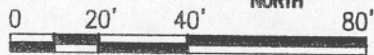
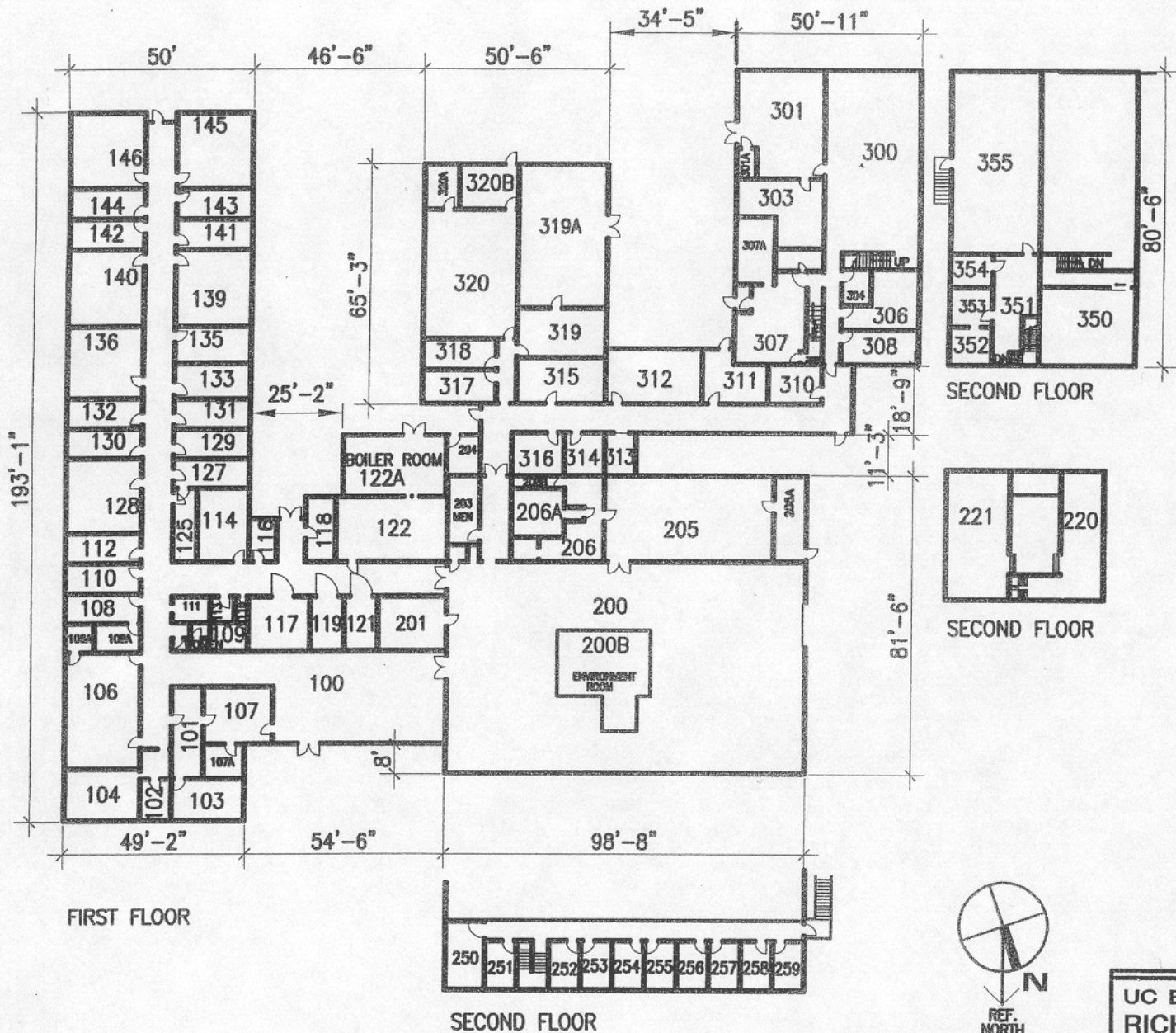


**Attachment A**  
**Floor Map of Building 478, Richmond Field Station**



UC BERKELEY  
 RICHMOND FIELD STATION  
 BUILDING NO. **172**

## **Attachment B Sampling Methodology**

### Arsenic

Air samples for arsenic were collected on 37-millimeter (mm), 0.8-micron ( $\mu\text{m}$ ) pore size cellulose ester membrane (MCE) filters. The filters were attached via flexible Tygon tubing to sampling pumps, and the sampling trains were pre and post calibrated at average flow rates around four liters per minute (Lpm). Arsenic samples were collected over periods of six hours. The analysis method used to determine arsenic exposures was OSHA ID-105 Method.

### Trichloroethylene, Perchloroethylene and Vinyl Chloride

Air samples for trichloroethylene, perchloroethylene and vinyl chloride were collected on charcoal tubes. The tubes were attached via flexible Tygon tubing to sampling pumps, and the sampling trains were pre and post calibrated at average flow rates around 0.05 Lpm. PCE and TCE samples were collected over periods of six hours. Vinyl chloride samples were collected over periods of 90 minutes because the NIOSH method specified that vinyl chloride should be sampled at 0.05 liter per minute for no more than 100 minutes. The analysis methods used to determine trichloroethylene, perchloroethylene, and vinyl chloride exposures were NIOSH 1022, NIOSH 1003 and NIOSH 1007, respectively.

**Attachment C**  
**Laboratory Results**



# SCHNEIDER LABORATORIES INCORPORATED

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AIHA 8936, ELLAP 8936, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003

## LABORATORY ANALYSIS REPORT

Air Filter Arsenic Analysis by OSHA ID-105 Method

**ACCOUNT #:** 3349-05-4  
**CLIENT:** U. of California Berkley - EHNS  
**ADDRESS:** 317 Unlveristy Hall #1150  
Berkley, CA 94720-1150

**DATE COLLECTED:** 12/ 6/2005  
**DATE RECEIVED:** 12/ 9/2005  
**DATE ANALYZED:** 12/16/2005  
**DATE REPORTED:** 12/16/2005

**PROJECT NO.:**  
**PROJECT NAME:**  
**PROJECT NO.:**  
**JOB LOCATION:** RFS Building 478

**SAMPLE TYPE:** AIR

SLI Sample No.	Client Sample No.	Sample Description	Sample Time (min)	Flow Rate (L/min)	Sample Volume (L)	Dil Factor	Total Arsenic (µg)*	Actual Exp (µg/m <sup>3</sup> )	8 Hour TWA (µg/m <sup>3</sup> )
28759850	B478-AR-1	Front Office Ctr Cab	366.00	3.90	1,425.90	1	< 0.05	< 0.04	< 0.03
28759851	B478-AR-2	Room 209	357.00	3.94	1,407.97	1	< 0.05	< 0.04	< 0.03
28759852	B478-AR-3	Office 104 File Cab	356.00	3.95	1,407.59	1	< 0.05	< 0.04	< 0.03
28759853	B478-AR-4	Center of Room 307	350.00	3.98	1,394.08	1	< 0.05	< 0.04	< 0.03

**ANALYST:** DEREK L. JACKSON

Total no. of pages in report = 1

Results relate only to samples as received by the laboratory.

REVIEWED BY

Matthew D. Asbury, Lab Director

Visit [www.slabin.com](http://www.slabin.com) for current certifications.

OSHA PEL for 8h TWA is 10 µg/m<sup>3</sup>; action level is 5 µg/m<sup>3</sup>. Minimum Reporting Limit: 0.05 µg Total Arsenic. The client is responsible for verifying applicable standards and limits. See [www.osha.gov](http://www.osha.gov) (29 CFR Part 1910.1000). Quality control data is available from the laboratory upon request. Exposure calculations are based on client-supplied information and assume zero exposure for time not sampled. \*For true values, assume two (2) significant figures. Results are not blank-corrected unless noted by analyst.



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 804-353-6778 • 800-785-LABS (5227) • Fax 804-358-1475  
 www.slabinc.com e-mail: info@slabinc.com

Submitting Co. U. of California Berkeley  
 317 University Hall # 3349  
 Berkeley, CA 94720-1150

3349-05-2  
 3349

Project Name: \_\_\_\_\_  
 Project Location: **RES-Building 478**  
 Project Number: \_\_\_\_\_  
 Purchase Order No.: \_\_\_\_\_

Special Instructions [Include requests for special reporting or data packages]  
**TCE (Trichloroethylene) & PCE (Perchloroethylene) in STATE WHERE SAMPLES WERE COLLECTED California**

Phone # 510-642-9333  
 FAX 510-643-7595

Turn Around Time	Matrix / Sample Type (Based on GRIE)	Test / Analyte (Based on Test Applied)	Organics / PCB's and other Analytes
6-8 hours*	All samples on form should be of <b>SAME</b>	Ambient Air / Flow Counts	NOTE: All samples for organics should be kept at 4°C from collection until testing. Schedule rush analysis in advance. Indicate preservatives added & media type. Indicate analysis method for organics tests.
24 hours*	matrix type Use additional forms as needed.	Asbestos Bulk / Air (I)	Lead
48 hours*	Air Solid	Asbestos Bulk / Air (II)	RCRA Metals
72 hour	Aqueous Waste	Asbestos Bulk / Air (III)	
STANDARD (5 days)	Bulk Wastewater	Asbestos Bulk / Air (IV)	
Standard Full TCLP (10d)	Hi-Vol Filter (PM10) Water, Drinking	Asbestos Bulk / Air (V)	
Weekend*	Hi-Vol Filter (TSP) Compliance	Asbestos Bulk / Air (VI)	
not available for all tests	Oil Wipe	Asbestos Bulk / Air (VII)	
Schedule rush organics, multi-metals & weekend tests in advance.	Paint Wipe, Composite	Asbestos Bulk / Air (VIII)	
	Sludge	Asbestos Bulk / Air (IX)	
	Soil	Asbestos Bulk / Air (X)	

Sample #	Date Sampled	Time	Sample Identification (eg. Employee, SSN, Bldg, Material)	Wipe Area (ft²)	Type	Information for Air Samples				Total Air Vol.	# containers
						Start	Stop	Flow Rate	Flow Rate		
B478CS-1	12-6-05	264 mins	Front Office, top of center cabinet		A	9:00 AM	3:04 PM	52.18 CCM	52.10 CCM	18.98	2
B478CS-2	12-6-05	253 mins	Office 104 top of file cabinet		A	9:08 AM	3:01 PM	46.75 CCM	45.83 CCM	16.34	2
B478CS-3	12-6-05	356 mins	Room 209		A	9:06 AM	3:02 PM	49.67 CCM	49.51 CCM	17.65	2
B478CS-4	12-6-05	351 mins	Center of Room 307		A	9:16 AM	3:07 PM	50.08 CCM	50.51 CCM	17.67	2

TCE & PCE  
 NIOSH 1501  
 modified

Sampled by: [NAME] Geoffray Won [SIGNATURE] Geoffray Won [DATE/TIME] 12-6-05 4:00pm [ ] Sample return requested

Relinquished by: [NAME] Geoffray Won [SIGNATURE] Geoffray Won [DATE/TIME] 12-7-05 3:00pm [ ] Ambient temp [ ] Cool \_\_\_\_ °C

Received by: [NAME] Jenna Kempista [SIGNATURE] J. Kempista [DATE/TIME] 12/9/05 10:30AM [ ] pH [ ] Cl [ ] R [ ] S

Unusual Sample Condition Noted: \_\_\_\_\_

Waybill # 8534 3923 7168 S

Carefully read the terms and conditions printed on the back of this form.

Dec-19-05 1:19PM; Page 7/11

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## LABORATORY ANALYSIS REPORT

Perchloroethylene Analysis by NIOSH 1003 Method

ACCOUNT #:	3349-06-2	DATE COLLECTED:	12/6/2005
CLIENT:	U. of California Berkley - EHNS	DATE RECEIVED:	12/10/2005
ADDRESS:	317 Univeristy Hall #1150	DATE ANALYZED:	12/14/2005
	Berkley CA 94720-1150	DATE REPORTED:	1/5/2006
PO NO.:			
PROJECT NAME:			
PROJECT NO.:			
JOB LOCATION:	RFS Building 478	MEDIA TYPE:	CHARCOAL TUBE

SLI Sample No.	Client Sample No.	Sample Time (min)	Flow Rate (L/min)	Sample Volume (L)	Total PCE (mg)*	Actual Exp (mg/m³)*	8 Hour TWA (mg/m³)*	Actual Exp (PPM)	8 Hour TWA (PPM)	Report Limit (mg)**
28759673	B478-CS-1	364	0.052	18.96	< 0.020	< 1.076	< 0.816	< 0.159	< 0.120	0.020
28759674	B478-CS-2	353	0.046	16.34	< 0.020	< 1.248	< 0.918	< 0.184	< 0.135	0.020
28759675	B478-CS-3	356	0.050	17.66	< 0.020	< 1.155	< 0.857	< 0.170	< 0.126	0.020
28759676	B478-CS-4	351	0.050	17.66	< 0.020	< 1.155	< 0.845	< 0.170	< 0.125	0.020

\*\*AMENDED REPORT\*\*

ANALYST: MARK JOHNSON

*Stephanie L. Houck*  
REVIEWED BY STEPHANIE L. HOUCK, CHEMIST

OSHA Permissible Exposure Limit (PEL) for Perchloroethylene is 170 mg/m³ [25 PPM] for 8 hour TWA.

\* For true values assume two (2) significant figures.

\*\* Reporting Limit represents the lowest reportable concentration of the tested substance.

Exposure calculations are based on client-supplied information and assume zero exposure for time not sampled.

Standard and spike values are reported as percent recovery for Quality Control purposes.

Results are not blank-corrected unless noted by analyst.

\*\* Amended report: volume corrected from original report; exposure values recalculated based on correction.



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## LABORATORY ANALYSIS REPORT

Trichloroethylene Analysis by NIOSH 1022 Method

ACCOUNT #: 3349-06-2  
CLIENT: U. of California Berkley - EHNS  
ADDRESS: 317 Univeristy Hall #1150  
Berkley CA 94720-1150

DATE COLLECTED: 12/6/2005  
DATE RECEIVED: 12/10/2005  
DATE ANALYZED: 12/14/2005  
DATE REPORTED: 1/5/2006

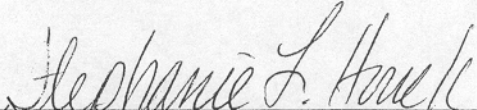
PO NO.:  
PROJECT NAME:  
PROJECT NO.:  
JOB LOCATION: RFS Building 478

MEDIA TYPE: CHARCOAL TUBE

SLI Sample No.	Client Sample No.	Sample Time (min)	Flow Rate (L/min)	Sample Volume (L)	Total TCE (mg)*	Actual Exp (mg/m <sup>3</sup> )*	8 Hour TWA (mg/m <sup>3</sup> )*	Actual Exp (PPM)	8 Hour TWA (PPM)	Report Limit (mg)**
28759673	B478-CS-1	364	0.052	18.96	< 0.020	< 1.039	< 0.788	< 0.193	< 0.147	0.020
28759674	B478-CS-2	353	0.046	16.34	< 0.020	< 1.205	< 0.886	< 0.224	< 0.165	0.020
28759675	B478-CS-3	356	0.050	17.66	< 0.020	< 1.116	< 0.827	< 0.208	< 0.154	0.020
28759676	B478-CS-4	351	0.050	17.66	< 0.020	< 1.116	< 0.816	< 0.208	< 0.152	0.020

\*\*AMENDED REPORT\*\*

ANALYST: MARK JOHNSON

  
REVIEWED BY STEPHANIE L. HOUCK, CHEMIST

OSHA Permissible Exposure Limit (PEL) for Trichloroethylene is 537 mg/m<sup>3</sup> [100 PPM] for 8 hour TWA.

\* For true values assume two (2) significant figures.

\*\* Reporting Limit represents the lowest reportable concentration of the tested substance.

Exposure calculations are based on client-supplied information and assume zero exposure for time not sampled.

Standard and spike values are reported as percent recovery for Quality Control purposes.

Results are not blank-corrected unless noted by analyst.

\*\* Amended report: volume corrected from original report; exposure values recalculated based on correction.



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## LABORATORY ANALYSIS REPORT

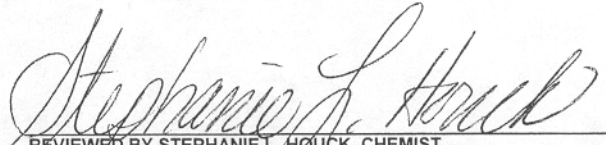
Vinyl chloride Analysis by NIOSH 1007 Method

ACCOUNT #: 3349-06-3 DATE COLLECTED: 12/6/2005  
CLIENT: U. of California Berkley - EHNS DATE RECEIVED: 12/9/2005  
ADDRESS: 317 Univeristy Hall #1150 DATE ANALYZED: 12/14/2005  
Berkley CA 94720-1150 DATE REPORTED: 1/5/2006  
PO NO.:  
PROJECT NAME:  
PROJECT NO.:  
JOB LOCATION: RFS Building 478 MEDIA TYPE: CHARCOAL TUBE

SLI Sample No.	Client Sample No.	Sample Time (min)	Flow Rate (L/min)	Sample Volume (L)	Total VinCl (mg)*	Actual Exp (mg/m <sup>3</sup> )*	8 Hour TWA (mg/m <sup>3</sup> )*	Actual Exp (PPM)	8 Hour TWA (PPM)	Report Limit (mg)**
28759677	B478-VC-1	91	0.050	4.54	< 0.010	< 2.202	< 0.418	< 0.862	< 0.163	0.010
28759678	B478-VC-2	82	0.050	4.11	< 0.010	< 2.434	< 0.416	< 0.952	< 0.163	0.010
28759679	B478-VC-3	96	0.057	5.43	< 0.010	< 1.840	< 0.368	< 0.720	< 0.144	0.010
28759680	B478-VC-4	90	0.052	4.70	< 0.010	< 2.129	< 0.399	< 0.833	< 0.156	0.010

\*\*AMENDED REPORT\*\*

ANALYST: MARK JOHNSON

  
REVIEWED BY STEPHANIE L. HOUCK, CHEMIST

OSHA Permissible Exposure Limit (PEL) for Vinyl chloride is 2.6 mg/m<sup>3</sup> [1 PPM] for 8 hour TWA.

\* For true values assume two (2) significant figures.

\*\* Reporting Limit represents the lowest reportable concentration of the tested substance.

Exposure calculations are based on client-supplied information and assume zero exposure for time not sampled.

Standard and spike values are reported as percent recovery for Quality Control purposes.

Results are not blank-corrected unless noted by analyst.

\*\* Amended report: volume corrected from original report; exposure values recalculated based on correction.