

VCM MONITORING - WORKPLACE ENVIRONMENTS

NYGS-2 RESIN UNIT

SOUTH CHARLESTON PLANT

SUMMARY

Pursuant to Part 1910 - Occupational Safety and Health Standards, Emergency Temporary Standard for Exposure to Vinyl Chloride, Section 1910.93q, effective April 5, 1974, personal monitoring was initiated at the subject location on March 11, 1974. Detailed sampling and analytical methods appear in Section XI of this report.

Personal monitoring records are documented following this summary. In addition to personal identification of employees and monitoring results, job tasks which are either suspected or known to be associated with significant exposure potential are noted.

Monitoring results obtained by use of a continuously operated gas chromatograph, maintaining surveillance of ambient air at nineteen (19) strategically located sampling points, are also presented. (See descriptive list and unit plot plan for locations.) In addition to serving as an excellent leak test monitor, the instrument provides an insight to potential personnel exposure directly related to specific job tasks and work practices. Other instrumentation used to aid in control strategy (leak testing) are the Miran Infrared Spectrophotometer, J&W TLV Sniffer and the Century Organic Vapor Detector.

With the advent of the Emergency Temporary Standard, a Management directive was issued regarding strict enforcement of appropriate respiratory protection use by all employees when VCM concentrations are suspected or at any time known to exceed 50 PPM as previously determined by monitoring methods described above.

Anticipating a dramatic change in permissible exposure and, having already identified most inherently affected areas, e.g., opening, cleaning or sampling reactors, provision of respiratory protective equipment was in progress prior to the effective date. Attached are memos identifying the affected areas and job tasks and instructions pertaining to use of respiratory equipment. Appropriate revisions, deletions or additions will be made to the listed work practices as the result of future studies and implementation of engineering control.

W. C. Young/jve

7/12/74

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VCM MONITORING - WORKPLACE ENVIRONMENTS
NYGS-2 RESIN UNIT - BLDG. 209
AREA (ENVIRONMENTAL) SAMPLING

DATE	LOCATION	DURATION, MINUTES	CONCENTRATION, PPM
6-13-74	Control Room		< 1
6-13-74	Control Room		1
6-14-74	Control Room		< 1
6-14-74	Control Room		4
6-17-74	Control Room		1
6-17-74	Control Room		1
6-17-74	Control Room		3
6-18-74	Compressor Room		1
6-18-74	Control Room		4
6-18-74	Control Room		3
6-18-74	Bagging Area		3
6-18-74	Control Room		1

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IN-HOUSE, FIXED VCM MONITORING
MODEL 1200 VFA - FLAME IONIZATION DETECTOR

NYGS-2 RESIN UNIT

June 13, 1974 - June 26, 1974

Sample Point	Location	No. Readings > 50 PPM
1	Control Room	2
2	Above Sink, East Bay	None
3	Compressor Room	1
4	North East C-21 (Top)	10
5	North East C-23 (Top)	1
6	North East C-25 (Top)	None
7	North East C-27 (Top)	7
8	North East C-22 (Top)	None
9	North East C-24 (Top)	None
10	North East C-26 (Top)	12
11	North East C-28 (Top)	3
12	North East C-21 (Bottom)	1
13	North East C-24 (Bottom)	None
14	East C-26, C-27 (Bottom)	1
15	Above West Monomer Feed Filter	2
16	Above East Monomer Feed Filter	None
17	Above Monomer Circulating Filter	None
18	Condensate Tank Decant Valve Area	None
19	VCI Recovery System Vent Area	1

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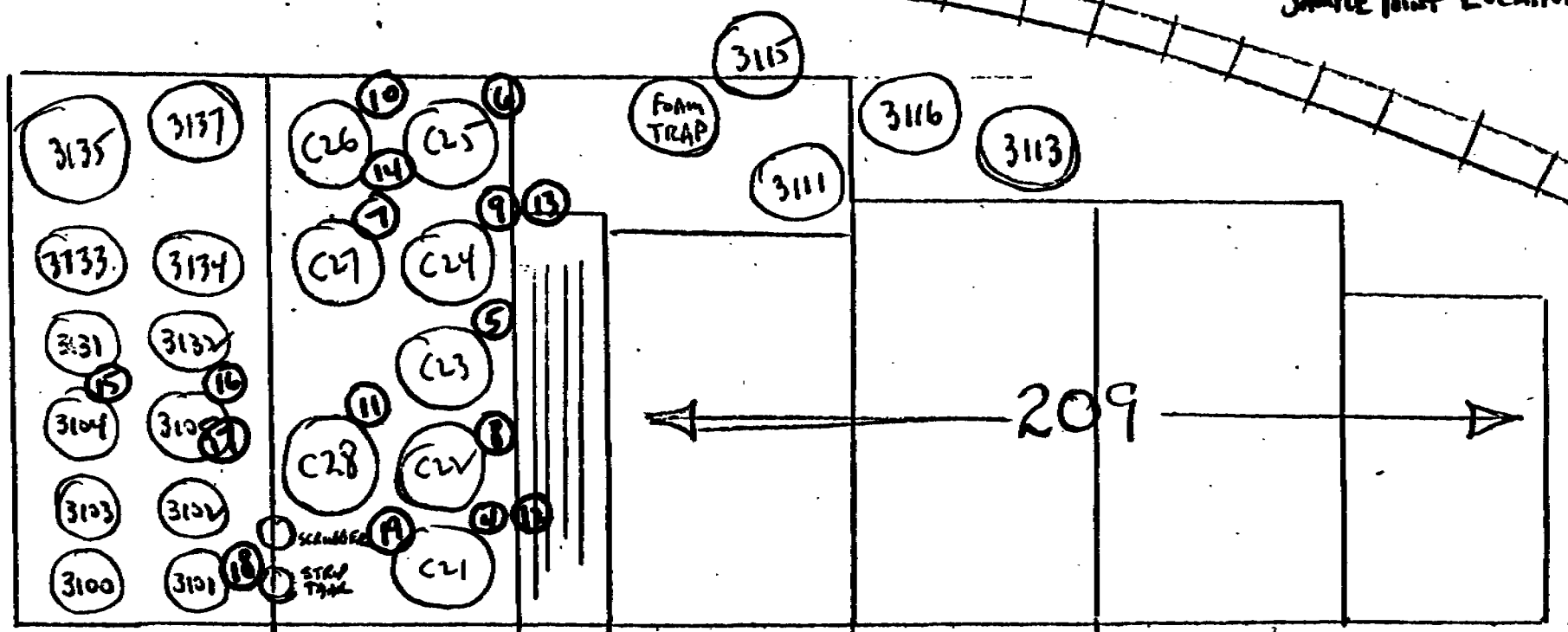
SUBSTATION E	147
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3120	PUMP SHED
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CENTRAL SAFETY INSPECTION GUIDE

CONTINUOUS MONITOR
MODEL - 12
SAMPLE POINT LOCATION



WEST
TANK
FARM

210
AUTOCURE
STRUCTURE

APE
RACK

WEST
BAY

CENTER
BAY

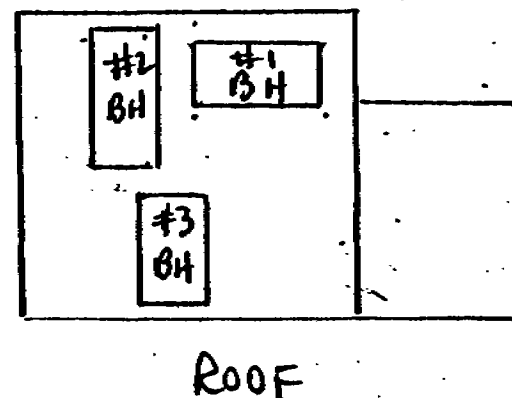
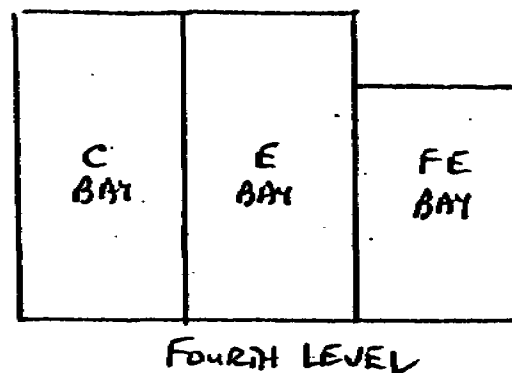
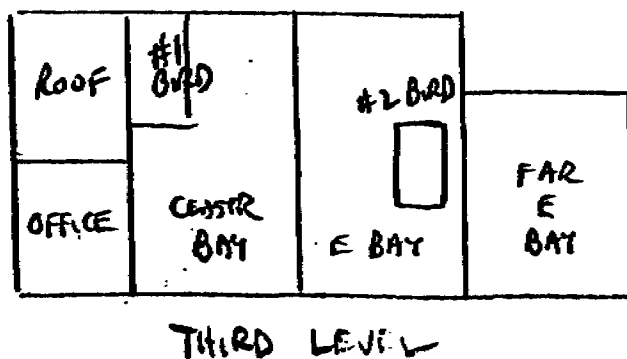
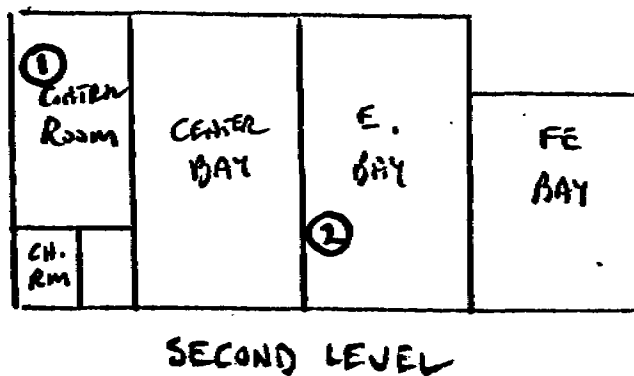
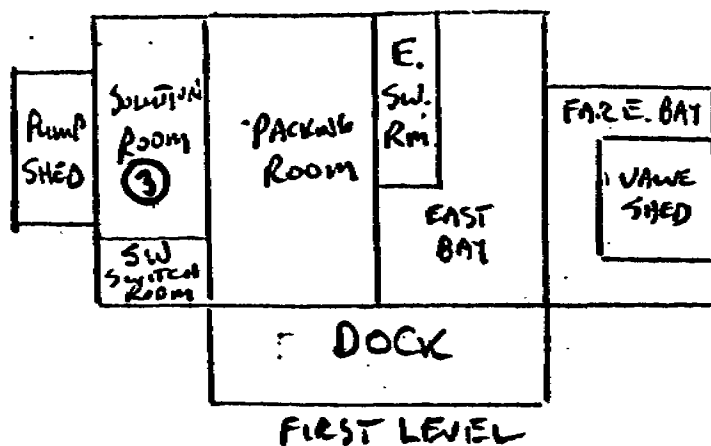
EAST
BAY

FAR
EAST
BAY

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CENTRAL SAFETY INSPECTION GUIDE BUILDING 209



GENERAL LAYOUT BUILDING 209

CONTINUOUS MONITOR
MODEL 1200
SAMPLE POINT
LOCATION

JUSCHKE
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INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS

SOUTH CHARLESTON PLANT P. O. BOX 8004, SOUTH CHARLESTON, W. VA. 25303

To (Name)
Division
LocationMr. F. O. Erskine, Sr.
Mr. H. W. Barton
Mr. C. M. Green
Mr. J. H. Taylor
Mr. H. Q. Gibson
Mr. L. M. Bowne
Mr. K. B. Hamrick

Date

June 21, 1974

Originating Dept.

Answering letter date

Subject

Exposure to Vinyl Chloride
Over 50 ppm

Copy to

Mr. J. L. Carvajal
Mr. R. T. Kramer
Mr. E. L. Van Deuren, Jr.
Mr. R. N. Wheeler, Jr.

Gentlemen:

We have been talking with you over the last month or so about the temporary standard of 50 ppm VCl, and that whenever there is a concentration over 50 ppm you must have breathing protection to work in that area. You now have a continuous analyzer at 209 that warns you what the concentration is in 20 places before you have to leave the Control Room.

When you must enter these monitored areas in the Unit, check the analyzer chart before you leave the Control Room, so that you are certain that you do not need to wear an air mask to perform the work. This goes for any supervisor, Bargaining Unit employee, or authorized visitor to the Unit.

Work in an atmosphere above 50 ppm requires that you wear respiratory protection.

We may face an OSHA inspection next week, and this is an additional incentive to review this fact that it is a Federal regulation that no one is to be exposed to more than 50 ppm VCl, and the best way is to always check the continuous monitor for what is going on where you are going first.

I expect each Foreman on each shift to so instruct their men to be sure that they:

- (1) First check the monitoring instrument to know what is going on in the area they will enter.

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- (2) Take a fresh-air mask with them to wear if they must perform the work in an atmosphere above 50 ppm VCl or if the task will release VCl in a localized concentration above 50 ppm (samples, changing filters, etc.).

It is important that we observe the intent of the regulation - that until we know more medically about the real risks of low concentrations of vinyl chloride, we must not expose anyone to VCl concentrations in excess of 50 ppm.

We are purchasing a portable Century analyzer that will help us find leaks and further reduce the background concentration of vinyl chloride, and to find leaks when we do not know where they are. Also, fifteen masks are still on order to supplement the ones we have.

I hope this will help each of you have a better understanding of our needed compliance with the temporary OSHA regulation.



J. J. Scharf

JJS/ra

VCM MONITORING - WORKPLACE ENVIRONMENTS

NYGS-2 RESIN UNIT - BLDG. 209

RIGGER - MAINTENANCE DEPT.

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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

EMPLOYEE		M.R. Clark		NUMBER		03289		JOB TITLE		Rigger		DEPT.		32700			
DATE	JOB TASK PERFORMED					CONCENTRATION, PPM					REMARKS					ACCUM. AVG. PPM	
5-23-74	Removing A/C manhead, Bldg. 209					82										82	

VCM MONITORING - WORKPLACE ENVIRONMENTS

NY65-2 RESIN UNIT - BLDG. 209

PIPE FITTER - MAINTENANCE DEPT.

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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

235-26-5862

EMPLOYEE G. D. Medley				NUMBER 03146				JOB TITLE Pipe Fitter				DEPT. 32700				
DATE	JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS				ACCUM. AVG., PPM			
5-23-74	Blanking off A/C, Bldg. 209				48											
6-14-74	Tightening A/C flanges, Bldg. 209				4								26			
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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

235-03-4237

EMPLOYEE C.E. Dawson				NUMBER 03093				JOB TITLE Pipe Fitter				DEPT. 32700				
DATE	JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS				ACCUM. AVG., PPM			
6-14-74	Blanking off A/C Bldg 209				16								16			

VCM MONITORING - WORKPLACE ENVIRONMENTS

NYGS-2 RESIN UNIT - BLDG. 209

INSULATOR - MAINTENANCE DEPT.

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UTILITY OPERATOR

DATE	EMPLOYEE	NUMBER	JOB TASK PERFORMED	CONCENTRATION, PPM
4-18-74	C. R. Davis	00961	Changing monomer filters	115
4-19-74	C. R. Davis	00961		4
4-19-74	C. R. Davis	00961		2
5-1-74	C. E. Bell	04467		2
5-2-74	C. E. Bell	04467		2
5-2-74	C. E. Bell	04467		2
5-3-74	C. E. Bell	04467		3
5-3-74	C. E. Bell	04467		6
5-16-74	C. R. Harris	01461	Changing monomer filters	63
6-14-74	C. W. Hartshorn	01455		< 1
6-17-74	R. R. Rhodes	03786		2

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CHARCOAL TUBE METHOD

232-40-4826

EMPLOYEE C.R. Davis

NUMBER 00961

JOB TITLE Utility Operator

DEPT. 07800

DATE	JOB TASK PERFORMED	CONCENTRATION, PPM	REMARKS	ACCUM. AVG, PPM
4-18-74	Changing megamer filters	115		
4-19-74		4	See other job titles for additional data.	60
4-19-74		2		40

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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS

CHARCOAL TUBE METHOD

403-18-3083

EMPLOYEE C.E. Ball				NUMBER 04461				JOB TITLE Utility Operator				DEPT. 07800			
DATE	JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS				ACCUM. AVG., PPM		
5-1-74					2								2		
5-2-74					2								2		
5-2-74					2								2		
5-3-74					3								2		
5-3-74					6								3		

PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

233-10-0023

EMPLOYEE C. R. Harris				NUMBER 01461				JOB TITLE Utility Operator				DEPT. 07800				
DATE	JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS				ACCUM. AVG., PPM			
5-16-74	Changing monomer filters				63								63			

233-14-7906

DATE	JOB TASK PERFORMED	CONCENTRATION, PPM	REMARKS	ACCUM. AVG. PPM
6-14-74		< 1	See other job titles for additional data.	< 1

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236-24-8278

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NO. 2 RECOVERY OPERATOR

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234-01-3763

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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

235-01-3061

EMPLOYEE S.B. Mermoud				NUMBER 04480				JOB TITLE No. 2 Recovery Operator				DEPT. 07800			
DATE	JOB TASK PERFORMED	CONCENTRATION, PPM				REMARKS				ACCUM. AVG, PPM					
4-22-74		1													
4-23-74	loading bin	6								4					
5-24-74	Unplugging A/C strainer pot	41								2					
6-18-74	Bagging NYGS-4 Resin	3								3					
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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

233-14-7906

EMPLOYEE C.W. Hartshorn				NUMBER 01455				JOB TITLE No. 2 Recovery Operator				DEPT. 07800				
DATE	JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS				ACCUM. AVG., PPM			
6-17-74	Loading bin				1				See other job titles for additional data				1			

NO. 1 RECOVERY OPERATOR

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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

234-30-3162

EMPLOYEE O.E. Hunt				NUMBER 00589				JOB TITLE No. 1 Recovery Operator				DEPT. 07800			
												ACCUM.			
												AVG. PPM			
DATE	JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS						
5-6-74					2								2		
5-6-74					2								2		
5-7-74					1								2		
5-7-74					1								2		

233-14-7906

233-14-7906

DATE	JOB TASK PERFORMED	CONCENTRATION, PPM	REMARKS	ACCUM. AVG., PPM
6-13-74		4	See other job titles for additional data	4

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235-72-4006

DATE	JOB TASK PERFORMED	CONCENTRATION, PPM	REMARKS	ACCUM. AVG., PPM
6-17-74	Changing Shaker motor belt.	< 1		< 1

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AUTOCLAVE OPERATOR

DATE	EMPLOYEE	NUMBER	JOB TASK PERFORMED	CONCENTRATION, PPM
4-18-74	F.E. Turley	00826	Sampling A/C	37
4-19-74	C.W. Hartsorn	01455		4
4-22-74	C.W. Hartsorn	01455		2
4-23-74	C.E. Gibson	00441	Sampling A/C	16
4-23-74	C.E. Gibson	00441	Coagulating sample, Sp. Gr. detn., etc.	18
4-24-74	C.E. Gibson	00441	Preparing A/C for charging	36
4-24-74	C.E. Gibson	00441	Charging A/C	13
4-29-74	W.C. Warner	00618	Sampling A/C	< 1
4-29-74	W.C. Warner	00618	Coagulating samples, Sp. Gr. detn., etc.	43
4-30-74	F.E. Turley	00826	Transporting samples, Sp. Gr. detn., coagulation, etc.	19
5-1-74	F.E. Turley	00826		2
5-2-74	C.R. Davis	00961		2
5-2-74	C.R. Davis	00961		2
5-3-74	F.E. Turley	00826		4
5-3-74	F.E. Turley	00826		2
5-6-74	W.C. Warner	00618	Transporting samples, Sp. Gr. detn., coagulation, etc.	21
6-17-74	C.E. Gibson	00441	Sampling A/C's then processing as above	16
6-17-74	C.E. Gibson	00441	Sampling A/C's then processing as above	15

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234-01-5702

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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

233-14-7906

EMPLOYEE C.W. Hartshorn				NUMBER 01455				JOB TITLE Autoclave Operator				DEPT. 07800					
DATE		JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS				ACCUM. AVG., PPM			
4-19-74						4				See other job titles for							
4-22-74						2				additional data							

PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

232-12-6680

EMPLOYEE C.E. Gibson				NUMBER 00441				JOB TITLE Autoclave Operator				DEPT. 07800			
DATE	JOB TASK PERFORMED			CONCENTRATION, PPM				REMARKS				ACCUM. AVG. PPM			
4-23-74	Sampling A/C's			16								17			
4-23-74	Sp.Gr. detn, coagulating sample			18								23			
4-24-74	Preparing A/C for charging			36								21			
4-24-74	Charging A/C			13								20			
6-17-74	Sampling A/C's then processing samples			16								19			
6-17-74	Sampling A/C's then processing samples			15											

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PERSONAL MONITORING RECORD - VCM IN WORKPLACE ENVIRONMENTS
CHARCOAL TUBE METHOD

232-12-1369

EMPLOYEE W.C. Warner				NUMBER 00618				JOB TITLE Autoclave Operator				DEPT. 07800				
DATE	JOB TASK PERFORMED				CONCENTRATION, PPM				REMARKS				ACCUM. AVG., PPM			
4-29-74	Sampling A/C				< 1											
4-29-74	Processing A/C samples				43								22			

232-40-4826

DATE	JOB TASK PERFORMED	CONCENTRATION, PPM	REMARKS	ACCUM. AVG. PPM
5-2-74		2	See other job title sheets	
5-2-74		2	for additional data	2

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