field Blank~~	—	—	—	—	—	—	—	~~Field Blank~~
P11	2.0	2/100	2/100/.00785	2.55	60.00	0.045	0.016	—
P12	16.0	16/100	16/100/.00785	20.38	690.00	0.004	0.011	—
P13	14.0	14/100	14/100/.00785	17.83	644.00	0.004	0.011	—
P14	21.5	21.5/100	21.5/100/.00785	27.39	60.00	0.045	0.176	—
P15	17.5	17.5/100	17.5/100/.00785	22.30	422.00	0.006	0.020	—
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: 11/6/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.6.2.196
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/4/00	URS Radian PROJECT #: 21001-001	Tim Gish	WR Grace Vermiculite Plant - Lumber WORK AREA: Libby, MT Storage building	Patrick McGovern ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1506	✓ 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
PM03	Perimeter	Location #1 - North of Rice Barn - on perimeter		0748	1300	312	5.00	5.00	5.00	1560.00	0.002	3/100	< LOQ
PM04	↓	Location #2 - NW of Planer building - on perimeter		0809	1303	294	5.00	5.00	5.00	1470.00	0.002	3/100	< LOQ
PM05		Location #3 - West of Planer building - on perimeter		0817	1305	288	5.50	5.50	5.50	1584.00	0.002	1/100	< LOQ
PM06		Location #4 - SW of Planer building - on perimeter		0819	1308	289	5.00	5.00	5.00	1445.00	0.002	1/100	< LOQ
PM07		Location #5 - South of warehouse building - on perimeter		0823	1311	288	5.00	5.00	5.00	1440.00	0.002	3.5/100	< LOQ
PM08		Location #6 - NE corner of Lumber storage - on perimeter		0829	1316	287	5.00	5.00	5.00	1435.00	0.002	VOID SAMPLE DUE TO FILTER DAMAGE FROM ~~LOT FOR~~ RAIN	
PM09		Location #7 - NE corner of property - on stop sign - Highway 37		0832	1319	287	5.00	5.00	5.00	1435.00	0.002	4.0/100	< LOQ
A10	OW1	Inside shower trailer Clean room		1003	1329	206	2.00	2.00	2.00	412.00	0.007	39.0/100	0.046
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. 905169
File Code No. 4.5.6.4.200
Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: 21001-001	KEH REP: Patrick McGurren
11/4/00	MICROSCOPE ID #: 1	ANALYST: P. 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
PM03	3.0	3/100	3/100/.00785	3.82	1560.00	0.002	<LOQ	—
PM04	3.0	3/100	3/100/.00785	3.82	1470.00	0.002	<LOQ	—
PM05	1.0	1/100	1/100/.00785	1.27	1584.00	0.002	<LOQ	—
PM06	1.0	1/100	1/100/.00785	1.27	1445.00	0.002	<LOQ	—
PM07	3.5	35/100	3.5/100/.00785	4.46	1440.00	0.002	<LOQ	—
PM08	VOID - FILTER DAMAGED DUE TO WATER			—	1435.00	0.002	VOID - FILTER Damaged due to water.	
PM09	4.0	4/100	4/100/.00785	5.10	1435.00	0.002	<LOQ	—
A10	39.0	39/100	39/100/.00785	49.68	412.00	0.007	0.046	—
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: 11/10/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.6.4.201
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/6/00	ACES PROJECT #: 0001-043	Chuck Shaw	WR Grace Vermiculite Plant - Lumber WORK AREA: Libby, MT Storage building	Patrick McGuire ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfr. _____ Lot No. 15066	✓ 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	EX	Inside Lumber storage building - worn by - Guillermo Martinez	Power washing inside Lumber storage building	0900	0930	30	2.0	2.0	2.00	60.00	0.045	0.5/100	< LOQ
P04	P	Inside Lumber storage building - worn by - Benzale Mancado	↓	0903	1704	481	2.0	2.0	2.00	962.00 ~~1,202.00~~	0.003	55/100	0.022
P05	↓	Inside Lumber storage building - worn by - Guillermo Martinez	↓	0930	1706	456	2.0	2.0	2.00	912.00	0.003	62.5/100	0.034
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. 4.5.6.2.197
Doc No. _____

KEH\FORMS\AIRFRM97

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:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** WR Grace Vermiculite Plant - Lumber storage bldg. - Libby, MT	**KEH Rep:** Patrick McGuire **Analysis By:** Patrick McGuire

Date: 11/6/00	**Calibration:** ✓ Rotameter ____ ID ____ Other ____ 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:** Gonzalo Morales **SSN:** 522-31-2947	**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	30	60.00	<LOQ	P04	481	962.00	0.022								
P05	456	912.00	0.034												

TWA: 0.032 f/cc TWA: 0.022 f/cc TWA: n/a TWA: n/a

Comments: 0.03 + 15.504/486
15.534/486

Comments: < 10.582/481

Comments:

URS

Project No. 805169
File Code No. 4.5.5.2.198
Doc No. ____

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: 0100-043	KEH REP: Patrick McGinn
11/16/00	MICROSCOPE ID #: 1	ANALYST: Patrick McGinn

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	0.5	0.5/100	0.5/100/.00785	0.064	60.00	0.045	< LOQ	—
P04	55.0	55/100	55/100/.00785	70.06	1,202.00	0.007	0.022	—
P05	62.5	62.5/100	62.5/100/.00785	79.62	912.00	0.003	0.034	—
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: 11/7/00 ANALYST: Patrick McGinn SIGNATURE: [signature]

URS

Project No. 805169
File Code No. 4.5.6.2.199
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/6/00	URS Radian PROJECT #: 21001-001	Tim Gish	WR Grace Vermiculite Plant - Lumber WORK AREA: Libby, MT storage building	Patrick McGovern ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other - 45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1506	✓ 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~~ PM	—	—	—	—	—	—	—	—	—	—	—	—
—	~~Field Blank~~ PM	—	—	—	—	—	—	—	—	—	—	—	—
P11	P	Inside truck - worn by Ben Cook VOID	VOID	0753	1720	V	O	I	D	VOID	VOID	VOID	Power was accidentally shut off - VOID
P12	P	inside the truck - worn by - Max Mercer	loading trucks with soil @ export	0750	1700	550	2.0	2.0	2.00	1100.00	0.002	12.5/100	0.006
P13	EX	Inside truck - worn by - Bob Sanders	plant & un-loading them @	0755	0825	30	2.0	2.0	2.00	60.00	0.045	1.5/100	< LOQ
P14	P	Inside the truck - worn by Bob Sanders	the mine ↓	0825	1554	449	2.0	2.0	2.00	898.00	0.003	19/100	0.010
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. 4.5.1.7.00

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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: URS Radian **Project:** 21001-001	**Project Contact:** Tim Gish	**Location:** WR Grace Vermiculite Plant Libby, MT Lumber storage building	**KEH Rep:** Patrick McGarran **Analysis By:** P. McGarran

Date:	**Calibration:**	**Microscope Field Area:**	**PCM Filter:**	**Other Media:**
11/6/00	✓ Rotameter ____ ID ____ Other ____ ID	✓ 0.00785 sq mm ____ other ____ sq mm	✓ 0.8 um25mm Mft. ____ ____ 0.8 um37mm Lot# ____	____ Type Mft. ____ ____ Type Mft. ____

Name:	**Name:**	**Name:**	**Name:**
Ben Cook	Max Mancer	Bob Sanders	—
SSN: 544-[illegible]-4534	**SSN:** 520-36-5145	**SSN:** 550-44-0403	**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
P11	VOID	VOID	VOID	P12	550	1100.00	0.006	P13	30	60.00	<LOQ				
								P14	449	898.00	0.010				

TWA: VOID

Comments: VOID - Pump in pump room accidentally shut off

TWA: 0.006 f/cc

Comments: 3.3 / 550

TWA: 0.009 f/cc

Comments: 0.03 + 4.49 / 480
4.52 / 480

TWA: n/a

Comments:

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Project No. 805169
File Code No. 4.5.6.2.201
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/6/00	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~~	—	—	—	—	—	—	—	—
~~Field Blank~~	—	—	—	—	—	—	—	—
P11	VOID	—	—	—	VOID	VOID	—	Power was accidentally cut off.
P12	12.5	12.5/100	12.5/100/.00785	15.92	1100.00	0.002	0.006	—
P13	1.5	1.5/100	1.5/100/.00785	1.91	60.00	0.045	<LOQ	—
P14	19.0	19/100	19/100/.00785	24.20	898.00	0.003	0.010	—
~~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: 11/7/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

URS COPY

Project No. 805169
File Code No. 4.5.6.2.202
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/6/00	URS Region PROJECT #: 21661-001	Tim Gish	W.R. Grace Vermiculite Plant - Lumber storage building WORK AREA: Libby, MT	Patrick McGowan ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other - 45 PEM	✓ 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	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	0/100	Field Blank
PM03	Perimeter	Location #1 - North of Pole Barn on perimeter		0711	1621	530	6.0	5.0	5.50	2915.00	0.001	3/100	LOQ
PM04		Location #2 - SW of Planer building - on perimeter		0745	1625	520	5.0	5.50	5.25	2730.00	0.001	1/100	< LOQ
PM05		Location #3 - West of Planer building - on perimeter		0809	1632	503	5.50	5.00	5.25	2640.75	0.001	2.5/100	< LOQ
PM06		Location #4 - SW of Planer building - on perimeter		0807	1635	508	5.00	5.00	5.00	2540.00	0.001	1/100	< LOQ
PM07		Location #5 - S. of Warehouse building - on perimeter		0805	1637	512	5.00	5.00	5.00	2560.00	0.001	2/100	< LOQ
PM08		Location #6 - NE of Lumber storage bldg - on perimeter		0840	1641	481	5.00	5.00	5.00	2405.00	0.001	3/100	LOQ
PM09		Location #7 - NE corner of property - at stop sign - Highway 37		0843	1644	481	5.50	6.00	5.75	2765.75	0.001	3.5/100	LOQ
A16	OWA	Inside Shower trailer clean room		0939	1652	433	2.0	2.0	2.00	866.00	0.003	45/100	0.025
~~Blind Recount~~ #15	HEX	NE corner of Lumber storage building at HEPA exhaust		0925	1710	465	2.0	1.0	1.50	697.50	0.004	6/100	0.004

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. 4.5.6.4.202

Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/6/00	KEH PROJECT #: 2100-001 MICROSCOPE ID #: 1	KEH REP: Patrick McGurren ANALYST: P. 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
PM03	3.0	3/100	3/100/.00785	3.82	2915.00	0.001	LOQ	—
PM04	1.0	1/100	1/100/.00785	1.27	2730.00	0.001	< LOQ	—
PM05	2.5	2.5/100	2.5/100/.00785	3.18	2640.75	0.001	< LOQ	—
PM06	1.0	1/100	1/100/.00785	1.27	2540.00	0.001	< LOQ	—
PM07	2.0	2/100	2/100/.00785	2.55	2560.00	0.001	< LOQ	—
PM08	3.0	3/100	3/100/.00785	3.82	2405.00	0.001	LOQ	—
PM09	3.5	3.5/100	3.5/100/.00785	4.46	2765.75	0.001	LOQ	—
A10	45.0	45/100	45/100/.00785	57.32	866.00	0.003	0.025	—
~~Blind Recoual~~ PM 1/15	6.0	6/100	6/100/.00785	7.64	697.50	0.004	0.004	—

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: 11/7/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

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Project No. 805169
File Code No. 4.5.6.4.203
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT: ACS	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/7/00	PROJECT #: 01001-043	Chuck Shaw	W.R. Grace Vermiculite Plant - Lumber storage building	Patrick M. Gurren
			WORK AREA: Libby, MT	ANALYSIS BY: P. M. Gurren

SAMPLE TYPE:	PUMP CALIBRATION:	FILTER TYPE:	TEM FILTER:	FILTER FCA:	MICROSCOPE FIELD AREA:
Asbestos ☑ (NIOSH 7400)	Rotameter ☑	___ 0.8 um 25 mm MCE	✓ MCE <0.45um 25mm	✓ 385 mm²	✓ 0.00785 mm²
Lead ☐ (NIOSH 7082)	ID ___	___ charcoal tubes	___ PC <0.45um 37mm	___ mm²	___ mm²
Other ☐ ___	Other: ___	___ Silica Gel	Mft. ___	___ NA	___ NA
Method: ___		___ Other = 45 TEM	Lot No. 1506		

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	—	—	—	—	—	—	—	—	—	—	1/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	1/100	Field Blank
P03	EX	Inside Lumber storage building - worn by Victor Rojas	Travel inside walls	0900	0930	30	2.00	2.00	2.00	60.00	0.045	7/100	0.049
P04	P	Inside Lumber storage building - worn by Guillermo Martinez	↓	0901	1701	480	2.00	2.00	2.00	960.00	0.003	26.5/100	0.013
P05	P	Inside Lumber storage building - worn by Victor Rojas	↓	0930	1700	450	2.00	2.00	2.00	900.00	0.003	37.0/100	0.020
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. 805164
File Code No. ~~4.6~~ 4.5.6.2.203
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

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: ACS **Project:** 01001-043	**Project Contact:** Chuck Shaw	**Location:** WR Grace Vermiculite Plant - Lumber Storage building Libby, MT	**KEH Rep:** Patrick McGurren **Analysis By:** Patrick McGurren

Date: 11/7/00	**Calibration:** ✓ Rotameter ____ ID ____ Other ____ 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:** Guillermo Martinez **SSN:** 622-09-2411	**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	30	60.00	0.049	P04	480	960.00	0.013								
P05	450	900.00	0.020												

TWA: 0.022 f/cc	TWA: 0.013 f/cc	TWA: N/a	TWA: N/a
Comments: 1.47 + 9/480 10.47/480	Comments: 6.24/480	Comments:	Comments

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Project No. 805169
File Code No. 4.5.b.2.204
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/7/00	KEH PROJECT #: 01001-043	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	1/100	—	—	—	—	—	Field Blank
Field Blank B02	1.0	1/100	—	—	—	—	—	Field Blank
P03	~~10.0~~ 7.0	7/100	6/100/.00785	~~8.3~~ 7.64	60.00	0.045	~~<LOQ~~ 0.049	—
P04	26.5	26.5/100	25.5/100/.00785	32.48	960.00	0.003	0.013	—
P05	37.0	37.0/100	36/100/.00785	45.86	900.00	0.003	0.020	—
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: 11/8/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

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Project No. 80516
File Code No. 4.5.6.2.205
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/7/00	URS Radian PROJECT #: 21001-001	Tim Bish	WR Grace Vermiculite Plant - Lumber storage building WORK AREA: Libby, MT	Patrick McGowan ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1506	✓ 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~~	—	—	—	—	—	—	—	—	—	—	—	—
—	~~Field Blank~~	—	—	—	—	—	—	—	—	—	—	—	—
P12	P	Inside truck - worn by Fred McDougal	loading trucks @ the plant & unloading them @ the mine	0739	1602	505	2.00	2.00	2.00	1010.00	0.003	84/100	0.040
P13	P	Inside truck - worn by Ben Cook		0750	1600	490 ~~570~~	2.00	0.25	1.13	553.70	0.005	18.5/100	0.016
P14	EX	Inside truck - worn by Vernon Cunningham		0743	0819	36	2.00	2.00	2.00	72.00	0.037	1.5/100	< LOQ
P15	P	Inside truck - worn by Vernon Cunningham		0819	1601	462	2.00	2.00	2.00	924.00	0.003	15.5/100	0.008
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. 4.5.6.2.206

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: URS Radian **Project:** 21601-001	**Project Contact:** Tim Gish	**Location:** WR Grace Vermiculite Plant - Lumber storage building Libby, MT	**KEH Rep:** Patrick McGowan **Analysis By:** Patrick McGowan

Date: 11/7/00	**Calibration:** ✓ Rotameter ____ ID ____ Other ____ 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: Fred McDougall **SSN:** 728-14-3207	**Name:** Ben Cook **SSN:** 544-40-9834	**Name:** Vernon Cunningham **SSN:** 517-70-9213	**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
P12	505	1010.00	0.040	P13	490	553.70	0.016	P14	36	72.00	<LOQ				
								P15	46.2	924.00	0.008				

TWA: 0.040 F/cc TWA: 0.016 F/cc TWA: 0.007 F/cc TWA: n/a

Comments: 20.2/505

Comments: 7.84/490

Comments: 0.036 + 3.696/498
3.732/498

Comments:

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Project No. 80569
File Code No. 4.5.b.2.207
Doc No. ____

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: 21001-001	KEH REP: Patrick McGurren
11/7/00	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	—	—	—	—	—	—	—	—
~~Field Blank~~ B02	—	—	—	—	—	—	—	—
P12	84.0	84/100	83/100/.00785	105.73	1010.00	0.003	0.040	—
P13	18.5	18.5/100	17.5/100/.00785	22.30	553.70	0.005	0.016	—
P14	1.5	1.5/100	0.5/100/.00785	0.64	72.00	0.037	<LOQ	—
P15	15.5	15.5/100	14.5/100/.00785	18.47	424.00	0.003	0.008	—
~~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: 11/8/00 ANALYST: Patrick McGurren SIGNATURE: Patrick McGurren

URS COPY

Project No. 805167
File Code No. 4.5.6.2.208
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/7/00	URS Radian PROJECT #: Z1001-001	Tim Gish	W.R. Grace Vermiculite Plant - Lumber storage building WORK AREA: Libby, MT	Patrick McGovern ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mft. _____ Lot No. 1506	✓ 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	—	—	—	—	—	—	—	—	—	—	1/100	Field Blank
B02	Field Blank	—	—	—	—	—	—	—	—	—	—	1/100	Field Blank
PM03	Perimeter	Location #1 - North of Pole Barn - on perimeter	Soil excavation	0753	1607	494	5.00	5.50	5.25	2593.50	0.001	3/100	< LOQ
PM04		Location #2 - NW of Planer building - on perimeter	—	0804	1609	485	5.00	5.00	5.00	2425.00	0.001	2.5/100	< LOQ
PM05		Location #3 - West of Planer building - on perimeter	—	0830	1623	473	5.00	6.00	5.50	2601.50	0.001	2.0/100	< LOQ
PM06		Location #4 - SW of Planer building - on perimeter	—	0827	1619	472	5.00	5.00	5.00	2360.00	0.001	1/100	< LOQ
PM07		Location #5 - South of warehouse building - on perimeter	—	0825	1617	472	5.00	5.00	5.00	2360.00	0.001	1.5/100	< LOQ
PM08		Location #6 - NE of Lumber storage building on perimeter	soil excavation	0840	1631	471	5.00	5.00	5.00	2355.00	0.001	2.0/100	< LOQ
PM09		Location #7 - NE corner of property - on stop sign - Highway 37		0842	1634	472	5.00	5.50	5.25	2478.00	0.001	2/100	< LOQ
AID	OWA	Inside shower trailer - Clean room	—	0936	1649	433	2.00	2.00	2.00	866.00	0.003	50.5/100	0.028
Blind Recount AII	HEX	ENE corner of Lumber storage building - @ HEPA exhaust	power washing inside lumber storage bldg.	0904	1504	420	2.00	2.00	2.00	840.00	0.003	3.5/100	< LOQ

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. 4.5.6.4.204

Doc No. _____

KEH\FORMS\AIRFRM97

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: 21001-001	KEH REP: Patrick McGurren
11/7/00	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	1/100	—	—	—	—	—	Field Blank
Field Blank B02	1.0	1/100	—	—	—	—	—	Field Blank
PM03	3.0	3/100	3/100/.00785	2.55	2593.50	0.001	< LOQ	—
PM04	2.5	2.5/100	1.5/100/.00785	1.91	2425.00	0.001	< LOQ	—
PM05	2.0	3/100	1/100/.00785	1.27	2601.50	0.001	< LOQ	—
PM06	1.0	1/100	0/100/.00785	0	2360.00	0.001	< LOQ	—
PM07	1.5	1.5/100	0.5/100/.00785	0.64	2360.00	0.001	< LOQ	—
PM08	2.0	3/100	1/100/.00785	1.27	2355.00	0.001	< LOQ	—
PM09	2.0	3/100	1/100/.00785	1.27	2478.00	0.001	< LOQ	—
A10	50.5	50.5/100	49.5/100/.00785	63.06	866.00	0.003	0.028	—
~~Blind Recovery~~ PM A11	3.5	3.5/100	2.5/100/.00785	3.18	840.00	0.003	< LOQ	—

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: 11/8/00 ANALYST: Patrick McGurren SIGNATURE: Patrick McGurren

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Project No. 805169
File Code No. 4.5.6.4.205
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/8/00	AC & S PROJECT #: 01001-043	Tim Gish	W.R. Grace Vermiculite Plant - Lumber WORK AREA: Libby, MT Storage building	Patrick McGovern ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other 145 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1506	✓ 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	Ex	inside Lumber storage building - worn by - Jose G. Aguilar	Cleaning inside Lumber	0850	0920	30	2.00	2.00	2.00	60.00	0.045	65/100	0.053
P04	P	inside Lumber storage building - worn by - Isabel Herrera	Storage building	0853	1636	463	2.00	2.00	2.00	926.00	0.003	44/100	0.023
P05	P	Inside Lumber storage building - worn by Jose G. Aguilar	↓	0920	1638	438	2.00	2.00	2.00	876.00	0.003	100/74	0.076
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. 4.5.6.2.209
Doc No. _____

KEH\FORMS\AIRFRM97

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: QCS **Project:** 01601-043	**Project Contact:** Chuck Slow	**Location:** WR Grace Vermiculite Plant - lumber storage building Libby, MT	**KEH Rep:** Patrick McGovern **Analysis By:** Patrick McGovern

Date: 11/8/00	**Calibration:** ✓ Rotameter ____ ID ____ Other ____ 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 Aguilar **SSN:** 456-99-8860	**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	30	60.00	0.053	P04	463	926.00	0.023								
P05	438	876.00	0.076												

TWA: 0.073 f/cc	TWA: 0.022 f/cc	TWA: n/a	TWA: n/a
Comments: 1.59 + 33.288/480 34.878/480	Comments: 10.649/480	Comments:	Comments:

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Project No. 805169
File Code No.
Doc No. 4.5.5.2.210

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/8/00	KEH PROJECT #: 01001-043	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
P03	6.5	6.5/100	6.5/100/.00785	8.28	60.00	0.045	0.053	—
P04	44.0	44/100	44/100/.00785	56.05	926.00	0.003	0.023	—
P05	100.0	100/74	100/74/.00785	172.15	876.00	0.003	0.076	—
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: 11/9/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

URS COPY

Project No. 805169
File Code No. 4.5.6.2.211
Doc No

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/8/00	PROJECT #: 21001-001	Tim Gish	WR Grace Vermiculite Plant - Lumber WORK AREA: Libby, MT Storage bldg.	Patrick McGurren ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other: 45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfr. _____ Lot No. 1506	✓ 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~~ EM	—	—	—	—	—	—	—	—	—	—	—	—
—	~~Field Blank~~ DW	—	—	—	—	—	—	—	—	—	—	—	—
P12	P	Inside truck - worn by Mark Mercer	loading trucks with soil @ export plant	0747	1604	497	2.0	1.0	1.50	745.50	0.004	1/100	< LOQ
P13	EX	inside truck - worn by Luis Burrell	& dumping it @ the mine	0740	0810	30	2.0	2.0	2.00	60.00	0.045	3.5/100	< LOQ
P14	P	Inside truck - worn by Jerry Regh		0753	1530	457	2.0	2.0	2.00	914.00	0.003	38/100	0.020
P15	P	Inside truck - worn by Luis Burrell		0810	1629	499	2.0	2.0	2.00	998.00	0.003	15.5/100	0.008
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 PM

Project No. 805169
File Code No. 4.5.6.2.212
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: URS Radian **Project:** Z1001-001	**Project Contact:** Tim Gish	**Location:** WR Grace Vermiculite Plant- Lumber Storage building Libby, MT	**KEH Rep:** Patrick McGurren **Analysis By:** Patrick McGurren

Date: 11/8/00	**Calibration:** ✓ Rotameter ____ ID ____ Other ____ 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: Luis Burrell **SSN:**	**Name:** Jerry Regh **SSN:** 516-78-0088	**Name:** Alex Moncur **SSN:** 520-36-5145	**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
P13	30	60.00	<LOQ	P14	457	914.00	0.020	P12	497	745.50	<LOQ				
P15	499	998.00	0.008												

TWA: _____ TWA: _____ TWA: _____ TWA: n/a

Comments: Comments: Comments:

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Project No. 805169
File Code No.
Doc No. 4.5.6.2.213

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #:	KEH REP:
11/8/00	21001-001	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~~	~~0~~	~~0/100~~	—	—	—	—	—	~~Field Blank~~
~~Field Blank~~	~~0~~	~~0/100~~	—	—	—	—	—	~~Field Blank~~
P12	1.0	1/100	1/100/.00785	1.27	745.50	0.004	< LOQ	—
P13	3.5	3.5/100	3.5/100/.00785	4.46	60.00	0.045	< LOQ	—
P14	38.0	38/100	38/100/.00785	48.41	914.00	0.003	0.020	—
P15	15.5	15.5/100	15.5/100/.00785	19.75	998.00	0.003	0.008	—
~~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: 11/9/00 ANALYST: Patrick McGurren ~~SIGNATURE:~~ [signature]

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Project No. 805169
File Code No.
Doc No. 4.5.6.2.214

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/8/05	URS Radian PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant - Lumber WORK AREA: Libby, MT Storage bldg.	Patrick McGovern ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1506	✓ 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
PM03	Perimeter	Location #1 - North of Pole Barn - on perimeter		0900	1402	362	5.00	5.00	5.00	1810.00	0.001	1.5/100	< LOQ
PM04		Location #2 - NW of Planer building - on perimeter		0907	1409	362	5.00	5.00	5.00	1810.00	0.001	2.0/100	< LOQ
PM05		Location #3 - West of Planer building - on perimeter		0820	1412	352	5.50	6.00	5.75	2024.00	0.001	3.5/100	LOQ
PM06		Location #4 - SW of Planer building - on perimeter		0817	1414	357	5.00	5.00	5.00	1785.00	0.002	1/100	< LOQ
PM07		Location #5 - South of warehouse building - on perimeter		0815	1417	362	5.00	5.00	5.00	1810.00	0.001	1/100	< LOQ
PM08		Location #6 - NE of Lumber storage bldg on perimeter		0815	1421	351	5.00	5.00	5.00	1755.00	0.002	0/100	< LOQ
PM09		Location #7 - NE corner of property - on stop sign - Highway 37		0833	1425	352	5.50	5.50	5.50	1936.00	0.001	1/100	< LOQ
A10		Inside shower trailer Clean room		0950	1602	372	2.0	2.0	2.00	744.00	0.004	35.0/100	0.023
~~Blind~~ ~~Recount~~ #11		ENE corner of Lumber storage building - @ HEPA exhaust		0902	1502	360	1.5	1.5	1.50	540.00	0.005	2.5/100	< LOQ

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. 4.5.5.4.206
Doc No. _____

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/8/00	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
PM03	1.5	1.5/100	1.5/100/.00785	1.91	1810.00	0.001	<LOQ	—
PM04	2.0	2/100	2/100/.00785	2.55	1810.00	0.001	<LOQ	—
PM05	3.5	3.5/100	3.5/100/.00785	4.46	2024.00	0.001	LOQ	—
PM06	1.0	1/100	1/100/.00785	1.27	1785.00	0.002	<LOQ	—
PM07	1.0	1/100	1/100/.00785	1.27	1810.00	0.001	<LOQ	—
PM08	0	0/100	0/100/.00785	0	1755.00	0.002	<LOQ	—
PM09	1.0	1/100	1/100/.00785	1.27	1936.00	0.001	<LOQ	—
A10	35.0	35/100	35/100/.00785	44.59	744.00	0.004	0.023	—
~~Blind Recount~~ H11	2.5	2.5/100	2.5/100/.00785	3.18	540.00	0.005	<LOQ	—

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: 11/9/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

URS COPY

Project No. 805169
File Code No. 4.5.6.4.207
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/9/00	AC&S PROJECT #: 01001-043	Chuck Shaw	WR Grace Vermiculite Plant - Lumber storage building WORK AREA: Libby, MT	Patrick McGovern ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1500	___ 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	P	Inside Lumber storage building - worn by Jose G. Aguilar	Laying down racks	0850	1632	462	2.0	2.0	2.00	924.00	0.003	5.5/100	LOQ
P04	EX	Inside Lumber storage building - worn by Guillermo Martinez		0853	0923	30	2.0	2.0	2.00	60.00	0.045	0.5/100	<LOQ
P05	P	Inside Lumber storage building - worn by Guillermo Martinez		0923	1634	431	2.0	2.0	2.00	862.00	0.003	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.b.2.215
Doc No. _____

KEH\FORMS\AIRFRM97

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:** 01001-043	**Project Contact:** Chuck Shaw.	**Location:** WR Grace Vermiculite Plant - Lumber storage building - Libby, MT	**KEH Rep:** Patrick McGowan **Analysis By:** Patrick McGowan

Date: 11/9/00	**Calibration:** ✓ Rotameter ____ ID; ____ Other ____ 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. Aguilar **SSN:** 456-99-8860	**Name:** Guillermo Martinez **SSN:** 622-09-2411	**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	462	924.00	LOQ	P04	30	60.00	< LOQ								
				P05	431	862.00	< LOQ								

TWA: 0.001 F/cc (LOQ)	TWA: 0.001 F/cc (LOQ)	TWA: n/a	TWA: n/a
Comments: 0.462/480	Comments: 0.03 + 0.431/480 0.461/480	Comments:	

URS
Project No. 805169
File Code No. 4.5.6.2.216
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/9/00	KEH PROJECT #: 01001-043 MICROSCOPE ID #: 1	KEH REP: Patrick McGerrer ANALYST: Patrick McGerrer

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	5.5	5.5/100	5.5/100/.00785	7.01	924.00	0.003	LOQ	—
P04	0.5	0.5/100	0.5/100/.00785	0.64	60.00	0.045	< LOQ	—
P05	3.5	3.5/100	3.5/100/.00785	4.46	862.00	0.003	< 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: 11/10/00 ANALYST: Patrick McGerrer SIGNATURE: [signature]

KEH97/FORMS/FIBERFRM

URS

Project No. 805169
File Code No. 4.5.6.2.217
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/9/00	URS Radian PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant - Lumber WORK AREA: Libby, MT Storage building	Patrick McGurren ANALYSIS BY: P. 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm MR. _____ Lot No. 1506	✓ 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	—	—	—	—	—	—	—	—	—	—	—	—
—	Field Blank	—	—	—	—	—	—	—	—	—	—	—	—
P12	EX	Inside truck - worn by - Doug Carr	Loading trucks with soil @ export plant	0756	0826	30	2.00	2.00	2.00	60.00	0.045	1/100	< LOQ
P13	P	Inside truck - worn by - Fred McDougall	& dumping @ the mine	0810	1542	452	2.00	2.00	2.00	904.00	0.003	19.5/100	0.011
P14	↓	Inside truck - worn by - Lewis Burrell	↓	0802	1615	493	2.00	2.00	2.00	986.00	0.003	17/100	0.008
P15	↓	Inside truck - worn by - Doug Carr	↓	0826	1637	491	2.00	0.50	1.25	613.75	0.004	3/100	< 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. 4.5.6.2.218

Doc No. _____

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

CONTRACTOR PERSONNEL AIR SAMPLING SUMMARY

Client: ~~AE~~ URS Radian **Project:** 21001-001	**Project Contact:** Tim Gish	**Location:** WR Grace Vermiculite Plant - Lumber storage building. Libby, MT	**KEH Rep:** Patrick McGurren **Analysis By:** P. McGurren

Date: 1/9/00	**Calibration:** ✓ Rotameter ____ ID; ____ Other ____ 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: Doug Carr **SSN:**	**Name:** Fred McDougall **SSN:** 728-14-3207	**Name:** Luis Burrell **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
P12	30	60.60	<LOQ	P13	452	904.00	0.011	P14	493	986.00	0.008				
P15	491	613.75	<LOQ												

TWA: 0.001 f/cc	TWA: 0.010 f/cc	TWA: 0.008 f/cc	TWA: n/a
Comments: 0.03+ 0.491/521 0.521/521	Comments: 4.972/480	Comments: 3.944/493	

URS

Project No. 805169
File Code No. 4.5.6.2.2.9
Doc No.

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE:	KEH PROJECT #: 21001-001	KEH REP: Patrick McGurren
11/9/00	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~~ —	—	—	—	—	—	—	—	—
~~Field Blank~~ —	—	—	—	—	—	—	—	—
P12	1.0	1/100	1/100/.00785	1.27	60.00	0.045	<LOQ	—
P13	19.5	19.5/100	19.5/100/.00785	24.84	904.00	0.003	0.011	—
P14	17.0	17.0/100	17/100/.00785	21.66	986.00	0.003	0.008	—
P15	3.0	3/100	3/100/.00785	3.82	613.75	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: 11/10/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

URS

Project No. 805169
File Code No. 4.5.b.2.220
Doc No.

KEH97/FORMS/FIBERFRM

KOCH ENVIRONMENTAL HEALTH, INC.
AIR CONTAMINANT SAMPLING FORM

DATE:	CLIENT:	PROJECT CONTACT:	PROJECT LOCATION:	SAMPLING REP:
11/9/00	URS Radian PROJECT #: 21001-001	Tim Gish	W.R. Grace Vermiculite Plant - Lumber storage building 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: _____	___ 0.8 um 25 mm MCE ___ charcoal tubes ___ Silica Gel ___ Other .45 TEM	✓ MCE <0.45um 25mm ___ PC <0.45um 37mm Mfl. _____ Lot No. 1506	✓ 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
PM03	Perimeter	Location #1 - North of Pole Barn - on perimeter		1018	1550	332	6.00	6.00	6.00	1992.00	0.001	5.5/100	LOQ
PM04		Location #2 - NW of Planer building - on perimeter		0938	1553	315	5.00	5.00	5.00	1575.00	0.002	1/100	< LOQ
PM05		Location #3 - West of Planer building - on perimeter		0955	1556	298	6.00	6.00	6.00	1788.00	0.002	1/100	< LOQ
PM06		Location #4 - SW of Planer building - on perimeter		0954	1559	305	5.00	5.00	5.00	1525.00	0.002	3/100	< LOQ
PM07		Location #5 - South of warehouse building - on perimeter		0950	1602	372	5.50	5.50	5.50	2046.00	0.001	1.5/100	< LOQ
PM08		Location #6 - NE of Lumber storage building - on perimeter		1006	1606	298	5.00	5.00	5.00	1490.00	0.002	0/100	< LOQ
PM09		Location #7 - NE corner of property - on stop sign - Highway 37		1013	1610	357	6.00	6.00	6.00	2142.00	0.001	3.5/100	LOQ
H10	HEX	E, NE corner of Lumber Storage building - @ HEPA exhaust		0845	1445	360	2.00	2.00	2.00	720.00	0.004	0.5/100	< LOQ
~~Blind~~ ~~Recount~~ All	OWA	inside shower trailer - clean room		1038	1618	350	2.00	2.00	2.00	700.00	0.004	58/100	0.041

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.b.4.208
Doc No. _____

KOCH ENVIRONMENTAL HEALTH, INC.
ASBESTOS FIBER COUNT WORKSHEET

DATE: 11/9/00	KEH PROJECT #: Z1001-001 MICROSCOPE ID #: (	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	0	0/100	—	—	—	—	—	Field Blank
PM03	5.5	5.5/100	5.5/100/.00785	7.01	1992.00	0.001	LOQ	—
PM04	1.0	1/100	1/100/.00785	1.27	1575.00	0.002	<LOQ	—
PM05	1.0	1/100	1/100/.00785	1.27	1788.00	0.002	<LOQ	—
PM06	2.0	2/100	2/100/.00785	2.55	1525.00	0.002	<LOQ	—
PM07	1.5	1.5/100	1.5/100/.00785	1.91	2046.00	0.001	<LOQ	—
PM08	0	0/100	0/100/.00785	0	1490.00	0.002	<LOQ	—
PM09	3.5	3.5/100	3.5/100/.00785	4.46	2142.00	0.001	LOQ	—
H10	0.5	0.5/100	0.5/100/.00785	0.64	720.00	0.004	<LOQ	—
~~Blind Recount~~ (PM) All	58.0	58/100	58/100/.00785	73.89	700.00	0.004	0.041	—

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: 11/10/00 ANALYST: Patrick McGurren SIGNATURE: [signature]

URS

Project No. 805169
File Code No. 4.5.3.4.209
Doc No.

KEH97/FORMS/FIBERFRM

RJ LeeGroup, Inc.

Tel: (724) 325-1776

The Materials Characterization Specialists

Mr. James Stout
URS Corporation
317 Mineral Avenue
Libby, MT 59923

November 6, 2000

RE: Soil samples from Libby, MT
RJ Lee Group Project LBH010518

Dear Mr. Stout:

RJ Lee Group has completed our analysis on the five samples of soil, identified as B-1.5, B-6.10, B-11.15, B-16.20 and B-21.25. The samples were received at RJ Lee Group on November 2, 2000 and assigned our sample numbers as follows 3026512, 3026513, 3026514, 3026515 and 3026516.

The sample was analyzed for fibrous asbestos (asbestiform) content using polarized light microscopy (PLM) following the point count method outlined in EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials. The asbestos content is presented in the following table:

Location	Sample	Analysis
Libby, MT Grid excavating	B-1.5 (3026512)	0.0% No Asbestos Detected
Libby, MT Grid excavating	B-6.10 (3026513)	0.0% No Asbestos Detected
Libby, MT Grid excavating	B-11.15 (3026514)	0.0% No Asbestos Detected
Libby, MT Grid excavating	B-16.20 (3026515)	0.0% No Asbestos Detected
Libby, MT Grid excavating	B-21.25 (3026516)	0.0% No Asbestos Detected

RJ Lee Group is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP, #101208-00) for asbestos fiber analysis. This report may not be used to claim product endorsement by NVLAP or any agency of the US government.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the sample for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions on this report or if we can be of further assistance, please feel free to call me.

Sincerely,

Drew R Van Orden

Drew R. Van Orden, PE
Senior Scientist

URS COPY
Project No. 805169
File Code No. 10.3.a.3.1
Doc No. 1.2/3

RJ LeeGroup, Inc.

The Materials Characterization Specialists

350 Hochberg Road
Monroeville, PA 15146
Tel: (724) 325-1776
Fax: (724) 733-1799

Mr. James Stout
URS Corporation
317 Mineral Avenue
Libby, MT 59923

November 6, 2000

RE: Soil samples from Libby, MT
RJ Lee Group Project LBH010518

Dear Mr. Stout:

RJ Lee Group has completed our analysis on the five samples of soil, identified as QC-1, QC-2, QC-3, QC-4 and QC-5. The samples were received at RJ Lee Group on November 2, 2000 and assigned our sample numbers as follows 3026517, 3026518, 3026519, 3026520 and 3026521.

The sample was analyzed for fibrous asbestos (asbestiform) content using polarized light microscopy (PLM) following the point count method outlined in EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials. The asbestos content is presented in the following table:

Location	Sample	Analysis
Libby, MT Grid excavating	QC-1 (3026517)	0.0% No Asbestos Detected
Libby, MT Grid excavating	QC-2 (3026518)	<0.25% Actinolite/Tremolite (1 fiber observed/not counted)
Libby, MT Grid excavating	QC-3 (3026519)	0.0% No Asbestos Detected
Libby, MT Grid excavating	QC-4 (3026520)	0.0% No Asbestos Detected
Libby, MT Grid excavating	QC-5 (3026521)	0.0% No Asbestos Detected

RJ Lee Group is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP, #101208-00) for asbestos fiber analysis. This report may not be used to claim product endorsement by NVLAP or any agency of the US government.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the sample for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions on this report or if we can be of further assistance, please feel free to call me.

Sincerely,

Drew R Van Orden

Drew R. Van Orden, PE
Senior Scientist

URS COPY

Project No. 805169
File Code No. 10.3.c.3.9
Doc No. 3/3

RJ LeeGroup, Inc.

F192095

Request for Laboratory Services

For RJ Lee Group Use Only	Page
Project No.	
Date Logged	By

Report Results To

Name: Jim Stout / Pete Pendrak Title: Project Manager
Company: URS Corporation
Mailing Address: 317 Mineral Avenue
City: Libby State: MT Zip: 59923
Telephone: 406-293-3694 Fax:

Purchase Order No.: 537421 Client Job No.: 805169

Send Invoice To

Name: Heather Sewing
Company: URS Corporation
Address: 707 Seventeenth St., Ste. 3100
City: Denver State: CO Zip: 80202

Date Results Required | Rush Charges Authorized? Yes ☐ No ☐ | Phone Results ☐

(Complete if applicable)
☐ Drinking Water
MT State Where Collected

Special Instructions: (Method, limit of detection, etc.)

*Explanation of Preservative:

ANALYSIS REQUESTED
(Enter analysis type and check the box to indicate request: Enter a 'P' if Preservative added.)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ASBESTOS									FOR LAB USE ONLY
B-1.5	10-31-00	Soil		1	✓									
B-6.10	10-31-00			1	✓									
B-11.15	10-31-00			1	✓									
B-16.20	10-31-00			1	✓									
B-21.25	10-31-00			1	✓									
QC-1	10-31-00			1	✓									
QC-2	10-31-00			1	✓									
QC-3	10-31-00			1	✓									
QC-4	10-31-00			1	✓									
QC-5	10-31-00			1	✓									

Chain of Custody

Relinquished by: [signature]	Date: 11/01/00	Time: 1400	Received by: [signature]
Relinquished by:	Date:	Time:	Received at Lab by:
Method of Shipment:	Date:	Time:	Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain on reverse)

Received by: Date: 11-02-00 Time: 9:00AM
Received at Lab by: Date: Time:

ease return completed form to
e of RJ Lee Group's Laboratories:

3501 Hochberg Road
Monroeville, PA 15146-1516
(724) 325-1776
(724) 733-1799 - Fax

530 McCormick Street
San Leandro, CA 94577
(510) 567-0480
(510) 567-0488 - Fax

URS COPY
Project No. 805169
File Co. Code 10.3 ... 3

10503 Battleview Parkway
Manassas, VA 20109
(703) 368-7880
(703) 368-7361 Fax

RJ LeeGroup, Inc.

350 Hochberg Road
Monroeville, PA 15146
Tel: (724) 325-1776
Fax: (724) 733-1799

The Materials Characterization Specialists

Mr. James Stout
URS Corporation
317 Mineral Avenue
Libby, MT 59923

November 7, 2000

RE: Soil samples from Libby, MT
RJ Lee Group Project LBH010518

Dear Mr. Stout:

RJ Lee Group has completed our analysis on the five samples of soil, identified as C-1.5, C-6.10, C-11.15, C-16.20 and C-21.25. The samples were received at RJ Lee Group on November 6, 2000 and assigned our sample numbers as follows 3026531, 3026532, 3026533, 3026534 and 3026535.

The samples were analyzed for fibrous asbestos (asbestiform) content using polarized light microscopy (PLM) following the point count method outlined in EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials. The results are presented in the following table:

Location	Sample	Analysis
Libby, MT Grid excavating	C-1.5 (3026531)	0.0% No Asbestos Detected
Libby, MT Grid excavating	C-6.10 (3026532)	0.0% No Asbestos Detected
Libby, MT Grid excavating	C-11.15 (3026533)	0.0% No Asbestos Detected
Libby, MT Grid excavating	C-16.20 (3026534)	0.5% Actinolite/Tremolite
Libby, MT Grid excavating	C-21.25 (3026535)	0.0% No Asbestos Detected

RJ Lee Group is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP, #101208-00) for asbestos fiber analysis. This report may not be used to claim product endorsement by NVLAP or any agency of the US government.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the sample for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions on this report or if we can be of further assistance, please feel free to call me.

Sincerely,

Drew R. Van Orden

Drew R. Van Orden, PE
Senior Scientist

URS COPY
Project No. 805169
File Code No. 10.3.a.3.12
Doc No.

RJ LeeGroup, Inc.

Request for Laboratory Services

For RJ Lee Group Use Only	Page
Project No.	
Date Logged	By

Client Job No. 805169

Purchase Order No. 537421

Report Results To

Name: Jim Stout / Pete Pendrak Title: Project Manager
Company: URS Corporation
Mailing Address: 317 Mineral Avenue
City: Libby State: MT Zip: 59923
Telephone: (406) 293-3694 Fax:

Send Invoice To

Name: Heather Sewing
Company: URS Corporation
Address: 707 Seventeenth St., Ste. 3400
City: Denver State: CO Zip: 80202

Date Results Required | Rush Charges Authorized? Yes ☐ No ☐ | Phone Results ☐

(Complete if applicable) ☐ Drinking Water; MT State Where Collected

Special Instructions: (Method, limit of detection, etc.)

*Explanation of Preservative:

ANALYSIS REQUESTED (Enter analysis type and check the box to indicate request; Enter a 'P' if Preservative added.)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ASBESTOS	FOR LAB USE ONLY
T-1.5	11-2-00	SOIL		1	✓	
T-6.10	11-2-00			1	✓	
T-11.15	11-2-00			1	✓	
C-1.5	11-3-00			1	✓	
C-6.10	11-3-00			1	✓	
C-11.15	11-3-00			1	✓	
C-16.20	11-3-00			1	✓	
C-21-25	11-3-00			1	✓	

Chain of Custody

Relinquished by: [signature] Date: 11-3-00 Time: 14:20
Relinquished by: Date: Time:
Method of Shipment: Date: Time:

Received by: [signature] Date: 11-06-00 Time: 9:00AM
Received at Lab by: [signature] Date: 11-06-00 Time: 9:00AM
Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain on reverse)

URS COPY
Project No. 805169
File Code No. 10.3.a.3.10
Doc No.

Please return completed form to one of RJ Lee Group's Laboratories:

350 Hochberg Road
Monroeville, PA 15146-1516
(724) 325-1776
(724) 733-1799 - Fax

530 McCormick Street
San Leandro, CA 94577
(510) 567-0480
(510) 567-0488 - Fax

10533 Battleview Parkway
Manassas, VA 20109
(703) 368-7880
(703) 368-7761 - Fax

RJ LeeGroup, Inc.

350 Hochberg Road
Monroeville, PA 15146
Tel: (724) 325-1776
Fax: (724) 733-1799

The Materials Characterization Specialists

Mr. James Stout
URS Corporation
317 Mineral Avenue
Libby, MT 59923

November 9, 2000

RE: Soil samples from Libby, MT
RJ Lee Group Project LBH010518

Dear Mr. Stout:

RJ Lee Group has completed our analysis on the five samples of soil, identified as K-1.5, K-6.10, K-11.15, K-16.20 and K-21.25. The samples were received at RJ Lee Group on November 6, 2000 and assigned our sample numbers as follows 3026539, 3026540, 3026541, 3026442 and 3026543.

The samples were analyzed for fibrous asbestos (asbestiform) content using polarized light microscopy (PLM) following the point count method outlined in EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials. The results are presented in the following table:

Location	Sample	Analysis
Libby, MT Grid excavating	K-1.5 (3026539)	Trace Actinolite/Tremolite
Libby, MT Grid excavating	K-6.10 (3026540)	Trace Actinolite/Tremolite
Libby, MT Grid excavating	K-11.15 (3026541)	0.75% Actinolite/Tremolite
Libby, MT Grid excavating	K-16.20 (3026542)	Trace Actinolite/Tremolite
Libby, MT Grid excavating	K-21.25 (3026543)	Trace Actinolite/Tremolite

RJ Lee Group is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP, #101208-00) for asbestos fiber analysis. *This report may not be used to claim product endorsement by NVLAP or any agency of the US government.*

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the sample for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions on this report or if we can be of further assistance, please feel free to call me.

Sincerely,

Drew R Van Orden

Drew R. Van Orden, PE
Senior Scientist

URS Ad 00
Project No. 805169
File Code No.
Doc No. 10.3.a.3.18

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RJ LeeGroup, Inc.

F19209S

Request for Laboratory Services

For RJ Lee Group Use Only	Page
Project No.	
Date Logged	By

Report Results To
Name: Jim Stout / Pete Pendrak Title: Proj. Mgr.
Company: URS Corporation
Mailing Address: 317 Mineral Ave.
City: Libby State: MT Zip: 59923
Telephone: 406-293-3964 Fax: 406-293-3749

Purchase Order No.: 537421 Client Job No.: 805169

Send Invoice To
Name: Heather Sewing
Company: URS Corporation
Address: 707 Seventeenth St., Ste. 3400
City: Denver State: CO Zip: 80202

Date Results Required | Rush Charges Authorized? Yes ☐ No ☐ | Phone Results ☐

(Complete if applicable)
☐ Drinking Water
State Where Collected ____

Special Instructions: (Method, limit of detection, etc.)

*Explanation of Preservative:

ANALYSIS REQUESTED
(Enter analysis type and check the box to indicate request. Enter a 'P' if Preservative added.)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ASBESTOS	FOR LAB USE ONLY
K-1.5	11-1-00	SOIL		1	✓	
K-6.10				1	✓	
K-11.15				1	✓	
K-16.20				1	✓	
K-21.25	11-1-00			1	✓	

Chain of Custody			
Relinquished by: [signature]	Date: 11-2-00	Time: 1200	Received by: [signature] Date: 11-6-00 Time: 9:00AM
Relinquished by:	Date:	Time:	Received at Lab by: [signature] Date: 11-6-00 Time: 9:00AM
Method of Shipment:	Date:	Time:	Sample Condition Upon Receipt: ☑ Acceptable ☐ Other (explain on reverse)

Please return completed form to one of RJ Lee Group's Laboratories:

350 Hochberg Road
Monroeville, PA 15146-1516
(724) 325-1776
(724) 733-1799 - Fax

530 McCormick Street
San Leandro, CA 94577
(510) 567-0480
(510) 567-0488 - Fax

URS

10500 Battleview Parkway
Manassas, VA 20109
(703) 368-7880
(703) 368-7761 - Fax

Project No. 805169
File Code No. 10.3.a.3.17
Doc No. ____

Results 10.3.a.3.18

RJ LeeGroup, Inc.

350 Hochberg Road
Monroeville, PA 15146
Tel: (724) 325-1776
Fax: (724) 733-1799

The Materials Characterization Specialists

Mr. James Stout
URS Corporation
317 Mineral Avenue
Libby, MT 59923

November 10, 2000

RE: Soil samples from Libby, MT
RJ Lee Group Project LBH010518

Dear Mr. Stout:

RJ Lee Group has completed our analysis on the five samples of soil, identified as D-1.5, D-6.10, D-11.15, D-16.20 and D-21.25. The samples were received at RJ Lee Group on November 6, 2000 and assigned our sample numbers as follows 3026551, 3026552, 3026553, 3026554 and 3026555.

The samples were analyzed for fibrous asbestos (asbestiform) content using polarized light microscopy (PLM) following the point count method outlined in EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials. The results are presented in the following table:

Location	Sample	Analysis
Libby, MT Grid excavating	D-1.5 (3026551)	0.0% No Asbestos Detected
Libby, MT Grid excavating	D-6.10 (3026552)	0.0% No Asbestos Detected
Libby, MT Grid excavating	D-11.15 (3026553)	0.0% No Asbestos Detected
Libby, MT Grid excavating	D-16.20 (3026554)	Trace Actinolite/Tremolite
Libby, MT Grid excavating	D-21.25 (3026555)	0.0% No Asbestos Detected

RJ Lee Group is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP, #101208-00) for asbestos fiber analysis. This report may not be used to claim product endorsement by NVLAP or any agency of the US government.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the sample for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions on this report or if we can be of further assistance, please feel free to call me.

Sincerely,

Drew R Van Orden

Drew R. Van Orden, PE
Senior Scientist

URS COPY
Project No. 805164
File Code No. 10.3.a.3.19
Doc No. pg 2/2

F192095

RJ LeeGroup, Inc.

Request for Laboratory Services

For RJ Lee Group Use Only	Page
Project No.	
Date Logged	By

Client Job No. 805169

Purchase Order No. 537421

Report Results To
Name: Jim Stout / Pete Pendrak Title: Project Manager
Company: URS Corporation
Mailing Address: 317 Mineral Avenue
City: Libby State: MT Zip: 59923
Telephone: Fax:

Send Invoice To
Name: Heather Sewing
Company: URS Corporation
Address: 707 Seventeenth St., Ste. 3100
City: Denver State: CO Zip: 80202

Date Results Required | Rush Charges Authorized? Yes ☐ No ☐ | Phone Results ☐

(Complete if applicable) ☐ Drinking Water ____ State Where Collected

Special Instructions: (Method, limit of detection, etc.)

*Explanation of Preservative:

ANALYSIS REQUESTED
(Enter analysis type and check the box to indicate request: Enter a "P" if Preservative added.)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	Asbestos									FOR LAB USE ONLY
D-1.5	11-7-00	Soil			✓									
D-6.10					✓									
D-11.15					✓									
D-16.20					✓									
D-21.25					✓									

Chain of Custody
Relinquished by: [signature] Date: 11-7-00 Time: 1900
Relinquished by: Date: Time:
Method of Shipment: Date: Time:

Received by: [signature] Date: 11-8-00 Time: 9:30 AM
Received at Lab by: [signature] Date: 11-8-00 Time: 9:30 AM
Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain on reverse)

Please return completed form to one of RJ Lee Group's Laboratories:

350 Hochberg Road
Monroeville, PA 15146-1516
(724) 325-1776
(724) 733-1799 - Fax

530 McCormick Street
San Leandro, CA 94577
(510) 567-0480
(510) 567-0488 - Fax

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Project No. 805169
File Code No. 10.3.9.3.14
Doc No.

10503 Battleview Parkway
Manassas, VA 20109
(703) 368-7880
(703) 368-7761 - Fax

EMSL Analytical, Inc.

716 Highway 2 West
Libby, MT 59923
Phone: (406) 293-9066 Fax: (406) 293-7016

EMSL

Attn.: Tim Wall
CDM Federal Programs, Corp.
One Cambridge Place
50 Hampshire St.
Cambridge, MA 02142

Tuesday, November 07, 2000

Ref Number: ML00499

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method and/or NIOSH 9002 Method*

Project: Soil Analysis 11/6/2000

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
L-1.5	Soil	Brown Non-Fibrous Heterogeneous	Teased	None Detected		None Detected		100%	Other
L-6.9	Soil	Brown Non-Fibrous Heterogeneous	Teased	None Detected		None Detected		100%	Other
L-10.13 IR-03396	Soil	Brown Non-Fibrous Heterogeneous	Teased	< 1%	Tremolite	None Detected		100%	Other
L-14.16	Soil	Brown Non-Fibrous Heterogeneous	Teased	None Detected		None Detected		100%	Other
M-1.5	Soil	Brown Non-Fibrous Heterogeneous	Teased	None Detected		None Detected		100%	Other
M-6.10	Soil	Brown Non-Fibrous Heterogeneous	Teased	2%	Tremolite	None Detected		98%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Tom Ferrante
Analyst

Approved
Signatory

Disclaimers: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. EMSL suggests that samples reported as <1% or none detected be tested with either SEM or TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

Analysis performed by EMSL Mobile Lab (NVLAP Air and Bulk #200481-0.)

URS

Project No. 80564
File Code No. 10.3.a.3.20
Doc No. Pg 1/2

EMSL Analytical, Inc.

716 Highway 2 West
Libby, MT 59923
Phone: (406) 293-9066 Fax: (406) 293-7016

EMSL

Attn.: Tim Wall
CDM Federal Programs, Corp.
One Cambridge Place
50 Hampshire St.
Cambridge, MA 02142

Tuesday, November 07, 2000

Ref Number: ML00499

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method and/or NIOSH 9002 Method*

Project: Soil Analysis 11/6/2000

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
M-11.16	Soil	Brown Non-Fibrous Heterogeneous	Teased	None Detected		None Detected		100%	Other
U-1.4 IR-c3481	Soil	Brown Non-Fibrous Heterogeneous	Teased	None Detected		None Detected		100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 195.1 Method.

Tom Ferrante
Analyst

Approved
Signatory

Disclaimers: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. EMSL suggests that samples reported as <1% or none detected be tested with either SEM or TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

Analysis performed by EMSL Mobile Lab (NVLAP Air and Bulk #200461-0.)

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Project No. 80516
File Code No. 10.3.a.3.20
Doc No. pg 2/2

EMSL

These soil samples were sent to EMSL for analysis no splits were sent to RJ Lee Group, no splits were collected

Results 10.3.4.3.20

F192095

~~RJ LeeGroup, Inc.~~

Request for Laboratory Services

For RJ Lee Group Use Only	Page
Project No.	
Date Logged	By

Report Results To

Name Jim Stout / Pete Pendrak Title Project Manager
Company URS Corporation
Mailing Address 317 Mineral Avenue
City Libby State MT Zip 59923
Telephone Fax

Purchase Order No. 537421 Client Job No. 805169

Send Invoice To

Name Heather Sewing
Company URS Corporation
Address 707 Seventeenth St., Ste. 3400
City Denver State CO Zip 80202

Date Results Required | Rush Charges Authorized? Yes ☐ No ☐ | Phone Results ☐

(Complete if applicable)
☐ Drinking Water
State Where Collected ——

Special Instructions: (Method, limit of detection, etc.)

*Explanation of Preservative:

ANALYSIS REQUESTED
(Enter analysis type and check the box to indicate request: Enter a 'P' if Preservative added.)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ASBESTOS										FOR LAB USE ONLY
L-1.5	11.6.00	SOIL		1	✓										
L-6.9				1	✓										
L-10.13				1	✓										
L-14.16				1	✓										
M-1.5				1	✓										
M-6.10				1	✓										
M-11.16				1	✓										
U-1.4				1	✓										

URS COPY
Project No. 805169
File Code No. 10.3.4.3.13
Doc No.

Chain of Custody

Relinquished by: [signature]	Date: 11.7.00	Time 0730	Received by: [signature] Date: 11-7-00 Time: 0730
Relinquished by:	Date:	Time:	Received at Lab by: Date: Time:
Method of Shipment:	Date:	Time:	Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain on reverse)

Please return completed form to one of RJ Lee Group's Laboratories:

350 Hochberg Road
Monroeville, PA 15146-1516
(724) 325-1776
(724) 733-1799 - Fax

530 McCormick Street
San Leandro, CA 94577
(510) 567-0480
(510) 567-0488 - Fax

10503 Battleview Parkway
Manassas, VA 20109
(703) 368-7880
(703) 368-7761 - Fax

EMSL Analytical, Inc.

716 Highway 2 West
Libby, MT 59923
Phone: (406) 293-9066 Fax: (406) 293-7016

EMSL

Attn.: Tim Wall
CDM Federal Programs, Corp.
One Cambridge Place
50 Hampshire St.
Cambridge, MA 02142

Friday, November 03, 2000

Ref Number: ML00476

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method and/or NIOSH 9002 Method*

Project: Soil Analysis, Export Plant 11/2/2000

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
GP-1	Gravel Pit/South end of overburden	Brown Fibrous Heterogeneous	Teased	None Detected		5%	Other	95%	Other
GP-2	Gravel Pit/Center west side of overburden	Brown Fibrous Heterogeneous	Teased	None Detected		5%	Other	95%	Other
GP-3	Gravel Pit/North end of overburden	Brown Fibrous Heterogeneous	Teased	None Detected		5%	Other	95%	Other
GP-4	Gravel Pit/East of west road	Various Non-Fibrous Heterogeneous	Teased	2%	Tremolite	None Detected		98%	Other
GP-5	Gravel Pit/South end west road	Brown Fibrous Heterogeneous	Teased	< 1%	Tremolite	2%	Other	98%	Other
GP-6	Gravel Pit/South end upper level	Various Non-Fibrous Heterogeneous	Teased	< 1%	Tremolite	None Detected		100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

URS COPY
Project No. 805169
File Code No. 10.3.a.3.21
Doc No.

Tom Ferrante
Analyst

Approved
Signatory

Disclaimers: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. EMSL suggests that samples reported as <1% or none detected be tested with either SEM or TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.

Analysis performed by EMSL Mobile Lab (NVLAP Air and Bulk #200451-0,)

Borrow from Grace Pit off Mine Access Road

TABLE 2
Bulk Sample Chain-of-Custody/Analysis Record

Building Number: EXPORT PLANT
Building Name:
Building Address: LIBBY MT.
Survey Date:

Client No: 805169
Project No:
Log-In No:
Analytical Method: PLM with Dispersion Staining (EPA/600/R-93/116, July 1993)

Sample Number	Sample Location	Sample Description	Asbestos Fibers % & Type	Non-Asbestos Fibers % & Type	Comments Non-Fibrous Material
GP-1	Area: GRAVEL PIT Location: SOUTH END OF OVERBURDEN	Mat'l ID: Subcat: SOIL	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					
GP-2	Area: GRAVEL PIT Location: CENTER WEST SIDE OF OVERBURDEN	Mat'l ID: Subcat: SOIL	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					
GP-3	Area: GRAVEL PIT Location: NORTH END OF OVERBURDEN	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					
GP-4	Area: GRAVEL PIT Location: EAST OF WEST ROAD	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					
GP-5	Area: GRAVEL PIT Location: SOUTH END WEST ROAD	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					

Project Manager: JIM STOUT	Total Number of Samples: 6	Turnaround Time/Circle One: <8 24 48 >72 Hours	Due:
Container Type: BAG		Received in Lab By:	Date:
Sampled By: Tim Gish	Date/Time: 11.1.00 1115	Logged In By:	Date:
Received By:	Date:	Analyzed By:	
Relinquished By:	Date:	Client Notified By:	

ND = None Detected NT = Not Tested TR = Trace = <1% Detection Limit = 1%

Rainy Cr. Rd. gravel pit

TABLE 2 – BULK SAMPLE CHAIN-OF-CUSTODY-ANALYSIS REPORT – DENVER.DOC/MA/ACS-NEW

Results 10.3.a, 3.21

URS COPY

Project No. 805169
File Code No. 10.3.a, 3.16
Doc No. 1981/2

TABLE 2
Bulk Sample Chain-of-Custody/Analysis Record

Building Number: EXPORT PLANT
Building Name:
Building Address: LIBBY, MT
Survey Date:

Client No: 805169
Project No:
Log-In No:
Analytical Method: PLM with Dispersion Staining (EPA/600/R-93/116, July 1993)

Sample Number	Sample Location	Sample Description	Asbestos Fibers % & Type	Non-Asbestos Fibers % & Type	Comments Non-Fibrous Material
GP-6	Area: GRAVEL PIT Location: SOUTH END UPPER LEVEL	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other _____	
Notes:					
	Area: Location:	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes.					
	Area: Location:	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					
	Area: Location:	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					
	Area: Location:	Mat'l ID: Subcat:	___ None Detected ___ Chrysotile ___ Amosite ___ Crocidolite ___ Trem/Act/Anth ___ Mastic/Adhesive	___ Cellulose ___ Fibrous Glass ___ Synthetics ___ Other	
Notes:					

Project Manager: Jim Stout	Total Number of Samples: 6	Turnaround Time/Circle One: <8 24 48 >72 Hours	Due:
Container Type: BAGS		Received in Lab By:	Date:
Sampled By: Tim Gish	Date/Time: 11-1-00 1115	Logged In By:	
Received By:	Date:	Analyzed By:	
Relinquished By:	Date:	Client Notified By:	Date:

ND = None Detected NT = Not Tested TR = Trace = <1% Detection Limit = 1%

Rainey Creek Rd. gravel pit

URS COPY

Project No. 805169
File Code No. 10.3.a.3.16
Doc No. ~~8~~ 2/2

Results 10.3.a.3.21

RJ LeeGroup, Inc.

350 Hochberg Road
Monroeville, PA 15146
Tel: (724) 325-1776
Fax: (724) 733-1799

The Materials Characterization Specialists

Mr. James Stout
URS Corporation
317 Mineral Avenue
Libby, MT 59923

November 10, 2000

RE: Soil samples from Libby, MT
RJ Lee Group Project LBH010518

Dear Mr. Stout:

RJ Lee Group has completed our analysis on the five samples of soil, identified as T-1.5, T-6.10, and T-11.15. The samples were received at RJ Lee Group on November 6, 2000 and assigned our sample numbers as follows 3026536, 3026537, and 3026538.

The samples were analyzed for fibrous asbestos (asbestiform) content using polarized light microscopy (PLM) following the point count method outlined in EPA/600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials. The results are presented in the following table:

Location	Sample	Analysis
Libby, MT Grid excavating	T-1.5 (3026536)	Trace Actinolite/Tremolite
Libby, MT Grid excavating	T-6.10 (3026537)	Trace Actinolite/Tremolite
Libby, MT Grid excavating	T-11.15 (3026538)	Trace Actinolite/Tremolite

RJ Lee Group is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP, #101208-00) for asbestos fiber analysis. This report may not be used to claim product endorsement by NVLAP or any agency of the US government.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the sample for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions on this report or if we can be of further assistance, please feel free to call me.

Sincerely,

Drew R Van Orden

Drew R. Van Orden, PE
Senior Scientist

URS COPY
Project No. 805169
File Code No. 10.3.a.3 22
Doc No.

RJ LeeGroup, Inc.

Request for Laboratory Services

For RJ Lee Group Use Only	Page
Project No.	
Date Logged	By

Report Results To

Name: Jim Stout / Pete Pendrak Title: Project Manager
Company: URS Corporation
Mailing Address: 317 Mineral Avenue
City: Libby State: MT Zip: 59923
Telephone: (406) 293-3694 Fax:

Purchase Order No.: 537421 Client Job No.: 805169

Send Invoice To

Name: Heather Sewing
Company: URS Corporation
Address: 707 Seventeenth St., Ste. 3400
City: Denver State: CO Zip: 80202

Date Results Required | Rush Charges Authorized? Yes ☐ No ☐ | Phone Results ☐

(Complete if applicable)
☐ Drinking Water
MT State Where Collected

Special Instructions: (Method, limit of detection, etc.)

*Explanation of Preservative:

ANALYSIS REQUESTED
(Enter analysis type and check the box to indicate request: Enter a 'P' if Preservative added.)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ASBESTOS	FOR LAB USE ONLY
T-1.5	11-2-00	SOIL		1	✓	
T-6.10	11-2-00			1	✓	
T-11.15	11-2-00			1	✓	
C-1.5	11-3-00			1	✓	
C-6.10	11-3-00			1	✓	
C-11.15	11-3-00			1	✓	
C-16.20	11-3-00			1	✓	
C-21-25	11-3-00			1	✓	

Chain of Custody

Relinquished by: [signature]	Date: 11-3-00	Time: 14:20	Received by: [signature] Date: 11-06-00 Time: 9:00AM
Relinquished by:	Date:	Time:	Received at Lab by: [signature] Date: 11-06-00 Time: 9:00AM
Method of Shipment:	Date:	Time:	Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain on reverse)

Please return completed form to one of RJ Lee Group's Laboratories:

350 Hochberg Road
Monroeville, PA 15146-1516
(724) 325-1776
(724) 733-1799 - Fax

530 McCormick Street
San Leandro, CA 94577
(510) 567-0480
(510) 567-0488 - Fax

10563 Battleview Parkway
Manassas, VA 20109
(703) 368-7880
(703) 368-7761 - Fax

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Results 10.3.a.3.12-C
10.3.a.3.22