

ABERDEEN PROVING GROUND

Asbestos Conversion Facility Building 5664

Total End-Product Analysis (Volatile Gases & Solids) of the ABCOV Method

I H Services, Inc.

October 17, 1997 - Asbestos Conversion Facility Product

P.02	TCLP Herbicides
P.03	Volatiles - TCL List
P.07	Metals - TCL List
P.09	RCRA - Waste Characteristic Testing
P.10	Semi-Volatiles - TCL List
P.13	TCLP Volatiles
P.14	TCLP Semi-Volatiles
P.15	TCLP Pesticides
P.16	TCLP Metals
P.17	Pesticides/PCB's

October 20, 1997 - Asbestos Conversion Facility Air

P.02	Acetic Acid
P.05	Hydrogen Fluoride (HF)
P.12	Methylene Chloride (MeCl ₂)
P.13	Formic Acid
P.15	Ammonia (NH ₃)
P.20	Asbestos Fibers

November 24, 1997 - Samples submitted for APG Asbestos Conversion Facility

Asbestos by TEM
Organics
Other

I H SERVICES, INC.

Industrial Hygiene and Related Services
Baltimore, Maryland 21224

1831 Portal Street
Suite E



Main Office
410-633-4000
FAX
410-633-4122

◆ FACSIMILE TRANSMITTAL ◆

Date: Oct 17, 1997

From: Nicoletta F. Morris (Office Manager)

Original to Follow By

To: APG

Regular Mail:

Priority Mail:

UPS Next Day:

Courier:

Attn: Rachel S.

Client Pick-up:

Will Not Follow:

Fax #: 410-610-6534

As Requested
 Review/Respond

Info. Submittal
 Sign/Return Copy

For Your Info.

◆ MESSAGE ◆

<u>TCLP Herbicides</u>	<u>RCRA-WhiskCharacteristic Testing</u>
<u>Volatiles - TCL List</u>	<u>TCLP Volatiles</u>
<u>Metals - " "</u>	<u>" " Semi-Volatiles</u>
<u>Semi-Volatiles " "</u>	<u>" " Pesticides</u>
<u>Pesticides/A.B.'s</u>	<u>" " Metals</u>

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Number of Pages Following: 17

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An AIHA-NIOSH Proficiency Analytical Testing Participant

I H SERVICES, INC.

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REPORT OF ANALYSIS

Main Office
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Report No: 7-370-3

Report Date: September 30, 1997
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Report To: Asbestos Mitigation Team
Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Buzz Soltis

Project I.D.: E-5664, Asbestos Conversion Facility Product

TCLP HERBICIDES	
Compound	Result, mg/l TC
2,4-D	<0.05*
2,4,5-TP(Silvex)	<0.02*

Notes:

- 1) Method EPA 8151
- 2) Analyst: GDM
- 3) *= Limit of Quantitative Detection
- 4) Lab ID 970016669
- 5) Results expressed as milligrams per liter of Toxicity Characteristic extract (mg/l TC)



 Stephen L. Law, Ph.D., CIH
 President

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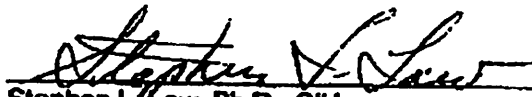
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 Construction Division TOC Branch
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VOLATILES- TCL List		
Compound Name	Results, $\mu\text{g}/\text{kg}$	Detection Limits
Chloromethane	<62	62
Vinyl Chloride	<62	62
Bromomethane	<62	62
Chloroethane	<62	62
Acetone	<620	620
1,1-Dichloroethene	<31	31
Carbon Disulfide	<31	31
Methylene Chloride	150 ¹	31
trans-1,2-Dichloroethene	<31	31
1,1-Dichloroethane	<31	31

Notes:

- 1) <5 $\mu\text{g}/\text{kg}$ of MeCl_2 is detected in the method blank
- 2) Results expressed as micrograms per kilogram ($\mu\text{g}/\text{kg}$) dry weight
- 3) Method of Analysis: EPA 8260A
- 4) Analyst: SJN
- 5) Lab ID 970016669



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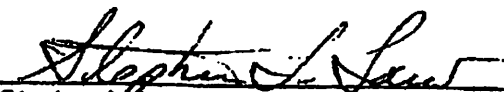
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VOLATILES-TCL List		
Compound Name	Results, $\mu\text{g}/\text{kg}$	Detection Limits
Vinyl Acetate	<310	310
2-Butanone	<620	620
cis-1,2-Dichloroethene	<31	31
Chloroform	<31	31
1,1,1,-Trichloroethane	<31	31
Carbon Tetrachloride	<31	31
Benzene	<31	31
1,2-Dichloroethane	<31	31
Trichloroethene	<31	31
1,2-Dichloropropane	<31	31

Notes:

- 1) <5 $\mu\text{g}/\text{kg}$ of MeCl_2 is detected in the method blank
- 2) Results expressed as micrograms per kilogram ($\mu\text{g}/\text{kg}$) dry weight
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Attention: Buzz Solis

Project I.D.: E-5664, Asbestos Conversion Facility Product

VOLATILES- TCL List		
Compound Name	Results, $\mu\text{g}/\text{kg}$	Detection Limits
Bromodichloromethane	<31	31
2-Chloroethyl vinyl ether	<62	62
4-Methyl-2-Pentanone	<310	310
cis-1,3-Dichloropropene	<31	31
trans-1,3-Dichloropropene	<31	31
1,1,2-Trichloroethane	<31	31
2-Hexanone	<31	31
1,2-Dibromoethane	<310	310
Tetrachloroethene	<31	31
Dibromochloromethane	<31	31

Notes:

- 1) <5 $\mu\text{g}/\text{kg}$ of MgCl_2 is detected in the method blank
- 2) Results expressed as micrograms per kilogram ($\mu\text{g}/\text{kg}$) dry weight
- 3) Method of Analysis: EPA 8260A
- 4) Analyst: SJN
- 5) Lab ID 970016669


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VOLATILES- TCL List		
Compound Name	Results, $\mu\text{g}/\text{kg}$	Detection Limits
Chlorobenzene	<31	31
Ethylbenzene	<31	31
m & p Xylenes	<31	31
o-Xylene	<31	31
Styrene	<31	31
Bromoform	<31	31
1,1,2,2-Tetrachloroethane	<31	31

Notes:

- 1) <5 $\mu\text{g}/\text{kg}$ of MeCl₂ is detected in the method blank
- 2) Results expressed as micrograms per kilogram ($\mu\text{g}/\text{kg}$) dry weight
- 3) Method of Analysis: EPA 8260A
- 4) Analyst: SJN
- 5) Lab ID 970016669


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METALS- TCL List				
Parameter	Results, ppm	Detection Limits, ppm	Method	Analyst
Antimony(Sb)	<30	30.0	EPA-6010A	PDB
Arsenic(As)	<30	30.0	EPA-6010A	PDB
Barium(Ba)	5.9	0.60	EPA-6010A	PDB
Beryllium(Be)	<0.30	0.300	EPA-6010A	PDB
Cadmium(Cd)	<0.6	0.60	EPA-6010A	PDB
Calcium(Ca)	79000	30.0	EPA-6010A	PDB
Chromium(Cr)	31	1.2	EPA-6010A	PDB
Cobalt(Co)	0.7	0.60	EPA-6010A	PDB
Copper(Cu)	6.6	0.60	EPA-6010A	PDB
Iron(Fe)	1900			
Lead(Pb)	<6			
Magnesium(Mg)	45000			
Manganese(Mn)	110			

Chromium
 Regulatory Limit
 5 ppm
 Lead - ? 26
 cannot do less than?
 5 is RECA
 HAZ WASTE

- Notes:
 1) Results expressed as parts per million (ppm)
 2) Lab ID 970016197

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Attention: Buzz Sallis

Project I.D.: E-5684, Asbestos Conversion Facility Product

METALS- TCL List				
Parameter	Results, ppm	Detection Limits, ppm	Method	Analyst
Nickel(Ni)	20	1.2	EPA-6010A	PDB
Potassium(K)	220	6.0	EPA-6010A	PDB
Selenium(Se)	<30	30.0	EPA-6010A	PDB
Silver(Ag)	<1	1.2	EPA-6010A	PDB
Sodium(Na)	1400	30.0	EPA-6010A	PDB
Thallium(Tl)	<30	30.0	EPA-6010A	PDB
Vanadium(V)	4.4	0.60	EPA-6010A	PDB
Zinc(Zn)	16	1.2	EPA-6010A	PDB
Total Cyanide	<0.80	0.800	EPA-9012	RED

Notes:

- 1) Results expressed as parts per million (ppm)
- 2) Lab ID 970016197


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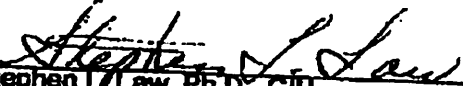
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RCRA- Waste Characteristic Testing				
Parameter	Test Results	Detection Limit	Method	Analyst
Flashpoint	>200 F	85 F	ASTM-D 3828	PRG
pH	7.0 pH units	NA	EPA-8045C	PRG
Temperature at analysis	21.1 C	NA	EPA-8045C	PRG
Reactive Cyanide	<50 ppm	50 ppm	EPA-SW-846 7.3	PRG
Reactive Sulfide	<50 ppm	50 ppm	EPA-SW-846 7.3	PRG
Total Solids	83.6%	0.01%	ASTM-D2216	PRG
Mercury(Hg)	<0.06 ppm	0.060 ppm	EPA-7471A-M	PRW
Aluminum(Al)	2100 ppm	6.0 ppm	EPA-6010A	PDB

Notes:

- 1) F= Fahrenheit
- 2) C= Celsius
- 3) ppm= parts per million
- 4) Lab 970016197


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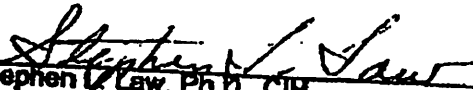
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Attention: Buzz Soltis

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SEMI-VOLATILES- TCL List	
Compound	Results, mg/Kg
bis(2-Chloroethyl)ether	<0.38*
Phenol	<0.38*
2-Chlorophenol	<0.38*
1,3-Dichlorobenzene	<0.38*
1,4-Dichlorobenzene	<0.38*
1,2-Dichlorobenzene	<0.38*
bis(2-chloroisopropyl)ether	<0.38*
2-Methylphenol	<0.38*
Hexachloroethane	<0.38*
N-Nitroso-di-n-propylamine	<0.38*
4-Methylphenol, 3-Methylphenol	<0.38*
Nitrobenzene	<0.38*
Isophorone	<0.38*

Notes:

- 1) Method: EPA 3550A/8270B
- 2) Analyst: DMJ
- 3) * = Limit of Quantitative Detection
- 4) Results expressed as milligrams per kilogram (mg/Kg)
- 5) Lab ID 970016669


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SEMI-VOLATILES- TCL List	
Compound	Results, mg/Kg
2-Nitrophenol	<0.38*
2,4-Dimethylphenol	<0.38*
bis(2-Chloroethoxy)methane	<0.38*
2,4-Dichlorophenol	<0.38*
1,2,4-Trichlorobenzene	<0.38*
Napthalene	<0.38*
4-Chloroaniline	<0.77*
Hexachlorobutadiene	<0.38*
4-Chloro-3-methylphenol	<0.77*
2-Methylnaphthalene	<0.38*
Hexachlorocyclopentadiene	<0.38*
2,4,6-Trichlorophenol	<0.38*
2,4,5,-Trichlorophenol	<0.38*

Notes:

- 1) Method: EPA 3550A/8270B
- 2) Analyst: DMJ
- 3) * = Limit of Quantitative Detection
- 4) Results expressed as milligrams per kilogram (mg/Kg)
- 5) Lab ID 970016869


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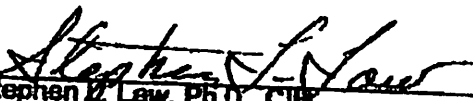
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Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Buzz Soltis

Project I.D.: E-5664, Asbestos Conversion Facility Product

SEMI-VOLATILES- TCL List	
Compound	Results, mg/Kg
2-Chloronaphthalene	<0.38*
2-Nitroaniline	<1.9*
Acenaphthylene	<0.38*
Dimethylphthalate	<0.38*
2,6-Dinitrotoluene	<0.38*

Notes:

- 1) Method: EPA 3550A/8270B
- 2) Analyst: DMJ
- 3) * = Limit of Quantitative Detection
- 4) Results expressed as milligrams per kilogram (mg/Kg)
- 5) Lab ID 970016669


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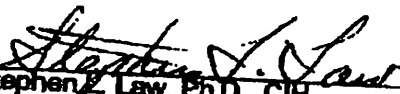
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Attention: Buzz Solis

Project I.D.: E-5664, Asbestos Conversion Facility Product

TCLP VOLATILES		
Compound Name	Results, mg/l TC	Regulatory Limits, mg/l TC
Vinyl Chloride	<0.050*	0.2
1,1-Dichloroethene	<0.025*	0.7
2-Butanone	<1.3*	200
Chloroform	<0.025*	6.0
Carbon Tetrachloride	<0.025*	0.5
Benzene	<0.025*	0.5
1,2-Dichloroethane	<0.025*	0.5
Trichloroethene	<0.025*	0.5
Tetrachloroethene	<0.025*	0.7
Chlorobenzene	<0.025*	100

Notes:

- 1) Results expressed as milligrams per liter of Toxicity Characteristic extract (mg/l TC)
- 2) Method EPA 8260A
- 3) Analyst: SJN
- 4) Lab ID 970016669
- 5) * Limit of Quantitative Detection


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Project I.D.: E-5664, Asbestos Conversion Facility Product

TCLP SEMIVOLATILES	
Compound Name	Results, mg/l TC
1,4-Dichlorobenzene	<0.10*
Cresols (m)	<0.10*
Hexachloroethane	<0.10*
Nitrobenzene	<0.10*
Hexachlorobutadiene	<0.10*
2,4,6-Trichlorophenol	<0.10*
2,4,5-Trichlorophenol	<0.10*
2,4-Dinitrotoluene	<0.10*
Hexachlorobenzene	<0.10*
Pentachlorophenol	<0.50*
Pyridine	<0.50*

Notes:

1)
2)
3)
4)
5)
6)

Results expressed as milligrams per liter of Toxicity Characteristic extract (mg/l TC)
EPA 8270B
Expressed as the sum of o,m and p-cresol
Analyst: DMJ

* = Limit of Quantitative Detection
Lab ID 970016699

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TCLP PESTICIDES	
Compound	Results, mg/l TC
Lindane	<0.0005*
Heptachlor and Heptachlor Ep	<0.0005*
Endrin	<0.001*
Methoxychlor	<0.005*
Chlordane	<0.01*
Toxaphene	<0.03*
Heptachlor	<0.0005*
Heptachlor Epoxide	<0.0005*

Notes:

- 1) Method EPA 8081
- 2) Analyst: GDM
- 3) Results expressed as milligrams per liter of Toxicity Characteristic extract (mg/l TC)
- 4) * = Limit of Quantitative Detection
- 5) Lab ID 970016669


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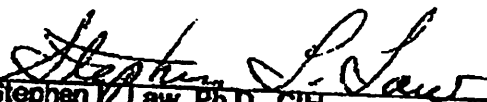
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TCLP METALS		
TCLP (Method 1311)	Results, mg/l TC	Regulatory Limits
Arsenic (As)	<0.5*	5.0
Barium (Ba)	<5*	100.0
Cadmium (Cd)	<0.05*	1.0
Chromium (Cr)	<0.1*	5.0
Lead (Pb)	<0.5*	5.0
Mercury (Hg)	<0.01*	0.2
Selenium (Se)	<0.5*	1.0
Silver (Ag)	<0.05*	5.0

Notes:

- 1) Results expressed in milligrams per liter of Toxic Characteristic extract (mg/l TC)
- 2) Analyst: PDB
- 3) *= Limit of Quantitative Detection
- 4) Lab ID 970016669


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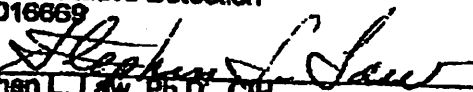
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PESTICIDES / PCB's	
Compound Name	Results, mg/kg (ppm)
a-BHC	<0.06*
b-BHC	<0.06*
g-BHC	<0.06*
d-BHC	<0.06*
Heptachlor	<0.06*
Aldrin	<0.06*
Heptachlor epoxide	<0.06*
a-Endosulfan	<0.1*
4,4'-DDE	<0.1*
Dieldrin	<0.1*
Endrin	<0.1*
b-Endosulfan	<0.3*
Endrin aldehyde	<0.3*

Notes:

- 1) Method EPA 3550 / 8080
- 2) Analyst: GDM
- 3) * = Limit of Quantitative Detection
- 4) Lab ID 970016669


 Stephen L. Law, Ph.D., CIH
 President

I H SERVICES, INC.

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Report No: 7-370-3

Report Date: September 30, 1997
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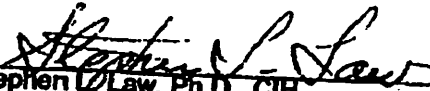
Report To: Asbestos Mitigation Team
Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Buzz Soltis

Project I.D.: E-5664, Asbestos Conversion Facility Product

PESTICIDES / PCB's	
Compound Name	Results, mg/kg (ppm)
4,4'-DDD	<0.3*
Endosulfan sulfate	<0.3*
4,4'- DDT	<0.3*
PCB-1242	<1*
PCB-1254	<1*
PCB-1221	<1*
PCB-1232	<1*
PCB-1248	<1*
PCB-1260	<1*
PCB-1016	<1*
α -Chlordane	<0.1*
γ -Chlordane	<0.1*
Technical Chlordane	<1*
Toxaphene	<3*
Methoxychlor	<0.6*

Notes:

- 1) Method EPA 3550 / 8080
- 2) Analyst: GDM
- 3) * = Limit of Quantitative Detection
- 4) Lab ID 970016669


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◆ FACSIMILE TRANSMITTAL ◆

Date: Oct 20, 1997

From: Stephen L. Law

To: APG

Attn: Rachel S

Fax #: 410-612-6594

Original to Follow By

Regular Mail:

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UPS Next Day:

Courier:

Client Pick-up:

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For Your Info.

◆ MESSAGE ◆

Results for Asbestos Conversion Facility:

Acetic Acid

Formic Acid

Hydrogen Fluoride

Mercury Chloride

Formic Acid

RA air

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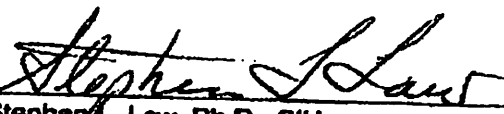
Report To: Asbestos Mitigation Team
Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample №	Date	Volume, liters	Acetic Acid, ppm	Sample Location
8620553	5669-1V	09/10/97	43	<0.068*	Personal- 3792

Notes:

1. Results in parts per million (ppm)
2. Method: NIOSH 1603 or OSHA ID-186
3. * = Limit of Quantitative Detection
4. μg = micrograms, used in the absence of air volume


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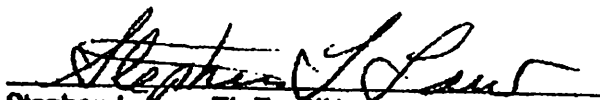
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Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Acetic Acid, ppm	Sample Location
97I21422	5664-3V	09/24/97	18.8	<0.024*	Inside work area
97I21423	5664-4V	09/24/97	0	<1.1 µg*	Blank

Notes:

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Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N°	Sample Date	Volume, liters	Acetic Acid ppm	Sample Location
97121980	5664-5V	09/30/97	14	<0.032*	Personal- 3792, inside
97121981	5664-6V	09/30/97	8.8	0.053*	Exhaust from regeneration room
97121982	5664-7V	09/30/97	0	<1.1 µg*	Blank

Notes:

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2. Method: NIOSH 1603 or OSHA ID-186
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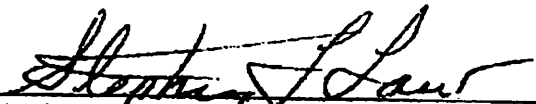
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Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	HF, ppm	Sample Location
8620544	5664-1F	09/10/97	38	0.403	Personal inside, 0246
8620546	5664-1FB	09/10/97	0	<1.1 μ g*	Blank

Notes:

- 1 HF= Hydrogen Fluoride.
- 2 Results in parts per million (ppm)
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Lab ID	Sample N ^o	Sample Date	Volume, liters	HF, ppm	Sample Location
8620545	5664-2F	09/11/97	64	0.398	Inside work area
8620546	5664-2FB	09/11/97	0	<1.1 μ g*	Blank

Notes:

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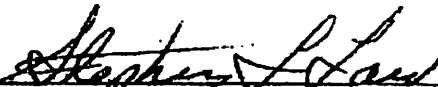
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Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample No	Sample Date	Volume, liters	HF, ppm	Sample Location
8621013	5664-3F	09/15/97	52.9	0.350	IWA on drum under sensor #5

Notes:

- 1 HF= Hydrogen Fluoride.
2. Results in parts per million (ppm)
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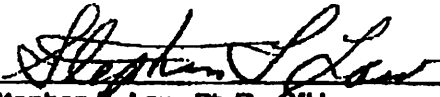
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Lab ID	Sample N ^o	Sample Date	Volume, liters	HF, ppm	Sample Location
8622130	5664-5F	09/22/97	68	0.074	Outside processing HEPA exhaust
8622131	5664-6F	09/22/97	61	0.301	Inside work area at emergency door exit, north west
8622132	5664-7F	09/22/97	40.5	0.246	Personal- 6954, inside
8622133	5664-8F	09/22/97	40.5	<0.034*	Area, inside on top of microtraps by sensors 1,3 & 5 (regeneration room)
8622134	5664-9F	09/22/97	0	<1.1µg*	Blank

Notes:

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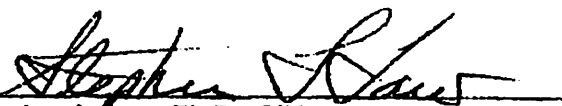
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Lab ID	Sample N°	Sample Date	Volume, liters	HF, ppm	Sample Location
8622306	5664-10F	09/23/97	86	0.119	Personal- 6954, inside
8622307	5664-11F	09/23/97	65	0.043	Exhaust from regeneration room
8622308	5664-12F	09/23/97	0	<1.1 μ g	Blank

Notes:

- 1 HF= Hydrogen Fluoride.
- 2 Results in parts per million (ppm)
- 3 Method: NIOSH 7903
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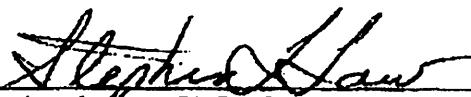
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Lab ID	Sample Nº	Sample Date	Volume, liters	HF, ppm	Sample Location
8622485	5664-13F	09/24/97	91.5	0.069	Personal- 3792
8622486	5664-14F	09/24/97	67.2	0.18	Exhaust from regeneration room
8622487	5664-15F	09/24/97	49.5	0.17	Inside work area mixing room
8622488	5664-16F	09/24/97	41.7	0.18	Inside regeneration room
8622489	5664-17F	09/24/97	0	<1.1µg*	Blank

Notes:

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2. Results in parts per million (ppm)
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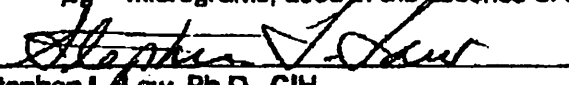
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Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample Nº	Sample Date	Volume, liters	HF, ppm	Sample Location
97121983	5664-18F	09/30/97	22.8	0.13	Personal- 6954, inside
97121984	5664-19F	09/30/97	11.6	<0.23*	Exhaust from regeneration room
97121985	5664-20F	09/30/97	0	<2.2µg*	Blank

Notes:

- 1 HF= Hydrogen Fluoride.
2. Results in parts per million (ppm)
3. Method: NIOSH 7903
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Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample Nº	Sample Date	Volume, liters	MeCl ₂ , ppm	Sample Location
8620554	5664-2V	09/11/97	5.5	<0.18*	In work area
8620555	5664-2VB	09/11/97	0	<3.4µg*	Blank

Notes:

1. MeCl₂ = Methylene Chloride
2. Results in parts per million (ppm)
3. Method: NIOSH 1005
4. * = Limit of Quantitative Detection
5. µg = micrograms, used in the absence of air volume


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Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Formic Acid ppm	Sample Location
97I21422	5664-3V	09/24/97	18.8	1.75	Inside work area
97I21423	5664-4V	09/24/97	0	8.2 µg	Blank

Notes:

1. Results in parts per million (ppm)
2. Method: OSHA ID-185
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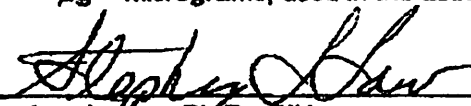
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Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Formic Acid ppm	Sample Location
97I21980	5664-5V	09/30/97	14	1.1	Personal- 3792, inside
97I21981	5664-6V	09/30/97	8.8	1.2	Exhaust from regeneration room
97I21982	5664-7V	09/30/97	0	8.2 µg	Blank

Notes:

1. Results in parts per million (ppm)
2. Method: OSHA ID-186
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Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample Nº	Sample Date	Volume, liters	NH ₃ , ppm	Sample Location
8620541	5664-1A	09/10/97	120	<0.014*	Inside work area
8620543	5664-1B	09/10/97	0	<11µg*	Blank

Notes:

1. NH₃= Ammonia
2. Results in parts per million (ppm)
3. Method: NIOSH S347
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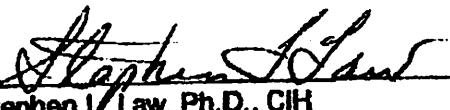
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Lab ID	Sample N°	Sample Date	Volume, liters	NH ₃ , ppm	Sample Location
8620542	5664-2A	09/11/97	25.2	<0.25*	Inside work area
8620353	5664-2B	09/11/97	0	<11µg*	Blank

Notes:

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- 2: Results in parts per million (ppm)
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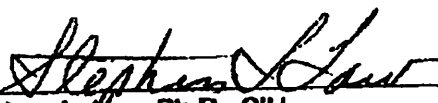
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Lab ID	Sample N ^o	Sample Date	Volume, liters	NH ₃ , ppm	Sample Location
8622303	5664-3A	09/23/97	50.8	<0.32*	Exhaust from regeneration room
8622304	5664-4A	09/23/97	51.8	<0.31*	Inside regeneration room
8622305	5664-5A	09/23/97	0	<11µg*	Blank

Notes:

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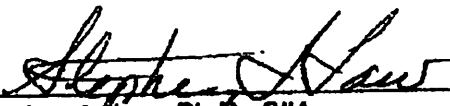
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Lab ID	Sample N°	Sample Date	Volume, liters	NH ₃ , ppm	Sample Location
8622490	5664-6A	09/24/97	84.4	<0.19*	Inside regeneration room
8622491	5664-7A	09/24/97	Blank	<11µg*	Blank

Notes:

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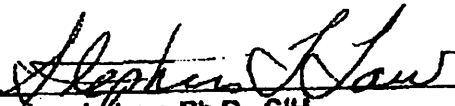
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Attention: Mike Johnson

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Lab ID	Sample N ^o	Sample Date	Volume, liters	NH ₃ , ppm	Sample Location
97121986	5664-8A	09/30/97	14	0.19	Inside regeneration room
97121987	5664-9A	09/30/97	0	<1.3µg*	Blank

Notes:

1. NH₃= Ammonia
2. Results in parts per million (ppm)
3. Method: NIOSH 6015
4. * = Limit of Quantitative Detection
5. µg= micrograms, used in the absence of air volume



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 President

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REPORT OF ANALYSIS

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Report N^o: 7-370-3

Report Date: September 30, 1997
Page 1 of 8


Report To: Asbestos Mitigation Team
Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Asbestos Fibers/cc	Sample Location
972119	5664-1	09/10/97	Blank	0 Fibers / 100 Fields	Blank
972120	5664-2	09/10/97	Blank	0 Fibers / 100 Fields	Blank
972121	5664-3	09/10/97	755	<0.007*	Personal, 6954
972122	5664-4	09/10/97	488	<0.010*	Area inside

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400


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 Report To: Asbestos Mitigation Team
 Construction Division TOC Branch
 Bldg. 4302
 Aberdeen Proving Ground, MD 21005-5001
 Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N°	Sample Date	Volume, liters	Asbestos Fibers / cc	Sample Location
972123	5664-5	09/11/97	Blank	0 Fibers / 100 Fields	Blank
972124	5664-6	09/11/97	Blank	0 Fibers / 100 Fields	Blank
972125	5664-7	09/11/97	615	<0.008*	Personal- 3792, inside work area
972126	5664-8	09/11/97	612	<0.008*	Inside work area
972127	5664-9	09/11/97	1277	<0.005	Inside lab
972128	5664-10	09/11/97	550	<0.009*	Personal- 6954, in lab, PLM work, etc.

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400

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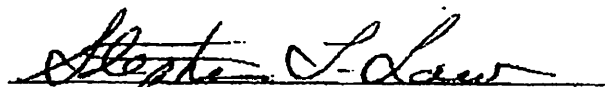
Report To: Asbestos Mitigation Team
 Construction Division TOC Branch
 Bldg. 4302
 Aberdeen Proving Ground, MD 21005-5001
 Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Asbestos Fibers / cc	Sample Location
972129	5664-11	09/15/97	Blank	0 Fibers / 100 Fields	NA
972130	5664-12	09/15/97	Blank	0 Fibers / 100 Fields	NA
972131	5664-13	09/15/97	832	<0.006*	Area, inside containment
972132	5664-14	09/15/97	828	<0.006*	Personal- 3792, inside containment
972133	5664-15	09/15/97	693	<0.007*	Area, in the receiving room

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400


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Report N°: 7-370-3

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Report To: Asbestos Mitigation Team
Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N°	Sample Date	Volume, liters	Asbestos Fibers / cc	Sample Location
972134	5664-15A	09/17/97	Blank	0 Fibers / 100 Fields	NA
972135	5664-16	09/17/97	Blank	0 Fibers / 100 Fields	NA
972136	5664-17	09/17/97	703	<0.007*	Area in receiving room
972137	5664-18	09/17/97	102	<0.048*	Personal- 6954, in separation room

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400



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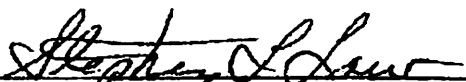
 Report To: Asbestos Mitigation Team
 Construction Division TOC Branch
 Bldg. 4302
 Aberdeen Proving Ground, MD 21005-5001
 Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Asbestos Fibers / cc	Sample Location
972154	5664-19	09/18/97	Blank	0 Fibers / 100 Fields	NA
972155	5664-20	09/18/97	Blank	0 Fibers / 100 Fields	NA
972156	5664-21	09/18/97	464	<0.011*	Area- inside containment
972157	5664-23	09/18/97	104	<0.047*	Personal- 6954, inside containment
972158	5664-24	09/18/97	515	<0.010*	Area, outside by separator room exhaust

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400



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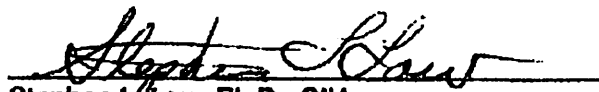
Report To: Asbestos Mitigation Team
Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Asbestos Fibers / cc	Sample Location
972165	5664-25	09/19/97	Blank	0 Fibers / 100 Fields	NA
972166	5664-26	09/19/97	Blank	0 Fibers / 100 Fields	NA
972167	5664-27	09/19/97	814	<0.006*	Personal- 3792
972168	5664-28	09/19/97	2247	<0.005	Outside by seraration room exhaust

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400


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 Report To: Asbestos Mitigation Team
 Construction Division TOC Branch
 Bldg. 4302
 Aberdeen Proving Ground, MD 21005-5001
 Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Asbestos Fibers / cc	Sample Location
JEW-232	5664-29	09/23/97	Blank	0 Fibers / 100 Fields	NA
JEW-233	5664-30	09/23/97	Blank	0 Fibers / 100 Fields	NA
JEW-234	5664-31	09/23/97	746	<0.007*	Inside area
JEW-235	5664-32	09/23/97	594	<0.008*	Outside containment entrance in warehouse

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400



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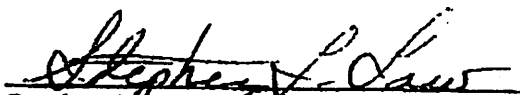
Report To: Asbestos Mitigation Team
Construction Division TOC Branch
Bldg. 4302
Aberdeen Proving Ground, MD 21005-5001
Attention: Mike Johnson

Project I.D.: E-5664, Asbestos Conversion Facility Air

Lab ID	Sample N ^o	Sample Date	Volume, liters	Asbestos Fibers / cc	Sample Location
JEW-236	5664-33	09/24/97	Blank	0 Fibers / 100 Fields	NA
JEW-237	5664-34	09/24/97	Blank	0 Fibers / 100 Fields	NA
JEW-238	5664-35	09/24/97	2109	<0.005	Outside receiving room door
JEW-239	5664-36	09/24/97	438	<0.011*	Inside work area personal-3792

Notes:

1. Asbestos= all fibers greater than 5 microns in diameter with 3 to 1 or greater aspect ratio.
2. * = Limit of Quantitative Detection
3. Method: NIOSH 7400


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Report No: Preliminary Report

Report Date: November 24, 1997
Page 1 of 1
 Report To: Asbestos Abatement Team
 Construction Division TOC Branch
 Building 4302
 Aberdeen Proving Ground, MD 21005-5001
 Attention: Mike Johnson

Project I.D.: Samples submitted for APG, building E5854, Asbestos Conversion Facility

Date	Sample N°	Lab ID	% Asbestos by TEM	% Organics	% Other
11/14/97	BATCH 002	9807821	NAD	6.4%	93.6%
11/14/97	BATCH 003	9807822	NAD	6.2%	93.8%
11/14/97	BATCH 004	9807823	NAD	6.1%	93.9%

KEY:

ACM	= Asbestos Containing Material	NAD	= No Asbestos Detected
Ch	= Chrysotile Asbestos	Ac	= Actinolite Asbestos
Cr	= Crocidolite Asbestos	Tr	= Tremolite Asbestos
Am	= Amosite Asbestos	An	= Anthophyllite Asbestos
Trace	= Less than 1% of this component	TEM	= Transmission Electron Microscopy after gravimetric reduction (NY ELAP Method 183.4)

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