

**HSM LABORATORIES**

P.O. Box 816 * Nederland, Texas 77627
(409) 842-5751 * Fax: (409) 842-4099



July 21, 1993

Health and Safety Management, Inc.
5233 IH-37, Suite A-2
Corpus Christi, TX 78408

ATTENTION: RICHARD P. GRIFFIN, CIH, CSP

SUBJECT: LAB SERVICE NUMBER BB93.1133

On July 12, 1993, HSM Laboratories received fifty bulk material samples to determine asbestos content by means of polarized light microscopy as outlined in the EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA-600/M4-82 020). The samples were issued laboratory sample identification numbers upon delivery to the laboratory.

Samples were then examined under a Stereo Microscope for gross sample appearance and visual estimate of fiber concentration. After homogenizing the samples, a representative portion of each sample was placed under the Polarizing Light Microscope and examined for several characteristics including:

- (1) Morphology
- (2) Pleochroism
- (3) Extinction angle and characteristics
- (4) Birefringence
- (5) Sign of Elongation
- (6) Dispersion staining colors

HSM Laboratories participates in the American Industrial Hygiene Association (AIHA) Proficiency Testing Program (Laboratory I.D. # 77642-002) for bulk material analysis as well as extensive Interlaboratory testing.

Analytical result(s) should only be considered representative of the sample submitted.

Please see the following page(s) for your analytical results.

Sincerely,

Tony Mills
Laboratory Supervisor

TM/mrt

K 007722

Summary of Data
Area 4
Personal

K 010849

Summary of Data

Client: Hoch Refining

Job #: CA 068.045
45-00001-00

Sample Type: Ali (Adulterator)

K 010863

[illegible]

Summary of Data

Client: Koch Refining

Job #: CA. 068.045

Sample Type: Quar

UO #95-01220-20

K 010864

[illegible]

Summary of Data

Client: Kozel Refinery

Job #: CH. 068. 045
WO # 95- 01220 -00

Sample Type: Personal

K 010865

[illegible]

Summary of Data

Client: Josh Refining

Job #: CA. 048.045
 Wd # 95-01220-00

Sample Type: Final

Living Day Removal

K 010866

[illegible]

Summary of Data

Client: Rocky Roberts

Job #: C.A. 068-045

Sample Type: Area

Wioth 95-0122000

K 010867

[illegible]

Summary of Data

Client: Bist / Koch

Job #: 068.045 / 95-00001-00

Sample Type: Asbestos

K 010868

[illegible]

Summary of Data

Client: Therese Redman

Job #: CA-068.045
We# 95-00001-00

Sample Type: Plural

K 010869

[illegible]

Summary of Data

Client: Josh Refrains

Job #: CAF. 048. 045
Wb # 95-00001-00

Sample Type: Area

K 010870

[illegible]

Summary of Data

Client: Koch

Job #: CA 068.045
W3# 95-00001-00

Sample Type: Personal - AA-203

[illegible]

K 010871

Summary of Data

Client: Koch

Job #: CA068.045
WO # 95-00001-00

Sample Type: Disc - A4-203

[illegible]

Summary of Data

Client: Hoch Refining

Job #: CA-068-045
W/O # 95-01220-00

Sample Type: Personal of Area

[illegible]

Summary of Data

Client: Rocky Ruppin

Job #: CH. 068.045
W/O # 95-00001-00

Sample Type: Journal of Peter

K 010874

[illegible]

Summary of Data

Client: Good Refining

Job #: CA068.045

Sample Type: Personal

K 010875

[illegible]

Summary of Data

Client: Rock Refining

Job #: CA 068.045
WJH 95.00001-00

Sample Type: Alum

K 010876

[illegible]

Summary of Data

Client:

BIST / KOCH

Job #: CA 648.048

Sample Type:

K 010877

[illegible]

Summary of Data

Client: Rist / Koch

Job #: CH 068.045

Sample Type: Asbestos

K 010878

[illegible]

Summary of Data

Client: Koch Learning / BSI

Job #: LA 068.045

Sample Type: Air Borne Fibers

K 010879

[illegible]

Summary of Data

Client: Koch / Bst

Job #: CA 068.045

Sample Type: Air Borne Fibers

K C10880

[illegible]

Puhuttuun Yö Uutia

Client: *Todd Helmer*

Job #: CA 068045

Sample Type: Fel. 2nd of Alex

9.5 00001.00

AA-203

K 010881

[illegible]

Cultura y un país

Client: North Redwing

Job #: CA.068.045
 WO # 95-01220.00

Sample Type: Journal of Blue

West of Camp Avenue

K 010882

[illegible]

Summary of Data

Client: Bist / Koch

Job #: CA.068.045 / 95-00001-CO

Sample Type: Arizona Fibers

K 010883

[illegible]

Summary of Data

Client: Bist / Koch

Job #: CA048.045 / 95-01220-00

Sample Type: Airborne Fibers

K 010884

[illegible]

Summary of Data

Client: Bist / Koch

Job #: CA068045 / 95-01720-CO **Sample Type:** Amalgam FIBERS

K 010885

[illegible]

Summary of Data

Client: bach

Job #: C.A. 068.045
WO# 95-01220 00

Sample Type: Normal

K 010886

[illegible]

Summary of Data

Client:

Roach**Job #:**

CH. 268. 04

Sample Type:

Shree

K 010887

[illegible]

Summary of Data

Client: Koch

Job #: CA. 068.045
W0# 95-01220-00

Sample Type: Personal of Area

K 010888

Sample #	Date	Name or Location	Results	
			f/cc	TWA
C8325	5-4-95	Reg. Volume - Digging & Removing ACM by Glendale	1/100	1/100
C8326	5-4-95	Area - General Road of Young House	0.005	0.005
C8327	5-4-95	Area - Downwind Road of Young House	0.006	0.006
C8328	5-4-95	Block	2/100	2/100

Summary of Data

Die: Loth / Bist

Job #: CA 068.045
95-00001-00

Sample Type: Amizborzue Fibers

K 010889

[illegible]

Summary of Data

Client: Harley

Job #: CA. 068. 045

Sample Type:

K 010890

<u>Sample #</u>	<u>Date</u>	<u>Name or Location</u>	<u>Results</u>	
			f/cc	TWA
C8321	5-3-95	Bog Muck SS # 455-11-9030	0.015	0.003
		Ground Cover - Raining Bags of ACM from OA-203		
C8322	5-3-95	Thick Slender SS # 459-87-3493	0.100	0.020
		Ground Cover - Carried Bags to Dumpster		
C8323	5-3-95	Road - OA-203	Lo.ox3	
		Bank Area		
C8324	5-3-95	Blank	1/100	

Summary of Data

Client: KOCH

Job #: CA. 068.045
W/O # 95-00001.00

#00M

95-00001-00

Sample Type: Flamed glass

K 010891

[illegible]

Summary of Data

Client: Hoch

Job #: CA. 068. 045
WO# 95-01220-00

Sample Type: Head Tissue

K 010892

[illegible]

Summary of Data

Client: Foch

Job #: CA 068.045
WO# 95-01220-00

Sample Type: Seasonal & Shrub

K 010893

[illegible]

Summary of Data

Cient: Koch

Job #: CA 068.045
W0# 94-18128-00

Sample Type: Wetland of America

K 010894

[illegible]

Summary of Data

Koch

CA. 068.045

Journal of Power

K 010895

[illegible]

Summary of Data

Chili:

Koch / 1315T

Job #:

94-18128-00

Sample Type:

Albany F1 BEES

K 010896

[illegible]

Summary of Data

Client: Nech

Job #: CH 068. 045
 UIC# 95-01220-20

Sample Type: Normal 9 Ave

K 010897

Sample #	Date	Name or Location	Results	
			f/cc	TWA
C 8 3 4 9	5-10-95	Bank of Long River (Pigeon Rock) Antonie Quarry SS # 462-43 6257	0.057	0.033
		Wandering		
C 8 3 5 0	5-10-95	Fing. Quarry SS # 453-41-9266	0.357	0.2
C 8 3 5 1	5-10-95	Upwind -	<0.005	
C 8 3 5 2	5-10-95	Downwind	0.003	
C 8 3 5 3	5-10-95	Bank	4/100	

Summary of Data

Client: Foch

Job #: CH. 068. 045

Sample Type: Classmate

K 010898

[illegible]

Summary of Data

Client:

Koch / B:67

Job #:

CA-068-015
94-18128-00

Sample Type:

Alice Corbett Friezel

K 010899

[illegible]

SUMMARY OF DATA

Sample Type: Flammol 9 River

K 010900

[illegible]

Summary of Data

Client: Rock Refinery

Job #: C.A. 068045
Wob. Order # 95-00001-00

Sample Type: Journal

K 010901

[illegible]

Summary of Data

Client: Good Refining

Job #: C.A. 068.045
Work Order # 95-00001-00

Sample Type: Area

K 010902

[illegible]

Summary of Data

Client: Koch

Job #: CA.068.045
WJH 95-01220.00

Sample Type: Fluoride & Alkal

K 010903

Sample #	Date	Name or Location	Results	
			f/cc	TWA
				
		<u>Longlages - Parcel of Long House Type Field</u>		
C836f	5-12-95	<u>Long House - 55th 458-35-5930</u>	0.251	0.173
C836g	5-12-95	<u>Long House 55th 068-46.6077</u>	0.225	0.012
		<u>Area - Pine Field</u>		
C8370	5-12-95	<u>Upward</u>	20.004	
C8371	5-12-95	<u>Downward</u>	0.011	
C8372	5-12-95	<u>Blank</u>	1/00	

Summary of Data

Client: Koch Ref. Co.

Job #: CA.068.045/95-01320-00

Sample Type: Asbestos

K 010904

[illegible]

Job #:

CA-098065 / 95-04479

Sample Type:

Algebraische Geometrie

[illegible]

Summary of Data

Client: Koch

Job #: C.H. 868-045
WJH # 95-01221-00

Sample Type: _____

K 010906

[illegible]

Summary of Data

Client: Hoch

Job #: CA.068.045
 WO# 94-18128-00

Sample Type: _____

K 010907

Sample #	Date	Name or Location	Results	
			f/cc	TWA
C 8354	5-10-95	Canister Room Jn. SS # 455-45-4159 Sewerage Bags - Ground over outside containment	Trace - Nuisance filter	
C 8355	5-10-95	Edwards Kinetics SS # 457-35-0230 Removal of ACM - Inside Containment (DA-1704)	20.023	20.005
C 8359	5-10-95	Edwards Kinetics SS # 457-35-0230 Shield Cleaning in Containment DA-1704	20.027	20.005
C 8356	5-10-95	Area - Entrance to Containment DA-1704	20.005	
C 8357	5-10-95	Area - Exhaust Hoods of PDU	20.005	
C 8358	5-10-95	Blank	1.5/100	

Summary of Data

Client: Koch Refining

Job #: CA. 147. 095

Sample Type:

K 010908

Sample #	Date	Name or Location	Results	
			f/cc	TWA
		Removal of ACM on pipe inside main Containment at Deck 11/3		
13084	9-15-95	Area - Evidence to Containment	10.013	
13085	9-15-95	Area - Bagout of Containment	<0.013	
		Personal		
13086	9-15-95	Huller Rooming - SS# 447-21-2185	0.097	0.021
13087	9-15-95	Blank	0/100	

Summary of Data

Client: Koch Refining

Job #: CA.147.095

Sample Type: _____

K 010909

Sample #	ID	Name or Location	Results	
			f/cc	TVVA
		Removal of HCM on pipe rack inside main container		
		Corner of 5th & D Street		
12092	9-18-95	Area - Entrance to container	12.105	
12093	9-18-95	Logistic air	12.038	
		Release		
12094	9-18-95	Outlet Manifold	12.001	12.095
12095	9-18-95	Blank	12.000	

Job: SALES

Job ३:

2715

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

[illegible]

CA147.095

Sample Type:

K 010911

Containment at Tank 118

Location

Results

f/cc TWA

0.016

0.016

0.017

0.615

Entrance to containment

Boat

Rail Yards

9-26-95

9-26-95

9-26-95

Casey, 248

Glovebag at JAN 18

تاریخ ۱۳۰۲

Results	
f/cc	TWA
0.005	
0.005	
0.011	0.006

Summary of Data

Client: Arch Refining

Job #: CA. 147. 095

Sample Type: _____

K 010913

[illegible]

Sample Results Notification

Location

In accordance with OSHA Regulation 1926.1101
OSHA Permissible Exposure Limit (PEL) 0.1 f/cc
OSHA Excursion Limit 1 f/cc

**I. H. Technician
Notification Date**

Demond, Jr, Duane
2-15-96

Personal

[illegible]

Area

[illegible]**Comments:**

Health & Safety Management, Inc.

Sample Results Notification

Job # CH 034.024
 Client Koch
 Contractor BLST
 Location Rock Hill

In accordance with OSHA Regulation 1926.1101
 OSHA Permissible Exposure Limit (PEL) 0.1 f/cc
 OSHA Excursion Limit 1 f/cc

I, H. Technician Hennrich Medina
 Notification Date 2-15-96

Personal

Date	Sample No.	Name	Social Security #	Job Activity	Enclosure Inside	Enclosure Outside	Results f/cc TWA	STEL
2-8-96	05084	Jose Hernandez	593-58-4851	Removal of " "			16.1 f/cc due to conf lock due to water	
	05089	Andres Buitera	463-62-1712					

Area

Date	Sample No.	Location	Regulated Inside	Regulated Outside	Enclosure Inside	Enclosure Outside	Results f/cc
2-8-96	05085	Downwind		✓			<0.009
	05086	Downwind		✓			0.008
	05087	Clearance & Con	✓		✓		0.004
	05088	Blank					0/100 fields
	05090	Clearance Con #2	✓		✓		<0.004

Comments:

Sample Results Notification

Job # 77 834. 026

Client Rock

Contractor B.C.T.

Location Rocky Hill

OSHA Excursion Limit 1 f/cc

I. H. Technician

Notification Date

Personal

[illegible]

Area

[illegible]

Comments:

Health & Safety Management, Inc.

Sample Results Notification

Job # CH 034 026
 Client Coak
 Contractor BLSI
 Location Goodfield

In accordance with OSHA Regulation 1926.1101
 OSHA Permissible Exposure Limit (PEL) 0.1 f/cc
 OSHA Excursion Limit 1 f/cc

I, H. Technician Alfredo Medina
 Notification Date 2-15-96

Personal

Date	Sample No.	Name	Social Security #	Job Activity	Enclosure	Results	STEL
2/14/96	05105	Paul Lopez	459-29-9027	Removal of asbestos	Inside	0.016 f/cc	0.007 TWA
2/14/96	05107	Paul Lopez	449-33-9279	Removal of asbestos	Outside	0.023 f/cc	0.020 TWA

Area

Date	Sample No.	Location	Regulated	Enclosure	Results f/cc
2/14/96	05106	Inside Conduit	Inside		0.022
2/14/96	05108	Exhaust Duct	Outside		<0.006
2/14/96	05109	Chimney			<0.004
2/14/96	05110	Blank			200 f/cc

Comments:

Sample Results Notification

In accordance with OSHA Regulation 1926.1101
OSHA Permissible Exposure Limit (PEL) 0.1 f/cc
OSHA Excursion Limit 1 f/cc

Notification Date 2-15-86

[illegible]

Date	Sample No.	Location	Regulated		Enclosure		Results f/cc
			Inside	Outside	Inside	Outside	
2996	05092	Downwind		✓			20.017
↓	05093	Downwind		✓			40.017
	05094	Blank					97 f/cc felds

Comments:

Sample Results Notification

Client Koch Refiners

Location Cruze Meters 1162m

HOCH Defining

OSHA Excursion Limit 1 f/cc.

I. H. Technician
Notification Date

K 010855

Area

Comments:

Comments:

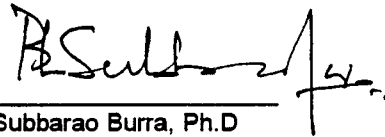
Mr. Rudy Orta
Health and Safety Management, Inc
5233 IH 37
Corpus Christi, TX 78408

P.O. #: 95050
Gemini Log#: 5080001
Date Collected: 08/01/95
Date Analyzed: 08/01/95
Date Reported: 08/02/95

RESULTS OF ANALYSIS

PROJECT NO. CA-133-085

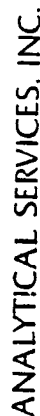
Gemini #	Sample ID	Sample Description	Asbestos components	Other Fibrous Components*	Non-Fibrous Components
5080001	K-A	Brownish fibrous powder	Not Detected	Cellulose 35% Syn.fibers 15%	Binder rusted iron & mica 50%


Subbarao Burra, Ph.D
Laboratory Manager

Analytical Method: EPA Interim Method for the Determination of Asbestos in Bulk samples (EPA 600/M4-82-20). Percentages are visual estimates based on sample volume. Limit of Detection: < 1%. Negative results of resinously bound material like tile or roof material may be inconclusive. This report relates only to the items tested and may not be copied for any reason other than internal use of the above named client without the written consent of the Laboratory management.

***Comments:** The term "mineral wool" is considered to be inclusive of any combination of any one/or all of the following mineral wool- (Kao wool), refractory ceramic- (Nextel, Fibersil, Fiberfrax or Thermoramic), fiberglass or glass wool like products.

K 010858

[illegible]**Comments:**

K 010859



Mr. Rudy Orta
Health and Safety Management, Inc
5233 IH 37
Corpus Christi, TX 78408

P.O. #: 95060
Gemini Log#: 5080001
Date Collected: 08/01/95
Date Analyzed: 08/01/95
Date Reported: 08/02/95

RESULTS OF ANALYSIS

PROJECT NO. CA-133-086

Gemini #	Sample ID	Sample Description	Asbestos components	Other Fibrous Components*	Non-Fibrous Components
5080001	K-A	Brownish fibrous powder	Not Detected	Cellulose 35% Syn. fibers 15%	Binder rusted iron & mica 50%

Subbarao Burma
Subbarao Burma, Ph.D
Laboratory Manager

Analytical Method: EPA Interim Method for the Determination of Asbestos in Bulk samples (EPA 800/M4-82-20). Percentages are visual estimates based on sample volume. Limit of Detection: < 1%. Negative results of randomly bound material like tile or roof material may be inconclusive. This report relates only to the items tested and may not be copied for any reason other than internal use of the above named client without the written consent of the Laboratory management.

*Comments: The term "mineral wool" is considered to be inclusive of any combination of any one or all of the following mineral wool- (Kao wool), refractory ceramic- (Naxtel, Fibersil, Fiberfrax or Thermomax), fiberglass or glass wool like products.

Facsimile Cover Page



HEALTH AND SAFETY MANAGEMENT, INC.
5233 IH 37, Suite A-2
Corpus Christi, Texas 78408
(512) 882-3393
Fax #: (512) 883-1511

PLEASE DELIVER IMMEDIATELY UPON RECEIPT

DATE: 8-2-95

TO: Joe Harris

FAX NO: 242-8488

FROM: Nancy Berry - Health & Safety Mgmt.

NO. OF PAGES TRANSMITTED INCLUDING THIS COVER SHEET: 2

COMMENTS:

Results of bulk sample collected on 8-1-95

IF ALL PAGES ARE NOT TRANSMITTED, PLEASE CALL:

THE RETURN FAX NUMBER FOR HEALTH & SAFETY MANAGEMENT, INC. IS (512) 883-1511.

K 010861

Health & Safety Management, Inc.
5233 IH-37, Suite A-2
Corpus Christi, Texas 78408

Sampling Data Sheet

Sample I.D. #: HSM95 Job No.: CA
Client Name: KOCH REFINING CO. Date (M/D/Y): / / 95
Client Address: CORPUS CHRISTI, TX
Emp. Name/Title: _____ Employee SS#: - -
Shift: Night ☐ Day ☒ Evening ☐ Split ☐
Employee Activity: _____
Employee Source Location: _____

Sample Type: ☒ Single sample
☐ One of a multiple of samples for TWA
☐ Base sample of multiple samples for TWA

This Sample Used as a Ceiling?

☒ No
☐ Yes, remaining time 0 concentration
☐ Yes, remaining time same concentration
☐ No, peak only

Avg. Temp. Degrees F: _____ Relative Humidity %: _____

Wind Speed: ☐ 0-5 mph ☐ 6-10 mph ☐ 11-20 mph
☐ >20 mph ☐ indoors

Material(s) Encountered in Operation: Asbestos Containing Material

IH Controls: ☐ vent ☐ ear ☐ clothing ☐ respiratory protection _____

NIOSH Approval # _____

Sample Type: ☐ Personal ☐ Area ☐ Grab ☐ Other _____

Sample Media: ☐ Charcoal-____ mg ☐ OVM ☐ Silica Gel ____ mg
☒ Filter 25 mm ☐ Impinger ☐ Gasbadge ☐ Other _____

Calibration Method: ☒ Bubble Tube ☐ Other Device _____

Calibration Date: (prior to sampling) _____ / _____ / 95

Instrument Type: SKC Serial No./ID#: _____

Pumps Calibrated Flow Rate (l/m)

Flow Rate Start _____	Start Time _____
End _____	End _____
Avg. Flow Rate _____	Total Min. _____

Total Volume of Air Sampled (liters): _____

Analytical Laboratory: Health And Safety Mang.

Analytical Results: _____

Contaminant: 1. Airborne Fibers 2. _____ 3. _____
4. _____ 5. _____ 6. _____

Sampled By: _____
Title: Industrial Hygiene Technician

K 010862