SFUND RECORDS CTR
4320-00099

Health Science Associates

TECHNICAL AND ADVISORY SERVICES • ENVIRONMENTAL HEALTH AND SAFE

FAX TRANSMITTAL COVER LETTER

DATE: 6/3/92 TOTAL NO. OF PAGES 9
(including cover letter)

URGENT DELIVERY PLEASE: ✓ YES ____ NO

DELIVER TO: Bill Lewis / Robert Wise Ecology + Environm

FROM: Lab - B Johnstone

IF ALL PAGES ARE NOT RECEIVED,
PLEASE NOTIFY JANINE OR MARILYN AT
(714) 220-3922.
FAX (714) 220-2081

MESSAGES: Smelter Bricks, Soil, For Asbestos + TCLP
Lab Reports 922952 ; 922953A+B + Daily QC

10771 Noel St., Los Alamitos, CA 90720 714/220-3922 FAX 714/220-2081

Health Science Associates

LABORATORY REPORT

Prepared For: Mr. Robert Wise
Ecology & Environmental
11 Golden Shore Drive, Suite 110
Long Beach, CA 90802

Date Sent: 06-02-92

Report No. 922952

Date Received: 05-20-92

Purchase Order: 50763

Sample Description: Soil Profile

Method Documentation: 40 CFR Part 302 Method 1311, TCLP, EPA Method 6010), ICAP Atomic Emission Spectroscopy.

RESULTS - Sample No.: P-5a, Sample Date: 05-19-92

Metal	Sample Concentration (ppm)	TCLP Maximum Contaminant Limit (ppm)	Detection Limit (ppm)
Arsenic	<0.50	5.0	0.50
Barium	<0.50	100	0.50
Cadmium	<0.50	1.0	0.50
Chromium	<0.50	5.0	0.50
Lead	5.7	5.0	0.50
Selenium	<0.50	1.0	0.50
Silver	<0.40	5.0	0.40
Mercury	<0.025	0.2	0.025

Remarks - Sample(s) and sampling data as provided by: Ecology & Environmental

Analyst: TS Ref.:

Approved by: Thomas Shultz
Thomas Shultz

Ref. Inv. No.: W15655

Date: 06-01-92

10771 Noel St., Los Alamitos, CA 90720 714/220-3922 FAX 714/220-2081

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without written authorization is prohibited.

Health Science Associates

LABORATORY REPORT

Prepared For: Mr. Robert Wise
Ecology & Environmental
11 Golden Shore Drive, Suite 110
Long Beach, CA 90802

Date Sent: 06-02-92

Page 1 of 3

Report No. 922953A

Date Received: 05-20-92

Purchase Order: 50763

Sample Description: Smelter Brick Profile

Method Documentation: 40 CFR Part 302 Method 1311, TCLP, EPA Method 6010), ICAP Atomic Emission Spectroscopy.

RESULTS - Sample No.: P-1, Sample Date: 05-19-92

Metal	Sample Concentration (ppm)	TCLP Maximum Contaminant Limit (ppm)	Detection Limit (ppm)
Arsenic	<0.50	5.0	0.50
Barium	<0.50	100	0.50
Cadmium	<0.50	1.0	0.50
Chromium	<0.50	5.0	0.50
Lead	2.1	5.0	0.50
Selenium	<0.50	1.0	0.50
Silver	<0.40	5.0	0.40
Mercury	<0.025	0.2	0.025

Remarks - Sample(s) and sampling data as provided by: Ecology & Environmental

Analyst: TS Ref.:

Approved by: Thomas Shultz
Thomas Shultz

Ref. Inv. No.: W15655

Date: 06-01-92

10771 Noel St., Los Alamitos, CA 90720 714/220-3922 FAX 714/220-2081

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without written authorization is prohibited.

Health Science Associates

LABORATORY REPORT

Prepared For: Mr. Robert Wise
Ecology & Environmental
11 Golden Shore Drive, Suite 110
Long Beach, CA 90802

Date Sent: 06-02-92

Page 2 of 3

Report No. 922953A

Date Received: 05-20-92

Purchase Order: 50763

Sample Description: Smelter Brick Profile

Method Documentation: 40 CFR Part 302 Method 1311, TCLP, EPA Method 6010), ICAP Atomic Emission Spectroscopy.

RESULTS - Sample No.: P-2, Sample Date: 05-19-92

Metal	Sample Concentration (ppm)	TCLP Maximum Contaminant Limit (ppm)	Detection Limit (ppm)
Arsenic	<0.50	5.0	0.50
Barium	<0.50	100	0.50
Cadmium	<0.50	1.0	0.50
Chromium	<0.50	5.0	0.50
Lead	2.5	5.0	0.50
Selenium	<0.50	1.0	0.50
Silver	<0.40	5.0	0.40
Mercury	<0.025	0.2	0.025

Remarks - Sample(s) and sampling data as provided by: Ecology & Environmental

Analyst: TS Ref.:

Approved by: Thomas Shultz
Thomas Shultz

Ref. Inv. No.: W15655

Date: 06-01-92

10771 Noel St., Los Alamitos, CA 90720 714/220-3922 FAX 714/220-2081

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without written authorization is prohibited.

Health Science Associates

LABORATORY REPORT

Prepared For: Mr. Robert Wise
Ecology & Environmental
11 Golden Shore Drive, Suite 110
Long Beach, CA 90802

Date Sent: 06-02-92

Page 3 of 3

Report No. 922953A

Date Received: 05-20-92

Purchase Order: 50763

Sample Description: Smelter Brick Profile

Method Documentation: 40 CFR Part 302 Method 1311, TCLP, EPA Method 6010), ICAP Atomic Emission Spectroscopy.

RESULTS - Sample No.: P-3, Sample Date: 05-19-92

Metal	Sample Concentration (ppm)	TCLP Maximum Contaminant Limit (ppm)	Detection Limit (ppm)
Arsenic	<0.50	5.0	0.50
Barium	<0.50	100	0.50
Cadmium	<0.50	1.0	0.50
Chromium	<0.50	5.0	0.50
Lead	5.6	5.0	0.50
Selenium	<0.50	1.0	0.50
Silver	<0.40	5.0	0.40
Mercury	<0.025	0.2	0.025

Remarks - Sample(s) and sampling data as provided by: Ecology & Environmental

Analyst: TS Ref.:

Approved by: Thomas Shultz
Thomas Shultz

Ref. Inv. No.: W15655

Date: 06-01-92

10771 Noel St., Los Alamitos, CA 90720 714/220-3922 FAX 714/220-2081

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without written authorization is prohibited.

Health Science Associates

TECHNICAL AND ADVISORY SERVICES • ENVIRONMENTAL HEALTH AND SAFETY

Quality Assurance Report

May 30, 1992

Ecology & Environmental
11 Golden Shore Drive, suite 110
Long Beach, CA 90802
Attn: Robert Wise

Report No.: 922952 & 922953

Sample Description: Bulk Solids

Method of Analysis: TCLP Extraction & EPA Method 6010

SAMPLE P-1

METALS	RESULT 1 ppm	RESULT 2 ppm	SPIKE % Recovery
Arsenic	<0.50	<0.50	103
Barium	<0.50	<0.50	
Cadmium	<0.50	<0.50	
Chromium	<0.50	<0.50	94
Lead	2.1	2.0	93
Selenium	<0.50	<0.50	
Silver	<0.04	<0.40	
Mercury	<0.025	<0.025	104

Analyst: TS/ES

10771 Noel St., Los Alamitos, CA 90720 714/220-3922 FAX 714/220-2081

Health Science Associates

LABORATORY REPORT

Prepared For: Mr. Robert Wise
Ecology & Environmental
11 Golden Shore Drive, Suite 110
Long Beach, CA 90802

Date Sent: 06-02-92

Report No. 922953B

Date Received: 05-20-92

Purchase Order: 50763

Sample Description: (4) Bulk Sample(s)

Method of Analysis: Dispersion Staining/Polarized Light Microscopy (EPA 600/M4-82-020)

RESULTS

Sample No.	Color	Estimated Proportion of Sample	CONTENT: Asbestos	CONTENT: Nonasbestos Fibers
P-1	Beige	100%	BELOW LIMIT OF DETECTION	---
P-2	Gray w/ beige	100%	BELOW LIMIT OF DETECTION	---
P-3	Gray w/ beige	100%	BELOW LIMIT OF DETECTION	---
P-4	Gray w/ white	100% (Composite)	Chrysotile: 1-10% Amosite: 20-30%	Cellulose: <1%

Detection Limit: 1% asbestos. Remainder Nonfibrous material. Layered components and inhomogeneous sample areas were analyzed separately, but reported results represent a composite of the sample unless otherwise noted.
* Analysis of floor tiles by EPA 600/M4-32-020 may produce false negative results. HSA recommends utilizing an alternative method such as transmission electron microscopy.

Remarks - Sample(s) and sampling data as provided by: Ecology & Environmental Services

Analyst: DRB/BKB Reviewed by: RBB

Approved by: Donald R. Bissing
Donald R. Bissing

Ref. Inv. No.: W15655

Date: 05-20-92

10771 Noel St., Los Alamitos, CA 90720 714/220-3922 FAX 714/220-2081

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without written authorization is prohibited.

PC

FLM ASBESTOS ID ANALYSIS DATA SHEET

JOB # 922953B SAMPLE # 016969 ANALYST TB DATE 5-20-92

GROSS EXAMINATION (stereomicroscopic evaluation)

Homogeneous ___ yes ___ no
Color Brown
Approx. % fibers 1

Layers ___ yes ___ no
Fibers ___ yes ___ no
texture/description fine brittle

ADDITIONAL PREPARATIONS

___ sodium hexametaphosphate
___ low temperature ashing
___ drying
___ other (specify)

OPTICAL PROPERTIES

CHRYSOTILE ___%

___ wavy fibers & bundles
___ anisotropic
___ low to mod biref <0.02
___ parallel extinction
___ (+) sign of elongation

CS DS Colors, n in 1.550 HD

∥ :		blue	rp	org
n_p :	1.54	1.55	1.555	1.56
⊥ :	pbg	blue	rp	

CROCIDOLITE ___%

___ straight fibers
___ anisotropic
___ parallel extinction
___ low to mod biref <0.02
___ pleochroic
∥ = blue ⊥ = gray-blue
___ (-) sign of elongation

CS DS Colors, n in 1.680 HD

⊥ :		orng	gyel	yel	pyel
n_p :	1.69	1.695	1.70	1.705	1.71
∥ :	o/rp	orng	gyel	yel	

CS DS Colors, n in 1.700 HD

⊥ :		lbg	blue	rp/p	rp
n_p :	1.69	1.695	1.70	1.705	1.71
∥ :	pbg	lbg	blue	rp/p	

AMOSITE ___%

___ straight fibers
___ anisotropic
___ mod. biref. 0.01-0.05
___ parallel extinction
___ (+) sign of elongation

CS DS Colors, n in 1.680 HD

∥ :		pbg	blue	rp	orng	yel
n_p :	1.66	1.67	1.68	1.69	1.70	1.71
⊥ :	pbg	lbg	blue	rp	orng	

HEAT ALTERED & OTHER ASBESTOS

___%

___ wavy ___ straight fibers
___ anisotropic
___ low<.01 ___ mod .01-.05 biref
___ parallel extinction
___ oblique extinction
___ color and pleochroic
∥ = ___ ⊥ = ___
___ (+) ___ (-) sign of elong

CS DS Color in ___ HD liquid
∥ = ___ ⊥ = ___

n_p = ___ ±.005 n_p = ___ ±.005

___ ASBESTOS NOT DETECTED <1%

NON-ASBESTOS FIBERS

Fibrous glass ___%

___ irregular shapes
___ straight fibers
___ isotropic

Cellulose ___%

___ flat, twisted fibers
___ anisotropic
___ irregular extinction

OTHER ___%

REMARKS: Circle DS color and n_p to ± .005.
pbg = blue-green lbg = light blue green p = purple r = red
gyel = golden yellow pyel = pale yellow Remainder is non-fibrous

COMMENTS:

QUALILITY CONTROL LOG * ASBESTOS IN BULK IN MATERIAL

Date	Job Number	Sample Number	Ins.	Asbestos Type & %	Date	Ins.	Asbestos Type & %	Comments/ Reported Value
5/20	922953B	016969	DRB	ND	5/20	DEB	ND	
5/20	922894	016625	DRB	Chrys: 1-5	5/20	LAN	Same	
5/20	922894	016630	DRB	ND	5/20	LAN	ND	
5/21	922959	017000	DRB	Amosite 40-50	5/21	DEB	Same	
5/22	922991	017182	DEB	Chrys: 30-40 Amo: 30-40	5/22	DEB	Same	
5/22	922996	017086	DRB	ND	5/22	DEB	ND	
5/26	922992	017193	DRB	ND	5/26	DEB	ND	
5/27	923031	017413	DRB	Chrysotile 10-20	5/27	DEB	Same	
5/27	923024	017391	DRB	(A) ND (B) Chrysotile 10-20	5/27	DEB	Same	
5/27	923037	017428	DRB	ND	5/27	DEB	ND	
5/27	923033	017415	DEB	Chrysotile 80-90	5/27	DRB	Same	
5/27	923016	017335	DEB	Chrys: 50-60 Amos: 1-10	5/27	DRB	Same	
5/27	923042	017455	DRB	ND	5/28	LAN	ND	
5/28	923009	017279	DRB	ND	5/28	DEB	ND	
5/28	923009	017287	DRB	ND	5/28	DEB	ND	
5/21	922958	016997	DRB	Chrys: 1-5	5/	DRB	Same	