D. H. MORMAN
MAR 20 1984

PLAINTIFF'S EXHIBIT
SH-1470

REPORT ON SERVICE NUMBER 10808
March 16, 1984
IHL's 25682 — 25719

To: D. H. Morman
Shell Development
Houston, TX

Analysis: The following samples were submitted for analysis: Thirty-seven membrane filter samples and one blank for asbestos count.

Method: ASBESTOS (count)
The asbestos content of each filter sample was analyzed following NIOSH procedure P&CAM 239. Wedges from each filter were examined at 450 power using polarizing and phase contrast microscopes. Birefringent fibers longer than five (5) microns with a length-to-width ratio of 3:1 or more were counted as asbestos.

Results: Data is tabulated in Table 1 and 2 of this report.

Discussion: The OSHA permissible exposure limit (PEL) for asbestos is 2 fibers/cc.

ND( ) indicates none of the substance was detected, with a detection limit shown in the parentheses.

LT( ) indicates "less than" with a detection limit for the analysis shown in the parentheses.

Laboratory data are filed and available upon request.

Submitted by:
Robert N. Hager, Jr. Ph.D.
Laboratory Director

RNH/nl

LAM 028205

SN10808
3/16/84

TABLE 1

ASBESTOS COUNT Sample Number	Total Fibers	Air Volume (liters)	Air Concentration (fibers/cc)
4SC021684-5	ND(5100)	630	ND(0.009)
4SC021684-6	LT(5100)	780	LT(0.007)
4SC021684-7	8900	326	0.03
4SC021684-4	LT(5100)	478	LT(0.02)
4SC021684-3	18000	820	0.02
4SC021684-1	22000	830	0.03
4SC021584-5	5100	404	0.01
4SC021584-3	7700	720	0.01
4SC021584-4	LT(5100)	720	LT(0.008)
4SC021584-2	13000	876	0.01
4SC021584-1	LT(5100)	880	LT(0.006)
4SC021684-2	110000	826	0.13
4SC021584-6	29000	510	0.06
4SC021584-7	5100	506	0.01
4SC022884-3	44000	270	0.2
4SC022884-2	110000	270	0.41
4SC022884-1	37000	262	0.1
4SC022984-2	63000	948	0.066

SN10808
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TABLE 2

ASBESTOS COUNT Sample Number	Total Fibers	Air Volume (liters)	Air Concentration (fibers/cc)
4SC022984-1	170000	952	0.18
4SC022984-3	77000	946	0.081
4SC022184-2	8900	530	0.02
4SC022084-1	5100	978	0.005
4SC022184-3	21000	280	0.08
4SC022184-1	6400	280	0.02
4SC022084-6	140000	482	0.29
4SC022084-5	87000	670	0.13
4SC022084-4	12000	494	0.02
4SC022084-2	LT(5100)	782	LT(0.007)
4SC022084-3	LT(5100)	780	LT(0.007)
WIL021584-1	8900	404	0.02
WIL021584-2	7700	590	0.01
WIL021684-1	ND(5100)	32	ND(0.2)
WIL021684-2	ND(5100)	32	ND(0.2)
WIL021684-3	LT(5100)	36	LT(0.2)
WIL021684-4	7700	36	0.2
WIL021684-5	5100	193	0.03
WIL021684-6	40000	714	0.06

Matt. 6/23

Call Bryan Dugan, Willbridge 458-6240

re: Oregon / Federal OSHA requirements for asbestos.

Do they have to do atmospheric monitoring if the insulation is beginning to fall off the pipes (or becoming loose)? Any requirements in the interim before actual removal? We'll outline the requirements for removal if they desire.

fr contract on piles

ALLEN R. SCHMIDT

~~2000 ml~~ × ~~50~~ 20 / ~~sec~~ min = 2000 ml/min

2233 (pump)

544-52-0848
Asbestos worker WIL021554-1

2243 (pump)

542-26-3902
Asb. Worker
(213.9 mi) 11.41 off
(81.1 mi) AFTN.
WIL021554-2

2241 MKE (3)
(189.4 mi) 11.21 off
(81.6 in aftern)
1.24

0807 pumps on
0830 enter
began wetting ceiling on ground
to pick up + bag.

2233 10:07 pump off (TRS)
(119.9 min total)
(82.0 in aftern)

AO

back on 13:46
off 1507

1345
1-45

1-07

LAM 028209

ABS-047099

[illegible] [illegible] C3C6 on ✓

2243 Bob 0849 on ✓

2233 Mike Peak (16.4mm)
0945-1001 WIL021654-1
removal of chicken wire - and - blocks
from east side of heat exchanger
thoroughly saturated
Lowered into bags.

2233 Bob Peak (15.7min)
1007-1023 WIL021684-3 ✓
removal of blocks and chunks
picking up ground.
[illegible] into bags.

Mike (179.5 min) lunch 11:05 off
Bob (178.5 min) lunch 11:07 off

1237 mike on. Afternoon
1238 Bob on.

LAM 028210

ABS-047100

R-79-4149 model G

1249 pump on MSA area
4' above ground 10' south of heat
exchanger. in middle
represents airborne conc of ash
cleaning immediate work area
1436 pump off WIL021654-5

(2233)
1259 Peak Mike Cleanup inlow
heat exch. (18.4 min)

some loop removal of blocks
all clear WIL021654-3

(2233) Peak Bl- (18.6 min)
1354 on time 1412

brushing/scrapping inside
WIL 021654-4

Bol- filter damaged -7
mike 177.3 off WIL021654-6

Calib. check
MSA 1.8 lpm
Gilian (all) 2.0 lpm.

LAM 028211

ABS-047101

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE

IHL NO. IHL 028712

NAME EMPLOYEE SAMPLED	
SOCIAL SECURITY NUMBER	544-52-0818
EMPLOYEE NUMBER	—
JOB EXPOSURE PROFILE	—
JOB TITLE	Asbestos Worker
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	G029
AREA/ UNIT	cutback yard
OPERATING CONDITION/ OPERATION	06

SAMPLE TYPE
1 [X] PERSONAL-TWA
2 [ ] PERSONAL-PEAK
3 [ ] AREA
4 [ ] BLANK
5 [ ] BULK
6 [ ] LAB CONTROL
7 [ ] SOURCE
8 [ ] _____

COLLECTOR
1 [ ] CHARCOAL TUBE
2 [ ] FILTER (RESP.)
3 [X] FILTER (TOTAL)
4 [ ] IMPINGER
5 [ ] PASSIVE DOSIMETER
6 [ ] SILICA GEL
7 [ ] PACKED TUBE
8 [ ] _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER IN. HG | TEMPERATURE °F

WIND M.P.H. | HUMIDITY % R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
100508	Asbestos		0.02

UNIT
1 [ ] PPMV 5 [ ] MG
2 [ ] MG/M3 6 [ ] FIBER
3 [ ] PPBV 7 [ ] % WT
4 [X] FIBER/CC 8 [ ] % VOL.
9 [ ] _____

DATE SAMPLED: 02/15/84

SHIFT: 1 [X] 2 [ ] 3 [ ] _____

SAMPLE NO.: WIL021584-1

SAMPLED BY: MR Carroll PHONE: 443-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402

RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	* PPE	TIME AT TASK	INSTR. READING
0807	Pump on - start sampling. Spent the day cleaning up loose insulation on ground. A wetting solution was sprayed on spots to clean up to control airborne dust levels. Exposure appeared very low.	✓		
1007	Pump turned off; Employee left job site for personal errands.			
1345	Pump back on - continued clean-up.	✓		
1507	Pump off - stop sampling. No additional exposure to asbestos.			

SKETCH AREA (And Or Remarks)

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American Optical ½ mask partic. resp.; Tyvek suit, gloves, boots, goggles

INSTRUMENT TYPE & MODEL NO.	Gilian
SERIAL NO.	2233
CALIBRATED BY	MR Carroll
DATE	2/15/84
REFERENCE/METHOD	Soap bubble - Burette
VOLUME PER COUNT	—
COUNTER READING	FINAL: / INITIAL: / NET:
FLOW RATE	2.0 lpm
SAMPLING TIME	202 MIN. 404 L.

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? [ ] YES [X] NO
- If No:
  - INCLUDE RESULTS FROM 0 ADDITIONAL SAMPLES (ATTACHED)
  - ASSIGN ZERO EXPOSURE FOR 278 MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
- [ ] TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? [X] YES [ ] NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? [ ] YES [X] NO

COMMENTS 01

DATA CLASSIFICATION [0] [1]

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028184

ABS-047074

IHL NO. IHL 028712

SAMPLED BY (LAST NAME & INITIALS)

ACCOUNTING CODE 420|8|2|7|5|0|0|4

CONDITION OF SAMPLE UPON RECEIPT

☑ OK ☐ Other *(Describe)*

DATE RECEIVED | WEEK 10 | DAY 1

BOX NO. OR SAMPLE LOCATION

ANALYZED BY: Hague Lab	DATE: 3/16/84	LAB RECORD NO.	GROUP	WIHIH
METHOD NUMBER AND/OR DESCRIPTION: Serum No. 10808 (see attached report)			METHOD CODE	NONROU
			NUMBER OF ANALYSIS	1
REFERENCE			DATE REPORTED (WEEK – DAY)	12-3
			BENCH HOURS (XXX.X)	

ANALYTICAL RESULTS UNITS: ☐ PPMV ☐ mg/m3 ☐

Asbestos	8900 total fibers	0.02	fibers/cc

LAM 028185

EXPOSURE CALCULATION

TWA, PEAK

SUPERVISING CHEMIST

DC 3/21

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

ABS-047075

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE

IHL NO.

NAME EMPLOYEE SAMPLED	
SOCIAL SECURITY NUMBER	542-26-3902
EMPLOYEE NUMBER	
JOB EXPOSURE PROFILE	
JOB TITLE	Asbestos Worker
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	G029
AREA/ UNIT	Cutback yard
OPERATING CONDITION/ OPERATION	06

SAMPLE TYPE
1 [X] PERSONAL-TWA
2 [ ] PERSONAL-PEAK
3 [ ] AREA
4 [ ] BLANK
5 [ ] BULK
6 [ ] LAB CONTROL
7 [ ] SOURCE
8 [ ] _____

COLLECTOR
1 [ ] CHARCOAL TUBE
2 [ ] FILTER (RESP.)
3 [X] FILTER (TOTAL)
4 [ ] IMPINGER
6 [ ] PASSIVE DOSIMETER
6 [ ] SILICA GEL
7 [ ] PACKED TUBE
8 [ ] _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER	TEMPERATURE
IN. HG	°F
WIND	HUMIDITY
M.P.H.	% R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
900508	Asbestos		0.01

UNIT
1 [ ] PPMV 5 [ ] MG
2 [ ] MG/M3 6 [ ] FIBER
3 [ ] PPBV 7 [ ] % WT
4 [X] FIBER/CC 8 [ ] % VOL.
9 [ ] _____

DATE SAMPLED: 02/15/84

SHIFT: 1 [X] 2 [ ] 3 [ ] _____

SAMPLE NO.: WIL021584-2

SAMPLED BY: MR Carroll PHONE: 443-7627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402

RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	* PPE	TIME AT TASK	INSTR. READING
0807	Pumps - start sampling. Spent the day cleaning up loose insulation on ground. Water agent added prior to clean-up to control airborne exposure. Exp. appeared very low.	✓		
1141	Pump off for lunch			
1345	Pump on - continued cleanup./No additional exposure to asbestos.	✓		
1506	Pump off - stop sampling ↓			

SKETCH AREA (And Or Remarks)

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American Optical, ½ mask particulate respirator, Tyvek suit + headgear, booties, gloves

INSTRUMENT TYPE & MODEL NO.	Gilian HFS 113
SERIAL NO.	2243
CALIBRATED BY	MR Carroll
DATE	2/15/84
REFERENCE/METHOD	Soap bubble - Burette
VOLUME PER COUNT	—
FLOW RATE	2.0 lpm
SAMPLING TIME	295 MIN. 590 L.

COUNTER READING	
FINAL	
INITIAL	
NET	

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? [ ] YES [X] NO
- If No:
  - INCLUDE RESULTS FROM 0 ADDITIONAL SAMPLES (ATTACHED)
  - ASSIGN ZERO EXPOSURE FOR 185 MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
- [ ] TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? [✓] YES [ ] NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? [ ] YES [✓] NO

COMMENTS: 01

DATA CLASSIFICATION: [0] [1]

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028186

ABS-047076

IHL NO. IHL 028713

SAMPLED BY (LAST NAME & INITIALS)

ACCOUNTING CODE 4 6 8 2 7 5 0 0 4

CONDITION OF SAMPLE UPON RECEIPT
☑ OK ☐ Other *(Describe)*

DATE RECEIVED | WEEK 1 0 | DAY 1

BOX NO. OR SAMPLE LOCATION

ANALYZED BY: Hager Lab

DATE: 3/16/84

LAB RECORD NO.

GROUP: WTH IH

METHOD NUMBER AND/OR DESCRIPTION: Service No. 10808 (see attached report)

METHOD CODE: NONROU

NUMBER OF ANALYSIS: 1

REFERENCE

DATE REPORTED (WEEK – DAY): 12-3

BENCH HOURS (XXX.X)

ANALYTICAL RESULTS

UNITS: ☐ PPMV ☐ mg/m3 ☐

Asbestos:	7700 total fibers	0.01 fibers/cc	

EXPOSURE CALCULATION

TWA, PEAK

LAM 028187

ABS-047077

SUPERVISING CHEMIST: JC

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE

IHL NO. IHL 020714

NAME	
SOCIAL SECURITY NUMBER	544-52-0848
EMPLOYEE NUMBER	—
JOB EXPOSURE PROFILE	—
JOB TITLE	Asbestos Worker
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	G029
AREA/ UNIT	Cutback yard
OPERATING CONDITION/ OPERATION	0021

SAMPLE TYPE
1 ☐ PERSONAL-TWA
2 ☒ PERSONAL-PEAK
3 ☐ AREA
4 ☐ BLANK
5 ☐ BULK
6 ☐ LAB CONTROL
7 ☐ SOURCE
8 ☐ _____

COLLECTOR
1 ☐ CHARCOAL TUBE
2 ☐ FILTER (RESP.)
3 ☒ FILTER (TOTAL)
4 ☐ IMPINGER
5 ☐ PASSIVE DOSIMETER
6 ☐ SILICA GEL
7 ☐ PACKED TUBE
8 ☐ _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER	TEMPERATURE
IN. HG	°F
WIND	HUMIDITY
M.P.H.	% R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
900508	Asbestos	<	0.2

UNIT
1 ☐ PPMV 5 ☐ MG
2 ☐ MG/M3 6 ☐ FIBER
3 ☐ PPBV 7 ☐ % WT
4 ☒ FIBER/CC 8 ☐ % VOL.
9 ☐ _____

DATE SAMPLED: 02/16/84

SHIFT: 1 ☒ 2 ☐ 3 ☐ _____

SAMPLE NO.: WIL021684-1

SAMPLED BY: MR Carroll PHONE: 442-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402

RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	PPE*	TIME AT TASK	INSTR. READING	SKETCH AREA (And Or Remarks)
0945	Pump on - start sampling. peak sample taken while removing insulation from east side of heat exchanger; chicken wire cut; mud and asbestos blocks removed all material was thoroughly saturated from rain and wetting solution. Insulation mat'l was loaded into bags.	✓			
1001	pump off - stop sampling.				

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American optical ½ mask partic resp; Tyvek suit; gloves, boots; hard hat

INSTRUMENT TYPE & MODEL NO.	SERIAL NO.
Gilian HFS 113	2233
CALIBRATED BY: MR Carroll	DATE: 2/16/84
REFERENCE/METHOD: Soapbubble - burette	
VOLUME PER COUNT: —	COUNTER READING
FLOW RATE: 2.0 lpm	FINAL:
SAMPLING TIME: 16 MIN. 32 L.	INITIAL:
	NET:

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? ☐ YES ☒ NO
- If No:
- INCLUDE RESULTS FROM _____ ADDITIONAL SAMPLES (ATTACHED)
- ASSIGN ZERO EXPOSURE FOR _____ MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
- ☒ TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? ☑ YES ☐ NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? ☐ YES ☑ NO

COMMENTS 01

DATA CLASSIFICATION ▶ ☐ 0 ☐ 1

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028188

ABS-047078

SAMPLED BY (LAST NAME & INITIALS)	ACCOUNTING CODE: 420 8 2 7 50 04
CONDITION OF SAMPLE UPON RECEIPT: ☒ OK ☐ Other (Describe)	IHL NO.: IHL 028714.
	DATE RECEIVED: WEEK 10 DAY 1
	BOX NO. OR SAMPLE LOCATION:
ANALYZED BY: Hager Lab	DATE: 3/16/84
LAB RECORD NO.	GROUP: WIHIH
METHOD NUMBER AND/OR DESCRIPTION: Service No. 10808 (see attached report)	METHOD CODE: NONROU
	NUMBER OF ANALYSIS: 1
REFERENCE	DATE REPORTED (WEEK – DAY): 12-3
	BENCH HOURS (XXX.X):

ANALYTICAL RESULTS UNITS: ☐ PPMV ☐ mg/m3 ☐

EXPOSURE CALCULATION

TWA, PEAK

Asbestos:	ND(5100) total fibers	ND(0.2) fibers/cc.

LAM 028189

SUPERVISING CHEMIST: DRM

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

ABS-047079

INDUSTRIAL HYGIENE
SAMPLING FORM

SENT TO HEAD OFFICE IHL NO. IHL 028715

NAME EMPLOYEE SAMPLED	
SOCIAL SECURITY NUMBER	542-26-3902
EMPLOYEE NUMBER	—
JOB EXPOSURE PROFILE	—
JOB TITLE	Asbestos Worker
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	GO29
AREA/ UNIT	Cutback yard
OPERATING CONDITION/ OPERATION	21

SAMPLE TYPE
1 ☐ PERSONAL-TWA
2 ☒ PERSONAL-PEAK
3 ☐ AREA
4 ☐ BLANK
5 ☐ BULK
6 ☐ LAB CONTROL
7 ☐ SOURCE
8 ☐ _____

COLLECTOR
1 ☐ CHARCOAL TUBE
2 ☐ FILTER (RESP.)
3 ☒ FILTER (TOTAL)
4 ☐ IMPINGER
5 ☐ PASSIVE DOSIMETER
6 ☐ SILICA GEL
7 ☐ PACKED TUBE
8 ☐ _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER	TEMPERATURE
IN. HG	°F
WIND	HUMIDITY
M.P.H.	% R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
900508	Asbestos	<	0.2

UNIT
1 ☐ PPMV 5 ☐ MG
2 ☐ MG/M3 6 ☐ FIBER
3 ☐ PPBV 7 ☐ % WT
4 ☒ FIBER/CC 8 ☐ % VOL.
9 ☐ _____

DATE SAMPLED: 02/16/84
SHIFT: 1 ☒ 2 ☐ 3 ☐ _____

SAMPLE NO.: WILO21684-2
SAMPLED BY: MR Carroll PHONE: 442-4627
DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402
RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	* PPE	TIME AT TASK	INSTR. READING
1007	Pump on - start sampling.			
	Removing various blocks of asbestos insulation from heat exchanger. Picked up loose material from plastic underliner. Slight exposure to visible dust.			
1023	Pump off - stop sampling			

SKETCH AREA (And Or Remarks)

*Personal Protective Equipment: Check Column for Each Task Where Worn
TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American Optical ½ mask particl. resp; Tyvek suit + headgear, gloves, boots

INSTRUMENT TYPE & MODEL NO.	SERIAL NO.
Gilian HFS 113 AT	2333
CALIBRATED BY: MR Carroll	DATE: 2/16/84
REFERENCE/METHOD: Soap bubble - burette	
VOLUME PER COUNT: —	COUNTER READING
FLOW RATE: 2.0 lpm.	FINAL:
SAMPLING TIME: 16 MIN. 32 L.	INITIAL:
	NET:

INFORMATION FOR TWA DETERMINATION
- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? ☐ YES ☒ NO
- If No:
- INCLUDE RESULTS FROM _____ ADDITIONAL SAMPLES (ATTACHED)
- ASSIGN ZERO EXPOSURE FOR _____ MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
- ☒ TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? ☒ YES ☐ NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? ☐ YES ☒ NO

COMMENTS 01

DATA CLASSIFICATION ▶ ☐ 0 ☐ 1

CLASSIFIED BY: MR Carroll DATE: 4/9/84
REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028190
ABS-047080

IHL NO. IHL 028715

SAMPLED BY (LAST NAME & INITIALS)

ACCOUNTING CODE 420|8|2|7|5|0|0|4

CONDITION OF SAMPLE UPON RECEIPT
☑ OK ☐ Other (Describe)

DATE RECEIVED | WEEK 10 | DAY 1

BOX NO. OR SAMPLE LOCATION

ANALYZED BY: Hazen Lab | DATE: 3/16/84 | LAB RECORD NO.

GROUP: WIHIH

METHOD NUMBER AND/OR DESCRIPTION: Service No. 10808 (see attached report)

METHOD CODE: NONROU

NUMBER OF ANALYSIS: 1

REFERENCE

DATE REPORTED (WEEK – DAY): 12-3

BENCH HOURS (XXX.X)

ANALYTICAL RESULTS

UNITS: ☐ PPMV ☐ mg/m3 ☐

EXPOSURE CALCULATION

TWA, PEAK

Asbestos: ND(5100) total fibers ND(0.2) fibers/cc

LAM 028191

ABS-047081

SUPERVISING CHEMIST WHM

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE

IHL NO. IHL 028716

NAME EMPLOYEE SAMPLED

SOCIAL SECURITY NUMBER: 544-52-0548

EMPLOYEE NUMBER: L

JOB EXPOSURE PROFILE: —

JOB TITLE: Asbestos Worker

EMPLOYEE'S COMPANY: E.J. Bartells

LOCATION (SHELL FACILITY OR OTHER): G029

AREA/UNIT: Cutback yard

OPERATING CONDITION/OPERATION: 21

SAMPLE TYPE
1 ☐ PERSONAL-TWA
2 ☒ PERSONAL-PEAK
3 ☐ AREA
4 ☐ BLANK
5 ☐ BULK
6 ☐ LAB CONTROL
7 ☐ SOURCE
8 ☐ _____

COLLECTOR
1 ☐ CHARCOAL TUBE
2 ☐ FILTER (RESP.)
3 ☒ FILTER (TOTAL)
4 ☐ IMPINGER
5 ☐ PASSIVE DOSIMETER
6 ☐ SILICA GEL
7 ☐ PACKED TUBE
8 ☐ _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER IN. HG

TEMPERATURE °F

WIND M.P.H.

HUMIDITY % R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
9002-08	asbestos	<	0.2

UNIT
1 ☐ PPMV 5 ☐ MG
2 ☐ MG/M3 6 ☐ FIBER
3 ☐ PPBV 7 ☐ % WT
4 ☒ FIBER/CC 8 ☐ % VOL.
9 ☐ _____

DATE SAMPLED: 02/16/84

SHIFT: 1 ☒ 2 ☐ 3 ☐ _____

SAMPLE NO.: WIL021684-3

SAMPLED BY: MR Carroll PHONE: 442-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402

RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	* PPE	TIME AT TASK	INSTR. READING	SKETCH AREA (And Or Remarks)
1259	Pump on - start sampling removed blocks of asbestos from top of heat exchanger - slight dust. Cleaned up fallen material from plastic underliner.	✓			
1317	Pump off - stop sampling				

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American optical ½ mask particulates; Tyvek suit+head gear; boots; gl

INSTRUMENT TYPE & MODEL NO.: Gilian HFS 113CT — SERIAL NO.: 2233

CALIBRATED BY: MR Carroll — DATE: 2/16/84

REFERENCE/METHOD: Soapbubble - buretta.

VOLUME PER COUNT: —

FLOW RATE: 2.0 lpm

COUNTER READING: FINAL · INITIAL · NET ·

SAMPLING TIME: 18 MIN. 36 L.

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT [480] MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? ☐ YES ☒ NO
- If No:
- INCLUDE RESULTS FROM _____ ADDITIONAL SAMPLES (ATTACHED)
- ASSIGN ZERO EXPOSURE FOR _____ MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
- ☒ TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? ☒ YES ☐ NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? ☐ YES ☒ NO

COMMENTS: 01

DATA CLASSIFICATION: ☐ 0 ☐ 1

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028192

ABS-047082

IHL NO. IHL 028716

SAMPLED BY (LAST NAME & INITIALS)

ACCOUNTING CODE 4210 8 2 7 5 0 0 4

CONDITION OF SAMPLE UPON RECEIPT
☒ OK ☐ Other (Describe)

DATE RECEIVED WEEK 10 DAY 1

BOX NO. OR SAMPLE LOCATION

ANALYZED BY Hager Lab

DATE 3/16/84

LAB RECORD NO.

GROUP WIHIH

METHOD NUMBER AND/OR DESCRIPTION Service No. 10808 (see attached report)

METHOD CODE NONROU

NUMBER OF ANALYSIS 1

REFERENCE

DATE REPORTED (WEEK – DAY) 12-3

BENCH HOURS (XXX.X)

ANALYTICAL RESULTS

UNITS: ☐ PPMV ☐ mg/m3 ☐

EXPOSURE CALCULATION

TWA, PEAK

Asbestos: LT(5100) total fibers LT(0.2) fibers/cc

LAM 028193

ABS-047083

SUPERVISING CHEMIST

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE

IHL NO. IHL 028717

NAME EMP SAM	
SOCIAL SECURITY NUMBER	542-26-3902
EMPLOYEE NUMBER	—
JOB EXPOSURE PROFILE	—
JOB TITLE	Asbestos Worker
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	G029
AREA/ UNIT	Cutback yard
OPERATING CONDITION/ OPERATION	21

SAMPLE TYPE
1 ☐ PERSONAL-TWA
2 ☒ PERSONAL-PEAK
3 ☐ AREA
4 ☐ BLANK
5 ☐ BULK
6 ☐ LAB CONTROL
7 ☐ SOURCE
8 ☐ _____

COLLECTOR
1 ☐ CHARCOAL TUBE
2 ☐ FILTER (RESP.)
3 ☒ FILTER (TOTAL)
4 ☐ IMPINGER
5 ☐ PASSIVE DOSIMETER
6 ☐ SILICA GEL
7 ☐ PACKED TUBE
8 ☐ _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER IN. HG | TEMPERATURE °F

WIND M.P.H. | HUMIDITY % R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
960508	Asbestos		0.2

UNIT
1 ☐ PPMV 5 ☐ MG
2 ☐ MG/M3 6 ☐ FIBER
3 ☐ PPBV 7 ☐ % WT
4 ☒ FIBER/CC 8 ☐ % VOL.
9 ☐ _____

DATE SAMPLED: 02/16/84

SHIFT: 1 ☒ 2 ☐ 3 ☐ _____

SAMPLE NO.: WIL021684-4

SAMPLED BY: MR Carroll PHONE: 443-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8MCEF 8402

RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	PPE*	TIME AT TASK	INSTR. READING	SKETCH AREA (And Or Remarks)
1354	Pump on - start sampling. Sample represents peak exposure while wet brushing / scraping of residue from heat exchanger after asbestos is removed. Slight exposure to visible dust.	✓			
1412	Pump off - stop sampling				

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American optical ½ mask purifier resp; Tyvek suit & head gear; boots; gloves.

INSTRUMENT TYPE & MODEL NO.	Gilian HFS 113 AUT
SERIAL NO.	2233
CALIBRATED BY	MR Carroll
DATE	2/16/84
REFERENCE/METHOD	Soap bubble - burette
VOLUME PER COUNT	—
COUNTER READING	FINAL - / INITIAL - / NET -
FLOW RATE	2.0 lpm
SAMPLING TIME	18 MIN. 36 L.

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? ☐ YES ☒ NO
- If No:
  - INCLUDE RESULTS FROM _____ ADDITIONAL SAMPLES (ATTACHED)
  - ASSIGN ZERO EXPOSURE FOR _____ MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
  - ☒ TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? ☒ YES ☐ NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? ☐ YES ☒ NO

COMMENTS 01

DATA CLASSIFICATION ▶ 0 1

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028194

ABS-047084

IHL NO. IHL 028717

SAMPLED BY (LAST NAME & INITIALS)

ACCOUNTING CODE 4210|8|2|7|5|0|0|4

CONDITION OF SAMPLE UPON RECEIPT
☑ OK ☐ Other (Describe)

DATE RECEIVED | WEEK 10 | DAY 1

BOX NO. OR SAMPLE LOCATION

ANALYZED BY: Hague Lab

DATE: 3/16/84

LAB RECORD NO.

METHOD NUMBER AND/OR DESCRIPTION: Serwie No. 10808 (see attached report)

REFERENCE

GROUP: WIHIH

METHOD CODE: NONROU

NUMBER OF ANALYSIS: 1

DATE REPORTED (WEEK – DAY): 12-3

BENCH HOURS (XXX.X)

ANALYTICAL RESULTS

UNITS: ☐ PPMV ☐ mg/m3 ☐

Asbestos):	7700	total	fibers		0.2	fibers/cc		

EXPOSURE CALCULATION

TWA, PEAK

SUPERVISING CHEMIST: JC 10/25/84

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

LAM 028195

ABS-047085

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE IHL NO. IHL 028718

NAME EMPLOYEE SAMPLED	
SOCIAL SECURITY NUMBER	
EMPLOYEE NUMBER	
JOB EXPOSURE PROFILE	
JOB TITLE	
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	G029
AREA/ UNIT	Cutback yard
OPERATING CONDITION/ OPERATION	21

SAMPLE TYPE
1 ☐ PERSONAL-TWA
2 ☐ PERSONAL-PEAK
3 ☒ AREA
4 ☐ BLANK
5 ☐ BULK
6 ☐ LAB CONTROL
7 ☐ SOURCE
8 ☐ _____

COLLECTOR
1 ☐ CHARCOAL TUBE
2 ☐ FILTER (RESP.)
3 ☒ FILTER (TOTAL)
4 ☐ IMPINGER
5 ☐ PASSIVE DOSIMETER
6 ☐ SILICA GEL
7 ☐ PACKED TUBE
8 ☐ _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER	TEMPERATURE
IN. HG	°F
WIND	HUMIDITY
M.P.H.	% R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
900508	Asbestos		0.03

UNIT
1 ☐ PPMV 5 ☐ MG
2 ☐ MG/M3 6 ☐ FIBER
3 ☐ PPBV 7 ☐ % WT
4 ☑ FIBER/CC 8 ☐ % VOL.
9 ☐ _____

DATE SAMPLED: 02/16/84

SHIFT: 1 ☒ 2 ☐ 3 ☐ _____

SAMPLE NO.: WIL021684-5

SAMPLED BY: MR Carroll PHONE: 443-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 mcef 8402

RETURN RESULTS TO: MR Carroll · New Orleans

TIME START TIME	WORK TASK	* PPE	TIME AT TASK	INSTR. READING
1249	Pump on - start sampling area sample collected 10' south of heat exchanger (from center), 4' above ground. Represents airborne concentration of asbestos leaving immediate work area. Removal of asbestos blocks and cleanup.			
1436	Pump off - stop sampling.			

SKETCH AREA (And Or Remarks)

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC.

INSTRUMENT TYPE & MODEL NO.	MSA Model G
SERIAL NO.	R-79-4149
CALIBRATED BY	MR Carroll
DATE	2/16/84
REFERENCE/METHOD	Soap bubble - burette
VOLUME PER COUNT	—
FLOW RATE	1.8 lpm
SAMPLING TIME	107 MIN. 192.6 L.

COUNTER READING: FINAL · INITIAL · NET

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? ☐ YES ☐ NO
- If No:
- INCLUDE RESULTS FROM ____ ADDITIONAL SAMPLES (ATTACHED)
- ASSIGN ZERO EXPOSURE FOR ____ MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
- ☐ TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? ☐ YES ☐ NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? ☐ YES ☐ NO

COMMENTS

DATA CLASSIFICATION ▶ ☐ 0 ☐ 1

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028196

ABS-047086

IHL NO. IHL 028718

SAMPLED BY (LAST NAME & INITIALS)

ACCOUNTING CODE 410 | 8121 | 5010 | 4

CONDITION OF SAMPLE UPON RECEIPT
☑ OK ☐ Other *(Describe)*

DATE RECEIVED | WEEK 10 | DAY 1

BOX NO. OR SAMPLE LOCATION

ANALYZED BY: Hagen Lab	DATE: 3/16/84	LAB RECORD NO.	GROUP	WIHIH
METHOD NUMBER AND/OR DESCRIPTION: Service No. 10808 (see attached report)			METHOD CODE	NONROU
			NUMBER OF ANALYSIS	1
REFERENCE			DATE REPORTED (WEEK – DAY)	12-3
			BENCH HOURS (XXX.X)	

ANALYTICAL RESULTS

UNITS: ☐ PPMV ☐ mg/m3 ☐

Asbestos:	5100 total fibers				0.03 fibers	/cc		

LAM 028197

EXPOSURE CALCULATION

TWA, PEAK

SUPERVISING CHEMIST

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

ABS-047087

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE

IHL NO. IHL 028719

NAME EMPLOYEE SAMPLED: --

SOCIAL SECURITY NUMBER: 544-52-0848 00

EMPLOYEE NUMBER: —

JOB EXPOSURE PROFILE: —

JOB TITLE: Asbestos Worker

EMPLOYEE'S COMPANY: E.J. Bartells

LOCATION (SHELL FACILITY OR OTHER): G029

AREA/UNIT: Outlock yard

OPERATING CONDITION/OPERATION: 06

SAMPLE TYPE
1 [X] PERSONAL-TWA
2 [ ] PERSONAL-PEAK
3 [ ] AREA
4 [ ] BLANK
5 [ ] BULK
6 [ ] LAB CONTROL
7 [ ] SOURCE
8 [ ] _____

COLLECTOR
1 [ ] CHARCOAL TUBE
2 [ ] FILTER (RESP.)
3 [X] FILTER (TOTAL)
4 [ ] IMPINGER
5 [ ] PASSIVE DOSIMETER
6 [ ] SILICA GEL
7 [ ] PACKED TUBE
8 [ ] _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER IN. HG

TEMPERATURE °F

WIND M.P.H.

HUMIDITY % R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
900508	Asbestos		0.06

UNIT
1 [ ] PPMV 5 [ ] MG
2 [ ] MG/M3 6 [ ] FIBER
3 [ ] PPBV 7 [ ] % WT
4 [ ] FIBER/CC 8 [ ] % VOL.
9 [ ] _____

DATE SAMPLED: 02/18/84

SHIFT: 1 [X] 2 [ ] 3 [ ] _____

SAMPLE NO.: WIL02184-6

SAMPLED BY: MR Carroll PHONE: 440-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402

RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	PPE*	TIME AT TASK	INSTR. READING
0806	Pump - start sampling Insulation removal began today on heat exchanger metal wrapping was removed then: tar paper, chicken wire and mud, then asbestos blocks. all insulation was thoroughly saturated from rain; was also sprayed with wetting solution. As chicken wire was removed bottom portion of asbestos blocks fell into plastic ground liner. Slight exposure after removal, heat exchanger was not touched. all material was bagged and transferred to dumpsite.	✓		
1106	Pump off for lunch; 12:37 pump on 1534 pump off.			

SKETCH AREA (And Or Remarks)

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American Optical, ½ mask particulate resp; Tyvek suit + headgear, boots, glo

INSTRUMENT TYPE & MODEL NO.: Gilian HFS 113 CT

SERIAL NO.: 2236

CALIBRATED BY: MR Carroll

DATE: 02/16/84

REFERENCE/METHOD: Soap bubble - burette

VOLUME PER COUNT: —

COUNTER READING: FINAL · INITIAL · NET ·

FLOW RATE: 2.0 lpm

SAMPLING TIME: 357 MIN. 714 L.

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? [ ] YES [X] NO
- If No:
- INCLUDE RESULTS FROM 0 ADDITIONAL SAMPLES (ATTACHED)
- ASSIGN ZERO EXPOSURE FOR 123 MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
- [ ] TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? [X] YES [ ] NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? [ ] YES [X] NO

COMMENTS 01

DATA CLASSIFICATION: [0] [1]

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028198

ABS-047088

82750.04

SAMPLED BY (LAST NAME & INITIALS)	IHL NO. IHL 028719
ACCOUNTING CODE 4210 8 2 7 50 0 4	
CONDITION OF SAMPLE UPON RECEIPT ☑ OK ☐ Other (Describe)	DATE RECEIVED 1 0 1 (WEEK DAY)
	BOX NO. OR SAMPLE LOCATION
ANALYZED BY Hager Lab	DATE 3/16/84
LAB RECORD NO.	GROUP WIHIH
METHOD NUMBER AND/OR DESCRIPTION Serwie No. 10808 (see attached report)	METHOD CODE NONROU
	NUMBER OF ANALYSIS 1
REFERENCE	DATE REPORTED (WEEK – DAY) 12-3
	BENCH HOURS (XXX.X)

ANALYTICAL RESULTS UNITS: ☐ PPMV ☐ mg/m3 ☐

EXPOSURE CALCULATION
TWA, PEAK

Asbestos:		40000	total fibers			0.06	fibers/cc.	

LAM 028199

ABS-047089

SUPERVISING CHEMIST

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE IHL NO.

NAME EMPLOYEE SAMPLED	
SOCIAL SECURITY NUMBER	542-26-3902
EMPLOYEE NUMBER	—
JOB EXPOSURE PROFILE	—
JOB TITLE	Asbestos Worker
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	G029
AREA/ UNIT	Cutback yard
OPERATING CONDITION/ OPERATION	06

SAMPLE TYPE
1 [X] PERSONAL-TWA
2 [ ] PERSONAL-PEAK
3 [ ] AREA
4 [ ] BLANK
5 [ ] BULK
6 [ ] LAB CONTROL
7 [ ] SOURCE
8 [ ] _____

COLLECTOR
1 [ ] CHARCOAL TUBE
2 [ ] FILTER (RESP.)
3 [X] FILTER (TOTAL)
4 [ ] IMPINGER
5 [ ] PASSIVE DOSIMETER
6 [ ] SILICA GEL
7 [ ] PACKED TUBE
8 [ ] _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER	TEMPERATURE
IN. HG	°F
WIND	HUMIDITY
M.P.H.	% R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
900508	Asbestos		—

UNIT
1 [ ] PPMV 5 [ ] MG
2 [ ] MG/M3 6 [ ] FIBER
3 [ ] PPBV 7 [ ] % WT
4 [ ] FIBER/CC 8 [ ] % VOL.
9 [ ] _____

DATE SAMPLED: 02/16/84

SHIFT: 1 [X] 2 [ ] 3 [ ] _____

SAMPLE NO.	SAMPLED BY	PHONE
WIL021684-7	MR Carroll	440-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402

RETURN RESULTS TO: MR Carroll New Orleans

TIME START TIME	WORK TASK	* PPE	TIME AT TASK	INSTR. READING
0809	Pump on - start sampling same tasks as Sx# WIL021684-6	✓		
1107	Pump off for lunch.			
1228	pump on			
~1500	Filter was accidentally knocked off during sampling into solution debris - sample invalid	✓		

SKETCH AREA (And Or Remarks)

Sample not submitted for analysis

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC. American Optical ½ mask Particle resp; Tyvek suit + head gear; boots; glo

INSTRUMENT TYPE & MODEL NO.	Gilian HFS 113 AT
SERIAL NO.	2243
CALIBRATED BY	MR Carroll
DATE	02/16/84
REFERENCE/METHOD	Soap bubble - burette
VOLUME PER COUNT	—
FLOW RATE	2.0 lpm
SAMPLING TIME	411 MIN.

COUNTER READING: FINAL · INITIAL · NET ·

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT 480 MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? [ ] YES [X] NO
- If No:
  - INCLUDE RESULTS FROM ____ ADDITIONAL SAMPLES (ATTACHED)
  - ASSIGN ZERO EXPOSURE FOR ____ MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
  - [ ] TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? [X] YES [ ] NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? [ ] YES [X] NO

COMMENTS 01

DATA CLASSIFICATION [ ] [ ]

CLASSIFIED BY: MR Carroll DATE: 2/20/84

REVIEWED BY: MR Carroll DATE: 2/20/84

LAM 028200

ABS-047090

SAMPLED BY (LAST NAME & INITIALS)	ACCOUNTING CODE	IHL NO.
CONDITION OF SAMPLE UPON RECEIPT ☐ OK ☐ Other *(Describe)*		DATE RECEIVED ▶ WEEK DAY
		BOX NO. OR SAMPLE LOCATION

ANALYZED BY	DATE	LAB RECORD NO.	GROUP ▶
METHOD NUMBER AND/OR DESCRIPTION			METHOD CODE ▶
			NUMBER OF ANALYSIS ▶
REFERENCE			DATE REPORTED (WEEK – DAY) ▶
			BENCH HOURS (XXX.X) ▶

ANALYTICAL RESULTS UNITS: ☐ PPMV ☐ mg/m3 ☐

EXPOSURE CALCULATION

TWA, PEAK

LAM 028201

ABS-047091

SUPERVISING CHEMIST	ND = NONE DETECTED (REPORT LIMIT OF DETECTION)	CALCULATED BY

INDUSTRIAL HYGIENE SAMPLING FORM

SENT TO HEAD OFFICE

IHL NO. IHL 02871

NAME EMPLOYEE SAMPLED	
SOCIAL SECURITY NUMBER	
EMPLOYEE NUMBER	
JOB EXPOSURE PROFILE	
JOB TITLE	
EMPLOYEE'S COMPANY	E.J. Bartells
LOCATION (SHELL FACILITY OR OTHER)	G029
AREA/ UNIT	Cutback
OPERATING CONDITION/ OPERATION	21

SAMPLE TYPE
1 ☐ PERSONAL-TWA
2 ☐ PERSONAL-PEAK
3 ☐ AREA
4 ☒ BLANK
5 ☐ BULK
6 ☐ LAB CONTROL
7 ☐ SOURCE
8 ☐ _____

COLLECTOR
1 ☐ CHARCOAL TUBE
2 ☐ FILTER (RESP.)
3 ☒ FILTER (TOTAL)
4 ☐ IMPINGER
5 ☐ PASSIVE DOSIMETER
6 ☐ SILICA GEL
7 ☐ PACKED TUBE
8 ☐ _____

POSSIBLE INTERFERENCES/INSTRUCTIONS

BAROMETER	TEMPERATURE
IN. HG	°F
WIND	HUMIDITY
M.P.H.	% R.H.

ANALYSIS REQUIRED

CODE	NAME	≤	RESULT
900508	Asbestos		##

UNIT
1 ☐ PPMV 5 ☐ MG
2 ☐ MG/M3 6 ☐ FIBER
3 ☐ PPBV 7 ☐ % WT
4 ☐ FIBER/CC 8 ☐ % VOL.
9 ☐ _____

DATE SAMPLED: 02/16/84

SHIFT: 1 ☒ 2 ☐ 3 ☐ _____

SAMPLE NO.: WIL021684-8

SAMPLED BY: MR Carroll PHONE: 442-4627

DESCRIPTION OF COLLECTOR (MFG., LOT NO., ETC.): 0.8 MCEF 8402

RETURN RESULTS TO: New Orleans

START TIME	WORK TASK	* PPE	TIME AT TASK	INSTR. READING
0900	Blank for:			
	WIL021584-1			
	" -2			
	WIL021684-1			
	" -2			
	-3			
	-4			
	-5			
	-6			
	-7			

SKETCH AREA (And Or Remarks)

*Personal Protective Equipment: Check Column for Each Task Where Worn

TYPE: GIVE EQUIPMENT USED, MFR., MODEL NO., ETC.

INSTRUMENT TYPE & MODEL NO.	SERIAL NO.
CALIBRATED BY	DATE
REFERENCE/METHOD	
VOLUME PER COUNT	COUNTER READING
FLOW RATE	FINAL-
SAMPLING TIME ____ MIN.	INITIAL-
L.	NET-

INFORMATION FOR TWA DETERMINATION

- LENGTH OF SHIFT [ ] MIN.
- DOES THIS SAMPLE REPRESENT EXPOSURE OVER THE ENTIRE SHIFT? ☐ YES ☐ NO
- *If No:*
  - INCLUDE RESULTS FROM ____ ADDITIONAL SAMPLES (ATTACHED)
  - ASSIGN ZERO EXPOSURE FOR ____ MINUTES OF SHIFT DURING PERIOD NOT SAMPLED.
  - ☐ TWA CANNOT BE CALCULATED FROM THESE SAMPLES.

WAS A RESPIRATOR WORN DURING SAMPLE TO CONTROL EXPOSURE? ☐ YES ☐ NO

DID ANY SIGNIFICANT SKIN CONTACT OCCUR? ☐ YES ☐ NO

COMMENTS

Value not reported by lab

DATA CLASSIFICATION: 0 ☒ 1 ☐

CLASSIFIED BY: MR Carroll DATE: 4/9/84

REVIEWED BY: MR Carroll DATE: 4/9/84

LAM 028202

ABS-047092

IHL NO. IHL 028711

SAMPLED BY (LAST NAME & INITIALS)

ACCOUNTING CODE 4 0 8 2 7 5 0 0 4

CONDITION OF SAMPLE UPON RECEIPT
☑ OK ☐ Other *(Describe)*

DATE RECEIVED — WEEK 1 0 — DAY 1

BOX NO. OR SAMPLE LOCATION

ANALYZED BY: Hager Lab	DATE: 3/16/84	LAB RECORD NO.	GROUP	WIHIH
METHOD NUMBER AND/OR DESCRIPTION: Service No. 10808 (see attached report)			METHOD CODE	NONROU
			NUMBER OF ANALYSIS	1
REFERENCE			DATE REPORTED (WEEK – DAY)	12-3
			BENCH HOURS (XXX.X)	

ANALYTICAL RESULTS UNITS: ☐ PPMV ☐ mg/m3 ☐

Asbestos: Blank was analyzed by commercial lab, but values were not reported.

EXPOSURE CALCULATION
TWA, PEAK

SUPERVISING CHEMIST: JPC DATE

ND = NONE DETECTED (REPORT LIMIT OF DETECTION)

CALCULATED BY

LAM 028203

ABS-047093

MRC