

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

ID/SAMPLE NO. 1926

DATE 11-24-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery WORK LOCATION Cat I
 EMPLOYEE NAME (LAST, FIRST) Wolford, Norman EMPLOYEE NUMBER 453-23-1404
 JOB TITLE Insulator SURVEYOR C. Dayong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		PRE FLOW RATE
	GLOVES		BAROMETRIC PRESSURE		POST FLOW RATE
	OTHER		AIR VELOCITY		DIFFERENCE FLOW

RESPIRATOR: Half Face w/ hepa filter
 BODY: Disposable Tyvek
 GLOVES: Disposable
 OTHER: Hard hat / safety glasses
 TEMPERATURE: 77 °F
 RELATIVE HUMIDITY: 69 %
 BAROMETRIC PRESSURE: 29.94" Hg
 AIR VELOCITY: SE 23 fpm (mph)
 PUMP MANUFACTURER/S.N.: DOX #27
 PRE FLOW RATE: 2.0 Lpm
 POST FLOW RATE: 2.0 Lpm
 DIFFERENCE FLOW: 0.0 Lpm

SAMPLING DATA	Lab Sample Number	<u>87-273</u>			
	I.D. Number	<u>1926</u>			
	Time On	<u>8:00</u>			
	Time Off	<u>11:30</u>			
	Total Time (min.)	<u>210</u>			TOTAL TIME
	Flow Rate (LPM)	<u>2.0 Lpm</u>			
	Sample Media	<u>MCEF</u>			
Volume (Liters)	<u>420 L</u>				TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	<u>Asbestos</u>	<u>.01 f/cc</u>			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. <u>Asbestos</u>	<u>.01</u>	<u>.01</u>	<u>f/cc</u>	<u>OSHA</u>	<u>2</u>	<u>.0</u>	<u>NIOSH 7400</u>
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED

Page

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)

Sample taken during removal of Cat I fireproofing

RECEIVED	BLANKS (No.)	<u>2 blanks</u>
	BULKS (No.)	
REVIEWED BY	DATE	
COMMENTS	<u>DEC 30 1987</u>	

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

I.D./SAMPLE NO. 1915
DATE 11-23-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Crude I
EMPLOYEE NAME (LAST, FIRST) Wolford, Norma	EMPLOYEE NUMBER 453-23 - 1404
JOB TITLE Insulator	SURVEYOR C. DeLong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR Half face w/ hcpa filter	SAMPLING CONDITIONS	TEMPERATURE 80 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N. BDH # 4
	BODY Disposable Tyvek		RELATIVE HUMIDITY 65 %		PRE FLOW RATE 2.0 Lpm
	GLOVES Disposable		BAROMETRIC PRESSURE 29.97 "Hg		POST FLOW RATE 2.0 Lpm
	OTHER Hard hat / safety glasses		AIR VELOCITY 5.24 fpm (mph)		DIFFERENCE FLOW 0

SAMPLING DATA	Lab Sample Number	87-268			
	I.D. Number	1915			
	Time On	10:00			
	Time Off	11:30			
	Total Time (min.)	90			TOTAL TIME
	Flow Rate (LPM)	2.0			
	Sample Media	MCEF			
	Volume (Liters)	180 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1. Asbestos	1.02 f/cc			
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	1.02	1.02	f/cc	OSHA	2	G	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED
Wayer

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Sample taken during removal of asbestos in Crude I
Glove bags used

REVIEWED BY RECEIVED	DATE	BLANKS (No.)	2 blanks
		BULKS (No.)	

COMMENTS
DEC 30 1987

INSTRUCTIONS: Originator attaches Part 2 to labc ry results and forwards to Medical Services.

ID/SAMPLE NO. 1913

DATE 11-19-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery WORK LOCATION Cruise I
EMPLOYEE NAME (LAST, FIRST) ~~Wolford~~ Norman EMPLOYEE NUMBER 453-23 - 1404
JOB TITLE Insulator SURVEYOR E. Deyong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	Half face w/ hepa filter	SAMPLING CONDITIONS	TEMPERATURE	52°F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BDX #4
	BODY	Disposable Tyvek		RELATIVE HUMIDITY	63%		PRE FLOW RATE	1.8 Lpm
	GLOVES	Disposable		BAROMETRIC PRESSURE	30.45 "Hg		POST FLOW RATE	1.8 Lpm
	OTHER	Hard hat, safety glasses		AIR VELOCITY	120.26 fpm mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-267			
	I.D. Number	1913			
	Time On	0815			
	Time Off	0930			
	Total Time (min.)	75			TOTAL TIME
	Flow Rate (LPM)	1.8 Lpm			
	Sample Media	mCEF			
	Volume (Liters)	135 Liters			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	0.04 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	0.04	0.01	f/cc	OSHA	2	0	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED Bager

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS
Sample taken during removal of asbestos along pipeline in Cruise I.
Glove bags used.

REVIEWED BY RECEIVED	DATE	BLANKS (No.)	2 (Blank)
		BULKS (No.)	

COMMENTS DEC 30 1987

INSTRUCTIONS: Originator attaches Part 2 to labc
and forwards to Medical Services.

ID/SAMPLE NO. **1642**
DATE **10-15-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY **Southwestern Refinery** WORK LOCATION **Alkylation Unit**
EMPLOYEE NAME (LAST, FIRST) **Valley, Victor** EMPLOYEE NUMBER **464-58-2722**
JOB TITLE **Insulator** SURVEYOR **C DeLong**

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	Half face w/ hepa filter	SAMPLING CONDITIONS	TEMPERATURE	70°F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BIDYAC
	BODY	Disposable tyvek		RELATIVE HUMIDITY	84%		PRE FLOW RATE	2.1 Lpm
	GLOVES	Disposable		BAROMETRIC PRESSURE	30.04 "Hg		POST FLOW RATE	2.1 Lpm
	OTHER	Hand hat, safety glasses/rubber boots		AIR VELOCITY	Calr fpm mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-241			
	I.D. Number	1642			
	Time On	0740			
	Time Off	1450			
	Total Time (min.)	430			TOTAL TIME
	Flow Rate (LPM)	2.1			
	Sample Media	MCIF			
	Volume (Liters)	903.04			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	.10 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.10	.09	f/cc	OSHA	2	.0	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED **Calger**

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Sample taken during removal of asbestos for inspection purposes

RECEIVED	BLANKS (No.)	2 Blanks
	BULKS (No.)	
REVIEWED BY NOV 5 1987	DATE	

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO.	1640
DATE	10-14-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Ref	WORK LOCATION	Akylation Unit
EMPLOYEE NAME (LAST, FIRST)	Vallejo, Victor	EMPLOYEE NUMBER	464-58-2722
JOB TITLE	Insulator	SURVEYOR	C. DeLong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	Half face w/ rupa filter	SAMPLING CONDITIONS	TEMPERATURE	82.0 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	IBOX# 2
	BODY	Chemical jacket/pants		RELATIVE HUMIDITY	44 %		PRE FLOW RATE	2.1 Lpm
	GLOVES	PVC		BAROMETRIC PRESSURE	30.04 "Hg		POST FLOW RATE	2.1 Lpm
	OTHER	face shield, hard hat, safety glasses		AIR VELOCITY	SE 8 fpm mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-239				
	I.D. Number	1640				
	Time On	0825				
	Time Off	1445				
	Total Time (min.)	380				TOTAL TIME
	Flow Rate (LPM)	2.1				
	Sample Media	MCEF				
	Volume (Liters)	798 L				TOTAL VOLUME
Net Sample Wt.						

LABORATORY RESULTS	1.	Asbestos	.02				
	2.						
	3.						
	4.						
	5.						
	6.						

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.02	.02	f/cc	OSHA	2	.0	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED: Nager

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS: Sample taken during removal of asbestos for inspection purposes

RECEIVED	BLANKS (No.)	2 Blanks
	BULKS (No.)	
REVIEWED BY: NOV 15 1987	DATE	
COMMENTS		

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

I.D./SAMPLE NO. 1637

DATE 10-7-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Alkylation Unit
EMPLOYEE NAME (LAST, FIRST) Vallejo, Victor	EMPLOYEE NUMBER 464-58-2722
JOB TITLE Insulator	SURVEYOR C. DeYoung

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR Half face w/ paper filter	SAMPLING CONDITIONS	TEMPERATURE 84 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N. Box # 2
	BODY Disposable tunic		RELATIVE HUMIDITY 30 %		PRE FLOW RATE 2.8 Lpm
	GLOVES Disposable		BAROMETRIC PRESSURE 30.15 "Hg		POST FLOW RATE 2.8 Lpm
	OTHER		AIR VELOCITY SE 15 fpm mph		DIFFERENCE FLOW

SAMPLING DATA	Lab Sample Number	87-235			
	I.D. Number	1637			
	Time On	0742			
	Time Off	1500			
	Total Time (min.)	438			TOTAL TIME
	Flow Rate (LPM)	21			
	Sample Media	MCEF			
	Volume (Liters)	919.8 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	.01 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
	1. Asbestos	.01	.01	f/cc	OSHA	.2	.1	NIOSH 7400
	2.							
	3.							
	4.							
	5.							
	6.							

LABORATORY USED
Bayer

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Sample taken during asbestos removal from piping for inspection purposes

RECEIVED NOV 5 1987	BLANKS (No.)	2 blanks
	BULKS (No.)	

COMMENTS

Pump #

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO.	1626
DATE	10-6-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Alkylation Unit
EMPLOYEE NAME (LAST, FIRST)	Vallejo, Victor	EMPLOYEE NUMBER	164-58-2722
JOB TITLE	Insulator	SURVEYOR	C. DeYong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA Half face w/ hepa filter	SAMPLING CONDITIONS	TEMPERATURE	82 °C	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BDX
	BODY			RELATIVE HUMIDITY	43 %		PRE FLOW RATE	2.1 Lpm
	GLOVES	Disposable Tyvek		BAROMETRIC PRESSURE	30.08 "Hg		POST FLOW RATE	2.1 Lpm
	OTHER	Disposable		AIR VELOCITY	0.14 fpm (mph)		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-234			
	Time On	0744 / 1232			
	Time Off	1202 / 1500			
	Total Time (min.)	406			TOTAL TIME
	Flow Rate (LPM)	2.1 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	852.6 L			TOTAL VOLUME
	Net Sample Wt.				

LABORATORY RESULTS	1.	Asbestos	102 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.02	.02	f/cc	OSHA	2	1	NIOH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED: Jager

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS:
 Sample taken during cutting and replacing tiles for inspection purposes

REVIEWED BY	DATE	BLANKS (No.)	2 blanks
		BULKS (No.)	

COMMENTS: RECEIVED

NOV 5 1987

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO. 1393

DATE 10-1-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Sulfonane Unit
EMPLOYEE NAME (LAST, FIRST) Vallejo, Victor	EMPLOYEE NUMBER 464-58-2722
JOB TITLE Insulator	SURVEYOR C. Deyong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR MSA Half face w/ Hefra filter	TEMPERATURE 84 °F	CALIBRATION RECORD
	BODY Disposable Tyvek	RELATIVE HUMIDITY 28 %	
	GLOVES Disposable	BAROMETRIC PRESSURE 30.06 "Hg	
	OTHER	AIR VELOCITY N/D fpm mph	
	PUMP/MANUFACTURER/S.N. BDX #2	PRE FLOW RATE 2.1 Lpm	
		POST FLOW RATE 2.1 Lpm	
		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-229		
	I.D. Number	1393		
	Time On	0745		
	Time Off	1510		
	Total Time (min.)	445		TOTAL TIME
	Flow Rate (LPM)	2.1 Lpm		
	Sample Media	mCEF		
	Volume (Liters)	934.5 L		TOTAL VOLUME
Net Sample Wt.				

LABORATORY RESULTS	1.	Asbestos	.13 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.13	.12	f/cc	OSHA	.2	.6	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED
Dager

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Sample taken during removal of asbestos plugs for inspection purposes.

REVIEWED BY RECEIVED	DATE	BLANKS (No.) 2 Blanks
		BULKS (No.)

COMMENTS

NOV 5 1987

SWRf/Asbestos 9995

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO. **1398**
DATE **9-29-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY **Southwestern Refinery** WORK LOCATION **Suitolane**
EMPLOYEE NAME (LAST, FIRST) **Vallejo, Victor** EMPLOYEE NUMBER **464-58-2722**
JOB TITLE **Insulator** SURVEYOR **C. DeYoung**

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		PRE FLOW RATE
	GLOVES		BAROMETRIC PRESSURE		POST FLOW RATE
	OTHER		AIR VELOCITY		DIFFERENCE FLOW

MIA Half face w/ hepa filter
Dopasable truck
Dopasable
84 °F
65 %
29.99 "Hg
N21 fpm mph
BDX #2
2.0 Lpm
1.9 Lpm

SAMPLING DATA	Lab Sample Number	87-2216			
	I.D. Number	1398			
	Time On	0745			
	Time Off	1240			
	Total Time (min.)	295			TOTAL TIME
	Flow Rate (LPM)	1.95 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	575.25 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	.01 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
	1. Asbestos	.01	.006	f/cc	OSHA	.2	.1	NIOSH 7400
	2.							
	3.							
	4.							
	5.							
	6.							

LABORATORY USED **Not Used**

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Sample taken during removal of plugs for inspection purpose

RECEIVED OCT 26 1987 REVIEWED BY DATE	BLANKS (No.) 2 blank
	BULKS (No.)

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO. **1390**
DATE **9-25-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY **Southwestern Refinery** WORK LOCATION **Sulfoname Unit**
EMPLOYEE NAME (LAST, FIRST) **Vallejo, Victor** EMPLOYEE NUMBER **464-58-2722**
JOB TITLE **Insulator** SURVEYOR **C. Reymon**

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	
	MSA Half Face w/ hcpa filter		86 °F		807 #2	
	BODY		RELATIVE HUMIDITY		42 %	PRE FLOW RATE
	Disposable Tyvek		BAROMETRIC PRESSURE		30.03 "Hg	2.1 Lpm
	GLOVES		Disposable		AIR VELOCITY	SE 10 fpm (mph)
OTHER					2.0 Lpm	
					DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-218			
	I.D. Number	1390			
	Time On	0750			
	Time Off	1440			
	Total Time (min.)	410			TOTAL TIME
	Flow Rate (LPM)	2.05			
	Sample Media	MCEF			
	Volume (Liters)	840.5L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	.03 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.03	.026	f/cc	OSHA	.2	.2	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED **Barlow**

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)

Sample taken during asbestos removal of plug for insulator

RECEIVED	BLANKS (No.)	2 blanks
	BULKS (No.)	
REVIEWED BY	DATE	
OCT 26 1987		
COMMENTS		

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO. **1388**

DATE **9-24-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Sulfonane
EMPLOYEE NAME (LAST, FIRST) Vallejo, Victor	EMPLOYEE NUMBER 464-58-2722
JOB TITLE Insulator	SURVEYOR C. DeLong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR MSA Half Face w/ high filter	SAMPLING CONDITIONS	TEMPERATURE 87°F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N. BDY #2
	BODY Disposable Tyvek		RELATIVE HUMIDITY 29%		PRE FLOW RATE 2.1 Lpm
	GLOVES		BAROMETRIC PRESSURE 30.07" Hg		POST FLOW RATE 2.0 Lpm
	OTHER		AIR VELOCITY E 10 fpm (mph)		DIFFERENCE FLOW .12 pr

SAMPLING DATA	Lab Sample Number	87-217			
	I.D. Number	1388			
	Time On	0730			
	Time Off	1445			
	Total Time (min.)	435			TOTAL TIME
	Flow Rate (LPM)	2.05 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	432.95 L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	.04 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.04	.036	f/cc	OSHA	.2	.2	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED **NALB**

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Sample taken during removal of plugs for inspection purposes
also cutting holes for inspectors
Holes were sealed with Lag bolts.

REVIEWED BY RECEIVED	DATE	BLANKS (No.) 2 blanks
		BULKS (No.)

COMMENTS **OCT 26 1987**

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

LD/SAMPLE NO.	1387
DATE	9-23-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Crude I
EMPLOYEE NAME (LAST, FIRST)	Wolford, Norman	EMPLOYEE NUMBER	453-23-1404
JOB TITLE	Insulator	SURVEYOR	C. DeLong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA half face w/ hepa filter	SAMPLING CONDITIONS	TEMPERATURE	83° F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	601 H 2
	BODY			RELATIVE HUMIDITY	32 %		PRE FLOW RATE	2.0 Lpm
	GLOVES	Disposable Tyvek		BAROMETRIC PRESSURE	30.16 "Hg		POST FLOW RATE	2.1 Lpm
	OTHER	Disposable		AIR VELOCITY	N12 fpm mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-246			
	I.D. Number	1387			
	Time On	1345			
	Time Off	1419			
	Total Time (min.)	34			TOTAL TIME
	Flow Rate (LPM)	2.1 2.1 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	71.4 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos (1)	.03 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
	1. Asbestos	.03	.002	f/cc	OSHA	.2		NIOSH 7400
	2.							
	3.							
	4.							
	5.							
	6.							

LABORATORY USED		Date Recd	
WORK ACTIVITIES, OPERATION LOCATION, VENTILATION, CONTROLS			
Removing asbestos from pipeline in Crude I			
Glovebags used			
REVIEWED BY		DATE	
COMMENTS		RECEIVED	
		OCT 26 1987	
		BLANKS (No.)	
		2 blanks	
		BULKS (No.)	

NEED weather info. -

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO. **1380**
DATE **9-17-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Asky Unit
EMPLOYEE NAME (LAST, FIRST) Wolford, Norman	EMPLOYEE NUMBER 453-23-1404
JOB TITLE Insulator	SURVEYOR C. Dwyer

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR MSA half face w/ high filter	SAMPLING CONDITIONS	TEMPERATURE PF	CALIBRATION RECORD	PUMP MANUFACTURER/S.N. BDX #4
	BODY Doposable Tyvek		RELATIVE HUMIDITY %		PRE FLOW RATE 1.9 Lpm
	GLOVES Doposable		BAROMETRIC PRESSURE "Hg		POST FLOW RATE 1.9 Lpm
	OTHER -		AIR VELOCITY fpm mph		DIFFERENCE FLOW

SAMPLING DATA	Lab Sample Number	87-209			
	I.D. Number	1380			
	Time On	0800			
	Time Off	10:30			
	Total Time (min.)	150			TOTAL TIME
	Flow Rate (LPM)	1.9 Lpm			
	Sample Media	mceP			
	Volume (Liters)	285 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	.08 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
	1. Asbestos	.08	.025	f/cc	OSHA	.2	.2	NIOSH 7400
	2.							
	3.							
	4.							
	5.							
	6.							

LABORATORY USED
Nat'l SW

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS
Sample taken during removal of asbestos in Asky Unit
Thoglow bags removal on hot pipes

REVIEWED BY	DATE	BLENKS (No.)	2 Blanks
COMMENTS		BULKS (No.)	

RECEIVED

OCT 12 1987

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO. 1379
DATE 9-16-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery
EMPLOYEE NAME (LAST, FIRST) Wolford, Norman
JOB TITLE Insulator
WORK LOCATION Asky Unit
EMPLOYEE NUMBER 453-23-1404
SURVEYOR E. Dayon

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA muffle w/hepa filter	SAMPLING CONDITIONS	TEMPERATURE	94°F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BOY #4
	BODY	Disposable Tyvek		RELATIVE HUMIDITY	56%		PRE FLOW RATE	2.0 lpm
	GLOVES	Disposable		BAROMETRIC PRESSURE	29.79 "Hg		POST FLOW RATE	2.0 lpm
	OTHER			AIR VELOCITY	217 fpm/mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-208			
	I.D. Number	1379			
	Time On	0835			
	Time Off	10:15			
	Total Time (min.)	100			TOTAL TIME
	Flow Rate (LPM)	2.0 lpm			
	Sample Media	MCEF			
	Volume (Liters)	200L			TOTAL VOLUME
	Net Sample Wt.	-			

LABORATORY RESULTS	1.	Asbestos	.18 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.18	.04	f/cc	OSHA	.2	.2	NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED: Nalco

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Sample taken during removal of Asbestos for steam line in Asky unit
Line was hot and glove bag used

RECEIVED

REVIEWED BY: OCT 12 1987
DATE: _____

COMMENTS: _____

BLANKS (No.)	2 blanks
BULKS (No.)	

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO. **1372**
DATE **9-11-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY **Southwestern Refinery** WORK LOCATION **Car I**
EMPLOYEE NAME (LAST, FIRST) **Wolford, Norman** EMPLOYEE NUMBER **453-23 -1404**
JOB TITLE **Insulator** SURVEYOR **C. DeLong**

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		PRE FLOW RATE
	GLOVES		BAROMETRIC PRESSURE		POST FLOW RATE
	OTHER		AIR VELOCITY		DIFFERENCE FLOW

RESPIRATOR: **half face w/ hepa filters**
BODY: **Disposable tyvek**
GLOVES: **Disposable**
TEMPERATURE: **85 °F**
RELATIVE HUMIDITY: **51%**
BAROMETRIC PRESSURE: **29.92 in Hg**
AIR VELOCITY: **1007 fpm mph**
PUMP MANUFACTURER/S.N.: **B. O. #2**
PRE FLOW RATE: **1.2 Lpm**
POST FLOW RATE: **1.2 Lpm**
DIFFERENCE FLOW: **-**

SAMPLING DATA	Lab Sample Number	87-201			
	I.D. Number	1372			
	Time On	8:00			
	Time Off	12:00			
	Total Time (min.)	240			TOTAL TIME
	Flow Rate (LPM)	1.2 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	288 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	.05 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
	1. Asbestos	.05	.025	f/cc	OSHA	.2	.2	NIOSH 7400
	2.							
	3.							
	4.							
	5.							
	6.							

LABORATORY USED **Seaphute**

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
during removal of fireproofing. Glove bags used

REVIEWED BY RECEIVED DATE OCT 12 1987	BLANKS (No.)	2 blanks
	BULKS (No.)	

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

I.D./SAMPLE NO. 1369

DATE 9-10-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Cat I
EMPLOYEE NAME (LAST, FIRST) Wolford, Norman	EMPLOYEE NUMBER 453-23 -1404
JOB TITLE Insulator	SURVEYOR C. Dayong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR Self face w/ napa filter	SAMPLING CONDITIONS	TEMPERATURE 92°F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N. BDP #4
	BODY Disposable Tyvek		RELATIVE HUMIDITY 54%		PRE FLOW RATE 2.0 Lpm
	GLOVES Disposable		BAROMETRIC PRESSURE 29.43 "Hg		POST FLOW RATE 2.0 Lpm
	OTHER		AIR VELOCITY 5.12 fpm mph		DIFFERENCE FLOW -

SAMPLING DATA	Lab Sample Number	87-200			
	I.D. Number	1369			
	Time On	10:00			
	Time Off	1430			
	Total Time (min.)	270			TOTAL TIME
	Flow Rate (LPM)	2.0 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	540 L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	.01 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
	1. Asbestos	.01	.006	f/cc	OSHA	.2	.2	NIOSH 7400
	2.							
	3.							
	4.							
	5.							
	6.							

LABORATORY USED
NATISU

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS
Sample taken during removal of fireproofing in Cat I
Glove bags used

REVIEWED BY RECEIVED	DATE	BLANKS (No.) 2 Blanks
COMMENTS OCT 12 1987		BULKS (No.)

**NATLSCO**

National Loss Control Service Corporation
Long Grove, Illinois 60049-0075 (312) 540-2488

ENVIRONMENTAL SCIENCES LABORATORY, K-2

TO: CAROLINE DEYONG
SOUTHWESTERN REFINING CO.
P.O. BOX 9217
CORPUS CHRISTI TX 78469

LABORATORY ANALYSIS REPORT

REPORT DATE SEP. 30, 1987

SAMPLES REC'D SEP. 24, 1987

REQUEST NUMBER 76190

PAGE NUMBER 1 OF REQUEST.

SAMPLE NUMBER	ANALYSIS REQUESTED	RESULTS
BLANK	BLANK.... ASBESTOS(NIOSH 7400) ANALYSES	SUBTRACTED
	RECEIVED	

OCT 12 1987

METHODS: PHASE CONTRAST MICROSCOPY
Respectfully submitted,


Joan A. Wronski, CIH, Manager
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

**NATLSCO**

National Loss Control Service Corporation
Long Grove, Illinois 60049-0075 (312) 540-2488

ENVIRONMENTAL SCIENCES LABORATORY, K-2

TO: CAROLINE DEYONG
SOUTHWESTERN REFINING CO.
P.O. BOX 9217
CORPUS CHRISTI TX 78469

LABORATORY ANALYSIS REPORT

REPORT DATE SEP. 30, 1987

SAMPLES REC'D SEP. 24, 1987

REQUEST NUMBER 63974

PAGE NUMBER 2 OF REQUEST.

SAMPLE NUMBER	ANALYSIS REQUESTED	RESULTS
BLANK	BLANK... BLANK	NONE DETECTED
BLANK	BLANK... ASBESTOS(NIOSH 7400) ANALYSES	SUBTRACTED
RECEIVED		

OCT 12 1987

METHODS: GAS CHROMATOGRAPHY (ROUTINE)
PHASE CONTRAST MICROSCOPY

Respectfully submitted,

Joan A. Wronski, CIH, Manager
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

I.D./SAMPLE NO. **1358**
DATE **9-3-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern	WORK LOCATION Cell I
EMPLOYEE NAME (LAST, FIRST) Dalljo, Victor	EMPLOYEE NUMBER 464-58-222
JOB TITLE Insulator	SURVEYOR C. Rayore

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR MSA Half face w/ hpa filter	SAMPLING CONDITIONS	TEMPERATURE 89 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N. 60X-7
	BODY Disposable Tyvek		RELATIVE HUMIDITY 45 %		PRE FLOW RATE 2.0 Lpm
	GLOVES Disposable		BAROMETRIC PRESSURE 30.05 inHg		POST FLOW RATE 2.0 Lpm
	OTHER		AIR VELOCITY EN fpm mph		DIFFERENCE FLOW

SAMPLING DATA	Lab Sample Number	87-187			
	I.D. Number	1358			
	Time On	0747			
	Time Off	1310			
	Total Time (min.)	323			TOTAL TIME
	Flow Rate (LPM)	2.0			
	Sample Media	MCE F			
	Volume (Liters)	646 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	.02 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.02	.013	f/cc					NIOSH 74100
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS Removing Asbestos relief end Cell I Grounding	BLANKS (No.) 201a/B
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REVIEWED BY	RECEIVED	DATE	BULKS (No.)
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COMMENTS

SEP 24 1987

INSTRUCTIONS: Originate
and forward

Pump Number

ID/SAMPLE NO.	1357
DATE	9-2-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WK
EMPLOYEE NAME (LAST, FIRST)	Vallejo, Victor	
JOB TITLE	Insulator	SU

NUMBER
4-58 -2722

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA Huffaw w/replace filter	SAMPLING CONDITIONS	TEMPERATURE	89 °	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BDX
	BODY	Disposable tyvek		RELATIVE HUMIDITY	54%		PRE FLOW RATE	2.0 Lpm
	GLOVES			BAROMETRIC PRESSURE	30.07 "Hg		POST FLOW RATE	2.0 Lpm
	OTHER			AIR VELOCITY	E10 fpm/mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-185			
	I.D. Number	1357			
	Time On	0745			
	Time Off	1455			
	Total Time (min.)	430			TOTAL TIME
	Flow Rate (LPM)	2.0 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	860 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	4.01 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
	1. Asbestos	4.01		f/cc				NIOSH 7400
	2.							
	3.							
	4.							
	5.							
	6.							

LABORATORY USED Natl Sw		WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS Sample taken during removal of fireproofing of Cat F (North end) Glove bags used		BLANKS (No.) 2 Blank
REVIEWED BY	RECEIVED SEP 24 1987	DATE	BULKS (No.)	
COMMENTS				

INSTRUCTIONS: Originator attaches Part 2 to lab. dry results
and forwards to Medical Services.

I.D./SAMPLE NO. **1356**

DATE **9-1-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY **Southwestern Refinery** WORK LOCATION **Car I**
EMPLOYEE NAME (LAST, FIRST) **Vallejo, Victor** EMPLOYEE NUMBER **464-58 -2722**
JOB TITLE **Insulator** SURVEYOR **C. DeYoung**

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		BOX#
	GLOVES		BAROMETRIC PRESSURE		PRE FLOW RATE
	OTHER		AIR VELOCITY		POST FLOW RATE
					DIFFERENCE FLOW

MSA Half face w/ Hpa filter
Disposable tyvek
86 °
57 %
30.07" Hg
NE 20 fpm mph
2.0 Lpm
2.0 Lpm

SAMPLING DATA	Lab Sample Number	87-184			
	I.D. Number	1356			
	Time On	0840			
	Time Off	1430			
	Total Time (min.)	370			TOTAL TIME
	Flow Rate (LPM)	2.0			
	Sample Media	mCEF			
	Volume (Liters)	740 L			TOTAL VOLUME
	Net Sample Wt.	-			

LABORATORY RESULTS	1.	Asbestos	.02 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.02	.015	F/cc				NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED **Malvern**

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS
Sample taken during removal of fireproofing in Car I
Stovebags used

RECEIVED
SEP 24 1987
REVIEWED BY
DATE
BLANKS (No.) **2 blanks**
BULK (No.)

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

I.D./SAMPLE NO.	1347
DATE	8-21-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Car I
EMPLOYEE NAME (LAST, FIRST)	Vallejo, Victor	EMPLOYEE NUMBER	464-58 - 2722
JOB TITLE	Insulator	SURVEYOR	C. DeLong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	H. MBR.	SAMPLING CONDITIONS	TEMPERATURE	°F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY			RELATIVE HUMIDITY	%		PRE FLOW RATE
	GLOVES	yes Disp. from DeLong		BAROMETRIC PRESSURE	"Hg		POST FLOW RATE
	OTHER	H. Hat. Saf. Glasses		AIR VELOCITY	fpm mph		DIFFERENCE FLOW

SAMPLING DATA	Lab Sample Number	87-175			
	I.D. Number	1347			
	Time On	0825			
	Time Off	11:00			
	Total Time (min.)	155			TOTAL TIME
	Flow Rate (LPM)	2.0			
	Sample Media	RCIEF			
	Volume (Liters)	310L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbest	.04 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.04	.013	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: *Not used*

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)

Sample taken during removal of fireproofing in Car I.

3 bags used

REVIEWED BY	DATE	BLANKS (No.)	2 blanks
		BULKS (No.)	

COMMENTS: **RECEIVED**

SEP 21 1987

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID./SAMPLE NO.	1345
DATE	8-20-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Car I
EMPLOYEE NAME (LAST, FIRST)	Walford, Norman (Roy)	EMPLOYEE NUMBER	453-23-1404
JOB TITLE	Insulator	SURVEYOR	C. Deyong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	H. MASK	SAMPLING CONDITIONS	TEMPERATURE	71 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BUY #4
	BODY	yes		RELATIVE HUMIDITY	58 %		PRE FLOW RATE	2.0 Lpm
	GLOVES	yes		BAROMETRIC PRESSURE	30.04 "Hg		POST FLOW RATE	2.0 Lpm
	OTHER	yes		AIR VELOCITY	214 fpm mph		DIFFERENCE FLOW	
		H. Hat. Saf. Glasses						

SAMPLING DATA	Lab Sample Number	87-174			
	I.D. Number	1345			* Entered as invalid sample
	Time On	0740			
	Time Off				
	Total Time (min.)				TOTAL TIME
	Flow Rate (LPM)				
	Sample Media	in C.E.F			
	Volume (Liters)				TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos			
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1.							
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED		DATE	
Natl Sew		SEP 24 1987	
WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS		DATE	
Sample taken during removal of fireproofing in Car I			
Glove bags used			
REVIEWED BY		DATE	
RECEIVED			
COMMENTS		BLANKS (No.)	
		2 Blanks	
		BULKS (No.)	

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO.	1346
DATE	8-20-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Cell I
EMPLOYEE NAME (LAST, FIRST)	Area sample during removal of Fireproofing	EMPLOYEE NUMBER	-
JOB TITLE		SURVEYOR	C. Deyon

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	91 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BDX #1
	BODY		RELATIVE HUMIDITY	58 %		PRE FLOW RATE	2.0 lpm
	GLOVES		BAROMETRIC PRESSURE	30.09 "Hg		POST FLOW RATE	1.9 lpm
	OTHER		AIR VELOCITY	E 14 fpm mph		DIFFERENCE FLOW	.1 lpm

SAMPLING DATA	Lab Sample Number	87-173			
	I.D. Number	1346			
	Time On	0740			
	Time Off	1430			
	Total Time (min.)	410			TOTAL TIME
	Flow Rate (LPM)	1.95 lpm			
	Sample Media	MCE			
	Volume (Liters)	799.5 L			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	<.01 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	<.01		f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: Not Spec

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS: Area sample taken during removal of Fireproofing in Cell I

REVIEWED BY	DATE	BLANKS (No.)	2 Blanks
		BULKS (No.)	

COMMENTS: RECEIVED
SEP 24 1987

INSTRUCTIONS: Originator attaches Part 2 to labc and forwards to Medical Services.

RECEIVED
SEP 16 1987
ID/SAMPLE NO. 1341
DATE 8-19-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery
EMPLOYEE NAME (LAST, FIRST) Vallego, Victor
JOB TITLE Insulator
WORK LOCATION Car 7
EMPLOYEE NUMBER 464-58-2722
SURVEYOR C. DeYoung

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA half face w/ hoga filter	SAMPLING CONDITIONS	TEMPERATURE	93 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BDX #4
	BODY	disposable tyvek		RELATIVE HUMIDITY	51 %		PRE FLOW RATE	2.0 Lpm
	GLOVES	gloves		BAROMETRIC PRESSURE	30.04 "Hg		POST FLOW RATE	2.0 Lpm
	OTHER			AIR VELOCITY	SE 15 fpm (mph)		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-169			
	I.D. Number	87-169 1341			
	Time On	10:05			
	Time Off	1:50			
	Total Time (min.)	295			TOTAL TIME
	Flow Rate (LPM)	2.0 Lpm			
	Sample Media	MCEP			
	Volume (Liters)	590 L			TOTAL VOLUME
	Net Sample Wt.				

LABORATORY RESULTS	1.	Asbestos	.01 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.01	.006	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: Apelco

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS: Sample taken during removal of fireproofing in Car 7

REVIEWED BY	DATE	BLANKS (No.)	2 Blank
		BULKS (No.)	
COMMENTS			

INSTRUCTIONS: Originator attaches Part 2 to labc
and forwards to Medical Services.

RECEIVED

SEP 16 1987

I.D./SAMPLE NO. 1340

DATE 8-19-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Car I
EMPLOYEE NAME (LAST, FIRST)	Area sample / Removal of fireproofing	EMPLOYEE NUMBER	-
JOB TITLE		SURVEYOR	C. Perry

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	93 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	Box #1
	BODY		RELATIVE HUMIDITY	51 %		PRE FLOW RATE	1.9 Lpm
	GLOVES		BAROMETRIC PRESSURE	30.04" Hg		POST FLOW RATE	1.9 Lpm
	OTHER		AIR VELOCITY	SE 15 fpm (mph)		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-168			
	I.D. Number	1340			
	Time On	10:00			
	Time Off	1500			
	Total Time (min.)	300			TOTAL TIME
	Flow Rate (LPM)	1.9 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	570 L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	<.01 f/cc	(1)		
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	<.01		f/cc					
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED	Watson
WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS	Area sample taken during removal of fireproofing
Blank log used	
REVIEWED BY	DATE
COMMENTS	
BLANKS (No.)	2 blanks
BULKS (No.)	

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

RECEIVED

LABORATORY NO.

1335

SEP 16 1987

8-18-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Cat I
EMPLOYEE NAME (LAST, FIRST)	Wolfe, Norman (Rog)	EMPLOYEE NUMBER	453-23 - 1409
JOB TITLE	Insulator	SURVEYOR	C. Dwyer

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA half face w/ 2 filters	SAMPLING CONDITIONS	TEMPERATURE	94 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BDX #4
	BODY	Disposable Tyvek		RELATIVE HUMIDITY	47 %		PRE FLOW RATE	2.0 LPM
	GLOVES			BAROMETRIC PRESSURE	30.00 "Hg		POST FLOW RATE	2.0 LPM
	OTHER			AIR VELOCITY	5 E 16 fpm (mph)		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-163				
	I.D. Number	1335				
	Time On	0745				
	Time Off	1440				
	Total Time (min.)	415				TOTAL TIME
	Flow Rate (LPM)	2.0				
	Sample Media	MCEF				
	Volume (Liters)	830				TOTAL VOLUME
Net Sample Wt.						

LABORATORY RESULTS	1.	Asbestos	.02 f/cc	①		
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.02	.017	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: New Brunswick

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS:
Sample taken during removal of fireproofing
Glovebags used

REVIEWED BY	DATE	BLANKS (No.)	2 blanks
		BULKS (No.)	

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

RECEIVED

ID/SAMPLE NO. 1334

DATE 8-17-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

SEP 16 1987

FACILITY	Southwestern Refinery	WORK LOCATION	Cat I
EMPLOYEE NAME (LAST, FIRST)	Area sample	EMPLOYEE NUMBER	
JOB TITLE		SURVEYOR	C. Dayon

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		BOX #1
	GLOVES		BAROMETRIC PRESSURE		PRE FLOW RATE
	OTHER		AIR VELOCITY		POST FLOW RATE
					DIFFERENCE FLOW

SAMPLING DATA	Lab Sample Number	87-161			
	I.D. Number	87-1334			
	Time On	10:20			
	Time Off	1450			
	Total Time (min.)	262			TOTAL TIME
	Flow Rate (LPM)	1.9 Lpm			
	Sample Media	mCEF			
	Volume (Liters)	497.8			TOTAL VOLUME
Net Sample Wt.					

LABORATORY RESULTS	1.	Asbestos	<.01 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	<.01		f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS

Area sample surrounding of asbestos removal fireproofing

Glove bags

REVIEWED BY

DATE

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to labo. and forwards to Medical Services.

RECEIVED

SEP 16 1987

1333

8-17-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Car I
EMPLOYEE NAME (LAST, FIRST)	Vallejo, Victor	EMPLOYEE NUMBER	464-58 - 2722
JOB TITLE	Insulator	SURVEYOR	C. Dayton

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA half face conf. II	SAMPLING CONDITIONS	TEMPERATURE	92 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	607 #4
	BODY	Disposable tyvek		RELATIVE HUMIDITY	58 %		PRE FLOW RATE	2.0 Lpm
	GLOVES	Disposable		BAROMETRIC PRESSURE	30.00 "Hg		POST FLOW RATE	2.0 Lpm
	OTHER			AIR VELOCITY	516 fpm/mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-162				
	I.D. Number	1333				
	Time On	1045				
	Time Off	1430				
	Total Time (min.)	225				TOTAL TIME
	Flow Rate (LPM)	2.0 Lpm				
	Sample Media	MCEP				
	Volume (Liters)	450 L				TOTAL VOLUME
Net Sample Wt.						

LABORATORY RESULTS	1.	Asbestos	<.01 f/cc	①		
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	<.01	<.005	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: H&B

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS: Removing asbestos fireproofing in Car I

Gluebags used

REVIEWED BY	DATE	BLANKS (No.)	2 blanks
		BULKS (No.)	

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to lab
and forwards to Medical Services.

RECEIVED

ID/SAMPLE NO. 1322

DATE 8-12-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

SEP 16 1987

FACILITY	Southwestern Refinery	WORK LOCATION	Sulfonam unit
EMPLOYEE NAME (LAST, FIRST)	Wolford, Roy	EMPLOYEE NUMBER	452-23-1404
JOB TITLE	Insulator	SURVEYOR	C. Deyong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MJA units II w/ hepafilter	SAMPLING CONDITIONS	TEMPERATURE	89 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BOX #4
	BODY	Disposable Tyvek		RELATIVE HUMIDITY	59 %		PRE FLOW RATE	1.9 Lpm
	GLOVES	Disposable gloves		BAROMETRIC PRESSURE	29.85 "Hg		POST FLOW RATE	1.9 Lpm
	OTHER			AIR VELOCITY	516 fpm mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-155				
	I.D. Number	1322				
	Time On	0730				
	Time Off	0925				
	Total Time (min.)	115				TOTAL TIME
	Flow Rate (LPM)	1.9 Lpm				
	Sample Media	MCEP				
	Volume (Liters)	218.5 L				TOTAL VOLUME
Net Sample Wt.						

LABORATORY RESULTS	1.	Asbestos	.04 f/cc	②			
	2.						
	3.						
	4.						
	5.						
	6.						

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.04	.010	f/cc					NIOSH 740
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: Not used

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)

Removal pipe insulation from Sulfonam unit.
Glove bag utilized

REVIEWED BY	DATE	BLANKS (No.)	2 Blanks
		BULKS (No.)	

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to lab. and forwards to Medical Services.

RECEIVED
SEP 16 1987

ID/SAMPLE NO.	1327
DATE	8-12-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Sulfur unit
EMPLOYEE NAME (LAST, FIRST) Area sample	EMPLOYEE NUMBER -
JOB TITLE	SURVEYOR C. DeYoung

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	89 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY	59 %		PRE FLOW RATE
	GLOVES		BAROMETRIC PRESSURE	29.85 "Hg		POST FLOW RATE
	OTHER		AIR VELOCITY	516 fpm mph		DIFFERENCE FLOW

SAMPLING DATA	Lab Sample Number	87-156			
	I.D. Number	1328			
	Time On	0730			
	Time Off	0930			
	Total Time (min.)	120			TOTAL TIME
	Flow Rate (LPM)	1.76 Lpm			
	Sample Media	MEEF			
	Volume (Liters)	205.2 L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	2.04 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	<.01	<.002	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED Natl Sw	
(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS) Removing insulation Sulfur unit Area sample	
REVIEWED BY	DATE
COMMENTS	
BLANKS (No.)	2 blanks
BULKS (No.)	

INSTRUCTIONS: Originator attaches Part 2 to lab. ory results
and forwards to Medical Services.

I.D./SAMPLE NO. **1317**
DATE **8-5-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY **Southwestern Refinery** WORK LOCATION **Scrapyard**
EMPLOYEE NAME (LAST, FIRST) **Greer, Bennie** EMPLOYEE NUMBER **454-04 -0503**
JOB TITLE **Insulator** SURVEYOR

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		PRE FLOW RATE
	GLOVES		BAROMETRIC PRESSURE		POST FLOW RATE
	OTHER		AIR VELOCITY		DIFFERENCE FLOW

MSA Comfo II HF with hepa
Disposable Tyvek
91 °F
56 %
29.94 "Hg
514 fpm
DPX #4
1.7 Lpm
1.7 Lpm

SAMPLING DATA	Lab Sample Number	87-146				
	I.D. Number	1317				
	Time On	1340				
	Time Off	1405				
	Total Time (min.)	25				TOTAL TIME
	Flow Rate (LPM)	1.7 Lpm				
	Sample Media	MCEF				
	Volume (Liters)	42.5 L				TOTAL VOLUME
Net Sample Wt.						

LABORATORY RESULTS	1.	Asbestos	.02 f/cc			
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	.02	.001	f/cc				Niosh 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS

Removing asbestos from pipeline in scrapyard
using glovebags

RECEIVED
AUG 28 1987

REVIEWED BY

DATE

COMMENTS

BLANKS (No.)

BULKS (No.)

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

ID/SAMPLE NO. 1305

DATE 8-3-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Case I
EMPLOYEE NAME (LAST, FIRST)	Vallejo, Victor	EMPLOYEE NUMBER	464-58-2722
JOB TITLE	Insulator	SURVEYOR	C. Delong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA Comfo II Half face w/napaf.	SAMPLING CONDITIONS	TEMPERATURE	93 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BOY #4
	BODY			RELATIVE HUMIDITY	56 %		PRE FLOW RATE	2.0 Lpm
	GLOVES	Disposable nitrile		BAROMETRIC PRESSURE	29.92 "Hg		POST FLOW RATE	1.9 Lpm
	OTHER	Disposable gloves		AIR VELOCITY	SE 15.22 fpm (mph)		DIFFERENCE FLOW	.1 Lpm

SAMPLING DATA	Lab Sample Number	57-133			
	I.D. Number	1305			
	Time On	0755			
	Time Off	10:00			
	Total Time (min.)	125			TOTAL TIME
	Flow Rate (LPM)	1.95 Lpm			
	Sample Media	MCEP			
	Volume (Liters)	243.75			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	.04 f/cc	(1)		
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.04	.01	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: Maxwell

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS: Removing fireproofing in Cat I. Used glove bag, wetting agent

RECEIVED	BLANKS (No.)	2 Blanks
	BULKS (No.)	
REVIEWED BY: <u>AUG 28 1987</u>	DATE	

COMMENTS:

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

ID/SAMPLE NO. **1306**
DATE **8-3-87**

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery	WORK LOCATION Car I
EMPLOYEE NAME (LAST, FIRST) Area Sample / Asbestos Removal Car I	EMPLOYEE NUMBER ---
JOB TITLE ---	SURVEYOR C. DeYoung

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		PRE FLOW RATE
	GLOVES		BAROMETRIC PRESSURE		POST FLOW RATE
	OTHER		AIR VELOCITY		DIFFERENCE FLOW
			93 °F		B5X #1
			56 %		1.7
			29.92 "Hg		1.7
			SE 15.22 fpm (mph)		---

SAMPLING DATA	Lab Sample Number	87-134			
	I.D. Number	1306			
	Time On	0755			
	Time Off	10:00			
	Total Time (min.)	125			TOTAL TIME
	Flow Rate (LPM)	1.7 Lpm			
	Sample Media	mCEF			
	Volume (Liters)	212.5 L			TOTAL VOLUME
Net Sample Wt.	---				

LABORATORY RESULTS	1.	Asbestos	4.01	(1)		
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	<.01	.003	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED **Neilsen**

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS
Area sample surrounding of Asbestos Removal

RECEIVED AUG 28 1987	BLANKS (No.)	2 Blanks
	BULKS (No.)	
REVIEWED BY	DATE	
COMMENTS		

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

ID/SAMPLE NO
1304

DATE
7-31-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY Southwestern Refinery		WORK LOCATION Cat I
EMPLOYEE NAME (LAST, FIRST) Arca sample		EMPLOYEE NUMBER -
JOB TITLE -		SURVEYOR C. Deyong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.
	BODY		RELATIVE HUMIDITY		PRE FLOW RATE
	GLOVES		BAROMETRIC PRESSURE		POST FLOW RATE
	OTHER		AIR VELOCITY		DIFFERENCE FLOW
			91 °F		BOX #1
			50 %		1.7 lpm
			30.03 "Hg		1.7 lpm
			59 fpm (mph)		-

SAMPLING DATA	Lab Sample Number	87-132			
	I.D. Number	87-132			
	Time On	0740			
	Time Off	1440			
	Total Time (min.)	420			TOTAL TIME
	Flow Rate (LPM)	1.7 lpm			
	Sample Media	MEEF			
	Volume (Liters)	714L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	< 0.1 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD
		1. Asbestos	< 0.1 f/cc		f/cc				NIOSH 7400
		2.							
		3.							
		4.							
		5.							
		6.							

LABORATORY USED
Lab 120

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS
Area sample downwind of Asbestos removal

RECEIVED AUG 28 1987	BLANKS (No.)	2 blanks
	BULKS (No.)	
REVIEWED BY	DATE	
COMMENTS		

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

ID/SAMPLE NO.	1303
DATE	7-31-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Car I
EMPLOYEE NAME (LAST, FIRST)	Wolford, R. Roy	EMPLOYEE NUMBER	453-23-1404
JOB TITLE	Insulator	SURVEYOR	C. DeLong

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MHA combi HFW w/ paper filter	SAMPLING CONDITIONS	TEMPERATURE	°F	CALIBRATION RECORD	PUMP MANUFACTURE/S.N.
	BODY	Disposable Tyvek		RELATIVE HUMIDITY	%		PRE FLOW RATE
	GLOVES	Disposable		BAROMETRIC PRESSURE	"Hg		POST FLOW RATE
	OTHER			AIR VELOCITY	fpm mph		DIFFERENCE FLOW

SAMPLING DATA	Lab Sample Number	87-131			
	I.D. Number	1303			
	Time On	0800			
	Time Off	1440			
	Total Time (min.)	400			TOTAL TIME
	Flow Rate (LPM)	20			
	Sample Media	MEEF			
	Volume (Liters)	800 L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	.03 f/cc	①		
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.03 f	.025	f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: NIOSH

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Asbestos removal of fireproofing in Car I. Glovebags, wetting agent used

REVIEWED BY	DATE	BLANKS (No.)	2 Blanks
		BULKS (No.)	

COMMENTS: AUG 28 1987

INSTRUCTIONS: Originator attaches Part 2 to laboratory results and forwards to Medical Services.

ID/SAMPLE NO.	0144
DATE	7-30-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Car I
EMPLOYEE NAME (LAST, FIRST)	Arca Sample / Asbestos removal	EMPLOYEE NUMBER	-
JOB TITLE	-	SURVEYOR	C. Dwyer

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	SAMPLING CONDITIONS	TEMPERATURE	91 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	Boy #1
	BODY		RELATIVE HUMIDITY	58 %		PRE FLOW RATE	1.7 lpm
	GLOVES		BAROMETRIC PRESSURE	30.01 "Hg		POST FLOW RATE	1.7 lpm
	OTHER		AIR VELOCITY	E 8 fpm/mph		DIFFERENCE FLOW	-

SAMPLING DATA	Lab Sample Number	87-130			
	I.D. Number	0144			
	Time On	1320			
	Time Off	1510			
	Total Time (min.)	110			TOTAL TIME
	Flow Rate (LPM)	1.7			
	Sample Media	mCEF			
	Volume (Liters)	187.0L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	<.01 f/cc	①		
	2.					
	3.					
	4.					
	5.					
	6.					

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	<.01		f/cc					NIOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED: NABW

WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS: Area Sample Downwind of asbestos removal

RECEIVED AUG 28 1987	REVIEWED BY	DATE	BLANKS (No.)	2 Blanks
			BULKS (No.)	

COMMENTS

INSTRUCTIONS: Originator attaches Part 2 to lab results and forwards to Medical Services.

ID/SAMPLE NO.	0146
DATE	7-30-87

INDUSTRIAL HYGIENE SURVEY DATA - AIR MONITORING KM-4293-A

FACILITY	Southwestern Refinery	WORK LOCATION	Cat I
EMPLOYEE NAME (LAST, FIRST)	Wolford, Roy	EMPLOYEE NUMBER	453 - 23 - 1404
JOB TITLE	Insulator	SURVEYOR	C. DeYoung

TYPE OF PERSONAL PROTECTIVE EQUIPMENT	RESPIRATOR	MSA. Comp II HF-hypafilt	TEMPERATURE	91 °F	CALIBRATION RECORD	PUMP MANUFACTURER/S.N.	BDX #4
	BODY	Disposable Tyvek	RELATIVE HUMIDITY	58 %		PRE FLOW RATE	2.0 Lpm
	GLOVES	Disposable	BAROMETRIC PRESSURE	30.01 "Hg		POST FLOW RATE	2.0 Lpm
	OTHER		AIR VELOCITY	58 fpm mph		DIFFERENCE FLOW	

SAMPLING DATA	Lab Sample Number	87-129			
	I.D. Number	0146			
	Time On	1315			
	Time Off	1510			
	Total Time (min.)	115			TOTAL TIME
	Flow Rate (LPM)	2.0 Lpm			
	Sample Media	MCEF			
	Volume (Liters)	230 L			TOTAL VOLUME
Net Sample Wt.	-				

LABORATORY RESULTS	1.	Asbestos	.04 f/cc		
	2.				
	3.				
	4.				
	5.				
	6.				

FOR MEDICAL SERVICES USE ONLY	SAMPLE ANALYSIS	SUBSTANCE	TWA (Time)	TWA 8(hr)	UNITS	AUTHORITY	STND. NO.	SEVERITY	ANALYTICAL METHOD	
		1. Asbestos	.04	.009	f/cc					MOSH 7400
		2.								
		3.								
		4.								
		5.								
		6.								

LABORATORY USED
Nalco

(WORK ACTIVITIES, OPERATION, LOCATION, VENTILATION, CONTROLS)
Asbestos removal of fireproofing on south side of Cat I

Glare bag used

REVIEWED BY	RECEIVED	DATE	BLANKS (No.)	2 Blanks
			BULKS (No.)	

COMMENTS
AUG 28 1987

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING. KM-4293

487048.1 / DATE 4-13-87

FACILITY Southwestern Refinery		DEPARTMENT Maintenance	
OPERATION/JOB TITLE Insulator			NUMBER OF SHIFTS
EMPLOYEE Roy Wolford			EMPLOYEE NUMBER
SURVEYOR C. Gayong			
SAMPLE NUMBER 87-48	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL	
FILTER TYPE 0.8u	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal	
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION		
CONTAMINANT Asbestos	PUMP NUMBER BOX #2	CALIBRATION DATE 4-8-87	
TIME ON 0944	FLOWRATE 2.0 lpm		
TIME OFF 10:17	FLOWRATE 2.0 lpm		
Minutes 33 X 2.0 Flowrate = Sample Volume 66.0 l			

SAMPLING CONDITIONS

TEMPERATURE 74	HUMIDITY 37%	AIR VELOCITY 5 12 mph	BAROMETRIC PRESSURE 29.93 in
CONTROL MEASURES W. S. and Disposable overalls, gloves, half face respirator			

JOB DESCRIPTION
Removing insulation from pipe above water on south side of
creek II. Pipe not - no flow being

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result
.07 f/cc

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING

KW-4293

987002.1

DATE 1-12-87

FACILITY

Southwestern Refinery

DEPARTMENT

Maint

OPERATION/JOB TITLE

Insulator

NUMBER OF SHIFTS

EMPLOYEE

Victor Vallejo

EMPLOYEE NUMBER

SURVEYOR

C. Tuttle

SAMPLE NUMBER

87-02

SAMPLE TYPE

☒ Breathing Zone☐ General Air

SPECIAL

FILTER TYPE

OFA

☐ Resp.☐ Total

TUBE

☐ Detector☐ Silgel☐ Charcoal

IMPINGER

☐ Midget☐ Bubbler

SOLUTION

CONTAMINANT

Asbestos

PUMP NUMBER

Box #4

CALIBRATION DATE

TIME ON

11:55

FLOWRATE

2.0 lpm

TIME OFF

12:55

FLOWRATE

Minutes 60 x 2.0 Flowrate = Sample Volume 120 l

SAMPLING CONDITIONS

TEMPERATURE

55°

HUMIDITY

49%

AIR VELOCITY

5.6 mph

BAROMETRIC PRESSURE

30.35 in

CONTROL MEASURES

Handled wet, disposable gloves, overalls, hard hat, safety glasses, half face respirator w/ H cartridge

JOB DESCRIPTION

Removing asbestos from pipe below Mr. Platform rafters

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = .14 F/cc

8hr. T.W.A. = .02 F/cc

SWRf/Asbestos 10027

04/04/87 - Discussed values w/ C. DeYoung - 87-02 + 87-01; Even though values are < PEL, would like to see one hour values lower;

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING

KM-4293

987001.1

DATE 1-12-87

FACILITY Southwestern Refinery		DEPARTMENT Maint	
OPERATION/JOB TITLE Insulator		NUMBER OF SHIFTS	
EMPLOYEE Roy Wolford		EMPLOYEE NUMBER	
SURVEYOR Dr. Tuttle			
SAMPLE NUMBER 87-01	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL	
FILTER TYPE 0.8u	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal	
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION		
CONTAMINANT Asbestos	PUMP NUMBER 60X#1	CALIBRATION DATE	
TIME ON 11:55	FLOWRATE 2.0 lpr		
TIME OFF 12:55	FLOWRATE		

Minutes 60 X 2.0 Flowrate = Sample Volume 120 L

SAMPLING CONDITIONS

TEMPERATURE 55°	HUMIDITY 49%	AIR VELOCITY 5.6 mps	BAROMETRIC PRESSURE 30.35 in
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CONTROL MEASURES

Handled wet, disposable gloves, coveralls, hard hat, safety glasses, half face resp w/ H cartridge

JOB DESCRIPTION

Removing asbestos from line below MF Plaster reactor

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = .24 f/cc

8 hr. TWA = .03 f/cc

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KH-4293

DATE 1-12-87

FACILITY Southwestern Refinery	DEPARTMENT Maint
OPERATION/JOB TITLE Insulator	NUMBER OF SHIFTS
EMPLOYEE Victor Vallejo	EMPLOYEE NUMBER
SURVEYOR C. Tuttle	

SAMPLE NUMBER 87-02	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL
FILTER TYPE GFM	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION	
CONTAMINANT Asbestos	PUMP NUMBER BOX #4	CALIBRATION DATE 1-12-87
TIME ON 11:55	FLOWRATE 2.0 lpm	
TIME OFF 12:55	FLOWRATE 2.0 lpm	

Minutes 60 x 2.0 Flowrate = Sample Volume 120 L

SAMPLING CONDITIONS

TEMPERATURE 55°	HUMIDITY 49%	AIR VELOCITY 5.6 mph	BAROMETRIC PRESSURE 30.35 in
CONTROL MEASURES Handled wet, disposable gloves, coveralls, hard hat, safety glasses, half face respirator w/ H cartridge			

JOB DESCRIPTION
Removing asbestos from pipe below MF Platform reactors

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = .14 F/cc

8hr. T.W.A. = .02 F/cc

1B 001186

INDUSTRIAL HYGIENE SURVEY DATA - WORKPLACE AIR MONITORING KM-4293

DATE 1-12-87

FACILITY Southwestern Refinery		DEPARTMENT Maint	
OPERATION/JOB TITLE Insulator		NUMBER OF SHIFTS	
EMPLOYEE Roy Walford		EMPLOYEE NUMBER	
SURVEYOR Dr. Turtle			
SAMPLE NUMBER 87-01	SAMPLE TYPE ☒ Breathing Zone ☐ General Air	SPECIAL	
FILTER TYPE 0.8u	☐ Resp. ☐ Total	TUBE ☐ Detector ☐ Silgel ☐ Charcoal	
IMPINGER ☐ Midget ☐ Bubbler	SOLUTION		
CONTAMINANT Asbestos	PUMP NUMBER 60X#1	CALIBRATION DATE 1-12-87	
TIME ON 11:55	FLOWRATE 2.0 lpm		
TIME OFF 12:55	FLOWRATE 2.0 lpm		

Minutes 60×2.0 Flowrate = Sample Volume 120 l

SAMPLING CONDITIONS

TEMPERATURE 55°	HUMIDITY 49%	AIR VELOCITY 5.6 mps	BAROMETRIC PRESSURE 30.35 in
--------------------	-----------------	-------------------------	---------------------------------

CONTROL MEASURES

Handled wet, disposable gloves, coveralls, hard hat,
Safety glasses, half face resp w/ H cartridge

JOB DESCRIPTION

Removing asbestos from line below MF Platformer reactors

ANALYTICAL TECHNIQUE

EXPOSURE CONCENTRATION CALCULATION

Lab Result = .24 f/cc

8 hr. TWA = .03 f/cc

1B 001185

SWRf/Asbestos 10030

**NATLSCO**

National Loss Control Service Corporation
Long Grove, Illinois 60049 (312) 540-2488

ENVIRONMENTAL SCIENCES LABORATORY, K-2

LABORATORY ANALYSIS REPORT

REPORT DATE JAN. 14, 1987

SAMPLES REC'D JAN. 9, 1987

REQUEST NUMBER 65604

PAGE NUMBER 1 OF REQUEST.

TO:

CAROLINE TUTTLE
SOUTHWESTERN REFINERY CO.
P. O. BOX 9217
CORPUS CHRISTI TX 78408

SAMPLE NUMBER	ANALYSIS REQUESTED	RESULTS	
86-85	ASBESTOS(NIOSH 7400) ANALYSES	Fibers/100 Flds <2	Fibers/cc <0.02

< MEANS LESS THAN
METHODS: ION-SELECTIVE ELECTRODE
ATOMIC ABSORPTION (ROUTINE)
GAS CHROMATOGRAPHY (ROUTINE)
PHASE CONTRAST MICROSCOPY

Respecttully submitted,

Joan A. Wronski, CIH, Manager
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

1B 000735

**NATLSCO**

National Loss Control Service Corporation
Long Grove, Illinois 60049 (312) 540-2488

ENVIRONMENTAL SCIENCES LABORATORY, K-2

TO:

CAROLINE TUTTLE
SOUTHWESTERN REFINERY CO.
P. O. BOX 9217
CORPUS CHRISTI TX 78408

LABORATORY ANALYSIS REPORT

REPORT DATE JAN. 14, 1987

SAMPLES REC'D JAN. 9, 1987

REQUEST NUMBER 65604

PAGE NUMBER 2 OF REQUEST.

SAMPLE NUMBER	ANALYSIS REQUESTED		RESULTS
BLANK	BLANK....	BLANK	NONE DETECTED
BLANK	BLANK....	BLANK	NONE DETECTED
BLANK	BLANK....	BLANK	NONE DETECTED
BLANK	BLANK....	ASBESTOS(NIOSH 7400) ANALYSES	SUBTRACTED
BLANK	BLANK....	ASBESTOS(NIOSH 7400) ANALYSES	SUBTRACTED

METHODS: GAS CHROMATOGRAPHY (ROUTINE)
ION-SELECTIVE ELECTRODE
ATOMIC ABSORPTION (ROUTINE)
PHASE CONTRAST MICROSCOPY

Respectfully submitted,

Joan A. Wronski, CIH, Manager
Environmental Sciences Laboratory

ACCREDITED BY THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

1B 000736

SWRf/Asbestos 10032
MADE IN U.S.A.