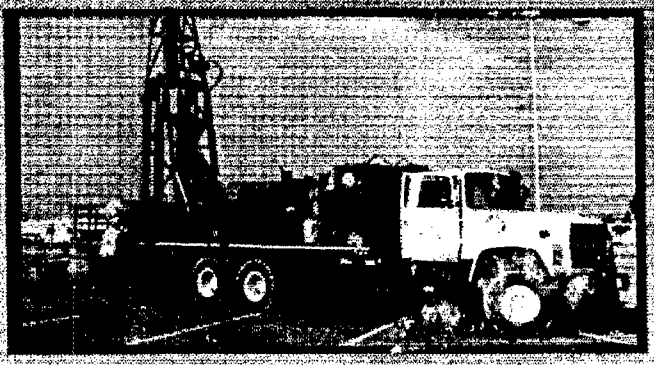
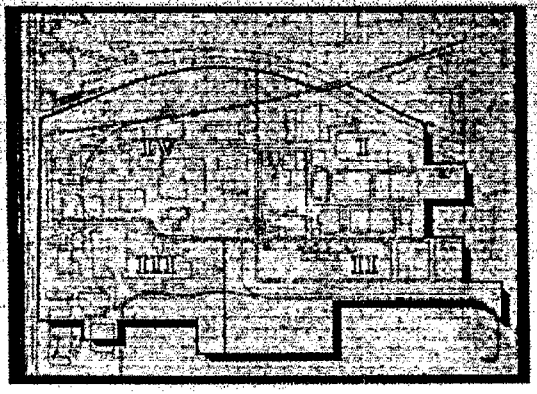
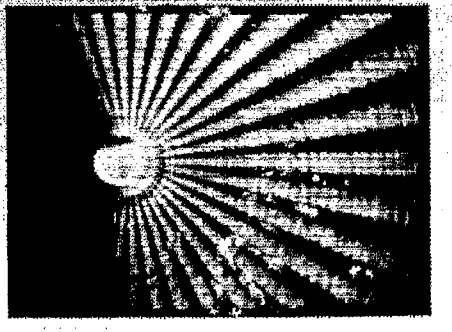
COMPREHENSIVE SITE ASSESSMENT REPORT
AZUSA/IRWINDALE STUDY AREA
SAN GABRIEL VALLEY
LOS ANGELES COUNTY, CALIFORNIA

SFUND RECORDS CTR
21503

GENCORP AEROJET







HLA

September 1994
VOLUME IV

Volume IV
Comprehensive Site Assessment Report
Azusa/Irwindale Study Area
San Gabriel Valley
Los Angeles County, California

Prepared for

Aerojet General Corporation
1940 Alabama Avenue
Post Office Box 3530
Rancho Cordova, California 95741-3530

HLA Project No. 26522 15.6

Thomas E. Lindros, R.G. - 5940
Project Geologist No. 5940

Bradford C.D. Eismen
Senior Geologist

Grant L. Ohland, R.G. - 4678, C.E.G. - 1669
Associate Hydrogeologist

September 2, 1994

Harding Lawson Associates
Engineering and Environmental Services
3 Hutton Centre Drive, Suite 300
Santa Ana, CA 92707 – (714) 556-7992

CONTENTS

VOLUME I

EXECUTIVE SUMMARY viii

1.0 INTRODUCTION 1
1.1 Report Objectives 2
1.2 Report Organization 3

2.0 SITE DESCRIPTION, HISTORY, AND BACKGROUND 5
2.1 Site Description 5
2.2 Site History 5
2.3 Description of Potential Source Areas 9
2.4 Previous Investigations 13
2.4.1 Regional Investigations 13
2.4.2 Previous Investigations Within the AISA 14
2.5 Physical Setting 15
2.5.1 Regional and Local Geology 15
2.5.2 Regional and Local Hydrogeology 16
2.5.3 Regional and Local Surface Hydrology 17

3.0 SITE ASSESSMENT ACTIVITIES 18
3.1 Scope of Planned Site Assessment 18
3.2 Sample Point Location and Underground Utility Clearance 19
3.3 Sample Numbering System 19
3.4 Shallow Zone 21
3.4.1 Near-Surface Sediment Sampling 21
3.4.2 Soil-Gas Survey 22
3.4.3 Shallow Soil-Vapor Monitoring Wells and Shallow Zone Borings 22
3.5 Intermediate and Deep Zone 23
3.5.1 Groundwater Monitoring Well Installation 24
3.5.2 Intermediate and Deep Soil-Vapor Monitoring Well Installation 24
3.6 Soil-Vapor Monitoring Well Sampling 25
3.7 Groundwater Level Monitoring and Sampling 26

4.0 RESULTS 27
4.1 Geology 27
4.2 Soil-Matrix Sample Results 28
4.2.1 Near-Surface Sediment Sample Results 28
4.2.2 Soil Boring and Monitoring Well Borehole Sample Results 29
4.3 Soil-Gas Sample Results 31
4.4 Soil-Vapor Sample Results 32
4.4.1 Trichloroethene 33
4.4.2 Tetrachloroethene 33
4.4.3 1,1,1-Trichloroethane 34
4.4.4 Carbon Tetrachloride 34
4.4.5 Trichlorofluoromethane 34
4.4.6 1,1,2-Trichloro-1,2,2-Trifluoroethane 35
4.5 Evaluation of Vadose Zone Chemical Results Relative to Potential Source Areas 35
4.6 Baldwin Park Hydrogeology and Groundwater Flow Modeling 36

4.7 AISA Hydrogeology 37
4.8 Groundwater Sample Results 38

5.0 EVALUATION OF VADOSE ZONE TRANSPORT PROCESSES 40
5.1 Literature Search and Review of VOC Fate and Transport Processes 40
5.2 Subsurface VOC Fate and Transport Processes 41
5.3 Evaluation of Vadose Zone VOC Concentration Gradients 42
5.4 Evaluation of Chemical Mass Transfer at the Water Table Interface 43
5.5 Evaluation of Possible VOC Sources 44
5.5.1 Possible Shallow Sources of 1,1,1-TCA, CFC-113, and TCE 44
5.5.2 Mass Transfer of TCE, PCE, CCl_4, and CFC-11 from Groundwater to Soil Vapor 45
5.5.3 Concentration-Driven Gas Diffusion from North of the 210 Freeway 45
5.6 Conceptual Model of Subsurface VOC Fate and Transport 46
5.7 Verification of Conceptual Model of VOC Fate and Transport 47
5.8 Evaluation of Potential Effects on Groundwater Quality 49
5.8.1 Simulation of Downward Concentration-Driven Gas Diffusion 49
5.8.2 Potential Effects on Groundwater Quality 50

6.0 SUMMARY AND CONCLUSIONS 51
6.1 Geology 51
6.2 Soil Matrix Sampling 51
6.3 Soil-Gas and Soil-Vapor Sampling 52
6.4 Hydrogeology 53
6.5 Groundwater Chemistry 54
6.6 Evaluation of Vadose Zone Transport Processes 54

7.0 RECOMMENDATIONS 56

8.0 REFERENCES 57

FIGURES

1 Generalized Spatial Distribution of TCE in Soil Vapor and Groundwater
2 Generalized Spatial Distribution of PCE in Soil Vapor and Groundwater
3 Generalized Spatial Distribution of 1,1,1-TCA in Soil Vapor and Groundwater
4 Generalized Spatial Distribution of CCl_4 in Soil Vapor and Groundwater
5 Generalized Spatial Distribution of CFC-11 in Soil Vapor and Groundwater
6 Generalized Spatial Distribution of CFC-113 in Soil Vapor and Groundwater
7 Schematic Diagram of Primary Subsurface VOC Transport Pathways

TABLES

1 Summary of Analytical Testing Performed on Soil Samples Collected from AISA Borings
2 Chronology of Soil Gas Sampling Program
3a Well Completion Details - Vapor Monitoring Wells
3b Well Completion Details - Groundwater Monitoring Wells
4 Volatile Organic Compound Results for Soil Samples - EPA Method 8240
5 Semi-Volatile Organic Compound Results for Soil Samples - EPA Method 8270
6 Metals Results for Soil Samples - EPA Method 6010 and 7000 Series
7 Dioxin and Furans Results in Soil Samples - EPA Method 8280
8 Miscellaneous Results for Soil Samples
9 PCB Results for Soil Samples - EPA Method 8080

10 Comparison of AISA Soil Sample Metal Concentrations to EPA Preliminary Remediation Goals
11 Volatile Organic Compound Results for Soil Samples - EPA Method 8010
12 Volatile Organic Compound Results for Soil Samples - EPA Method 8020
13 Soil Gas Survey Analytical Results
14 Soil Vapor Monitoring Well Analytical Results
15 Comparison of Soil Vapor Monitoring Well Results to the Nearest Soil Gas Survey Results
16 Groundwater Elevation Data
17 Volatile Organic Compound Results for Groundwater Samples - EPA Method 8240
18 Semi-Volatile Organic Compound Results for Groundwater Samples - EPA Method 8270
19 Metals Results for Groundwater Samples - EPA Method 6010 and 7000 Series
20 Miscellaneous Results for Groundwater Samples
21 Comparison of Soil Vapor and Groundwater Concentrations, Henry's Law Constants, and Relative Equilibrium for Well Pairs MW-02, MW-03, and MW-04
22 VLEACH Model Input Parameters

PLATES

1 Site Location Map
2 Site Topography Showing Cross Section, NSSS, SZB, SVMW, IDVMW, and MW Locations
3 Chronology of Aerojet Occupied Land Usage
4 Potential Source Area Map
5 Soil Gas Sampling Locations Map
6 Cross Section A-A' and B-B'
7 Cross Section C-C' and D-D'

VOLUME II

PLATES (continued)

8a Distribution of TCE in Soil Gas
8b Distribution of PCE in Soil Gas
8c Distribution of 1,1,1-TCA in Soil Gas
8d Distribution of CCl_4 in Soil Gas
8e Distribution of CFC-11 in Soil Gas
8f Distribution of CFC-113 in Soil Gas
9a Generalized Distribution of TCE in Shallow Vapor Monitoring Wells Between 5' and 8'
9b Generalized Distribution of TCE in Shallow Vapor Monitoring Wells Between 18' and 25'
9c Generalized Distribution of TCE in Shallow Vapor Monitoring Wells Between 26' and 50'
9d Generalized Distribution of TCE in Shallow Vapor Monitoring Wells Between 82' and 117'
9e Generalized Distribution of TCE in Shallow Vapor Monitoring Wells Between 141' and 167'
9f Generalized Distribution of TCE in Shallow Vapor Monitoring Wells Between 189' and 265'
9g Generalized Distribution of TCE in Shallow Vapor Monitoring Wells Between 306' and 310'
10a Generalized Distribution of PCE in Shallow Vapor Monitoring Wells Between 5' and 8'
10b Generalized Distribution of PCE in Shallow Vapor Monitoring Wells Between 18' and 25'
10c Generalized Distribution of PCE in Shallow Vapor Monitoring Wells Between 26' and 50'
10d Generalized Distribution of PCE in Shallow Vapor Monitoring Wells Between 82' and 117'
10e Generalized Distribution of PCE in Shallow Vapor Monitoring Wells Between 141' and 167'
10f Generalized Distribution of PCE in Shallow Vapor Monitoring Wells Between 189' and 265'
10g Generalized Distribution of PCE in Shallow Vapor Monitoring Wells Between 306' and 310'
11a Generalized Distribution of 1,1,1-TCA in Shallow Vapor Monitoring Wells Between 5' and 8'

11b Generalized Distribution of 1,1,1-TCA in Shallow Vapor Monitoring Wells Between 18' and 25'
11c Generalized Distribution of 1,1,1-TCA in Shallow Vapor Monitoring Wells Between 26' and 50'
11d Generalized Distribution of 1,1,1-TCA in Shallow Vapor Monitoring Wells Between 82' and 117'
11e Generalized Distribution of 1,1,1-TCA in Shallow Vapor Monitoring Wells Between 141' and 167'
11f Generalized Distribution of 1,1,1-TCA in Shallow Vapor Monitoring Wells Between 189' and 265'
11g Generalized Distribution of 1,1,1-TCA in Shallow Vapor Monitoring Wells Between 306' and 310'
12a Generalized Distribution of CCl_4 in Shallow Vapor Monitoring Wells Between 5' and 8'
12b Generalized Distribution of CCl_4 in Shallow Vapor Monitoring Wells Between 18' and 25'
12c Generalized Distribution of CCl_4 in Shallow Vapor Monitoring Wells Between 26' and 50'
12d Generalized Distribution of CCl_4 in Shallow Vapor Monitoring Wells Between 82' and 117'
12e Generalized Distribution of CCl_4 in Shallow Vapor Monitoring Wells Between 141' and 167'
12f Generalized Distribution of CCl_4 in Shallow Vapor Monitoring Wells Between 189' and 265'
12g Generalized Distribution of CCl_4 in Shallow Vapor Monitoring Wells Between 306' and 310'
13a Generalized Distribution of CFC-11 in Shallow Vapor Monitoring Wells Between 5' and 8'
13b Generalized Distribution of CFC-11 in Shallow Vapor Monitoring Wells Between 18' and 25'
13c Generalized Distribution of CFC-11 in Shallow Vapor Monitoring Wells Between 26' and 50'
13d Generalized Distribution of CFC-11 in Shallow Vapor Monitoring Wells Between 82' and 117'
13e Generalized Distribution of CFC-11 in Shallow Vapor Monitoring Wells Between 141' and 167'
13f Generalized Distribution of CFC-11 in Shallow Vapor Monitoring Wells Between 189' and 265'
13g Generalized Distribution of CFC-11 in Shallow Vapor Monitoring Wells Between 306' and 310'
14a Generalized Distribution of CFC-113 in Shallow Vapor Monitoring Wells Between 5' and 8'
14b Generalized Distribution of CFC-113 in Shallow Vapor Monitoring Wells Between 18' and 25'
14c Generalized Distribution of CFC-113 in Shallow Vapor Monitoring Wells Between 26' and 50'
14d Generalized Distribution of CFC-113 in Shallow Vapor Monitoring Wells Between 82' and 117'
14e Generalized Distribution of CFC-113 in Shallow Vapor Monitoring Wells Between 141' and 167'
14f Generalized Distribution of CFC-113 in Shallow Vapor Monitoring Wells Between 189' and 265'
14g Generalized Distribution of CFC-113 in Shallow Vapor Monitoring Wells Between 306' and 310'
15a Depth vs. Simulated and Measured TCE Concentrations
15b Depth vs. Simulated and Measured PCE Concentrations
15c Depth vs. Measured 1,1,1-TCA Concentrations
15d Depth vs. Simulated and Measured CCl_4 Concentrations
15e Depth vs. Simulated and Measured CFC-11 Concentrations
15f Depth vs. Measured CFC-113 Concentrations
16 Groundwater Level Hydrograph
17 Groundwater Flow Direction Vector Plot
18 Groundwater Elevation Contour Map
19a Groundwater Isoconcentration Contour Map - TCE
19b Groundwater Isoconcentration Contour Map - PCE
19c Groundwater Isoconcentration Contour Map - CCl_4
20a TCE Concentrations in Groundwater vs. Time
20b PCE Concentrations in Groundwater vs. Time
20c 1,1,1-TCA Concentrations in Groundwater vs. Time

20d CCl_4 Concentrations in Groundwater vs. Time
20e 1,2-DCA Concentrations in Groundwater vs. Time
20f 1,1-DCE Concentrations in Groundwater vs. Time
20g Cis-1,2-DCE Concentrations in Groundwater vs. Time
21 VOC Mass Transfer Mechanisms
22 Comparison of Theoretical Equilibrium and Measured Values
23 Depth vs. Simulated 1,1,1-TCA Concentrations from VLEACH Model
24 Depth vs. Simulated CFC-113 Concentrations from VLEACH Model

APPENDICES

A FIELD METHODOLOGY
B BORING LOGS

PLATES IN APPENDIX B

B1 Soil Classification Chart and Key to Boring Logs
B2-B21 Boring Logs - Near Surface Sediment Sample Borings
B22-B98 Boring Logs - Shallow Zone Borings
B99-B165b Boring Logs and Well Construction Diagrams - Shallow Vapor Monitoring Wells
B166a-B167i Boring Logs and Well Construction Diagrams - Intermediate and Deep Vapor Monitoring Wells
B168a-B174i Boring Logs and Well Construction Diagrams - Groundwater and Deep Vapor Monitoring Wells
B175 Below Ground Surface Completion - Vapor Monitoring Wells
B176 Above Ground Surface Completion - Vapor Monitoring Wells
B177 Surface Completion at SVMW-28 - Leach Bed 1
B178 MW-01 Well Casing and Hydrostar Pump Installation Details
B179 MW-02 Well Casing and Hydrostar Pump Installation Details
B180 MW-03 Well Casing and Hydrostar Pump Installation Details
B181 MW-04 Well Casing and Hydrostar Pump Installation Details
B182 MW-05 Well Casing and Hydrostar Pump Installation Details

VOLUME III

C SOIL MATRIX LABORATORY DATA SHEETS

VOLUME IV

APPENDICES (continued)

C SOIL MATRIX LABORATORY DATA SHEETS (continued)
D ANALYTICAL DATA VALIDATION

TABLES IN APPENDIX D

D1 Summary of Soil and Groundwater Chemical Analysis Products
D2 Matrix Spike/Matrix Spike Duplicate Criteria
D3 Surrogate Spike Criteria

E SOIL GAS/VAPOR LABORATORY DATA SHEETS
F SAMPLING INFORMATION DATA SHEETS
G SOIL GAS/VAPOR QA/QC DATA SHEETS
H PROPOSAL FOR TECHNICAL MODIFICATIONS, OPTIMIZATION OF USEPA REGION IX, SUBAREA 1 PROPOSED PROJECT, BALDWIN PARK OPERABLE UNIT, SAN GABRIEL VALLEY SUPERFUND SITES
I VLEACH OUTPUT AND PARAMETER FILES

DISTRIBUTION

EXECUTIVE SUMMARY

This *Comprehensive Site Assessment Report* is submitted to the California Regional Water Quality Control Board, Los Angeles Region (RWQCB), on behalf of Aerojet General Corporation (Aerojet). This report was prepared by Harding Lawson Associates (HLA) and documents the extent, procedures, and the results of the site assessment performed at the Azusa/Irwindale Study Area (AISA) in San Gabriel Valley, Los Angeles County, California. The objectives of this report are as follows:

- Document site assessment activities performed and their compliance with the Revised Work Plan (HLA, 1991b), Quality Assurance Project Plan (HLA, 1992a), Revised Sampling and Analysis Plan (HLA, 1992b), and supporting documents approved by the RWQCB.
- Provide a comprehensive presentation of all vadose zone and groundwater data collected to date at the AISA. Vadose zone sampling has not yet been performed in the southern Kincaid Pit in the northern part of the AISA due to access restrictions.
- Provide an evaluation of vadose zone chemical data including spatial concentration trends in relation to potential source areas.
- Provide an evaluation of hydrogeologic and groundwater chemical data including spatial and temporal trends in groundwater levels and in volatile organic compounds (VOCs).
- Document the development of conceptual and numerical models of groundwater flow in the Baldwin Park Operable Unit, which have been demonstrated to accurately represent the regional groundwater flow system and local groundwater flow conditions at the AISA.
- Develop a conceptual model that describes the fate and transport of VOCs in the subsurface at the AISA.
- Verify the primary mechanisms of VOC fate and transport identified in the conceptual model using theoretical models to predict VOC mass transfer and migration.
- Develop recommendations for additional site assessment and remediation activities at the AISA.

SCOPE OF THE AISA SITE ASSESSMENT

Data collection activities performed from January 1992 through July 1994 at the AISA have included:

- Soil-gas surveys; 823 shallow vapor probe samples collected at an average depth of 5 feet,
- Soil-matrix sampling and analysis; 276 samples collected from 72 near surface, soil boring, and monitoring well locations (soil-vapor and groundwater),
- Soil-vapor monitoring well installation; 88 vapor monitoring wells in 32 well clusters to depths of 50 feet; and 28 vapor monitoring wells in six well clusters to maximum depths of 308 feet,
- Soil-vapor monitoring well sampling and chemical analysis,
- Groundwater monitoring well installation; five monitoring wells to a maximum depth of 367 feet, and
- Groundwater level monitoring and sampling.

SIGNIFICANT FINDINGS

On the basis of a detailed evaluation of the spatial distribution of inorganic and organic chemical data, two shallow areas of somewhat elevated VOC concentrations of 1,1,1-trichloroethane (1,1,1-TCA) and 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) were identified. Maximum concentrations of these VOCs in these areas were 620 and 3,400 micrograms per liter (μg/l), respectively as measured in the June 1994 vapor sampling event. These areas are located in the central part of the AISA on Optical Radiation Corporation (ORC) property and near Building 57 and the 210 Freeway. A third area of somewhat elevated shallow trichloroethene (TCE) concentrations was also identified in the northwest portion of Quadrant III (southern Ponded Liquid Area 5). TCE concentrations were measured at 190 μg/l during the June 1994 vapor sampling event. Soil-gas and soil-vapor sampling has confirmed that TCE concentrations are limited in lateral and vertical extent in this area.

Detections of other VOCs in the upper 50 feet of the vadose zone were of generally low concentration and limited in lateral and vertical extent.

A conceptual model was developed based on five primary transport pathways including:

- Downward concentration-driven gas diffusion from possible shallow sources,
- Groundwater transport of VOCs onto the AISA from upgradient sources,
- VOC offgassing from groundwater,
- Upward concentration-driven gas diffusion, and
- Lateral concentration-driven gas diffusion from areas of higher vapor concentration to areas of lower concentration.

The shallow areas of somewhat elevated concentrations of 1,1,1-TCA, CFC-113, and TCE described above provide a driving force for concentration-driven gas diffusion both laterally and vertically downward. Groundwater transport of TCE, tetrachloroethene (PCE), and carbon tetrachloride (CCl_4), from upgradient sources has resulted in significant concentrations of these VOCs in groundwater at the upgradient boundary of the AISA near the 210 Freeway. Although trichlorofluoromethane (CFC-11) was not detected in groundwater samples collected from the AISA at a practical quantitation limit (PQL) of 5 μg/l, CFC-11 may be present in groundwater at concentrations below the 5 μg/l PQL. Groundwater concentrations of TCE, PCE, CCl_4, and CFC-11 act as a source of VOCs that are offgassing to the vadose zone at the AISA. The resultant VOCs in soil vapor provide a driving force for vertically upward and lateral concentration-driven gas diffusion to areas of lower concentration. The VOC chemical transport processes utilized in the AISA conceptual model are well documented in the scientific literature and are supported by (1) observed concentration trends and gradients and 2) VLEACH model simulations indicating that groundwater offgassing and upward concentration-driven gas diffusion results in soil-vapor concentrations that are observed in the vadose zone at the AISA.

An evaluation of potential impacts to groundwater indicates that TCE, PCE, CCl4, and CFC-11 concentrations in the vadose zone at the AISA are not degrading water quality, hence these VOCs do not warrant further investigation at the AISA. Instead, groundwater offgassing appears to be degrading the vadose zone at the AISA. Simulations of downward concentration-driven gas diffusion from shallow areas of somewhat elevated 1,1,1-TCA and CFC-113 and TCE concentrations indicate that mass transfer of these VOCs does not adversely affect groundwater quality relative to state and federal maximum contaminant levels.

RECOMMENDATIONS

On the basis of the findings presented in this report, it is recommended that:

- Continued monitoring of the soil-vapor concentrations at depths greater than 50 feet be performed at the AISA to further verify VOC mass transfer from groundwater to the vadose zone. (As groundwater remediation in the Baldwin Park Operable Unit progresses via groundwater extraction and treatment, it is anticipated that VOC concentrations will also decrease in the vadose zone.)

- Continue monthly groundwater level monitoring and quarterly groundwater sampling to monitor the affects of the saturated zone on VOC mass transport in the vadose zone.

APPENDIX C
SOIL MATRIX LABORATORY DATA SHEETS

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

Enseco
Corning Environmental Services

April 22, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105152-0001/0004
DATE SAMPLED: 11-APR-1994
DATE SAMPLE REC'D: 13-APR-1994
PROJECT: (26522.2.6) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

REVIEWED

APPROVED

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105152

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105152

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

The MS Percent Recovery for 4-Nitrophenol was not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," but it was within Enseco's-CRL's established acceptance limits. Therefore the data was accepted and no further action was required.

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

105152

Lab: ENSECO

Samplers: KAREN WITBAARD

Job Number: 26522.2.6

Name/Location: AEROJET AIZA SVMW OFFSITE

Project Manager: TOM LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 8270	NEED RAW DATA PACKAGE HOLD
50			X		1			SVMW-35D		20.0	94	04	11	1320	2½" x 3" S.S. SLEEVE				X					
50			X		1			SVMW-35D		34.25									X					

custody seal #'s 7072 & 7071

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALYZE PER AEROJET CONTRACT. SEND LAB RESULTS TO TOM HARDER 714-556-7992 QUESTIONS → CALL TOM LINDROS 805-494-7725

CHAIN OF CUSTODY RECORD

1704 4/12/94

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Witbaard	[signature]	4/12/94 1704
[signature]	[signature]	4/12/94 1809

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	4-12-94 18:09

METHOD OF SHIPMENT: LAB COURIER PICKUP

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105152

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

Lab: ENSECO

Samplers: KAREN WITBAARD

Job Number: AEROJET AIZA SZB OFF SITE

Name/Location: 26522.2.3

Project Manager: Tom LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	Chlorate	NEED RAW DATA PACKAGE HOLD
50			X		1			SZB-28D		23.25	94	04	11	1740	2"x3" SS SLEEVE			X					X	
50			X		1			SZB-28D		34.5	94	04	12	0815	↓			X					X	

custody seal #s 7072 + 7071

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALYZE PER AEROJET CONTRACT. SEND LAB RESULTS TO TOM HARDER 714-556-7992 QUESTIONS? CALL TOM LINDROS 805-494-7725

CHAIN OF CUSTODY RECORD

1704 4/12/94

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Witbaard	[signature]	4/12/94 1704
[signature]		4/12/94 1809

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	4-12-94 18:09

METHOD OF SHIPMENT: LAB COURIER PICK UP

Laboratory Copy White | Office Copy Yellow | Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105152-0001-SA	SVMW-35D 20.00	SOLID	11 APR 94	13:20	12 APR 94
105152-0002-SA	SVMW-35D 34.25	SOLID	11 APR 94		12 APR 94
105152-0003-SA	SZB-28D 23.25	SOLID	11 APR 94	17:40	12 APR 94
105152-0004-SA	SZB-28D 34.50	SOLID	12 APR 94	08:15	12 APR 94

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: SZB-28D 23.25
LAB ID: 105152-0003-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Chlorate, Solid	ND		0.50	1.0	mg/kg	300.0	21 APR 94	21 APR 94

ND = Not Detected

GENERAL INORGANICS

ent Name: Harding Lawson Associates
ent ID: SZB-28D 34.50
LAB ID: 105152-0004-SA
Matrix: SOLID Sampled: 12 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Chlorate, Solid	ND		0.50	1.0	mg/kg	300.0	21 APR 94	21 APR 94

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-35D 20.00
LAB ID: 105152-0001-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-35D 20.00
LAB ID: 105152-0001-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	66	%
Phenol-d5	65	%
Nitrobenzene-d5	73	%
2-Fluorobiphenyl	78	%
2,4,6-Tribromophenol	78	%
Terphenyl-d14	69	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-35D 34.25
LAB ID: 105152-0002-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-35D 34.25
LAB ID: 105152-0002-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	71	%
Phenol-d5	69	%
Nitrobenzene-d5	80	%
2-Fluorobiphenyl	79	%
2,4,6-Tribromophenol	80	%
Terphenyl-d14	71	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-28D 23.25
LAB ID: 105152-0003-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-28D 23.25
LAB ID: 105152-0003-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	66	%
Phenol-d5	65	%
Nitrobenzene-d5	75	%
2-Fluorobiphenyl	80	%
2,4,6-Tribromophenol	80	%
Terphenyl-d14	72	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-28D 34.50
LAB ID: 105152-0004-SA
Matrix: SOLID Sampled: 12 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270 (cont.)

Client Name: Harding Lawson Associates
Client ID: SZB-28D 34.50
LAB ID: 105152-0004-SA
Matrix: SOLID Sampled: 12 APR 94 Received: 12 APR 94
Authorized: 13 APR 94 Prepared: 14 APR 94 Analyzed: 14 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	71	%
Phenol-d5	68	%
Nitrobenzene-d5	74	%
2-Fluorobiphenyl	82	%
2,4,6-Tribromophenol	84	%
Terphenyl-d14	72	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105152-0003-SA	SOLID	CLO3-S	21 APR 94-A	21 APR 94-A	21 APR 94-AA
105152-0004-SA	SOLID	CLO3-S	21 APR 94-A	21 APR 94-A	21 APR 94-AA

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DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105152

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
QC Lot: 21 APR 94-A
Date Analyzed: 21 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Chlorate, Solid	10.0	10.4	9.52	9.96	100	80-120	8.8	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105152

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
Sample: 105152-0003
MS Run: 21 APR 94-AA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chlorate, Solid	ND	9.10	9.06	10.0	91	91	0.4	80-120	20

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105152

Test: CLO3-MDL-S Method 300.0 - Chlorate, Ion Chromatography
Matrix: SOLID
QC Run: 21 APR 94-A Date Analyzed: 21 APR 94

Analyte	Result	Units	Reporting Limit
Chlorate, Solid	ND	mg/kg	1.0

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105152-0001-SA	SOLID	8270-S	12 APR 94-E	14 APR 94-A	12 APR 94-EA
105152-0002-SA	SOLID	8270-S	12 APR 94-E	14 APR 94-A	12 APR 94-EA
105152-0003-SA	SOLID	8270-S	12 APR 94-E	14 APR 94-A	12 APR 94-EA
105152-0004-SA	SOLID	8270-S	12 APR 94-E	14 APR 94-A	12 APR 94-EA

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105152

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 12 APR 94-E Date Analyzed: 12 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.60	5.55	5.58	84	39-106	0.90	31
2-Chlorophenol	6.67	6.13	6.09	6.11	92	44-107	0.65	32
1,4-Dichlorobenzene	3.33	2.87	2.87	2.87	86	40-107	0.0	23
N-Nitroso-di-n-propylamine	3.33	3.14	3.17	3.16	95	31-132	0.95	38
1,2,4-Trichlorobenzene	3.33	2.68	2.80	2.74	82	38-120	4.4	22
4-Chloro-3-methylphenol	6.67	4.98	5.30	5.14	77	40-119	6.2	24
Acenaphthene	3.33	2.70	2.79	2.74	82	30-140	3.3	24
2,4-Dinitrotoluene	3.33	2.87	2.79	2.83	85	30-121	2.8	28
4-Nitrophenol	6.67	8.34	8.30	8.32	125	16-143	0.48	54
Pentachlorophenol	6.67	7.41	7.67	7.54	113	21-152	3.4	43
Pyrene	3.33	2.73	2.81	2.77	83	45-120	2.9	26

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105152

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105129-0001
MS Run: 12 APR 94-EA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	4.94	4.69	6.67	74	70	5.2	34-109	39
2-Chlorophenol	ND	5.08	4.91	6.67	76	74	3.4	42-101	38
1,4-Dichlorobenzene	ND	2.35	2.25	3.33	71	68	4.3	42-102	37
N-Nitroso-di-n-propylamine	ND	2.64	2.48	3.33	79	74	6.2	28-126	41
1,2,4-Trichlorobenzene	ND	2.25	2.05	3.33	68	62	9.3	46-106	32
4-Chloro-3-methylphenol	ND	4.75	4.67	6.67	71	70	1.7	40-121	23
Acenaphthene	ND	2.49	2.43	3.33	75	73	2.4	48-113	20
2,4-Dinitrotoluene	ND	2.70	2.50	3.33	81	75	7.7	23-129	25
4-Nitrophenol	ND	8.39	8.01	6.67	126	120	4.6	29-159	42
Pentachlorophenol	ND	7.60	7.40	6.67	114	111	2.7	40-146	37
Pyrene	ND	2.69	2.53	3.33	81	76	6.1	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105152

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 14 APR 94-A Date Analyzed: 14 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	4.88	73	25-121
Phenol-d5	6.67	4.59	69	24-113
Nitrobenzene-d5	3.33	2.87	86	23-120
2-Fluorobiphenyl	3.33	2.83	85	30-115
2,4,6-Tribromophenol	6.67	5.10	76	19-122
Terphenyl-d14	3.33	2.83	85	18-137

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105152

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 14 APR 94-A Date Analyzed: 14 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
2,4-Dichlorophenol	ND	mg/kg	0.33
1,2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105152

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 14 APR 94-A Date Analyzed: 14 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

Enseco
Corning Environmental Services

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

April 21, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105182-0001/0005
DATE SAMPLED: 11/13-APR-1994
DATE SAMPLE REC'D: 13-APR-1994
PROJECT: (26522.3.5) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

REVIEWED

Sabina R Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105182

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105182

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

There were no anomalies associated with this report.

The MS/MSD spike concentration for SW8260 was increased due to necessary dilution on sample 104581-0007. This has no effect of the quality of the data.

The MS Percent Recovery for 4-Nitrophenol was not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," but it was within Enseco's-CRL's established acceptance limits. Therefore the data was accepted and no further action was required.

105182

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

Lab: ENSECO

Samplers: KAREN WITBAARD

Job Number: 26522.3.5

Name/Location: AEROJET SVMW - ONSITE

Project Manager: TOM LIVDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.		HOLD
SO			X		1			SVMW-05D	10'		94	04	11	1505	2½x3" SS. SLEEVE									X
SO			X		1			SVMW-05D	15'		94	04	11	1543	↓									X
SO			X		1			SVMW-05D	20'5		94	04	11	1620				X						

custody seal # 5627

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALYZE PER AEROJET CONTACT. SEND LAB RESULTS TO TOM HARDER phone - 714 556-7992 CALL TOM LIVDROS 805-494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) 4/13/94 Karen Witbaard 1652	RECEIVED BY: (Signature) TW Crane	DATE/TIME 4/13/94 1652
RELINQUISHED BY: (Signature) TW Crane	RECEIVED BY: (Signature)	DATE/TIME 4/13/94 1755
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 1755 4/13/94
METHOD OF SHIPMENT		

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

Ha[redacted]Lawson Associates
3 Hu[redacted]Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 - 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM 10518[illegible]

Lab: ENVECO

Samplers: KAREN WITBAARD

Job Number: 26522.35

Name/Location: AEROSET [redacted] SVMW ONSITE

Project Manager: TOM LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	4°C	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES (VOA's)
20	X							3	PWS-MVAIR-05			94	04	13	1505	PWS-MVAIR-05 3x40ml
20	X				2							94	04	13	1505	TRIP · 2x40ml VOA's
20	X				1							94	04	13	1505	TEMP

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.		HOLD
		X						
								X

custody seal # 5628

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						BEFORE RUNNING ANALYSIS CALL TOM LINDROS 805-494-7725 SEND LAB RESULTS TO TOM HARDER 714-556-7992

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Karen Witbaard 4/13/94 1653	RECEIVED BY: (Signature)	DATE/TIME 4/13/94 1652
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME 4/13/94 1755
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 4/13/94 1755
METHOD OF SHIPMENT		

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105182-0001-SA	SVMW-05D 20.25	SOLID	11 APR 94	16:20	13 APR 94
105182-0002-SA	PWS-MVAIR-05	AQUEOUS	13 APR 94	15:05	13 APR 94
105182-0003-SA	SVMW-05D 10.00	SOLID	11 APR 94	15:05	13 APR 94
105182-0004-SA	SVMW-05D 15.00	SOLID	11 APR 94	15:43	13 APR 94
105182-0005-TB	TRIP BLANK	SOLID	13 APR 94	15:05	13 APR 94

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: PWS-MVAIR-05
LAB ID: 105182-0002-SA
Matrix: AQUEOUS Sampled: 13 APR 94 Received: 13 APR 94
Authorized: 14 APR 94 Prepared: 15 APR 94 Analyzed: 15 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR		0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0
tert-Butylbenzene	ND		1.0	ug/L	5.0

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: PWS-MVAIR-05
LAB ID: 105182-0002-SA
Matrix: AQUEOUS Sampled: 13 APR 94 Received: 13 APR 94
Authorized: 14 APR 94 Prepared: 15 APR 94 Analyzed: 15 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	96	%
Toluene-d8	93	%
Bromofluorobenzene	94	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-05D 20.25
LAB ID: 105182-0001-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 13 APR 94
Authorized: 14 APR 94 Prepared: 15 APR 94 Analyzed: 18 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-05D 20.25
LAB ID: 105182-0001-SA
Matrix: SOLID Sampled: 11 APR 94 Received: 13 APR 94
Authorized: 14 APR 94 Prepared: 15 APR 94 Analyzed: 18 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	57	%
Phenol-d5	59	%
Nitrobenzene-d5	68	%
2-Fluorobiphenyl	77	%
2,4,6-Tribromophenol	83	%
Terphenyl-d14	64	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105182-0002-SA	AQUEOUS	8240-A	15 APR 94-AC	15 APR 94-AC	02 MAR 94-BF

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105182

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Lot: 15 APR 94-AC
Date Analyzed: 15 APR 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	44.5	42.3	43.4	87	50-124	5.1	15
Trichloroethene	50.0	46.6	44.4	45.5	91	80-126	4.8	13
Benzene	50.0	49.3	47.0	48.2	96	78-124	4.8	13
Toluene	50.0	46.5	44.9	45.7	91	80-121	3.5	13
Chlorobenzene	50.0	45.2	43.2	44.2	88	82-131	4.5	13

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105182

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
Sample: 104581-0007
MS Run: 02 MAR 94-BF
Units: ug/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	5.50	1810	1860	2000	90	93	2.7	45-126	18
Trichloroethene	2100	4080	4260	2000	99	108	8.7	74-131	17
Benzene	ND	2160	2190	2000	108	110	1.4	76-128	14
Toluene	ND	2190	2250	2000	110	112	2.7	73-128	15
Chlorobenzene	ND	2040	2080	2000	102	104	1.9	80-131	16

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

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SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105182

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Run: 15 APR 94-AC Date Analyzed: 15 APR 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Measured	Accuracy(%) SCS	Limits
1,2-Dichloroethane-d4	50.0	46.5	93	82-121
Toluene-d8	50.0	45.9	92	88-110
Bromofluorobenzene	50.0	46.4	93	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105182

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 15 APR 94-AC Date Analyzed: 15 APR 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/L	10
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	5.0
Methylene chloride	ND	ug/L	5.0
Acetone	ND	ug/L	10
Trichlorofluoromethane	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Nitromethane	ND	ug/L	200
trans-1,2-Dichloroethene	ND	ug/L	5.0
cis-1,2-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
2,2-Dichloropropane	ND	ug/L	5.0
Bromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,1-Dichloropropene	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
1,3-Dichloropropane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
1,2-Dibromoethane (EDB)	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0
1-Methylethylbenzene	ND	ug/L	5.0
Bromobenzene	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
2-Chlorotoluene	ND	ug/L	5.0
n-Propyl benzene	ND	ug/L	5.0
1,3,5-Trimethylbenzene	ND	ug/L	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105182

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 15 APR 94-AC Date Analyzed: 15 APR 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/L	5.0
tert-Butylbenzene	ND	ug/L	5.0
1,2,4-Trimethylbenzene	ND	ug/L	5.0
sec-Butylbenzene	ND	ug/L	5.0
Isopropyltoluene	ND	ug/L	5.0
1,3-Dichlorobenzene	ND	ug/L	5.0
1,4-Dichlorobenzene	ND	ug/L	5.0
n-Butylbenzene	ND	ug/L	5.0
1,2-Dichlorobenzene	ND	ug/L	5.0
1,2,4-Trichlorobenzene	ND	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	5.0
Hexachlorobutadiene	ND	ug/L	5.0
Naphthalene	ND	ug/L	5.0
1,2,3-Trichlorobenzene	ND	ug/L	5.0

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105182-0001-SA	SOLID	8270-S	12 APR 94-E	15 APR 94-A	12 APR 94-EA

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105182

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 12 APR 94-E Date Analyzed: 12 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.60	5.55	5.58	84	39-106	0.90	31
2-Chlorophenol	6.67	6.13	6.09	6.11	92	44-107	0.65	32
1,4-Dichlorobenzene	3.33	2.87	2.87	2.87	86	40-107	0.0	23
N-Nitroso-di-n-propylamine	3.33	3.14	3.17	3.16	95	31-132	0.95	38
1,2,4-Trichlorobenzene	3.33	2.68	2.80	2.74	82	38-120	4.4	22
4-Chloro-3-methylphenol	6.67	4.98	5.30	5.14	77	40-119	6.2	24
Acenaphthene	3.33	2.70	2.79	2.74	82	30-140	3.3	24
2,4-Dinitrotoluene	3.33	2.87	2.79	2.83	85	30-121	2.8	28
4-Nitrophenol	6.67	8.34	8.30	8.32	125	16-143	0.48	54
Pentachlorophenol	6.67	7.41	7.67	7.54	113	21-152	3.4	43
Pyrene	3.33	2.73	2.81	2.77	83	45-120	2.9	26

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105182

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105129-0001
MS Run: 12 APR 94-EA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	4.94	4.69	6.67	74	70	5.2	34-109	39
2-Chlorophenol	ND	5.08	4.91	6.67	76	74	3.4	42-101	38
1,4-Dichlorobenzene	ND	2.35	2.25	3.33	71	68	4.3	42-102	37
N-Nitroso-di-n-propylamine	ND	2.64	2.48	3.33	79	74	6.2	28-126	41
1,2,4-Trichlorobenzene	ND	2.25	2.05	3.33	68	62	9.3	46-106	32
4-Chloro-3-methylphenol	ND	4.75	4.67	6.67	71	70	1.7	40-121	23
Acenaphthene	ND	2.49	2.43	3.33	75	73	2.4	48-113	20
2,4-Dinitrotoluene	ND	2.70	2.50	3.33	81	75	7.7	23-129	25
4-Nitrophenol	ND	8.39	8.01	6.67	126	120	4.6	29-159	42
Pentachlorophenol	ND	7.60	7.40	6.67	114	111	2.7	40-146	37
Pyrene	ND	2.69	2.53	3.33	81	76	6.1	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105182

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 15 APR 94-A Date Analyzed: 15 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	4.59	69	55-111
Phenol-d5	6.67	4.62	69	47-110
Nitrobenzene-d5	3.33	2.57	77	57-113
2-Fluorobiphenyl	3.33	2.79	84	51-104
2,4,6-Tribromophenol	6.67	4.58	69	41-131
Terphenyl-d14	3.33	3.16	95	44-130

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105182

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 15 APR 94-A Date Analyzed: 15 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
2,4-Dichlorophenol	ND	mg/kg	0.33
1,2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105182

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 15 APR 94-A Date Analyzed: 15 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

April 22, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105193-0001/0004
DATE SAMPLED: 14-APR-1994
DATE SAMPLE REC'D: 14-APR-1994
PROJECT: (26522.3.5) AEROJET SVMW ON SITE AIR

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

PRELIMINARY DATA

Preliminary data were provided on April 22, 1994 at 9:20 A.M. to Tom Harder.

REVIEWED

Sabina R. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105193

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105193

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

There were no anomalies associated with this report.

Per instruction from HLA personnel, sample ID SVMW-05D 42' was analyzed for SW8270 analysis.

The MS Percent Recovery for 4-Nitrophenol was not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," but it was within Enseco's-CRL's established acceptance limits. Therefore the data was accepted and no further action was required.

Harding Lawson Associates
Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 - 213/617-7232
FAX: 714/662-3297

105193

CHAIN OF CUSTODY FORM

Lab: KENSECO

Samplers: KAREN WITTGARD

Job Number: 26522.3.5

Name/Location: AEROJET AREA 5 VMW ONSITE AIR

Project Manager: TOM LINDROS

Recorder: Karen Wittgard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
50			X		1			5VMW-02D		25	94	04	14	1700	
50			X		1			5VMW-05D		30	94	04	14	1729	
50			X		1			5VMW-05D		42	94	04	14	0955	
50			X		1			5VMW-19D		450	94	04	14	1555	

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.
			X			

custody seals #s 7939 & 4940

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALYZE PER AEROSET CONTRACT. SEND LAB RESULTS TO TOM HARDER (714)-556-7992 CALL TOM LINDROS FOR ANALYSIS CONFORMATION (805) 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) 1627 Karen Wittgard 4/14/94	RECEIVED BY: (Signature)	DATE/TIME 4/14/94 16:27
RELINQUISHED BY: (Signature) 17125 4/14/94	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 4/14/94 1723

METHOD OF SHIPMENT COURIER PICK UP

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105193-0001-SA	SVMW-05D 42'	SOIL	14 APR 94	09:55	14 APR 94
105193-0002-SA	SVMW-05D 25'	SOIL	13 APR 94	17:00	14 APR 94
105193-0003-SA	SVMW-05D 30'	SOIL	13 APR 94	17:29	14 APR 94
105193-0004-SA	SVMW-19D 4.50'	SOIL	14 APR 94	15:55	14 APR 94

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-05D 42'
LAB ID: 105193-0001-SA
Matrix: SOIL Sampled: 14 APR 94 Received: 14 APR 94
Authorized: 15 APR 94 Prepared: 15 APR 94 Analyzed: 18 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-05D 42'
LAB ID: 105193-0001-SA
Matrix: SOIL Sampled: 14 APR 94 Received: 14 APR 94
Authorized: 15 APR 94 Prepared: 15 APR 94 Analyzed: 18 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	56	%
Phenol-d5	58	%
Nitrobenzene-d5	63	%
2-Fluorobiphenyl	73	%
2,4,6-Tribromophenol	88	%
Terphenyl-d14	68	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105193-0001-SA	SOLID	8270-S	12 APR 94-E	15 APR 94-A	12 APR 94-EA

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105193

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 12 APR 94-E Date Analyzed: 12 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.60	5.55	5.58	84	39-106	0.90	31
2-Chlorophenol	6.67	6.13	6.09	6.11	92	44-107	0.65	32
1,4-Dichlorobenzene	3.33	2.87	2.87	2.87	86	40-107	0.0	23
N-Nitroso-di-n-propylamine	3.33	3.14	3.17	3.16	95	31-132	0.95	38
1,2,4-Trichlorobenzene	3.33	2.68	2.80	2.74	82	38-120	4.4	22
4-Chloro-3-methylphenol	6.67	4.98	5.30	5.14	77	40-119	6.2	24
Acenaphthene	3.33	2.70	2.79	2.74	82	30-140	3.3	24
2,4-Dinitrotoluene	3.33	2.87	2.79	2.83	85	30-121	2.8	28
4-Nitrophenol	6.67	8.34	8.30	8.32	125	16-143	0.48	54
Pentachlorophenol	6.67	7.41	7.67	7.54	113	21-152	3.4	43
Pyrene	3.33	2.73	2.81	2.77	83	45-120	2.9	26

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105193

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105129-0001
MS Run: 12 APR 94-EA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	4.94	4.69	6.67	74	70	5.2	34-109	39
2-Chlorophenol	ND	5.08	4.91	6.67	76	74	3.4	42-101	38
1,4-Dichlorobenzene	ND	2.35	2.25	3.33	71	68	4.3	42-102	37
N-Nitroso-di-n-propylamine	ND	2.64	2.48	3.33	79	74	6.2	28-126	41
1,2,4-Trichlorobenzene	ND	2.25	2.05	3.33	68	62	9.3	46-106	32
4-Chloro-3-methylphenol	ND	4.75	4.67	6.67	71	70	1.7	40-121	23
Acenaphthene	ND	2.49	2.43	3.33	75	73	2.4	48-113	20
2,4-Dinitrotoluene	ND	2.70	2.50	3.33	81	75	7.7	23-129	25
4-Nitrophenol	ND	8.39	8.01	6.67	126	120	4.6	29-159	42
Pentachlorophenol	ND	7.60	7.40	6.67	114	111	2.7	40-146	37
Pyrene	ND	2.69	2.53	3.33	81	76	6.1	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105193

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 15 APR 94-A Date Analyzed: 15 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	4.59	69	55-111
Phenol-d5	6.67	4.62	69	47-110
Nitrobenzene-d5	3.33	2.57	77	57-113
2-Fluorobiphenyl	3.33	2.79	84	51-104
2,4,6-Tribromophenol	6.67	4.58	69	41-131
Terphenyl-d14	3.33	3.16	95	44-130

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105193

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 15 APR 94-A Date Analyzed: 15 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
2,4-Dichlorophenol	ND	mg/kg	0.33
1,2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105193

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 15 APR 94-A Date Analyzed: 15 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

April 29, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105214-0001/0007
DATE SAMPLED: 14/15 APR-1994
DATE SAMPLE REC'D: 15 APR-1994
PROJECT: (26522.3.5) AEROJET AIZA SVMW - ONSITE AIR

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

Phillip J. Toy
REVIEWED

Sabina K. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Enseco
Corning Environmental Services

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105214

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105214

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

There were no anomalies associated with this report.

Per fax instruction from HLA personnel on April 16, 1994, Cyanide (9012) was added to sample ID's SVMW-19D 20.25 and SVMW-10D 35.0.

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

105214

Lab: ENVIRO

Samplers: KAREN WITTBARD

Job Number: 26522.3.5

Name/Location: AEROJET RA SVMW-ONSITE AIR

Project Manager: TOM LINDROS

Recorder: Karen Wittbard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
SO			X		1			SVMW-19D		15.0	94	04	14	1750	
SO			X		1			SVMW-19D		15.25	94	04	14	1750	
SO			X		1			SVMW-19D		20.25	94	04	15	0905	
SO			X		1			SVMW-19D		25.25	94	04	15	0935	
SO			X		1			SVMW-19D		31.0	94	04	15	1032	
SO			X		1			SVMW-19D		35.0	94	04	15	1130	
SO			X		1			SVMW-19D		9.25	94	04	14	1650	

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllmt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 9012 - CN	HOLD
							X	
							X	
						X		
							X	
							X	
						X		
							X	VK

Pls. fax from T. Lindros.

custody seal #s 2436 & 2437 Dana 4/15

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALYZE PER AEROJET CONTRACT. SEND RESULTS TO TOM HARDER 714-556-7992. CALL TOM LINDROS FOR ANALYSIS CONFORMATION 805-494-7725

CHAIN OF CUSTODY RECORD

5:24

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Wittbard 4/15/94	J. Newsborough	4/15/94 5:22pm
J. Newsborough		4/15/94 1820
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME

DISPATCHED BY: (Signature) DATE/TIME

RECEIVED FOR LAB BY: (Signature) Molly DATE/TIME 4-15-94 1820

METHOD OF SHIPMENT COURIER

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID		Matrix	Sampled Date	Sampled Time	Received Date
105214-0001-SA	SVMW-19D	20.25	SOLID	15 APR 94	09:05	15 APR 94
105214-0001-MS	SVMW-19D	20.25	SOLID	15 APR 94	09:05	15 APR 94
105214-0001-SD	SVMW-19D	20.25	SOLID	15 APR 94	09:05	15 APR 94
105214-0002-SA	SVMW-19D	35.00	SOLID	15 APR 94	11:30	15 APR 94
105214-0003-SA	SVMW-19D	15.00	SOLID	14 APR 94	17:50	15 APR 94
105214-0004-SA	SVMW-19D	15.25	SOLID	14 APR 94	17:50	15 APR 94
105214-0005-SA	SVMW-19D	25.25	SOLID	15 APR 94	09:35	15 APR 94
105214-0006-SA	SVMW-19D	31.00	SOLID	15 APR 94	10:32	15 APR 94
105214-0007-SA	SVMW-19D	8.25	SOLID	14 APR 94	16:50	15 APR 94

Enseco
Corning Environmental Services

GENERAL INORGANICS

ent Name: Harding Lawson Associates
ent ID: SVMW-19D 20.25
LAB ID: 105214-0001-SA
Matrix: SOLID
Authorized: 18 APR 94
Sampled: 15 APR 94
Prepared: See Below
Received: 15 APR 94
Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.30	0.50	mg/kg	9012	25 APR 94	25 APR 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: SVMW-19D 35.00
LAB ID: 105214-0002-SA
Matrix: SOLID Sampled: 15 APR 94 Received: 15 APR 94
Authorized: 18 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.30	0.50	mg/kg	9012	25 APR 94	25 APR 94

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105214-0001-MS	SOLID	CN-S	25 APR 94-A	25 APR 94-A	25 APR 94-AE
105214-0001-SA	SOLID	CN-S	25 APR 94-A	25 APR 94-A	25 APR 94-AE
105214-0001-SD	SOLID	CN-S	25 APR 94-A	25 APR 94-A	25 APR 94-AE
105214-0002-SA	SOLID	CN-S	25 APR 94-A	25 APR 94-A	25 APR 94-AE

Enseco
Corning Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105214

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
QC Lot: 25 APR 94-A
Concentration Units: mg/kg

Date Analyzed: 25 APR 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Cyanide, Total	5.00	4.29	4.20	4.24	85	66-118	2.1	27

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105214

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
Sample: 105214-0001
MS Run: 25 APR 94-AE
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cyanide, Total	ND	4.12	3.85	5.00	82	77	6.8	21-145	47

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Corning Environmental Services

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105214

Test: CN-MDL-S Method 9012 - Cyanide, Total
Matrix: SOLID
QC Run: 25 APR 94-A Date Analyzed: 25 APR 94

Analyte	Result	Units	Reporting Limit
Cyanide, Total	ND	mg/kg	0.50

ND = Not Detected

Enseco
A Corning Company

Enseco - CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

May 4, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105270-0001/0011
DATE SAMPLED: 20-APR-1994
DATE SAMPLE REC'D: 20-APR-1994
PROJECT: (26522.3.5) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

Kathy Waters
REVIEWED

Sabrina R. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

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Corning Environmental Services

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105270

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105270

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

The MS/MSD Percent Recoveries for Aluminum and Manganese were not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," nor was it within Enseco's-CRL's established acceptance limits. However, the DCS recoveries were within all acceptable ranges, therefore the data was accepted and no further action was required.

Harding Lawson Associates
Sutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

105270

CHAIN OF CUSTODY FORM

Lab: KRSCO

Samplers: KAREN WITBAARD

Job Number: 26522.3.5

Name/Location: AEROJET SVMW ONSITE H/R

Project Manager: TOM LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
SO			X		1			SVMW-11D		2.25	94	04	20	0935	3"x2½" SS SLEEVE
SO			X		1			SVMW-11D		5.25	94	04	20	1020	
SO			X		1			SVMW-11D		10.0	94	04	20	1105	
SO			X		1			SVMW-11D		10.25	94	04	20	1105	
SO			X		1			SVMW-11D		15.25	94	04	20	1145	
SO			X		1			SVMW-11D		20.0	94	04	20	1205	
SO			X		1			SVMW-11D		20.25	94	04	20	1205	
SO			X		1			SVMW-11D		25.0	94	04	20	1405	
SO			X		1			SVMW-11D		25.5	94	04	20	1405	
SO			X		1			SVMW-11D		30.0	94	04	20	1440	

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 8015 (Mod)	EPA 9012 (CN)	EPA 6010/7000 (Metals)	HOLD
	X						X	X	X	
										X
										X
										X
										X
										X
	X						X			X
										X
										X
	X						X			

chain of custody seal #'s 18601 & 18602

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALYZE PER AEROJET CONTRACT. SEND LAB RESULTS TO TOM HARDER 714-556-7992
		Run MS/MSD on SVMW-11D-2.25				QUESTIONS - PLEASE CALL TOM LINDROS FOR ANALYSIS CONFIRMATION 805-494-7725
		Tests based on FAX from client 4/21/94				

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Witbaard 4/20/94 1542	Bitterfield ATD	4/20 1540
RELINQUISHED BY: (Signature) Bitterfield ATD	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 4/20/94 1650
METHOD OF SHIPMENT: COURIER		

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6533

105270

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

Lab: Emsco

Samplers: KAREN WITBAARD

Job Number: 26522.3.5

Name/Location: AEROSET SVMW ON SITE AIR

Project Manager: TOM LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	HOLD
50			X		1			SVMW	11D	30 25	94	04	20	1440	S.S. SLEEVE 3"x2½"								X

COC seal # s 1860 & 1861

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALYZE PER AEROSET CONTRACT
						SEND LAB RESULTS TO TOM HARDER 714 556 7992
						CALL TOM LINDROS FOR ANALITE ANALYSIS CONFORMATION 805-494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Witbaard 1542 4/20/94	Butterfield ATD	4/20 1540
Butterfield ATD		

DISPATCHED BY: (Signature) DATE/TIME

RECEIVED FOR LAB BY: (Signature) [signature] DATE/TIME 4/20/94 1650

METHOD OF SHIPMENT Courier

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6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID			Matrix	Sampled Date	Sampled Time	Received Date
105270-0001-SA	SVMW-11D	2.25		SOIL	20 APR 94	09:35	21 APR 94
105270-0001-MS	SVMW-11D	2.25	(MS)	SOIL	20 APR 94	09:35	21 APR 94
105270-0001-SD	SVMW-11D	2.25	(MSD)	SOIL	20 APR 94	09:35	21 APR 94
105270-0002-SA	SVMW-11D	30.00		SOIL	20 APR 94	14:40	21 APR 94
105270-0003-SA	SVMW-11D	5.25		SOIL	20 APR 94	10:20	21 APR 94
105270-0004-SA	SVMW-11D	10.00		SOIL	20 APR 94	11:05	21 APR 94
105270-0005-SA	SVMW-11D	10.25		SOIL	20 APR 94	11:05	21 APR 94
105270-0006-SA	SVMW-11D	15.25		SOIL	20 APR 94	11:45	21 APR 94
105270-0007-SA	SVMW-11D	20.00		SOIL	20 APR 94	12:05	21 APR 94
105270-0008-SA	SVMW-11D	20.25		SOIL	20 APR 94	12:05	21 APR 94
105270-0009-SA	SVMW-11D	25.00		SOIL	20 APR 94	14:05	21 APR 94
105270-0010-SA	SVMW-11D	25.50		SOIL	20 APR 94	14:05	21 APR 94
105270-0011-SA	SVMW-11D	30.25		SOIL	20 APR 94	14:40	21 APR 94

Enseco
Corning Environmental Services

METALS

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 2.25
LAB ID: 105270-0001-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Aluminum	10700		50.0	500	mg/kg	7020	26 APR 94	28 APR 94
Arsenic	13.6		0.20	1.0	mg/kg	7062	26 APR 94	29 APR 94
Barium	138		20.0	50.0	mg/kg	7080	26 APR 94	28 APR 94
Chromium	28.9		5.0	10.0	mg/kg	7190	26 APR 94	27 APR 94
Copper	57.0		5.0	10.0	mg/kg	7210	26 APR 94	26 APR 94
Lead	ND		20.0	20.0	mg/kg	7420	26 APR 94	26 APR 94
Manganese	389		2.0	5.0	mg/kg	7460	26 APR 94	26 APR 94
Nickel	20.0		5.0	10.0	mg/kg	7520	26 APR 94	27 APR 94
Zinc	79.1		1.0	2.0	mg/kg	7950	26 APR 94	27 APR 94
Cadmium	ND		2.0	5.0	mg/kg	7130	26 APR 94	27 APR 94
Mercury	TR		0.090	0.10	mg/kg	7471	25 APR 94	25 APR 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 2.25
ID: 105270-0001-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.30	0.50	mg/kg	9012	02 MAY 94	02 MAY 94

ND = Not Detected

Method CADHS

Enseco
Corning Environmental Services

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 2.25
LAB ID: 105270-0001-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 26 APR 94 Analyzed: 26 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
TPH, Volatile	ND		0.91	mg/kg	1.0

ND = Not Detected

Method CADHS

Enseco
Corning Environmental Services

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 30.00
LAB ID: 105270-0002-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 26 APR 94 Analyzed: 26 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
TPH, Volatile	ND		0.91	mg/kg	1.0

ND = Not Detected

Method CADHS

Enseco
Corning Environmental Services

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 20.25
LAB ID: 105270-0008-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 26 APR 94 Analyzed: 26 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
TPH, Volatile	ND		0.91	mg/kg	1.0

ND = Not Detected

Enseco
Corning Environmental Services

Total Extractable Petroleum Hydrocarbons (MDL)
Method CADHS

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 2.25
LAB ID: 105270-0001-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 25 APR 94 Analyzed: 27 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Kerosene	ND		2.3	mg/kg	10
Stoddard Solvent	ND		2.3	mg/kg	10
Jet Fuel	ND		2.3	mg/kg	10
Diesel Fuel #2	ND		2.3	mg/kg	10
Unknown hydrocarbon	TR	y	2.3	mg/kg	10

y = Chromatographic profile is not consistent with pattern(s) exhibited by reference fuel standards. Quantitation of unknown hydrocarbons in sample is based on diesel fuel.
ND = Not Detected

Enseco
Corning Environmental Services

Total Extractable Petroleum Hydrocarbons (MDL)
Method CADHS

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 30.00
LAB ID: 105270-0002-SA
Matrix: SOIL
Authorized: 21 APR 94

Sampled: 20 APR 94
Prepared: 25 APR 94

Received: 21 APR 94
Analyzed: 26 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Kerosene	ND		2.3	mg/kg	10
Stoddard Solvent	ND		2.3	mg/kg	10
Jet Fuel	ND		2.3	mg/kg	10
Diesel Fuel #2	ND		2.3	mg/kg	10
Unknown hydrocarbon	ND		2.3	mg/kg	10

ND = Not Detected

Enseco
Corning Environmental Services

Total Extractable Petroleum Hydrocarbons (MDL)
Method CADHS

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 20.25
LAB ID: 105270-0008-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 03 MAY 94 Analyzed: 03 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Kerosene	ND		2.3	mg/kg	10
Stoddard Solvent	ND		2.3	mg/kg	10
Jet Fuel	ND		2.3	mg/kg	10
Diesel Fuel #2	ND		2.3	mg/kg	10
Unknown hydrocarbon	TR	y	2.3	mg/kg	10

y = Chromatographic profile is not consistent with pattern(s) exhibited by reference fuel standards. Quantitation of unknown hydrocarbons in sample is based on diesel fuel.
ND = Not Detected

Enseco
Corning Environmental Services

Aromatic Volatile Organics
Method 8020

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 2.25
LAB ID: 105270-0001-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 22 APR 94 Analyzed: 22 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Benzene	ND		0.44	ug/kg	5.0
Toluene	ND		0.50	ug/kg	5.0
Chlorobenzene	ND		0.56	ug/kg	5.0
Ethylbenzene	ND		0.53	ug/kg	5.0
Xylenes (total)	ND		1.2	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.65	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.87	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.55	ug/kg	5.0

Surrogate	Recovery	
Bromofluorobenzene	67	%

ND = Not Detected

Enseco
Corning Environmental Services

Aromatic Volatile Organics
Method 8020

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 30.00
LAB ID: 105270-0002-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 25 APR 94 Analyzed: 25 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Benzene	ND		0.44	ug/kg	5.0
Toluene	ND		0.50	ug/kg	5.0
Chlorobenzene	ND		0.56	ug/kg	5.0
Ethylbenzene	ND		0.53	ug/kg	5.0
Xylenes (total)	ND		1.2	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.65	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.87	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.55	ug/kg	5.0

Surrogate	Recovery	
Bromofluorobenzene	58	%

ND = Not Detected

Enseco
Corning Environmental Services

Aromatic Volatile Organics
Method 8020

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 20.25
LAB ID: 105270-0008-SA
Matrix: SOIL Sampled: 20 APR 94 Received: 21 APR 94
Authorized: 21 APR 94 Prepared: 26 APR 94 Analyzed: 26 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Benzene	ND		0.44	ug/kg	5.0
Toluene	ND		0.50	ug/kg	5.0
Chlorobenzene	ND		0.56	ug/kg	5.0
Ethylbenzene	ND		0.53	ug/kg	5.0
Xylenes (total)	ND		1.2	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.65	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.87	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.55	ug/kg	5.0

Surrogate	Recovery	
Bromofluorobenzene	70	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105270-0001-MS	SOLID	AL-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	AS-HAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	CD-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	CR-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	MN-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	NI-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	PB-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	CU-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	ZN-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	BA-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-MS	SOLID	HG-CVAA-S	25 APR 94-E	25 APR 94-E	25 APR 94-EA
105270-0001-SA	SOLID	AL-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	AS-HAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	CD-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	CR-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	MN-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	NI-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	PB-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	CU-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	ZN-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	BA-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SA	SOLID	HG-CVAA-S	25 APR 94-E	25 APR 94-E	25 APR 94-EA
105270-0001-SD	SOLID	AL-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	AS-HAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	CD-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	CR-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	MN-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	NI-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	PB-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	CU-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	ZN-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	BA-FLAA-S	26 APR 94-F	26 APR 94-F	26 APR 94-FA
105270-0001-SD	SOLID	HG-CVAA-S	25 APR 94-E	25 APR 94-E	25 APR 94-EA

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105270

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 28 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Aluminum	3650	3570	3590	3580	98	53-153	0.56	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 29 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Arsenic	72.1	78.8	79.2	79.0	110	49-153	0.51	20

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 27 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Cadmium	61.6	67.5	68.5	68.0	110	59-140	1.5	12

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 27 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Chromium	44.1	30.4	33.6	32.0	73	59-138	10	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105270

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 26 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Manganese	141	135	146	140	100	69-134	7.8	20

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 27 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Nickel	110	102	102	102	93	59-142	0.0	12

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 26 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Lead	50.9	67.0	64.0	65.5	129	53-139	4.6	13

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 26 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Copper	78.1	87.0	86.0	86.5	111	62-144	1.2	12

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105270

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 27 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Zinc	78.2	85.0	85.6	85.3	109	58-152	0.70	10

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
QC Lot: 26 APR 94-F
Date Analyzed: 28 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Barium	64.8	64.0	61.0	62.5	96	70-136	4.8	14

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
QC Lot: 25 APR 94-E
Date Analyzed: 25 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Mercury	32.0	35.7	35.7	35.7	112	52-148	0.0	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105270

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Aluminum	10700	10900	10000	200	NC	NC	NC	60-130	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Arsenic	13.6	57.6	60.4	50.0	88	94	6.2	50-127	25

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cadmium	ND	6.10	6.10	5.00	122	122	0.0	52-130	28

NC = Not Calculated, calculation not applicable.
ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105270 (cont.)

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chromium	28.9	47.8	44.6	20.0	94	78	18	40-190	33

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Manganese	389	426	438	50.0	NC	NC	NC	60-130	40

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Nickel	20.0	71.0	77.0	50.0	102	114	11	55-155	25

NC = Not Calculated, calculation not applicable.

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105270 (cont.)

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Lead	ND	58.0	59.0	50.0	116	118	1.7	53-147	26

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Copper	57.0	80.0	81.0	25.0	92	96	4.3	49-144	23

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Zinc	79.1	124	125	50.0	90	92	2.2	65-138	25

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105270 (cont.)

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Barium	138	317	321	200	90	92	2.2	40-130	30

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
Sample: 105270-0001
MS Run: 25 APR 94-EA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Mercury	ND	0.453	0.472	0.438	103	108	4.1	49-159	38

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Metals Analysis and Preparation
Project: 105270

Test: AL-FLAA-MDL-S Method 7020 - Aluminum, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F
Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
Aluminum	ND	mg/kg	100

Test: AS-HAA-MDL-S Method 7062 - Arsenic, Hydride AA
Matrix: SOLID
QC Run: 26 APR 94-F
Date Analyzed: 29 APR 94

Analyte	Result	Units	Reporting Limit
Arsenic	ND	mg/kg	0.50

Test: CD-FLAA-MDL-S Method 7130 - Cadmium, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F
Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
Cadmium	ND	mg/kg	5.0

Test: CR-FLAA-MDL-S Method 7190 - Chromium, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F
Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
Chromium	ND	mg/kg	10.0

Test: MN-FLAA-MDL-S Manganese, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F
Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
Manganese	ND	mg/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105270

Test: NI-FLAA-MDL-S Method 7520 - Nickel, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
Nickel	ND	mg/kg	10.0

Test: PB-FLAA-MDL-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
Lead	ND	mg/kg	20.0

Test: CU-FLAA-MDL-S Method 7210 - Copper, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
Copper	ND	mg/kg	10.0

Test: ZN-FLAA-MDL-S Method 7950 - Zinc, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
Zinc	ND	mg/kg	2.0

Test: BA-FLAA-MDL-S Method 7080 - Barium, Flame AA
Matrix: SOLID
QC Run: 26 APR 94-F Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
Barium	ND	mg/kg	50.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105270

Test: HG-CVAA-MDL-S Method 7471 - Mercury, Cold Vapor AA
Matrix: SOLID
QC Run: 25 APR 94-E Date Analyzed: 25 APR 94

Analyte	Result	Units	Reporting Limit
Mercury	ND	mg/kg	0.10

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105270-0001-MS	SOLID	CN-S	02 MAY 94-A	02 MAY 94-A	02 MAY 94-AB
105270-0001-SA	SOLID	CN-S	02 MAY 94-A	02 MAY 94-A	02 MAY 94-AB
105270-0001-SD	SOLID	CN-S	02 MAY 94-A	02 MAY 94-A	02 MAY 94-AB

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DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105270

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
QC Lot: 02 MAY 94-A
Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Cyanide, Total	5.00	4.65	4.58	4.62	92	66-118	1.5	27

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105270

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
Sample: 105270-0001
MS Run: 02 MAY 94-AB
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cyanide, Total	ND	4.55	4.64	5.00	91	93	2.0	21-145	47

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105270

Test: CN-MDL-S Method 9012 - Cyanide, Total
Matrix: SOLID
QC Run: 02 MAY 94-A

Date Analyzed: 02 MAY 94

Analyte	Result	Units	Reporting Limit
Cyanide, Total	ND	mg/kg	0.50

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
LUFT

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105270-0001-MS	SOLID	TVPH-S	26 APR 94-A2	26 APR 94-A2	26 APR 94-AA
105270-0001-MS	SOLID	TEPH-S	25 APR 94-F	25 APR 94-F	25 APR 94-FA
105270-0001-SA	SOLID	TVPH-S	26 APR 94-A2	26 APR 94-A2	26 APR 94-AA
105270-0001-SA	SOLID	TEPH-S	25 APR 94-F	25 APR 94-F	25 APR 94-FA
105270-0001-SD	SOLID	TVPH-S	26 APR 94-A2	26 APR 94-A2	26 APR 94-AA
105270-0001-SD	SOLID	TEPH-S	25 APR 94-F	25 APR 94-F	25 APR 94-FA
105270-0002-SA	SOLID	TVPH-S	26 APR 94-A2	26 APR 94-A2	26 APR 94-AA
105270-0002-SA	SOLID	TEPH-S	25 APR 94-F	25 APR 94-F	25 APR 94-FA
105270-0008-SA	SOLID	TVPH-S	26 APR 94-A2	26 APR 94-A2	26 APR 94-AA
105270-0008-SA	SOLID	TEPH-S	03 MAY 94-A	03 MAY 94-A	25 APR 94-FA

DUPLICATE CONTROL SAMPLE REPORT
LUFT
Project: 105270

Category: TVPH-S Total Petroleum Hydrocarbons, Volatile (Solid)
Matrix: SOLID
QC Lot: 26 APR 94-A2 Date Analyzed: 26 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
TPH, Volatile	2.00	2.05	2.21	2.13	106	62-116	7.5	28

Category: TEPH-S TPH, Extractable
Matrix: SOLID
QC Lot: 25 APR 94-F Date Analyzed: 26 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Diesel Fuel #2	170	142	144	143	84	42-146	1.4	42

Category: TEPH-S TPH, Extractable
Matrix: SOLID
QC Lot: 03 MAY 94-A Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Diesel Fuel #2	170	158	158	158	93	42-146	0.25	42

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
LUFT
Project: 105270

Category: TVPH-S Total Petroleum Hydrocarbons, Volatile (Solid)
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-AA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
TPH, Volatile	ND	1.59	1.58	2.00	80	79	0.9	62-116	28

Category: TEPH-S TPH, Extractable
Matrix: SOLID
Sample: 105270-0001
MS Run: 25 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Diesel Fuel #2	ND	150	169	170	88	99	12	10-178	42

Category: TEPH-S TPH, Extractable
Matrix: SOLID
Sample: 105270-0001
MS Run: 25 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Diesel Fuel #2	ND	150	169	170	88	99	12	10-178	42

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
LUFT
Project: 105270

Test: TVPH-MDL-S Method CADHS - Total Volatile Petroleum Hydrocarbons
Matrix: SOLID
QC Run: 26 APR 94-A2 Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
TPH, Volatile	ND	mg/kg	1.0

Test: TEPH-MDL-S Method CADHS - Total Extractable Petroleum Hydrocarbons
Matrix: SOLID
QC Run: 25 APR 94-F Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Jet Fuel	ND	mg/kg	10
Diesel Fuel #2	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

QC Run: 03 MAY 94-A Date Analyzed: 03 MAY 94

Analyte	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	10
Stoddard Solvent	ND	mg/kg	10
Jet Fuel	ND	mg/kg	10
Diesel Fuel #2	ND	mg/kg	10
Unknown hydrocarbon	ND	mg/kg	10

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105270-0001-MS	SOLID	8020-S	22 APR 94-A0	22 APR 94-A0	22 APR 94-AA
105270-0001-SA	SOLID	8020-S	22 APR 94-A0	22 APR 94-A0	22 APR 94-AA
105270-0001-SD	SOLID	8020-S	22 APR 94-A0	22 APR 94-A0	22 APR 94-AA
105270-0002-SA	SOLID	8020-S	22 APR 94-A0	25 APR 94-A0	22 APR 94-AA
105270-0008-SA	SOLID	8020-S	22 APR 94-A0	26 APR 94-A0	22 APR 94-AA

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC
Project: 105270

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
QC Lot: 22 APR 94-A0 Date Analyzed: 22 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Benzene	10.0	5.56	5.70	5.63	56	46-129	2.5	20
Toluene	10.0	7.22	7.41	7.32	73	53-130	2.6	20
Ethylbenzene	10.0	7.39	7.62	7.50	75	51-132	3.1	20
Xylenes (total)	10.0	7.90	8.12	8.01	80	42-129	2.7	30
1,3-Dichlorobenzene	10.0	7.32	7.61	7.46	75	51-131	3.9	35

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC
Project: 105270

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
Sample: 105270-0001
MS Run: 22 APR 94-AA
Units ug/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Benzene	ND	6.10	5.93	10.0	61	59	2.8	41-128	20
Toluene	ND	7.56	7.65	10.0	76	76	1.2	39-137	20
Ethylbenzene	ND	7.19	7.85	10.0	72	78	8.8	46-127	20
Xylenes (total)	ND	7.64	8.38	10.0	76	84	9.2	38-124	30
1,3-Dichlorobenzene	ND	5.77	7.49	10.0	58	75	26	28-134	35

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC
Project: 105270

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
QC Run: 26 APR 94-A0 Date Analyzed: 26 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Bromofluorobenzene	20.0	12.8	64	30-137

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
QC Run: 25 APR 94-A0 Date Analyzed: 25 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Bromofluorobenzene	20.0	13.8	69	30-137

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
QC Run: 22 APR 94-A0 Date Analyzed: 22 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Bromofluorobenzene	20.0	13.0	65	30-137

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC
Project: 105270

Test: 8020-MDL-HLA-S Method 8020 - Aromatic Volatile Organics
Matrix: SOLID
QC Run: 22 APR 94-A0 Date Analyzed: 22 APR 94

Analyte	Result	Units	Reporting Limit
Benzene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0

QC Run: 25 APR 94-A0 Date Analyzed: 25 APR 94

Analyte	Result	Units	Reporting Limit
Benzene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0

QC Run: 26 APR 94-A0 Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
Benzene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0

ND = Not Detected

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

Enseco
A Corning Company

May 5, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105309-0001/0004
DATE SAMPLED: 21-APR-1994
DATE SAMPLE REC'D: 25-APR-1994
PROJECT: (26522.2.5) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

REVIEWED

Sabina R. Sudolcd
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105309

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105309

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

The analyses for sample ID's SZB-34D-26.25 and SZB-34D-37.09 were confirmed by Tom Lindros on April 25, 1994 at 9:40AM.

The MS Percent Recovery for 4-Nitrophenol was not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," but it was within Enseco's-CRL's established acceptance limits. Therefore the data was accepted and no further action was required.

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

Lab: ENSECO CRL

Samplers: KAREN WITBAARD
Tom Lindros

Job Number: 26522.2.5

Name/Location: AEROJET SZB OFFSITE HA

Project Manager: TOM LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	Chlorate	Hold
50			X		1			SZB-34D-15			94	04	21	1105	2½"x3" S.S. SLEEVE									X
50			X		1			SZB-34D-15.25			94	04	21	1105										
50			X		1			SZB-34D-26.25			94	04	22	1121					X				X	
50			X		1			SZB-34D-37.0			94	04	22	1242					X				X	

C.O.C. SEAL #'S 1862 + 1863

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALIZE PER AEROJET CONTRACT. SEND LAB RESULTS TO TOM HARDER - 714 556-7992 CALL TOM LINDROS FOR ANALITE ANALYSIS CONFORMATION 805-494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	John O. Simons	4/22/94 1745
John O. Simons		

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	4/22/94 1715

METHOD OF SHIPMENT: Lab Courier Pickup at Project Site

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

105309

CHAIN OF CUSTODY FORM

Lab: ENSECO CRL

Samplers: KAREN WITBAARD
Tom Lindros

Job Number: 26522.2.5

Name/Location: AEROJET SZB OFFSITE AIR

Project Manager: TOM LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	Chlorate	HOLD
50			X		1			SZB-34D-15			94	04	21	1105	2½x3" S.S. SLEEVE									
50			X		1			SZB-34D-15.75			94	04	21	1105										
50			X		1			SZB-34D-26.25			94	04	22	1121					X				X	
50			X		1			SZB-34D-37.0			94	04	22	1242					X				X	

D

C.O.C. SEAL #'S 1862 + 1863

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALIZE PER AEROJET CONTRACT. SEND LAB RESULTS TO TOM HARDER - 714 556-7992 CALL TOM LINDROS FOR ANALITE ANALYSIS CONFORMATION 805-494-7725

CHAIN OF CUSTODY RECORD

4-25-94 Confirm w/ Tom Linder 9:40 AM

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	John O. Simons	4/22/94 1745
John O. Simons		
P/S Confirm - noel.		
DISPATCHED BY: (Signature) DATE/TIME [signature]	RECEIVED FOR LAB BY: (Signature)	DATE/TIME

METHOD OF SHIPMENT: Lab Courier Pickup at Project Site

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105309-0001-SA	SZB-34D-26.25	SOIL	22 APR 94	11:21	22 APR 94
105309-0002-SA	SZB-34D-37.0	SOIL	22 APR 94	12:42	22 APR 94
105309-0003-SA	SZB-34D-15	SOIL	21 APR 94	11:05	22 APR 94
105309-0004-SA	SZB-34D-15.25	SOIL	21 APR 94	11:05	22 APR 94

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: SZB-34D-26.25
LAB ID: 105309-0001-SA
Matrix: SOIL Sampled: 22 APR 94 Received: 22 APR 94
Authorized: 25 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Chlorate, Solid	ND		0.50	1.0	mg/kg	300.0	04 MAY 94	04 MAY 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: SZB-34D-37.0
LAB ID: 105309-0002-SA
Matrix: SOIL Sampled: 22 APR 94 Received: 22 APR 94
Authorized: 25 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Chlorate, Solid	ND		0.50	1.0	mg/kg	300.0	04 MAY 94	04 MAY 94

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-34D-26.25
LAB ID: 105309-0001-SA
Matrix: SOIL Sampled: 22 APR 94 Received: 22 APR 94
Authorized: 25 APR 94 Prepared: 25 APR 94 Analyzed: 27 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-34D-26.25
LAB ID: 105309-0001-SA
Matrix: SOIL Sampled: 22 APR 94 Received: 22 APR 94
Authorized: 25 APR 94 Prepared: 25 APR 94 Analyzed: 27 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	68	%
Phenol-d5	65	%
Nitrobenzene-d5	70	%
2-Fluorobiphenyl	76	%
2,4,6-Tribromophenol	66	%
Terphenyl-d14	63	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-34D-37.0
LAB ID: 105309-0002-SA
Matrix: SOIL Sampled: 22 APR 94 Received: 22 APR 94
Authorized: 25 APR 94 Prepared: 25 APR 94 Analyzed: 27 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	TR		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	0.83		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-34D-37.0
LAB ID: 105309-0002-SA
Matrix: SOIL Sampled: 22 APR 94 Received: 22 APR 94
Authorized: 25 APR 94 Prepared: 25 APR 94 Analyzed: 27 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	66	%
Phenol-d5	62	%
Nitrobenzene-d5	64	%
2-Fluorobiphenyl	73	%
2,4,6-Tribromophenol	65	%
Terphenyl-d14	64	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105309-0001-SA	SOLID	CLO3-S	04 MAY 94-A	04 MAY 94-A	04 MAY 94-AA
105309-0002-SA	SOLID	CLO3-S	04 MAY 94-A	04 MAY 94-A	04 MAY 94-AA

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Corning Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105309

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
QC Lot: 04 MAY 94-A Date Analyzed: 04 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Chlorate, Solid	10.0	9.30	11.0	10.2	102	80-120	17	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105309

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
Sample: 105326-0003
MS Run: 04 MAY 94-AA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chlorate, Solid	ND	8.48	8.40	10.0	85	84	0.9	80-120	20

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105309

Test: CLO3-MDL-S Method 300.0 - Chlorate, Ion Chromatography
Matrix: SOLID
QC Run: 04 MAY 94-A Date Analyzed: 04 MAY 94

Analyte	Result	Units	Reporting Limit
Chlorate, Solid	ND	mg/kg	1.0

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105309-0001-SA	SOLID	8270-S	12 APR 94-E	25 APR 94-A	12 APR 94-EA
105309-0002-SA	SOLID	8270-S	12 APR 94-E	25 APR 94-A	12 APR 94-EA

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105309

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 12 APR 94-E Date Analyzed: 12 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.60	5.55	5.58	84	39-106	0.90	31
2-Chlorophenol	6.67	6.13	6.09	6.11	92	44-107	0.65	32
1,4-Dichlorobenzene	3.33	2.87	2.87	2.87	86	40-107	0.0	23
N-Nitroso-di-n-propylamine	3.33	3.14	3.17	3.16	95	31-132	0.95	38
1,2,4-Trichlorobenzene	3.33	2.68	2.80	2.74	82	38-120	4.4	22
4-Chloro-3-methylphenol	6.67	4.98	5.30	5.14	77	40-119	6.2	24
Acenaphthene	3.33	2.70	2.79	2.74	82	30-140	3.3	24
2,4-Dinitrotoluene	3.33	2.87	2.79	2.83	85	30-121	2.8	28
4-Nitrophenol	6.67	8.34	8.30	8.32	125	16-143	0.48	54
Pentachlorophenol	6.67	7.41	7.67	7.54	113	21-152	3.4	43
Pyrene	3.33	2.73	2.81	2.77	83	45-120	2.9	26

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105309

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105129-0001
MS Run: 12 APR 94-EA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	4.94	4.69	6.67	74	70	5.2	34-109	39
2-Chlorophenol	ND	5.08	4.91	6.67	76	74	3.4	42-101	38
1,4-Dichlorobenzene	ND	2.35	2.25	3.33	71	68	4.3	42-102	37
N-Nitroso-di-n-propylamine	ND	2.64	2.48	3.33	79	74	6.2	28-126	41
1,2,4-Trichlorobenzene	ND	2.25	2.05	3.33	68	62	9.3	46-106	32
4-Chloro-3-methylphenol	ND	4.75	4.67	6.67	71	70	1.7	40-121	23
Acenaphthene	ND	2.49	2.43	3.33	75	73	2.4	48-113	20
2,4-Dinitrotoluene	ND	2.70	2.50	3.33	81	75	7.7	23-129	25
4-Nitrophenol	ND	8.39	8.01	6.67	126	120	4.6	29-159	42
Pentachlorophenol	ND	7.60	7.40	6.67	114	111	2.7	40-146	37
Pyrene	ND	2.69	2.53	3.33	81	76	6.1	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105309

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 25 APR 94-A Date Analyzed: 26 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	5.06	76	55-111
Phenol-d5	6.67	4.95	74	47-110
Nitrobenzene-d5	3.33	2.60	78	57-113
2-Fluorobiphenyl	3.33	2.87	86	51-104
2,4,6-Tribromophenol	6.67	5.09	76	41-131
Terphenyl-d14	3.33	2.55	77	44-130

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105309

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 25 APR 94-A Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
2,4-Dichlorophenol	ND	mg/kg	0.33
1,2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105309

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 25 APR 94-A Date Analyzed: 26 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

Holding Time Report | Project: 105309 | Client: Harding Lawson Associates | Today: 06 MAY 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 8270 - Semivolatile Organics							Prep: P-8270-S						Total: 2
1	SZB-34D-26	105309-0001-SA	8270-HLA-S	8270	21 APR 94	22 APR 94	25 APR 94	27 APR 94	6	5	2		
2	SZB-34D-37	105309-0002-SA	8270-HLA-S	8270	21 APR 94	22 APR 94	25 APR 94	27 APR 94	6	5	2		
Test: Method EPA 3550 - Prep - Semivolatile Organics by GC/MS							Prep: n/a						Total: 2
1	SZB-34D-26	105309-0001-SA	P-8270-S	3550	21 APR 94	22 APR 94	25 APR 94	n/a	4	3	n/a		
2	SZB-34D-37	105309-0002-SA	P-8270-S	3550	21 APR 94	22 APR 94	25 APR 94	n/a	4	3	n/a		
Test: Method 300.0 - Chlorate, Ion Chromatography							Prep: P-IC-DILEACH-S						Total: 2
1	SZB-34D-26	105309-0001-SA	CLO3-MDL-S	300.0	21 APR 94	22 APR 94	04 MAY 94	04 MAY 94	13	12	n/a		
2	SZB-34D-37	105309-0002-SA	CLO3-MDL-S	300.0	21 APR 94	22 APR 94	04 MAY 94	04 MAY 94	13	12	n/a		
Test: Prep - Method 300.0-Mod.- Deionized Water Leach							Prep: n/a						Total: 2
1	SZB-34D-26	105309-0001-SA	P-IC-DILEACH-S	300.0-Mod.	21 APR 94	22 APR 94	04 MAY 94	n/a	13	12	n/a		
2	SZB-34D-37	105309-0002-SA	P-IC-DILEACH-S	300.0-Mod.	21 APR 94	22 APR 94	04 MAY 94	n/a	13	12	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
ETA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

Enseco
Corning Environmental Services

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

May 10, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105326-0001/0010
DATE SAMPLED: 23/24-APR-1994
DATE SAMPLE REC'D: 25-APR-1994
PROJECT: (26522.3.5) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

REVIEWED

Sabina K. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105326

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105326

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

The analysis for Method 9060 and 8280 were performed at Enseco-CAL Laboratory.

The MS/MSD Percent Recoveries for Aluminum and Manganese were not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," nor was it within Enseco's-CRL's established acceptance limits. However, the DCS recoveries were within all acceptable ranges, therefore the data was accepted and no further action was required.

The MS/MSD Percent Recovery for Lead was not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements, but it was within Enseco's-CRL established acceptance limits, therefore the data was accepted and no further action was required.

105326

? Raw Data ✓

Harding Lawson Associates
Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

Lab: Ensco

Samplers: KAREN WITBAARD

Job Number: 26522.8.3

Name/Location: AEROJET MW-5

Project Manager: TOM LINDROS

Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pltnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 9060 (TOC)	EPA 9045 (pH)	EPA 9012 (CN)	EPA 6010/7000 METALS	Need RAW DATA PACKAGE	HOLD
50			X		1			MW-5		35.0	94	04	24	1640	2½" X 3" S.S. SLEEVE													X
50			X		1			MW-5		35.25	94	04	24	1640					X				X	X	X	X	X	
50			X		1			MW-5		55.0	94	04	24	1740					X				X	X				
50			X		1			MW-5		115.0	94	04	25	1045				X								X	X	
50			X		1			MW-5		115.25	94	04	25	1045					X				X	X		X	X	X

Pls. see fax copies from Client C.O.C. Seal #s 1865 & 1866

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						ANALIZE PER AEROJET CONTRACT. SEND LAB RESULTS TO TOM HARDER @ (714) 556-7992 CALL TOM LINDROS FOR ANALYSIS CONFORMATION @ (805) 494-7725

Kuang 4/26/94

CHAIN OF CUSTODY RECORD 4/25/94

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Witbaard 1446	[signature]	4/25/92 1446
[signature]		

DISPATCHED BY: (Signature) DATE/TIME

RECEIVED FOR LAB BY: (Signature) [signature] DATE/TIME 4/25/94 16:20

METHOD OF SHIPMENT

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

105326

CHAIN OF CUSTODY FORM

Lab: ENSECO - CRL

Job Number: 26522.3.5
Name/Location: AEROJET SVMW ONSITE AIR
Project Manager: TOM LINDROS

Samplers: ROBERT WITBAARD & KAREN WITBAARD
Recorder: Karen Witbaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER (Yr Wk Seq)	DATE (Yr Mo Dy Time)	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020 FULL LIST	EPA 624/8240	EPA 625/8270	Priority Piltnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 8015 (MOD) TPH FULL SCAN	EPA 8280	CHLORATE	HOLD
50			X		1			SVMW-11D-37	94 04 23 0750	2½" DIA X 3" SS, SLEEVE		X						X			
50			X		1			SVMW-01D-5.5	94 04 23 1530	" "											X
50			X		1			SVMW-01D-15	94 04 24 0805	" "				X					X	X	
50			X		1			SVMW-01D-30	94 04 24 1130	" "				X					X	X	
50			X		1			SVMW-01D-20	94 04 24 0855	" "											X
								SVMW-01D-													

Cr. OC. seal # 1865 & 1866

LAB NUMBER (Yr Wk Seq)	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS (See attached FAX copies)
				RUN MS/MSD on SVMW-01D-30.0
				ANALIZE PER AEROJET CONTRACT, SEND LAB RESULTS TO TOM HARDER @ (714) 556-7992 CALL TOM LINDROS FOR ANALYSIS CONFORMATION (805) 494-7725

CHAIN OF CUSTODY RECORD 4/25/94

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Witbaard 1452	[signature]	4/25/94 1452
[signature]		

DISPATCHED BY: (Signature) DATE/TIME
RECEIVED FOR LAB BY: (Signature) [signature] DATE/TIME 4/25/94 16:20
METHOD OF SHIPMENT

Laboratory Copy White | Office Copy Yellow | Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105326-0001-SA	SVMW-11D 37.00	SOLID	23 APR 94	07:50	25 APR 94
105326-0002-SA	SVMW-01D 15.00	SOLID	24 APR 94	08:05	25 APR 94
105326-0003-SA	SVMW-01D 30.00	SOLID	24 APR 94	11:30	25 APR 94
105326-0003-MS	SVMW-01D 30.00	SOLID	24 APR 94	11:30	25 APR 94
105326-0003-SD	SVMW-01D 30.00	SOLID	24 APR 94	11:30	25 APR 94
105326-0003-MB	METHOD BLANK	SOLID			25 APR 94
105326-0004-SA	MW-5 35.25	SOLID	24 APR 94	16:40	25 APR 94
105326-0005-SA	MW-5 55.00	SOLID	24 APR 94	17:40	25 APR 94
105326-0006-SA	MW-5 115.00	SOLID	25 APR 94	10:45	25 APR 94
105326-0007-SA	MW-5 115.25	SOLID	25 APR 94	10:45	25 APR 94
105326-0008-SA	SVMW-01D 5.50		23 APR 94	15:30	25 APR 94
105326-0009-SA	SVMW-01D 20.00		24 APR 94	08:55	25 APR 94
105326-0010-SA	MW-5 35.00		24 APR 94	16:40	25 APR 94

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Corning Environmental Services

METALS

Client Name: Harding Lawson Associates
Client ID: MW-5 35.25
LAB ID: 105326-0004-SA
Matrix: SOLID
Sampled: 24 APR 94
Received: 25 APR 94
Authorized: 27 APR 94
Prepared: See Below
Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Aluminum	6190		50.0	200	mg/kg	7020	29 APR 94	04 MAY 94
Arsenic	5.0		0.20	0.50	mg/kg	7062	29 APR 94	02 MAY 94
Barium	86.0		20.0	50.0	mg/kg	7080	29 APR 94	04 MAY 94
Chromium	19.2		5.0	10.0	mg/kg	7190	29 APR 94	03 MAY 94
Copper	17.0		5.0	10.0	mg/kg	7210	29 APR 94	03 MAY 94
Lead	ND		20.0	20.0	mg/kg	7420	29 APR 94	02 MAY 94
Manganese	301		2.0	5.0	mg/kg	7460	29 APR 94	03 MAY 94
Nickel	12.0		5.0	10.0	mg/kg	7520	29 APR 94	03 MAY 94
Zinc	42.0		1.0	2.0	mg/kg	7950	29 APR 94	03 MAY 94
Cadmium	ND		2.0	5.0	mg/kg	7130	29 APR 94	03 MAY 94
Mercury	ND		0.090	0.10	mg/kg	7471	27 APR 94	27 APR 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
[redacted]ent ID: SVMW-01D 15.00
[redacted] ID: 105326-0002-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Chlorate, Solid	ND		0.50	1.0	mg/kg	300.0	04 MAY 94	04 MAY 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: SVMW-01D 30.00
LAB ID: 105326-0003-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Chlorate, Solid	ND		0.50	1.0	mg/kg	300.0	04 MAY 94	04 MAY 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 35.25
LAB ID: 105326-0004-SA
Matrix: SOLID
Authorized: 27 APR 94
Sampled: 24 APR 94
Prepared: See Below
Received: 25 APR 94
Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.30	0.50	mg/kg	9012	02 MAY 94	02 MAY 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 35.25
LAB ID: 105326-0004-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
pH	8.6		NA	NA	pH units	SW9045	26 APR 94	26 APR 94

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 55.00
ENSR ID: 105326-0005-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
pH	8.7		NA	NA	pH units	SW9045	26 APR 94	26 APR 94

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 115.25
LAB ID: 105326-0007-SA
Matrix: SOLID Sampled: 25 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
pH	8.9		NA	NA	pH units	SW9045	26 APR 94	26 APR 94

Enseco
Corning Environmental Services

Total Extractable Petroleum Hydrocarbons (MDL)
Method CADHS

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 37.00
LAB ID: 105326-0001-SA
Matrix: SOLID Sampled: 23 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 27 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Kerosene	ND		2.3	mg/kg	10
Stoddard Solvent	ND		2.3	mg/kg	10
Jet Fuel	ND		2.3	mg/kg	10
Diesel Fuel #2	ND		2.3	mg/kg	10
Unknown hydrocarbon	ND		2.3	mg/kg	10

ND = Not Detected

Enseco
Corning Environmental Services

Method CADHS

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 37.00
LAB ID: 105326-0001-SA
Matrix: SOLID Sampled: 23 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 04 MAY 94 Analyzed: 04 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
TPH, Volatile	ND		0.91	mg/kg	1.0

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5 115.00
LAB ID: 105326-0006-SA
Matrix: SOLID Sampled: 25 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.2	ug/kg	10
Chloromethane	ND		0.79	ug/kg	10
Bromomethane	ND		0.73	ug/kg	10
Vinyl chloride	ND		1.5	ug/kg	10
Chloroethane	ND		1.4	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/kg	5.0
Methylene chloride	ND		1.1	ug/kg	5.0
Acetone	11		7.1	ug/kg	10
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		2.5	ug/kg	5.0
Nitromethane	ND		16	ug/kg	200
trans-1,2-Dichloroethene	ND		0.99	ug/kg	5.0
cis-1,2-Dichloroethene	ND		0.93	ug/kg	5.0
1,1-Dichloroethane	ND		0.67	ug/kg	5.0
2,2-Dichloropropane	ND		0.85	ug/kg	5.0
Bromochloromethane	ND		0.74	ug/kg	5.0
Chloroform	ND		0.89	ug/kg	5.0
1,1-Dichloropropene	ND		0.62	ug/kg	5.0
1,2-Dichloroethane	ND		0.66	ug/kg	5.0
Dibromomethane	ND		0.70	ug/kg	5.0
1,1,1-Trichloroethane	ND		1.6	ug/kg	5.0
Carbon tetrachloride	ND		0.37	ug/kg	5.0
Bromodichloromethane	ND		0.34	ug/kg	5.0
1,2-Dichloropropane	ND		0.51	ug/kg	5.0
1,3-Dichloropropane	ND		0.54	ug/kg	5.0
Trichloroethene	ND		0.52	ug/kg	5.0
Dibromochloromethane	ND		0.45	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.72	ug/kg	5.0
Benzene	ND		0.38	ug/kg	5.0
Bromoform	ND		0.53	ug/kg	5.0
Tetrachloroethene	ND		0.51	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND		0.74	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND		0.58	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		0.65	ug/kg	5.0
Toluene	ND		0.40	ug/kg	5.0
Chlorobenzene	ND		0.36	ug/kg	5.0
Ethylbenzene	ND		0.59	ug/kg	5.0
Styrene	ND		0.22	ug/kg	5.0
Xylenes (total)	ND		0.95	ug/kg	5.0
1-Methylethylbenzene	ND		0.43	ug/kg	5.0
Bromobenzene	ND		0.45	ug/kg	5.0
1,2,3-Trichloropropane	ND		2.8	ug/kg	5.0
2-Chlorotoluene	ND		1.0	ug/kg	5.0
n-Propyl benzene	ND		0.52	ug/kg	5.0
1,3,5-Trimethylbenzene	ND		0.61	ug/kg	5.0
4-Chlorotoluene	ND		1.0	ug/kg	5.0
tert-Butylbenzene	ND		0.55	ug/kg	5.0

ND = Not Detected

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5 115.00
LAB ID: 105326-0006-SA
Matrix: SOLID Sampled: 25 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		0.53	ug/kg	5.0
sec-Butylbenzene	ND		0.61	ug/kg	5.0
Isopropyltoluene	ND		0.38	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.51	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.35	ug/kg	5.0
n-Butylbenzene	ND		0.77	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.50	ug/kg	5.0
1,2,4-Trichlorobenzene	ND		0.72	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		1.5	ug/kg	5.0
Hexachlorobutadiene	ND		0.97	ug/kg	5.0
Naphthalene	ND		0.88	ug/kg	5.0
1,2,3-Trichlorobenzene	ND		0.56	ug/kg	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	102	%
Toluene-d8	99	%
Bromofluorobenzene	97	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-01D 15.00
LAB ID: 105326-0002-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-01D 15.00
LAB ID: 105326-0002-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	60	%
Phenol-d5	60	%
Nitrobenzene-d5	68	%
2-Fluorobiphenyl	72	%
2,4,6-Tribromophenol	62	%
Terphenyl-d14	60	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-01D 30.00
LAB ID: 105326-0003-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco (Cont.)
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SVMW-01D 30.00
LAB ID: 105326-0003-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
2-Fluorophenol	64	%
Phenol-d5	60	%
Nitrobenzene-d5	65	%
2-Fluorobiphenyl	70	%
2,4,6-Tribromophenol	64	%
Terphenyl-d14	59	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 35.25
LAB ID: 105326-0004-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 35.25
LAB ID: 105326-0004-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	73	%
2-Fluorobiphenyl	77	%
Terphenyl-d14	65	%
Phenol-d5	67	%
2-Fluorophenol	73	%
2,4,6-Tribromophenol	74	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 55.00
LAB ID: 105326-0005-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 55.00
LAB ID: 105326-0005-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	TR		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	63	%
2-Fluorobiphenyl	66	%
Terphenyl-d14	58	%
Phenol-d5	59	%
2-Fluorophenol	60	%
2,4,6-Tribromophenol	57	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 115.25
LAB ID: 105326-0007-SA
Matrix: SOLID Sampled: 25 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 115.25
LAB ID: 105326-0007-SA
Matrix: SOLID
Authorized: 27 APR 94
Sampled: 25 APR 94
Prepared: 27 APR 94
Received: 25 APR 94
Analyzed: 29 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	TR		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	74	%
2-Fluorobiphenyl	76	%
Terphenyl-d14	68	%
Phenol-d5	68	%
2-Fluorophenol	73	%
2,4,6-Tribromophenol	72	%

ND = Not Detected

Enseco
Corning Environmental Services

Aromatic Volatile Organics
Method 8020

Client Name: Harding Lawson Associates
Client ID: SVMW-11D 37.00
LAB ID: 105326-0001-SA
Matrix: SOLID Sampled: 23 APR 94 Received: 25 APR 94
Authorized: 27 APR 94 Prepared: 27 APR 94 Analyzed: 27 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Benzene	ND		0.44	ug/kg	5.0
Toluene	ND		0.50	ug/kg	5.0
Chlorobenzene	ND		0.56	ug/kg	5.0
Ethylbenzene	ND		0.53	ug/kg	5.0
Xylenes (total)	ND		1.2	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.65	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.87	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.55	ug/kg	5.0

Surrogate	Recovery	
Bromofluorobenzene	59	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105326-0004-SA	SOLID	AL-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	AS-HAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	CD-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	CR-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	MN-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	NI-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	PB-FLAA-S	29 APR 94-F	29 APR 94-F	14 APR 94-BC
105326-0004-SA	SOLID	CU-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	ZN-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	BA-FLAA-S	29 APR 94-F	29 APR 94-F	26 APR 94-FA
105326-0004-SA	SOLID	HG-CVAA-S	27 APR 94-D	27 APR 94-D	25 APR 94-EA

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105326

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 04 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Aluminum	3650	3820	3990	3900	107	53-153	4.4	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 02 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Arsenic	72.1	63.8	65.2	64.5	89	49-153	2.2	20

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Cadmium	61.6	70.9	67.8	69.4	113	59-140	4.5	12

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Chromium	44.1	44.6	45.7	45.2	102	59-138	2.4	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105326

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Manganese	141	148	156	152	108	69-134	5.3	20

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Nickel	110	124	139	132	120	59-142	11	12

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 02 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Lead	50.9	56.0	57.0	56.5	111	53-139	1.8	13

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Copper	78.1	85.0	86.0	85.5	109	62-144	1.2	12

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105326

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Zinc	78.2	81.7	83.7	82.7	106	58-152	2.4	10

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
QC Lot: 29 APR 94-F
Date Analyzed: 04 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Barium	64.8	71.0	76.0	73.5	113	70-136	6.8	14

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
QC Lot: 27 APR 94-D
Date Analyzed: 27 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Mercury	32.0	31.4	33.0	32.2	101	52-148	5.0	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105326

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Aluminum	10700	10900	10000	200	NC	NC	NC	60-130	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Arsenic	13.6	57.6	60.4	50.0	88	94	6.2	50-127	25

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cadmium	ND	6.10	6.10	5.00	122	122	0.0	52-130	28

NC = Not Calculated, calculation not applicable.
ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105326 (cont.)

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chromium	28.9	47.8	44.6	20.0	94	78	18	40-190	33

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Manganese	389	426	438	50.0	NC	NC	NC	60-130	40

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Nickel	20.0	71.0	77.0	50.0	102	114	11	55-155	25

NC = Not Calculated, calculation not applicable.

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105326 (cont.)

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
Sample: 105129-0001
MS Run: 14 APR 94-BC
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Lead	ND	70.0	73.0	50.0	140	146	4.2	53-147	26

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Copper	57.0	80.0	81.0	25.0	92	96	4.3	49-144	23

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Zinc	79.1	124	125	50.0	90	92	2.2	65-138	25

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105326 (cont.)

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Barium	138	317	321	200	90	92	2.2	40-130	30

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
Sample: 105270-0001
MS Run: 25 APR 94-EA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Mercury	ND	0.453	0.472	0.438	103	108	4.1	49-159	38

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Metals Analysis and Preparation
Project: 105326

Test: AL-FLAA-MDL-S Method 7020 - Aluminum, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 04 MAY 94

Analyte	Result	Units	Reporting Limit
Aluminum	ND	mg/kg	100

Test: AS-HAA-MDL-S Method 7062 - Arsenic, Hydride AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 02 MAY 94

Analyte	Result	Units	Reporting Limit
Arsenic	ND	mg/kg	0.50

Test: CD-FLAA-MDL-S Method 7130 - Cadmium, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 03 MAY 94

Analyte	Result	Units	Reporting Limit
Cadmium	ND	mg/kg	5.0

Test: CR-FLAA-MDL-S Method 7190 - Chromium, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 03 MAY 94

Analyte	Result	Units	Reporting Limit
Chromium	ND	mg/kg	10.0

Test: MN-FLAA-MDL-S Manganese, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 03 MAY 94

Analyte	Result	Units	Reporting Limit
Manganese	ND	mg/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105326

Test: NI-FLAA-MDL-S Method 7520 - Nickel, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 03 MAY 94

Analyte	Result	Units	Reporting Limit
Nickel	ND	mg/kg	10.0

Test: PB-FLAA-MDL-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 02 MAY 94

Analyte	Result	Units	Reporting Limit
Lead	ND	mg/kg	20.0

Test: CU-FLAA-MDL-S Method 7210 - Copper, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 03 MAY 94

Analyte	Result	Units	Reporting Limit
Copper	ND	mg/kg	10.0

Test: ZN-FLAA-MDL-S Method 7950 - Zinc, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 03 MAY 94

Analyte	Result	Units	Reporting Limit
Zinc	ND	mg/kg	2.0

Test: BA-FLAA-MDL-S Method 7080 - Barium, Flame AA
Matrix: SOLID
QC Run: 29 APR 94-F Date Analyzed: 04 MAY 94

Analyte	Result	Units	Reporting Limit
Barium	ND	mg/kg	50.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105326

Test: HG-CVAA-MDL-S Method 7471 - Mercury, Cold Vapor AA
Matrix: SOLID
QC Run: 27 APR 94-D Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
Mercury	ND	mg/kg	0.10

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105326-0002-SA	SOLID	CLO3-S	04 MAY 94-A	04 MAY 94-A	04 MAY 94-AA
105326-0003-MS	SOLID	CLO3-S	04 MAY 94-A	04 MAY 94-A	04 MAY 94-AA
105326-0003-SA	SOLID	CLO3-S	04 MAY 94-A	04 MAY 94-A	04 MAY 94-AA
105326-0003-SD	SOLID	CLO3-S	04 MAY 94-A	04 MAY 94-A	04 MAY 94-AA
105326-0004-SA	SOLID	CN-S	02 MAY 94-A	02 MAY 94-A	02 MAY 94-AB

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105326

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
QC Lot: 04 MAY 94-A Date Analyzed: 04 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Chlorate, Solid	10.0	9.30	11.0	10.2	102	80-120	17	20

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
QC Lot: 02 MAY 94-A Date Analyzed: 03 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Cyanide, Total	5.00	4.65	4.58	4.62	92	66-118	1.5	27

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105326

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
Sample: 105326-0003
MS Run: 04 MAY 94-AA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chlorate, Solid	ND	8.48	8.40	10.0	85	84	0.9	80-120	20

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
Sample: 105270-0001
MS Run: 02 MAY 94-AB
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cyanide, Total	ND	4.55	4.64	5.00	91	93	2.0	21-145	47

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105326

Test: CLO3-MDL-S Method 300.0 - Chlorate, Ion Chromatography
Matrix: SOLID
QC Run: 04 MAY 94-A Date Analyzed: 04 MAY 94

Analyte	Result	Units	Reporting Limit
Chlorate, Solid	ND	mg/kg	1.0

Test: CN-MDL-S Method 9012 - Cyanide, Total
Matrix: SOLID
QC Run: 02 MAY 94-A Date Analyzed: 02 MAY 94

Analyte	Result	Units	Reporting Limit
Cyanide, Total	ND	mg/kg	0.50

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
GC/MS Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105326-0004-SA	SOLID	PH-AF-S	26 APR 94-N		
105326-0005-SA	SOLID	PH-AF-S	26 APR 94-N		
105326-0007-SA	SOLID	PH-AF-S	26 APR 94-N		

DUPLICATE CONTROL SAMPLE REPORT
GC/MS Preparation
Project: 105326

Category: PH-AF-S Method SW9045 - pH
Matrix: SOLID
QC Lot: 26 APR 94-N Date Analyzed: 26 APR 94
Concentration Units: pH units

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
pH	9.18	9.18	9.18	9.18	100	98-102	0.0	1

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT - MS QC
LUFT

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105326-0001-SA	SOLID	TEPH-S	27 APR 94-C	27 APR 94-C	25 APR 94-FA
105326-0001-SA	SOLID	TVPH-S	02 MAY 94-A2	04 MAY 94-A1	26 APR 94-AA

DUPLICATE CONTROL SAMPLE REPORT
LUFT
Project: 105326

Category: TEPH-S TPH, Extractable
Matrix: SOLID
QC Lot: 27 APR 94-C Date Analyzed: 27 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Diesel Fuel #2	170	137	139	138	81	42-146	1.8	42

Category: TVPH-S Total Petroleum Hydrocarbons, Volatile (Solid)
Matrix: SOLID
QC Lot: 02 MAY 94-A2 Date Analyzed: 02 MAY 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
TPH, Volatile	2.00	2.04	1.51	1.78	89	62-116	30	28

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
[redacted]T
[redacted]ject: 105326

Category: TEPH-S TPH, Extractable
Matrix: SOLID
Sample: 105270-0001
MS Run: 25 APR 94-FA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Diesel Fuel #2	ND	150	169	170	88	99	12	10-178	42

Category: TVPH-S Total Petroleum Hydrocarbons, Volatile (Solid)
Matrix: SOLID
Sample: 105270-0001
MS Run: 26 APR 94-AA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
[redacted]PH, Volatile	ND	1.59	1.58	2.00	80	79	0.9	62-116	28

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
LUFT
Project: 105326

Test: TEPH-MDL-S Method CADHS - Total Extractable Petroleum Hydrocarbons
Matrix: SOLID
QC Run: 27 APR 94-C Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
Kerosene	ND	mg/kg	2.3
Stoddard Solvent	ND	mg/kg	2.3
Jet Fuel	ND	mg/kg	2.3
Diesel Fuel #2	ND	mg/kg	2.3
Unknown hydrocarbon	ND	mg/kg	2.3

Test: TVPH-MDL-S Method CADHS - Total Volatile Petroleum Hydrocarbons
Matrix: SOLID
QC Run: 04 MAY 94-A1 Date Analyzed: 04 MAY 94

Analyte	Result	Units	Reporting Limit
TPH, Volatile	ND	mg/kg	0.91

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105326-0006-SA	SOLID	8240-S	15 APR 94-AC	28 APR 94-AC	28 APR 94-AC

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DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105326

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Lot: 15 APR 94-AC
Concentration Units: ug/kg

Date Analyzed: 15 APR 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	43.3	43.2	43.2	87	47-125	0.23	20
Trichloroethene	50.0	44.0	45.1	44.6	89	78-127	2.5	15
Benzene	50.0	46.9	47.3	47.1	94	79-123	0.85	15
Toluene	50.0	43.9	44.9	44.4	89	80-122	2.3	15
Chlorobenzene	50.0	43.7	43.5	43.6	87	82-129	0.46	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105326

Category: 8240-S Volatile Organics
Matrix: SOLID
Sample: 105352-0002
MS Run: 28 APR 94-AC
Units: ug/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	47.8	48.0	50.0	96	96	0.4	40-144	31
Trichloroethene	ND	52.0	52.0	50.0	104	104	0.0	62-152	22
Benzene	ND	50.4	51.3	50.0	101	103	1.8	65-141	22
Toluene	ND	49.0	49.6	50.0	98	99	1.2	67-143	23
Chlorobenzene	ND	48.6	48.5	50.0	97	97	0.2	69-146	21

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105326

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Run: 28 APR 94-AC Date Analyzed: 28 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	48.3	97	84-119
Toluene-d8	50.0	49.2	98	86-114
Bromofluorobenzene	50.0	49.0	98	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105326

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 28 APR 94-AC Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/kg	10
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/kg	5.0
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Trichlorofluoromethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
Nitromethane	ND	ug/kg	200
trans-1,2-Dichloroethene	ND	ug/kg	5.0
cis-1,2-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
2,2-Dichloropropane	ND	ug/kg	5.0
Bromochloromethane	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,1-Dichloropropene	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
Dibromomethane	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
1,3-Dichloropropane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1-Methylethylbenzene	ND	ug/kg	5.0
Bromobenzene	ND	ug/kg	5.0
1,2,3-Trichloropropane	ND	ug/kg	5.0
2-Chlorotoluene	ND	ug/kg	5.0
n-Propyl benzene	ND	ug/kg	5.0
1,3,5-Trimethylbenzene	ND	ug/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105326

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 28 APR 94-AC Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/kg	5.0
tert-Butylbenzene	ND	ug/kg	5.0
1,2,4-Trimethylbenzene	ND	ug/kg	5.0
sec-Butylbenzene	ND	ug/kg	5.0
Isopropyltoluene	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
n-Butylbenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0
1,2,4-Trichlorobenzene	ND	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/kg	5.0
Hexachlorobutadiene	ND	ug/kg	5.0
Naphthalene	ND	ug/kg	5.0
1,2,3-Trichlorobenzene	ND	ug/kg	5.0

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105326-0002-SA	SOLID	8270-S	12 APR 94-E	27 APR 94-A	27 APR 94-AA
105326-0003-MS	SOLID	8270-S	12 APR 94-E	27 APR 94-A	27 APR 94-AA
105326-0003-SA	SOLID	8270-S	12 APR 94-E	27 APR 94-A	27 APR 94-AA
105326-0003-SD	SOLID	8270-S	12 APR 94-E	27 APR 94-A	27 APR 94-AA
105326-0004-SA	SOLID	8270-S	12 APR 94-E	27 APR 94-A	27 APR 94-AA
105326-0005-SA	SOLID	8270-S	12 APR 94-E	27 APR 94-A	27 APR 94-AA
105326-0007-SA	SOLID	8270-S	12 APR 94-E	27 APR 94-A	27 APR 94-AA

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105326

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 12 APR 94-E Date Analyzed: 12 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.60	5.55	5.58	84	39-106	0.90	31
2-Chlorophenol	6.67	6.13	6.09	6.11	92	44-107	0.65	32
1,4-Dichlorobenzene	3.33	2.87	2.87	2.87	86	40-107	0.0	23
N-Nitroso-di-n-propylamine	3.33	3.14	3.17	3.16	95	31-132	0.95	38
1,2,4-Trichlorobenzene	3.33	2.68	2.80	2.74	82	38-120	4.4	22
4-Chloro-3-methylphenol	6.67	4.98	5.30	5.14	77	40-119	6.2	24
Acenaphthene	3.33	2.70	2.79	2.74	82	30-140	3.3	24
2,4-Dinitrotoluene	3.33	2.87	2.79	2.83	85	30-121	2.8	28
4-Nitrophenol	6.67	8.34	8.30	8.32	125	16-143	0.48	54
Pentachlorophenol	6.67	7.41	7.67	7.54	113	21-152	3.4	43
Pyrene	3.33	2.73	2.81	2.77	83	45-120	2.9	26

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105326

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105326-0003
MS Run: 27 APR 94-AA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	4.44	4.89	6.67	67	73	9.6	34-109	39
2-Chlorophenol	ND	4.31	4.73	6.67	65	71	9.3	42-101	38
1,4-Dichlorobenzene	ND	2.37	2.45	3.33	71	74	3.3	42-102	37
N-Nitroso-di-n-propylamine	ND	2.05	2.28	3.33	62	68	11	28-126	41
1,2,4-Trichlorobenzene	ND	2.36	2.51	3.33	71	75	6.2	46-106	32
4-Chloro-3-methylphenol	ND	4.55	4.84	6.67	68	73	6.2	40-121	23
Acenaphthene	ND	2.37	2.42	3.33	71	73	2.1	48-113	20
2,4-Dinitrotoluene	ND	2.11	2.18	3.33	63	65	3.3	23-129	25
4-Nitrophenol	ND	5.13	5.29	6.67	77	79	3.1	29-159	42
Pentachlorophenol	ND	6.19	6.57	6.67	93	99	6.0	40-146	37
Pyrene	ND	2.10	2.17	3.33	63	65	3.3	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105326

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 27 APR 94-A Date Analyzed: 27 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	6.79	102	55-111
Phenol-d5	6.67	5.17	78	47-110
Nitrobenzene-d5	3.33	2.88	86	57-113
2-Fluorobiphenyl	3.33	2.90	87	51-104
2,4,6-Tribromophenol	6.67	5.57	84	41-131
Terphenyl-d14	3.33	2.90	87	44-130

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105326

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 27 APR 94-A Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
2,4-Dichlorophenol	ND	mg/kg	0.33
1,2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105326

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 27 APR 94-A Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

C LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105326-0001-SA	SOLID	8020-S	22 APR 94-A0	27 APR 94-A0	22 APR 94-AA

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DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC
Project: 105326

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
QC Lot: 22 APR 94-A0 Date Analyzed: 22 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Benzene	10.0	5.56	5.70	5.63	56	46-129	2.5	20
Toluene	10.0	7.22	7.41	7.32	73	53-130	2.6	20
Ethylbenzene	10.0	7.39	7.62	7.50	75	51-132	3.1	20
Xylenes (total)	10.0	7.90	8.12	8.01	80	42-129	2.7	30
1,3-Dichlorobenzene	10.0	7.32	7.61	7.46	75	51-131	3.9	35

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC
Project: 105326

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
Sample: 105270-0001
MS Run: 22 APR 94-AA
Units ug/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Benzene	ND	6.10	5.93	10.0	61	59	2.8	41-128	20
Toluene	ND	7.56	7.65	10.0	76	76	1.2	39-137	20
Ethylbenzene	ND	7.19	7.85	10.0	72	78	8.8	46-127	20
Xylenes (total)	ND	7.64	8.38	10.0	76	84	9.2	38-124	30
1,3-Dichlorobenzene	ND	5.77	7.49	10.0	58	75	26	28-134	35

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Corning Environmental Services

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC
Project: 105326

Category: 8020-S Aromatic Volatile Organics
Matrix: SOLID
QC Run: 27 APR 94-A0 Date Analyzed: 27 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured	Accuracy(%) SCS	Limits
Bromofluorobenzene	20.0	12.3	62	30-137

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC
Project: 105326

Test: 8020-MDL-HLA-S Method 8020 - Aromatic Volatile Organics
Matrix: SOLID
QC Run: 27 APR 94-A0

Date Analyzed: 27 APR 94

Analyte	Result	Units	Reporting Limit
Benzene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0

ND = Not Detected

Holding Time Report | Project: 105326 | Client: Harding Lawson Associates | Today: 10 MAY 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 8270 - Semivolatile Organics							Prep: P-8270-S						Total: 7
1	SVMW-01D 1	105326-0002-SA	8270-HLA-S	8270	24 APR 94	25 APR 94	27 APR 94	29 APR 94	5	4	2		
2	SVMW-01D 3	105326-0003-MS	8270-HLA-S	8270	24 APR 94	25 APR 94	27 APR 94	28 APR 94	4	3	1		
3	SVMW-01D 3	105326-0003-SA	8270-HLA-S	8270	24 APR 94	25 APR 94	27 APR 94	29 APR 94	5	4	2		
4	SVMW-01D 3	105326-0003-SD	8270-HLA-S	8270	24 APR 94	25 APR 94	27 APR 94	28 APR 94	4	3	1		
5	MW-5 35.25	105326-0004-SA	8270-HLA-S	8270	24 APR 94	25 APR 94	27 APR 94	29 APR 94	5	4	2		
6	MW-5 55.00	105326-0005-SA	8270-HLA-S	8270	24 APR 94	25 APR 94	27 APR 94	29 APR 94	5	4	2		
7	MW-5 115.2	105326-0007-SA	8270-HLA-S	8270	25 APR 94	25 APR 94	27 APR 94	29 APR 94	4	4	2		
Test: Method 8240 - Volatile Organics, EPA 8240 Extended List							Prep: P-VOASCR-S						Total: 1
1	MW-5 115.0	105326-0006-SA	8240-HLA-S	8240	25 APR 94	25 APR 94	28 APR 94	28 APR 94	3	3	n/a		
Test: Method 5030 - Prep - Volatile Organics							Prep: n/a						Total: 1
1	MW-5 115.0	105326-0006-SA	P-VOASCR-S	5030	25 APR 94	25 APR 94	28 APR 94	n/a	3	3	n/a		
Test: Method EPA 3550 - Prep - Semivolatile Organics by GC/MS							Prep: n/a						Total: 7
1	SVMW-01D 1	105326-0002-SA	P-8270-S	3550	24 APR 94	25 APR 94	27 APR 94	n/a	3	2	n/a		
2	SVMW-01D 3	105326-0003-MS	P-8270-S	3550	24 APR 94	25 APR 94	27 APR 94	n/a	3	2	n/a		
3	SVMW-01D 3	105326-0003-SA	P-8270-S	3550	24 APR 94	25 APR 94	27 APR 94	n/a	3	2	n/a		
4	SVMW-01D 3	105326-0003-SD	P-8270-S	3550	24 APR 94	25 APR 94	27 APR 94	n/a	3	2	n/a		
5	MW-5 35.25	105326-0004-SA	P-8270-S	3550	24 APR 94	25 APR 94	27 APR 94	n/a	3	2	n/a		
6	MW-5 55.00	105326-0005-SA	P-8270-S	3550	24 APR 94	25 APR 94	27 APR 94	n/a	3	2	n/a		
7	MW-5 115.2	105326-0007-SA	P-8270-S	3550	25 APR 94	25 APR 94	27 APR 94	n/a	2	2	n/a		
Test: Method SW9045 - pH							Prep: P-PH-S						Total: 3
1	MW-5 35.25	105326-0004-SA	PH-AFB-S	SW9045	24 APR 94	25 APR 94	26 APR 94	26 APR 94	2	1	0		
2	MW-5 55.00	105326-0005-SA	PH-AFB-S	SW9045	24 APR 94	25 APR 94	26 APR 94	26 APR 94	2	1	0		
3	MW-5 115.2	105326-0007-SA	PH-AFB-S	SW9045	25 APR 94	25 APR 94	26 APR 94	26 APR 94	1	1	0		
Test: Method 8020 - Aromatic Volatile Organics							Prep: P-8020-S						Total: 1
1	SVMW-11D 3	105326-0001-SA	8020-MDL-HLA-S	8020	23 APR 94	25 APR 94	27 APR 94	27 APR 94	4	2	n/a		
Test: Method 8020 - Prep - Aromatic Volatile Organics							Prep: n/a						Total: 1
1	SVMW-11D 3	105326-0001-SA	P-8020-S	8020	23 APR 94	25 APR 94	27 APR 94	n/a	4	2	n/a		
Test: Method 7020 - Aluminum, Flame AA							Prep: P-M-3050-S						Total: 1
1	MW-5 35.25	105326-0004-SA	AL-FLAA-MDL-S	7020	24 APR 94	25 APR 94	29 APR 94	04 MAY 94	10	9	n/a		
Test: Method 7062 - Arsenic, Hydride AA							Prep: P-M-3050-S						Total: 1
1	MW-5 35.25	105326-0004-SA	AS-HAA-MDL-S	7062	24 APR 94	25 APR 94	29 APR 94	02 MAY 94	8	7	n/a		
Test: Method 7080 - Barium, Flame AA							Prep: P-M-3050-S						Total: 1
1	MW-5 35.25	105326-0004-SA	BA-FLAA-MDL-S	7080	24 APR 94	25 APR 94	29 APR 94	04 MAY 94	10	9	n/a		
Test: Method 7130 - Cadmium, Flame AA							Prep: P-M-3050-S						Total: 1
1	MW-5 35.25	105326-0004-SA	CD-FLAA-MDL-S	7130	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		
Test: Method 7190 - Chromium, Flame AA							Prep: P-M-3050-S						Total: 1
1	MW-5 35.25	105326-0004-SA	CR-FLAA-MDL-S	7190	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		

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Holding Time Report | Project: 105326 | Client: Harding Lawson Associates | Today: 10 MAY 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 7210 - Copper, Flame AA						Prep: P-M-3050-S						Total: 1	
1	MW-5 35.25	105326-0004-SA	CU-FLAA-MDL-S	7210	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		
Test: Method 7471 - Mercury, Cold Vapor AA						Prep: P-HG-CVAA-S						Total: 1	
1	MW-5 35.25	105326-0004-SA	HG-CVAA-MDL-S	7471	24 APR 94	25 APR 94	27 APR 94	27 APR 94	3	2	n/a		
Test: Manganese, Flame AA						Prep: P-M-3050-S						Total: 1	
1	MW-5 35.25	105326-0004-SA	MN-FLAA-MDL-S	7460	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		
Test: Method 7520 - Nickel, Flame AA						Prep: P-M-3050-S						Total: 1	
1	MW-5 35.25	105326-0004-SA	NI-FLAA-MDL-S	7520	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		
Test: Method 7420 - Lead, Flame AA						Prep: P-M-3050-S						Total: 1	
1	MW-5 35.25	105326-0004-SA	PB-FLAA-MDL-S	7420	24 APR 94	25 APR 94	29 APR 94	02 MAY 94	8	7	n/a		
Test: Method 7950 - Zinc, Flame AA						Prep: P-M-3050-S						Total: 1	
1	MW-5 35.25	105326-0004-SA	ZN-FLAA-MDL-S	7950	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		
Test: Prep - Mercury, Cold Vapor AA, Solid						Prep: n/a						Total: 1	
1	MW-5 35.25	105326-0004-SA	P-HG-CVAA-S	7471	24 APR 94	25 APR 94	27 APR 94	n/a	3	2	n/a		
Test: Method 3050 - Prep - Total Metals						Prep: n/a						Total: 1	
1	MW-5 35.25	105326-0004-SA	P-M-3050-S	3050	24 APR 94	25 APR 94	29 APR 94	n/a	5	4	n/a		
Test: Method 300.0 - Chlorate, Ion Chromatography						Prep: P-IC-DILEACH-S						Total: 4	
1	SVMW-01D 1	105326-0002-SA	CLO3-MDL-S	300.0	24 APR 94	25 APR 94	04 MAY 94	04 MAY 94	10	9	n/a		
2	SVMW-01D 3	105326-0003-MS	CLO3-MDL-S	300.0	24 APR 94	25 APR 94	04 MAY 94	04 MAY 94	10	9	n/a		
3	SVMW-01D 3	105326-0003-SA	CLO3-MDL-S	300.0	24 APR 94	25 APR 94	04 MAY 94	04 MAY 94	10	9	n/a		
4	SVMW-01D 3	105326-0003-SD	CLO3-MDL-S	300.0	24 APR 94	25 APR 94	04 MAY 94	04 MAY 94	10	9	n/a		
Test: Method 9012 - Cyanide, Total						Prep: P-CN-S						Total: 1	
1	MW-5 35.25	105326-0004-SA	CN-MDL-S	9012	24 APR 94	25 APR 94	02 MAY 94	02 MAY 94	8	7	n/a		
Test: Method 9012 - Prep - Cyanide, Total						Prep: n/a						Total: 1	
1	MW-5 35.25	105326-0004-SA	P-CN-S	9012	24 APR 94	25 APR 94	02 MAY 94	n/a	8	7	n/a		
Test: Prep - Method 300.0-Mod.- Deionized Water Leach						Prep: n/a						Total: 4	
1	SVMW-01D 1	105326-0002-SA	P-IC-DILEACH-S	300.0-Mod.	24 APR 94	25 APR 94	04 MAY 94	n/a	10	9	n/a		
2	SVMW-01D 3	105326-0003-MS	P-IC-DILEACH-S	300.0-Mod.	24 APR 94	25 APR 94	04 MAY 94	n/a	10	9	n/a		
3	SVMW-01D 3	105326-0003-SA	P-IC-DILEACH-S	300.0-Mod.	24 APR 94	25 APR 94	04 MAY 94	n/a	10	9	n/a		
4	SVMW-01D 3	105326-0003-SD	P-IC-DILEACH-S	300.0-Mod.	24 APR 94	25 APR 94	04 MAY 94	n/a	10	9	n/a		
Test: Deionized Water Leach						Prep: n/a						Total: 3	
1	MW-5 35.25	105326-0004-SA	P-PH-S	METHOD	24 APR 94	25 APR 94	26 APR 94	n/a	2	1	n/a		
2	MW-5 55.00	105326-0005-SA	P-PH-S	METHOD	24 APR 94	25 APR 94	26 APR 94	n/a	2	1	n/a		
3	MW-5 115.2	105326-0007-SA	P-PH-S	METHOD	25 APR 94	25 APR 94	26 APR 94	n/a	1	1	n/a		
Test: Method W-B Titration - Prep - Total Organic Compounds						Prep: n/a						Total: 3	
1	MW-5 35.25	105326-0004-SA	P-TOC-S	W-B Titration	24 APR 94	25 APR 94	29 APR 94	n/a	5	4	n/a		
2	MW-5 55.00	105326-0005-SA	P-TOC-S	W-B Titration	24 APR 94	25 APR 94	29 APR 94	n/a	5	4	n/a		
3	MW-5 115.2	105326-0007-SA	P-TOC-S	W-B Titration	25 APR 94	25 APR 94	29 APR 94	n/a	4	4	n/a		

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Holding Time Report | Project: 105326 | Client: Harding Lawson Associates | Today: 10 MAY 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method CADHS - Prep - Extractable Petroleum Hydrocarbons							Prep: n/a						Total: 1
1	SVMW-11D 3	105326-0001-SA	P-TEPH-S	CADHS	23 APR 94	25 APR 94	27 APR 94	n/a	4	2	n/a		
Test: Method CADHS - Total Extractable Petroleum Hydrocarbons							Prep: P-TEPH-S						Total: 1
1	SVMW-11D 3	105326-0001-SA	TEPH-MDL-S	CADHS	23 APR 94	25 APR 94	27 APR 94	27 APR 94	4	2	0		
Test: Method CADHS - Total Volatile Petroleum Hydrocarbons							Prep: n/a						Total: 1
1	SVMW-11D 3	105326-0001-SA	TVPH-MDL-S	CADHS	23 APR 94	25 APR 94	n/a	04 MAY 94	11	9	n/a		
Test: 2,3,7,8 -Subs. Isomer-Specific C14 -C18 Dioxins and Furans b							Prep: P-DXNFUR-SOX-L						Total: 5
1	SVMW-01D 1	105326-0002-SA	ISODXNFUR-S	8280	24 APR 94	25 APR 94	02 MAY 94	05 MAY 94	11	10	3		
2	METHOD BLA	105326-0003-MB	ISODXNFUR-S	8280	n/a	25 APR 94	02 MAY 94	05 MAY 94	n/a	10	3		
3	SVMW-01D 3	105326-0003-MS	ISODXNFUR-S	8280	24 APR 94	25 APR 94	02 MAY 94	05 MAY 94	11	10	3		
4	SVMW-01D 3	105326-0003-SA	ISODXNFUR-S	8280	24 APR 94	25 APR 94	02 MAY 94	05 MAY 94	11	10	3		
5	SVMW-01D 3	105326-0003-SD	ISODXNFUR-S	8280	24 APR 94	25 APR 94	02 MAY 94	05 MAY 94	11	10	3		
Test: Method Soxhlet - Prep - Low Res. Soxhlet Extraction for Diox							Prep: n/a						Total: 5
1	SVMW-01D 1	105326-0002-SA	P-DXNFUR-SOX-L	Soxhlet	24 APR 94	25 APR 94	02 MAY 94	n/a	8	7	n/a		
2	METHOD BLA	105326-0003-MB	P-DXNFUR-SOX-L	Soxhlet	n/a	25 APR 94	02 MAY 94	n/a	n/a	7	n/a		
3	SVMW-01D 3	105326-0003-MS	P-DXNFUR-SOX-L	Soxhlet	24 APR 94	25 APR 94	02 MAY 94	n/a	8	7	n/a		
4	SVMW-01D 3	105326-0003-SA	P-DXNFUR-SOX-L	Soxhlet	24 APR 94	25 APR 94	02 MAY 94	n/a	8	7	n/a		
5	SVMW-01D 3	105326-0003-SD	P-DXNFUR-SOX-L	Soxhlet	24 APR 94	25 APR 94	02 MAY 94	n/a	8	7	n/a		
Test: Method 9060 - Total Organic Carbon (Direct Combustion Method							Prep: P-TOC-S						Total: 3
1	MW-5 35.25	105326-0004-SA	TOC-9060-S	9060 Modified	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		
2	MW-5 55.00	105326-0005-SA	TOC-9060-S	9060 Modified	24 APR 94	25 APR 94	29 APR 94	03 MAY 94	9	8	n/a		
3	MW-5 115.2	105326-0007-SA	TOC-9060-S	9060 Modified	25 APR 94	25 APR 94	29 APR 94	03 MAY 94	8	8	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
ETA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

Enseco
Corning Environmental Services

Enseco
A Corning Company

May 6, 1994
ENSECO CAL LAB PROJECT NUMBER: CRLGG-105326
PO/CONTRACT: G94091

Sabina Sudoko
Enseco, Inc. - CRL
7440 Lincoln Way
Garden Grove, CA 92641

Dear Ms. Sudoko:

This report contains the analytical results for the five soil samples which were received under chain of custody by Enseco Cal Lab on 28 April 1994. These samples are associated with your Aerojet Project (26522.3.5).

The case narrative is an integral part of this report.

If you have any questions, please call me at (916) 374-4433.

Sincerely,

Robert Hrabak

Robert Hrabak
Project Manager
Low Resolution Dioxin Services

ks

Enseco - CAL
2544 Industrial Boulevard
West Sacramento, California 95691
916/372-1393 Fax: 916/372-7768

TABLE OF CONTENTS

ENSECO CAL LAB PROJECT NUMBER CRLGG-105326

Case Narrative

Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

Client Purchase Order

Polychlorinated Dioxins/Furans Isomer Specific Analysis
Includes Samples: 2, 3
- Method Blank Data Sheet
- Sample Data Sheets
- Matrix Specific QC Summary Data Sheets
- Laboratory Control Sample (DCS)

Raw Data:
- Method Blank
- Sample Data
- Matrix Spike/Spike Duplicate
- Duplicate Control Sample
- Initial Calibration
- Continuing Calibration
- Instrument Logs
- Sample Extraction/Preparation Log Copies

Total Organic Carbon
Includes samples: 4, 5, 7
- Sample Data Sheets
- Laboratory Control Sample (DCS)
- Method Blank Report
- Raw Data

CASE NARRATIVE

ENSECO CAL LAB PROJECT NUMBER CRLGG-105326

There were no anomalies associated with this report.

ENSECO CAL LAB'S QUALITY ASSURANCE PROGRAM

Enseco Cal Lab has implemented an extensive Quality Assurance (QA) program to ensure the production of scientifically sound, legally defensible data of known documental quality. A key element of this program is Enseco's Laboratory Control Sample (LCS) system. Controlling lab operations with LCS (as opposed to matrix spike/matrix spike duplicate samples), allows the lab to differentiate between bias as a result of procedural errors versus bias due to matrix effects. The analyst can then identify and implement the appropriate corrective actions at the bench level, without waiting for extensive senior level review or costly and time-consuming sample re-analyses. The LCS program also provides our client with information to assess batch, and overall laboratory performance.

Laboratory Control Samples - (LCS)

Laboratory Control Samples (LCS) are well-characterized, laboratory generated samples used to monitor the laboratory's day-to-day performance of routine analytical methods. The results of the LCS are compared to well-defined laboratory acceptance criteria to determine whether the laboratory system is "in control". Three types of LCS are routinely analyzed: Duplicate Control Samples (DCS), Single Control Samples (SCS), and method blanks. Each of these LCS are described below.

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand, sodium sulfate or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS.

Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

SAMPLE DESCRIPTION INFORMATION
for
CRL-Garden Grove

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105326-0002-SA	SVMW-01D 15.00	SOLID	24 APR 94	08:05	28 APR 94
105326-0003-SA	SVMW-01D 30.00	SOLID	24 APR 94	11:30	28 APR 94
105326-0003-MS	SVMW-01D 30.00	SOLID	24 APR 94	11:30	28 APR 94
105326-0003-SD	SVMW-01D 30.00	SOLID	24 APR 94	11:30	28 APR 94
105326-0003-MB	METHOD BLANK	SOLID			28 APR 94
105326-0004-SA	MW-5 35.25	SOLID	24 APR 94	16:40	28 APR 94
105326-0005-SA	MW-5 55.00	SOLID	24 APR 94	17:40	28 APR 94
105326-0007-SA	MW-5 115.25	SOLID	25 APR 94	10:45	28 APR 94

Enseco
A Corning Company

CHAIN OF CUSTODY RECORD ENS-1145-A

☐ 2544 Industrial Ave., West Sacramento, CA. 95691-3435 (916) 372-1393
☒ 7440 Lincoln Way, Garden Grove, CA. 92641-1432 (714) 898-6370
☐ 18501 East Gale Ave., City of Industry, CA. 91748-1321 (818) 965-1006
☐ Mobile Labs, 1 (800) ENSECO-8

DATE: 4/27/94
CHAIN OF CUSTODY NUMBER: 21974
LAB NUMBER: CRLGG-105326
Page 1 of 1

CLIENT: ENSECO
PROJECT MANAGER: Sabina Sudoko
ADDRESS: HLA
TELEPHONE NUMBER (AREA CODE):
CITY: STATE: ZIP CODE:
SITE CONTACT: Fax/Billing to Pat Abe
PROJECT NAME: (26522.3.5) AEROJET
TELEPHONE NUMBER (AREA CODE):
~~CONTRACT~~/PURCHASE ORDER/~~QUOTE NO.~~: G94091

ANALYSES

SAMPLE NO./IDENTIFICATION	DATE	TIME	LAB/SAMPLE NUMBER	SAMPLE TYPE LIQ.	AIR	SOLID	NO. OF CONTAINERS	TOC (9060)	Extended Raw Data	8280					Sample Condition/ REMARKS
MW-5 35.25	4/24	1640	105326-0004			✓	1	✓	✓						
↓ 55.00	↓	1740	↓ 0005			✓	1	✓							
↓ 115.25	4/25	1045	↓ 0007			✓	1	✓	✓						
SVMW-~~11~~D 15.00	4/24	0805	0002			✓	1			✓					
↓ 01 30.00	↓	1130	↓ 0003			✓	1			✓					-RUN MS/MSD
Per Sabina Sudoko RWB 5/2/94															Rec'd in good cond. 4/28/94

LIMS IMPORT/EXPORT

DO THE SAMPLE(S) POSE ANY POTENTIAL HAZARD(S)? IF YES, PLEASE EXPLAIN

SAMPLERS (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE	TIME
	[signature]	Federal Express	4/28/94	

RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
Federal Express	4/27/94	1700	[signature]	4-28-94	0855

RECEIVED FOR LABORATORY BY	RECEIVED	DATE	TIME	ACCEPTED	DATE	TIME

METHOD OF SHIPMENT: Federal Express AB #

SPECIAL INSTRUCTIONS: ~~Hardcopy~~ Export By: 5/10/94

RUSH

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the **Enseco** Terms and Conditions, unless a contract or purchase order has been executed and is sited above.

SAMPLE DESPOSITION:
1. Storage time requested: _____ days (Samples will be stored for thirty (30) days without additional charge; thereafter storage charges will be billed at the published rates.)
2. Sample to be returned to client: ☐ Yes ☐ No (**Enseco** will dispose of unreturned samples for a charge of $15.00. Disposal will be by incineration wherever possible; otherwise, as appropriate, according to legal requirements.)

DISTRIBUTION: [illegible] - With Report; CANARY - To ENSECO; PINK - To Courier; GOLDENROD - To Sample Co[illegible]

Polychlorinated Dioxins/Furans Isomer Specific Analysis

Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
LOW RESOLUTION

Client Name: CRL-Garden Grove
Client ID: SVMW-01D 15.00
Lab ID: 105326-0002-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: 02 MAY 94 Analyzed: 05 MAY 94

Sample Amount 10.2 G
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/g	0.041	
2,3,7,8-TCDF	ND	ng/g	0.041	
PeCDFs (total)	ND	ng/g	0.023	
1,2,3,7,8-PeCDF	ND	ng/g	0.023	
2,3,4,7,8-PeCDF	ND	ng/g	0.023	
HxCDFs (total)	ND	ng/g	0.028	
1,2,3,4,7,8-HxCDF	ND	ng/g	0.028	
1,2,3,6,7,8-HxCDF	ND	ng/g	0.028	
2,3,4,6,7,8-HxCDF	ND	ng/g	0.028	
1,2,3,7,8,9-HxCDF	ND	ng/g	0.028	
HpCDFs (total)	ND	ng/g	0.026	
1,2,3,4,6,7,8-HpCDF	ND	ng/g	0.026	
1,2,3,4,7,8,9-HpCDF	ND	ng/g	0.026	
OCDF	ND	ng/g	0.081	
Dioxins				
TCDDs (total)	ND	ng/g	0.021	
2,3,7,8-TCDD	ND	ng/g	0.021	
PeCDDs (total)	ND	ng/g	0.062	
1,2,3,7,8-PeCDD	ND	ng/g	0.062	
HxCDDs (total)	ND	ng/g	0.047	
1,2,3,4,7,8-HxCDD	ND	ng/g	0.047	
1,2,3,6,7,8-HxCDD	ND	ng/g	0.047	
1,2,3,7,8,9-HxCDD	ND	ng/g	0.047	
HpCDDs (total)	ND	ng/g	0.034	
1,2,3,4,6,7,8-HpCDD	ND	ng/g	0.034	
OCDD	ND	ng/g	0.049	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Emily Uebelhoer Approved By: Robert Hrabak

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Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS (CONT.)
LOW RESOLUTION

Client Name: CRL-Garden Grove
Client ID: SVMW-01D 15.00
Lab ID: 105326-0002-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: 02 MAY 94 Analyzed: 05 MAY 94

Sample Amount 10.2 G
Column Type DB-5

	% Recovery
13C-2,3,7,8-TCDF	66
13C-2,3,7,8-TCDD	70
13C-1,2,3,7,8-PeCDD	69
13C-1,2,3,6,7,8-HxCDD	77
13C-1,2,3,4,6,7,8-HpCDD	77
13C-OCDD	71

ND = Not detected
NA = Not applicable

Reported By: Emily Uebelhoer Approved By: Robert Hrabak

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POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
LOW RESOLUTION

Client Name: CRL-Garden Grove
Client ID: METHOD BLANK
Lab ID: 105326-0003-MB
Matrix: SOLID Sampled: NA Received: NA
Authorized: 27 APR 94 Prepared: 02 MAY 94 Analyzed: 05 MAY 94

Sample Amount 10.0 G
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/g	0.030	
2,3,7,8-TCDF	ND	ng/g	0.030	
PeCDFs (total)	ND	ng/g	0.018	
1,2,3,7,8-PeCDF	ND	ng/g	0.018	
2,3,4,7,8-PeCDF	ND	ng/g	0.018	
HxCDFs (total)	ND	ng/g	0.021	
1,2,3,4,7,8-HxCDF	ND	ng/g	0.021	
1,2,3,6,7,8-HxCDF	ND	ng/g	0.021	
2,3,4,6,7,8-HxCDF	ND	ng/g	0.021	
1,2,3,7,8,9-HxCDF	ND	ng/g	0.021	
HpCDFs (total)	ND	ng/g	0.031	
1,2,3,4,6,7,8-HpCDF	ND	ng/g	0.031	
1,2,3,4,7,8,9-HpCDF	ND	ng/g	0.031	
OCDF	ND	ng/g	0.077	
Dioxins				
TCDDs (total)	ND	ng/g	0.012	
2,3,7,8-TCDD	ND	ng/g	0.012	
PeCDDs (total)	ND	ng/g	0.028	
1,2,3,7,8-PeCDD	ND	ng/g	0.028	
HxCDDs (total)	ND	ng/g	0.025	
1,2,3,4,7,8-HxCDD	ND	ng/g	0.025	
1,2,3,6,7,8-HxCDD	ND	ng/g	0.025	
1,2,3,7,8,9-HxCDD	ND	ng/g	0.025	
HpCDDs (total)	ND	ng/g	0.033	
1,2,3,4,6,7,8-HpCDD	ND	ng/g	0.033	
OCDD	ND	ng/g	0.037	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Emily Uebelhoer Approved By: Robert Hrabak

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POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS (CONT.)
LOW RESOLUTION

Client Name: CRL-Garden Grove
Client ID: METHOD BLANK
Lab ID: 105326-0003-MB
Matrix: SOLID
Authorized: 27 APR 94

Sampled: NA
Prepared: 02 MAY 94

Received: NA
Analyzed: 05 MAY 94

Sample Amount 10.0 G
Column Type DB-5

	% Recovery
13C-2,3,7,8-TCDF	73
13C-2,3,7,8-TCDD	71
13C-1,2,3,7,8-PeCDD	67
13C-1,2,3,6,7,8-HxCDD	67
13C-1,2,3,4,6,7,8-HpCDD	60
13C-OCDD	54

ND = Not detected
NA = Not applicable

Reported By: Emily Uebelhoer

Approved By: Robert Hrabak

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POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
LOW RESOLUTION

Client Name: CRL-Garden Grove
Client ID: SVMW-01D 30.00
Lab ID: 105326-0003-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: 02 MAY 94 Analyzed: 05 MAY 94

Sample Amount 10.1 G
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/g	0.024	
2,3,7,8-TCDF	ND	ng/g	0.024	
PeCDFs (total)	ND	ng/g	0.022	
1,2,3,7,8-PeCDF	ND	ng/g	0.022	
2,3,4,7,8-PeCDF	ND	ng/g	0.022	
HxCDFs (total)	ND	ng/g	0.027	
1,2,3,4,7,8-HxCDF	ND	ng/g	0.027	
1,2,3,6,7,8-HxCDF	ND	ng/g	0.027	
2,3,4,6,7,8-HxCDF	ND	ng/g	0.027	
1,2,3,7,8,9-HxCDF	ND	ng/g	0.027	
HpCDFs (total)	ND	ng/g	0.035	
1,2,3,4,6,7,8-HpCDF	ND	ng/g	0.035	
1,2,3,4,7,8,9-HpCDF	ND	ng/g	0.035	
OCDF	ND	ng/g	0.072	
Dioxins				
TCDDs (total)	ND	ng/g	0.015	
2,3,7,8-TCDD	ND	ng/g	0.015	
PeCDDs (total)	ND	ng/g	0.13	
1,2,3,7,8-PeCDD	ND	ng/g	0.13	
HxCDDs (total)	ND	ng/g	0.046	
1,2,3,4,7,8-HxCDD	ND	ng/g	0.046	
1,2,3,6,7,8-HxCDD	ND	ng/g	0.046	
1,2,3,7,8,9-HxCDD	ND	ng/g	0.046	
HpCDDs (total)	ND	ng/g	0.046	
1,2,3,4,6,7,8-HpCDD	ND	ng/g	0.046	
OCDD	ND	ng/g	0.038	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Emily Uebelhoer Approved By: Robert Hrabak

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POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS (CONT.)
LOW RESOLUTION

Client Name: CRL-Garden Grove
Client ID: SVMW-01D 30.00
Lab ID: 105326-0003-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: 02 MAY 94 Analyzed: 05 MAY 94

Sample Amount 10.1 G
Column Type DB-5

	% Recovery
13C-2,3,7,8-TCDF	75
13C-2,3,7,8-TCDD	79
13C-1,2,3,7,8-PeCDD	76
13C-1,2,3,6,7,8-HxCDD	77
13C-1,2,3,4,6,7,8-HpCDD	72
13C-OCDD	72

ND = Not detected
NA = Not applicable

Reported By: Emily Uebelhoer Approved By: Robert Hrabak

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POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
QUALITY CONTROL SUMMARY

Client Name: CRL-Garden Grove
Client ID: SVMW-01D 30.00
Lab ID: 105326-0003-MS
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: 02 MAY 94 Analyzed: 05 MAY 94

Sample Amount: 10.1 G

Parameters	ng Found in Sample	ng Spiked	ng Found in MS Sample	% Recovery
Furans				
2,3,7,8-TCDF	ND	10	12	120
2,3,4,7,8-PeCDF	ND	10	9.9	99
1,2,3,4,7,8-HxCDF	ND	10	8.8	88
1,2,3,4,6,7,8-HpCDF	ND	10	9.3	93
OCDF	ND	50	47	94
Dioxins				
2,3,7,8-TCDD	ND	10	10	100
1,2,3,7,8-PeCDD	ND	10	9.4	94
1,2,3,4,7,8-HxCDD	ND	10	9.1	91
1,2,3,4,6,7,8-HpCDD	ND	10	9.8	98
OCDD	ND	50	43	86

	% Recovery
13C-2,3,7,8-TCDF	76
13C-2,3,7,8-TCDD	77
13C-1,2,3,7,8-PeCDD	70
13C-1,2,3,6,7,8-HxCDD	76
13C-1,2,3,4,6,7,8-HpCDD	70
13C-OCDD	69

NC=Not Calculated
ND=Not Detected
NA=Not Applicable

Reported by: Emily Uebelhoer Approved by: Robert Hrabak

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Version 070187

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
QUALITY CONTROL SUMMARY

Client Name: CRL-Garden Grove
Client ID: SVMW-01D 30.00
Lab ID: 105326-0003-SD
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: 02 MAY 94 Analyzed: 05 MAY 94

Sample Amount: 10.1 G

Parameters	ng Found in Sample	ng Spiked	ng Found in SD Sample	% Recovery
Furans				
2,3,7,8-TCDF	ND	10	11	110
2,3,4,7,8-PeCDF	ND	10	10	100
1,2,3,4,7,8-HxCDF	ND	10	8.8	88
1,2,3,4,6,7,8-HpCDF	ND	10	9.2	92
OCDF	ND	50	48	96
Dioxins				
2,3,7,8-TCDD	ND	10	10	100
1,2,3,7,8-PeCDD	ND	10	9.2	92
1,2,3,4,7,8-HxCDD	ND	10	9.1	91
1,2,3,4,6,7,8-HpCDD	ND	10	9.5	95
OCDD	ND	50	44	88

	% Recovery
13C-2,3,7,8-TCDF	71
13C-2,3,7,8-TCDD	75
13C-1,2,3,7,8-PeCDD	66
13C-1,2,3,6,7,8-HxCDD	69
13C-1,2,3,4,6,7,8-HpCDD	66
13C-OCDD	64

NC=Not Calculated
ND=Not Detected
NA=Not Applicable

Reported by: Emily Uebelhoer Approved by: Robert Hrabak

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QC LOT ASSIGNMENT REPORT
Special Services - Low Resolution Mass Spectrometry

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
105326-0002-SA	SOLID	DXNFUR-S	25 APR 94-A	-
105326-0003-SA	SOLID	DXNFUR-S	25 APR 94-A	-
105326-0003-MS	SOLID	DXNFUR-S	25 APR 94-A	-
105326-0003-SD	SOLID	DXNFUR-S	25 APR 94-A	-
105326-0003-MB	SOLID	DXNFUR-S	25 APR 94-A	-

DUPLICATE CONTROL SAMPLE REPORT
Special Services - Low Resolution Mass Spectrometry

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS Limit
Category: DXNFUR-S							
Matrix: SOLID							
QC Lot: 25 APR 94-A							
Concentration Units: ng/sample							
2,3,7,8-TCDF	10	11.0	11.0	11.0	110	72-118	0.0 13.0
2,3,4,7,8-PeCDF	10	9.60	9.40	9.50	95	54-129	2.1 19.0
1,2,3,4,7,8-HxCDF	10	9.30	9.00	9.15	92	50-150	3.3 36.0
1,2,3,4,6,7,8-HpCDF	10	9.70	9.20	9.45	95	50-150	5.3 50.0
OCDF	50	49.0	47.0	48.0	96	50-150	4.2 27.0
2,3,7,8-TCDD	10	11.0	10.0	10.5	105	55-136	9.5 15.0
1,2,3,7,8-PeCDD	10	9.80	11.0	10.4	104	67-139	12 18.0
1,2,3,4,7,8-HxCDD	10	8.80	8.60	8.70	87	57-132	2.3 14.0
1,2,3,4,6,7,8-HpCDD	10	9.90	9.80	9.85	99	50-138	1.0 12.0
OCDD	50	49.0	45.0	47.0	94	50-149	8.5 19.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Total Organic Carbon

Enseco
Corning Environmental Services

GENERAL INORGANICS

(Soil/Solid)

Client Name: CRL-Garden Grove
Client ID: MW-5 35.25
Lab ID: 105326-0004-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Organic Carbon, Total	691	mg/kg	100	9060 Modified	29 APR 94	03 MAY 94

ND = Not detected
NA = Not applicable

Reported By: Jennifer Kimzey Approved By: John Disney

The cover letter is an integral part of this report.
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GENERAL INORGANICS

(Soil/Solid)

Client Name: CRL-Garden Grove
Client ID: MW-5 55.00
Lab ID: 105326-0005-SA
Matrix: SOLID Sampled: 24 APR 94 Received: 28 APR 94
Authorized: 27 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Organic Carbon, Total	334	mg/kg	100	9060 Modified	29 APR 94	03 MAY 94

ND = Not detected
NA = Not applicable

Reported By: Jennifer Kimzey Approved By: John Disney

The cover letter is an integral part of this report.
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Enseco
Corning Environmental Services

GENERAL INORGANICS

(Soil/Solid)

Client Name: CRL-Garden Grove
Client ID: MW-5 115.25
Lab ID: 105326-0007-SA
Matrix: SOLID
Authorized: 27 APR 94

Sampled: 25 APR 94
Prepared: See Below

Received: 28 APR 94
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Organic Carbon, Total	345	mg/kg	100	9060 Modified	29 APR 94	03 MAY 94

ND = Not detected
NA = Not applicable

Reported By: Jennifer Kimzey

Approved By: John Disney

The cover letter is an integral part of this report.
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QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
105326-0004-SA	SOIL	TOC-9060-S	29 APR 94-33A	29 APR 94-33A
105326-0005-SA	SOIL	TOC-9060-S	29 APR 94-33A	29 APR 94-33A
105326-0007-SA	SOIL	TOC-9060-S	29 APR 94-33A	29 APR 94-33A

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: TOC-9060-S								
Matrix: SOIL								
QC Lot: 29 APR 94-33A								
Concentration Units: mg/kg								
Organic Carbon, Total	4000	3250	3470	3360	84	75-125	6.5	20.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: TOC-9060-S Matrix: SOLID QC Lot: 29 APR 94-33A QC Run: 29 APR 94-33A			
Organic Carbon, Total	ND	mg/kg	100
Test: TOC-9060-S Matrix: SOLID QC Lot: 29 APR 94-33A QC Run: 29 APR 94-33A			
Organic Carbon, Total	ND	mg/kg	100

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

May 19, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105522-0001/0001
DATE SAMPLED: 27-APR-1994
DATE SAMPLE REC'D: 27-APR-1994
DATE SAMPLE RELOGGED: 16-MAY-1994

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

REVIEWED

APPROVED

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105522

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105522

The samplas was received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

There were no anomalies associated with this report.

HLA
...ing Lawson Associates
...ton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

10535 CHAIN OF CUSTODY FORM

Lab: Enseco ...

Samplers: KAREN WITHAARD

Job Number: 26522.8.B

Name/Location: AEROJET

Project Manager: TOM LINDROS

Recorder: Karen Withaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 9060	EPA 9045	NEED RAW DATA PACK	HOLD	RUN NS/MSD
50			1		1			MW-5		195.0	94	04	27	0810	2½"Ø x 3" stainless steel								X	X			
50			1		1			MW-5		195.25	94	04	27	0810				X	X								X
50			1		1			MW-5		255.0	94	04	27	1145												X	
50			1		1			MW-5		255.25	94	04	27	1145									X	X	X		
50			1		1			MW-5		255.50	94	04	27	1145				X	X						X		

ANALYSIS REQUESTED

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Analyze per Aerojet contract.
						-Report Hard copies to Tom Harder
						-Questions call Tom Lindros at 8051 494-7725.
						-Tom Lindros will Fax Laboratory Requests.

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Withaard 4/27/94 1850	[signature]	4/27/94 1850
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
[signature]	4/27/94 1943	[signature]	4/27/94 1943

METHOD OF SHIPMENT: Delivered to Lab by HLA

Enseco
Corning Environmental Services

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105522-0001-SA	MW-5 255.00	SOIL	27 APR 94	11:45	27 APR 94

QC LOT ASSIGNMENT REPORT - MS QC
GC/MS Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105522-0001-SA	SOLID	MOISTURE-S			16 MAY 94-NB

MATRIX DUPLICATE QC REPORT
GC/MS Preparation
Project: 105522

Category: MOISTURE-S Percent Moisture
Matrix: SOLID
Sample: 105522-0001
MS Run: 16 MAY 94-NB
Units: %

Analyte	Concentration Sample	Duplicate	%RPD SA-DU	Acceptance Limit
Percent Water	6.70	8.20	20	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 255.00
Lab ID: 105522-0001-SA
Matrix: SOIL Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 17 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Percent Water	6.7	%	0.10	ASTM D2216	NA	16 MAY 94

ND = Not detected
NA = Not applicable

Reported By: Cornelia Rocas Approved By: Jesse Bacwaden

Enseco
Corning Environmental Services

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

May 19, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105522-0001/0001
DATE SAMPLED: 27-APR-1994
DATE SAMPLE REC'D: 27-APR-1994
DATE SAMPLE RELOGGED: 16-MAY-1994

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

REVIEWED

APPROVED

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105522

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105522

The samplas was received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

There were no anomalies associated with this report.

Harding Lawson Associates
Stratton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

10535 CHAIN OF CUSTODY FORM

Lab: Enseco CRL

Samplers: KAREN WITHAARD

Job Number: 26522.8.B

Name/Location: AEROJET

Project Manager: TOM LINDROS

Recorder: Karen Withaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 9060	EPA 9045	NEED RAW DATA PACK	HOLD	RUN MS/MSD
50			1		1			MW-5		195.0	94	04	27	0810	2½"Ø x 3" stainless steel								X	X			
50			1		1			MW-5		195.25	94	04	27	0810				X	X								X
50			1		1			MW-5		255.0	94	04	27	1145												X	
50			1		1			MW-5		253.25	94	04	27	1145									X	X	X		
50			1		1			MW-5		255.50	94	04	27	1145				X	X						X		

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Analyze per Aerojet contract.
						-Report Hard copies to Tom Harder
						-Questions call Tom Lindros at 805) 494-7725.
						-Tom Lindros will Fax Laboratory Requests.

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Withaard 4/27/94 1850	[signature]	4/27/94 1850
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
[signature]	4/27/94 1943	[signature]	4/27/94 1943

METHOD OF SHIPMENT: Delivered to Lab by HLA

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105522-0001-SA	MW-5 255.00	SOIL	27 APR 94	11:45	27 APR 94

QC LOT ASSIGNMENT REPORT - MS QC
GC/MS Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105522-0001-SA	SOLID	MOISTURE-S			16 MAY 94-NB

MATRIX DUPLICATE QC REPORT
GC/MS Preparation
Project: 105522

Category: MOISTURE-S Percent Moisture
Matrix: SOLID
Sample: 105522-0001
MS Run: 16 MAY 94-NB
Units: %

Analyte	Concentration Sample	Duplicate	%RPD SA-DU	Acceptance Limit
Percent Water	6.70	8.20	20	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 255.00
Lab ID: 105522-0001-SA
Matrix: SOIL Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 17 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Percent Water	6.7	%	0.10	ASTM D2216	NA	16 MAY 94

ND = Not detected
NA = Not applicable

Reported By: Cornelia Rocas Approved By: Jesse Bacwaden

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

May 11, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105352-0001/0005
DATE SAMPLED: 27-APR-1994
DATE SAMPLE REC'D: 27-APR-1994
PROJECT: (26522.8.3) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

Phillip J. Toy
REVIEWED

Sabina R. Sueldo
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105352

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105352

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

The analysis for Method 9060 was performed at Enseco-CAL Laboratory.

Please note that Tom Lindros was notified on April 28, 1994 @ 11:00AM that the pH analysis had expired in transit.

105352

[illegible]ding Lawson Associates
[illegible]utton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF [illegible]STODY FORM

Lab: Enseco [illegible]RL

Samplers: KAREN WITHAARD

Job Number: 26522.8.B

Name/Location: AEROJET

Project Manager: Tom LINDROS

Recorder: Karen Withaard (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 9060	EPA 9045	NEED RAW DATA PACK	HOLD	RUN MS/MSD	
50			1		1			mw	-5	195.0	94	04	27	0810	2½"Ø x 3" stainless steel								X	X				
50			1		1			mw	-5	195.25	94	04	27	0810				X	X								X	
50			1		1			mw	-5	255.0	94	04	27	1145												X		aspe
50			1		1			mw	-5	255.25	94	04	27	1145									X	X	X			fax
50			1		1			mw	-5	255.50	94	04	27	1145				X	X						X			[illegible]

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Analyze per Aerojet contract.
						-Report Hard copies to Tom Harden
						-Questions call Tom Lindros at 805) 494-7725.
						-Tom Lindros will Fax Laboratory Requests.

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Karen Withaard 4/27/94 1850	[signature]	4/27/94 1850
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME

DISPATCHED BY: (Signature) [signature] DATE/TIME 4/27/94 1943

RECEIVED FOR LAB BY: (Signature) [signature] DATE/TIME 4/27/94 1943

METHOD OF SHIPMENT Delivered to Lab by HLA

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105352-0001-SA	MW-5 195.00	SOLID	27 APR 94	08:10	27 APR 94
105352-0002-SA	MW-5 195.25	SOLID	27 APR 94	08:10	27 APR 94
105352-0002-MS	MW-5 195.25	SOLID	27 APR 94	08:10	27 APR 94
105352-0002-SD	MW-5 195.25	SOLID	27 APR 94	08:10	27 APR 94
105352-0003-SA	MW-5 255.25	SOLID	27 APR 94	11:45	27 APR 94
105352-0004-SA	MW-5 255.50	SOLID	27 APR 94	11:45	27 APR 94
105352-0005-SA	MW-5 255.00	SOLID	27 APR 94	11:45	27 APR 94

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 195.00
Lab ID: 105352-0001-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
pH	8.7	pH units	NA	SW9045	28 APR 94	28 APR 94

ND = Not detected
NA = Not applicable

Reported By: Cornelia Apahidean Approved By: Jesse Bacwaden

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5 255.25
Lab ID: 105352-0003-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
pH	8.4	pH units	NA	SW9045	28 APR 94	28 APR 94

ND = Not detected
NA = Not applicable

Reported By: Cornelia Apahidean Approved By: Jesse Bacwaden

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5 195.25
LAB ID: 105352-0002-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.2	ug/kg	10
Chloromethane	ND		0.79	ug/kg	10
Bromomethane	ND		0.73	ug/kg	10
Vinyl chloride	ND		1.5	ug/kg	10
Chloroethane	ND		1.4	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/kg	5.0
Methylene chloride	ND		1.1	ug/kg	5.0
Acetone	TR		7.1	ug/kg	10
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		2.5	ug/kg	5.0
Nitromethane	ND		16	ug/kg	200
trans-1,2-Dichloroethene	ND		0.99	ug/kg	5.0
cis-1,2-Dichloroethene	ND		0.93	ug/kg	5.0
1,1-Dichloroethane	ND		0.67	ug/kg	5.0
2,2-Dichloropropane	ND		0.85	ug/kg	5.0
Bromochloromethane	ND		0.74	ug/kg	5.0
Chloroform	ND		0.89	ug/kg	5.0
1,1-Dichloropropene	ND		0.62	ug/kg	5.0
1,2-Dichloroethane	ND		0.66	ug/kg	5.0
Dibromomethane	ND		0.70	ug/kg	5.0
1,1,1-Trichloroethane	ND		1.6	ug/kg	5.0
Carbon tetrachloride	ND		0.37	ug/kg	5.0
Bromodichloromethane	ND		0.34	ug/kg	5.0
1,2-Dichloropropane	ND		0.51	ug/kg	5.0
1,3-Dichloropropane	ND		0.54	ug/kg	5.0
Trichloroethene	ND		0.52	ug/kg	5.0
Dibromochloromethane	ND		0.45	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.72	ug/kg	5.0
Benzene	ND		0.38	ug/kg	5.0
Bromoform	ND		0.53	ug/kg	5.0
Tetrachloroethene	ND		0.51	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND		0.74	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND		0.58	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		0.65	ug/kg	5.0
Toluene	ND		0.40	ug/kg	5.0
Chlorobenzene	ND		0.36	ug/kg	5.0
Ethylbenzene	ND		0.59	ug/kg	5.0
Styrene	ND		0.22	ug/kg	5.0
Xylenes (total)	ND		0.95	ug/kg	5.0
1-Methylethylbenzene	ND		0.43	ug/kg	5.0
Bromobenzene	ND		0.45	ug/kg	5.0
1,2,3-Trichloropropane	ND		2.8	ug/kg	5.0
2-Chlorotoluene	ND		1.0	ug/kg	5.0
n-Propyl benzene	ND		0.52	ug/kg	5.0
1,3,5-Trimethylbenzene	ND		0.61	ug/kg	5.0
4-Chlorotoluene	ND		1.0	ug/kg	5.0
tert-Butylbenzene	ND		0.55	ug/kg	5.0

ND = Not Detected

Enseco (cont.)
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5 195.25
LAB ID: 105352-0002-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		0.53	ug/kg	5.0
sec-Butylbenzene	ND		0.61	ug/kg	5.0
Isopropyltoluene	ND		0.38	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.51	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.35	ug/kg	5.0
n-Butylbenzene	ND		0.77	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.50	ug/kg	5.0
1,2,4-Trichlorobenzene	ND		0.72	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		1.5	ug/kg	5.0
Hexachlorobutadiene	ND		0.97	ug/kg	5.0
Naphthalene	ND		0.88	ug/kg	5.0
1,2,3-Trichlorobenzene	ND		0.56	ug/kg	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	103	%
Toluene-d8	100	%
Bromofluorobenzene	95	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5 255.50
LAB ID: 105352-0004-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.2	ug/kg	10
Chloromethane	ND		0.79	ug/kg	10
Bromomethane	ND		0.73	ug/kg	10
Vinyl chloride	ND		1.5	ug/kg	10
Chloroethane	ND		1.4	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/kg	5.0
Methylene chloride	ND		1.1	ug/kg	5.0
Acetone	ND		7.1	ug/kg	10
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		2.5	ug/kg	5.0
Nitromethane	ND		16	ug/kg	200
trans-1,2-Dichloroethene	ND		0.99	ug/kg	5.0
cis-1,2-Dichloroethene	ND		0.93	ug/kg	5.0
1,1-Dichloroethane	ND		0.67	ug/kg	5.0
2,2-Dichloropropane	ND		0.85	ug/kg	5.0
Bromochloromethane	ND		0.74	ug/kg	5.0
Chloroform	ND		0.89	ug/kg	5.0
1,1-Dichloropropene	ND		0.62	ug/kg	5.0
1,2-Dichloroethane	ND		0.66	ug/kg	5.0
Dibromomethane	ND		0.70	ug/kg	5.0
1,1,1-Trichloroethane	ND		1.6	ug/kg	5.0
Carbon tetrachloride	ND		0.37	ug/kg	5.0
Bromodichloromethane	ND		0.34	ug/kg	5.0
1,2-Dichloropropane	ND		0.51	ug/kg	5.0
1,3-Dichloropropane	ND		0.54	ug/kg	5.0
Trichloroethene	ND		0.52	ug/kg	5.0
Dibromochloromethane	ND		0.45	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.72	ug/kg	5.0
Benzene	ND		0.38	ug/kg	5.0
Bromoform	ND		0.53	ug/kg	5.0
Tetrachloroethene	ND		0.51	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND		0.74	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND		0.58	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		0.65	ug/kg	5.0
Toluene	ND		0.40	ug/kg	5.0
Chlorobenzene	ND		0.36	ug/kg	5.0
Ethylbenzene	ND		0.59	ug/kg	5.0
Styrene	ND		0.22	ug/kg	5.0
Xylenes (total)	ND		0.95	ug/kg	5.0
1-Methylethylbenzene	ND		0.43	ug/kg	5.0
Bromobenzene	ND		0.45	ug/kg	5.0
1,2,3-Trichloropropane	ND		2.8	ug/kg	5.0
2-Chlorotoluene	ND		1.0	ug/kg	5.0
n-Propyl benzene	ND		0.52	ug/kg	5.0
1,3,5-Trimethylbenzene	ND		0.61	ug/kg	5.0
4-Chlorotoluene	ND		1.0	ug/kg	5.0
tert-Butylbenzene	ND		0.55	ug/kg	5.0

ND = Not Detected

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Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5 255.50
LAB ID: 105352-0004-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		0.53	ug/kg	5.0
sec-Butylbenzene	ND		0.61	ug/kg	5.0
Isopropyltoluene	ND		0.38	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.51	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.35	ug/kg	5.0
n-Butylbenzene	ND		0.77	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.50	ug/kg	5.0
1,2,4-Trichlorobenzene	ND		0.72	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		1.5	ug/kg	5.0
Hexachlorobutadiene	ND		0.97	ug/kg	5.0
Naphthalene	ND		0.88	ug/kg	5.0
1,2,3-Trichlorobenzene	ND		0.56	ug/kg	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	104	%
Toluene-d8	103	%
Bromofluorobenzene	99	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 195.25
LAB ID: 105352-0002-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 195.25
LAB ID: 105352-0002-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	TR		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	65	%
2-Fluorobiphenyl	64	%
Terphenyl-d14	59	%
Phenol-d5	56	%
2-Fluorophenol	59	%
2,4,6-Tribromophenol	54	%

ND = Not Detected

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Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 255.50
LAB ID: 105352-0004-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5 255.50
LAB ID: 105352-0004-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: 28 APR 94 Analyzed: 28 APR 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	64	%
2-Fluorobiphenyl	63	%
Terphenyl-d14	56	%
Phenol-d5	56	%
2-Fluorophenol	60	%
2,4,6-Tribromophenol	58	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
GC/MS Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105352-0001-SA	SOLID	PH-AF-S	28 APR 94-M		
105352-0003-SA	SOLID	PH-AF-S	28 APR 94-M		

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DUPLICATE CONTROL SAMPLE REPORT
GC/MS Preparation
Project: 105352

Category: PH-AF-S Method SW9045 - pH
Matrix: SOLID
QC Lot: 28 APR 94-M Date Analyzed: 28 APR 94
Concentration Units: pH units

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
pH	9.18	9.16	9.16	9.16	100	98-102	0.0	1

Calculations are performed before rounding to avoid round-off errors in calculated results.

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105352-0002-MS	SOLID	8240-S	15 APR 94-AC	28 APR 94-AC	28 APR 94-AC
105352-0002-SA	SOLID	8240-S	15 APR 94-AC	28 APR 94-AC	28 APR 94-AC
105352-0002-SD	SOLID	8240-S	15 APR 94-AC	28 APR 94-AC	28 APR 94-AC
105352-0004-SA	SOLID	8240-S	15 APR 94-AC	28 APR 94-AC	28 APR 94-AC

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105352

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Lot: 15 APR 94-AC
Date Analyzed: 15 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	43.3	43.2	43.2	87	47-125	0.23	20
Trichloroethene	50.0	44.0	45.1	44.6	89	78-127	2.5	15
Benzene	50.0	46.9	47.3	47.1	94	79-123	0.85	15
Toluene	50.0	43.9	44.9	44.4	89	80-122	2.3	15
Chlorobenzene	50.0	43.7	43.5	43.6	87	82-129	0.46	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105352

Category: 8240-S Volatile Organics
Matrix: SOLID
Sample: 105352-0002
MS Run: 28 APR 94-AC
Units: ug/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	47.8	48.0	50.0	96	96	0.4	40-144	31
Trichloroethene	ND	52.0	52.0	50.0	104	104	0.0	62-152	22
Benzene	ND	50.4	51.3	50.0	101	103	1.8	65-141	22
Toluene	ND	49.0	49.6	50.0	98	99	1.2	67-143	23
Chlorobenzene	ND	48.6	48.5	50.0	97	97	0.2	69-146	21

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105352

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Run: 28 APR 94-AC Date Analyzed: 28 APR 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	48.3	97	84-119
Toluene-d8	50.0	49.2	98	86-114
Bromofluorobenzene	50.0	49.0	98	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105352

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 28 APR 94-AC Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/kg	10
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/kg	5.0
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Trichlorofluoromethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
Nitromethane	ND	ug/kg	200
trans-1,2-Dichloroethene	ND	ug/kg	5.0
cis-1,2-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
2,2-Dichloropropane	ND	ug/kg	5.0
Bromochloromethane	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,1-Dichloropropene	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
Dibromomethane	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
1,3-Dichloropropane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1-Methylethylbenzene	ND	ug/kg	5.0
Bromobenzene	ND	ug/kg	5.0
1,2,3-Trichloropropane	ND	ug/kg	5.0
2-Chlorotoluene	ND	ug/kg	5.0
n-Propyl benzene	ND	ug/kg	5.0
1,3,5-Trimethylbenzene	ND	ug/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105352

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 28 APR 94-AC Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/kg	5.0
tert-Butylbenzene	ND	ug/kg	5.0
1,2,4-Trimethylbenzene	ND	ug/kg	5.0
sec-Butylbenzene	ND	ug/kg	5.0
Isopropyltoluene	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
n-Butylbenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0
1,2,4-Trichlorobenzene	ND	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/kg	5.0
Hexachlorobutadiene	ND	ug/kg	5.0
Naphthalene	ND	ug/kg	5.0
1,2,3-Trichlorobenzene	ND	ug/kg	5.0

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105352-0002-MS	SOLID	8270-S	12 APR 94-E	28 APR 94-B	28 APR 94-BA
105352-0002-SA	SOLID	8270-S	12 APR 94-E	28 APR 94-B	28 APR 94-BA
105352-0002-SD	SOLID	8270-S	12 APR 94-E	28 APR 94-B	28 APR 94-BA
105352-0004-SA	SOLID	8270-S	12 APR 94-E	28 APR 94-B	28 APR 94-BA

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105352

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 12 APR 94-E Date Analyzed: 12 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.60	5.55	5.58	84	39-106	0.90	31
2-Chlorophenol	6.67	6.13	6.09	6.11	92	44-107	0.65	32
1,4-Dichlorobenzene	3.33	2.87	2.87	2.87	86	40-107	0.0	23
N-Nitroso-di-n-propylamine	3.33	3.14	3.17	3.16	95	31-132	0.95	38
1,2,4-Trichlorobenzene	3.33	2.68	2.80	2.74	82	38-120	4.4	22
4-Chloro-3-methylphenol	6.67	4.98	5.30	5.14	77	40-119	6.2	24
Acenaphthene	3.33	2.70	2.79	2.74	82	30-140	3.3	24
2,4-Dinitrotoluene	3.33	2.87	2.79	2.83	85	30-121	2.8	28
4-Nitrophenol	6.67	8.34	8.30	8.32	125	16-143	0.48	54
Pentachlorophenol	6.67	7.41	7.67	7.54	113	21-152	3.4	43
Pyrene	3.33	2.73	2.81	2.77	83	45-120	2.9	26

Calculations are performed before rounding to avoid round-off errors in calculated resul

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105352

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105352-0002
MS Run: 28 APR 94-BA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	4.20	4.32	6.67	63	65	2.8	34-109	39
2-Chlorophenol	ND	4.07	4.24	6.67	61	64	4.1	42-101	38
1,4-Dichlorobenzene	ND	2.12	2.40	3.33	64	72	12	42-102	37
N-Nitroso-di-n-propylamine	ND	2.08	2.18	3.33	62	65	4.7	28-126	41
1,2,4-Trichlorobenzene	ND	2.18	2.39	3.33	65	72	9.2	46-106	32
4-Chloro-3-methylphenol	ND	4.24	4.65	6.67	64	70	9.2	40-121	23
Acenaphthene	ND	2.24	2.38	3.33	67	71	6.1	48-113	20
2,4-Dinitrotoluene	ND	1.82	1.95	3.33	55	59	6.9	23-129	25
4-Nitrophenol	ND	4.42	4.83	6.67	66	72	8.9	29-159	42
Pentachlorophenol	ND	5.92	6.01	6.67	89	90	1.5	40-146	37
Pyrene	ND	2.06	2.23	3.33	62	67	7.9	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105352

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 28 APR 94-B Date Analyzed: 28 APR 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	4.08	61	55-111
Phenol-d5	6.67	3.80	57	47-110
Nitrobenzene-d5	3.33	2.08	62	57-113
2-Fluorobiphenyl	3.33	2.23	67	51-104
2,4,6-Tribromophenol	6.67	3.88	58	41-131
Terphenyl-d14	3.33	1.82	55	44-130

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105352

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 28 APR 94-B Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
[illegible],4-Dichlorophenol	ND	mg/kg	0.33
[illegible],2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105352

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 28 APR 94-B Date Analyzed: 28 APR 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

Enseco
A Corning Company

May 5, 1994
ENSECO CRL PROJECT NUMBER: 105352
PO/CONTRACT: G94099

Sabina Sudoko
Enseco, Inc. - CRL
7440 Lincoln Way
Garden Grove, CA 92641

Dear Ms. Sudoko:

This report contains the analytical results for the five soil samples received under chain of custody by Enseco Cal Lab from Enseco CRL, Garden Grove on 29 April 1994. These samples are associated with your Harding Lawson Aerojet Project, Number 26522.8.3.

The case narrative is an integral part of this report.

If you have any questions, please call me at (916) 373-5600.

Sincerely,

Calvin K. Tanaka

Calvin K. Tanaka
Project Manager

svf

Enseco - CAL
2544 Industrial Boulevard
West Sacramento, California 95691
916/372-1393 Fax: 916/372-7768

TABLE OF CONTENTS

ENSECO CRL PROJECT NUMBER 105352

Case Narrative

Enseco Cal Lab's Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

Total Organic Carbon - 9060M
Includes Samples: 1, 3
Sample Data Sheets
Method Blank Report
Laboratory Control Sample Report (DCS)
Raw Data

CASE NARRATIVE

ENSECO CRL PROJECT NUMBER 105352

No anomalies are associated with this report.

ENSECO CAL LAB'S QUALITY ASSURANCE PROGRAM

Enseco Cal Lab has implemented an extensive Quality Assurance (QA) program to ensure the production of scientifically sound, legally defensible data of known documental quality. A key element of this program is Enseco's Laboratory Control Sample (LCS) system. Controlling lab operations with LCS (as opposed to matrix spike/matrix spike duplicate samples), allows the lab to differentiate between bias as a result of procedural errors versus bias due to matrix effects. The analyst can then identify and implement the appropriate corrective actions at the bench level, without waiting for extensive senior level review or costly and time-consuming sample re-analyses. The LCS program also provides our client with information to assess batch, and overall laboratory performance.

Laboratory Control Samples - (LCS)

Laboratory Control Samples (LCS) are well-characterized, laboratory generated samples used to monitor the laboratory's day-to-day performance of routine analytical methods. The results of the LCS are compared to well-defined laboratory acceptance criteria to determine whether the laboratory system is "in control". Three types of LCS are routinely analyzed: Duplicate Control Samples (DCS), Single Control Samples (SCS), and method blanks. Each of these LCS are described below.

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand, sodium sulfate or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS.

Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

SAMPLE DESCRIPTION INFORMATION
for
CRL-Garden Grove

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105352-0001-SA	MW-5 195.00	SOLID	27 APR 94	08:10	27 APR 94
105352-0003-SA	MW-5 255.25	SOLID	27 APR 94	11:45	27 APR 94

Enseco
Corning Environmental Services

GENERAL INORGANICS

(Soil/Solid)

Client Name: CRL-Garden Grove
Client ID: MW-5 195.00
Lab ID: 105352-0001-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Organic Carbon, Total	504	mg/kg	100	9060 Modified	02 MAY 94	04 MAY 94

ND = Not detected
NA = Not applicable

Reported By: Jennifer Kimzey Approved By: John Disney

The cover letter is an integral part of this report.
Rev 230787

Enseco
Corning Environmental Services

GENERAL INORGANICS

(Soil/Solid)

Client Name: CRL-Garden Grove
Client ID: MW-5 255.25
Lab ID: 105352-0003-SA
Matrix: SOLID Sampled: 27 APR 94 Received: 27 APR 94
Authorized: 28 APR 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Organic Carbon, Total	602	mg/kg	100	9060 Modified	02 MAY 94	04 MAY 94

ND = Not detected
NA = Not applicable

Reported By: Jennifer Kimzey Approved By: John Disney

The cover letter is an integral part of this report.
Rev 230787

Enseco
Corning Environmental Services

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: TOC-9060-S			
Matrix: SOLID			
QC Lot: 02 MAY 94-33A QC Run: 02 MAY 94-33A			
Organic Carbon, Total	ND	mg/kg	100

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
105352-0001-SA	SOIL	TOC-9060-S	02 MAY 94-33A	02 MAY 94-33A
105352-0003-SA	SOIL	TOC-9060-S	02 MAY 94-33A	02 MAY 94-33A

Enseco
Corning Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: TOC-9060-S Matrix: SOIL QC Lot: 02 MAY 94-33A Concentration Units: mg/kg								
Organic Carbon, Total	4000	3790	3730	3760	94	75-125	1.6	20.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

TO: CAL Attn: L. Tanaka

Enseco
A Corning Company

CHAIN OF CUSTODY RECORD ENS-1145-A

☐ 2544 Industrial Ave., West Sacramento, CA. 95691-3435 (916) 372-
☒ 7440 Lincoln Way, Garden Grove, CA. 92641-1432 (714) 898-6370
☐ 18501 East Gale Ave., City of Industry, CA. 91748-1321 (818) 965-1006
☐ Mobile Labs, 1 (800) ENSECO-8

DATE 4/28/94 | CHAIN OF CUSTODY NUMBER 21977
LAB NUMBER CRLGG-105352 | Page 1 of 1

CLIENT: ENSECO
PROJECT MANAGER: S. Sudoko
ADDRESS: H-L-A.
TELEPHONE NUMBER (AREA CODE):
CITY: | STATE: | ZIP CODE:
SITE CONTACT: Results / Billing to Pat Abe
PROJECT NAME: (26522.8.3) AEROJET
TELEPHONE NUMBER (AREA CODE):
CONTRACT/PURCHASE ORDER/~~QUOTE NO.~~: G94099

ANALYSES: TOC (9060) | Extended Raw Data

SAMPLE NO./IDENTIFICATION	DATE	TIME	LAB/SAMPLE NUMBER	SAMPLE TYPE: LIQ.	AIR	SOLID	NO. OF CONTAINERS	TOC (9060)	Extended Raw Data	Sample Condition/ REMARKS
MW-5 195.00	4/27	0810	105352-0001			✓	1	✓		
↓ 255.25	↓	1145	↓ 0003			✓	1	✓	✓	

LIMS IMPORT/EXPORT

DO THE SAMPLE(S) POSE ANY POTENTIAL HAZARD(S)? IF YES, PLEASE EXPLAIN

SAMPLERS (SIGNATURE)	RELINQUISHED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)	DATE	TIME
	[signature]		Courier Express	4/29/94	
RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
Courier Express	4/28/94	1730			
RECEIVED FOR LABORATORY BY	RECEIVED		ACCEPTED		
[signature]	DATE 4-29-94	TIME 0840		DATE 4-29-94	TIME 0840

METHOD OF SHIPMENT: Courier Express

SPECIAL INSTRUCTIONS:
Export Results by 5/10/94
Hardcopy to client by 5/12/94

RUSH

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the **Enseco** Terms and Conditions, unless a contract or purchase order has been executed and is sited above.

SAMPLE DESPOSITION:
1. Storage time requested: _____ days (Samples will be stored for thirty (30) days without additional charge; thereafter storage charges will be billed at the published rates.)
2. Sample to be returned to client: ☐ Yes ☐ No (**Enseco** will dispose of unreturned samples for a charge of $15.00. Disposal will be by incineration wherever possible; otherwise, as appropriate, according to legal requirements.)

DISTRIBUTION: WHITE - With Report; CANARY - To **ENSECO**; PINK - To Courier; GOLDENROD - To Sample Control

Cooler temp = 5.5°

Enseco

Holding Time Report | Project: 105352 | Client: CRL-Garden Grove | Date: 05 MAY 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	BTA	HTV	Corrective Action
Test: Method 9060 - Prep - Total Organic Carbon							Prep: n/a						Total: 2
1	MW-5 195.0	105352-0001-SA	P-TOC-S	9060 Modified	27 APR 94	27 APR 94	02 MAY 94	n/a	5	5	n/a		
2	MW-5 255.2	105352-0003-SA	P-TOC-S	9060 Modified	27 APR 94	27 APR 94	02 MAY 94	n/a	5	5	n/a		
Test: Method 9060 - Total Organic Carbon (Direct Combustion Method							Prep: P-TOC-S						Total: 2
1	MW-5 195.0	105352-0001-SA	TOC-9060-S	9060 Modified	27 APR 94	27 APR 94	02 MAY 94	04 MAY 94	7	7	n/a		
2	MW-5 255.2	105352-0003-SA	TOC-9060-S	9060 Modified	27 APR 94	27 APR 94	02 MAY 94	04 MAY 94	7	7	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
BTA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

Enseco
Corning Environmental Services

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

June 9, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105646-0001/0009
DATE SAMPLED: 25-MAY-1994
DATE SAMPLE REC'D: 26-MAY-1994
PROJECT: (26522-10.4) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

James Cribb
REVIEWED

Sabina R. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105646

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105646

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

The analysis for Method 8280 was performed at Enseco-CAL Laboratory.

Per instruction from HLA personnel, sample ID MW-5 was specified for project specific MS/MSD on May 25, 1994.

On May 26, 1994 sample ID MW-12 was cancelled for the SW8240 analyses per Tom Lindros due to insufficient volume.

On May 31, 1994 Tom Lindros was notified that for the Dioxin (SW8280) analyses there will be no MS/MSD available due to insufficient volume of the sample 105646-0004. Therefore the Dioxin analyses will be controlled by their respective DCS analysis.

Please note that for SW8080 an MS/MSD was performed on 105646-002 (MW-11) instead of 105646-0004 (MW-5) due to insufficient volume.

[illegible]ding Lawson Associates
[illegible] Rolling Oaks Drive, Suite 100
Thousand Oaks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

CHAIN OF [illegible]STODY FORM

Lab: Enseco

Samplers: Peter M. Bozek

Job Number: 26522.10.4

Name/Location: Aerojet - AISA: 2nd Qtr. GWS

Project Manager: Tom Lindros

Recorder: _____ (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH
1 0	X							3	MW	-	12	94	05	26	1742	3x40 ml VOAs			X			

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Send Report to Tom Hawkins @ HLA - Santa Ana
						-Analyze per Aerojet Contract.
						-Report low (5-10ppb) detection limits.
						-Complete L.A.RWQCBWIP Form
						-Questions?, call Tom Lindros @ 805) 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	Roger Moon	5-26-94 17:45
Roger Moon	[signature]	5-26-94 18:45

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	5/26/94

METHOD OF SHIPMENT 1845

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

Harding Lawson Associates
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

CHAIN OF CUSTODY FORM

105646

Lab: Enseco-CRL

p 2 of 4

Job Number: 26522.10.4.
Name/Location: ~~Hee~~ Aerojet - AISA
Project Manager: Tom Lindros

Samplers: Bob Witbaardt
Peter Bozek

Recorder: [signature] (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	Chilled	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy *	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	EPA-300.0 W/Cl-	EPA-9012 Cyanide	EPA-415.1 TOC	EPA-6010/7000 mmetals	EPA-8280 Diox/Furan	EPA-8080 pcb/pest.
10	X							3		X	MW-11			94	05	24	1635	3x40 ml VOA			X									
10	X							3		X	MW-12			94	05	24	1655	3x40 ml VOA			X									
10	X				2					X	MW-11			94	05	24	1635	2x1 liter Amber				X								
10	X				1					X	MW-11			94	05	24	1635	1x8 oz Plastic							X					
10	X								1	X	MW-11			94	05	24	1635	1x6 oz Plastic								X				
10	X						1			X	MW-11			94	05	24	1635	1x8 oz Amber									X			
10	X									X	MW-11			94	05	24	1635	2x1 liter Amber									PD	*	X	
10	X									X	MW-11			94	05	24	1635	2x1 liter Amber												X
10	X						1			X	MW-11			94	05	24	1635	1x6 oz Plastic.										X	*	PD

* Sampling date chg to 5-25-94 per T. Lindros 5/26/94 S²

Cooler Custody Seal # 5242

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Send Report to Tom Harder
						@ Scarlet Ave HLA
						- Analyze per Aerojet contract
						- Metal Samples Filtered
						- Report Low (5-10 ppb)
						detection Limits
						- Complete L.A. RWQCB WIP Form
						- 48hr. Holding Time 300.0
						Questions? call Tom Lindros
						@ 805) 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	Roy Moore	5-25 94 17:09
Roy Moore 5/25/94 18:00		
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature) [signature]	DATE/TIME 5/25/94 18:00

METHOD OF SHIPMENT

Laboratory Copy White | Office Copy Yellow | Field or Office Copy Pink

6533

Harding Lawson Associates
1 Rolling Oaks Drive, Suite 100
Thousand Oaks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

CHAIN OF CUSTODY FORM

105646

Lab: Ensco - CRL

p3 of 4

Samplers: Bob Loithaard + Peter M. Bozek

Job Number: 26522.10.4

Name/Location: Aerojet - HLSA

Project Manager: Tom Lindros

Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	Diadk. Chilled	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
10	X							3	X	mw-12			94	05	24	1700	3x40ml-VOA
10	X							3	X	mw-19			94	05	25	1320	3x40 ml VOA
10	X				2				X	mw-12			94	05	24	1710	2x1 Liter Amber
10	X				1				X	mw-12			94	05	24	1710	1x8 oz. Plastic
10	X							1	X	mw-12			94	05	24	1710	1x6 oz. Plastic
10	X						1		X	mw-12			94	05	24	1710	1x8 oz. Amber
10	X						1		X	mw-12			94	05	24	1710	1x6 oz. Plastic
10	X				2				X	mw-12			94	05	24	1710	2x1 liter Amber
10	X				2				X	mw-12			94	05	24	1710	2x1 Liter Amber

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	EPA 300.0 N03/N02	EPA 9012 Cyanide	EPA 415.1 TOC	EPA 1310/7000 22 metals	EPA 8260 DCE/Freons	EPA 8260 poly/pet.	CANCEL per Sue 5/26 1:30PM
		X										
		X										
			X									
						X						
							X					
								X				
									X			
										X		
											X	

* Sampling date chg fo 5-25-94 per T. Lindros 5-26-94 SL

cooler custody seal # 5249

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						- Send Report to Tom Harder @ Santa Ana HLA
						- Analyze Per Aerojet Contract
						- Metal Samples Filtered
						- Report Low (5-10 ppb) detection limits.
						- Complete L.A. RWQCB WIP forms
						- 48 hr. holding Time 300 C
						Questions? call Tom Lindros @ (805) 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME: 5-25-94 17:10
RELINQUISHED BY: (Signature) Roger Moon 5/25/94 1810	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 5/25/94 18:00
METHOD OF SHIPMENT		

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Harding Lawson Associates
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

CHAIN OF CUSTODY FORM

105646

Lab: Enseco-CRL

Page 1 of 1

Samplers: Bob Witbeard + Peter Borek

Job Number: 26522.10.4

Name/Location: Arrojet - MISA

Project Manager: Tom Lindros

Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	Ice Only (Unfiltered)	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
10	X							3	X	MW-5			94	05	25	1515	3x40 ml VOA **
10	X							3	X	MW-13			94	05	25	1620	3x40 ml VOA
10	X				2				X	MW-5			94	05	25	1544	2x1 liter Amber **
10	X				1				X	MW-5			94	05	25	1541	1x8 oz. Plastic
10	X								X	MW-5			94	05	25	1551	1x6 oz Plastic
10	X						1		X	MW-5			94	05	25	1550	1x8 oz Amber
10	X						1		X	MW-5			94	05	25	1540	1x6 oz. Plastic
10	X								X	MW-5			94	05	25	1542	2x1 liter Amber
10	X								X	MW-5			94	05	25	1538	2x1 liter Amber

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/6240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	EPA-3520 N-hex	EPA-9012 Cyanide	EPA-413.1 TRPH	EPA-6010/7000 Prep 1 metal	EPA-8260 Dist/Furans	EPA-8080 pcb/pest
		X									
		X									
			X								
						X					
								X			
									X		
									X		
										X	
									X		

* Sampling date chg to 5-25-94 per T. Lindros 5-26-94 SV

Cooler custody seal # 5241

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Send Report to Tom Handler @ Santa Ana HLA
						- Analyze per Arrojet Contract
						- Metal Samples Filtered
						- Report Low (5-10ppb) detection limits.
						- Complete L.A. RWQCB WIP Form
						-48 hr. Holding Time 300.0
						Questions? Call Tom Lindros @ 805) 494-7725

** Run MS/MSD Per T. Lindros 5-27-94 SV

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
	Roger Moore	5-25-94 1709
RELINQUISHED BY: (Signature) 5/25/94 1822 Roger Moore	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature) Mike Long	DATE/TIME 5/25/94 18:00

METHOD OF SHIPMENT

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105646-0001-SA	MW-1	AQUEOUS	25 MAY 94	13:41	25 MAY 94
105646-0002-SA	MW-11	AQUEOUS	25 MAY 94	16:35	25 MAY 94
105646-0003-SA	MW-12	AQUEOUS	25 MAY 94	17:10	25 MAY 94
105646-0004-SA	MW-5	AQUEOUS	25 MAY 94	15:38	25 MAY 94
105646-0004-MS	MW-5	AQUEOUS	25 MAY 94	15:38	25 MAY 94
105646-0004-SD	MW-5	AQUEOUS	25 MAY 94	15:38	25 MAY 94
105646-0004-MB	MW-5	AQUEOUS			25 MAY 94
105646-0005-SA	MW-13	AQUEOUS	25 MAY 94	16:20	25 MAY 94
105646-0006-SA	MW-19	AQUEOUS	25 MAY 94	17:20	25 MAY 94
105646-0007-SA	MW-17	AQUEOUS	25 MAY 94	16:55	25 MAY 94
105646-0008-SA	MW-16	AQUEOUS	25 MAY 94	13:48	25 MAY 94
105646-0009-SA	MW-12	AQUEOUS	26 MAY 94	17:42	26 MAY 94

Holding Time Report | Project: 105646 | Client: Harding Lawson Associates | Today: 09 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test:	Method 8270 - Semivolatile Organics						Prep: P-8270-A						Total: 6
1	MW-1	105646-0001-SA	8270-HLA-A	8270	25 MAY 94	25 MAY 94	27 MAY 94	31 MAY 94	6	6	4		
2	MW-11	105646-0002-SA	8270-HLA-A	8270	25 MAY 94	25 MAY 94	27 MAY 94	31 MAY 94	6	6	4		
3	MW-12	105646-0003-SA	8270-HLA-A	8270	25 MAY 94	25 MAY 94	27 MAY 94	31 MAY 94	6	6	4		
4	MW-5	105646-0004-MS	8270-HLA-A	8270	25 MAY 94	25 MAY 94	27 MAY 94	30 MAY 94	5	5	3		
5	MW-5	105646-0004-SA	8270-HLA-A	8270	25 MAY 94	25 MAY 94	27 MAY 94	31 MAY 94	6	6	4		
6	MW-5	105646-0004-SD	8270-HLA-A	8270	25 MAY 94	25 MAY 94	27 MAY 94	30 MAY 94	5	5	3		
Test:	Method 8240 - Volatile Organics, EPA 8240 Extended List						Prep: P-VOASCR-A						Total: 10
1	MW-1	105646-0001-SA	8240-HLA-A	8240	25 MAY 94	25 MAY 94	31 MAY 94	31 MAY 94	6	6	n/a		
2	MW-11	105646-0002-SA	8240-HLA-A	8240	25 MAY 94	25 MAY 94	27 MAY 94	27 MAY 94	2	2	n/a		
3	MW-5	105646-0004-MS	8240-HLA-A	8240	25 MAY 94	25 MAY 94	27 MAY 94	31 MAY 94	6	6	n/a		
4	MW-5	105646-0004-SA	8240-HLA-A	8240	25 MAY 94	25 MAY 94	27 MAY 94	27 MAY 94	2	2	n/a		
5	MW-5	105646-0004-SD	8240-HLA-A	8240	25 MAY 94	25 MAY 94	27 MAY 94	31 MAY 94	6	6	n/a		
6	MW-13	105646-0005-SA	8240-HLA-A	8240	25 MAY 94	25 MAY 94	31 MAY 94	31 MAY 94	6	6	n/a		
7	MW-19	105646-0006-SA	8240-HLA-A	8240	25 MAY 94	25 MAY 94	27 MAY 94	27 MAY 94	2	2	n/a		
8	MW-17	105646-0007-SA	8240-HLA-A	8240	25 MAY 94	25 MAY 94	27 MAY 94	27 MAY 94	2	2	n/a		
9	MW-16	105646-0008-SA	8240-HLA-A	8240	25 MAY 94	25 MAY 94	27 MAY 94	27 MAY 94	2	2	n/a		
10	MW-12	105646-0009-SA	8240-HLA-A	8240	26 MAY 94	26 MAY 94	27 MAY 94	27 MAY 94	1	1	n/a		
Test:	Method 5030 - Prep - Volatile Organics						Prep: n/a						Total: 10
1	MW-1	105646-0001-SA	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
2	MW-11	105646-0002-SA	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
3	MW-5	105646-0004-MS	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
4	MW-5	105646-0004-SA	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
5	MW-5	105646-0004-SD	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
6	MW-13	105646-0005-SA	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
7	MW-19	105646-0006-SA	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
8	MW-17	105646-0007-SA	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
9	MW-16	105646-0008-SA	P-VOASCR-A	5030	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
10	MW-12	105646-0009-SA	P-VOASCR-A	5030	26 MAY 94	26 MAY 94	27 MAY 94	n/a	1	1	n/a		
Test:	Method EPA 3520 - Prep - Semivolatile Organics by GC/MS						Prep: n/a						Total: 6
1	MW-1	105646-0001-SA	P-8270-A	3520	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
2	MW-11	105646-0002-SA	P-8270-A	3520	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
3	MW-12	105646-0003-SA	P-8270-A	3520	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
4	MW-5	105646-0004-MS	P-8270-A	3520	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
5	MW-5	105646-0004-SA	P-8270-A	3520	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
6	MW-5	105646-0004-SD	P-8270-A	3520	25 MAY 94	25 MAY 94	27 MAY 94	n/a	2	2	n/a		
Test:	Method 8080 - PCBs						Prep: P-8080-PCB-A						Total: 5
1	MW-11	105646-0002-SA	8080-PCB-HLA-A	8080	25 MAY 94	25 MAY 94	31 MAY 94	01 JUN 94	7	7	1		
2	MW-12	105646-0003-SA	8080-PCB-HLA-A	8080	25 MAY 94	25 MAY 94	31 MAY 94	01 JUN 94	7	7	1		
3	MW-5	105646-0004-MS	8080-PCB-HLA-A	8080	25 MAY 94	25 MAY 94	31 MAY 94	01 JUN 94	7	7	1		
4	MW-5	105646-0004-SA	8080-PCB-HLA-A	8080	25 MAY 94	25 MAY 94	31 MAY 94	01 JUN 94	7	7	1		
5	MW-5	105646-0004-SD	8080-PCB-HLA-A	8080	25 MAY 94	25 MAY 94	31 MAY 94	01 JUN 94	7	7	1		
Test:	Method EPA 8080 - Prep - PCBs by GC						Prep: n/a						Total: 5
1	MW-11	105646-0002-SA	P-8080-PCB-A	3520	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
2	MW-12	105646-0003-SA	P-8080-PCB-A	3520	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
3	MW-5	105646-0004-MS	P-8080-PCB-A	3520	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		

Enseco
Corning Environmental Services

Holding Time Report | Project: 105646 | Client: Harding Lawson Associates | Today: 09 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test:	Method EPA 8080 - Prep - PCBs by GC						Prep: n/a						Total: 5
4	MW-5	105646-0004-SA	P-8080-PCB-A	3520	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
5	MW-5	105646-0004-SD	P-8080-PCB-A	3520	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
Test:	Method 7062 - Arsenic, Hydride AA						Prep: P-M-3010-AT						Total: 4
1	MW-1	105646-0001-SA	AS-HAA-MDL-AT	7062	25 MAY 94	25 MAY 94	07 JUN 94	08 JUN 94	14	14	n/a		
2	MW-11	105646-0002-SA	AS-HAA-MDL-AT	7062	25 MAY 94	25 MAY 94	07 JUN 94	08 JUN 94	14	14	n/a		
3	MW-12	105646-0003-SA	AS-HAA-MDL-AT	7062	25 MAY 94	25 MAY 94	07 JUN 94	08 JUN 94	14	14	n/a		
4	MW-5	105646-0004-SA	AS-HAA-MDL-AT	7062	25 MAY 94	25 MAY 94	07 JUN 94	08 JUN 94	14	14	n/a		
Test:	Method 7470 - Mercury, Cold Vapor AA						Prep: P-HG-CVAA-AT						Total: 6
1	MW-1	105646-0001-SA	HG-CVAA-MDL-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	02 JUN 94	8	8	n/a		
2	MW-11	105646-0002-SA	HG-CVAA-MDL-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	02 JUN 94	8	8	n/a		
3	MW-12	105646-0003-SA	HG-CVAA-MDL-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	02 JUN 94	8	8	n/a		
4	MW-5	105646-0004-MS	HG-CVAA-MDL-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	02 JUN 94	8	8	n/a		
5	MW-5	105646-0004-SA	HG-CVAA-MDL-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	02 JUN 94	8	8	n/a		
6	MW-5	105646-0004-SD	HG-CVAA-MDL-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	02 JUN 94	8	8	n/a		
Test:	Method 6010 - ICP Metals (Total)						Prep: P-M-3010-AT						Total: 4
1	MW-1	105646-0001-SA	ICP-MDL-AT	6010	25 MAY 94	25 MAY 94	07 JUN 94	07 JUN 94	13	13	n/a		
2	MW-11	105646-0002-SA	ICP-MDL-AT	6010	25 MAY 94	25 MAY 94	07 JUN 94	07 JUN 94	13	13	n/a		
3	MW-12	105646-0003-SA	ICP-MDL-AT	6010	25 MAY 94	25 MAY 94	07 JUN 94	07 JUN 94	13	13	n/a		
4	MW-5	105646-0004-SA	ICP-MDL-AT	6010	25 MAY 94	25 MAY 94	07 JUN 94	08 JUN 94	14	14	n/a		
Test:	Prep - Mercury, Cold Vapor AA (Total)						Prep: n/a						Total: 6
1	MW-1	105646-0001-SA	P-HG-CVAA-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	n/a	8	8	n/a		
2	MW-11	105646-0002-SA	P-HG-CVAA-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	n/a	8	8	n/a		
3	MW-12	105646-0003-SA	P-HG-CVAA-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	n/a	8	8	n/a		
4	MW-5	105646-0004-MS	P-HG-CVAA-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	n/a	8	8	n/a		
5	MW-5	105646-0004-SA	P-HG-CVAA-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	n/a	8	8	n/a		
6	MW-5	105646-0004-SD	P-HG-CVAA-AT	7470	25 MAY 94	25 MAY 94	02 JUN 94	n/a	8	8	n/a		
Test:	Method 3010 - Prep - Total Metals						Prep: n/a						Total: 6
1	MW-1	105646-0001-SA	P-M-3010-AT	3010	25 MAY 94	25 MAY 94	07 JUN 94	n/a	13	13	n/a		
2	MW-11	105646-0002-SA	P-M-3010-AT	3010	25 MAY 94	25 MAY 94	07 JUN 94	n/a	13	13	n/a		
3	MW-12	105646-0003-SA	P-M-3010-AT	3010	25 MAY 94	25 MAY 94	07 JUN 94	n/a	13	13	n/a		
4	MW-5	105646-0004-MS	P-M-3010-AT	3010	25 MAY 94	25 MAY 94	07 JUN 94	n/a	13	13	n/a		
5	MW-5	105646-0004-SA	P-M-3010-AT	3010	25 MAY 94	25 MAY 94	07 JUN 94	n/a	13	13	n/a		
6	MW-5	105646-0004-SD	P-M-3010-AT	3010	25 MAY 94	25 MAY 94	07 JUN 94	n/a	13	13	n/a		
Test:	Method 300.0 - Chlorate, Ion Chromatography						Prep: n/a						Total: 6
1	MW-1	105646-0001-SA	CLO3-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	07 JUN 94	13	13	n/a		
2	MW-11	105646-0002-SA	CLO3-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	07 JUN 94	13	13	n/a		
3	MW-12	105646-0003-SA	CLO3-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	07 JUN 94	13	13	n/a		
4	MW-5	105646-0004-MS	CLO3-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	07 JUN 94	13	13	n/a		
5	MW-5	105646-0004-SA	CLO3-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	07 JUN 94	13	13	n/a		
6	MW-5	105646-0004-SD	CLO3-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	07 JUN 94	13	13	n/a		

Enseco
Corning Environmental Services

Holding Time Report | Project: 105646 | Client: Harding Lawson Associates | Today: 09 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test:	Method 9012 - Cyanide, Total						Prep: P-CN-AT					Total: 6	
1	MW-1	105646-0001-SA	CN-MDL-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	07 JUN 94	13	13	n/a		
2	MW-11	105646-0002-SA	CN-MDL-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	07 JUN 94	13	13	n/a		
3	MW-12	105646-0003-SA	CN-MDL-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	07 JUN 94	13	13	n/a		
4	MW-5	105646-0004-MS	CN-MDL-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	07 JUN 94	13	13	n/a		
5	MW-5	105646-0004-SA	CN-MDL-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	07 JUN 94	13	13	n/a		
6	MW-5	105646-0004-SD	CN-MDL-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	07 JUN 94	13	13	n/a		
Test:	Method 300.0 - Nitrate, Ion Chromatography						Prep: n/a					Total: 6	
1	MW-1	105646-0001-SA	NO3-IC-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	26 MAY 94	1	1	n/a		
2	MW-11	105646-0002-SA	NO3-IC-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	26 MAY 94	1	1	n/a		
3	MW-12	105646-0003-SA	NO3-IC-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	26 MAY 94	1	1	n/a		
4	MW-5	105646-0004-MS	NO3-IC-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	27 MAY 94	2	2	n/a		
5	MW-5	105646-0004-SA	NO3-IC-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	27 MAY 94	2	2	n/a		
6	MW-5	105646-0004-SD	NO3-IC-MDL-A	300.0	25 MAY 94	25 MAY 94	n/a	27 MAY 94	2	2	n/a		
Test:	Method 9012 - Prep - Cyanide, Total						Prep: n/a					Total: 6	
1	MW-1	105646-0001-SA	P-CN-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	n/a	12	12	n/a		
2	MW-11	105646-0002-SA	P-CN-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	n/a	12	12	n/a		
3	MW-12	105646-0003-SA	P-CN-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	n/a	12	12	n/a		
4	MW-5	105646-0004-MS	P-CN-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	n/a	12	12	n/a		
5	MW-5	105646-0004-SA	P-CN-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	n/a	12	12	n/a		
6	MW-5	105646-0004-SD	P-CN-AT	9012	25 MAY 94	25 MAY 94	06 JUN 94	n/a	12	12	n/a		
Test:	Method 415.1 - Total Organic Carbon (TOC)						Prep: n/a					Total: 6	
1	MW-1	105646-0001-SA	TOC-415_1-MDL-A	415.1	25 MAY 94	25 MAY 94	n/a	02 JUN 94	8	8	n/a		
2	MW-11	105646-0002-SA	TOC-415_1-MDL-A	415.1	25 MAY 94	25 MAY 94	n/a	02 JUN 94	8	8	n/a		
3	MW-12	105646-0003-SA	TOC-415_1-MDL-A	415.1	25 MAY 94	25 MAY 94	n/a	02 JUN 94	8	8	n/a		
4	MW-5	105646-0004-MS	TOC-415_1-MDL-A	415.1	25 MAY 94	25 MAY 94	n/a	02 JUN 94	8	8	n/a		
5	MW-5	105646-0004-SA	TOC-415_1-MDL-A	415.1	25 MAY 94	25 MAY 94	n/a	02 JUN 94	8	8	n/a		
6	MW-5	105646-0004-SD	TOC-415_1-MDL-A	415.1	25 MAY 94	25 MAY 94	n/a	02 JUN 94	8	8	n/a		
Test:	2,3,7,8 -Subs. Isomer-Specific C14 -C18 Dioxins and Furans b						Prep: P-DXNFUR-613-L					Total: 4	
1	MW-11	105646-0002-SA	ISODXNFUR-A	8280	25 MAY 94	25 MAY 94	31 MAY 94	03 JUN 94	9	9	3		
2	MW-12	105646-0003-SA	ISODXNFUR-A	8280	25 MAY 94	25 MAY 94	31 MAY 94	03 JUN 94	9	9	3		
3	MW-5	105646-0004-MB	ISODXNFUR-A	8280	n/a	25 MAY 94	31 MAY 94	03 JUN 94	n/a	9	3		
4	MW-5	105646-0004-SA	ISODXNFUR-A	8280	25 MAY 94	25 MAY 94	31 MAY 94	03 JUN 94	9	9	3		
Test:	Method EPA 613 - Prep - Low Res. Method 613 L-L Extraction f						Prep: n/a					Total: 4	
1	MW-11	105646-0002-SA	P-DXNFUR-613-L	EPA 613	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
2	MW-12	105646-0003-SA	P-DXNFUR-613-L	EPA 613	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		
3	MW-5	105646-0004-MB	P-DXNFUR-613-L	EPA 613	n/a	25 MAY 94	31 MAY 94	n/a	n/a	6	n/a		
4	MW-5	105646-0004-SA	P-DXNFUR-613-L	EPA 613	25 MAY 94	25 MAY 94	31 MAY 94	n/a	6	6	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
ETA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

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QC LOT ASSIGNMENT REPORT - MS QC
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105646-0001-SA	AQUEOUS	AS-HAA-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0001-SA	AQUEOUS	HG-CVAA-A	02 JUN 94-D	02 JUN 94-D	02 JUN 94-DA
105646-0001-SA	AQUEOUS	ICP-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0002-SA	AQUEOUS	AS-HAA-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0002-SA	AQUEOUS	HG-CVAA-A	02 JUN 94-D	02 JUN 94-D	02 JUN 94-DA
105646-0002-SA	AQUEOUS	ICP-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0003-SA	AQUEOUS	AS-HAA-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0003-SA	AQUEOUS	HG-CVAA-A	02 JUN 94-D	02 JUN 94-D	02 JUN 94-DA
105646-0003-SA	AQUEOUS	ICP-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0004-MS	AQUEOUS	HG-CVAA-A	02 JUN 94-D	02 JUN 94-D	02 JUN 94-DA
105646-0004-SA	AQUEOUS	AS-HAA-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0004-SA	AQUEOUS	HG-CVAA-A	02 JUN 94-D	02 JUN 94-D	02 JUN 94-DA
105646-0004-SA	AQUEOUS	ICP-AT	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0004-SD	AQUEOUS	HG-CVAA-A	02 JUN 94-D	02 JUN 94-D	02 JUN 94-DA

METHOD BLANK REPORT
Metals Analysis and Preparation
Project: 105646

Test: AS-HAA-MDL-AT Method 7062 - Arsenic, Hydride AA
Matrix: AQUEOUS
QC Run: 07 JUN 94-A
Date Analyzed: 08 JUN 94

Analyte	Result	Units	Reporting Limit
Arsenic	ND	mg/L	0.0050

Test: HG-CVAA-MDL-AT Method 7470 - Mercury, Cold Vapor AA
Matrix: AQUEOUS
QC Run: 02 JUN 94-D
Date Analyzed: 02 JUN 94

Analyte	Result	Units	Reporting Limit
Mercury	ND	mg/L	0.00050

Test: ICP-MDL-AT Method 6010 - ICP Metals (Total)
Matrix: AQUEOUS
QC Run: 07 JUN 94-A
Date Analyzed: 07 JUN 94

Analyte	Result	Units	Reporting Limit
Aluminum	ND	mg/L	0.10
Barium	ND	mg/L	0.010
Cadmium	ND	mg/L	0.0050
Chromium	ND	mg/L	0.010
Copper	ND	mg/L	0.020
Lead	ND	mg/L	0.050
Manganese	ND	mg/L	0.010
Nickel	ND	mg/L	0.040
Zinc	TR	mg/L	0.020

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105646

Category: AS-HAA-AT Arsenic, Hydride AA (Total)
Matrix: AQUEOUS
Sample: 105646-0001
MS Run: 07 JUN 94-AA
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Arsenic	0.00590	0.471	0.460	0.500	93	91	2.4	78-118	25

Category: HG-CVAA-A Mercury by CVAA
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 02 JUN 94-DA
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Mercury	ND	0.00285	0.00288	0.00250	114	115	1.0	36-151	29

Category: ICP-AT ICP Metals
Matrix: AQUEOUS
Sample: 105646-0001
MS Run: 07 JUN 94-AA
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Aluminum	ND	2.10	2.07	2.00	105	104	1.4	47-145	39
Barium	0.162	2.14	2.11	2.00	99	97	1.5	63-119	23
Cadmium	ND	0.0547	0.0560	0.0500	109	112	2.3	53-118	23
Chromium	0.0137	0.230	0.229	0.200	108	108	0.4	61-123	25
Copper	ND	0.257	0.254	0.250	103	102	1.2	69-127	19
Lead	ND	0.523	0.541	0.500	105	108	3.4	63-117	14
Manganese	ND	0.515	0.509	0.500	103	102	1.2	54-128	28
Nickel	ND	0.537	0.529	0.500	107	106	1.5	57-123	14
Zinc	ND	0.549	0.538	0.500	110	108	2.0	61-119	20

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105646

Category: AS-HAA-AT Arsenic, Hydride AA (Total)
Matrix: AQUEOUS
QC Lot: 07 JUN 94-A
Concentration Units: mg/L

Date Analyzed: 08 JUN 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Arsenic	0.500	0.478	0.463	0.470	94	73-112	3.2	20

Category: HG-CVAA-A Mercury by CVAA
Matrix: AQUEOUS
QC Lot: 02 JUN 94-D
Concentration Units: mg/L

Date Analyzed: 02 JUN 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Mercury	0.00250	0.00257	0.00267	0.00262	105	76-131	3.8	13

Category: ICP-AT ICP Metals
Matrix: AQUEOUS
QC Lot: 07 JUN 94-A
Concentration Units: mg/L

Date Analyzed: 07 JUN 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Aluminum	2.00	2.05	2.04	2.04	102	85-104	0.49	5
Barium	2.00	1.98	1.98	1.98	99	86-108	0.0	4
Cadmium	0.0500	0.0513	0.0507	0.0510	102	72-111	1.2	12
Calcium	100	106	105	106	106	85-106	0.95	6
Chromium	0.200	0.212	0.218	0.215	108	83-112	2.8	10
Copper	0.250	0.251	0.254	0.252	101	90-114	1.2	8
Iron	1.00	1.01	1.02	1.02	102	83-108	0.99	10
Lead	0.500	0.533	0.533	0.533	107	81-109	0.0	8
Magnesium	50.0	50.9	50.2	50.6	101	90-110	1.4	4
Manganese	0.500	0.508	0.509	0.508	102	84-105	0.20	5
Nickel	0.500	0.523	0.524	0.524	105	79-111	0.19	14
Potassium	50.0	51.0	50.3	50.6	101	85-107	1.4	6
Silica as SiO2	21.4	21.9	22.0	22.0	103	80-120	0.46	20
Silver	0.0500	0.0467	0.0462	0.0464	93	76-111	1.1	13
Sodium	115	117	116	116	101	86-112	0.86	5
Titanium	1.00	1.04	1.04	1.04	104	80-120	0.0	20
Zinc	0.500	0.530	0.534	0.532	106	81-111	0.75	14

Calculations are performed before rounding to avoid round-off errors in calculated results.

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METALS
(Water - Total)

Client Name: Harding Lawson Associates
Client ID: MW-1
Enseco ID: 105646-0001-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Arsenic	0.0059		0.0020	0.0050	mg/L	7062	07 JUN 94	08 JUN 94
Aluminum	ND		0.025	0.10	mg/L	6010	07 JUN 94	07 JUN 94
Barium	0.16		0.00080	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Cadmium	ND		0.0036	0.0050	mg/L	6010	07 JUN 94	07 JUN 94
Chromium	0.014		0.0081	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Copper	ND		0.0044	0.020	mg/L	6010	07 JUN 94	07 JUN 94
Lead	ND		0.017	0.050	mg/L	6010	07 JUN 94	07 JUN 94
Manganese	TR		0.0011	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Mercury	ND		0.00020	0.00050	mg/L	7470	02 JUN 94	02 JUN 94
Nickel	TR		0.0045	0.040	mg/L	6010	07 JUN 94	07 JUN 94
Zinc	TR	B	0.0011	0.020	mg/L	6010	07 JUN 94	07 JUN 94

B = Compound is also detected in the blank.
ND = Not Detected

Enseco
Corning Environmental Services

METALS
(Water - Total)

Client Name: Harding Lawson Associates
Client ID: MW-11
LAB ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Arsenic	TR		0.0020	0.0050	mg/L	7062	07 JUN 94	08 JUN 94
Aluminum	ND		0.025	0.10	mg/L	6010	07 JUN 94	07 JUN 94
Barium	0.15		0.00080	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Cadmium	ND		0.0036	0.0050	mg/L	6010	07 JUN 94	07 JUN 94
Chromium	ND		0.0081	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Copper	ND		0.0044	0.020	mg/L	6010	07 JUN 94	07 JUN 94
Lead	ND		0.017	0.050	mg/L	6010	07 JUN 94	07 JUN 94
Manganese	0.058		0.0011	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Mercury	ND		0.00020	0.00050	mg/L	7470	02 JUN 94	02 JUN 94
Nickel	TR		0.0045	0.040	mg/L	6010	07 JUN 94	07 JUN 94
Zinc	TR	B	0.0011	0.020	mg/L	6010	07 JUN 94	07 JUN 94

B = Compound is also detected in the blank.
ND = Not Detected

Enseco
Corning Environmental Services

METALS
(Water - Total)

Client Name: Harding Lawson Associates
Client ID: MW-12
ENSR ID: 105646-0003-SA
Matrix: AQUEOUS
Authorized: 27 MAY 94
Sampled: 25 MAY 94
Prepared: See Below
Received: 25 MAY 94
Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Arsenic	TR		0.0020	0.0050	mg/L	7062	07 JUN 94	08 JUN 94
Aluminum	ND		0.025	0.10	mg/L	6010	07 JUN 94	07 JUN 94
Barium	ND		0.00080	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Cadmium	ND		0.0036	0.0050	mg/L	6010	07 JUN 94	07 JUN 94
Chromium	ND		0.0081	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Copper	ND		0.0044	0.020	mg/L	6010	07 JUN 94	07 JUN 94
Lead	ND		0.017	0.050	mg/L	6010	07 JUN 94	07 JUN 94
Manganese	ND		0.0011	0.010	mg/L	6010	07 JUN 94	07 JUN 94
Mercury	ND		0.00020	0.00050	mg/L	7470	02 JUN 94	02 JUN 94
Nickel	ND		0.0045	0.040	mg/L	6010	07 JUN 94	07 JUN 94
Zinc	TR	B	0.0011	0.020	mg/L	6010	07 JUN 94	07 JUN 94

B = Compound is also detected in the blank.
ND = Not Detected

Enseco
Corning Environmental Services

METALS
(Water - Total)

Client Name: Harding Lawson Associates
Client ID: MW-5
LAB ID: 105646-0004-SA
Matrix: AQUEOUS
Authorized: 27 MAY 94

Sampled: 25 MAY 94
Prepared: See Below

Received: 25 MAY 94
Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Arsenic	TR		0.0020	0.0050	mg/L	7062	07 JUN 94	08 JUN 94
Aluminum	ND		0.025	0.10	mg/L	6010	07 JUN 94	08 JUN 94
Barium	0.15		0.00080	0.010	mg/L	6010	07 JUN 94	08 JUN 94
Cadmium	ND		0.0036	0.0050	mg/L	6010	07 JUN 94	08 JUN 94
Chromium	ND		0.0081	0.010	mg/L	6010	07 JUN 94	08 JUN 94
Copper	TR		0.0044	0.020	mg/L	6010	07 JUN 94	08 JUN 94
Lead	ND		0.017	0.050	mg/L	6010	07 JUN 94	08 JUN 94
Manganese	0.055		0.0011	0.010	mg/L	6010	07 JUN 94	08 JUN 94
Mercury	ND		0.00020	0.00050	mg/L	7470	02 JUN 94	02 JUN 94
Nickel	TR		0.0045	0.040	mg/L	6010	07 JUN 94	08 JUN 94
Zinc	TR	B	0.0011	0.020	mg/L	6010	07 JUN 94	08 JUN 94

B = Compound is also detected in the blank.
ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105646-0001-SA	AQUEOUS	CN-A	06 JUN 94-A	06 JUN 94-A	06 JUN 94-AC
105646-0001-SA	AQUEOUS	CLO3-A	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0001-SA	AQUEOUS	NO3-A	26 MAY 94-A	26 MAY 94-A	27 MAY 94-AA
105646-0001-SA	AQUEOUS	TOC-A	02 JUN 94-A	02 JUN 94-A	02 JUN 94-AA
105646-0002-SA	AQUEOUS	CN-A	06 JUN 94-A	06 JUN 94-A	06 JUN 94-AC
105646-0002-SA	AQUEOUS	CLO3-A	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0002-SA	AQUEOUS	NO3-A	26 MAY 94-A	26 MAY 94-A	27 MAY 94-AA
105646-0002-SA	AQUEOUS	TOC-A	02 JUN 94-A	02 JUN 94-A	02 JUN 94-AA
105646-0003-SA	AQUEOUS	CN-A	06 JUN 94-A	06 JUN 94-A	06 JUN 94-AC
105646-0003-SA	AQUEOUS	CLO3-A	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0003-SA	AQUEOUS	NO3-A	26 MAY 94-A	26 MAY 94-A	27 MAY 94-AA
105646-0003-SA	AQUEOUS	TOC-A	02 JUN 94-A	02 JUN 94-A	02 JUN 94-AA
105646-0004-MS	AQUEOUS	CN-A	06 JUN 94-A	06 JUN 94-A	06 JUN 94-AC
105646-0004-MS	AQUEOUS	CLO3-A	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0004-MS	AQUEOUS	NO3-A	27 MAY 94-A	27 MAY 94-A	27 MAY 94-AA
105646-0004-MS	AQUEOUS	TOC-A	02 JUN 94-A	02 JUN 94-A	02 JUN 94-AA
105646-0004-SA	AQUEOUS	CN-A	06 JUN 94-A	06 JUN 94-A	06 JUN 94-AC
105646-0004-SA	AQUEOUS	CLO3-A	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0004-SA	AQUEOUS	NO3-A	27 MAY 94-A	27 MAY 94-A	27 MAY 94-AA
105646-0004-SA	AQUEOUS	TOC-A	02 JUN 94-A	02 JUN 94-A	02 JUN 94-AA
105646-0004-SD	AQUEOUS	CN-A	06 JUN 94-A	06 JUN 94-A	06 JUN 94-AC
105646-0004-SD	AQUEOUS	CLO3-A	07 JUN 94-A	07 JUN 94-A	07 JUN 94-AA
105646-0004-SD	AQUEOUS	NO3-A	27 MAY 94-A	27 MAY 94-A	27 MAY 94-AA
105646-0004-SD	AQUEOUS	TOC-A	02 JUN 94-A	02 JUN 94-A	02 JUN 94-AA

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105646

Test: CN-MDL-AT Method 9012 - Cyanide, Total
Matrix: AQUEOUS
QC Run: 06 JUN 94-A Date Analyzed: 07 JUN 94

Analyte	Result	Units	Reporting Limit
Cyanide, Total	ND	mg/L	0.010

Test: CLO3-MDL-A Method 300.0 - Chlorate, Ion Chromatography
Matrix: AQUEOUS
QC Run: 07 JUN 94-A Date Analyzed: 07 JUN 94

Analyte	Result	Units	Reporting Limit
Chlorate	ND	mg/L	0.20

Test: NO3-IC-MDL-A Method 300.0 - Nitrate, Ion Chromatography
Matrix: AQUEOUS
QC Run: 26 MAY 94-A Date Analyzed: 26 MAY 94

Analyte	Result	Units	Reporting Limit
Nitrate as N	ND	mg/L	0.10

QC Run: 27 MAY 94-A Date Analyzed: 27 MAY 94

Analyte	Result	Units	Reporting Limit
Nitrate as N	ND	mg/L	0.10

Test: TOC-415_1-MDL-A Method 415.1 - Total Organic Carbon (TOC)
Matrix: AQUEOUS
QC Run: 02 JUN 94-A Date Analyzed: 02 JUN 94

Analyte	Result	Units	Reporting Limit
Total Organic Carbon	ND	mg/L	1.0

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105646

Category: CN-A Cyanide
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 06 JUN 94-AC
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cyanide, Total	0.0820	0.177	0.186	0.100	95	104	9.0	30-143	71

Category: CLO3-A Chlorate, Ion Chromatography (300.0)
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 07 JUN 94-AA
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chlorate	ND	9.22	9.22	10.0	92	92	0.0	80-120	20

Category: NO3-A Nitrate, Ion Chromatography (300.0)
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 27 MAY 94-AA
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Nitrate as N	8.05	47.2	47.5	40.0	98	99	0.7	84-112	4

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105646 (cont.)

Category: NO3-A Nitrate, Ion Chromatography (300.0)
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 27 MAY 94-AA
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Nitrate as N	8.05	47.2	47.5	40.0	98	99	0.7	84-112	4

Category: TOC-A Total Organic Carbon
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 02 JUN 94-AA
Units: mg/L

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Total Organic Carbon	1.10	205	205	200	102	102	0.0	70-130	30

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105646

Category: CN-A Cyanide
Matrix: AQUEOUS
QC Lot: 06 JUN 94-A
Concentration Units: mg/L
Date Analyzed: 07 JUN 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Cyanide, Total	0.100	0.102	0.0964	0.0992	99	67-118	5.6	25

Category: CLO3-A Chlorate, Ion Chromatography (300.0)
Matrix: AQUEOUS
QC Lot: 07 JUN 94-A
Concentration Units: mg/L
Date Analyzed: 07 JUN 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Chlorate	2.00	1.96	1.80	1.88	94	80-120	8.5	20

Category: NO3-A Nitrate, Ion Chromatography (300.0)
Matrix: AQUEOUS
QC Lot: 26 MAY 94-A
Concentration Units: mg/L
Date Analyzed: 26 MAY 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Nitrate as N	4.00	3.88	3.90	3.89	97	89-114	0.51	5

Category: NO3-A Nitrate, Ion Chromatography (300.0)
Matrix: AQUEOUS
QC Lot: 27 MAY 94-A
Concentration Units: mg/L
Date Analyzed: 27 MAY 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Nitrate as N	4.00	4.07	4.10	4.08	102	89-114	0.73	5

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105646

Category: TOC-A Total Organic Carbon
Matrix: AQUEOUS
QC Lot: 02 JUN 94-A
Concentration Units: mg/L

Date Analyzed: 02 JUN 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Total Organic Carbon	86.8	88.6	89.1	88.8	102	80-120	0.56	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-1
[redacted] ID: 105646-0001-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.0060	0.010	mg/L	9012	06 JUN 94	07 JUN 94
Chlorate	ND		0.10	0.20	mg/L	300.0	NA	07 JUN 94
Nitrate as N	6.8		0.080	0.50	mg/L	300.0	NA	26 MAY 94
Total Organic Carbon	1.3		1.0	1.0	mg/L	415.1	NA	02 JUN 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-11
LAB ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	0.080		0.0060	0.010	mg/L	9012	06 JUN 94	07 JUN 94
Chlorate	ND		0.10	0.20	mg/L	300.0	NA	07 JUN 94
Nitrate as N	8.1		0.080	0.50	mg/L	300.0	NA	26 MAY 94
Total Organic Carbon	2.2		1.0	1.0	mg/L	415.1	NA	02 JUN 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-12
[redacted] ID: 105646-0003-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.0060	0.010	mg/L	9012	06 JUN 94	07 JUN 94
Chlorate	ND		0.10	0.20	mg/L	300.0	NA	07 JUN 94
Nitrate as N	0.11		0.080	0.10	mg/L	300.0	NA	26 MAY 94
Total Organic Carbon	ND		1.0	1.0	mg/L	415.1	NA	02 JUN 94

ND = Not Detected

Enseco
Corning Environmental Services

GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: MW-5
LAB ID: 105646-0004-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	0.082		0.0060	0.010	mg/L	9012	06 JUN 94	07 JUN 94
Chlorate	ND		0.10	0.20	mg/L	300.0	NA	07 JUN 94
Nitrate as N	8.0		0.080	0.50	mg/L	300.0	NA	27 MAY 94
Total Organic Carbon	1.1		1.0	1.0	mg/L	415.1	NA	02 JUN 94

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105646-0001-SA	AQUEOUS	8240-A	27 MAY 94-AF	31 MAY 94-BF	31 MAY 94-BF
105646-0002-SA	AQUEOUS	8240-A	27 MAY 94-AF	27 MAY 94-AF	31 MAY 94-BF
105646-0004-SA	AQUEOUS	8240-A	27 MAY 94-AF	27 MAY 94-AF	31 MAY 94-BF
105646-0004-SD	AQUEOUS	8240-A	27 MAY 94-AF	31 MAY 94-BF	31 MAY 94-BF
105646-0005-SA	AQUEOUS	8240-A	27 MAY 94-AF	31 MAY 94-BF	31 MAY 94-BF
105646-0006-SA	AQUEOUS	8240-A	27 MAY 94-AF	27 MAY 94-AF	31 MAY 94-BF
105646-0007-SA	AQUEOUS	8240-A	27 MAY 94-AF	27 MAY 94-AF	31 MAY 94-BF
105646-0008-SA	AQUEOUS	8240-A	27 MAY 94-AF	27 MAY 94-AF	31 MAY 94-BF
105646-0009-SA	AQUEOUS	8240-A	27 MAY 94-AF	27 MAY 94-AF	31 MAY 94-BF

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105646

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS

QC Run: 27 MAY 94-AF Date Analyzed: 27 MAY 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/L	10
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	5.0
Methylene chloride	TR	ug/L	5.0
Acetone	ND	ug/L	10
Trichlorofluoromethane	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Nitromethane	ND	ug/L	200
trans-1,2-Dichloroethene	ND	ug/L	5.0
cis-1,2-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
2,2-Dichloropropane	ND	ug/L	5.0
Bromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,1-Dichloropropene	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
1,3-Dichloropropane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
1,2-Dibromoethane (EDB)	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0
1-Methylethylbenzene	ND	ug/L	5.0
Bromobenzene	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
2-Chlorotoluene	ND	ug/L	5.0
n-Propyl benzene	ND	ug/L	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105646

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS

QC Run: 27 MAY 94-AF Date Analyzed: 27 MAY 94

Analyte	Result	Units	Reporting Limit
1,3,5-Trimethylbenzene	ND	ug/L	5.0
4-Chlorotoluene	ND	ug/L	5.0
tert-Butylbenzene	ND	ug/L	5.0
1,2,4-Trimethylbenzene	ND	ug/L	5.0
sec-Butylbenzene	ND	ug/L	5.0
Isopropyltoluene	ND	ug/L	5.0
1,3-Dichlorobenzene	ND	ug/L	5.0
1,4-Dichlorobenzene	ND	ug/L	5.0
n-Butylbenzene	ND	ug/L	5.0
1,2-Dichlorobenzene	ND	ug/L	5.0
1,2,4-Trichlorobenzene	ND	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	5.0
Hexachlorobutadiene	ND	ug/L	5.0
Naphthalene	ND	ug/L	5.0
1,2,3-Trichlorobenzene	ND	ug/L	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105646

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 31 MAY 94-BF Date Analyzed: 31 MAY 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/L	10
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	5.0
Methylene chloride	ND	ug/L	5.0
Acetone	ND	ug/L	10
Trichlorofluoromethane	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Nitromethane	ND	ug/L	200
trans-1,2-Dichloroethene	ND	ug/L	5.0
cis-1,2-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
2,2-Dichloropropane	ND	ug/L	5.0
Bromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,1-Dichloropropene	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
1,3-Dichloropropane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
1,2-Dibromoethane (EDB)	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0
1-Methylethylbenzene	ND	ug/L	5.0
Bromobenzene	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
2-Chlorotoluene	ND	ug/L	5.0
n-Propyl benzene	ND	ug/L	5.0
1,3,5-Trimethylbenzene	ND	ug/L	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105646

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 31 MAY 94-BF Date Analyzed: 31 MAY 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/L	5.0
tert-Butylbenzene	ND	ug/L	5.0
1,2,4-Trimethylbenzene	ND	ug/L	5.0
sec-Butylbenzene	ND	ug/L	5.0
Isopropyltoluene	ND	ug/L	5.0
1,3-Dichlorobenzene	ND	ug/L	5.0
1,4-Dichlorobenzene	ND	ug/L	5.0
n-Butylbenzene	ND	ug/L	5.0
1,2-Dichlorobenzene	ND	ug/L	5.0
1,2,4-Trichlorobenzene	ND	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	5.0
Hexachlorobutadiene	ND	ug/L	5.0
Naphthalene	ND	ug/L	5.0
1,2,3-Trichlorobenzene	ND	ug/L	5.0

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105646

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 31 MAY 94-BF
Units: ug/L

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	47.7	52.1	50.0	95	104	8.8	45-126	18
Trichloroethene	ND	48.6	52.6	50.0	97	105	7.9	74-131	17
Benzene	ND	47.2	50.0	50.0	94	100	5.8	76-128	14
Toluene	ND	47.0	50.5	50.0	94	101	7.2	73-128	15
Chlorobenzene	ND	46.8	49.5	50.0	94	99	5.6	80-131	16

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105646

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Run: 31 MAY 94-BF Date Analyzed: 31 MAY 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	47.6	95	82-121
Toluene-d8	50.0	49.6	99	88-110
Bromofluorobenzene	50.0	49.2	98	86-114

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Run: 27 MAY 94-AF Date Analyzed: 27 MAY 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	46.9	94	82-121
Toluene-d8	50.0	48.1	96	88-110
Bromofluorobenzene	50.0	47.8	96	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105646

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Lot: 27 MAY 94-AF
Concentration Units: ug/L

Date Analyzed: 27 MAY 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	52.5	55.2	53.8	108	50-124	5.0	15
Trichloroethene	50.0	55.1	56.6	55.8	112	80-126	2.7	13
Benzene	50.0	53.2	54.1	53.6	107	78-124	1.7	13
Toluene	50.0	55.7	55.8	55.8	112	80-121	0.18	13
Chlorobenzene	50.0	53.4	54.7	54.0	108	82-131	2.4	13

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-1
LAB ID: 105646-0001-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	ND		0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0
tert-Butylbenzene	ND		1.0	ug/L	5.0

ND = Not Detected

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-1
LAB ID: 105646-0001-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	98	%
Toluene-d8	98	%
Bromofluorobenzene	98	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-11
LAB ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	ND		0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0
tert-Butylbenzene	ND		1.0	ug/L	5.0

ND = Not Detected

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-11
LAB ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	98	%
Toluene-d8	98	%
Bromofluorobenzene	99	%

ND = Not Detected

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5
[redacted]AB ID: 105646-0004-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR	B	0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
[redacted]ibromomethane	ND		0.51	ug/L	5.0
[redacted],1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0

[redacted]B = Compound is also detected in the blank.
[redacted]ND = Not Detected

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-5
LAB ID: 105646-0004-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
tert-Butylbenzene	ND		1.0	ug/L	5.0
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	96	%
Toluene-d8	98	%
Bromofluorobenzene	96	%

ND = Not Detected

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-13
LAB ID: 105646-0005-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR		0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0
tert-Butylbenzene	ND		1.0	ug/L	5.0

ND = Not Detected

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Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-13
LAB ID: 105646-0005-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	100	%
Toluene-d8	98	%
Bromofluorobenzene	99	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-19
LAB ID: 105646-0006-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR	B	0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0

B = Compound is also detected in the blank.
ND = Not Detected

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Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-19
LAB ID: 105646-0006-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
tert-Butylbenzene	ND		1.0	ug/L	5.0
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	100	%
Toluene-d8	100	%
Bromofluorobenzene	103	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-17
LAB ID: 105646-0007-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR	B	0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0

B = Compound is also detected in the blank.
ND = Not Detected

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-17
LAB ID: 105646-0007-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
tert-Butylbenzene	ND		1.0	ug/L	5.0
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	98	%
Toluene-d8	101	%
Bromofluorobenzene	105	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-16
LAB ID: 105646-0008-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR	B	0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0

B = Compound is also detected in the blank.
ND = Not Detected

Enseco (Corning Environmental Services)

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-16
LAB ID: 105646-0008-SA
Matrix: AQUEOUS
Authorized: 27 MAY 94

Sampled: 25 MAY 94
Prepared: 27 MAY 94

Received: 25 MAY 94
Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
tert-Butylbenzene	ND		1.0	ug/L	5.0
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	98	%
Toluene-d8	98	%
Bromofluorobenzene	100	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-12
LAB ID: 105646-0009-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	ND		0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0
tert-Butylbenzene	ND		1.0	ug/L	5.0

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: MW-12
LAB ID: 105646-0009-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 27 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	100	%
Toluene-d8	102	%
Bromofluorobenzene	102	%

ND = Not Detected

C LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105646-0001-SA	AQUEOUS	8270-A	27 MAY 94-E	27 MAY 94-E	27 MAY 94-EA
105646-0002-SA	AQUEOUS	8270-A	27 MAY 94-E	27 MAY 94-E	27 MAY 94-EA
105646-0003-SA	AQUEOUS	8270-A	27 MAY 94-E	27 MAY 94-E	27 MAY 94-EA
105646-0004-MS	AQUEOUS	8270-A	27 MAY 94-E	27 MAY 94-E	27 MAY 94-EA
105646-0004-SA	AQUEOUS	8270-A	27 MAY 94-E	27 MAY 94-E	27 MAY 94-EA
105646-0004-SD	AQUEOUS	8270-A	27 MAY 94-E	27 MAY 94-E	27 MAY 94-EA

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105646

Test: 8270-HLA-A Method 8270 - Semivolatile Organics
Matrix: AQUEOUS
QC Run: 27 MAY 94-E Date Analyzed: 30 MAY 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodimethylamine	ND	ug/L	10
Phenol	ND	ug/L	10
bis(2-Chloroethyl) ether	ND	ug/L	10
2-Chlorophenol	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10
Benzyl alcohol	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
2-Methylphenol	ND	ug/L	10
bis(2-Chloroisopropyl)-ether	ND	ug/L	10
3/4-Methylphenol	ND	ug/L	10
N-Nitroso-di-n-propylamine	ND	ug/L	10
Hexachloroethane	ND	ug/L	10
Nitrobenzene	ND	ug/L	10
Isophorone	ND	ug/L	10
2-Nitrophenol	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
Benzoic acid	ND	ug/L	50
bis(2-Chloroethoxy)-methane	ND	ug/L	10
2,4-Dichlorophenol	ND	ug/L	10
1,2,4-Trichlorobenzene	ND	ug/L	10
Naphthalene	ND	ug/L	10
4-Chloroaniline	ND	ug/L	10
Hexachlorobutadiene	ND	ug/L	10
4-Chloro-3-methylphenol	ND	ug/L	10
2-Methylnaphthalene	ND	ug/L	10
Hexachlorocyclopentadiene	ND	ug/L	10
2,4,6-Trichlorophenol	ND	ug/L	10
2,4,5-Trichlorophenol	ND	ug/L	50
2-Chloronaphthalene	ND	ug/L	10
2-Nitroaniline	ND	ug/L	50
Dimethyl phthalate	ND	ug/L	10
Acenaphthylene	ND	ug/L	10
3-Nitroaniline	ND	ug/L	50
Acenaphthene	ND	ug/L	10
2,4-Dinitrophenol	ND	ug/L	50
4-Nitrophenol	ND	ug/L	50
Dibenzofuran	ND	ug/L	10
2,4-Dinitrotoluene	ND	ug/L	10
2,6-Dinitrotoluene	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10
4-Chlorophenyl phenyl ether	ND	ug/L	10
Fluorene	ND	ug/L	10
4-Nitroaniline	ND	ug/L	50
4,6-Dinitro-2-methylphenol	ND	ug/L	50

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105646

Test: 8270-HLA-A Method 8270 - Semivolatile Organics
Matrix: AQUEOUS
QC Run: 27 MAY 94-E Date Analyzed: 30 MAY 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	ug/L	10
4-Bromophenyl phenyl ether	ND	ug/L	10
Hexachlorobenzene	ND	ug/L	10
Pentachlorophenol	ND	ug/L	50
Phenanthrene	ND	ug/L	10
Anthracene	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
Fluoranthene	ND	ug/L	10
Pyrene	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
3,3'-Dichlorobenzidine	ND	ug/L	20
Benzo(a)anthracene	ND	ug/L	10
bis(2-Ethylhexyl)-phthalate	ND	ug/L	10
Chrysene	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
Indeno(1,2,3-c,d)pyrene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Xylidine (Total)	ND	ug/L	10
Benzo(g,h,i)perylene	ND	ug/L	10

ND = Not Detected

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Corning Environmental Services

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105646

Category: 8270-A Acid, Base and Neutrals by GC/MS
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 27 MAY 94-EA
Units: ug/L

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	204	201	400	51	50	1.5	10-115	57
2-Chlorophenol	ND	321	326	400	80	82	1.5	36-111	37
1,4-Dichlorobenzene	ND	149	144	200	74	72	3.4	46-100	32
N-Nitroso-di-n-propylamine	ND	152	156	200	76	78	2.6	45-118	30
1,2,4-Trichlorobenzene	ND	145	145	200	72	72	0.0	50-107	26
4-Chloro-3-methylphenol	ND	322	321	400	80	80	0.3	36-128	36
Acenaphthene	ND	163	164	200	82	82	0.6	52-119	23
4-Nitrophenol	ND	207	189	400	52	47	9.1	10-159	49
2,4-Dinitrotoluene	ND	163	169	200	82	84	3.6	32-120	30
Pentachlorophenol	ND	354	366	400	88	92	3.3	30-152	39
Pyrene	ND	172	187	200	86	94	8.4	38-126	34

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105646

Category: 8270-A Acid, Base and Neutrals by GC/MS
Matrix: AQUEOUS
QC Run: 27 MAY 94-E Date Analyzed: 30 MAY 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	200	135	68	21-100
Phenol-d5	200	85.4	43	10-94
Nitrobenzene-d5	100	72.3	72	41-121
2-Fluorobiphenyl	100	74.8	75	43-116
2,4,6-Tribromophenol	200	165	82	31-129
Terphenyl-d14	100	73.5	74	38-132

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105646

Category: 8270-A Acid, Base and Neutrals by GC/MS
Matrix: AQUEOUS
QC Lot: 27 MAY 94-E Date Analyzed: 30 MAY 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	200	99.4	97.3	98.4	49	8-117	2.1	27
2-Chlorophenol	200	159	156	158	79	50-108	1.9	22
1,4-Dichlorobenzene	100	73.4	71.9	72.6	73	47-104	2.1	19
N-Nitroso-di-n-propylamine	100	80.4	77.0	78.7	79	50-109	4.3	20
1,2,4-Trichlorobenzene	100	71.3	71.0	71.2	71	48-115	0.42	20
4-Chloro-3-methylphenol	200	161	156	158	79	45-120	3.2	22
Acenaphthene	100	79.2	78.0	78.6	79	51-115	1.5	18
4-Nitrophenol	200	94.0	87.9	91.0	45	10-145	6.7	49
2,4-Dinitrotoluene	100	79.8	79.0	79.4	79	29-114	1.0	24
Pentachlorophenol	200	171	164	168	84	45-135	4.2	25
Pyrene	100	88.2	85.6	86.9	87	30-142	3.0	25

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-1
LAB ID: 105646-0001-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodimethylamine	ND		5.0	ug/L	10
Phenol	ND		2.5	ug/L	10
bis(2-Chloroethyl) ether	ND		1.0	ug/L	10
2-Chlorophenol	ND		2.8	ug/L	10
1,3-Dichlorobenzene	ND		2.4	ug/L	10
1,4-Dichlorobenzene	ND		1.9	ug/L	10
Benzyl alcohol	ND		3.3	ug/L	10
1,2-Dichlorobenzene	ND		2.5	ug/L	10
2-Methylphenol	ND		3.2	ug/L	10
bis(2-Chloroisopropyl)-ether	ND		3.8	ug/L	10
3/4-Methylphenol	ND		3.2	ug/L	10
N-Nitroso-di-n-propylamine	ND		3.2	ug/L	10
Hexachloroethane	ND		3.1	ug/L	10
Nitrobenzene	ND		1.3	ug/L	10
Isophorone	ND		1.0	ug/L	10
2-Nitrophenol	ND		2.5	ug/L	10
2,4-Dimethylphenol	ND		6.9	ug/L	10
Benzoic acid	ND		18	ug/L	50
bis(2-Chloroethoxy)-methane	ND		1.2	ug/L	10
2,4-Dichlorophenol	ND		2.2	ug/L	10
1,2,4-Trichlorobenzene	ND		2.2	ug/L	10
Naphthalene	ND		1.7	ug/L	10
4-Chloroaniline	ND		1.4	ug/L	10
Hexachlorobutadiene	ND		1.3	ug/L	10
4-Chloro-3-methylphenol	ND		4.1	ug/L	10
2-Methylnaphthalene	ND		1.0	ug/L	10
Hexachlorocyclopentadiene	ND		6.8	ug/L	10
2,4,6-Trichlorophenol	ND		3.9	ug/L	10
2,4,5-Trichlorophenol	ND		2.5	ug/L	50
2-Chloronaphthalene	ND		2.5	ug/L	10
2-Nitroaniline	ND		16	ug/L	50
Dimethyl phthalate	ND		1.4	ug/L	10
Acenaphthylene	ND		1.2	ug/L	10
3-Nitroaniline	ND		6.8	ug/L	50
Acenaphthene	ND		1.6	ug/L	10
2,4-Dinitrophenol	ND		11	ug/L	50
4-Nitrophenol	ND		11	ug/L	50
Dibenzofuran	ND		1.5	ug/L	10
2,4-Dinitrotoluene	ND		1.8	ug/L	10
2,6-Dinitrotoluene	ND		2.3	ug/L	10
Diethyl phthalate	ND		2.1	ug/L	10
4-Chlorophenyl phenyl ether	ND		2.0	ug/L	10
Fluorene	ND		1.7	ug/L	10
4-Nitroaniline	ND		9.5	ug/L	50

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-1
LAB ID: 105646-0001-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		11	ug/L	50
N-Nitrosodiphenylamine	ND		1.6	ug/L	10
4-Bromophenyl phenyl ether	ND		3.1	ug/L	10
Hexachlorobenzene	ND		1.7	ug/L	10
Pentachlorophenol	ND		5.7	ug/L	50
Phenanthrene	ND		1.0	ug/L	10
Anthracene	ND		0.64	ug/L	10
Di-n-butyl phthalate	ND		1.8	ug/L	10
Fluoranthene	ND		1.6	ug/L	10
Pyrene	ND		0.92	ug/L	10
Butyl benzyl phthalate	ND		1.7	ug/L	10
3,3'-Dichlorobenzidine	ND		2.3	ug/L	20
Benzo(a)anthracene	ND		1.0	ug/L	10
bis(2-Ethylhexyl)-phthalate	ND		1.8	ug/L	10
Chrysene	ND		1.6	ug/L	10
Di-n-octyl phthalate	ND		1.8	ug/L	10
Benzo(b)fluoranthene	ND		1.8	ug/L	10
Benzo(k)fluoranthene	ND		2.8	ug/L	10
Benzo(a)pyrene	ND		1.1	ug/L	10
Indeno(1,2,3-c,d)pyrene	ND		1.6	ug/L	10
Dibenz(a,h)anthracene	ND		1.5	ug/L	10
Benzo(g,h,i)perylene	ND		0.78	ug/L	10
Xylidine (Total)	ND		7.8	ug/L	10

Surrogate	Recovery	
2-Fluorophenol	50	%
Phenol-d5	27	%
Nitrobenzene-d5	76	%
2-Fluorobiphenyl	80	%
2,4,6-Tribromophenol	90	%
Terphenyl-d14	84	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-11
LAB ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodimethylamine	ND		5.0	ug/L	10
Phenol	ND		2.5	ug/L	10
bis(2-Chloroethyl) ether	ND		1.0	ug/L	10
2-Chlorophenol	ND		2.8	ug/L	10
1,3-Dichlorobenzene	ND		2.4	ug/L	10
1,4-Dichlorobenzene	ND		1.9	ug/L	10
Benzyl alcohol	ND		3.3	ug/L	10
1,2-Dichlorobenzene	ND		2.5	ug/L	10
2-Methylphenol	ND		3.2	ug/L	10
bis(2-Chloroisopropyl)-ether	ND		3.8	ug/L	10
3/4-Methylphenol	ND		3.2	ug/L	10
N-Nitroso-di-n-propylamine	ND		3.2	ug/L	10
Hexachloroethane	ND		3.1	ug/L	10
Nitrobenzene	ND		1.3	ug/L	10
Isophorone	ND		1.0	ug/L	10
2-Nitrophenol	ND		2.5	ug/L	10
2,4-Dimethylphenol	ND		6.9	ug/L	10
Benzoic acid	ND		18	ug/L	50
bis(2-Chloroethoxy)-methane	ND		1.2	ug/L	10
2,4-Dichlorophenol	ND		2.2	ug/L	10
1,2,4-Trichlorobenzene	ND		2.2	ug/L	10
Naphthalene	ND		1.7	ug/L	10
4-Chloroaniline	ND		1.4	ug/L	10
Hexachlorobutadiene	ND		1.3	ug/L	10
4-Chloro-3-methylphenol	ND		4.1	ug/L	10
2-Methylnaphthalene	ND		1.0	ug/L	10
Hexachlorocyclopentadiene	ND		6.8	ug/L	10
2,4,6-Trichlorophenol	ND		3.9	ug/L	10
2,4,5-Trichlorophenol	ND		2.5	ug/L	50
2-Chloronaphthalene	ND		2.5	ug/L	10
2-Nitroaniline	ND		16	ug/L	50
Dimethyl phthalate	ND		1.4	ug/L	10
Acenaphthylene	ND		1.2	ug/L	10
3-Nitroaniline	ND		6.8	ug/L	50
Acenaphthene	ND		1.6	ug/L	10
2,4-Dinitrophenol	ND		11	ug/L	50
4-Nitrophenol	ND		11	ug/L	50
Dibenzofuran	ND		1.5	ug/L	10
2,4-Dinitrotoluene	ND		1.8	ug/L	10
2,6-Dinitrotoluene	ND		2.3	ug/L	10
Diethyl phthalate	ND		2.1	ug/L	10
4-Chlorophenyl phenyl ether	ND		2.0	ug/L	10
Fluorene	ND		1.7	ug/L	10
4-Nitroaniline	ND		9.5	ug/L	50

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-11
LAB ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		11	ug/L	50
N-Nitrosodiphenylamine	ND		1.6	ug/L	10
4-Bromophenyl phenyl ether	ND		3.1	ug/L	10
Hexachlorobenzene	ND		1.7	ug/L	10
Pentachlorophenol	ND		5.7	ug/L	50
Phenanthrene	ND		1.0	ug/L	10
Anthracene	ND		0.64	ug/L	10
Di-n-butyl phthalate	ND		1.8	ug/L	10
Fluoranthene	ND		1.6	ug/L	10
Pyrene	ND		0.92	ug/L	10
Butyl benzyl phthalate	ND		1.7	ug/L	10
3,3'-Dichlorobenzidine	ND		2.3	ug/L	20
Benzo(a)anthracene	ND		1.0	ug/L	10
bis(2-Ethylhexyl)-phthalate	ND		1.8	ug/L	10
Chrysene	ND		1.6	ug/L	10
Di-n-octyl phthalate	ND		1.8	ug/L	10
Benzo(b)fluoranthene	ND		1.8	ug/L	10
Benzo(k)fluoranthene	ND		2.8	ug/L	10
Benzo(a)pyrene	ND		1.1	ug/L	10
Indeno(1,2,3-c,d)pyrene	ND		1.6	ug/L	10
Dibenz(a,h)anthracene	ND		1.5	ug/L	10
Benzo(g,h,i)perylene	ND		0.78	ug/L	10
Xylidine (Total)	ND		7.8	ug/L	10

Surrogate	Recovery	
2-Fluorophenol	55	%
Phenol-d5	30	%
Nitrobenzene-d5	74	%
2-Fluorobiphenyl	81	%
2,4,6-Tribromophenol	88	%
Terphenyl-d14	82	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-12
LAB ID: 105646-0003-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodimethylamine	ND		5.0	ug/L	10
Phenol	ND		2.5	ug/L	10
bis(2-Chloroethyl) ether	ND		1.0	ug/L	10
2-Chlorophenol	ND		2.8	ug/L	10
1,3-Dichlorobenzene	ND		2.4	ug/L	10
1,4-Dichlorobenzene	ND		1.9	ug/L	10
Benzyl alcohol	ND		3.3	ug/L	10
1,2-Dichlorobenzene	ND		2.5	ug/L	10
2-Methylphenol	ND		3.2	ug/L	10
bis(2-Chloroisopropyl)-ether	ND		3.8	ug/L	10
3/4-Methylphenol	ND		3.2	ug/L	10
N-Nitroso-di-n-propylamine	ND		3.2	ug/L	10
Hexachloroethane	ND		3.1	ug/L	10
Nitrobenzene	ND		1.3	ug/L	10
Isophorone	ND		1.0	ug/L	10
2-Nitrophenol	ND		2.5	ug/L	10
2,4-Dimethylphenol	ND		6.9	ug/L	10
Benzoic acid	ND		18	ug/L	50
bis(2-Chloroethoxy)-methane	ND		1.2	ug/L	10
2,4-Dichlorophenol	ND		2.2	ug/L	10
1,2,4-Trichlorobenzene	ND		2.2	ug/L	10
Naphthalene	ND		1.7	ug/L	10
4-Chloroaniline	ND		1.4	ug/L	10
Hexachlorobutadiene	ND		1.3	ug/L	10
4-Chloro-3-methylphenol	ND		4.1	ug/L	10
2-Methylnaphthalene	ND		1.0	ug/L	10
Hexachlorocyclopentadiene	ND		6.8	ug/L	10
2,4,6-Trichlorophenol	ND		3.9	ug/L	10
2,4,5-Trichlorophenol	ND		2.5	ug/L	50
2-Chloronaphthalene	ND		2.5	ug/L	10
2-Nitroaniline	ND		16	ug/L	50
Dimethyl phthalate	ND		1.4	ug/L	10
Acenaphthylene	ND		1.2	ug/L	10
3-Nitroaniline	ND		6.8	ug/L	50
Acenaphthene	ND		1.6	ug/L	10
2,4-Dinitrophenol	ND		11	ug/L	50
4-Nitrophenol	ND		11	ug/L	50
Dibenzofuran	ND		1.5	ug/L	10
2,4-Dinitrotoluene	ND		1.8	ug/L	10
2,6-Dinitrotoluene	ND		2.3	ug/L	10
Diethyl phthalate	ND		2.1	ug/L	10
4-Chlorophenyl phenyl ether	ND		2.0	ug/L	10
Fluorene	ND		1.7	ug/L	10
4-Nitroaniline	ND		9.5	ug/L	50

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-12
LAB ID: 105646-0003-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		11	ug/L	50
N-Nitrosodiphenylamine	ND		1.6	ug/L	10
4-Bromophenyl phenyl ether	ND		3.1	ug/L	10
Hexachlorobenzene	ND		1.7	ug/L	10
Pentachlorophenol	ND		5.7	ug/L	50
Phenanthrene	ND		1.0	ug/L	10
Anthracene	ND		0.64	ug/L	10
Di-n-butyl phthalate	ND		1.8	ug/L	10
Fluoranthene	ND		1.6	ug/L	10
Pyrene	ND		0.92	ug/L	10
Butyl benzyl phthalate	ND		1.7	ug/L	10
3,3'-Dichlorobenzidine	ND		2.3	ug/L	20
Benzo(a)anthracene	ND		1.0	ug/L	10
bis(2-Ethylhexyl)-phthalate	ND		1.8	ug/L	10
Chrysene	ND		1.6	ug/L	10
Di-n-octyl phthalate	ND		1.8	ug/L	10
Benzo(b)fluoranthene	ND		1.8	ug/L	10
Benzo(k)fluoranthene	ND		2.8	ug/L	10
Benzo(a)pyrene	ND		1.1	ug/L	10
Indeno(1,2,3-c,d)pyrene	ND		1.6	ug/L	10
Dibenz(a,h)anthracene	ND		1.5	ug/L	10
Benzo(g,h,i)perylene	ND		0.78	ug/L	10
Xylidine (Total)	ND		7.8	ug/L	10

Surrogate	Recovery	
2-Fluorophenol	57	%
Phenol-d5	30	%
Nitrobenzene-d5	75	%
2-Fluorobiphenyl	80	%
2,4,6-Tribromophenol	89	%
Terphenyl-d14	84	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5
LAB ID: 105646-0004-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodimethylamine	ND		5.0	ug/L	10
Phenol	ND		2.5	ug/L	10
bis(2-Chloroethyl) ether	ND		1.0	ug/L	10
2-Chlorophenol	ND		2.8	ug/L	10
1,3-Dichlorobenzene	ND		2.4	ug/L	10
1,4-Dichlorobenzene	ND		1.9	ug/L	10
Benzyl alcohol	ND		3.3	ug/L	10
1,2-Dichlorobenzene	ND		2.5	ug/L	10
2-Methylphenol	ND		3.2	ug/L	10
bis(2-Chloroisopropyl)-ether	ND		3.8	ug/L	10
3/4-Methylphenol	ND		3.2	ug/L	10
N-Nitroso-di-n-propylamine	ND		3.2	ug/L	10
Hexachloroethane	ND		3.1	ug/L	10
Nitrobenzene	ND		1.3	ug/L	10
Isophorone	ND		1.0	ug/L	10
2-Nitrophenol	ND		2.5	ug/L	10
2,4-Dimethylphenol	ND		6.9	ug/L	10
Benzoic acid	ND		18	ug/L	50
bis(2-Chloroethoxy)-methane	ND		1.2	ug/L	10
2,4-Dichlorophenol	ND		2.2	ug/L	10
1,2,4-Trichlorobenzene	ND		2.2	ug/L	10
Naphthalene	ND		1.7	ug/L	10
4-Chloroaniline	ND		1.4	ug/L	10
Hexachlorobutadiene	ND		1.3	ug/L	10
4-Chloro-3-methylphenol	ND		4.1	ug/L	10
2-Methylnaphthalene	ND		1.0	ug/L	10
Hexachlorocyclopentadiene	ND		6.8	ug/L	10
2,4,6-Trichlorophenol	ND		3.9	ug/L	10
2,4,5-Trichlorophenol	ND		2.5	ug/L	50
2-Chloronaphthalene	ND		2.5	ug/L	10
2-Nitroaniline	ND		16	ug/L	50
Dimethyl phthalate	ND		1.4	ug/L	10
Acenaphthylene	ND		1.2	ug/L	10
3-Nitroaniline	ND		6.8	ug/L	50
Acenaphthene	ND		1.6	ug/L	10
2,4-Dinitrophenol	ND		11	ug/L	50
4-Nitrophenol	ND		11	ug/L	50
Dibenzofuran	ND		1.5	ug/L	10
2,4-Dinitrotoluene	ND		1.8	ug/L	10
2,6-Dinitrotoluene	ND		2.3	ug/L	10
Diethyl phthalate	ND		2.1	ug/L	10
4-Chlorophenyl phenyl ether	ND		2.0	ug/L	10
Fluorene	ND		1.7	ug/L	10
4-Nitroaniline	ND		9.5	ug/L	50

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: MW-5
LAB ID: 105646-0004-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 27 MAY 94 Analyzed: 31 MAY 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		11	ug/L	50
N-Nitrosodiphenylamine	ND		1.6	ug/L	10
4-Bromophenyl phenyl ether	ND		3.1	ug/L	10
Hexachlorobenzene	ND		1.7	ug/L	10
Pentachlorophenol	ND		5.7	ug/L	50
Phenanthrene	ND		1.0	ug/L	10
Anthracene	ND		0.64	ug/L	10
Di-n-butyl phthalate	ND		1.8	ug/L	10
Fluoranthene	ND		1.6	ug/L	10
Pyrene	ND		0.92	ug/L	10
Butyl benzyl phthalate	ND		1.7	ug/L	10
3,3'-Dichlorobenzidine	ND		2.3	ug/L	20
Benzo(a)anthracene	ND		1.0	ug/L	10
bis(2-Ethylhexyl)-phthalate	ND		1.8	ug/L	10
Chrysene	ND		1.6	ug/L	10
Di-n-octyl phthalate	ND		1.8	ug/L	10
Benzo(b)fluoranthene	ND		1.8	ug/L	10
Benzo(k)fluoranthene	ND		2.8	ug/L	10
Benzo(a)pyrene	ND		1.1	ug/L	10
Indeno(1,2,3-c,d)pyrene	ND		1.6	ug/L	10
Dibenz(a,h)anthracene	ND		1.5	ug/L	10
Benzo(g,h,i)perylene	ND		0.78	ug/L	10
Xylidine (Total)	ND		7.8	ug/L	10

Surrogate	Recovery	
2-Fluorophenol	51	%
Phenol-d5	26	%
Nitrobenzene-d5	72	%
2-Fluorobiphenyl	77	%
2,4,6-Tribromophenol	88	%
Terphenyl-d14	81	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105646-0002-SA	AQUEOUS	PCB-A	31 MAY 94-D	31 MAY 94-D	31 MAY 94-DA
105646-0003-SA	AQUEOUS	PCB-A	31 MAY 94-D	31 MAY 94-D	31 MAY 94-DA
105646-0004-MS	AQUEOUS	PCB-A	31 MAY 94-D	31 MAY 94-D	31 MAY 94-DA
105646-0004-SA	AQUEOUS	PCB-A	31 MAY 94-D	31 MAY 94-D	31 MAY 94-DA
105646-0004-SD	AQUEOUS	PCB-A	31 MAY 94-D	31 MAY 94-D	31 MAY 94-DA

METHOD BLANK REPORT
Semivolatile Organics by GC
Project: 105646

Test: 8080-PCB-HLA-A Method 8080 - PCBs
Matrix: AQUEOUS
QC Run: 31 MAY 94-D Date Analyzed: 01 JUN 94

Analyte	Result	Units	Reporting Limit
Aroclor 1016	ND	ug/L	0.50
Aroclor 1221	ND	ug/L	0.50
Aroclor 1232	ND	ug/L	0.50
Aroclor 1242	ND	ug/L	0.50
Aroclor 1248	ND	ug/L	0.50
Aroclor 1254	ND	ug/L	0.50
Aroclor 1260	ND	ug/L	0.50

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC
Project: 105646

Category: PCB-A PCBs
Matrix: AQUEOUS
Sample: 105646-0002
MS Run: 31 MAY 94-DA
Units ug/L Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Aroclor 1254	ND	10.2	10.5	10.0	102	105	2.9	50-150	40

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC
Project: 105646

Category: PCB-A PCBs
Matrix: AQUEOUS
QC Run: 31 MAY 94-D
Concentration Units: ug/L

Date Analyzed: 01 JUN 94

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Dibutyl chlorendate	1.00	0.976	98	30-150

Calculations are performed before rounding to avoid round-off errors in calculated results.

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DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC
Project: 105646

Category: PCB-A PCBs
Matrix: AQUEOUS
QC Lot: 31 MAY 94-D
Concentration Units: ug/L

Date Analyzed: 01 JUN 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Aroclor 1254	5.00	5.43	5.04	5.24	105	50-150	7.4	40

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

HLA-PCB's
Method 8080

Client Name: Harding Lawson Associates
Client ID: MW-11
LAB ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Aroclor 1016	ND		0.19	ug/L	0.50
Aroclor 1221	ND		0.19	ug/L	0.50
Aroclor 1232	ND		0.19	ug/L	0.50
Aroclor 1242	ND		0.19	ug/L	0.50
Aroclor 1248	ND		0.19	ug/L	0.50
Aroclor 1254	ND		0.19	ug/L	0.50
Aroclor 1260	ND		0.19	ug/L	0.50

Surrogate	Recovery	
Dibutyl chlorendate	100	%

ND = Not Detected

Enseco
Corning Environmental Services

HLA-PCB's
Method 8080

Client Name: Harding Lawson Associates
Client ID: MW-12
LAB ID: 105646-0003-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Aroclor 1016	ND		0.19	ug/L	0.50
Aroclor 1221	ND		0.19	ug/L	0.50
Aroclor 1232	ND		0.19	ug/L	0.50
Aroclor 1242	ND		0.19	ug/L	0.50
Aroclor 1248	ND		0.19	ug/L	0.50
Aroclor 1254	ND		0.19	ug/L	0.50
Aroclor 1260	ND		0.19	ug/L	0.50

Surrogate	Recovery	
Dibutyl chlorendate	94	%

ND = Not Detected

Enseco
Corning Environmental Services

HLA-PCB's
Method 8080

Client Name: Harding Lawson Associates
Client ID: MW-5
LAB ID: 105646-0004-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Aroclor 1016	ND		0.19	ug/L	0.50
Aroclor 1221	ND		0.19	ug/L	0.50
Aroclor 1232	ND		0.19	ug/L	0.50
Aroclor 1242	ND		0.19	ug/L	0.50
Aroclor 1248	ND		0.19	ug/L	0.50
Aroclor 1254	ND		0.19	ug/L	0.50
Aroclor 1260	ND		0.19	ug/L	0.50

Surrogate	Recovery	
Dibutyl chlorendate	102	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Subcontracted to Enseco Lab

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105646-0002-SA	AQUEOUS	DXNFUR-A	16 MAY 94-A		
105646-0003-SA	AQUEOUS	DXNFUR-A	16 MAY 94-A		
105646-0004-MB	AQUEOUS	DXNFUR-A	16 MAY 94-A		
105646-0004-SA	AQUEOUS	DXNFUR-A	16 MAY 94-A		

Enseco
Corning Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Subcontracted to Enseco Lab
Project: 105646

Category: DXNFUR-A C14-C18 Dioxin and Furans by Low Resolution MS
Matrix: AQUEOUS
QC Lot: 16 MAY 94-A Date Analyzed: 25 MAY 94
Concentration Units: ng

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
2,3,7,8-TCDF	10.0	11.0	11.0	11.0	110	62-129	0.0	18
2,3,4,7,8-PeCDF	10.0	9.50	8.50	9.00	90	51-132	11	24
1,2,3,4,7,8-HxCDF	10.0	8.60	8.50	8.55	86	50-146	1.2	41
1,2,3,4,6,7,8-HpCDF	10.0	9.90	9.50	9.70	97	50-150	4.1	50
OCDF	50.0	57.0	56.0	56.5	113	50-150	1.8	28
2,3,7,8-TCDD	10.0	11.0	11.0	11.0	110	57-128	0.0	20
1,2,3,7,8-PeCDD	10.0	9.50	9.00	9.25	93	80-125	5.4	25
1,2,3,4,7,8-HxCDD	10.0	8.80	8.20	8.50	85	64-127	7.1	23
1,2,3,4,6,7,8-HpCDD	10.0	10.0	10.0	10.0	100	60-131	0.0	23
OCDD	50.0	53.0	52.0	52.5	105	50-147	1.9	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-11
Lab ID: 105646-0002-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 03 JUN 94

Sample Amount 1.06 L
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/L	0.35	
2,3,7,8-TCDF	ND	ng/L	0.35	
PeCDFs (total)	ND	ng/L	0.19	
1,2,3,7,8-PeCDF	ND	ng/L	0.19	
2,3,4,7,8-PeCDF	ND	ng/L	0.19	
HxCDFs (total)	ND	ng/L	0.24	
1,2,3,4,7,8-HxCDF	ND	ng/L	0.24	
1,2,3,6,7,8-HxCDF	ND	ng/L	0.24	
2,3,4,6,7,8-HxCDF	ND	ng/L	0.24	
1,2,3,7,8,9-HxCDF	ND	ng/L	0.24	
HpCDFs (total)	ND	ng/L	0.18	
1,2,3,4,6,7,8-HpCDF	ND	ng/L	0.18	
1,2,3,4,7,8,9-HpCDF	ND	ng/L	0.18	
OCDF	ND	ng/L	0.73	
Dioxins				
TCDDs (total)	ND	ng/L	0.15	
2,3,7,8-TCDD	ND	ng/L	0.15	
PeCDDs (total)	ND	ng/L	0.76	
1,2,3,7,8-PeCDD	ND	ng/L	0.76	
HxCDDs (total)	ND	ng/L	0.46	
1,2,3,4,7,8-HxCDD	ND	ng/L	0.46	
1,2,3,6,7,8-HxCDD	ND	ng/L	0.46	
1,2,3,7,8,9-HxCDD	ND	ng/L	0.46	
HpCDDs (total)	ND	ng/L	0.20	
1,2,3,4,6,7,8-HpCDD	ND	ng/L	0.20	
OCDD	ND	ng/L	0.43	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: DWALKER Approved By: RHRABAK

Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS (CONT.)
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-11
Lab ID: 105646-0002-SA
Matrix: AQUEOUS
Authorized: 27 MAY 94

Sampled: 25 MAY 94
Prepared: 31 MAY 94

Received: 25 MAY 94
Analyzed: 03 JUN 94

Sample Amount 1.06 L
Column Type DB-5

	% Recovery
13C-2,3,7,8-TCDF	69
13C-2,3,7,8-TCDD	72
13C-1,2,3,7,8-PeCDD	76
13C-1,2,3,6,7,8-HxCDD	88
13C-1,2,3,4,6,7,8-HpCDD	78
13C-OCDD	67

ND = Not detected
NA = Not applicable

Reported By: DWALKER

Approved By: RHRABAK

Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-12
Lab ID: 105646-0003-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 03 JUN 94

Sample Amount 1.06 L
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/L	0.29	
2,3,7,8-TCDF	ND	ng/L	0.29	
PeCDFs (total)	ND	ng/L	0.095	
1,2,3,7,8-PeCDF	ND	ng/L	0.095	
2,3,4,7,8-PeCDF	ND	ng/L	0.095	
HxCDFs (total)	ND	ng/L	0.065	
1,2,3,4,7,8-HxCDF	ND	ng/L	0.065	
1,2,3,6,7,8-HxCDF	ND	ng/L	0.065	
2,3,4,6,7,8-HxCDF	ND	ng/L	0.065	
1,2,3,7,8,9-HxCDF	ND	ng/L	0.065	
HpCDFs (total)	ND	ng/L	0.11	
1,2,3,4,6,7,8-HpCDF	ND	ng/L	0.11	
1,2,3,4,7,8,9-HpCDF	ND	ng/L	0.11	
OCDF	ND	ng/L	0.41	
Dioxins				
TCDDs (total)	ND	ng/L	0.084	
2,3,7,8-TCDD	ND	ng/L	0.084	
PeCDDs (total)	ND	ng/L	0.25	
1,2,3,7,8-PeCDD	ND	ng/L	0.25	
HxCDDs (total)	ND	ng/L	0.10	
1,2,3,4,7,8-HxCDD	ND	ng/L	0.10	
1,2,3,6,7,8-HxCDD	ND	ng/L	0.10	
1,2,3,7,8,9-HxCDD	ND	ng/L	0.10	
HpCDDs (total)	ND	ng/L	0.11	
1,2,3,4,6,7,8-HpCDD	ND	ng/L	0.11	
OCDD	ND	ng/L	0.20	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: DWALKER Approved By: RHRABAK

Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS (CONT.)
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-12
Lab ID: 105646-0003-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 03 JUN 94

Sample Amount 1.06 L
Column Type DB-5

	% Recovery
13C-2,3,7,8-TCDF	67
13C-2,3,7,8-TCDD	71
13C-1,2,3,7,8-PeCDD	77
13C-1,2,3,6,7,8-HxCDD	89
13C-1,2,3,4,6,7,8-HpCDD	74
13C-OCDD	58

ND = Not detected
NA = Not applicable

Reported By: DWALKER Approved By: RHRABAK

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Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-5
Lab ID: 105646-0004-MB
Matrix: AQUEOUS Sampled: NA Received: NA
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 03 JUN 94

Sample Amount 1.00 L
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/L	0.45	
2,3,7,8-TCDF	ND	ng/L	0.45	
PeCDFs (total)	ND	ng/L	0.18	
1,2,3,7,8-PeCDF	ND	ng/L	0.18	
2,3,4,7,8-PeCDF	ND	ng/L	0.18	
HxCDFs (total)	ND	ng/L	0.27	
1,2,3,4,7,8-HxCDF	ND	ng/L	0.27	
1,2,3,6,7,8-HxCDF	ND	ng/L	0.27	
2,3,4,6,7,8-HxCDF	ND	ng/L	0.27	
1,2,3,7,8,9-HxCDF	ND	ng/L	0.27	
HpCDFs (total)	ND	ng/L	0.25	
1,2,3,4,6,7,8-HpCDF	ND	ng/L	0.25	
1,2,3,4,7,8,9-HpCDF	ND	ng/L	0.25	
OCDF	ND	ng/L	1.4	
Dioxins				
TCDDs (total)	ND	ng/L	0.22	
2,3,7,8-TCDD	ND	ng/L	0.22	
PeCDDs (total)	ND	ng/L	0.62	
1,2,3,7,8-PeCDD	ND	ng/L	0.62	
HxCDDs (total)	ND	ng/L	0.47	
1,2,3,4,7,8-HxCDD	ND	ng/L	0.47	
1,2,3,6,7,8-HxCDD	ND	ng/L	0.47	
1,2,3,7,8,9-HxCDD	ND	ng/L	0.47	
HpCDDs (total)	ND	ng/L	0.32	
1,2,3,4,6,7,8-HpCDD	ND	ng/L	0.32	
OCDD	ND	ng/L	0.78	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: DWALKER Approved By: RHRABAK

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Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS (CONT.)
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-5
Lab ID: 105646-0004-MB
Matrix: AQUEOUS Sampled: NA Received: NA
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 03 JUN 94

Sample Amount 1.00 L
Column Type DB-5

	% Recovery
13C-2,3,7,8-TCDF	76
13C-2,3,7,8-TCDD	69
13C-1,2,3,7,8-PeCDD	82
13C-1,2,3,6,7,8-HxCDD	88
13C-1,2,3,4,6,7,8-HpCDD	74
13C-OCDD	78

ND = Not detected
NA = Not applicable

Reported By: DWALKER Approved By: RHRABAK

Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-5
Lab ID: 105646-0004-SA
Matrix: AQUEOUS Sampled: 25 MAY 94 Received: 25 MAY 94
Authorized: 27 MAY 94 Prepared: 31 MAY 94 Analyzed: 03 JUN 94

Sample Amount 1.06 L
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/L	0.40	
2,3,7,8-TCDF	ND	ng/L	0.40	
PeCDFs (total)	ND	ng/L	0.10	
1,2,3,7,8-PeCDF	ND	ng/L	0.10	
2,3,4,7,8-PeCDF	ND	ng/L	0.10	
HxCDFs (total)	ND	ng/L	0.17	
1,2,3,4,7,8-HxCDF	ND	ng/L	0.17	
1,2,3,6,7,8-HxCDF	ND	ng/L	0.17	
2,3,4,6,7,8-HxCDF	ND	ng/L	0.17	
1,2,3,7,8,9-HxCDF	ND	ng/L	0.17	
HpCDFs (total)	ND	ng/L	0.15	
1,2,3,4,6,7,8-HpCDF	ND	ng/L	0.15	
1,2,3,4,7,8,9-HpCDF	ND	ng/L	0.15	
OCDF	ND	ng/L	0.53	
Dioxins				
TCDDs (total)	ND	ng/L	0.16	
2,3,7,8-TCDD	ND	ng/L	0.16	
PeCDDs (total)	ND	ng/L	0.36	
1,2,3,7,8-PeCDD	ND	ng/L	0.36	
HxCDDs (total)	ND	ng/L	0.21	
1,2,3,4,7,8-HxCDD	ND	ng/L	0.21	
1,2,3,6,7,8-HxCDD	ND	ng/L	0.21	
1,2,3,7,8,9-HxCDD	ND	ng/L	0.21	
HpCDDs (total)	ND	ng/L	0.13	
1,2,3,4,6,7,8-HpCDD	ND	ng/L	0.13	
OCDD	ND	ng/L	0.34	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: DWALKER Approved By: RHRABAK

Enseco
Corning Environmental Services

POLYCHLORINATED DIOXINS/FURANS
ISOMER SPECIFIC ANALYSIS (CONT.)
LOW RESOLUTION

Client Name: Harding Lawson Associates
Client ID: MW-5
Lab ID: 105646-0004-SA
Matrix: AQUEOUS
Authorized: 27 MAY 94

Sampled: 25 MAY 94
Prepared: 31 MAY 94

Received: 25 MAY 94
Analyzed: 03 JUN 94

Sample Amount 1.06 L
Column Type DB-5

	% Recovery
13C-2,3,7,8-TCDF	67
13C-2,3,7,8-TCDD	68
13C-1,2,3,7,8-PeCDD	75
13C-1,2,3,6,7,8-HxCDD	87
13C-1,2,3,4,6,7,8-HpCDD	79
13C-OCDD	71

ND = Not detected
NA = Not applicable

Reported By: DWALKER

Approved By: RHRABAK

Enseco
Corning Environmental Services

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

June 6, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105670-0001/0004
DATE SAMPLED: 26-MAY-1994
DATE SAMPLE REC'D: 26-MAY-1994
PROJECT: (26522-13.5) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

James Cahill
REVIEWED

Sabina R. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive *use of the client to whom it is addressed. Any reproduction of this report* or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105670

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105670

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

There were no anomalies associated with this report.

Please note that methylene chloride was detected at trace levels in sample 105670-001 and trace levels were found in the corresponding method blank "06 JUN 94-AF." Methylene chloride is associated with sample processing and analysis in the lab environment. An acceptable method blank for the SW8240 analysis must contain less than three times the reporting limit (RL=5 ug/L) for this analyte.

Harding Lawson Associates
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

CHAIN OF CUSTODY FORM

105670

Lab: Enseco - CRL

Job Number: 26522-13.5
Name/Location: Aerojet - AISA
Project Manager: Tom Lindros

Samplers: Bob Witbaard + Peter M. Bozek
Recorder: [signature] (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	Chilled	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	Hold as per	change order from	S. Sudlko 5/27	9:30	[illegible]
10	X							3	X	[illegible]		P6714 10.4	94	05	26	1448	3x40 ml VOA			X								
10	X				2				X	[illegible]		Trip Blank	94	05	26	—	2x40 ml VOA			X				X				

Cooler Custody Seal #5265

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Send Report to Tom Harder @ Santa Ana HLA
						- Analyze per Aerojet-Contract
						-Metals Samples filtered
						- Report low (5-10 ppb) detection limits.
						-Complete LA. RWQCB WIP Forms
						- 48 hr holding Time on 300.0
						Questions? Call Tom Lindros @ 805) 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	[signature]	5-26-94 17:35
[signature]		5-26-94 18:45

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	5/26/94 1847

METHOD OF SHIPMENT

Laboratory Copy White | Project Copy Yellow | Field or Office Copy Pink

6533

Hardin Lawson Associates
351 R[illegible]Oaks Drive, Suite 100
Thous[illegible]aks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

CHAIN OF CUS[illegible]DY FORM

105670

Lab: Enseco-CRL

Samplers: Bob Wilbourn + Peter M. Bosk

Job Number: 26522-13,5

Name/Location: Aerojet - HISA

Project Manager: Tom Lindros

Recorder: (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	Chilled	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	Hold
1	0							3		[illegible]	17	NEH40.4	94	05	26	1545	3 x 40 ml VOA			X			
1	0				2					[illegible]		Trip Blank	94	05	26	—	2 x 40 ml VOA			X			X	

Custody Seal No's 5263

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						- Send Report to Tom Harder @ Santa Ana HLA - Analyze per Aerojet - Contract - Metals Samples filtered - Report low (5-10 ppb) detection limits - Complete L.A. RWQCB WTP Form - 48 hr Holding time on 300.0 Questions? Call Tom Lindros @ 805 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME: 5-26-94 17:35
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME: 5-26-94 18:45
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME: 5/26 1845

METHOD OF SHIPMENT: LAB Courier Pickup at Project Site

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105670-0001-SA	P6714.10.4	AQUEOUS	26 MAY 94	14:48	26 MAY 94
105670-0002-SA	171NEA.10.4	AQUEOUS	26 MAY 94	15:41	26 MAY 94
105670-0003-TB	TRIP BLANK	WATER-QA	26 MAY 94		26 MAY 94
105670-0004-TB	TRIP BLANK	WATER-QA	26 MAY 94		26 MAY 94

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105670-0001-SA	AQUEOUS	8240-A	27 MAY 94-AF	01 JUN 94-AF	31 MAY 94-BF
105670-0002-SA	AQUEOUS	8240-A	27 MAY 94-AF	01 JUN 94-AF	31 MAY 94-BF

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105670

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/L	10
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	5.0
Methylene chloride	TR	ug/L	5.0
Acetone	ND	ug/L	10
Trichlorofluoromethane	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Nitromethane	ND	ug/L	200
trans-1,2-Dichloroethene	ND	ug/L	5.0
cis-1,2-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
2,2-Dichloropropane	ND	ug/L	5.0
Bromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,1-Dichloropropene	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
1,3-Dichloropropane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
1,2-Dibromoethane (EDB)	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0
1-Methylethylbenzene	ND	ug/L	5.0
Bromobenzene	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
2-Chlorotoluene	ND	ug/L	5.0
n-Propyl benzene	ND	ug/L	5.0
1,3,5-Trimethylbenzene	ND	ug/L	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105670

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/L	5.0
tert-Butylbenzene	ND	ug/L	5.0
1,2,4-Trimethylbenzene	ND	ug/L	5.0
sec-Butylbenzene	ND	ug/L	5.0
Isopropyltoluene	ND	ug/L	5.0
1,3-Dichlorobenzene	ND	ug/L	5.0
1,4-Dichlorobenzene	ND	ug/L	5.0
n-Butylbenzene	ND	ug/L	5.0
1,2-Dichlorobenzene	ND	ug/L	5.0
1,2,4-Trichlorobenzene	ND	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	5.0
Hexachlorobutadiene	ND	ug/L	5.0
Naphthalene	ND	ug/L	5.0
1,2,3-Trichlorobenzene	ND	ug/L	5.0

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105670

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 31 MAY 94-BF
Units: ug/L

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	47.7	52.1	50.0	95	104	8.8	45-126	18
Trichloroethene	ND	48.6	52.6	50.0	97	105	7.9	74-131	17
Benzene	ND	47.2	50.0	50.0	94	100	5.8	76-128	14
Toluene	ND	47.0	50.5	50.0	94	101	7.2	73-128	15
Chlorobenzene	ND	46.8	49.5	50.0	94	99	5.6	80-131	16

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105670

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	46.7	93	82-121
Toluene-d8	50.0	47.6	95	88-110
Bromofluorobenzene	50.0	46.8	94	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105670

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Lot: 27 MAY 94-AF
Concentration Units: ug/L

Date Analyzed: 27 MAY 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	52.5	55.2	53.8	108	50-124	5.0	15
Trichloroethene	50.0	55.1	56.6	55.8	112	80-126	2.7	13
Benzene	50.0	53.2	54.1	53.6	107	78-124	1.7	13
Toluene	50.0	55.7	55.8	55.8	112	80-121	0.18	13
Chlorobenzene	50.0	53.4	54.7	54.0	108	82-131	2.4	13

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: P6714.10.4
LAB ID: 105670-0001-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	ND		0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	86		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	5.7		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	TR		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	TR		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	330		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	330		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0
tert-Butylbenzene	ND		1.0	ug/L	5.0

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: P6714.10.4
LAB ID: 105670-0001-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	93	%
Toluene-d8	94	%
Bromofluorobenzene	94	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: 171NEA.10.4
LAB ID: 105670-0002-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR	B	0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0

B = Compound is also detected in the blank.
ND = Not Detected

Enseco
Corning Environment Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: 171NEA.10.4
LAB ID: 105670-0002-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	92	%
Toluene-d8	93	%
Bromofluorobenzene	93	%

ND = Not Detected

Holding Time Report | Project: 105670 | Client: Harding Lawson Associates | Today: 06 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 8240 - Volatile Organics, EPA 8240 Extended List							Prep: P-VOASCR-A						Total: 2
1	P6714.10.4	105670-0001-SA	8240-HLA-A	8240	26 MAY 94	26 MAY 94	01 JUN 94	01 JUN 94	6	6	n/a		
2	171NEA.10.	105670-0002-SA	8240-HLA-A	8240	26 MAY 94	26 MAY 94	01 JUN 94	01 JUN 94	6	6	n/a		
Test: Method 5030 - Prep - Volatile Organics							Prep: n/a						Total: 2
1	P6714.10.4	105670-0001-SA	P-VOASCR-A	5030	26 MAY 94	26 MAY 94	01 JUN 94	n/a	6	6	n/a		
2	171NEA.10.	105670-0002-SA	P-VOASCR-A	5030	26 MAY 94	26 MAY 94	01 JUN 94	n/a	6	6	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
ETA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

Enseco
Corning Environmental Services

Enseco
Corning Environmental Services

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

June 6, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105670-0001/0004
DATE SAMPLED: 26-MAY-1994
DATE SAMPLE REC'D: 26-MAY-1994
PROJECT: (26522-13.5) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

James Cahill
REVIEWED

Sabina R. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105670

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105670

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

There were no anomalies associated with this report.

Please note that methylene chloride was detected at trace levels in sample 105670-001 and trace levels were found in the corresponding method blank "06 JUN 94-AF." Methylene chloride is associated with sample processing and analysis in the lab environment. An acceptable method blank for the SW8240 analysis must contain less than three times the reporting limit (RL=5 ug/L) for this analyte.

ding Lawson Associates
Rolling Oaks Drive, Suite 100
Thousand Oaks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

CHAIN OF STODY FORM

105670

Lab: Enseco - CRL

Samplers: Bob Witbaard + Peter M. Borek

Job Number: 26522-13.5

Name/Location: Aerojet - AISA

Project Manager: Tom Lindros

Recorder: [signature] (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	Chilled	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	Hold as per	change order from	S. Sudlko 5/27	9:30	Hunt
10	X							3	X	[illegible]	P6	7 4 10.4	94	05	26	1448	3x40 ml VOA			X								
10	X				2				X	[illegible]	Trip Blank		94	05	26	—	2x40 ml VOA			X				X				

Cooler Custody Seal #5265

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Send Report to Tom Harder @ Santa Ana HLA
						- Analyze per Aerojet-Contract
						-Metals Samples filtered
						- Report low (5-10 ppb) detection limits
						-Complete LA. RWQCB WIP Forms
						- 48 hr holding Time on 300.0
						Questions? Call Tom Lindros @ 805) 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	[signature]	5-26-94 17:35
[signature]	[signature]	5-26-94 18:45

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	5/26/94 1845

METHOD OF SHIPMENT

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

Harding Lawson Associates
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, CA 91361
(805) 494-7725 • (805) 494-8386 FAX

105670

CHAIN OF CUSTODY FORM

Lab: Enseco - CRL.

Job Number: 26522-13,5
Name/Location: Aerojet - AISA
Project Manager: Tom Lindros

Samplers: Bob Withoard + Peter M. Bozek
Recorder: [signature] (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCl	Chilled	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	Hold
1 0								3		~~[illegible]~~	17	INEA 104	94	05	26	1541	3 x 40 ml VOA			X				
1 0					2					~~[illegible]~~	Trip Blank		94	05	26	—	2 x 40 ml VOA.			X				X

Custody Seal No's 5263

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						-Send Report to Tom Harder @ Santa Ana HLA
						-Analyze per Aerojet-Contract
						-Metals Samples filtered
						-Report low (5-10ppb) detection limits
						-Complete L.A. RWQCB WIP Form
						-48 hr Holding time on 300.0
						Questions? Call Tom Lindros @ 805 494-7725

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	[signature]	5-26-94 17:35
[signature]	[signature]	5-26-94 18:45

DISPATCHED BY: (Signature)	DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
		[signature]	5/26 184

METHOD OF SHIPMENT: LAB Courier Pickup of Project S

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6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105670-0001-SA	P6714.10.4	AQUEOUS	26 MAY 94	14:48	26 MAY 94
105670-0002-SA	171NEA.10.4	AQUEOUS	26 MAY 94	15:41	26 MAY 94
105670-0003-TB	TRIP BLANK	WATER-QA	26 MAY 94		26 MAY 94
105670-0004-TB	TRIP BLANK	WATER-QA	26 MAY 94		26 MAY 94

Holding Time Report | Project: 105670 | Client: Harding Lawson Associates | Today: 06 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 8240 - Volatile Organics, EPA 8240 Extended List							Prep: P-VOASCR-A						Total: 2
1	P6714.10.4	105670-0001-SA	8240-HLA-A	8240	26 MAY 94	26 MAY 94	01 JUN 94	01 JUN 94	6	6	n/a		
2	171NEA.10.	105670-0002-SA	8240-HLA-A	8240	26 MAY 94	26 MAY 94	01 JUN 94	01 JUN 94	6	6	n/a		
Test: Method 5030 - Prep - Volatile Organics							Prep: n/a						Total: 2
1	P6714.10.4	105670-0001-SA	P-VOASCR-A	5030	26 MAY 94	26 MAY 94	01 JUN 94	n/a	6	6	n/a		
2	171NEA.10.	105670-0002-SA	P-VOASCR-A	5030	26 MAY 94	26 MAY 94	01 JUN 94	n/a	6	6	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
ETA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

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Corning Environmental Services

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105670

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/L	10
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	5.0
Methylene chloride	TR	ug/L	5.0
Acetone	ND	ug/L	10
Trichlorofluoromethane	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Nitromethane	ND	ug/L	200
trans-1,2-Dichloroethene	ND	ug/L	5.0
cis-1,2-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
2,2-Dichloropropane	ND	ug/L	5.0
Bromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,1-Dichloropropene	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
1,3-Dichloropropane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
1,2-Dibromoethane (EDB)	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0
1-Methylethylbenzene	ND	ug/L	5.0
Bromobenzene	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
2-Chlorotoluene	ND	ug/L	5.0
n-Propyl benzene	ND	ug/L	5.0
1,3,5-Trimethylbenzene	ND	ug/L	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105670

Test: 8240-HLA-A Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: AQUEOUS
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/L	5.0
tert-Butylbenzene	ND	ug/L	5.0
1,2,4-Trimethylbenzene	ND	ug/L	5.0
sec-Butylbenzene	ND	ug/L	5.0
Isopropyltoluene	ND	ug/L	5.0
1,3-Dichlorobenzene	ND	ug/L	5.0
1,4-Dichlorobenzene	ND	ug/L	5.0
n-Butylbenzene	ND	ug/L	5.0
1,2-Dichlorobenzene	ND	ug/L	5.0
1,2,4-Trichlorobenzene	ND	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	5.0
Hexachlorobutadiene	ND	ug/L	5.0
Naphthalene	ND	ug/L	5.0
1,2,3-Trichlorobenzene	ND	ug/L	5.0

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105670

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
Sample: 105646-0004
MS Run: 31 MAY 94-BF
Units: ug/L

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	47.7	52.1	50.0	95	104	8.8	45-126	18
Trichloroethene	ND	48.6	52.6	50.0	97	105	7.9	74-131	17
Benzene	ND	47.2	50.0	50.0	94	100	5.8	76-128	14
Toluene	ND	47.0	50.5	50.0	94	101	7.2	73-128	15
Chlorobenzene	ND	46.8	49.5	50.0	94	99	5.6	80-131	16

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105670

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94
Concentration Units: ug/L

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	46.7	93	82-121
Toluene-d8	50.0	47.6	95	88-110
Bromofluorobenzene	50.0	46.8	94	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Corning Environmental Services

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105670

Category: 8240-A Volatile Organics
Matrix: AQUEOUS
QC Lot: 27 MAY 94-AF
Concentration Units: ug/L

Date Analyzed: 27 MAY 94

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	52.5	55.2	53.8	108	50-124	5.0	15
Trichloroethene	50.0	55.1	56.6	55.8	112	80-126	2.7	13
Benzene	50.0	53.2	54.1	53.6	107	78-124	1.7	13
Toluene	50.0	55.7	55.8	55.8	112	80-121	0.18	13
Chlorobenzene	50.0	53.4	54.7	54.0	108	82-131	2.4	13

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: P6714.10.4
LAB ID: 105670-0001-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	ND		0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	86		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	5.7		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	TR		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	TR		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	330		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	330		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0
tert-Butylbenzene	ND		1.0	ug/L	5.0

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: P6714.10.4
LAB ID: 105670-0001-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	93	%
Toluene-d8	94	%
Bromofluorobenzene	94	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: 171NEA.10.4
LAB ID: 105670-0002-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.6	ug/L	10
Chloromethane	ND		3.2	ug/L	10
Bromomethane	ND		1.4	ug/L	10
Vinyl chloride	ND		1.4	ug/L	10
Chloroethane	ND		2.2	ug/L	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/L	5.0
Methylene chloride	TR	B	0.97	ug/L	5.0
Acetone	ND		7.1	ug/L	10
Trichlorofluoromethane	ND		2.5	ug/L	5.0
1,1-Dichloroethene	ND		1.5	ug/L	5.0
Nitromethane	ND		84	ug/L	200
trans-1,2-Dichloroethene	ND		0.89	ug/L	5.0
cis-1,2-Dichloroethene	ND		0.92	ug/L	5.0
1,1-Dichloroethane	ND		1.1	ug/L	5.0
2,2-Dichloropropane	ND		1.9	ug/L	5.0
Bromochloromethane	ND		0.69	ug/L	5.0
Chloroform	ND		0.88	ug/L	5.0
1,1-Dichloropropene	ND		0.87	ug/L	5.0
1,2-Dichloroethane	ND		0.85	ug/L	5.0
Dibromomethane	ND		0.51	ug/L	5.0
1,1,1-Trichloroethane	ND		1.4	ug/L	5.0
Carbon tetrachloride	ND		1.0	ug/L	5.0
Bromodichloromethane	ND		0.71	ug/L	5.0
1,2-Dichloropropane	ND		0.88	ug/L	5.0
1,3-Dichloropropane	ND		0.75	ug/L	5.0
Trichloroethene	ND		0.84	ug/L	5.0
Dibromochloromethane	ND		1.1	ug/L	5.0
1,1,2-Trichloroethane	ND		0.98	ug/L	5.0
Benzene	ND		1.0	ug/L	5.0
Bromoform	ND		1.9	ug/L	5.0
Tetrachloroethene	ND		0.85	ug/L	5.0
1,2-Dibromoethane (EDB)	ND		0.69	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND		1.1	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND		1.9	ug/L	5.0
Toluene	ND		0.96	ug/L	5.0
Chlorobenzene	ND		0.95	ug/L	5.0
Ethylbenzene	ND		1.1	ug/L	5.0
Styrene	ND		1.1	ug/L	5.0
Xylenes (total)	ND		1.7	ug/L	5.0
1-Methylethylbenzene	ND		0.91	ug/L	5.0
Bromobenzene	ND		1.3	ug/L	5.0
1,2,3-Trichloropropane	ND		2.0	ug/L	5.0
2-Chlorotoluene	ND		1.2	ug/L	5.0
n-Propyl benzene	ND		0.70	ug/L	5.0
1,3,5-Trimethylbenzene	ND		0.98	ug/L	5.0
4-Chlorotoluene	ND		1.2	ug/L	5.0

B = Compound is also detected in the blank.
ND = Not Detected

DATA VALIDATION CHECKLIST
LABORATORY RESULTS

Test Method 8240
Holding times = Aqueous pre-extraction=
Solid pre-extraction =
Aqueous post-extraction= 7 days
Solid post-extraction=

Report No. 105670
Checked by FPM
Date 07-06-94

HLA Sample ID	Lab Sample ID	Date Collected	Date Extracted	Number of Elapsed Days	Date Analyzed	Within H.T.?
P6714.10.4	105670-0001-SA	05-26-94	NA	6	06-01-94	Yes
171NEA10.4	105670-0002-SA	"	"	"	"	"

1. Were holding times (H.T.) met for extraction? N/A

for analysis? Yes

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: 171NEA.10.4
LAB ID: 105670-0002-SA
Matrix: AQUEOUS Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		1.2	ug/L	5.0
sec-Butylbenzene	ND		0.93	ug/L	5.0
Isopropyltoluene	ND		0.97	ug/L	5.0
1,3-Dichlorobenzene	ND		1.1	ug/L	5.0
1,4-Dichlorobenzene	ND		1.3	ug/L	5.0
n-Butylbenzene	ND		0.80	ug/L	5.0
1,2-Dichlorobenzene	ND		1.4	ug/L	5.0
1,2,4-Trichlorobenzene	ND		0.95	ug/L	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		3.3	ug/L	5.0
Hexachlorobutadiene	ND		1.2	ug/L	5.0
Naphthalene	ND		1.6	ug/L	5.0
1,2,3-Trichlorobenzene	ND		1.0	ug/L	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	92	%
Toluene-d8	93	%
Bromofluorobenzene	93	%

ND = Not Detected

8240 SPIKE QA/QC SHEET

SURROGATE SPIKE RECOVERY

Lab Sample ID	HLA Sample ID	Matrix	Toluene-d8	Bromofluoro-benzene	1,2-Dichloro-ethane-d4
105670-0001-SA	P6714.10.4	Aqueous	94	94	93
105670-0002-SA	171NEA.10.4	Aqueous	93	93	92
Acceptance Limits (%)		Soil	81-117	74-121	70-121
Acceptance Limits (%)		Water	88-110	86-115	76-114

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105670-0001-SA	AQUEOUS	8240-A	27 MAY 94-AF	01 JUN 94-AF	31 MAY 94-BF
105670-0002-SA	AQUEOUS	8240-A	27 MAY 94-AF	01 JUN 94-AF	31 MAY 94-BF

8240 SPIKE QA/QC SHEET

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RECOVERY AND RPD

Spiked Sample: 105616-0004
Matrix: Aqueous

Compound	MS PR	MSD PR	Soil Acceptance Limits (%)	Water Acceptance Limits (%)	Soil Enseco Limits (%)	Water Enseco Limits (%)	RPD	Soil Acceptance Limits (%)	Water Acceptance Limits (%)	Soil Enseco Limits (%)	Water Enseco Limits (%)
1,1-Dichloroethane	95	104	59-172	61-145	46-136	54-122	8.8	22	14	28	23
Trichloroethene	97	105	62-137	71-120	58-131	74-143	7.9	24	14	26	35
Benzene	94	100	66-142	76-127	63-139	62-134	5.8	21	11	23	15
Toluene	94	101	59-139	76-125	68-140	79-121	7.2	21	13	24	15
Chlorobenzene	94	99	60-133	75-130	68-138	77-121	5.6	21	13	23	16

Notes: RPD = Relative Percent Difference
PR = Percent Recovery

2. Were method blanks included for all dates of extraction or analysis? Yes
(List detected compounds.)
Trace of Methylene chloride

3. Were any surrogate compounds run? Yes Were recoveries within acceptable limits? Yes

4. Were MS/MSD PRs within control limits? Yes

5. Were MS/MSD RPDs within control limits? Yes

6. Were LCS PRs and RPDs within control limits? Yes

7. Were any duplicates run? NO What was the RPD between duplicate pairs? N/A

8. Summary of findings: Holding Times were met
Method blank was clean except for a
- trace of methylene chloride
Surrogates within control limits
MS/MSDs PR/RPD within control limits
- Run on May 31, 1994 on another group of samples, not with this set of samples
LCS PR/RPD within control limits
NO duplicates

Enseco
Corning Environmental Services

Enseco – CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 895-5360

June 16, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105668-0001/0006
DATE SAMPLED: 26-MAY-1994
DATE SAMPLE REC'D: 26-MAY-1994
PROJECT: (26522-2.3) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

Mei Bloom
REVIEWED

Sabrina R. Sudduth
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105668

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105668

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

The MS/MSD Percent Recoveries for Aluminum were not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," nor were they it within Enseco's-CRL's established acceptance limits. However, the DCS recoveries were within all acceptable ranges, therefore the data was accepted and no further action was required.

The MS Percent Recoveries for Chromium and Mercury were not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements, but it was within Enseco's-CRL established acceptance limits, therefore the data was accepted and no further action was required.

Harding Lawson Associates
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
714/556-7992 – 213/617-7232
FAX: 714/662-3297

CHAIN OF CUSTODY FORM

105668

Lab: ENSECO CRL

Samplers: Pam KEYES, Tom Lindros

Job Number: 26522-2.3

Name/Location: AEROJET - AISA

Project Manager: Tom Lindros

Recorder: _____ (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	Chilled	SAMPLE NUMBER OR LAB NUMBER	DATE: Yr	Wk	Seq	Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllnt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	EPA 9012 cyanide	EPA 6010 17200 series metals						HOLD
50			X		X			X	52B-35B-5.25	94	05	26	0856				2½"ØX3" stainless steel sleeve			X	X										
50			X		X			X	57B-35B-9.25	94	05	26	0905																	X
50			X		X			X	57B-35B-15.5	94	05	26	0919																	X
50			X		X			X	57B-35B-20.75	94	05	26	0941							X	X									
50			X		X			X	57B-35C-1.0	94	05	26	1025							X	X									
50			X		X			X	57B-35C-1.25	94	05	26	1025											X	X					

Custody Seal No's.

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						- Analyze per Aerojet Contract - Send Lab Reports to Tom Harder - Hdl - Santa Ana. - Questions call Tom Lindros at 805) 494-7725.

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME 5/24/94 1130
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature) Roger Moon	DATE/TIME 1200 5-26-94
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME 5-26-94 18:45
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 5/24/94 18:45

METHOD OF SHIPMENT: LAB Courier Pickup at Project Site

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105668-0001-SA	SZB-35B-5.25	SOLID	26 MAY 94	08:56	26 MAY 94
105668-0002-SA	SZB-35B-20.75	SOLID	26 MAY 94	09:41	26 MAY 94
105668-0003-SA	SZB-35C-1.0	SOLID	26 MAY 94	10:25	26 MAY 94
105668-0004-SA	SZB-35C-1.25	SOLID	26 MAY 94	10:25	26 MAY 94
105668-0005-SA	SZB-35B-9.25	SOLID	26 MAY 94	09:05	26 MAY 94
105668-0006-SA	SZB-35B-15.5	SOLID	26 MAY 94	09:19	26 MAY 94

Holding Time Report | Project: 105668 | Client: Harding Lawson Associates | Today: 16 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 8270 - Semivolatile Organics							Prep: P-8270-S						Total: 3
1	SZB-35B-5.	105668-0001-SA	8270-HLA-S	8270	26 MAY 94	26 MAY 94	31 MAY 94	02 JUN 94	7	7	2		
2	SZB-35B-20	105668-0002-SA	8270-HLA-S	8270	26 MAY 94	26 MAY 94	31 MAY 94	02 JUN 94	7	7	2		
3	SZB-35C-1.	105668-0003-SA	8270-HLA-S	8270	26 MAY 94	26 MAY 94	31 MAY 94	02 JUN 94	7	7	2		
Test: Method 8240 - Volatile Organics, EPA 8240 Extended List							Prep: P-VOASCR-S						Total: 3
1	SZB-35B-5.	105668-0001-SA	8240-HLA-S	8240	26 MAY 94	26 MAY 94	01 JUN 94	01 JUN 94	6	6	n/a		
2	SZB-35B-20	105668-0002-SA	8240-HLA-S	8240	26 MAY 94	26 MAY 94	01 JUN 94	01 JUN 94	6	6	n/a		
3	SZB-35C-1.	105668-0003-SA	8240-HLA-S	8240	26 MAY 94	26 MAY 94	01 JUN 94	01 JUN 94	6	6	n/a		
Test: Method 5030 - Prep - Volatile Organics							Prep: n/a						Total: 3
1	SZB-35B-5.	105668-0001-SA	P-VOASCR-S	5030	26 MAY 94	26 MAY 94	01 JUN 94	n/a	6	6	n/a		
2	SZB-35B-20	105668-0002-SA	P-VOASCR-S	5030	26 MAY 94	26 MAY 94	01 JUN 94	n/a	6	6	n/a		
3	SZB-35C-1.	105668-0003-SA	P-VOASCR-S	5030	26 MAY 94	26 MAY 94	01 JUN 94	n/a	6	6	n/a		
Test: Method EPA 3550 - Prep - Semivolatile Organics by GC/MS							Prep: n/a						Total: 3
1	SZB-35B-5.	105668-0001-SA	P-8270-S	3550	26 MAY 94	26 MAY 94	31 MAY 94	n/a	5	5	n/a		
2	SZB-35B-20	105668-0002-SA	P-8270-S	3550	26 MAY 94	26 MAY 94	31 MAY 94	n/a	5	5	n/a		
3	SZB-35C-1.	105668-0003-SA	P-8270-S	3550	26 MAY 94	26 MAY 94	31 MAY 94	n/a	5	5	n/a		
Test: Method 7020 - Aluminum, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	AL-FLAA-MDL-S	7020	26 MAY 94	26 MAY 94	08 JUN 94	13 JUN 94	18	18	n/a		
Test: Method 7062 - Arsenic, Hydride AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	AS-HAA-MDL-S	7062	26 MAY 94	26 MAY 94	08 JUN 94	08 JUN 94	13	13	n/a		
Test: Method 7080 - Barium, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	BA-FLAA-MDL-S	7080	26 MAY 94	26 MAY 94	08 JUN 94	10 JUN 94	15	15	n/a		
Test: Method 7130 - Cadmium, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	CD-FLAA-MDL-S	7130	26 MAY 94	26 MAY 94	08 JUN 94	10 JUN 94	15	15	n/a		
Test: Method 7190 - Chromium, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	CR-FLAA-MDL-S	7190	26 MAY 94	26 MAY 94	08 JUN 94	10 JUN 94	15	15	n/a		
Test: Method 7210 - Copper, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	CU-FLAA-MDL-S	7210	26 MAY 94	26 MAY 94	08 JUN 94	09 JUN 94	14	14	n/a		
Test: Method 7471 - Mercury, Cold Vapor AA							Prep: P-HG-CVAA-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	HG-CVAA-MDL-S	7471	26 MAY 94	26 MAY 94	13 JUN 94	14 JUN 94	19	19	n/a		
Test: Manganese, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	MN-FLAA-MDL-S	7460	26 MAY 94	26 MAY 94	08 JUN 94	09 JUN 94	14	14	n/a		
Test: Method 7520 - Nickel, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	NI-FLAA-MDL-S	7520	26 MAY 94	26 MAY 94	08 JUN 94	09 JUN 94	14	14	n/a		
Test: Method 7420 - Lead, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	PB-FLAA-MDL-S	7420	26 MAY 94	26 MAY 94	08 JUN 94	09 JUN 94	14	14	n/a		

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Holding Time Report | Project: 105668 | Client: Harding Lawson Associates | Today: 16 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 7950 - Zinc, Flame AA							Prep: P-M-3050-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	ZN-FLAA-MDL-S	7950	26 MAY 94	26 MAY 94	08 JUN 94	10 JUN 94	15	15	n/a		
Test: Prep - Mercury, Cold Vapor AA, Solid							Prep: n/a						Total: 1
1	SZB-35C-1.	105668-0004-SA	P-HG-CVAA-S	7471	26 MAY 94	26 MAY 94	13 JUN 94	n/a	18	18	n/a		
Test: Method 3050 - Prep - Total Metals							Prep: n/a						Total: 1
1	SZB-35C-1.	105668-0004-SA	P-M-3050-S	3050	26 MAY 94	26 MAY 94	08 JUN 94	n/a	13	13	n/a		
Test: Method 9012 - Cyanide, Total							Prep: P-CN-S						Total: 1
1	SZB-35C-1.	105668-0004-SA	CN-MDL-S	9012	26 MAY 94	26 MAY 94	02 JUN 94	02 JUN 94	7	7	n/a		
Test: Method 9012 - Prep - Cyanide, Total							Prep: n/a						Total: 1
1	SZB-35C-1.	105668-0004-SA	P-CN-S	9012	26 MAY 94	26 MAY 94	02 JUN 94	n/a	7	7	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
ETA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

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QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105668-0001-SA	SOLID	8240-S	01 JUN 94-AF	01 JUN 94-AF	01 JUN 94-AF
105668-0002-SA	SOLID	8240-S	01 JUN 94-AF	01 JUN 94-AF	01 JUN 94-AF
105668-0003-SA	SOLID	8240-S	01 JUN 94-AF	01 JUN 94-AF	01 JUN 94-AF

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105668

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/kg	10
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/kg	5.0
Methylene chloride	TR	ug/kg	5.0
Acetone	ND	ug/kg	10
Trichlorofluoromethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
Nitromethane	ND	ug/kg	200
trans-1,2-Dichloroethene	ND	ug/kg	5.0
cis-1,2-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
2,2-Dichloropropane	ND	ug/kg	5.0
Bromochloromethane	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,1-Dichloropropene	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
Dibromomethane	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
1,3-Dichloropropane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1-Methylethylbenzene	ND	ug/kg	5.0
Bromobenzene	ND	ug/kg	5.0
1,2,3-Trichloropropane	ND	ug/kg	5.0
2-Chlorotoluene	ND	ug/kg	5.0
n-Propyl benzene	ND	ug/kg	5.0
1,3,5-Trimethylbenzene	ND	ug/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105668

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/kg	5.0
tert-Butylbenzene	ND	ug/kg	5.0
1,2,4-Trimethylbenzene	ND	ug/kg	5.0
sec-Butylbenzene	ND	ug/kg	5.0
Isopropyltoluene	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
n-Butylbenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0
1,2,4-Trichlorobenzene	ND	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/kg	5.0
Hexachlorobutadiene	ND	ug/kg	5.0
Naphthalene	ND	ug/kg	5.0
1,2,3-Trichlorobenzene	ND	ug/kg	5.0

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105668

Category: 8240-S Volatile Organics
Matrix: SOLID
Sample: 105668-0003
MS Run: 01 JUN 94-AF
Units: ug/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	56.3	55.9	50.0	113	112	0.7	40-144	31
Trichloroethene	ND	54.2	54.4	50.0	108	109	0.3	62-152	22
Benzene	ND	54.4	54.6	50.0	109	109	0.3	65-141	22
Toluene	ND	53.0	53.6	50.0	106	107	1.1	67-143	23
Chlorobenzene	ND	53.8	53.0	50.0	108	106	1.5	69-146	21

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105668

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Run: 01 JUN 94-AF Date Analyzed: 01 JUN 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	46.7	93	84-119
Toluene-d8	50.0	47.6	95	86-114
Bromofluorobenzene	50.0	46.8	94	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

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DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105668

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Lot: 01 JUN 94-AF
Date Analyzed: 01 JUN 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	59.8	58.2	59.0	118	47-125	2.7	20
Trichloroethene	50.0	55.5	57.0	56.2	113	78-127	2.7	15
Benzene	50.0	55.2	55.7	55.4	111	79-123	0.90	15
Toluene	50.0	53.5	54.6	54.0	108	80-122	2.0	15
Chlorobenzene	50.0	54.0	54.7	54.4	109	82-129	1.3	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: SZB-35B-5.25
LAB ID: 105668-0001-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.2	ug/kg	10
Chloromethane	ND		0.79	ug/kg	10
Bromomethane	ND		0.73	ug/kg	10
Vinyl chloride	ND		1.5	ug/kg	10
Chloroethane	ND		1.4	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/kg	5.0
Methylene chloride	TR	B	1.1	ug/kg	5.0
Acetone	TR		7.1	ug/kg	10
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		2.5	ug/kg	5.0
Nitromethane	ND		16	ug/kg	200
trans-1,2-Dichloroethene	ND		0.99	ug/kg	5.0
cis-1,2-Dichloroethene	ND		0.93	ug/kg	5.0
1,1-Dichloroethane	ND		0.67	ug/kg	5.0
2,2-Dichloropropane	ND		0.85	ug/kg	5.0
Bromochloromethane	ND		0.74	ug/kg	5.0
Chloroform	ND		0.89	ug/kg	5.0
1,1-Dichloropropene	ND		0.62	ug/kg	5.0
1,2-Dichloroethane	ND		0.66	ug/kg	5.0
Dibromomethane	ND		0.70	ug/kg	5.0
1,1,1-Trichloroethane	ND		1.6	ug/kg	5.0
Carbon tetrachloride	ND		0.37	ug/kg	5.0
Bromodichloromethane	ND		0.34	ug/kg	5.0
1,2-Dichloropropane	ND		0.51	ug/kg	5.0
1,3-Dichloropropane	ND		0.54	ug/kg	5.0
Trichloroethene	ND		0.52	ug/kg	5.0
Dibromochloromethane	ND		0.45	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.72	ug/kg	5.0
Benzene	ND		0.38	ug/kg	5.0
Bromoform	ND		0.53	ug/kg	5.0
Tetrachloroethene	ND		0.51	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND		0.74	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND		0.58	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		0.65	ug/kg	5.0
Toluene	ND		0.40	ug/kg	5.0
Chlorobenzene	ND		0.36	ug/kg	5.0
Ethylbenzene	ND		0.59	ug/kg	5.0
Styrene	ND		0.22	ug/kg	5.0
Xylenes (total)	TR		0.95	ug/kg	5.0
1-Methylethylbenzene	ND		0.43	ug/kg	5.0
Bromobenzene	ND		0.45	ug/kg	5.0
1,2,3-Trichloropropane	ND		2.8	ug/kg	5.0
2-Chlorotoluene	ND		1.0	ug/kg	5.0
n-Propyl benzene	TR		0.52	ug/kg	5.0
1,3,5-Trimethylbenzene	TR		0.61	ug/kg	5.0
4-Chlorotoluene	ND		1.0	ug/kg	5.0

B = Compound is also detected in the blank.
ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: SZB-35B-5.25
LAB ID: 105668-0001-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	13		0.53	ug/kg	5.0
sec-Butylbenzene	ND		0.61	ug/kg	5.0
Isopropyltoluene	ND		0.38	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.51	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.35	ug/kg	5.0
n-Butylbenzene	ND		0.77	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.50	ug/kg	5.0
1,2,4-Trichlorobenzene	ND		0.72	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		1.5	ug/kg	5.0
Hexachlorobutadiene	ND		0.97	ug/kg	5.0
Naphthalene	TR		0.88	ug/kg	5.0
1,2,3-Trichlorobenzene	ND		0.56	ug/kg	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	96	%
Toluene-d8	84	%
Bromofluorobenzene	75	%

ND = Not Detected

Enseco
Corning Environmental Services

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: SZB-35B-20.75
LAB ID: 105668-0002-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.2	ug/kg	10
Chloromethane	ND		0.79	ug/kg	10
Bromomethane	ND		0.73	ug/kg	10
Vinyl chloride	ND		1.5	ug/kg	10
Chloroethane	ND		1.4	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/kg	5.0
Methylene chloride	TR	B	1.1	ug/kg	5.0
Acetone	ND		7.1	ug/kg	10
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		2.5	ug/kg	5.0
Nitromethane	ND		16	ug/kg	200
trans-1,2-Dichloroethene	ND		0.99	ug/kg	5.0
cis-1,2-Dichloroethene	ND		0.93	ug/kg	5.0
1,1-Dichloroethane	ND		0.67	ug/kg	5.0
2,2-Dichloropropane	ND		0.85	ug/kg	5.0
Bromochloromethane	ND		0.74	ug/kg	5.0
Chloroform	ND		0.89	ug/kg	5.0
1,1-Dichloropropene	ND		0.62	ug/kg	5.0
1,2-Dichloroethane	ND		0.66	ug/kg	5.0
Dibromomethane	ND		0.70	ug/kg	5.0
1,1,1-Trichloroethane	ND		1.6	ug/kg	5.0
Carbon tetrachloride	ND		0.37	ug/kg	5.0
Bromodichloromethane	ND		0.34	ug/kg	5.0
1,2-Dichloropropane	ND		0.51	ug/kg	5.0
1,3-Dichloropropane	ND		0.54	ug/kg	5.0
Trichloroethene	TR		0.52	ug/kg	5.0
Dibromochloromethane	ND		0.45	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.72	ug/kg	5.0
Benzene	ND		0.38	ug/kg	5.0
Bromoform	ND		0.53	ug/kg	5.0
Tetrachloroethene	ND		0.51	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND		0.74	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND		0.58	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		0.65	ug/kg	5.0
Toluene	ND		0.40	ug/kg	5.0
Chlorobenzene	ND		0.36	ug/kg	5.0
Ethylbenzene	ND		0.59	ug/kg	5.0
Styrene	ND		0.22	ug/kg	5.0
Xylenes (total)	ND		0.95	ug/kg	5.0
1-Methylethylbenzene	ND		0.43	ug/kg	5.0
Bromobenzene	ND		0.45	ug/kg	5.0
1,2,3-Trichloropropane	ND		2.8	ug/kg	5.0
2-Chlorotoluene	ND		1.0	ug/kg	5.0
n-Propyl benzene	ND		0.52	ug/kg	5.0
1,3,5-Trimethylbenzene	ND		0.61	ug/kg	5.0
4-Chlorotoluene	ND		1.0	ug/kg	5.0

B = Compound is also detected in the blank.
ND = Not Detected

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: SZB-35B-20.75
LAB ID: 105668-0002-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		0.53	ug/kg	5.0
sec-Butylbenzene	ND		0.61	ug/kg	5.0
Isopropyltoluene	ND		0.38	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.51	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.35	ug/kg	5.0
n-Butylbenzene	ND		0.77	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.50	ug/kg	5.0
1,2,4-Trichlorobenzene	ND		0.72	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		1.5	ug/kg	5.0
Hexachlorobutadiene	ND		0.97	ug/kg	5.0
Naphthalene	ND		0.88	ug/kg	5.0
1,2,3-Trichlorobenzene	ND		0.56	ug/kg	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	88	%
Toluene-d8	93	%
Bromofluorobenzene	93	%

ND = Not Detected

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: SZB-35C-1.0
LAB ID: 105668-0003-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.2	ug/kg	10
Chloromethane	ND		0.79	ug/kg	10
Bromomethane	ND		0.73	ug/kg	10
Vinyl chloride	ND		1.5	ug/kg	10
Chloroethane	ND		1.4	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/kg	5.0
Methylene chloride	ND		1.1	ug/kg	5.0
Acetone	ND		7.1	ug/kg	10
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		2.5	ug/kg	5.0
Nitromethane	ND		16	ug/kg	200
trans-1,2-Dichloroethene	ND		0.99	ug/kg	5.0
cis-1,2-Dichloroethene	ND		0.93	ug/kg	5.0
1,1-Dichloroethane	ND		0.67	ug/kg	5.0
2,2-Dichloropropane	ND		0.85	ug/kg	5.0
Bromochloromethane	ND		0.74	ug/kg	5.0
Chloroform	ND		0.89	ug/kg	5.0
1,1-Dichloropropene	ND		0.62	ug/kg	5.0
1,2-Dichloroethane	TR		0.66	ug/kg	5.0
Dibromomethane	ND		0.70	ug/kg	5.0
1,1,1-Trichloroethane	ND		1.6	ug/kg	5.0
Carbon tetrachloride	ND		0.37	ug/kg	5.0
Bromodichloromethane	ND		0.34	ug/kg	5.0
1,2-Dichloropropane	ND		0.51	ug/kg	5.0
1,3-Dichloropropane	ND		0.54	ug/kg	5.0
Trichloroethene	ND		0.52	ug/kg	5.0
Dibromochloromethane	ND		0.45	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.72	ug/kg	5.0
Benzene	ND		0.38	ug/kg	5.0
Bromoform	ND		0.53	ug/kg	5.0
Tetrachloroethene	ND		0.51	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND		0.74	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND		0.58	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		0.65	ug/kg	5.0
Toluene	ND		0.40	ug/kg	5.0
Chlorobenzene	ND		0.36	ug/kg	5.0
Ethylbenzene	ND		0.59	ug/kg	5.0
Styrene	ND		0.22	ug/kg	5.0
Xylenes (total)	ND		0.95	ug/kg	5.0
1-Methylethylbenzene	ND		0.43	ug/kg	5.0
Bromobenzene	ND		0.45	ug/kg	5.0
1,2,3-Trichloropropane	ND		2.8	ug/kg	5.0
2-Chlorotoluene	ND		1.0	ug/kg	5.0
n-Propyl benzene	ND		0.52	ug/kg	5.0
1,3,5-Trimethylbenzene	ND		0.61	ug/kg	5.0
4-Chlorotoluene	ND		1.0	ug/kg	5.0
tert-Butylbenzene	ND		0.55	ug/kg	5.0

ND = Not Detected

Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: SZB-35C-1.0
LAB ID: 105668-0003-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 01 JUN 94 Analyzed: 01 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		0.53	ug/kg	5.0
sec-Butylbenzene	ND		0.61	ug/kg	5.0
Isopropyltoluene	ND		0.38	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.51	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.35	ug/kg	5.0
n-Butylbenzene	ND		0.77	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.50	ug/kg	5.0
1,2,4-Trichlorobenzene	ND		0.72	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		1.5	ug/kg	5.0
Hexachlorobutadiene	ND		0.97	ug/kg	5.0
Naphthalene	ND		0.88	ug/kg	5.0
1,2,3-Trichlorobenzene	ND		0.56	ug/kg	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	88	%
Toluene-d8	90	%
Bromofluorobenzene	84	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105668-0004-SA	SOLID	CN-S	02 JUN 94-A	02 JUN 94-A	02 JUN 94-AB

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105668

Test: CN-MDL-S Method 9012 - Cyanide, Total
Matrix: SOLID
QC Run: 02 JUN 94-A Date Analyzed: 02 JUN 94

Analyte	Result	Units	Reporting Limit
Cyanide, Total	ND	mg/kg	0.50

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105668

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
Sample: 105668-0004
MS Run: 02 JUN 94-AB
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cyanide, Total	ND	4.62	4.73	5.00	92	95	2.4	21-145	47

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

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DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105668

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
QC Lot: 02 JUN 94-A
Date Analyzed: 02 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Cyanide, Total	5.00	4.90	4.82	4.86	97	66-118	1.6	27

Calculations are performed before rounding to avoid round-off errors in calculated results.

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GENERAL INORGANICS

Client Name: Harding Lawson Associates
[redacted]nt ID: SZB-35C-1.25
[redacted]ID: 105668-0004-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.30	0.50	mg/kg	9012	02 JUN 94	02 JUN 94

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105668-0004-SA	SOLID	AL-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	AS-HAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	CD-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	CR-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	MN-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	NI-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	PB-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	CU-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	ZN-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	BA-FLAA-S	08 JUN 94-C	08 JUN 94-C	08 JUN 94-CA
105668-0004-SA	SOLID	HG-CVAA-S	13 JUN 94-F	13 JUN 94-F	13 JUN 94-FA

METHOD BLANK REPORT
Metals Analysis and Preparation
Project: 105668

Test: AL-FLAA-MDL-S Method 7020 - Aluminum, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C
Date Analyzed: 13 JUN 94

Analyte	Result	Units	Reporting Limit
Aluminum	ND	mg/kg	100

Test: AS-HAA-MDL-S Method 7062 - Arsenic, Hydride AA
Matrix: SOLID
QC Run: 08 JUN 94-C
Date Analyzed: 08 JUN 94

Analyte	Result	Units	Reporting Limit
Arsenic	ND	mg/kg	0.50

Test: CD-FLAA-MDL-S Method 7130 - Cadmium, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C
Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
Cadmium	ND	mg/kg	5.0

Test: CR-FLAA-MDL-S Method 7190 - Chromium, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C
Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
Chromium	ND	mg/kg	10.0

Test: MN-FLAA-MDL-S Manganese, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C
Date Analyzed: 09 JUN 94

Analyte	Result	Units	Reporting Limit
Manganese	ND	mg/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105668

Test: NI-FLAA-MDL-S Method 7520 - Nickel, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C Date Analyzed: 09 JUN 94

Analyte	Result	Units	Reporting Limit
Nickel	ND	mg/kg	10.0

Test: PB-FLAA-MDL-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C Date Analyzed: 09 JUN 94

Analyte	Result	Units	Reporting Limit
Lead	ND	mg/kg	20.0

Test: CU-FLAA-MDL-S Method 7210 - Copper, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C Date Analyzed: 09 JUN 94

Analyte	Result	Units	Reporting Limit
Copper	ND	mg/kg	10.0

Test: ZN-FLAA-MDL-S Method 7950 - Zinc, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
Zinc	ND	mg/kg	2.0

Test: BA-FLAA-MDL-S Method 7080 - Barium, Flame AA
Matrix: SOLID
QC Run: 08 JUN 94-C Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
Barium	ND	mg/kg	50.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105668

Test: HG-CVAA-MDL-S Method 7471 - Mercury, Cold Vapor AA
Matrix: SOLID
QC Run: 13 JUN 94-F Date Analyzed: 14 JUN 94

Analyte	Result	Units	Reporting Limit
Mercury	ND	mg/kg	0.10

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105668

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Aluminum	7390	7750	7620	200	NC	NC	NC	60-130	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Arsenic	3.16	42.8	40.8	50.0	79	75	5.2	50-127	25

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cadmium	ND	6.50	6.30	5.00	130	126	3.1	52-130	28

NC = Not Calculated, calculation not applicable.
ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105668 (cont.)

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chromium	ND	27.2	25.9	20.0	136	130	4.9	40-190	33

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Manganese	176	225	238	50.0	98	124	23	60-130	40

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Nickel	ND	61.0	59.0	50.0	122	118	3.3	55-155	25

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105668 (cont.)

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Lead	ND	43.0	35.0	50.0	86	70	21	53-147	26

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Copper	15.0	39.0	38.0	25.0	96	92	4.3	49-144	23

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Zinc	40.0	80.2	80.8	50.0	80	82	1.5	65-138	25

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105668 (cont.)

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Barium	71.0	273	269	200	101	99	2.0	40-130	30

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
Sample: 105668-0004
MS Run: 13 JUN 94-FA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Mercury	ND	0.663	0.572	0.438	151	131	15	49-159	38

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105668

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 13 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Aluminum	3650	3580	3610	3600	98	53-153	0.83	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 08 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Arsenic	72.1	77.5	78.2	77.8	108	49-153	0.90	20

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 10 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Cadmium	61.6	73.9	71.3	72.6	118	59-140	3.6	12

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 10 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Chromium	44.1	53.0	53.6	53.3	121	59-138	1.1	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105668

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 09 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Manganese	141	125	119	122	87	69-134	4.9	20

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 09 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Nickel	110	127	125	126	115	59-142	1.6	12

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 09 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Lead	50.9	57.0	53.0	55.0	108	53-139	7.3	13

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 09 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Copper	78.1	84.0	83.0	83.5	107	62-144	1.2	12

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105668

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 10 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Zinc	78.2	82.0	81.5	81.8	105	58-152	0.61	10

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
QC Lot: 08 JUN 94-C
Date Analyzed: 10 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Barium	64.8	65.0	63.0	64.0	99	70-136	3.1	14

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
QC Lot: 13 JUN 94-F
Date Analyzed: 14 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Mercury	32.0	42.0	37.3	39.6	124	52-148	12	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

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METALS

Client Name: Harding Lawson Associates
[redacted]ent ID: SZB-35C-1.25
[redacted] ID: 105668-0004-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Aluminum	7390		50.0	200	mg/kg	7020	08 JUN 94	13 JUN 94
Arsenic	3.2		0.20	0.50	mg/kg	7062	08 JUN 94	08 JUN 94
Barium	71.0		20.0	50.0	mg/kg	7080	08 JUN 94	10 JUN 94
Chromium	ND		5.0	10.0	mg/kg	7190	08 JUN 94	10 JUN 94
Copper	15.0		5.0	10.0	mg/kg	7210	08 JUN 94	09 JUN 94
Lead	ND		20.0	20.0	mg/kg	7420	08 JUN 94	09 JUN 94
Manganese	176		2.0	5.0	mg/kg	7460	08 JUN 94	09 JUN 94
Nickel	TR		5.0	10.0	mg/kg	7520	08 JUN 94	09 JUN 94
Zinc	40.0		1.0	2.0	mg/kg	7950	08 JUN 94	10 JUN 94
Cadmium	ND		2.0	5.0	mg/kg	7130	08 JUN 94	10 JUN 94
Mercury	TR		0.090	0.10	mg/kg	7471	13 JUN 94	14 JUN 94

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105668-0001-SA	SOLID	8270-S	31 MAY 94-I	31 MAY 94-I	31 MAY 94-IA
105668-0002-SA	SOLID	8270-S	31 MAY 94-I	31 MAY 94-I	31 MAY 94-IA
105668-0003-SA	SOLID	8270-S	31 MAY 94-I	31 MAY 94-I	31 MAY 94-IA

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105668

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 31 MAY 94-I Date Analyzed: 02 JUN 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
2,4-Dichlorophenol	ND	mg/kg	0.33
1,2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105668

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 31 MAY 94-I Date Analyzed: 02 JUN 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105668

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105668-0001
MS Run: 31 MAY 94-IA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	5.64	6.29	6.67	85	94	11	34-109	39
2-Chlorophenol	ND	5.79	6.33	6.67	87	95	8.9	42-101	38
1,4-Dichlorobenzene	ND	2.54	2.89	3.33	76	87	13	42-102	37
N-Nitroso-di-n-propylamine	ND	2.94	3.49	3.33	88	105	17	28-126	41
1,2,4-Trichlorobenzene	ND	2.65	2.85	3.33	80	86	7.3	46-106	32
4-Chloro-3-methylphenol	ND	6.24	6.41	6.67	94	96	2.7	40-121	23
Acenaphthene	ND	2.88	3.02	3.33	86	91	4.7	48-113	20
2,4-Dinitrotoluene	ND	2.68	2.67	3.33	80	80	0.3	23-129	25
4-Nitrophenol	ND	7.89	8.58	6.67	118	129	8.4	29-159	42
Pentachlorophenol	ND	6.34	6.86	6.67	95	103	7.9	40-146	37
Pyrene	ND	3.05	3.14	3.33	92	94	2.9	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105668

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 31 MAY 94-I Date Analyzed: 02 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	6.02	90	55-111
Phenol-d5	6.67	5.02	75	47-110
Nitrobenzene-d5	3.33	2.74	82	57-113
2-Fluorobiphenyl	3.33	2.59	78	51-104
2,4,6-Tribromophenol	6.67	6.51	98	41-131
Terphenyl-d14	3.33	3.18	95	44-130

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105668

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 31 MAY 94-I Date Analyzed: 02 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.58	5.44	5.51	83	39-106	2.5	31
2-Chlorophenol	6.67	5.98	5.89	5.94	89	44-107	1.5	32
1,4-Dichlorobenzene	3.33	2.74	2.71	2.72	82	40-107	1.1	23
N-Nitroso-di-n-propylamine	3.33	3.15	3.15	3.15	95	31-132	0.0	38
1,2,4-Trichlorobenzene	3.33	2.87	2.81	2.84	85	38-120	2.1	22
4-Chloro-3-methylphenol	6.67	6.13	6.08	6.10	92	40-119	0.82	24
Acenaphthene	3.33	2.76	2.72	2.74	82	30-140	1.5	24
2,4-Dinitrotoluene	3.33	3.12	3.11	3.12	94	30-121	0.32	28
4-Nitrophenol	6.67	7.84	7.83	7.84	117	16-143	0.13	54
Pentachlorophenol	6.67	7.35	7.32	7.34	110	21-152	0.41	43
Pyrene	3.33	3.78	3.24	3.51	105	45-120	15	26

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-35B-5.25
LAB ID: 105668-0001-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 31 MAY 94 Analyzed: 02 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND	G	0.26	mg/kg	0.66
Phenol	ND	G	0.030	mg/kg	0.66
bis(2-Chloroethyl) ether	ND	G	0.060	mg/kg	0.66
2-Chlorophenol	ND	G	0.040	mg/kg	0.66
1,3-Dichlorobenzene	ND	G	0.030	mg/kg	0.66
1,4-Dichlorobenzene	ND	G	0.060	mg/kg	0.66
Benzyl alcohol	ND	G	0.070	mg/kg	0.66
1,2-Dichlorobenzene	ND	G	0.040	mg/kg	0.66
2-Methylphenol	ND	G	0.030	mg/kg	0.66
bis(2-Chloroisopropyl)-ether	ND	G	0.040	mg/kg	0.66
3/4-Methylphenol	ND	G	0.040	mg/kg	0.66
N-Nitroso-di-n-propylamine	ND	G	0.030	mg/kg	0.66
Hexachloroethane	ND	G	0.030	mg/kg	0.66
Nitrobenzene	ND	G	0.090	mg/kg	0.66
Isophorone	ND	G	0.040	mg/kg	0.66
2-Nitrophenol	ND	G	0.050	mg/kg	0.66
2,4-Dimethylphenol	ND	G	0.030	mg/kg	0.66
Benzoic acid	ND	G	0.51	mg/kg	3.4
bis(2-Chloroethoxy)-methane	ND	G	0.020	mg/kg	0.66
2,4-Dichlorophenol	ND	G	0.030	mg/kg	0.66
1,2,4-Trichlorobenzene	ND	G	0.040	mg/kg	0.66
Naphthalene	ND	G	0.030	mg/kg	0.66
4-Chloroaniline	ND	G	0.10	mg/kg	0.66
Hexachlorobutadiene	ND	G	0.040	mg/kg	0.66
4-Chloro-3-methylphenol	ND	G	0.040	mg/kg	0.66
2-Methylnaphthalene	ND	G	0.030	mg/kg	0.66
Hexachlorocyclopentadiene	ND	G	0.050	mg/kg	0.66
2,4,6-Trichlorophenol	ND	G	0.040	mg/kg	0.66
2,4,5-Trichlorophenol	ND	G	0.050	mg/kg	3.4
2-Chloronaphthalene	ND	G	0.030	mg/kg	0.66
2-Nitroaniline	ND	G	0.030	mg/kg	3.4
Dimethyl phthalate	ND	G	0.030	mg/kg	0.66
Acenaphthylene	ND	G	0.020	mg/kg	0.66
3-Nitroaniline	ND	G	0.14	mg/kg	3.4
Acenaphthene	ND	G	0.030	mg/kg	0.66
2,4-Dinitrophenol	ND	G	0.23	mg/kg	3.4
4-Nitrophenol	ND	G	0.25	mg/kg	3.4
Dibenzofuran	ND	G	0.040	mg/kg	0.66
2,4-Dinitrotoluene	ND	G	0.040	mg/kg	0.66
2,6-Dinitrotoluene	ND	G	0.050	mg/kg	0.66
Diethyl phthalate	ND	G	0.020	mg/kg	0.66
4-Chlorophenyl phenyl ether	ND	G	0.030	mg/kg	0.66
Fluorene	ND	G	0.030	mg/kg	0.66

G = Reporting Limit elevated due to sample matrix interference.
ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-35B-5.25
LAB ID: 105668-0001-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 31 MAY 94 Analyzed: 02 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4-Nitroaniline	ND	G	0.18	mg/kg	3.4
4,6-Dinitro-2-methylphenol	ND	G	0.36	mg/kg	3.4
N-Nitrosodiphenylamine	ND	G	0.040	mg/kg	0.66
4-Bromophenyl phenyl ether	ND	G	0.080	mg/kg	0.66
Hexachlorobenzene	ND	G	0.030	mg/kg	0.66
Pentachlorophenol	ND	G	0.19	mg/kg	3.4
Phenanthrene	ND	G	0.030	mg/kg	0.66
Anthracene	ND	G	0.020	mg/kg	0.66
Di-n-butyl phthalate	ND	G	0.24	mg/kg	0.66
Fluoranthene	ND	G	0.030	mg/kg	0.66
Pyrene	ND	G	0.020	mg/kg	0.66
Butyl benzyl phthalate	ND	G	0.030	mg/kg	0.66
3,3'-Dichlorobenzidine	ND	G	0.33	mg/kg	1.3
Benzo(a)anthracene	ND	G	0.040	mg/kg	0.66
bis(2-Ethylhexyl)-phthalate	ND	G	0.13	mg/kg	0.66
Chrysene	ND	G	0.040	mg/kg	0.66
Di-n-octyl phthalate	ND	G	0.040	mg/kg	0.66
Benzo(b)fluoranthene	ND	G	0.030	mg/kg	0.66
Benzo(k)fluoranthene	ND	G	0.030	mg/kg	0.66
Benzo(a)pyrene	ND	G	0.040	mg/kg	0.66
Indeno(1,2,3-c,d)pyrene	ND	G	0.030	mg/kg	0.66
Dibenz(a,h)anthracene	ND	G	0.030	mg/kg	0.66
Benzo(g,h,i)perylene	ND	G	0.020	mg/kg	0.66
Xylidine (Total)	ND	G	0.076	mg/kg	0.66

Surrogate	Recovery	
Nitrobenzene-d5	84	%
2-Fluorobiphenyl	82	%
Terphenyl-d14	79	%
Phenol-d5	85	%
2-Fluorophenol	93	%
2,4,6-Tribromophenol	100	%

G = Reporting Limit elevated due to sample matrix interference.
ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-35B-20.75
LAB ID: 105668-0002-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 31 MAY 94 Analyzed: 02 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-35B-20.75
LAB ID: 105668-0002-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 31 MAY 94 Analyzed: 02 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	75	%
2-Fluorobiphenyl	70	%
Terphenyl-d14	82	%
Phenol-d5	71	%
2-Fluorophenol	83	%
2,4,6-Tribromophenol	94	%

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-35C-1.0
LAB ID: 105668-0003-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 31 MAY 94 Analyzed: 02 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: SZB-35C-1.0
LAB ID: 105668-0003-SA
Matrix: SOLID Sampled: 26 MAY 94 Received: 26 MAY 94
Authorized: 30 MAY 94 Prepared: 31 MAY 94 Analyzed: 02 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	78	%
2-Fluorobiphenyl	70	%
Terphenyl-d14	69	%
Phenol-d5	75	%
2-Fluorophenol	85	%
2,4,6-Tribromophenol	93	%

ND = Not Detected

Enseco
A Corning Company

Enseco - CRL
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458 • (800) LAB-1-CRL
FAX: (714) 891-5917

June 22, 1994

HARDING LAWSON ASSOCIATES
3 HUTTON CENTRE DRIVE, STE 200
SANTA ANA, CA 92707
ATTN: MR. TOM LINDROS

LAB NO.: 105851-0001/0002
DATE SAMPLED: 7-JUN-1994
DATE SAMPLE REC'D: 7-JUN-1994
PROJECT: (26522-5.3) AEROJET

Enclosed with this letter is the report of the analytical results for the project specified above. Anomalies associated with this report are described in the Narrative section.

Report data sheets contain a list of the constituents measured in each test, the analytical results and the Enseco-CRL reporting limit. Reporting limits are adjusted to reflect any dilution factors or dry weight correction, when applicable. Solid and waste samples are reported on an "as received" basis, unless dry-weight correction is requested.

REVIEWED

Sabina R. Sudoko
APPROVED

The Report Cover Letter is an integral part of this report.
This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without authorization is prohibited.

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limit, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab ID's and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory duplicate control samples for each test are tabulated in this report. These are measures of accuracy and precision for each test. Acceptance limits are based upon laboratory historical data.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit (Metals)	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit (Organics)	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts per million)	mg/L or mg/kg	ppb (parts per billion)	ug/L or ug/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Enseco Quality Assurance Program Plan for detailed explanations of terms summarized above.

TABLE OF CONTENTS

LIMS # 105851

Cover Letter i

Report Key ii

Table of Contents iii

I. Narrative iv

II. Chain of Custody and Sample Description Information

III. Analytical Results Summary (LIMS Report)
A. LIMS Datasheets
B. QC Summaries

NARRATIVE

LIMS # 105851

The samples were received by Enseco-CRL in a chilled state, intact, and with the chain of custody.

Per instruction from HLA personnel on June 8, 1994 the following analyses were added to the Chain of Custody: E8010, SW8240, SW8270, SW6010, Chlorate and SW9012.

The MS/MSD Percent Recoveries for Aluminum were not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements," nor were they within Enseco's-CRL's established acceptance limits. However, the DCS recoveries were within all acceptable ranges, therefore the data was accepted and no further action was required.

The MS/MSD Percent Recoveries for Chromium and Mercury were not within the acceptance limits specified in HLA's "Laboratory Analytical Technical Requirements, but they were within Enseco's-CRL established acceptance limits, therefore the data was accepted and no further action was required.

ng Lawson Associates
Redhill Avenue, Suite 100
Tustin, California 92680
714/259-7992 — 213/617-7232
Telecopy: 714/259-1378

CHAIN OF STODY FORM

Lab: Enseco CRL

105851

Samplers: Ralph Wetzel

Job Number: 26522-5-3

Name/Location: AEROJET AISA FACILITY IZB

Project Manager: T. LINDROS

Recorder: Ralph Wetzel (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	EPA 6010/7000 Series	Chloride	EPA 9012-CN	
			X		X			I	D	V M W - 0 1	9 4	0 6	0 7	1 0 4 5	2-6"x2"ø SS TUBES	X						X		X	Sm agent as per 6/8
			X		X			I	D	V M W - 0 2	9 4	0 6	0 7	1 1 0 0	" " "			X	X			X	X	X	Jep 6/8/94

ANALYSIS REQUESTED

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Ralph Wetzel		6-7-94 1245
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature) [signature]	DATE/TIME 6-7-94 1245
METHOD OF SHIPMENT		

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

SAMPLE DESCRIPTION INFORMATION
for
Harding Lawson Associates

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
105851-0001-SA	IDVMW-01	SOLID	07 JUN 94	10:45	07 JUN 94
105851-0002-SA	IDVMW-02	SOLID	07 JUN 94	11:00	07 JUN 94

Holding Time Report | Project: 105851 | Client: Harding Lawson Associates | Today: 22 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 8270 - Semivolatile Organics							Prep: P-8270-S						Total: 1
1	IDVMW-02	105851-0002-SA	8270-HLA-S	8270	07 JUN 94	07 JUN 94	09 JUN 94	11 JUN 94	4	4	2		
Test: Method 8240 - Volatile Organics, EPA 8240 Extended List							Prep: P-VOASCR-S						Total: 1
1	IDVMW-02	105851-0002-SA	8240-HLA-S	8240	07 JUN 94	07 JUN 94	10 JUN 94	10 JUN 94	3	3	n/a		
Test: Method 5030 - Prep - Volatile Organics							Prep: n/a						Total: 1
1	IDVMW-02	105851-0002-SA	P-VOASCR-S	5030	07 JUN 94	07 JUN 94	10 JUN 94	n/a	3	3	n/a		
Test: Method EPA 3550 - Prep - Semivolatile Organics by GC/MS							Prep: n/a						Total: 1
1	IDVMW-02	105851-0002-SA	P-8270-S	3550	07 JUN 94	07 JUN 94	09 JUN 94	n/a	2	2	n/a		
Test: Method 8010 - Halogenated Volatile Organics							Prep: P-8010-S						Total: 1
1	IDVMW-01	105851-0001-SA	8010-MDL-HLA-S	8010	07 JUN 94	07 JUN 94	08 JUN 94	08 JUN 94	1	1	n/a		
Test: Method 8010 - Prep - Methanol Extraction							Prep: n/a						Total: 1
1	IDVMW-01	105851-0001-SA	P-8010-S	8010	07 JUN 94	07 JUN 94	08 JUN 94	n/a	1	1	n/a		
Test: Method 7020 - Aluminum, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	AL-FLAA-MDL-S	7020	07 JUN 94	07 JUN 94	13 JUN 94	16 JUN 94	9	9	n/a		
2	IDVMW-02	105851-0002-SA	AL-FLAA-MDL-S	7020	07 JUN 94	07 JUN 94	13 JUN 94	16 JUN 94	9	9	n/a		
Test: Method 7062 - Arsenic, Hydride AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	AS-HAA-MDL-S	7062	07 JUN 94	07 JUN 94	13 JUN 94	17 JUN 94	10	10	n/a		
2	IDVMW-02	105851-0002-SA	AS-HAA-MDL-S	7062	07 JUN 94	07 JUN 94	13 JUN 94	17 JUN 94	10	10	n/a		
Test: Method 7080 - Barium, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	BA-FLAA-MDL-S	7080	07 JUN 94	07 JUN 94	13 JUN 94	16 JUN 94	9	9	n/a		
2	IDVMW-02	105851-0002-SA	BA-FLAA-MDL-S	7080	07 JUN 94	07 JUN 94	13 JUN 94	16 JUN 94	9	9	n/a		
Test: Method 7130 - Cadmium, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	CD-FLAA-MDL-S	7130	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
2	IDVMW-02	105851-0002-SA	CD-FLAA-MDL-S	7130	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
Test: Method 7190 - Chromium, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	CR-FLAA-MDL-S	7190	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
2	IDVMW-02	105851-0002-SA	CR-FLAA-MDL-S	7190	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
Test: Method 7210 - Copper, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	CU-FLAA-MDL-S	7210	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
2	IDVMW-02	105851-0002-SA	CU-FLAA-MDL-S	7210	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
Test: Method 7471 - Mercury, Cold Vapor AA							Prep: P-HG-CVAA-S						Total: 2
1	IDVMW-01	105851-0001-SA	HG-CVAA-MDL-S	7471	07 JUN 94	07 JUN 94	13 JUN 94	14 JUN 94	7	7	n/a		
2	IDVMW-02	105851-0002-SA	HG-CVAA-MDL-S	7471	07 JUN 94	07 JUN 94	13 JUN 94	14 JUN 94	7	7	n/a		
Test: Manganese, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	MN-FLAA-MDL-S	7460	07 JUN 94	07 JUN 94	13 JUN 94	14 JUN 94	7	7	n/a		
2	IDVMW-02	105851-0002-SA	MN-FLAA-MDL-S	7460	07 JUN 94	07 JUN 94	13 JUN 94	14 JUN 94	7	7	n/a		

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Coming Environmental Services

Holding Time Report | Project: 105851 | Client: Harding Lawson Associates | Today: 22 JUN 94

	Field ID	Lab ID	Lab Test Code	Analytical Method	Collected	Received	Extracted	Analyzed	CTA	RTA	ETA	HTV	Corrective Action
Test: Method 7520 - Nickel, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	NI-FLAA-MDL-S	7520	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
2	IDVMW-02	105851-0002-SA	NI-FLAA-MDL-S	7520	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
Test: Method 7420 - Lead, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	PB-FLAA-MDL-S	7420	07 JUN 94	07 JUN 94	13 JUN 94	14 JUN 94	7	7	n/a		
2	IDVMW-02	105851-0002-SA	PB-FLAA-MDL-S	7420	07 JUN 94	07 JUN 94	13 JUN 94	14 JUN 94	7	7	n/a		
Test: Method 7950 - Zinc, Flame AA							Prep: P-M-3050-S						Total: 2
1	IDVMW-01	105851-0001-SA	ZN-FLAA-MDL-S	7950	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
2	IDVMW-02	105851-0002-SA	ZN-FLAA-MDL-S	7950	07 JUN 94	07 JUN 94	13 JUN 94	15 JUN 94	8	8	n/a		
Test: Prep - Mercury, Cold Vapor AA, Solid							Prep: n/a						Total: 2
1	IDVMW-01	105851-0001-SA	P-HG-CVAA-S	7471	07 JUN 94	07 JUN 94	13 JUN 94	n/a	6	6	n/a		
2	IDVMW-02	105851-0002-SA	P-HG-CVAA-S	7471	07 JUN 94	07 JUN 94	13 JUN 94	n/a	6	6	n/a		
Test: Method 3050 - Prep - Total Metals							Prep: n/a						Total: 2
1	IDVMW-01	105851-0001-SA	P-M-3050-S	3050	07 JUN 94	07 JUN 94	13 JUN 94	n/a	6	6	n/a		
2	IDVMW-02	105851-0002-SA	P-M-3050-S	3050	07 JUN 94	07 JUN 94	13 JUN 94	n/a	6	6	n/a		
Test: Method 300.0 - Chlorate, Ion Chromatography							Prep: P-IC-DILEACH-S						Total: 1
1	IDVMW-02	105851-0002-SA	CLO3-MDL-S	300.0	07 JUN 94	07 JUN 94	20 JUN 94	20 JUN 94	13	13	n/a		
Test: Method 9012 - Cyanide, Total							Prep: P-CN-S						Total: 2
1	IDVMW-01	105851-0001-SA	CN-MDL-S	9012	07 JUN 94	07 JUN 94	14 JUN 94	15 JUN 94	8	8	n/a		
2	IDVMW-02	105851-0002-SA	CN-MDL-S	9012	07 JUN 94	07 JUN 94	14 JUN 94	15 JUN 94	8	8	n/a		
Test: Method 9012 - Prep - Cyanide, Total							Prep: n/a						Total: 2
1	IDVMW-01	105851-0001-SA	P-CN-S	9012	07 JUN 94	07 JUN 94	14 JUN 94	n/a	7	7	n/a		
2	IDVMW-02	105851-0002-SA	P-CN-S	9012	07 JUN 94	07 JUN 94	14 JUN 94	n/a	7	7	n/a		
Test: Prep - Method 300.0-Mod.- Deionized Water Leach							Prep: n/a						Total: 1
1	IDVMW-02	105851-0002-SA	P-IC-DILEACH-S	300.0-Mod.	07 JUN 94	07 JUN 94	20 JUN 94	n/a	13	13	n/a		

CTA = Number of Days from Collected to Analyzed.
RTA = Number of Days from Received to Analyzed.
ETA = Number of Days from Extraction to Analyzed.
HTV = Hold Time Violation (Y=Yes, blank=No)

Enseco
Corning Environmental Services

QC LOT ASSIGNMENT REPORT - MS QC
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105851-0001-SA	SOLID	AL-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	AS-HAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	CD-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	CR-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	MN-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	NI-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	PB-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	CU-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	ZN-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	BA-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0001-SA	SOLID	HG-CVAA-S	13 JUN 94-F	13 JUN 94-F	13 JUN 94-FA
105851-0002-SA	SOLID	AL-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	AS-HAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	CD-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	CR-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	MN-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	NI-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	PB-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	CU-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	ZN-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	BA-FLAA-S	13 JUN 94-B	13 JUN 94-B	08 JUN 94-CA
105851-0002-SA	SOLID	HG-CVAA-S	13 JUN 94-F	13 JUN 94-F	13 JUN 94-FA

METHOD BLANK REPORT
Metals Analysis and Preparation
Project: 105851

Test: AL-FLAA-MDL-S Method 7020 - Aluminum, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 16 JUN 94

Analyte	Result	Units	Reporting Limit
Aluminum	ND	mg/kg	100

Test: AS-HAA-MDL-S Method 7062 - Arsenic, Hydride AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 17 JUN 94

Analyte	Result	Units	Reporting Limit
Arsenic	ND	mg/kg	0.50

Test: CD-FLAA-MDL-S Method 7130 - Cadmium, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 15 JUN 94

Analyte	Result	Units	Reporting Limit
Cadmium	ND	mg/kg	5.0

Test: CR-FLAA-MDL-S Method 7190 - Chromium, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 15 JUN 94

Analyte	Result	Units	Reporting Limit
Chromium	ND	mg/kg	10.0

Test: MN-FLAA-MDL-S Manganese, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 14 JUN 94

Analyte	Result	Units	Reporting Limit
Manganese	ND	mg/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105851

Test: NI-FLAA-MDL-S Method 7520 - Nickel, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 15 JUN 94

Analyte	Result	Units	Reporting Limit
Nickel	ND	mg/kg	10.0

Test: PB-FLAA-MDL-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 14 JUN 94

Analyte	Result	Units	Reporting Limit
Lead	ND	mg/kg	20.0

Test: CU-FLAA-MDL-S Method 7210 - Copper, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 15 JUN 94

Analyte	Result	Units	Reporting Limit
Copper	ND	mg/kg	10.0

Test: ZN-FLAA-MDL-S Method 7950 - Zinc, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 15 JUN 94

Analyte	Result	Units	Reporting Limit
Zinc	ND	mg/kg	2.0

Test: BA-FLAA-MDL-S Method 7080 - Barium, Flame AA
Matrix: SOLID
QC Run: 13 JUN 94-B Date Analyzed: 16 JUN 94

Analyte	Result	Units	Reporting Limit
Barium	ND	mg/kg	50.0

ND = Not Detected

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)
Project: 105851

Test: HG-CVAA-MDL-S Method 7471 - Mercury, Cold Vapor AA
Matrix: SOLID
QC Run: 13 JUN 94-F Date Analyzed: 14 JUN 94

Analyte	Result	Units	Reporting Limit
Mercury	ND	mg/kg	0.10

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105851

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Aluminum	7390	7750	7620	200	NC	NC	NC	60-130	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Arsenic	3.16	42.8	40.8	50.0	79	75	5.2	50-127	25

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cadmium	ND	6.50	6.30	5.00	130	126	3.1	52-130	28

NC = Not Calculated, calculation not applicable.
ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105851 (cont.)

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chromium	ND	27.2	25.9	20.0	136	130	4.9	40-190	33

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Manganese	176	225	238	50.0	98	124	23	60-130	40

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Nickel	ND	61.0	59.0	50.0	122	118	3.3	55-155	25

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105851 (cont.)

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Lead	ND	43.0	35.0	50.0	86	70	21	53-147	26

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Copper	15.0	39.0	38.0	25.0	96	92	4.3	49-144	23

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Zinc	40.0	80.2	80.8	50.0	80	82	1.5	65-138	25

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Metals Analysis and Preparation
Project: 105851 (cont.)

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
Sample: 105668-0004
MS Run: 08 JUN 94-CA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Barium	71.0	273	269	200	101	99	2.0	40-130	30

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
Sample: 105668-0004
MS Run: 13 JUN 94-FA
Units mg/kg Units Qualifier: Wet wt.

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Mercury	ND	0.663	0.572	0.438	151	131	15	49-159	38

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105851

Category: AL-FLAA-S Aluminum, Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 16 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Aluminum	3650	4050	3870	3960	108	53-153	4.5	20

Category: AS-HAA-S Arsenic, Hydride AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 17 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Arsenic	72.1	76.2	76.0	76.1	106	49-153	0.26	20

Category: CD-FLAA-S Cadmium, Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 15 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Cadmium	61.6	67.6	67.5	67.6	110	59-140	0.15	12

Category: CR-FLAA-S Chromium, Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 15 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Chromium	44.1	41.9	40.8	41.4	94	59-138	2.7	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

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DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105851

Category: MN-FLAA-S Manganese, Flame AA Method 7460
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 14 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision (RPD) Limit
Manganese	141	151	146	148	105	69-134	3.4	20

Category: NI-FLAA-S Nickel Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 15 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision (RPD) Limit
Nickel	110	133	131	132	120	59-142	1.5	12

Category: PB-FLAA-S Method 7420 - Lead, Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 14 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision (RPD) Limit
Lead	50.9	52.0	53.0	52.5	103	53-139	1.9	13

Category: CU-FLAA-S Copper Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 15 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision (RPD) Limit
Copper	78.1	83.0	82.0	82.5	106	62-144	1.2	12

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation
Project: 105851

Category: ZN-FLAA-S Zinc, Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 15 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Zinc	78.2	82.2	80.6	81.4	104	58-152	2.0	10

Category: BA-FLAA-S Barium, Flame AA
Matrix: SOLID
QC Lot: 13 JUN 94-B
Date Analyzed: 16 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Barium	64.8	66.0	58.0	62.0	96	70-136	13	14

Category: HG-CVAA-S Mercury by CVAA
Matrix: SOLID
QC Lot: 13 JUN 94-F
Date Analyzed: 14 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Mercury	32.0	42.0	37.3	39.6	124	52-148	12	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

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METALS

Client Name: Harding Lawson Associates
Client ID: IDVMW-01
LAB ID: 105851-0001-SA
Matrix: SOLID — Sampled: 07 JUN 94 — Received: 07 JUN 94
Authorized: 08 JUN 94 — Prepared: See Below — Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Aluminum	5010		50.0	200	mg/kg	7020	13 JUN 94	16 JUN 94
Arsenic	4.6		0.20	0.50	mg/kg	7062	13 JUN 94	17 JUN 94
Barium	65.0		20.0	50.0	mg/kg	7080	13 JUN 94	16 JUN 94
Chromium	ND		5.0	10.0	mg/kg	7190	13 JUN 94	15 JUN 94
Copper	12.0		5.0	10.0	mg/kg	7210	13 JUN 94	15 JUN 94
Lead	ND		20.0	20.0	mg/kg	7420	13 JUN 94	14 JUN 94
Manganese	203		2.0	5.0	mg/kg	7460	13 JUN 94	14 JUN 94
Nickel	TR		5.0	10.0	mg/kg	7520	13 JUN 94	15 JUN 94
Zinc	30.0		1.0	2.0	mg/kg	7950	13 JUN 94	15 JUN 94
Cadmium	ND		2.0	5.0	mg/kg	7130	13 JUN 94	15 JUN 94
Mercury	TR		0.090	0.10	mg/kg	7471	13 JUN 94	14 JUN 94

ND = Not Detected

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METALS

Client Name: Harding Lawson Associates
Client ID: IDVMW-02
ID: 105851-0002-SA
Matrix: SOLID
Sampled: 07 JUN 94
Received: 07 JUN 94
Authorized: 08 JUN 94
Prepared: See Below
Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Aluminum	5370		50.0	200	mg/kg	7020	13 JUN 94	16 JUN 94
Arsenic	5.7		0.20	0.50	mg/kg	7062	13 JUN 94	17 JUN 94
Barium	70.0		20.0	50.0	mg/kg	7080	13 JUN 94	16 JUN 94
Chromium	ND		5.0	10.0	mg/kg	7190	13 JUN 94	15 JUN 94
Copper	17.0		5.0	10.0	mg/kg	7210	13 JUN 94	15 JUN 94
Lead	ND		20.0	20.0	mg/kg	7420	13 JUN 94	14 JUN 94
Manganese	232		2.0	5.0	mg/kg	7460	13 JUN 94	14 JUN 94
Nickel	TR		5.0	10.0	mg/kg	7520	13 JUN 94	15 JUN 94
Zinc	27.6		1.0	2.0	mg/kg	7950	13 JUN 94	15 JUN 94
Cadmium	ND		2.0	5.0	mg/kg	7130	13 JUN 94	15 JUN 94
Mercury	TR		0.090	0.10	mg/kg	7471	13 JUN 94	14 JUN 94

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105851-0001-SA	SOLID	CN-S	14 JUN 94-A	14 JUN 94-A	14 JUN 94-AA
105851-0002-SA	SOLID	CN-S	14 JUN 94-A	14 JUN 94-A	14 JUN 94-AA
105851-0002-SA	SOLID	CLO3-S	20 JUN 94-A	20 JUN 94-A	20 JUN 94-AA

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation
Project: 105851

Test: CN-MDL-S Method 9012 - Cyanide, Total
Matrix: SOLID
QC Run: 14 JUN 94-A Date Analyzed: 15 JUN 94

Analyte	Result	Units	Reporting Limit
Cyanide, Total	ND	mg/kg	0.50

Test: CLO3-MDL-S Method 300.0 - Chlorate, Ion Chromatography
Matrix: SOLID
QC Run: 20 JUN 94-A Date Analyzed: 20 JUN 94

Analyte	Result	Units	Reporting Limit
Chlorate, Solid	ND	mg/kg	1.0

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Wet Chemistry Analysis and Preparation
Project: 105851

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
Sample: 105851-0001
MS Run: 14 JUN 94-AA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Cyanide, Total	ND	4.56	4.70	5.00	91	94	3.0	21-145	47

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
Sample: 105851-0002
MS Run: 20 JUN 94-AA
Units: mg/kg

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Chlorate, Solid	ND	10.4	9.67	10.0	104	97	7.3	80-120	20

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation
Project: 105851

Category: CN-S Cyanide (9012) SOLID
Matrix: SOLID
QC Lot: 14 JUN 94-A Date Analyzed: 15 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Cyanide, Total	5.00	4.85	4.59	4.72	94	66-118	5.5	27

Category: CLO3-S Chlorate, Liquid
Matrix: SOLID
QC Lot: 20 JUN 94-A Date Analyzed: 20 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Chlorate, Solid	10.0	9.95	9.70	9.82	98	80-120	2.5	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

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GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: IDVMW-01
LAB ID: 105851-0001-SA
Matrix: SOLID Sampled: 07 JUN 94 Received: 07 JUN 94
Authorized: 08 JUN 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.30	0.50	mg/kg	9012	14 JUN 94	15 JUN 94

ND = Not Detected

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GENERAL INORGANICS

Client Name: Harding Lawson Associates
Client ID: IDVMW-02
Lab ID: 105851-0002-SA
Matrix: SOLID Sampled: 07 JUN 94 Received: 07 JUN 94
Authorized: 08 JUN 94 Prepared: See Below Analyzed: See Below

Parameter	Result	Qual	IDL	Rep Lim	Units	Method	Prepared Date	Analyzed Date
Cyanide, Total	ND		0.30	0.50	mg/kg	9012	14 JUN 94	15 JUN 94
Chlorate, Solid	ND		0.50	1.0	mg/kg	300.0	20 JUN 94	20 JUN 94

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105851-0001-SA	SOLID	8010-S	08 JUN 94-A1	08 JUN 94-A1	08 JUN 94-AA

METHOD BLANK REPORT
Volatile Organics by GC
Project: 105851

Test: 8010-MDL-HLA-S Method 8010 - Halogenated Volatile Organics
Matrix: SOLID
QC Run: 08 JUN 94-A1 Date Analyzed: 08 JUN 94

Analyte	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	5.0
Vinyl chloride	ND	ug/kg	5.0
Chloroethane	ND	ug/kg	5.0
Methylene chloride	ND	ug/kg	5.0
Trichlorofluoromethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
trans-1,2-Dichloroethene	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC
Project: 105851

Category: 8010-S Halogenated Volatile Organics
Matrix: SOLID
Sample: 105851-0001
MS Run: 08 JUN 94-AA
Units ug/kg Units Qualifier: Wet Wt.

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethane	ND	7.26	6.69	10.0	73	67	8.2	32-103	35
Chlorobenzene	ND	7.75	7.00	10.0	78	70	10	20-123	40
Trichloroethene	ND	7.76	7.23	10.0	78	72	7.1	34-126	38
Bromodichloromethane	ND	6.25	6.14	10.0	62	61	1.8	18-121	45
Chloroform	ND	7.96	7.34	10.0	80	73	8.1	38-113	37

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC
Project: 105851

Category: 8010-S Halogenated Volatile Organics
Matrix: SOLID
QC Run: 08 JUN 94-A1 Date Analyzed: 08 JUN 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured	Accuracy(%) SCS	Limits
Bromofluorobenzene	20.0	11.4	57	19-134

Calculations are performed before rounding to avoid round-off errors in calculated results.

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DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC
Project: 105851

Category: 8010-S Halogenated Volatile Organics
Matrix: SOLID
QC Lot: 08 JUN 94-A1 Date Analyzed: 08 JUN 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethane	10.0	7.67	7.61	7.64	76	36-121	0.79	23
Chlorobenzene	10.0	8.12	8.42	8.27	83	27-133	3.6	32
Trichloroethene	10.0	8.04	8.17	8.10	81	47-149	1.6	23
Bromodichloromethane	10.0	6.47	6.49	6.48	65	25-140	0.31	27
Chloroform	10.0	8.34	8.40	8.37	84	39-145	0.72	21

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Halogenated Volatile Organics
Method 8010

Client Name: Harding Lawson Associates
Client ID: IDVMW-01
LAB ID: 105851-0001-SA
Matrix: SOLID Sampled: 07 JUN 94 Received: 07 JUN 94
Authorized: 08 JUN 94 Prepared: 08 JUN 94 Analyzed: 08 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Chloromethane	ND		1.3	ug/kg	5.0
Bromomethane	ND		0.95	ug/kg	5.0
Vinyl chloride	ND		1.3	ug/kg	5.0
Chloroethane	ND		0.95	ug/kg	5.0
Methylene chloride	ND		1.6	ug/kg	5.0
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		0.70	ug/kg	5.0
1,1-Dichloroethane	ND		0.46	ug/kg	5.0
trans-1,2-Dichloroethene	ND		0.43	ug/kg	5.0
Chloroform	ND		0.43	ug/kg	5.0
1,2-Dichloroethane	ND		0.54	ug/kg	5.0
1,1,1-Trichloroethane	ND		0.47	ug/kg	5.0
Carbon tetrachloride	ND		0.56	ug/kg	5.0
Bromodichloromethane	ND		0.51	ug/kg	5.0
1,2-Dichloropropane	ND		0.63	ug/kg	5.0
cis-1,3-Dichloropropene	ND		0.76	ug/kg	5.0
Trichloroethene	ND		1.3	ug/kg	5.0
Dibromochloromethane	ND		0.68	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.64	ug/kg	5.0
trans-1,3-Dichloropropene	ND		0.31	ug/kg	5.0
Bromoform	ND		0.97	ug/kg	5.0
Tetrachloroethene	ND		0.67	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		1.0	ug/kg	5.0
Chlorobenzene	ND		1.0	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.73	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.85	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.94	ug/kg	5.0

Surrogate	Recovery	
Bromofluorobenzene	51	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105851-0002-SA	SOLID	8240-S	09 JUN 94-BC	10 JUN 94-AC	01 JUN 94-AF

METHOD BLANK REPORT
Volatile Organics by GC/MS
Project: 105851

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 10 JUN 94-AC Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
Dichlorodifluoromethane	ND	ug/kg	10
Chloromethane	ND	ug/kg	10
Bromomethane	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Chloroethane	ND	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/kg	5.0
Methylene chloride	ND	ug/kg	5.0
Acetone	ND	ug/kg	10
Trichlorofluoromethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
Nitromethane	ND	ug/kg	200
trans-1,2-Dichloroethene	ND	ug/kg	5.0
cis-1,2-Dichloroethene	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
2,2-Dichloropropane	ND	ug/kg	5.0
Bromochloromethane	ND	ug/kg	5.0
Chloroform	ND	ug/kg	5.0
1,1-Dichloropropene	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
Dibromomethane	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
1,3-Dichloropropane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Dibromochloromethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Benzene	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
Xylenes (total)	ND	ug/kg	5.0
1-Methylethylbenzene	ND	ug/kg	5.0
Bromobenzene	ND	ug/kg	5.0
1,2,3-Trichloropropane	ND	ug/kg	5.0
2-Chlorotoluene	ND	ug/kg	5.0
n-Propyl benzene	ND	ug/kg	5.0
1,3,5-Trimethylbenzene	ND	ug/kg	5.0

ND = Not Detected

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)
Project: 105851

Test: 8240-HLA-S Method 8240 - Volatile Organics, EPA 8240 Extended List
Matrix: SOLID
QC Run: 10 JUN 94-AC Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
4-Chlorotoluene	ND	ug/kg	5.0
tert-Butylbenzene	ND	ug/kg	5.0
1,2,4-Trimethylbenzene	ND	ug/kg	5.0
sec-Butylbenzene	ND	ug/kg	5.0
Isopropyltoluene	ND	ug/kg	5.0
1,3-Dichlorobenzene	ND	ug/kg	5.0
1,4-Dichlorobenzene	ND	ug/kg	5.0
n-Butylbenzene	ND	ug/kg	5.0
1,2-Dichlorobenzene	ND	ug/kg	5.0
1,2,4-Trichlorobenzene	ND	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/kg	5.0
Hexachlorobutadiene	ND	ug/kg	5.0
Naphthalene	ND	ug/kg	5.0
1,2,3-Trichlorobenzene	ND	ug/kg	5.0

ND = Not Detected

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MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 105851

Category: 8240-S Volatile Organics
Matrix: SOLID
Sample: 105668-0003
MS Run: 01 JUN 94-AF
Units: ug/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	56.3	55.9	50.0	113	112	0.7	40-144	31
Trichloroethene	ND	54.2	54.4	50.0	108	109	0.3	62-152	22
Benzene	ND	54.4	54.6	50.0	109	109	0.3	65-141	22
Toluene	ND	53.0	53.6	50.0	106	107	1.1	67-143	23
Chlorobenzene	ND	53.8	53.0	50.0	108	106	1.5	69-146	21

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105851

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Run: 10 JUN 94-AC Date Analyzed: 10 JUN 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	50.0	46.1	92	84-119
Toluene-d8	50.0	47.8	96	86-114
Bromofluorobenzene	50.0	46.7	93	86-114

Calculations are performed before rounding to avoid round-off errors in calculated results.

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DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 105851

Category: 8240-S Volatile Organics
Matrix: SOLID
QC Lot: 09 JUN 94-BC Date Analyzed: 09 JUN 94
Concentration Units: ug/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
1,1-Dichloroethene	50.0	47.0	47.5	47.2	95	47-125	1.1	20
Trichloroethene	50.0	49.8	50.5	50.2	100	78-127	1.4	15
Benzene	50.0	50.0	51.3	50.6	101	79-123	2.6	15
Toluene	50.0	49.7	51.1	50.4	101	80-122	2.8	15
Chlorobenzene	50.0	50.1	51.7	50.9	102	82-129	3.1	15

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: IDVMW-02
LAB ID: 105851-0002-SA
Matrix: SOLID
Authorized: 08 JUN 94
Sampled: 07 JUN 94
Prepared: 10 JUN 94
Received: 07 JUN 94
Analyzed: 10 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
Dichlorodifluoromethane	ND		1.2	ug/kg	10
Chloromethane	ND		0.79	ug/kg	10
Bromomethane	ND		0.73	ug/kg	10
Vinyl chloride	ND		1.5	ug/kg	10
Chloroethane	ND		1.4	ug/kg	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.2	ug/kg	5.0
Methylene chloride	TR		1.1	ug/kg	5.0
Acetone	ND		7.1	ug/kg	10
Trichlorofluoromethane	ND		0.85	ug/kg	5.0
1,1-Dichloroethene	ND		2.5	ug/kg	5.0
Nitromethane	ND		16	ug/kg	200
trans-1,2-Dichloroethene	ND		0.99	ug/kg	5.0
cis-1,2-Dichloroethene	ND		0.93	ug/kg	5.0
1,1-Dichloroethane	ND		0.67	ug/kg	5.0
2,2-Dichloropropane	ND		0.85	ug/kg	5.0
Bromochloromethane	ND		0.74	ug/kg	5.0
Chloroform	ND		0.89	ug/kg	5.0
1,1-Dichloropropene	ND		0.62	ug/kg	5.0
1,2-Dichloroethane	ND		0.66	ug/kg	5.0
Dibromomethane	ND		0.70	ug/kg	5.0
1,1,1-Trichloroethane	ND		1.6	ug/kg	5.0
Carbon tetrachloride	ND		0.37	ug/kg	5.0
Bromodichloromethane	ND		0.34	ug/kg	5.0
1,2-Dichloropropane	ND		0.51	ug/kg	5.0
1,3-Dichloropropane	ND		0.54	ug/kg	5.0
Trichloroethene	ND		0.52	ug/kg	5.0
Dibromochloromethane	ND		0.45	ug/kg	5.0
1,1,2-Trichloroethane	ND		0.72	ug/kg	5.0
Benzene	ND		0.38	ug/kg	5.0
Bromoform	ND		0.53	ug/kg	5.0
Tetrachloroethene	ND		0.51	ug/kg	5.0
1,2-Dibromoethane (EDB)	ND		0.74	ug/kg	5.0
1,1,1,2-Tetrachloroethane	ND		0.58	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND		0.65	ug/kg	5.0
Toluene	ND		0.40	ug/kg	5.0
Chlorobenzene	ND		0.36	ug/kg	5.0
Ethylbenzene	ND		0.59	ug/kg	5.0
Styrene	ND		0.22	ug/kg	5.0
Xylenes (total)	ND		0.95	ug/kg	5.0
1-Methylethylbenzene	ND		0.43	ug/kg	5.0
Bromobenzene	ND		0.45	ug/kg	5.0
1,2,3-Trichloropropane	ND		2.8	ug/kg	5.0
2-Chlorotoluene	ND		1.0	ug/kg	5.0
n-Propyl benzene	ND		0.52	ug/kg	5.0
1,3,5-Trimethylbenzene	ND		0.61	ug/kg	5.0
4-Chlorotoluene	ND		1.0	ug/kg	5.0
tert-Butylbenzene	ND		0.55	ug/kg	5.0

ND = Not Detected

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Volatile Organic Compounds
Method 8240

Client Name: Harding Lawson Associates
Client ID: IDVMW-02
LAB ID: 105851-0002-SA
Matrix: SOLID Sampled: 07 JUN 94 Received: 07 JUN 94
Authorized: 08 JUN 94 Prepared: 10 JUN 94 Analyzed: 10 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
1,2,4-Trimethylbenzene	ND		0.53	ug/kg	5.0
sec-Butylbenzene	ND		0.61	ug/kg	5.0
Isopropyltoluene	ND		0.38	ug/kg	5.0
1,3-Dichlorobenzene	ND		0.51	ug/kg	5.0
1,4-Dichlorobenzene	ND		0.35	ug/kg	5.0
n-Butylbenzene	ND		0.77	ug/kg	5.0
1,2-Dichlorobenzene	ND		0.50	ug/kg	5.0
1,2,4-Trichlorobenzene	ND		0.72	ug/kg	5.0
1,2-Dibromo-3-chloro-propane (DBCP)	ND		1.5	ug/kg	5.0
Hexachlorobutadiene	ND		0.97	ug/kg	5.0
Naphthalene	ND		0.88	ug/kg	5.0
1,2,3-Trichlorobenzene	ND		0.56	ug/kg	5.0

Surrogate	Recovery	
1,2-Dichloroethane-d4	107	%
Toluene-d8	98	%
Bromofluorobenzene	94	%

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
105851-0002-SA	SOLID	8270-S	31 MAY 94-I	09 JUN 94-A	31 MAY 94-IA

METHOD BLANK REPORT
Semivolatile Organics by GC/MS
Project: 105851

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 09 JUN 94-A Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiethylamine	ND	mg/kg	0.33
Phenol	ND	mg/kg	0.33
bis(2-Chloroethyl) ether	ND	mg/kg	0.33
2-Chlorophenol	ND	mg/kg	0.33
1,3-Dichlorobenzene	ND	mg/kg	0.33
1,4-Dichlorobenzene	ND	mg/kg	0.33
Benzyl alcohol	ND	mg/kg	0.33
1,2-Dichlorobenzene	ND	mg/kg	0.33
2-Methylphenol	ND	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND	mg/kg	0.33
3/4-Methylphenol	ND	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND	mg/kg	0.33
Hexachloroethane	ND	mg/kg	0.33
Nitrobenzene	ND	mg/kg	0.33
Isophorone	ND	mg/kg	0.33
2-Nitrophenol	ND	mg/kg	0.33
2,4-Dimethylphenol	ND	mg/kg	0.33
Benzoic acid	ND	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND	mg/kg	0.33
2,4-Dichlorophenol	ND	mg/kg	0.33
1,2,4-Trichlorobenzene	ND	mg/kg	0.33
Naphthalene	ND	mg/kg	0.33
4-Chloroaniline	ND	mg/kg	0.33
Hexachlorobutadiene	ND	mg/kg	0.33
4-Chloro-3-methylphenol	ND	mg/kg	0.33
2-Methylnaphthalene	ND	mg/kg	0.33
Hexachlorocyclopentadiene	ND	mg/kg	0.33
2,4,6-Trichlorophenol	ND	mg/kg	0.33
2,4,5-Trichlorophenol	ND	mg/kg	1.7
2-Chloronaphthalene	ND	mg/kg	0.33
2-Nitroaniline	ND	mg/kg	1.7
Dimethyl phthalate	ND	mg/kg	0.33
Acenaphthylene	ND	mg/kg	0.33
3-Nitroaniline	ND	mg/kg	1.7
Acenaphthene	ND	mg/kg	0.33
2,4-Dinitrophenol	ND	mg/kg	1.7
4-Nitrophenol	ND	mg/kg	1.7
Dibenzofuran	ND	mg/kg	0.33
2,4-Dinitrotoluene	ND	mg/kg	0.33
2,6-Dinitrotoluene	ND	mg/kg	0.33
Diethyl phthalate	ND	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND	mg/kg	0.33
Fluorene	ND	mg/kg	0.33
4-Nitroaniline	ND	mg/kg	1.7
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.7

ND = Not Detected

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)
Project: 105851

Test: 8270-HLA-S Method 8270 - Semivolatile Organics
Matrix: SOLID
QC Run: 09 JUN 94-A Date Analyzed: 10 JUN 94

Analyte	Result	Units	Reporting Limit
N-Nitrosodiphenylamine	ND	mg/kg	0.33
4-Bromophenyl phenyl ether	ND	mg/kg	0.33
Hexachlorobenzene	ND	mg/kg	0.33
Pentachlorophenol	ND	mg/kg	1.7
Phenanthrene	ND	mg/kg	0.33
Anthracene	ND	mg/kg	0.33
Di-n-butyl phthalate	ND	mg/kg	0.33
Fluoranthene	ND	mg/kg	0.33
Pyrene	ND	mg/kg	0.33
Butyl benzyl phthalate	ND	mg/kg	0.33
3,3'-Dichlorobenzidine	ND	mg/kg	0.66
Benzo(a)anthracene	ND	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND	mg/kg	0.33
Chrysene	ND	mg/kg	0.33
Di-n-octyl phthalate	ND	mg/kg	0.33
Benzo(b)fluoranthene	ND	mg/kg	0.33
Benzo(k)fluoranthene	ND	mg/kg	0.33
Benzo(a)pyrene	ND	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND	mg/kg	0.33
Dibenz(a,h)anthracene	ND	mg/kg	0.33
Benzo(g,h,i)perylene	ND	mg/kg	0.33
Xylidine (Total)	ND	mg/kg	0.33

ND = Not Detected

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Semivolatile Organics by GC/MS
Project: 105851

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
Sample: 105668-0001
MS Run: 31 MAY 94-IA
Units: mg/kg

Analyte	Concentration Sample Result	MS Result	MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
Phenol	ND	5.64	6.29	6.67	85	94	11	34-109	39
2-Chlorophenol	ND	5.79	6.33	6.67	87	95	8.9	42-101	38
1,4-Dichlorobenzene	ND	2.54	2.89	3.33	76	87	13	42-102	37
N-Nitroso-di-n-propylamine	ND	2.94	3.49	3.33	88	105	17	28-126	41
1,2,4-Trichlorobenzene	ND	2.65	2.85	3.33	80	86	7.3	46-106	32
4-Chloro-3-methylphenol	ND	6.24	6.41	6.67	94	96	2.7	40-121	23
Acenaphthene	ND	2.88	3.02	3.33	86	91	4.7	48-113	20
2,4-Dinitrotoluene	ND	2.68	2.67	3.33	80	80	0.3	23-129	25
4-Nitrophenol	ND	7.89	8.58	6.67	118	129	8.4	29-159	42
Pentachlorophenol	ND	6.34	6.86	6.67	95	103	7.9	40-146	37
Pyrene	ND	3.05	3.14	3.33	92	94	2.9	27-139	32

ND = Not Detected

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105851

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Run: 09 JUN 94-A Date Analyzed: 10 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
2-Fluorophenol	6.67	5.05	76	55-111
Phenol-d5	6.67	4.83	72	47-110
Nitrobenzene-d5	3.33	2.70	81	57-113
2-Fluorobiphenyl	3.33	2.41	72	51-104
2,4,6-Tribromophenol	6.67	4.76	71	41-131
Terphenyl-d14	3.33	2.51	75	44-130

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS
Project: 105851

Category: 8270-S Method 8270 - TCL Semivolatile Organics
Matrix: SOLID
QC Lot: 31 MAY 94-I Date Analyzed: 02 JUN 94
Concentration Units: mg/kg

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average (%) DCS	Accuracy Average (%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Phenol	6.67	5.58	5.44	5.51	83	39-106	2.5	31
2-Chlorophenol	6.67	5.98	5.89	5.94	89	44-107	1.5	32
1,4-Dichlorobenzene	3.33	2.74	2.71	2.72	82	40-107	1.1	23
N-Nitroso-di-n-propylamine	3.33	3.15	3.15	3.15	95	31-132	0.0	38
1,2,4-Trichlorobenzene	3.33	2.87	2.81	2.84	85	38-120	2.1	22
4-Chloro-3-methylphenol	6.67	6.13	6.08	6.10	92	40-119	0.82	24
Acenaphthene	3.33	2.76	2.72	2.74	82	30-140	1.5	24
2,4-Dinitrotoluene	3.33	3.12	3.11	3.12	94	30-121	0.32	28
4-Nitrophenol	6.67	7.84	7.83	7.84	117	16-143	0.13	54
Pentachlorophenol	6.67	7.35	7.32	7.34	110	21-152	0.41	43
Pyrene	3.33	3.78	3.24	3.51	105	45-120	15	26

Calculations are performed before rounding to avoid round-off errors in calculated results.

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Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: IDVMW-02
LAB ID: 105851-0002-SA
Matrix: SOLID Sampled: 07 JUN 94 Received: 07 JUN 94
Authorized: 08 JUN 94 Prepared: 09 JUN 94 Analyzed: 11 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
N-Nitrosodiethylamine	ND		0.26	mg/kg	0.33
Phenol	ND		0.030	mg/kg	0.33
bis(2-Chloroethyl) ether	ND		0.060	mg/kg	0.33
2-Chlorophenol	ND		0.040	mg/kg	0.33
1,3-Dichlorobenzene	ND		0.030	mg/kg	0.33
1,4-Dichlorobenzene	ND		0.060	mg/kg	0.33
Benzyl alcohol	ND		0.070	mg/kg	0.33
1,2-Dichlorobenzene	ND		0.040	mg/kg	0.33
2-Methylphenol	ND		0.030	mg/kg	0.33
bis(2-Chloroisopropyl)-ether	ND		0.040	mg/kg	0.33
3/4-Methylphenol	ND		0.040	mg/kg	0.33
N-Nitroso-di-n-propylamine	ND		0.030	mg/kg	0.33
Hexachloroethane	ND		0.030	mg/kg	0.33
Nitrobenzene	ND		0.090	mg/kg	0.33
Isophorone	ND		0.040	mg/kg	0.33
2-Nitrophenol	ND		0.050	mg/kg	0.33
2,4-Dimethylphenol	ND		0.030	mg/kg	0.33
Benzoic acid	ND		0.51	mg/kg	1.7
bis(2-Chloroethoxy)-methane	ND		0.020	mg/kg	0.33
2,4-Dichlorophenol	ND		0.030	mg/kg	0.33
1,2,4-Trichlorobenzene	ND		0.040	mg/kg	0.33
Naphthalene	ND		0.030	mg/kg	0.33
4-Chloroaniline	ND		0.10	mg/kg	0.33
Hexachlorobutadiene	ND		0.040	mg/kg	0.33
4-Chloro-3-methylphenol	ND		0.040	mg/kg	0.33
2-Methylnaphthalene	ND		0.030	mg/kg	0.33
Hexachlorocyclopentadiene	ND		0.050	mg/kg	0.33
2,4,6-Trichlorophenol	ND		0.040	mg/kg	0.33
2,4,5-Trichlorophenol	ND		0.050	mg/kg	1.7
2-Chloronaphthalene	ND		0.030	mg/kg	0.33
2-Nitroaniline	ND		0.030	mg/kg	1.7
Dimethyl phthalate	ND		0.030	mg/kg	0.33
Acenaphthylene	ND		0.020	mg/kg	0.33
3-Nitroaniline	ND		0.14	mg/kg	1.7
Acenaphthene	ND		0.030	mg/kg	0.33
2,4-Dinitrophenol	ND		0.23	mg/kg	1.7
4-Nitrophenol	ND		0.25	mg/kg	1.7
Dibenzofuran	ND		0.040	mg/kg	0.33
2,4-Dinitrotoluene	ND		0.040	mg/kg	0.33
2,6-Dinitrotoluene	ND		0.050	mg/kg	0.33
Diethyl phthalate	ND		0.020	mg/kg	0.33
4-Chlorophenyl phenyl ether	ND		0.030	mg/kg	0.33
Fluorene	ND		0.030	mg/kg	0.33
4-Nitroaniline	ND		0.18	mg/kg	1.7

ND = Not Detected

Enseco
Corning Environmental Services

Semivolatile Organic Compounds
Method 8270

Client Name: Harding Lawson Associates
Client ID: IDVMW-02
LAB ID: 105851-0002-SA
Matrix: SOLID Sampled: 07 JUN 94 Received: 07 JUN 94
Authorized: 08 JUN 94 Prepared: 09 JUN 94 Analyzed: 11 JUN 94

Parameter	Result	Qualifier	MDL	Units	Rep Limit
4,6-Dinitro-2-methylphenol	ND		0.36	mg/kg	1.7
N-Nitrosodiphenylamine	ND		0.040	mg/kg	0.33
4-Bromophenyl phenyl ether	ND		0.080	mg/kg	0.33
Hexachlorobenzene	ND		0.030	mg/kg	0.33
Pentachlorophenol	ND		0.19	mg/kg	1.7
Phenanthrene	ND		0.030	mg/kg	0.33
Anthracene	ND		0.020	mg/kg	0.33
Di-n-butyl phthalate	ND		0.24	mg/kg	0.33
Fluoranthene	ND		0.030	mg/kg	0.33
Pyrene	ND		0.020	mg/kg	0.33
Butyl benzyl phthalate	ND		0.030	mg/kg	0.33
3,3'-Dichlorobenzidine	ND		0.33	mg/kg	0.66
Benzo(a)anthracene	ND		0.040	mg/kg	0.33
bis(2-Ethylhexyl)-phthalate	ND		0.13	mg/kg	0.33
Chrysene	ND		0.040	mg/kg	0.33
Di-n-octyl phthalate	ND		0.040	mg/kg	0.33
Benzo(b)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(k)fluoranthene	ND		0.030	mg/kg	0.33
Benzo(a)pyrene	ND		0.040	mg/kg	0.33
Indeno(1,2,3-c,d)pyrene	ND		0.030	mg/kg	0.33
Dibenz(a,h)anthracene	ND		0.030	mg/kg	0.33
Benzo(g,h,i)perylene	ND		0.020	mg/kg	0.33
Xylidine (Total)	ND		0.076	mg/kg	0.33

Surrogate	Recovery	
Nitrobenzene-d5	83	%
2-Fluorobiphenyl	73	%
Terphenyl-d14	68	%
Phenol-d5	69	%
2-Fluorophenol	78	%
2,4,6-Tribromophenol	86	%

ND = Not Detected

APPENDIX D
ANALYTICAL DATA VALIDATION

APPENDIX D

ANALYTICAL DATA VALIDATION

INTRODUCTION

At the conclusion of Harding Lawson Associates' (HLA) data validation, an evaluation of the Azusa/Irwindale Study Area (AISA) Site Assessment data quality was prepared with respect to the U.S. Environmental Protection Agency's (EPA) established data quality indicators, which include accuracy, precision, representativeness, completeness, and comparability. These criteria are defined in the guidance document "Data Quality Objectives for Remedial Response Activities" (EPA, 1987). The evaluation of the AISA data with respect to these parameters involved a review of relevant project and laboratory quality assurance/quality control (QA/QC) results, and the overall design and implementation of the AISA sampling and analytical program. The methods used in the data validation are discussed in HLA's Revised Quality Assurance Project Plan (QAPP) (HLA, 1992a).

The data quality objectives (DQOs) of the AISA Site Assessment are to collect site-specific data to characterize lithologic conditions and localized groundwater flow conditions and to assess the presence or absence of organic and inorganic chemicals in groundwater, soils, and subsurface gases within the AISA. The DQOs are more fully described in the project Revised Work Plan (HLA, 1991) and Revised Sampling and Analysis Plan (HLA, 1992b). The QA/QC data were evaluated to determine whether the sample results were of acceptable quality to meet these DQOs.

Based on the data validation, affected sample results were qualified by the addition of letters to indicate the nature of the qualification. Sample results that were determined to be estimated were qualified with a "J" for detected compounds and a "UJ" for nondetected compounds. If a compound was present in the

method blank, the corresponding sample result was qualified with a "B" to indicate that this sample result was estimated due to blank contamination. Sample results that were determined to be unusable were qualified with an "R" to indicate rejection.

The samples were analyzed using EPA-approved methods by Enseco CRL, a State-certified laboratory. Methods for organic analyses for which QA/QC data were reviewed included:

- EPA Method 8010 (Halogenated Volatile Organics),
- EPA Method 8015 (Total Petroleum Hydrocarbons),
- EPA Method 8020 (Aromatic Volatile Organics),
- EPA Method 8080 modified (Polychlorinated Biphenyls),
- EPA Method 8240 (volatile organic compounds),
- EPA Method 8270 (semi-volatile organic compounds [base neutral and acid extractable organics]),
- EPA Method 8280 (polychlorinated dibenzo dioxins [PCDDs]/polychlorinated dibenzo furans [PCDFs]), and
- EPA Method 9060/415.1 (Total Organic Carbon).

Methods for inorganic analyses for which QA/QC data were reviewed included:

- EPA Method 6010/7000 Series (metal analyses including aluminum, arsenic, barium, cadmium, total chromium, copper, lead, manganese, mercury, nickel, and zinc),

- EPA Method 9045 (pH),

- EPA Method 300.0 (Nitrate as N, Chlorate),

- EPA Method 9010 (Cyanide).

A summary of chemical parameters, analytical techniques, and EPA test methods for the AISA investigation is presented in Table D1. Based on a review of the QA/QC data, the overall accuracy, precision, representativeness, completeness, and comparability of the AISA analytical data appear acceptable relative to the project DQOs. The following summary includes a presentation of results of data validation.

ACCURACY

Accuracy represents a measure of the nearness of the analytical result to its actual concentration. To assess accuracy for the different analytical methods, QC samples (matrix spikes/matrix spike duplicates [MS/MSD]) were spiked at the laboratory with known concentrations of target compounds. For EPA Methods 8010, 8020, 8080, 8240, and 8270, investigative samples were also spiked at the laboratory with surrogate compounds. Surrogate compounds are target compounds that are similar to target analytes in chemical composition and behavior but which are not normally found in environmental samples. The accuracy of an analytical data set is assessed by calculating the percent recovery (PR) of the spiked surrogate compound in investigative samples and of the spiked target analytes in MS/MSD samples and comparing calculated PRs to established acceptance limits.

Acceptance limits for the PRs should be set by the laboratory by calculating the average PR and its standard deviation using the last thirty matrix spikes that were analyzed (EPA, 1986). The acceptance limits (control limits) are calculated using the following formula:

Upper control limit = average PR + 3 * (standard deviation)

Lower control limit = average PR - 3 * (standard deviation)

In addition to using the laboratory's matrix spike limits, QC limits from the EPA's Contract Laboratory Program (CLP) Statement of Work for Organics Analysis and Statement of Work for Inorganics Analysis (EPA, 1988b, 1988a) were also applied for evaluation of the data. Where these limits were not specified, limits were based on professional judgement and historical accuracy data presented in EPA-approved methods and the EPA guidance document "Data Quality Objectives for Remedial Response Activities" (EPA, 1987).

For the organic methods used in the AISA Site Assessment analytical program, MS/MSD analyses were performed for a minimum of 15 percent of the investigative samples collected. This exceeds EPA guidelines, which advise an analysis frequency of 5 percent for project QA/QC samples. The analytical frequency for spike analyses for metals methods was 20 percent. Although a MSD is not required for metals analyses, Enseco CRL supplied this data.

The criteria for evaluating MS/MSD results for the project are summarized in Table D2. The MS/MSD results for EPA Methods 8010, 8020, 8080, 8240, and 8280 were of acceptable accuracy.

For EPA Method 8270 analyses, MS/MSD PRs exceeded acceptance limits for one or more constituents in the method in approximately 50 percent of the samples. The data from most of the reports were considered valid because other QC data were within acceptance limits. Pentachlorophenol results from

two reports (nine samples) were qualified as unusable (R) because other QC results, in addition to the MS/MSD results, were also outside acceptance limits and the sample result was below the detection limit. For EPA Method 8015 modified analyses, approximately 9 percent (1 in 11) of samples exceeded acceptance limits for one or more constituents resulting in the qualification of one analyte as unusable (R). For EPA Method 9060, approximately 55 percent (5 in 9) of the samples were qualified as estimated (J) due to a lack of MS/MSD data.

For metals analyses, approximately 100 percent of the aluminum results, 8 percent of the arsenic results, 7 percent of the barium results, 24 percent of the cadmium results, 23 percent of the copper results, 57 percent of the chromium results, 9 percent of the lead results, 51 percent of the manganese results, 3 percent of the mercury results, 3 percent of nickel results, and 5 percent of the zinc results, were outside MS/MSD PR acceptance limits. The relatively high percentage of aluminum, chromium and manganese results occurring outside PR acceptance limits ($\geq$50 percent) suggests a general matrix effect for these metals at the site. Based on this conclusion, all aluminum, chromium and manganese results that were less than 4 times the spiked concentration (EPA, 1988a) were qualified as estimated. Metal results other than chromium and manganese were qualified only if the results from samples that were spiked were outside acceptance limits. Approximately 15 percent of the cadmium results were spiked at the reporting limit and were qualified as estimated (UJ).

Surrogate spike criteria for the project are summarized in Table D3. Surrogate PRs for EPA Methods 8010, 8020, and 8080 were all within acceptance limits. The recovery for one surrogate compound for one sample analyzed by EPA Methods 8240, 8270, and 8280 was below acceptance limits. However, since all other surrogate compounds were within limits and since all other QC data were within limits, no qualification was necessary for surrogate criteria.

Based on a review of the MS/MSD and surrogate spike data, the overall accuracy of the AISA Site Assessment analytical data appears acceptable relative to project DQOs. The MS/MSD data indicate that analytical results for aluminum, chromium and manganese analyses may be slightly less accurate than for the other methods evaluated.

PRECISION

Precision is a measure of the reproducibility of a set of analytical results or how closely results from duplicate samples compare with each other. The precision of the AISA Site Assessment analytical data was assessed through an evaluation of the relative percent difference (RPD) values calculated for MS/MSD samples and field duplicates.

QC

$$RPD = \frac{|MS_{result} - MSD_{result}|}{\left(\frac{MS_{result} + MSD_{result}}{2}\right)} \times 100$$

limits for laboratory matrix spike RPDs were found in the EPA CLP "Statement of Work for Organics" and "Statement of Work for Inorganics Analysis." However, when these limits were not given, RPD limits were based on professional judgement and historical precision data presented in EPA-approved methods.

For EPA Methods 8015 modified, 8020, 8080, 8240 and 8280, all MS/MSD RPDs were within acceptance limits. The RPDs were outside of acceptance limits for one EPA Method 8010 and one EPA Method 8270 report but since the RPD was only slightly out of limits and since the other QC data were within acceptance limits, the data are considered valid. The RPDs were outside of acceptance limits for cadmium in 2 percent of the samples, and in 21 percent of the samples for chromium and manganese. Based on these results in conjunction with the results of the MS/MSD Prs, all copper, chromium and manganese results that were less than 4 times the spiked concentration were qualified with a "J."

Based on a review of the MS/MSD RPDs, the overall precision of the AISA Site Assessment analytical data appears acceptable relative to project DQOs; however, a portion of the analytical results for chromium and manganese were qualified as estimated values.

REPRESENTATIVENESS

Representativeness refers to how well sample data accurately and precisely reflect the true environmental conditions at the site. Factors that may affect sample representativeness include: (1) the locations of sampling sites and the frequency of sampling, (2) sample collection procedures, and (3) compromises to sample integrity (e.g., cross contamination) occurring during collection, transport, and analysis of the samples. Selection of representative sampling sites is important to ensure that the medium sampled is typical of site conditions. Correct sample collection, transport, and analytical procedures are important to ensure that the samples closely resemble the medium sampled, and the introduction of contaminants into the samples is minimized.

Sample locations, sample frequency, and sample collection protocols applied in the AISA Site Assessment program were described in the project Revised Work Plan (HLA, 1991). These protocols follow standard, accepted methods of site characterization and sample collection and were consistently applied by HLA throughout the field program. Thus, with respect to accepted site characterization approaches, existing guidance, and regulatory compliance, HLA's sampling program at the AISA appears to have met relevant requirements for data representativeness.

Sample representativeness and integrity are typically assessed by the collection and/or analysis of sampling equipment and laboratory (i.e., method) blank samples. Soil equipment blanks are not generally collected because there is no universal matrix for soil samples. Method blank samples were clean matrix

samples (i.e., distilled/deionized water) generated and analyzed by Enseco CRL as part of its internal QA program.

Some of the method blank results supplied by Enseco CRL for EPA Method 8240 analyses contained the following contaminants: trichlorofluoromethane, methylene chloride, 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,4-dichlorobenzene, 1,2,4-dichlorobenzene, naphthalene, 1,2,3-trichlorobenzene, and 1,2,4-trichlorobenzene. One method blank for metal analyses contained arsenic. One method blank for EPA 9012 contained cyanide in detectable amounts. Sample results were qualified as estimated only if contaminants identified in the method blanks were also detected in the associated samples. Method blank contamination effected approximately one percent of the EPA Method 8240 results, 2 percent of the cyanide results, and approximately 8 percent of the arsenic results.

The overall representativeness of the AISA Site Assessment analytical data appears acceptable relative to project DQOs. Analytical results qualified with a "B" are of a more estimated nature based on method blank contamination.

COMPLETENESS

Completeness is defined as the percentage of analytical results that are considered to be valid. Valid chemical data are values that have been identified during the data validation process as acceptable or acceptable as qualified. Analytical results qualified with an "R" are considered unusable and are not valid results. Analytical results may be qualified unusable for a variety of reasons, such as analytical or QA/QC problems, severe sample holding time violations, or interferences resulting from a complex sample matrix.

To determine if a sample was analyzed within the holding time specified by the analytical method, the number of days elapsed between sample collection and sample analysis (or extraction, if applicable) was calculated. If holding time violations were not severe, results were considered to be estimated values.

Holding times were met for all organic and inorganic analyses, and so no data was rejected for samples analyzed for EPA Methods 413.2, 8010, 8015 modified, 8020, 8080, 8240, and 8270, 8280, 9060, chlorate, nitrate and metals.

The AISA Site Assessment analytical program has achieved 99.96 percent completeness.

COMPARABILITY

Comparability is a qualitative assessment of how well one set or round of analytical data compares to another. Important factors that determine comparability of data sets include uniformity of sampling activities, analytical procedures, reporting of results, and validation of results.

In the AISA Site Assessment program, sampling techniques, analytical parameters and methods, and reporting of results have remained highly consistent throughout the program. An intensely conservative approach was taken in the validation procedures to insure the highest quality and reliability of the data. The data review generally resulted only in the addition of "B", "UJ" and "J" qualifiers as estimated values. A total of ten results out of 23,641 total (0.04 percent) were qualified with a "R" as unusable. These factors lend a high degree of comparability to the AISA analytical results.

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Table D1. Summary of Soil and Groundwater Chemical Analysis Products

Parameter	Technique	Test Method Number	
		Soil	Groundwater
Volatile Organics	GC-Hall: GC-FID	EPA 8010/8020	EPA 8010/8020
Volatile Organics	GC-Hall: GC-FID	EPA 8240	EPA 8240
Nitromethane	GC-Hall: GC-FID	EPA 8240	EPA 8240
Freon	GC-Hall: GC-FID	EPA 8240	EPA 8240
Semivolatile Organics (B/NA)	Gas chromatography/mass spectrometer (GC-MS)	EPA 8270	EPA 8270
Xylidene	GC-MS	EPA 8270	EPA 8270
n-Nitrosodimethylamine (NDMA)	GC-MS	EPA 8270	EPA 8270
Organochlorine Pesticides and PCBs	GC-ECD (electron capture detector)	EPA 8080	EPA 8080
Dioxins/Furans	GC-MS	EPA 8280	EPA 8280
Cyanide	Colorimetric, Manual	EPA 9012	EPA 9012
Total Petroleum Hydrocarbons (TPH)	GC-FID	Modified EPA 8015	Modified EPA 8015
Total Organic Carbon (TOC)	Carbonaceous analyzer	EPA 9060	EPA 415.1
Nitrate	Ion Chromatography	NT	EPA 300.0
Chlorate*	Ion Chromatography	EPA 300.0	EPA 300.0
pH (soil)	Electrometric	EPA 9045	NA
Metals			
Aluminum	(AA, Direct Aspiration); ICAP	EPA 7020	EPA 6010
Arsenic	(AA, Gaseous Hydride)	EPA 7062	EPA 7061
Barium	(AA, Direct Aspiration); ICAP	EPA 7080	EPA 6010
Cadmium	(AA, Direct Aspiration); ICAP	EPA 7130	EPA 6010
Chromium	(AA, Direct Aspiration); ICAP	EPA 7190	EPA 6010
Copper	(AA, Direct Aspiration); ICAP	EPA 7210	EPA 6010
Lead	(AA, Direct Aspiration); ICAP	EPA 7420	EPA 6010
Manganese	(AA, Direct Aspiration); ICAP	EPA 7460	EPA 6010
Mercury	(Manual Cold Vapor Technique)	EPA 7471	EPA 7470
Nickel	(AA, Direct Aspiration); ICAP	EPA 7520	EPA 6010
Zinc	(AA, Direct Aspiration); ICAP	EPA 7950	EPA 6010
Field Parameters			
pH (groundwater)	Electometric	NA	Parameter measured in field
Specific Conductance (groundwater)	Wheatstone Bridge	NA	Parameter measured in field
Temperature (groundwater)	Thermometer	NA	Parameter measured in field
Physical Soil Properties			
Moisture Content	NA	ASTM D-2216	NA

Notes:
ICAP = Inductively Coupled Plasma Atomic Emission Spectroscopy
GC-Half: GC-FID = Gas Chromatograph with a Hall detector (electrolytic conductivity): GC with a FID (flame ionization detector)
* = Analysis of inorganic disinfection by-products in ozonated drinking water by ion chromatography - Metropolitan Water District of Southern California, La Verne,
NA = not applicable
NT = not tested

TABLE D2. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) CRITERIA
Azusa/Irwindale Study Area, Site Assessment

Test Method	Percent Recovery (PR) Control Limits (%)			Relative Percent Difference (RPD) Control Limits(%)		Comments
		Soil	Water	Soil	Water	
8010	1,1-Dichloroethene	39-121	55-115	35	26	The RPD between one TCE spike and spike duplicate was slightly high. Since all other QC data were within acceptance limits, no impact on data quality is anticipated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA approved methods.
	Chlorobenzene	33-136	55-121	40	30	
	Trichloroethene	43-159	66-143	33	35	
	Bromodichloromethane	36-144	47-138	40	31	
	Chloroform	45-144	59-140	38	32	
8015 modified		52-133	49-149	50	31	The MS/MSD PR was low for one report. One sample was qualified as unusable based on the MS/MSD data. Limits based on professional judgement and on historical accuracy and precision data presented in EPA approved methods.
8020	Benzene	41-128	35-146	20	28	All MS/MSD data are within acceptance limits. No impact on data quality is anticipated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA approved methods.
	Toluene	39-137	48-144	20	37	
	Ethylbenzene	46-127	49-136	20	36	
	Xylenes (Total)	38-124	36-143	30	30	
	1,3-Dichlorobenzene	28-134	38-142	35	33	
8080	Arochlor 1254	50-150	50-150	40	40	All MS/MSD data are within acceptance limits. No impact on data quality is anticipated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA approved methods.
8240	1,1-Dichloroethene	59-172	61-145	22	14	All MS/MSD data are within acceptance limits. No impact on data quality is anticipated. Control limits from Organics SOW.
	Trichloroethene	62-137	71-120	24	14	
	Benzene	66-142	76-127	21	11	
	Toluene	59-139	76-125	21	13	
	Chlorobenzene	60-133	75-130	21	13	
8270	1,4-Dichlorobenzene	28-104	36-97	27	28	PRs were above the acceptance limit for approximately 50 percent of the reports. Most of the data with high PRs were considered acceptable because all other QC data were within control limits. Data from two reports (nine samples) were qualified as unusable because other QC data, in addition to the PRs, were out of control limits. Control limits from Organics SOW.
	N-Nitrosodi-n-propylamine	41-126	41-116	38	38	
	1,2,4-Trichlorobenzene	38-107	39-98	23	28	
	Acenaphthene	31-137	46-118	19	31	
	2,4-Dinitrotoluene	28-89	24-96	47	38	
	Pyrene	35-142	26-127	36	31	
	2-Chlorophenol	25-102	27-123	50	40	
	Phenol	26-90	12-110	35	42	
	4-Chloro-3-methylphenol	26-103	23-97	33	42	
	Pentachlorophenol	17-109	9-103	47	50	
	4-Nitrophenol	11-114	10-80	50	50	

Notes: Organics SOW = EPA Contract Laboratory Program Statement of Work for Organics Analysis, 1988.

TABLE D2. MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) CRITERIA (continued)
Azusa/Irwindale Study Area, Site Assessment

Test Method	Percent Recovery (PR) Control Limits (%)			Relative Percent Difference (RPD) Control Limits(%)		Comments
		Soil	Water	Soil	Water	
8280	2,3,7,8-TCDF	50-150	50-150	50	50	All MS/MSD data are within acceptance limits. No impact on data quality is anticipated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA approved methods.
	2,3,4,7,8-PeCDF	50-150	50-150	50	50	
	1,2,3,4,7,8-HxCDF	50-150	50-150	50	50	
	1,2,3,4,7,8-HpCDF	50-150	50-150	50	50	
	OCDF	50-150	50-150	50	50	
	2,3,7,8-TCDD	50-150	50-150	50	50	
	1,2,3,7,8-PeCDD	50-150	50-150	50	50	
	1,2,3,4,7,8-HxCDD	50-150	50-150	50	50	
	1,2,3,4,7,8-HpCDD	50-150	50-150	50	50	
	OCDD	50-150	50-150	50	50	
Metals	Aluminum	75-125	75-125	35	20	MS/MSD PRs were outside acceptance limits for 3 percent of the mercury results, 3 percent of the nickel results, 5 percent of the zinc results, 7 percent of the barium results, 8 percent of the arsenic results, 9 percent of the lead results, 23 percent of the copper results, 24 percent of the cadmium results, 51 percent of the manganese results, 57 percent of the chromium results, and 100 percent of the aluminum results. The percentage of chromium manganese, and aluminum results that were outside acceptance limits suggest a matrix effect for these metals at the site. All chromium, manganese, and aluminum results that were less than 4 times the spiked concentration were, therefore, qualified as estimated according to EPA guidelines. Other metal analytical results that were outside acceptance limits were qualified if the deviant results were from a spiked sample. Control limits from Inorganic SOW.
	Arsenic	75-125	75-125	35	20	
	Barium	75-125	75-125	35	20	
	Cadmium	75-125	75-125	35	20	
	Chromium	75-125	75-125	35	20	
	Copper	75-125	75-125	35	20	
	Lead	75-125	75-125	35	20	
	Manganese	75-125	75-125	35	20	
	Mercury	75-125	75-125	35	20	
	Nickel	75-125	75-125	35	20	
	Zinc	75-125	75-125	35	20	
9060	Total Organic Carbon	80-120	57-151	50	30	MS/MSD data were missing for 55 percent of the samples. Samples whose associated MS/MSD was missing were qualified as estimated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA approved methods.

Notes: Organics SOW = EPA Contract Laboratory Program Statement of Work for Organics Analysis, 1988.
Inorganics SOW = EPA Contract Laboratory Program Statement of Work for Inorganics Analysis, 1988.

TABLE D3. SURROGATE SPIKE CRITERIA
Azusa/Irwindale Study Area, Site Assessment

Test Method	PR Control Limits	Soil	Water	Comments
8010	4-Bromofluorobenzene	30-130	35-140	All surrogate recoveries were within limits. No impact on the data is anticipated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA-approved methods.
8020	4-Bromofluorobenzene	30-137	29-137	All surrogate recoveries were within limits. No impact on the data is anticipated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA-approved methods.
8080	Dibutyl Chlorendate	36-134	30-150	All surrogate recoveries were within limits. No impact on the data is anticipated. Limits based on professional judgement and on historical accuracy and precision data presented in EPA-approved methods.
8240	1,2-Dichloroethane-d4	70-121	76-114	One surrogate recovery was below acceptance limits. Since all other QC data were within limits, no impact on the data is anticipated. Limits from SW-846
	Toluene-d8	81-117	88-110	
	Bromofluorobenzene	74-121	86-115	
8270	Nitrobenzene-d5 (B)	23-120	35-114	One surrogate recovery was below acceptance limits. Since all other QC data were within limits, no impact on the data is anticipated. Limits from SW-846
	2-Fluorobiphenyl (B)	30-115	43-116	
	Terphenyl-d14 (B)	18-137	33-141	
	Phenol-d5 (A)	24-113	10-110	
	Fluorophenol (A)	25-121	21-110	
	1,4,6-Tribromophenol (A)	19-122	10-123	
8280	13C-2,3,7,8-TCDF	25-150	25-150	The surrogate recovery for 13C-OCDD for the method blank of one report was low. Since the surrogate recovery for the sample was within limits and the other QC data were within limits, there is no anticipated impact on the data. Limits based on professional judgement and on historical accuracy and precision data presented in EPA-approved methods.
	13C-2,3,7,8-TCDD	25-150	25-150	
	13C-1,2,3,6,7,8-HxCDD	25-150	25-150	
	13C-1,2,3,4,6,7,8-HpCDD	25-150	25-150	
	13C-OCDD	25-150	25-150	

Notes: SW-846 = Test Methods for Evaluating Solid Waste, SW-846, Third Edition (USEPA, 1986)
A = Acid fraction
B = Base fraction

APPENDIX E
SOIL GAS/VAPOR LABORATORY DATA SHEETS

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

February 24, 1994

HARDING LAWSON ASSOCIATES
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, California 91361
Attention: Mr. Tom Lindros

VAPOR WELL ANALYSIS RESULTS
AEROJECT AISA PROJECT SITE
AZUSA, CALIFORNIA
PROJECT #: 9340

Mr. Lindros:

InterPhase is pleased to submit these tables presenting concentrations of selected aromatic hydrocarbons, selected halogenated hydrocarbons and biogenic gases analyzed in vapor wells collected from the Aeroject AISA project site in Azusa, California. Our services were performed February 14, 1994.

If you have any questions regarding the results, we would be pleased to discuss them with you. We appreciate the opportunity to have worked with you on this project and look forward to working with you in the future.

Sincerely,
InterPhase

John Adriany
Senior Chemist

enclosure

11558 SORRENTO VALLEY ROAD
SAN DIEGO · CA 92121
619·481·2200 FAX 619·481·1855

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 1. Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 2-14-94
Total No.(#) of samples analyzed: 25

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	Flow Rate (L/min)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)
System/Syringe Blank #1	06:45	06:45	-	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001
Ambient Air #1	08:49	08:49	-	-	500	-	0.003	<1	<1	<0.01	0.025	<0.001
VMW34-5'	09:04	09:04	0.14	-	20	-	0.19	MI	MI	^0.23	NA	NA
VMW34-5'	09:04	09:17	-	-	200	1/100	NA	<100	<100	NA	11	1.6
VMW34-20'	09:27	09:27	0.6	18	100	1/100	0.8	<100	<100	<1	21	4.3
VMW37-5'	09:49	09:49	0.14	-	10	-	0.61	MI	MI	^0.36	NA	NA
VMW37-5'	09:49	10:02	-	-	30	1/100	NA	<1000	<1000	NA	*290	1.3
VMW37-20'	10:10	10:10	0.6	18	10	1/100	<1	<1000	<1000	<10	490	4.2
VMW37-32'	10:54	10:55	1	20	20	1/100	<1	<1000	<1000	<10	320	1.5
VMW33-5'	11:24	11:25	0.14	-	20	1/100	NA	<1000	<1000	NA	56	NA
VMW33-5'	11:24	11:32	-	-	200	1/100	1.6	MI	MI	<10	NA	3.4
VMW33-20'	12:03	12:04	0.6	18	100	1/100	2.9	MI	MI	<1	NA	9.4
VMW33-20'	12:03	12:18	-	-	20	1/100	NA	<1000	<1000	NA	160	NA
Ambient Air #2	12:26	12:26	-	-	500	-	0.003	<1	<1	<0.01	0.005	<0.001
VMW36-5'	12:51	12:53	0.14	-	20	-	0.027	<10	<10	<0.1	0.98	0.0
VMW36-20'	13:06	13:07	0.6	18	10	-	^0.028	<10	<10	<0.1	0.8	0.1
VMW39-5'	13:51	13:53	0.14	-	20	-	^0.019	<10	<10	<0.1	*5.6	<0.01
Ambient Air #3	14:07	14:07	-	-	500	-	0.004	<1	<1	<0.01	0.008	<0.001
VMW39-20'	14:22	14:22	0.6	18	10	-	^0.033	<10	<10	<0.1	5.9	0.019
VMW39-39'	14:36	14:36	1.1	22	10	-	^0.036	<10	<10	<0.1	5.3	0.079
VMW38-5'	14:59	15:00	0.14	-	20	-	0.05	<10	<10	<0.1	NA	<0.01
VMW38-5'	14:59	15:13	-	-	200	1/100	NA	NA	NA	NA	12	NA
VMW38-30'	15:19	15:21	0.9	18	10	-	0.061	<10	<10	<0.1	3.2	<0.01
VMW38-20'	15:37	15:37	0.6	18	10	-	0.08	<10	<10	<0.1	4.1	<0.01
MW2-82'	16:00	16:02	2.4	24	30	-	<0.01	<10	<10	<0.1	0.067	0.045
MW2-82' duplicate	16:01	16:16	-	-	30	-	<0.01	<10	<10	<0.1	0.064	0.054
MW2-167'	16:35	16:36	4.8	24	100	-	0.007	<1	<1	<0.01	0.036	0.009
MW2-234'	16:50	16:51	6.7	22	100	-	0.014	<1	<1	<0.01	0.029	0.011
MW2-HS-01	17:07	17:08	4.3	8.1	200	1/100	0.82	<100	<100	2.7	3.2	0.92
VMW30-39'	17:25	17:27	1.2	24	30	-	0.049	<10	<10	<0.1	^0.031	<0.01
System/Syringe Blank #2	17:41	17:41	-	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001

µg/L: micrograms per liter
<: less than
ml: milliliters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane
CFC-113: trichlorotrifluoroethane

11558 SORRENTO VALLEY ROAD
SAN DIEGO • CA 92121
619•481•2200 FAX 619•481•1855

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank
ID#: 9402102-02A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	**5022105**	**Date of Collection: NA**	
Dil. Factor:	**1.0**	**Date of Analysis: 2/21/94**	

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	0.50	Not Detected
Freon 114	0.50	Not Detected
Chloromethane	0.50	Not Detected
Vinyl Chloride	0.50	Not Detected
Bromomethane	0.50	Not Detected
Chloroethane	0.50	Not Detected
Freon 11	0.50	Not Detected
1,1-Dichloroethene	0.50	Not Detected
Freon 113	0.50	Not Detected
Methylene Chloride	0.50	Not Detected
1,1-Dichloroethane	0.50	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected
Chloroform	0.50	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected
Carbon Tetrachloride	0.50	Not Detected
Benzene	0.50	Not Detected
1,2-Dichloroethane	0.50	Not Detected
Trichloroethene	0.50	Not Detected
1,2-Dichloropropane	0.50	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected
Toluene	0.50	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected
Tetrachloroethene	0.50	Not Detected
Ethylene Dibromide	0.50	Not Detected
Chlorobenzene	0.50	Not Detected
Ethyl Benzene	0.50	Not Detected
m,p-Xylene	0.50	Not Detected
o-Xylene	0.50	Not Detected
Styrene	0.50	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected
Chlorotoluene	0.50	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected
Hexachlorobutadiene	0.50	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
Octafluorotoluene	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

SOIL GAS

LAB DATA

APPENDIX ___

5/17/94 - ~~7~~/20/94

NEED: ORIGINAL for 6/20 - 6/28

~~NEED FEB 94~~

Feb.
May
June
July ✓

TABLE 1. Continued...

ANALYZED BY: John Tangeman
DATE: 2-14-94
Total No.(#) of samples analyzed: 25

Sample (# - ft)	1,2-DCA (µg/L)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	CHBr2Cl (µg/L)	ClBen (µg/L)	1,1,1,2-PCA (µg/L)	1,1,2,2-PCA (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)
System/Syringe Blank #1	<1	<0.01	<0.1	<0.001	<0.001	<0.1	<0.1	<0.1	500	<1	<1
Ambient Air #1	<1	<0.01	<0.1	<0.001	<0.001	<0.1	<0.1	<0.1	500	<1	<1
VMW34-5'	MI	14	<1	0.47	<0.01	<1	<1	<1	500	<1	6.3
VMW34-5'	<100	NA	NA	NA	NA	NA	NA	NA	-	NA	NA
VMW34-20'	<100	42	<10	1.3	<0.1	<10	<10	<10	500	<1	17
VMW37-5'	MI	7.4	<1	2.2	<0.01	<1	<1	<1	500	<1	9.9
VMW37-5'	<1000	NA	NA	NA	NA	NA	NA	NA	-	NA	NA
VMW37-20'	<1000	*26	<100	*3.2	<1	<100	<100	<100	500	<1	19
VMW37-32'	<1000	*11	<100	*3	<1	<100	<100	<100	500	<1	10
VMW33-5'	<1000	NA	NA	NA	NA	NA	NA	NA	500	<1	12
VMW33-5'	MI	10	<10	2.7	<0.1	<10	<10	<10	-	NA	NA
VMW33-20'	MI	28	<10	5.8	<0.1	<10	<10	<10	500	<1	21
VMW33-20'	<1000	NA	NA	NA	NA	NA	NA	NA	-	NA	NA
Ambient Air #2	<1	<0.01	<0.1	<0.001	<0.001	<0.1	<0.1	<0.1	500	<1	<1
VMW36-5'	<10	<0.1	<1	0.78	<0.01	<1	<1	<1	500	<1	<1
VMW36-20'	<10	<0.1	<1	0.24	<0.01	<1	<1	<1	500	<1	2.4
VMW39-5'	<10	<0.1	<1	0.23	<0.01	<1	<1	<1	500	<1	<1
Ambient Air #3	<1	<0.01	<0.1	<0.001	<0.001	<0.1	<0.1	<0.1	500	<1	<1
VMW39-20'	<10	<0.1	<1	0.3	<0.01	<1	<1	<1	500	<1	1.5
VMW39-39'	<10	<0.1	<1	0.32	<0.01	<1	<1	<1	500	<1	1.8
VMW38-5'	<10	1.5	<1	0.14	<0.01	<1	<1	<1	500	<1	<1
VMW38-5'	NA	NA	NA	NA	NA	NA	NA	NA	-	NA	NA
VMW38-30'	<10	1.1	<1	*0.056	<0.01	<1	<1	<1	500	<1	<1
VMW38-20'	<10	1.2	<1	*0.079	<0.01	<1	<1	<1	500	<1	<1
MW2-82'	<10	3.8	<1	0.94	<0.01	<1	<1	<1	500	<1	<1
MW2-82' duplicate	<10	4.3	<1	1	<0.01	<1	<1	<1	500	<1	<1
MW2-167'	<1	0.34	<0.1	0.032	<0.001	<0.1	<0.1	<0.1	500	<1	<1
MW2-234'	<1	0.37	<0.1	0.046	<0.001	<0.1	<0.1	<0.1	500	<1	1.3
MW2-HS-01	<100	29	<10	0.52	<0.1	<10	<10	<10	500	<1	3.4
VMW30-39'	<10	3.2	<1	*0.013	<0.01	<1	<1	<1	500	<1	<1
System/Syringe Blank #2	<1	<0.01	<0.1	<0.001	<0.001	<0.1	<0.1	<0.1	500	<1	<1

µg/L: micrograms per liter
<: less than
ml: milliliters
uL: microliters
NA: not analyzed
*: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane
CFC-113: trichlorotrifluoroethane

TABLE 1. Continued...

ANALYZED BY: John Tangeman
DATE: 2-14-94
Total No.(#) of samples analyzed: 25

Sample (# - ft)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	ClEth (µg/L)
System/Syringe Blank #1	<1	<1	<1	<1	<1	<1	<1	1000	<50
Ambient Air #1	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW34-5'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW34-5'	NA	NA	NA	NA	NA	NA	NA	-	NA
VMW34-20'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW37-5'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW37-5'	NA	NA	NA	NA	NA	NA	NA	-	NA
VMW37-20'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW37-32'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW33-5'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW33-5'	NA	NA	NA	NA	NA	NA	NA	-	NA
VMW33-20'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW33-20'	NA	NA	NA	NA	NA	NA	NA	-	NA
Ambient Air #2	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW36-5'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW36-20'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW39-5'	<1	<1	<1	<1	<1	<1	<1	1000	<50
Ambient Air #3	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW39-20'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW39-39'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW38-5'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW38-5'	NA	NA	NA	NA	NA	NA	NA	-	NA
VMW38-30'	<1	<1	<1	<1	<1	<1	<1	1000	<50
VMW38-20'	<1	<1	<1	<1	<1	<1	<1	1000	<50
MW2-82'	<1	<1	<1	<1	<1	<1	<1	1000	<50
MW2-82' duplicate	<1	<1	<1	<1	<1	<1	<1	1000	<50
MW2-167'	<1	<1	<1	<1	<1	<1	<1	1000	<50
MW2-234'	<1	<1	<1	<1	<1	<1	<1	1000	<50
MW2-HS-01	<1	1.3	<1	1.1	<1	<1	<1	1000	<50
VMW30-39'	<1	1.4	<1	<1	<1	<1	<1	1000	<50
System/Syringe Blank #2	<1	<1	<1	<1	<1	<1	<1	1000	<50

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uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
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TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane
CFC-113: trichlorotrifluoroethane

TABLE 1. Continued...

ANALYZED BY: John Tangeman
DATE: 2-14-94
Total No.(#) of samples analyzed: 25

Sample (# - ft)	Injection Volume (µL)	CO2/O2 (ratio)	CO2 (%)	O2 (%)	N2 (%)	Injection Volume (µL)	dilution	CFC-113 (µg/L)
System/Syringe Blank #1	-	NA	NA	NA	NA	500	-	<1
Ambient Air #1	100	0.00	<0.1	20.3	79.7	500	-	<1
VMW34-5'	100	0.04	0.8	19.0	80.2	20	1/100	NA
VMW34-5'	-	NA	NA	NA	NA	100	1/100	260
VMW34-20'	100	0.09	1.7	18.2	80.1	30	1/100	880
VMW37-5'	100	0.15	2.6	17.6	79.8	10	1/100	4000
VMW37-5'	-	NA	NA	NA	NA	-	-	NA
VMW37-20'	100	0.21	3.3	15.9	80.8	50	1/1000	5800
VMW37-32'	100	0.15	2.4	16.2	81.4	50	1/1000	4700
VMW33-5'	100	0.06	1.0	17.9	81.1	200	1/1000	1500
VMW33-5'	-	NA	NA	NA	NA	-	-	NA
VMW33-20'	100	0.13	2.2	16.8	81.0	100	1/1000	2700
VMW33-20'	-	NA	NA	NA	NA	-	-	NA
Ambient Air #2	100	0.00	<0.1	20.3	79.7	500	-	<1
VMW36-5'	100	0.22	3.5	15.8	80.7	10	-	20
VMW36-20'	100	0.24	3.8	15.8	80.4	10	-	41
VMW39-5'	100	0.22	3.7	16.6	79.7	200	1/100	120
Ambient Air #3	100	0.00	<0.1	20.8	79.2	500	-	<1
VMW39-20'	100	0.24	3.9	16.0	80.1	200	1/100	110
VMW39-39'	100	0.41	5.9	14.4	79.7	200	1/100	120
VMW38-5'	100	0.09	1.8	19.1	79.1	300	1/100	150
VMW38-5'	-	NA	NA	NA	NA	-	-	NA
VMW38-30'	100	0.13	2.4	18.4	79.6	10	-	55
VMW38-20'	100	0.13	2.3	18.2	79.5	200	1/100	87
MW2-82'	100	0.02	0.4	19.9	79.6	10	-	^10
MW2-82' duplicate	100	0.02	0.4	20.1	79.4	10	-	^10
MW2-167'	100	0.01	0.3	20.6	79.1	200	-	1.5
MW2-234'	100	0.02	0.3	19.8	79.9	300	-	1.3
MW2-HS-01	100	0.05	1.0	19.2	79.8	300	1/100	150
VMW30-39'	100	0.06	1.2	20.5	78.3	300	-	<1
System/Syringe Blank #2	-	NA	NA	NA	NA	500	-	<1

µg/L: micrograms per liter
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ml: milliliters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

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DCE: dichloroethene
DCA: dichloroethane
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TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane
CFC-113: trichlorotrifluoroethane

AIR TOXICS LTD.

SAMPLE NAME: VMW 33-20'
ID#: 9402102-01A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	5022107	**Date of Collection:**	2/14/94
Dil. Factor:	1200	**Date of Analysis:**	2/21/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	600	Not Detected
Freon 114	600	Not Detected
Chloromethane	600	Not Detected
Vinyl Chloride	600	Not Detected
Bromomethane	600	Not Detected
Chloroethane	600	Not Detected
Freon 11	600	Not Detected
1,1-Dichloroethene	600	11000
Freon 113	600	180000
Methylene Chloride	600	Not Detected
1,1-Dichloroethane	600	Not Detected
cis-1,2-Dichloroethene	600	Not Detected
Chloroform	600	Not Detected
1,1,1-Trichloroethane	600	20000
Carbon Tetrachloride	600	1800
Benzene	600	Not Detected
1,2-Dichloroethane	600	Not Detected
Trichloroethene	600	11000
1,2-Dichloropropane	600	Not Detected
cis-1,3-Dichloropropene	600	Not Detected
Toluene	600	Not Detected
trans-1,3-Dichloropropene	600	Not Detected
1,1,2-Trichloroethane	600	Not Detected
Tetrachloroethene	600	1600
Ethylene Dibromide	600	Not Detected
Chlorobenzene	600	Not Detected
Ethyl Benzene	600	Not Detected
m,p-Xylene	600	Not Detected
o-Xylene	600	Not Detected
Styrene	600	Not Detected
1,1,2,2-Tetrachloroethane	600	Not Detected
1,3,5-Trimethylbenzene	600	Not Detected
1,2,4-Trimethylbenzene	600	Not Detected
1,3-Dichlorobenzene	600	Not Detected
1,4-Dichlorobenzene	600	Not Detected
Chlorotoluene	600	Not Detected
1,2-Dichlorobenzene	600	Not Detected
1,2,4-Trichlorobenzene	600	Not Detected
Hexachlorobutadiene	600	Not Detected

Container Type: 1 Liter SUMMA Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	93	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	86	70-130

@ AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 • FAX (916) 985-1020

CHAIN OF CUSTODY RECORD

PROJECT # 9340 PO # _____ COLLECTED BY (Signature) John Tangeman

REMARKS from InterPhase @ 11558 Sorrento Valley Rd #3
San Diego CA 92121

FIELD SAMPLE I.D.#	SAMPLING MEDIA (Tenax, Canister etc.)	DATE/TIME	ANALYSIS	VAC./PRESSURE	LAB I.D. #
QA VMW33-20'	CANISTER	2-14-94 / 1500	TO-14	0.2 PSI	

RELINQUISHED BY: DATE/TIME	RECEIVED BY: DATE/TIME	RELINQUISHED BY: DATE/TIME	RECEIVED BY: DATE/TIME
Laura A Adams 2/16/94 2:00 pm	L Robinson ATL 2/17/94 11:09		

LAB USE ONLY

SHIPPER NAME	AIR BILL #	OPENED BY: DATE/TIME	TEMP(°C)	CONDITION
UPS	N990-X99	L Robinson 2/17/94 11:26	Room	good

REMARKS Custody seals not present. LR

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

121

June 14, 1994

HARDING LAWSON ASSOCIATES
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, California 91361
Attention: Mr. Tom Lindros

SOIL GAS AND VAPOR WELL ANALYSIS RESULTS
AZUSA/IRWINDALE STUDY AREA (AISA) SITE
AZUSA, CALIFORNIA
PROJECT #: 9210 & 9340

Mr. Lindros:

InterPhase is pleased to submit these tables presenting concentrations of selected aromatic hydrocarbons, selected halogenated hydrocarbons and selected biogenic gases analyzed in vapor samples collected from the AISA project site in Azusa, California. Our services were performed on Tuesday, May 17 and again Tuesday May 24 and 25, 1994.

If you have any questions regarding the results, we would be pleased to discuss them with you. We appreciate the opportunity to have worked with you on this project and look forward to working with you in the future.

Sincerely,
InterPhase

John Adriany
Senior Chemist

attachment

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INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 1. Concentration of analytes from vapor samples collected and analyzed at the AISA project site, Azusa, California; (Project 9210 & 9340)

ANALYZED BY: John Tangeman
DATE: 5-17-94
Total number of analysis: 10

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (ml)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	06:55	06:55	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:41	08:41	-	500	-	0.003	<1	<1	<0.01	<0.001	<0.001	<1
VMW10-5'	09:20	09:20	140	50	-	NA	MI	<1	NA	NA	NA	MI
VMW10-5'	09:20	09:34	-	200	1/100	2.4	<100	NA	<1	30	3.3	<100
VMW8-5'	09:57	09:58	140	30	1/100	5	<1000	<1000	<10	250	1.4	<1000
VMW8-20'	10:24	10:24	500	10	1/100	6.5	<1000	<1000	<10	570	3.5	<1000
VMW8-20'	10:24	11:27	-	50	-	NA	<1	<1	<0.01	NA	NA	<1
SG-1101-5'	11:46	11:47	60	50	-	NA	<1	<1	<0.01	NA	NA	<1
SG-1101-5'	11:46	12:03	-	200	1/100	1.6	NA	NA	NA	32	0.64	NA
SG-1103-5'	12:16	12:16	60	50	-	0.12	<1	<1	<0.01	2.3	0.19	<1
SG-1102-5'	13:38	13:38	60	50	-	0.058	<1	<1	<0.01	2.5	0.086	<1
SG-1104-5'	14:08	14:08	60	50	-	0.043	<1	<1	<0.01	0.28	0.039	<1
Ambient Air #2	15:33	15:33	-	500	-	0.002	<1	<1	<0.01	0.008	<0.001	<1
System/Syringe Blank #2	15:48	15:48	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

µg/L: micrograms per liter
<: less than
ml: milliliters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride
EDB: 1,2-dibromoethane

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane

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TABLE 1. Continued ...

ANALYZED BY: John Tangeman
DATE: 5-17-94
Total number of analysis: 10

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	EDB (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1	<1
VMW10-5'	NA	<0.1	NA	<0.1	500	<1	10	<1	2.2	<1	<1	<1
VMW10-5'	12	NA	13	NA	-	NA	NA	NA	NA	NA	NA	NA
VMW8-5'	12	<100	16	<100	500	<1	26	<1	5.2	<1	<1	<1
VMW8-20'	^30	<100	47	<100	200	<1	33	<1	<1	<1	<1	<1
VMW8-20'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SG-1101-5'	4.1	<0.1	0.76	<0.1	500	<1	5.6	<1	<1	<1	<1	<1
SG-1101-5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SG-1103-5'	0.28	<0.1	0.43	<0.1	500	<1	2.4	<1	<1	<1	<1	<1
SG-1102-5'	0.12	<0.1	0.19	<0.1	500	<1	^1.3	<1	<1	<1	<1	<1
SG-1104-5'	<0.01	<0.1	^0.02	<0.1	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	^0.002	<0.1	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1	<1

µg/L: micrograms per liter
<: less than
ml: milliliters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride
EDB: 1,2-dibromoethane

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane

TABLE 1. Continued ...

ANALYZED BY: John Tangeman
DATE: 5-17-94
Total number of analysis: 10

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	20.1	79.9
VMW10-5'	<1	<1	50	-	NA	1000	<1	<1	100	0.5	20.2	79.3
VMW10-5'	NA	NA	200	1/100	37	-	NA	NA	-	NA	NA	NA
VMW8-5'	<1	<1	30	1/100	140	1000	<1	<1	100	1	18.3	80.6
VMW8-20'	<1	<1	50	1/100	230	1000	<1	<1	100	0.8	19.7	79.5
VMW8-20'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SG-1101-5'	<1	<1	10	-	13	1000	<1	<1	100	1.3	19.5	79.2
SG-1101-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SG-1103-5'	<1	<1	20	-	2.9	1000	<1	<1	100	<0.1	19.4	80.6
SG-1102-5'	<1	<1	20	-	1.3	1000	<1	<1	100	0.7	20.6	78.7
SG-1104-5'	<1	<1	100	-	0.7	1000	<1	<1	100	0.5	19.1	80.4
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.2	78.8
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

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*: exceeds reporting limits
MI: matrix interference

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TCA: trichloroethane
CCl4: carbon tetrachloride
EDB: 1,2-dibromoethane

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane

QUALITY CONTROL SUMMARY

Date : 5/17/94
Project # : 9210
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1				% Dif	Actual		Observed	recovery		Observed	recove
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	am	uL	ug/L	pm
cfc11	ECD	DB-624/1213537	0.05	150		0.053	0.058	8.6%	0.055	150	0.058	105%	150	0.049	89%
ch2cl2	ECD	DB-624/1213537	21.26	150		11.5	11.70	1.7%	20.3	150	20.4	100%	150	19.6	97%
1,1-dca	ECD	DB-624/1213537	25.25	150		14.1	13.70	2.9%	25	150	25	100%	150	23	92%
chcl3	ECD	DB-624/1213537	0.52	150		0.26	0.24	8.3%	0.54	150	0.53	98%	150	0.53	98%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.126	0.123	2.4%	0.086	150	0.076	88%	150	0.081	94%
ccl4	ECD	DB-624/1213537	0.018	150		0.018	0.017	5.9%	0.015	150	0.014	93%	150	0.015	100%
1,2-dca	ECD	DB-624/1213537	19.8	150		8.2	7.6	7.9%	18	150	17.8	99%	150	18.1	101%
tce	ECD	DB-624/1213537	0.42	150		0.18	0.16	12.5%	0.4	150	0.44	110%	150	0.44	110%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.4	2.30	4.3%	5	150	4.8	96%	150	4.5	90%
pce	ECD	DB-624/1213537	0.11	150		0.046	0.043	7.0%	0.11	150	0.12	109%	150	0.11	100%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.094	0.094	0.0%	0.14	150	0.13	93%	150	0.13	93%
chlorobenzene	ECD	DB-624/1213537	0.02	150		0.015	0.016	6.3%	0.0067	150	0.007	104%	150	0.0061	91%
1,1-dce	PID	AT-624/6820	27.4	200	466	11.8	11.90	0.8%	29.1	200	28.6	98%	200	23.5	81%
t-1,2-dce	PID	AT-624/6820	22.04	200	784	5.6	5.90	5.1%	22.04	200	24.4	111%	200	18.6	84%
c-1,2-dce	PID	AT-624/6820	24.92	200	501	9.9	10.10	2.0%	23.58	200	23	98%	200	19.2	81%
benzene	PID	AT-624/6820	13.31	200	524	5.1	5.10	0.0%	15.21	200	15.4	101%	200	12.2	80%
toluene	PID	AT-624/6820	17.54	200	534	6.6	6.70	1.5%	17.01	200	18.2	107%	200	14.4	85%
ethyl benzene	PID	AT-624/6820	18.51	200	402	9.2	10.40	11.5%	17.76	200	21	118%	200	15.9	90%
m,p-xylene	PID	AT-624/6820	19.86	200	546	7.3	7.70	5.2%	20.05	200	22.7	113%	200	17.7	88%
o-xylene	PID	AT-624/6820	19.57	200	422	9.3	10.10	7.9%	16.3	200	17.8	109%	200	14.6	90%
vinyl chloride	PID	AT-624/6820	25	200	270	18.5	19.80	6.6%	50	100	54.2	108%	100	45.1	90%
acetone	FID	DB-624/2557451	6400	20	506	253	250.00	1.2%	3200	40	3775	118%	40	3450	108%
cfc-113	ECD	DB-1/2553213	0.6	200	531	0.23	0.25	8.0%	0.6	200	0.68	113%	200	0.64	107%

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 2. Concentration of analytes from soil vapor samples collected and analyzed at the AISA project site, Azusa, California; (Project 9210)

ANALYZED BY: John Tangeman
DATE: 5-24-94
Total number of analysis: 18

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (ml)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:05	07:05	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:56	08:56	-	500	-	0.003	<1	<1	<0.01	0.004	<0.001	<1
SG-1111-5'	09:12	09:12	60	50	-	NA	<1	<1	0.94	0.093	NA	<1
SG-1111-5'	09:12	09:26	-	10	-	1.8	NA	NA	NA	NA	1.2	NA
SG-1110-4'	09:50	09:50	60	10	-	NA	<10	<10	2.5	0.37	NA	<10
SG-1110-4'	09:50	10:05	-	100	1/100	3.5	NA	NA	NA	NA	2.8	NA
SG-1109-2.5'	10:26	10:26	30	10	-	NA	<10	<10	11	0.98	NA	<10
SG-1109-2.5'	10:26	10:40	-	100	1/100	4.2	NA	NA	NA	NA	11	NA
SG-1108-5'	11:02	11:02	60	100	1/100	1.8	NA	NA	NA	NA	4.5	NA
SG-1108-5'	11:02	11:14	-	50	-	NA	<1	<1	3.8	0.47	NA	<1
SG-1106-5'	11:31	11:31	60	10	-	NA	<10	<10	3.2	0.41	NA	<10
SG-1106-5'	11:31	11:46	-	200	1/100	2.5	NA	NA	NA	NA	2.5	NA
SG-1105-5'	12:57	12:57	60	100	-	0.35	<1	<1	<0.01	0.88	NA	<1
SG-1105-5'	12:57	13:11	-	30	-	NA	NA	NA	NA	NA	0.23	NA
SG-1105-5', duplicate	12:57	13:19	-	30	-	0.27	<1	<1	<0.01	0.74	0.26	<1
SG-1112-5'	13:40	13:40	60	50	-	0.02	<1	<1	<0.01	<0.001	<0.001	<1
SG-1113-5'	14:05	14:05	60	100	-	0.063	<1	<1	<0.01	0.007	0.002	<1
SG-1117-3'	14:35	14:35	30	100	-	0.26	<1	<1	<0.01	0.024	0.007	<1
SG-1116-2.5'	15:00	15:00	30	50	-	0.66	<1	<1	<0.01	0.11	0.056	<1
SG-1115-2.5'	15:28	15:28	30	50	-	0.32	<1	<1	<0.01	8.2	0.012	<1
SG-1114-3'	15:59	15:59	30	50	-	0.33	<1	<1	<0.01	<0.001	0.021	<1
Ambient Air #2	16:34	16:34	-	500	-	0.002	<1	<1	<0.01	0.004	<0.001	<1
System/Syringe Blank #2	16:16	16:16	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

µg/L: micrograms per liter
<: less than
ml: milliliters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits

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CH2Cl2: methylene chloride
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EDB: 1,2-dibromoethane

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TABLE 2. Continued ...

ANALYZED BY: John Tangeman
DATE: 5-24-94
Total number of analysis: 18

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	EDB (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	^0.002	<0.1	500	<1	<1	<1	<1	<1	<1	<1
SG-1111-5'	0.18	<0.1	0.12	<0.1	500	<1	<1	<1	<1	<1	<1	<1
SG-1111-5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SG-1110-4'	0.45	<1	0.18	<1	500	<1	<1	<1	<1	<1	<1	<1
SG-1110-4'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SG-1109-2.5'	2	<1	0.57	<1	500	<1	<1	<1	<1	<1	<1	<1
SG-1109-2.5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SG-1108-5'	NA	NA	NA	NA	500	<1	<1	<1	<1	<1	<1	<1
SG-1108-5'	0.56	<0.1	0.1	<0.1	-	NA	NA	NA	NA	NA	NA	NA
SG-1106-5'	^0.39	<1	0.12	<1	500	<1	^1.4	<1	<1	<1	<1	<1
SG-1106-5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SG-1105-5'	0.11	<0.1	0.18	<0.1	500	<1	^1.2	<1	<1	<1	<1	<1
SG-1105-5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SG-1105-5', duplicate	^0.086	<0.1	0.14	<0.1	500	<1	^1.3	<1	<1	<1	<1	<1
SG-1112-5'	<0.01	<0.1	<0.001	<0.1	500	<1	2	<1	<1	<1	<1	<1
SG-1113-5'	<0.01	<0.1	^0.007	<0.1	500	<1	1.7	<1	<1	<1	<1	<1
SG-1117-3'	<0.01	<0.1	0.016	<0.1	500	<1	2.1	<1	<1	<1	<1	<1
SG-1116-2.5'	<0.01	<0.1	0.1	<0.1	500	<1	1.8	<1	<1	<1	<1	<1
SG-1115-2.5'	<0.01	<0.1	0.024	<0.1	500	<1	3.6	<1	<1	<1	<1	<1
SG-1114-3'	<0.01	<0.1	^0.01	<0.1	500	<1	^1.4	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1	<1

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PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane
EDB: 1,2-dibromoethane

TABLE 2. Continued ...

ANALYZED BY: John Tangeman
DATE: 5-24-94
Total number of analysis: 18

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	20.8	79.2
SG-1111-5'	<1	<1	100	-	NA	1000	<1	<1	100	1.5	18.1	80.4
SG-1111-5'	NA	NA	10	-	15	-	NA	NA	-	NA	NA	NA
SG-1110-4'	<1	<1	10	-	NA	1000	<1	<1	100	1.8	14.9	83.3
SG-1110-4'	NA	NA	200	1/100	26	-	NA	NA	-	NA	NA	NA
SG-1109-2.5'	<1	<1	10	-	NA	1000	<1	<1	100	1.9	13.9	84.2
SG-1109-2.5'	NA	NA	200	1/100	30	-	NA	NA	-	NA	NA	NA
SG-1108-5'	<1	<1	20	-	13	1000	<1	<1	100	2.4	16.7	81
SG-1108-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SG-1106-5'	<1	<1	10	-	19	1000	<1	<1	100	2.6	15.1	82.4
SG-1106-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SG-1105-5'	<1	<1	100	-	NA	1000	<1	<1	100	0.7	19.2	80
SG-1105-5'	NA	NA	30	-	4.7	-	NA	NA	-	NA	NA	NA
SG-1105-5', duplicate	<1	<1	30	-	4.2	1000	<1	<1	100	0.5	20.7	78.8
SG-1112-5'	<1	<1	50	-	<1	1000	<1	<1	100	0.5	21.1	78.4
SG-1113-5'	<1	<1	100	-	0.3	1000	<1	<1	100	0.7	19	80.3
SG-1117-3'	<1	<1	100	-	1.3	1000	<1	<1	100	1.1	17.4	81.5
SG-1116-2.5'	<1	<1	50	-	3.2	1000	<1	<1	100	1	19.3	79.7
SG-1115-2.5'	<1	<1	50	-	1.4	1000	<1	<1	100	1.5	18.5	80
SG-1114-3'	<1	<1	50	-	1.5	1000	<1	<1	100	3.2	14.1	82.7
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.1	78.9
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

µg/L: micrograms per liter
<: less than
ml: milliliters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits

CFC-11: trichlorofluoromethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane
EDB: 1,2-dibromoethane

QUALITY CONTROL SUMMARY

Date : 5/24/94
Project # : 9210
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1				% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	am	uL	ug/L	pm
cfc11	ECD	DB-624/1213537	0.05	150		0.059	0.058	1.7%	0.055	150	0.057	104%	150	0.055	100%
ch2cl2	ECD	DB-624/1213537	21.26	150		12.9	11.70	10.3%	20.3	150	19.9	98%	150	20.1	99%
1,1-dca	ECD	DB-624/1213537	25.25	150		15.7	13.70	14.6%	25	150	22.3	89%	150	22.5	90%
chcl3	ECD	DB-624/1213537	0.52	150		0.24	0.24	0.0%	0.54	150	0.59	109%	150	0.56	104%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.118	0.123	4.1%	0.086	150	0.086	100%	150	0.084	98%
ccl4	ECD	DB-624/1213537	0.018	150		0.016	0.017	5.9%	0.015	150	0.016	107%	150	0.015	100%
1,2-dca	ECD	DB-624/1213537	19.8	150		8.5	7.6	11.8%	18	150	17.9	99%	150	16.8	93%
tce	ECD	DB-624/1213537	0.42	150		0.15	0.16	6.3%	0.4	150	0.45	113%	150	0.44	110%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.5	2.30	8.7%	5	150	5	100%	150	4.3	86%
pce	ECD	DB-624/1213537	0.11	150		0.04	0.043	7.0%	0.11	150	0.12	109%	150	0.11	100%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.098	0.094	4.3%	0.14	150	0.14	100%	150	0.12	86%
chlorobenzene	ECD	DB-624/1213537	0.02	150		0.016	0.016	0.0%	0.0067	150	0.0073	109%	150	0.0057	85%
1,1-dce	PID	AT-624/6820	27.4	200	409	13.4	11.90	12.6%	29.1	200	24.6	85%	200	32.7	112%
t-1,2-dce	PID	AT-624/6820	22.04	200	697	6.3	5.90	6.8%	22.04	200	20.4	93%	200	26	118%
c-1,2-dce	PID	AT-624/6820	24.92	200	453	11	10.10	8.9%	23.58	200	18.9	80%	200	27.7	117%
benzene	PID	AT-624/6820	13.31	200	475	5.6	5.10	9.8%	15.21	200	12.2	80%	200	18	118%
toluene	PID	AT-624/6820	17.54	200	495	7.1	6.70	6.0%	17.01	200	14.3	84%	200	20.1	118%
ethyl benzene	PID	AT-624/6820	18.51	200	340	10.9	10.40	4.8%	17.76	200	17.2	97%	200	15.3	86%
m,p-xylene	PID	AT-624/6820	19.86	200	520	7.6	7.70	1.3%	20.05	200	19	95%	200	17.1	85%
o-xylene	PID	AT-624/6820	19.57	200	371	10.5	10.10	4.0%	16.3	200	16	98%	200	19.3	118%
vinyl chloride	PID	AT-624/6820	25	200	249	20.1	19.80	1.5%	50	100	50.3	101%	100	42.8	86%
acetone	FID	DB-624/2557451	6400	20	829	232	250.00	7.2%	3200	40	2800	88%	150	3200	100%
cfc-113	ECD	DB-1/2553213	0.6	200	276	0.22	0.25	12.0%	0.6	100	0.72	120%	100	0.67	112%

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340 & 9210)

ANALYZED BY: John Tangeman
DATE: 5-25-94
Total number of analysis: 24

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:21	07:21	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:41	08:41	-	500	-	0.003	<1	<1	<0.01	0.009	<0.001	<1
SVMW-35-5'	08:55	08:55	0.16	50	-	^0.007	<1	<1	<0.01	0.12	0.007	<1
SVMW-35-5'	08:55	09:10	-	-	-	NA	NA	NA	NA	NA	NA	NA
SVMW-35-20'	09:17	09:17	0.6	50	-	^0.009	<1	<1	<0.01	0.2	0.017	<1
SVMW-35-41'	09:32	09:32	1.2	50	-	^0.01	<1	<1	<0.01	0.37	0.027	<1
SVMW-11-5.5'	10:25	10:25	0.16	50	-	0.014	<1	<1	<0.01	0.32	<0.001	<1
SVMW-11-20.5'	10:52	10:52	0.6	50	-	0.015	<1	<1	<0.01	0.11	<0.001	<1
SVMW-11-30.5'	11:07	11:07	0.9	50	-	0.052	<1	<1	<0.01	0.19	0.01	<1
SVMW-19-4.5	12:55	12:55	0.16	50	-	0.09	<1	<1	<0.01	0.029	0.004	<1
SVMW-19-19.5'	13:13	13:13	0.6	50	-	0.046	<1	<1	<0.01	0.029	0.008	<1
SVMW-19-40.5'	13:27	13:27	1.2	50	-	0.22	<1	<1	0.11	0.087	0.057	<1
SVMW-5-6'	13:46	13:46	0.16	50	-	NA	<1	<1	^0.023	<0.001	NA	<1
SVMW-5-6'	13:46	14:00	-	10	-	0.94	NA	NA	NA	NA	0.97	NA
SVMW-5-21'	14:09	14:09	0.6	20	-	1.2	<10	<10	<0.1	<0.01	*1.1	<10
SVMW-5-41.5'	14:25	14:25	1.2	10	-	NA	<10	<10	<0.1	<0.01	NA	<10
SVMW-5-41.5'	14:25	14:38	-	100	1/100	5.2	NA	NA	NA	NA	4.6	NA
SVMW-1-5.5'	14:53	14:53	0.16	50	-	0.2	<1	<1	<0.01	1.7	NA	<1
SVMW-1-5.5'	14:53	15:06	-	20	-	NA	NA	NA	NA	NA	0.39	NA
SVMW-1-5.5', duplicate	14:53	15:12	-	30	-	0.16	<1	<1	<0.01	1.4	0.38	<1
SVMW-1-20.5'	15:27	15:27	0.6	10	-	0.42	<10	<10	<0.1	3.3	0.96	<10
SVMW-1-20.5'	15:27	15:40	-	-	-	NA	NA	NA	NA	NA	NA	NA
SVMW-1-41'	15:47	15:47	1.2	10	-	1.4	<10	<10	<0.1	9.9	NA	<10
SVMW-1-41'	15:47	16:01	-	200	1/100	NA	NA	NA	NA	NA	2.2	NA
SG-1107-3'	16:33	16:33	0.03	10	-	NA	<10	<10	2.6	0.32	NA	<10
SG-1107-3'	16:33	16:47	-	200	1/100	3.8	NA	NA	NA	NA	2.8	NA
Ambient Air #2	16:55	16:55	-	500	-	0.003	<1	<1	<0.01	0.012	<0.001	<1
System/Syringe Blank #2	17:08	17:08	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

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*: exceeds reporting limits

CFC-11: trichlorofluoromethane
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ClEth: chloroethane

11558 SORRENTO VALLEY ROAD
SAN DIEGO · CA 92121
619·481·2200 FAX 619·481·1855

Concentration of analytes continued ...

ANALYZED BY: John Tangeman
DATE: 5-25-94
Total number of analysis: 24

Sample (# - ft)	TCE (µg/L)	,1,2-TC (µg/L)	PCE (µg/L)	EDB (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans-* 1,2-DCE (µg/L)	*cis-* 1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-35-5'	<0.01	<0.1	0.33	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-35-5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
SVMW-35-20'	<0.01	<0.1	0.22	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-35-41'	<0.01	<0.1	0.22	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-11-5.5'	<0.01	<0.1	0.026	<0.1	500	<1	9	<1	<1	<1	<1
SVMW-11-20.5'	<0.01	<0.1	0.027	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-11-30.5'	^0.061	<0.1	0.076	<0.1	500	<1	^1.6	<1	<1	<1	<1
SVMW-19-4.5	0.12	<0.1	0.19	<0.1	500	<1	^1.4	<1	<1	<1	<1
SVMW-19-19.5'	0.18	<0.1	0.21	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-19-40.5'	1.7	<0.1	0.74	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-5-6'	2.4	<0.1	0.24	<0.1	500	<1	<1	<1	<1	<1	<1
SVMW-5-6'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
SVMW-5-21'	2.5	<1	0.2	<1	500	<1	<1	<1	<1	<1	<1
SVMW-5-41.5'	14	<1	1	<1	500	<1	<1	<1	<1	<1	<1
SVMW-5-41.5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
SVMW-1-5.5'	0.94	<0.1	0.15	<0.1	500	<1	^1.6	<1	<1	<1	<1
SVMW-1-5.5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
SVMW-1-5.5', duplicate	0.75	<0.1	0.12	<0.1	500	<1	^1.8	<1	<1	<1	<1
SVMW-1-20.5'	1.9	<1	0.34	<1	500	<1	2.6	<1	<1	<1	<1
SVMW-1-20.5'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
SVMW-1-41'	5.9	<1	0.81	<1	500	<1	9.2	<1	<1	<1	<1
SVMW-1-41'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
SG-1107-3'	^0.39	<1	0.28	<1	500	<1	^1.6	<1	<1	<1	<1
SG-1107-3'	NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
Ambient Air #2	<0.01	<0.1	^0.002	<0.1	500	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	<0.1	500	<1	<1	<1	<1	<1	<1

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CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane

Concentration of analytes continued ...

ANALYZED BY: John Tangeman
DATE: 5-25-94
Total number of analysis: 24

Sample (# - ft)	Ethyl-Benzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	19.6	80.4
SVMW-35-5'	<1	<1	<1	50	-	NA	1000	<1	<1	100	1.8	17.3	81
SVMW-35-5'	NA	NA	NA	10	-	12	-	NA	NA	-	NA	NA	NA
SVMW-35-20'	<1	<1	<1	10	-	20	1000	<1	<1	100	1.3	19	79.8
SVMW-35-41'	<1	<1	<1	10	-	22	1000	<1	<1	100	1.7	15.7	82.6
SVMW-11-5.5'	<1	<1	<1	10	-	7	1000	<1	<1	100	1.2	19.7	79.1
SVMW-11-20.5'	<1	<1	<1	10	-	4.8	1000	<1	<1	100	1	19.2	79.8
SVMW-11-30.5'	<1	<1	<1	20	-	11	1000	<1	<1	100	2.8	15.8	81.3
SVMW-19-4.5	<1	1.2	1.2	20	-	<1	1000	<1	<1	100	0.7	20.8	78.5
SVMW-19-19.5'	<1	<1	<1	50	-	<0.1	1000	<1	<1	100	0.7	21.1	78.2
SVMW-19-40.5'	<1	<1	<1	50	-	<0.1	1000	<1	<1	100	1	16.5	82.5
SVMW-5-6'	<1	<1	<1	50	-	1.8	1000	<1	<1	100	0.5	19.8	79.6
SVMW-5-6'	NA	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	N
SVMW-5-21'	<1	<1	<1	50	-	1.5	1000	<1	<1	100	<0.1	20.1	7
SVMW-5-41.5'	<1	<1	<1	50	-	NA	1000	<1	<1	100	0.7	17.7	81.5
SVMW-5-41.5'	NA	NA	NA	10	-	12	-	NA	NA	-	NA	NA	NA
SVMW-1-5.5'	<1	<1	<1	10	-	30	1000	<1	<1	100	0.7	20.4	78.9
SVMW-1-5.5'	NA	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-1-5.5', duplicate	<1	<1	<1	10	-	28	1000	<1	<1	100	0.5	20.1	79.4
SVMW-1-20.5'	<1	<1	<1	10	-	NA	1000	<1	<1	100	0.7	19.8	79.5
SVMW-1-20.5'	NA	NA	NA	200	1/100	38	-	NA	NA	-	NA	NA	NA
SVMW-1-41'	<1	<1	<1	100	1/100	150	1000	<1	<1	100	1.5	19.6	78.9
SVMW-1-41'	NA	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SG-1107-3'	<1	<1	<1	50	-	NA	1000	<1	<1	100	2.9	12.2	84.9
SG-1107-3'	NA	NA	NA	200	1/100	26	-	NA	NA	-	NA	NA	NA
Ambient Air #2	<1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.2	78.8
System/Syringe Blank #2	<1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

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CHBr2Cl: dibromochloromethane
ClBen: chlorobenzene
PCA: tetrachloroethane
ClEth: chloroethane

AIR TOXICS LTD.

SAMPLE NAME: SVMW-1-41'
ID#: 9405196-01A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	1060105	**Date of Collection:**	5/25/94
Dil. Factor:	100	**Date of Analysis:**	6/1/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	50	Not Detected
Freon 114	50	Not Detected
Chloromethane	50	Not Detected
Vinyl Chloride	50	Not Detected
Bromomethane	50	Not Detected
Chloroethane	50	Not Detected
Freon 11	50	130
1,1-Dichloroethene	50	1700
Freon 113	50	18000 E
Methylene Chloride	50	Not Detected
1,1-Dichloroethane	50	Not Detected
cis-1,2-Dichloroethene	50	Not Detected
Chloroform	50	Not Detected
1,1,1-Trichloroethane	50	1800
Carbon Tetrachloride	50	780
Benzene	50	Not Detected
1,2-Dichloroethane	50	Not Detected
Trichloroethene	50	2300
1,2-Dichloropropane	50	Not Detected
cis-1,3-Dichloropropene	50	Not Detected
Toluene	50	Not Detected
trans-1,3-Dichloropropene	50	Not Detected
1,1,2-Trichloroethane	50	Not Detected
Tetrachloroethene	50	230
Ethylene Dibromide	50	Not Detected
Chlorobenzene	50	Not Detected
Ethyl Benzene	50	Not Detected
m,p-Xylene	50	Not Detected
o-Xylene	50	Not Detected
Styrene	50	Not Detected
1,1,2,2-Tetrachloroethane	50	Not Detected
1,3,5-Trimethylbenzene	50	Not Detected
1,2,4-Trimethylbenzene	50	Not Detected
1,3-Dichlorobenzene	50	Not Detected
1,4-Dichlorobenzene	50	Not Detected
Chlorotoluene	50	Not Detected
1,2-Dichlorobenzene	50	Not Detected
1,2,4-Trichlorobenzene	50	Not Detected
Hexachlorobutadiene	50	Not Detected

Container Type: 1 Liter SUMMA Canister

E = Exceeds instrument calibration range, but within linear range.

Surrogates	% Recovery	Method Limits
Octafluorotoluene	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank
ID#: 9405196-02A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	1060104	**Date of Collection:**	NA
Dil. Factor:	1.0	**Date of Analysis:**	6/1/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	0.50	Not Detected
Freon 114	0.50	Not Detected
Chloromethane	0.50	Not Detected
Vinyl Chloride	0.50	Not Detected
Bromomethane	0.50	Not Detected
Chloroethane	0.50	Not Detected
Freon 11	0.50	Not Detected
1,1-Dichloroethene	0.50	Not Detected
Freon 113	0.50	Not Detected
Methylene Chloride	0.50	Not Detected
1,1-Dichloroethane	0.50	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected
Chloroform	0.50	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected
Carbon Tetrachloride	0.50	Not Detected
Benzene	0.50	Not Detected
1,2-Dichloroethane	0.50	Not Detected
Trichloroethene	0.50	Not Detected
1,2-Dichloropropane	0.50	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected
Toluene	0.50	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected
Tetrachloroethene	0.50	Not Detected
Ethylene Dibromide	0.50	Not Detected
Chlorobenzene	0.50	Not Detected
Ethyl Benzene	0.50	Not Detected
m,p-Xylene	0.50	Not Detected
o-Xylene	0.50	Not Detected
Styrene	0.50	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected
Chlorotoluene	0.50	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected
Hexachlorobutadiene	0.50	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
Octafluorotoluene	101	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	101	70-130

@ AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, SUITE B
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9405196

CHAIN OF CUSTODY RECORD

PROJECT # 9340 PO # _____ COLLECTED BY (Signature) John Tangerman

REMARKS _____

QA

FIELD SAMPLE I.D.#	SAMPLING MEDIA (Tenax, Canister etc.)	DATE/TIME	ANALYSIS	VAC./PRESSURE	LAB I.D. #
SVMW-1-41'	CANISTER	5-25-94/1530	TO-14	0"Hg	5/27/94

RELINQUISHED BY: DATE/TIME	RECEIVED BY: DATE/TIME	RELINQUISHED BY: DATE/TIME	RECEIVED BY: DATE/TIME
Adams 5/26/94 4:00pm	[signature] DATE 5/27/94 9:55		

LAB USE ONLY

SHIPPER NAME	AIR BILL #	OPENED BY: DATE/TIME	TEMP(°C)	CONDITION
UPS	0191676351	[signature] 5/27/94 9:55	Room	Good

REMARKS Custody Seal intact? Y N (None) Temp. Room

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

JUL 27 1994

July 25, 1994

HARDING LAWSON ASSOCIATES
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, California 91361
Attention: Mr. Tom Lindros

VAPOR WELL MONITORING ANALYSIS RESULTS
AZUSA/IRWINDALE STUDY AREA
AZUSA, CALIFORNIA
PROJECT #: 9340

HLA PROJECT #: 11074-052

Mr. Lindros:

InterPhase is pleased to submit these tables presenting concentrations of selected aromatic hydrocarbons, selected halogenated hydrocarbons and biogenic gases analyzed from vapor wells collected from the Azusa/Irwindale Study Area in Azusa, California. Also, enclosed is the results from the confirmation sampling by Air Toxics, Ltd. Our services were performed from Monday, June 20 through June 28, 1994.

If you have any questions regarding the results, we would be pleased to discuss them with you. We appreciate the opportunity to have worked with you on this project and look forward to working with you in the future.

Sincerely,
InterPhase

John Adriany
Senior Chemist

attachment

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INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 1. Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 6-20-94
Total number of analyses: 26

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:24	07:24	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	09:58	09:58	-	500	-	0.004	<1	<1	<0.01	0.008	<0.001	<1
IDVMW-02-310'	10:10	10:10	8.9	50	-	NA	<1	<1	0.2	0.25	NA	MI
IDVMW-02-310'	10:10	10:22	-	20	1/100	*2.8	NA	NA	NA	NA	17	<1000
IDVMW-02-310'	10:10	10:31	-	50	-	NA	NA	NA	NA	NA	NA	<1
IDVMW-01-306'	11:10	11:11	8.8	100	1/100	11	NA	NA	<1	<0.1	6.9	NA
IDVMW-01-306'	11:10	11:20	-	50	-	NA	<1	<1	NA	NA	NA	<1
SVMW-06-34'	11:33	11:33	1	100	1/100	NA	NA	NA	NA	NA	NA	NA
SVMW-06-34'	11:33	11:42	-	50	-	0.71	<1	<1	<0.01	0.48	0.26	<1
SVMW-08-5'	12:56	12:57	0.15	50	1/100	6.5	NA	NA	<1	310	1.5	NA
SVMW-08-5'	12:56	13:09	-	50	-	NA	<1	<1	NA	NA	NA	<1
SVMW-08-33'	13:23	13:23	1	30	1/100	4.2	<1000	<1000	<10	350	2.1	<1000
SVMW-08-26'	13:35	13:36	0.6	30	1/100	5.2	<1000	<1000	<10	380	2.3	<1000
SVMW-10-5'	13:55	13:56	0.15	200	1/100	2.8	NA	NA	NA	33	3.4	NA
SVMW-10-5'	13:55	14:07	-	40	-	NA	<1	<1	<0.01	NA	NA	<1
SVMW-10-20'	14:17	14:18	0.6	100	1/100	14	<100	<100	<1	28	17	<10
SVMW-10-30'	14:34	14:34	0.8	50	1/100	14	<100	<100	<1	27	16	<100
SVMW-17-5'	14:49	14:49	0.15	50	-	NA	<1	<1	0.14	0.18	NA	<1
SVMW-17-5'	14:49	15:01	-	20	-	1.3	NA	NA	NA	NA	0.51	NA
SVMW-17-20'	15:09	15:10	0.6	10	-	3.4	<10	<10	*0.17	0.28	1.7	<10
SVMW-16-5'	15:21	15:21	0.15	50	-	0.14	<1	<1	<0.01	0.068	0.008	<1
SVMW-16-20'	15:35	15:35	0.6	50	-	0.51	<1	<1	0.089	0.098	0.37	<1
SVMW-16-40'	15:51	15:51	1	30	-	NA	<10	<10	0.39	0.29	NA	<10
SVMW-16-40'	15:51	16:02	-	200	1/100	3.4	NA	NA	NA	NA	1.8	NA
SVMW-04-5'	16:11	16:11	150	50	-	NA	<1	<1	0.15	0.085	NA	<1
SVMW-04-5'	16:11	16:20	-	100	1/100	3	NA	NA	NA	NA	2.7	NA
SVMW-04-5'	16:11	16:30	-	50	-	NA	NA	NA	NA	NA	NA	<1
SVMW-04-20'	16:43	16:43	0.6	100	1/100	6	<100	<100	<1	<0.1	7	<100
SVMW-04-20' duplicate	16:43	16:53	-	100	1/100	6	<100	<100	<1	<0.1	7.6	<100
Ambient Air #2	17:04	17:04	-	500	-	0.004	<1	<1	<0.01	0.011	<0.001	<1
System/Syringe Blank #2	17:14	17:14	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
*: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

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TABLE 1. Continued...

ANALYZED BY: John Tangeman
DATE: 6-20-94
Total number of analyses: 26

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	0.002	500	<1	<1	<1	<1	<1	<1	<1
IDVMW-02-300'	NA	<0.1	3	500	<1	4.9	<1	<1	<1	<1	<1
IDVMW-02-310'	300	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
IDVMW-02-310'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
IDVMW-01-306'	15	<10	1.6	500	<1	5	<1	<1	<1	<1	<1
IDVMW-01-306'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-06-34'	25	<10	3	500	<1	<1	<1	<1	<1	<1	<1
SVMW-06-34'	NA	<0.1	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-08-5'	16	<10	25	500	<1	20	<1	<1	<1	<1	<1
SVMW-08-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-08-33'	21	<100	30	300	<1	25	<1	*1.3	<1	<1	<1
SVMW-08-26'	24	<100	32	500	<1	29	<1	<1	<1	<1	<1
SVMW-10-5'	13	NA	15	500	<1	9.7	<1	2.5	<1	<1	<1
SVMW-10-5'	NA	<0.1	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-10-20'	54	<10	40	500	<1	12	<1	6.5	<1	<1	<1
SVMW-10-30'	50	<10	36	500	<1	12	<1	6.7	<1	<1	<1
SVMW-17-5'	2.8	<0.1	0.72	500	<1	5.4	<1	9.7	<1	<1	<1
SVMW-17-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-17-20'	9.7	<1	1.2	500	<1	3.4	<1	<1	<1	<1	<1
SVMW-16-5'	0.11	<0.1	0.021	500	<1	2.8	<1	<1	<1	<1	<1
SVMW-16-20'	3.3	<0.1	0.17	500	<1	2.7	<1	2.5	<1	<1	<1
SVMW-16-40'	15	<1	0.79	500	<1	2.4	<1	<1	<1	<1	<1
SVMW-16-40'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-04-5'	NA	<0.1	1.5	500	<1	*1.4	<1	<1	<1	<1	<1
SVMW-04-5'	16	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-04-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-04-20'	39	<10	2.4	500	<1	1.8	<1	<1	<1	<1	<1
SVMW-04-20' duplicate	44	<10	2.2	500	<1	2.1	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
*: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

TABLE 1. Continued...

ANALYZED BY: John Tangeman
DATE: 6-20-94
Total number of analyses: 26

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	ClEth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	20	80
IDVMW-02-300'	<1	<1	20	-	2	1000	<1	<1	100	0.8	19.6	79.6
IDVMW-02-310'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
IDVMW-02-310'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
IDVMW-01-306'	<1	<1	50	-	NA	1000	<1	<1	100	0.8	17.8	81.4
IDVMW-01-306'	NA	NA	100	1/100	87	-	NA	NA	-	NA	NA	NA
SVMW-06-34'	<1	<1	30	-	5.3	1000	<1	<1	100	1.1	19.9	79
SVMW-06-34'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-08-5'	<1	<1	50	1/100	330	1000	<1	<1	100	1.2	19.2	79.7
SVMW-08-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-08-33'	<1	<1	30	1/100	410	1000	<1	<1	100	0.6	18.5	80.8
SVMW-08-26'	<1	<1	50	1/100	620	1000	<1	<1	100	1	18	81
SVMW-10-5'	<1	<1	200	1/100	44	1000	<1	<1	100	0.6	19.7	79.7
SVMW-10-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-10-20'	<1	<1	200	1/100	150	1000	<1	<1	100	1	16.8	82.2
SVMW-10-30'	<1	<1	50	1/100	210	1000	<1	<1	100	1	16.1	82.9
SVMW-17-5'	<1	<1	30	-	2.4	1000	<1	<1	100	2.7	18.6	78.7
SVMW-17-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-17-20'	<1	<1	30	-	4.6	1000	<1	<1	100	2.4	18.3	79.3
SVMW-16-5'	<1	<1	30	-	<1	1000	<1	<1	100	1.1	20.3	78.6
SVMW-16-20'	<1	<1	30	-	<1	1000	<1	<1	100	0.8	20	79.1
SVMW-16-40'	<1	<1	50	-	2.9	1000	<1	<1	100	1.3	18.8	79.9
SVMW-16-40'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-04-5'	<1	<1	30	-	6	1000	<1	<1	100	1.3	19.1	79.6
SVMW-04-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-04-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-04-20'	<1	<1	20	-	9	1000	<1	<1	100	1.8	18.4	79.8
SVMW-04-20' duplicate	<1	<1	20	-	7.4	1000	<1	<1	100	1.9	19.1	79
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.5	78.5
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
*: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 2. *Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)*

ANALYZED BY: John Tangeman
DATE: 6-21-94
Total number of analyses: 24

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:14	07:14	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:28	08:28	-	500	-	0.004	<1	<1	<0.01	0.01	<0.001	<1
SVMW-24-5'	08:37	08:37	0.15	50	1/100	3.8	NA	NA	26	2.6	34	<100
SVMW-24-5'	08:37	08:48	-	50	-	NA	<1	<1	NA	NA	NA	MI
SVMW-24-20'	09:02	09:02	0.6	100	1/100	6	NA	NA	6.3	1.4	9.9	NA
SVMW-24-20'	09:02	09:14	-	50	-	NA	<1	<1	NA	NA	NA	<1
SVMW-21-5'	09:30	09:30	0.15	50	-	0.038	<1	<1	NA	NA	NA	<1
SVMW-21-5'	09:30	09:39	-	100	1/100	NA	NA	NA	36	2.1	<0.1	NA
SVMW-21-20'	09:47	09:47	0.6	100	1/100	*0.44	<100	<100	44	2.3	<0.1	<100
SVMW-22-5'	10:02	10:02	0.15	50	-	0.4	<1	<1	<0.01	0.039	0.082	<1
SVMW-22-18'	10:22	10:22	0.5	20	-	0.61	<10	<10	<0.1	0.075	0.16	<10
SVMW-22-26'	10:35	10:35	0.8	20	-	1.4	<10	<10	<0.1	0.17	0.42	<10
SVMW-27-5'	10:56	10:56	0.15	50	-	NA	<1	<1	<0.01	0.75	<0.001	<1
SVMW-27-5'	10:56	11:06	-	20	-	1.5	NA	NA	NA	NA	NA	NA
SVMW-27-20'	11:13	11:14	-	10	-	0.24	<10	<10	<0.1	0.15	<0.01	<10
SVMW-27-30'	11:27	11:27	1.2	50	-	0.16	<1	<1	<0.01	0.1	<0.001	<1
SVMW-30-5'	12:56	12:57	0.2	50	-	0.065	<1	<1	0.4	0.14	0.014	<1
SVMW-30-5'	12:56	13:06	-	20	1/100	NA	NA	NA	NA	NA	NA	NA
SVMW-30-20'	13:19	13:19	0.7	200	1/100	0.38	<100	<100	<1	1.3	<0.1	<100
SVMW-30-39'	13:32	13:33	1.1	30	-	*0.015	<10	<10	<0.1	<0.01	<0.01	<10
SVMW-29-5'	13:45	13:46	0.2	50	-	0.017	<1	<1	<0.01	0.071	<0.001	<1
SVMW-29-23'	13:55	13:57	0.7	50	-	0.011	<1	<1	<0.01	0.024	<0.001	<1
SVMW-28-5'	14:19	14:20	0.2	100	-	0.082	<1	<1	<0.01	0.012	<0.001	<1
SVMW-28-19'	14:35	14:36	0.6	100	-	0.01	<1	<1	<0.01	0.012	<0.001	<1
SVMW-26-5'	14:50	14:51	0.15	50	-	*0.01	<1	<1	<0.01	*0.009	<0.001	<1
SVMW-26-23'	15:05	15:05	0.7	50	-	*0.01	<1	<1	<0.01	0.014	<0.001	<1
SVMW-26-23' duplicate	15:05	15:20	-	50	-	*0.01	<1	<1	<0.01	0.014	<0.001	<1
Ambient Air #2	15:32	15:32	-	500	-	0.003	<1	<1	<0.01	0.016	<0.001	<1
System/Syringe Blank #2	15:45	15:45	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

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NA: not analyzed
*: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

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TABLE 2. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-21-94
Total number of analyses: 24

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	0.004	500	<1	<1	<1	<1	<1	<1	<1
SVMW-24-5'	10	<10	3.5	500	<1	4	<1	3	<1	<1	<1
SVMW-24-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-24-20'	^2.5	<10	4.2	500	<1	1.8	<1	2.6	<1	<1	<1
SVMW-24-20'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-21-5'	NA	<0.1	0.32	500	<1	<1	<1	<1	<1	<1	<1
SVMW-21-5'	33	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-21-20'	40	<10	^1	500	<1	<1	<1	<1	<1	<1	<1
SVMW-22-5'	0.14	<0.1	0.14	500	<1	<1	<1	<1	<1	<1	<1
SVMW-22-18'	0.3	<1	0.23	500	<1	<1	<1	<1	<1	<1	<1
SVMW-22-26'	1.3	<1	0.69	500	<1	<1	<1	<1	<1	<1	<1
SVMW-27-5'	4.4	<0.1	0.7	500	<1	^1.6	<1	<1	<1	<1	<1
SVMW-27-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-27-20'	0.97	<1	0.19	500	<1	<1	<1	<1	<1	<1	<1
SVMW-27-30'	0.088	<0.1	0.17	500	<1	<1	<1	<1	<1	<1	<1
SVMW-30-5'	NA	<0.1	0.34	500	<1	<1	2.5	34	<1	<1	<1
SVMW-30-5'	190	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-30-20'	14	<10	^0.25	500	<1	<1	<1	3	<1	<1	<1
SVMW-30-39'	1.3	<1	<0.01	500	<1	<1	<1	<1	<1	<1	<1
SVMW-29-5'	1.1	<0.1	0.26	500	<1	3	<1	3.4	<1	<1	<1
SVMW-29-23'	0.65	<0.1	0.031	500	<1	2	<1	<1	<1	<1	<1
SVMW-28-5'	^0.013	<0.1	^0.004	500	<1	3.8	<1	4	<1	<1	<1
SVMW-28-19'	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
SVMW-26-5'	<0.01	<0.1	^0.008	500	<1	<1	<1	<1	<1	<1	<1
SVMW-26-23'	<0.01	<0.1	^0.018	500	<1	4.2	<1	<1	<1	<1	<1
SVMW-26-23' duplicate	<0.01	<0.1	^0.011	500	<1	4.6	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

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CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
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CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

TABLE 2. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-21-94
Total number of analyses: 24

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.3	78.7
SVMW-24-5'	<1	<1	50	1/100	24	1000	<1	<1	100	2.1	15.6	82.3
SVMW-24-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-24-20'	<1	<1	200	1/100	50	1000	<1	<1	100	1.8	14.4	83.8
SVMW-24-20'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-21-5'	<1	<1	20	-	<1	1000	<1	<1	100	1.8	19.4	78.7
SVMW-21-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-21-20'	<1	<1	50	-	<0.1	1000	<1	<1	100	1.4	19.1	79.4
SVMW-22-5'	<1	<1	20	-	3.3	1000	<1	<1	100	2.4	18.4	79.2
SVMW-22-18'	<1	<1	20	-	4.9	1000	<1	<1	100	2.8	18.3	78.9
SVMW-22-26'	<1	<1	20	-	8.3	1000	<1	<1	100	2.6	16.5	80.9
SVMW-27-5'	<1	<1	50	-	<0.1	1000	<1	<1	100	3.7	15.7	80.6
SVMW-27-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-27-20'	<1	<1	50	-	<0.1	1000	<1	<1	100	1.9	17.9	80.2
SVMW-27-30'	<1	<1	50	-	<0.1	1000	<1	<1	100	2	19.3	78.7
SVMW-30-5'	<1	<1	20	-	<1	1000	<1	<1	100	4	17.5	78.5
SVMW-30-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-30-20'	<1	<1	20	-	<1	1000	<1	<1	100	1.9	19.4	78.7
SVMW-30-39'	<1	<1	20	-	<1	1000	<1	<1	100	1.2	20.1	78.6
SVMW-29-5'	<1	<1	20	-	<1	1000	<1	<1	100	1.7	18.4	79.8
SVMW-29-23'	<1	<1	20	-	<1	1000	<1	<1	100	1	20	79
SVMW-28-5'	<1	<1	50	-	<0.1	1000	<1	<1	100	1.4	20	78.6
SVMW-28-19'	<1	<1	50	-	<0.1	1000	<1	<1	100	1.6	20.8	77.5
SVMW-26-5'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.8	21.5	77.7
SVMW-26-23'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.9	20.1	79
SVMW-26-23' duplicate	<1	<1	50	-	<0.1	1000	<1	<1	100	1.2	20.8	78
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.4	78.6
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

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CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
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TCA: trichloroethane
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PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 3. Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 6-22-94
Total number of analyses: 24

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:13	07:13	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:54	08:54	-	500	-	0.01	<1	<1	<0.01	0.01	<0.001	<1
SVMW-14-8'	09:08	09:11	0.2	50	-	0.14	<1	<1	<0.01	0.052	0.024	<1
SVMW-14-20'	09:21	09:22	0.6	50	-	0.67	<1	<1	<0.01	0.034	0.24	<1
SVMW-14-30'	09:32	09:32	0.9	20	-	NA	<10	<10	<0.1	0.082	NA	<10
SVMW-14-30'	09:32	09:43	-	10	-	2.7	NA	NA	NA	NA	1.4	NA
SVMW-15-5'	09:51	09:51	0.15	50	-	0.093	<1	<1	<0.01	0.046	<0.001	<1
SVMW-15-20'	10:01	10:02	0.6	20	-	0.55	<10	<10	<0.1	0.18	0.098	<10
SVMW-15-30'	10:19	10:19	0.9	10	-	0.13	<10	<10	<0.1	<0.01	<0.01	<10
SVMW-13-5'	10:33	10:33	0.15	50	-	0.098	<1	<1	<0.01	0.33	0.012	<1
SVMW-13-5'	10:33	10:43	-	-	-	NA	NA	NA	NA	NA	NA	NA
SVMW-13-20'	10:50	10:50	0.6	20	-	0.72	<10	<10	<0.1	1	0.27	<10
SVMW-13-30'	11:06	11:06	1	10	-	0.21	<10	<10	<0.1	0.7	0.066	<10
SVMW-18-5'	12:31	12:31	0.15	50	-	NA	<1	<1	<0.01	0.26	<0.001	<1
SVMW-18-5'	12:31	12:41	-	100	1/100	12	NA	NA	NA	NA	NA	NA
SVMW-18-20'	12:49	12:49	0.6	10	-	NA	<10	<10	<0.1	1.4	0.056	<10
SVMW-18-20'	12:49	12:58	-	200	1/100	5.2	NA	NA	NA	NA	NA	NA
SVMW-18-30'	13:07	13:08	0.9	10	-	2.8	<10	<10	<0.1	1.1	0.048	<10
SVMW-32-5'	13:25	13:25	0.15	50	-	0.021	<1	<1	<0.01	1.8	<0.001	<1
SVMW-32-20'	13:41	13:41	0.6	20	-	*0.018	<10	<10	<0.1	2.9	<0.01	<10
SVMW-32-30'	13:55	13:56	0.9	20	-	*0.012	<10	<10	<0.1	2.5	<0.01	<10
SVMW-20-5'	14:12	14:14	0.15	50	-	0.037	<1	<1	<0.01	0.077	0.006	<1
SVMW-20-20'	14:26	14:27	0.6	50	-	0.075	<1	<1	<0.01	0.094	0.026	<1
SVMW-38-5'	14:46	14:46	0.15	50	-	0.058	<1	<1	<0.01	9.7	<0.001	*6.2
SVMW-38-20'	15:07	15:08	0.6	50	-	0.056	<1	<1	<0.01	2.2	<0.001	<1
SVMW-38-30'	15:24	15:24	0.9	50	-	0.042	<1	<1	<0.01	1.2	<0.001	<1
SVMW-38-30' duplicate	15:24	15:35	-	50	-	0.034	<1	<1	<0.01	1	<0.001	<1
Ambient Air #2	15:47	15:47	-	500	-	0.003	<1	<1	<0.01	0.026	<0.001	<1
System/Syringe Blank #2	15:57	15:57	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

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CH2Cl2: methylene chloride
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TABLE 3. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-22-94
Total number of analyses: 24

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	*0.002	500	<1	<1	<1	<1	<1	<1	<1
SVMW-14-8'	0.42	<0.1	0.032	500	<1	<1	<1	<1	<1	<1	<1
SVMW-14-20'	0.98	<0.1	0.039	500	<1	<1	<1	<1	<1	<1	<1
SVMW-14-30'	6.9	<1	0.21	500	<1	<1	<1	<1	<1	<1	<1
SVMW-14-30'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-15-5'	*0.055	<0.1	0.083	500	<1	<1	<1	<1	<1	<1	<1
SVMW-15-20'	0.49	<1	0.1	500	<1	<1	<1	<1	<1	<1	<1
SVMW-15-30'	*0.18	<1	*0.058	500	<1	<1	<1	<1	<1	<1	<1
SVMW-13-5'	1.6	<0.1	0.26	500	<1	<1	<1	<1	<1	<1	<1
SVMW-13-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-13-20'	9.4	<1	0.28	500	<1	<1	<1	<1	<1	<1	<1
SVMW-13-30'	2.9	<1	0.21	500	<1	<1	<1	<1	<1	<1	<1
SVMW-18-5'	*0.058	<0.1	*0.017	500	<1	4	<1	2.3	<1	<1	<1
SVMW-18-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-18-20'	1.6	<1	0.12	500	<1	*1.4	<1	<1	<1	<1	<1
SVMW-18-20'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-18-30'	1	<1	*0.085	500	<1	<1	<1	<1	<1	<1	<1
SVMW-32-5'	*0.037	<0.1	0.32	500	<1	2.7	<1	<1	<1	<1	<1
SVMW-32-20'	*0.15	<1	0.16	500	<1	<1	<1	<1	<1	<1	<1
SVMW-32-30'	*0.16	<1	0.1	500	<1	2	<1	<1	<1	<1	<1
SVMW-20-5'	0.12	<0.1	0.2	500	<1	<1	<1	<1	<1	<1	<1
SVMW-20-20'	0.77	<0.1	0.44	500	<1	<1	<1	<1	<1	<1	<1
SVMW-38-5'	2.2	<0.1	0.23	500	<1	<1	<1	<1	<1	<1	<1
SVMW-38-20'	0.93	<0.1	0.071	500	<1	<1	<1	<1	<1	<1	<1
SVMW-38-30'	0.75	<0.1	0.062	500	<1	*1.5	<1	<1	<1	<1	<1
SVMW-38-30' duplicate	0.62	<0.1	0.067	500	<1	*1.4	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	0.004	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

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TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

TABLE 3. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-22-94
Total number of analyses: 24

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.6	78.4
SVMW-14-8'	<1	<1	20	-	<1	1000	<1	<1	100	7.3	13.2	79.5
SVMW-14-20'	<1	<1	50	-	2.6	1000	<1	<1	100	6	13.9	80.1
SVMW-14-30'	<1	<1	20	-	8.6	1000	<1	<1	100	5	14.9	80.1
SVMW-14-30'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-15-5'	<1	<1	20	-	3.6	1000	<1	<1	100	5.8	15.7	78.5
SVMW-15-20'	<1	<1	10	-	15	1000	<1	<1	100	3.2	17	79.8
SVMW-15-30'	<1	<1	10	-	3.7	1000	<1	<1	100	3.1	16.1	80.8
SVMW-13-5'	<1	<1	20	-	NA	1000	<1	<1	100	4.1	16.4	79.6
SVMW-13-5'	NA	NA	10	-	22	-	NA	NA	-	NA	NA	NA
SVMW-13-20'	<1	<1	200	1/100	67	1000	<1	<1	100	2.6	17.4	80
SVMW-13-30'	<1	<1	100	1/100	32	1000	<1	<1	100	2.8	17	80.2
SVMW-18-5'	<1	<1	20	-	<1	1000	<1	<1	100	2.9	19	78
SVMW-18-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-18-20'	<1	<1	20	-	<1	1000	<1	<1	100	2	19.2	78.8
SVMW-18-20'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-18-30'	<1	<1	20	-	<1	1000	<1	<1	100	2.4	18.2	79.4
SVMW-32-5'	<1	<1	10	-	14	1000	<1	<1	100	2.2	18.5	79.3
SVMW-32-20'	<1	<1	10	-	11	1000	<1	<1	100	2	19.2	78.9
SVMW-32-30'	<1	<1	10	-	12	1000	<1	<1	100	1.9	19.5	78.6
SVMW-20-5'	<1	<1	20	-	<1	1000	<1	<1	100	1.3	18	80.7
SVMW-20-20'	<1	<1	50	-	<1	1000	<1	<1	100	1.7	19	79.3
SVMW-38-5'	<1	<1	50	-	0.83	1000	<1	<1	100	2.8	18.5	78.7
SVMW-38-20'	<1	<1	30	-	<1	1000	<1	<1	100	2.4	18	79.5
SVMW--38-30'	<1	<1	30	-	<0.1	1000	<1	<1	100	2.4	19.3	78.3
SVMW-38-30' duplicate	<1	<1	30	-	<0.1	1000	<1	<1	100	2.1	19.5	78.4
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.7	78.3
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

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uL: microliters
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^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 4. Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 6-23-94
Total number of analyses: 25

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	06:57	06:57	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:20	08:20	-	500	-	0.008	<1	<1	<0.01	0.23	<0.001	<1
SVMW-33-5'	08:31	08:31	0.15	50	-	NA	NA	NA	0.38	NA	NA	NA
SVMW-33-5'	08:31	08:41	-	50	1/100	2.3	<100	<100	NA	90	4.9	<100
SVMW-33-5'	08:31	08:52	-	50	-	NA	MI	<1	NA	NA	NA	<1
SVMW-33-20'	09:08	09:09	0.6	30	1/100	3.4	<1000	<1000	<10	120	8.8	<1000
SVMW-37-5'	09:22	09:23	0.15	50	1/100	1.7	<100	<100	<1	380	0.56	<100
SVMW-37-5'	09:22	09:37	-	50	-	NA	<1	<1	NA	NA	NA	<1
SVMW-37-20'	09:51	09:52	0.6	30	1/100	2.4	<1000	<1000	<10	650	2.3	<1000
SVMW-37-32'	10:08	10:08	0.9	30	1/100	2.5	<1000	<1000	<10	320	9.6	<1000
SVMW-34-5'	10:24	10:25	0.15	50	-	0.24	NA	NA	0.33	NA	NA	NA
SVMW-34-5'	10:24	10:35	-	100	1/100	NA	<100	<100	NA	11	2	<100
SVMW-34-5'	10:24	10:43	-	50	-	NA	<1	<1	NA	NA	NA	<1
SVMW-34-20'	11:00	11:00	0.6	100	1/100	1.2	<100	<100	<1	22	5.3	<100
SVMW-36-5'	11:25	11:25	0.15	50	-	0.027	<1	<1	<0.01	1.2	0.12	<1
SVMW-36-20'	11:39	11:39	0.6	20	-	^0.024	<10	<10	<0.1	0.88	0.18	<10
SVMW-35-5'	12:48	12:49	0.15	50	-	0.011	<1	<1	<0.01	0.18	0.009	<1
SVMW-35-20'	13:00	13:02	0.6	30	-	^0.013	<10	<10	<0.1	0.34	0.03	<10
SVMW-35-42'	13:16	13:17	1.2	30	-	^0.012	<10	<10	<0.1	0.47	0.038	<10
SVMW-39-5'	13:41	13:41	0.15	50	-	0.023	<1	<1	<0.01	9	<0.001	<1
SVMW-39-20'	13:54	13:54	0.6	20	-	^0.024	<10	<10	<0.1	4	0.023	<10
SVMW-39-40'	14:07	14:07	1.1	30	-	0.028	<10	<10	<0.1	3.6	0.11	<10
MW-5-45'	14:33	14:33	1.3	50	-	^0.009	<1	<1	<0.01	0.036	<0.001	<1
MW-5-117'	14:47	14:47	3.4	100	-	^0.004	<1	<1	<0.01	<0.001	<0.001	<1
MW-5-189'	15:02	15:02	5.4	100	-	^0.003	<1	<1	<0.01	<0.001	<0.001	<1
MW-5-250'	15:15	15:15	7.2	100	-	^0.005	<1	<1	<0.01	<0.001	0.032	<1
MW-5-267'	15:31	15:31	7.6	100	-	^0.003	<1	<1	<0.01	<0.001	0.018	<1
MW-5-267' duplicate	15:31	15:57	-	100	-	^0.004	<1	<1	<0.01	<0.001	0.017	<1
Ambient Air #2	16:08	16:08	-	500	-	0.006	<1	<1	<0.01	0.017	<0.001	<1
System/Syringe Blank #2	16:18	16:18	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

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CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
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CHCl3: chloroform
TCA: trichloroethane
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TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

11558 SORRENTO VALLEY ROAD
SAN DIEGO • CA 92121
619•481•2200 FAX 619•481•1855

TABLE 4. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-23-94
Total number of analyses: 25

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	0.003	500	<1	<1	<1	<1	<1	<1	<1
SVMW-33-5'	NA	<0.1	NA	500	<1	11	<1	<1	<1	<1	<1
SVMW-33-5'	17	NA	4.4	-	NA	NA	NA	NA	NA	NA	NA
SVMW-33-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-33-25'	29	<100	5.7	300	<1	19	<1	<1	<1	<1	<1
SVMW-37-5'	8.2	<100	3.3	500	<1	7.5	<1	<1	<1	<1	<1
SVMW-37-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-37-20'	22	<100	^2.9	500	<1	14	<1	<1	<1	<1	<1
SVMW-37-32'	38	<100	^3.4	500	<1	17	<1	<1	<1	<1	<1
SVMW-34-5'	NA	<0.1	0.84	500	<1	6.8	<1	<1	<1	<1	<1
SVMW-34-5'	20	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-34-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-34-20'	49	<10	1.6	500	<1	17	<1	<1	<1	<1	<1
SVMW-36-5'	<0.01	<0.1	1.1	500	<1	3	<1	<1	<1	<1	<1
SVMW-36-20'	<0.1	<1	0.31	500	<1	^1.3	<1	<1	<1	<1	<1
SVMW-35-5'	<0.01	<0.1	0.57	500	<1	1.8	<1	<1	<1	<1	<1
SVMW-35-20'	<0.1	<1	0.3	500	<1	2.7	<1	<1	<1	<1	<1
SVMW-35-42'	<0.1	<1	0.3	500	<1	2	<1	<1	<1	<1	<1
SVMW-39-5'	<0.01	<0.1	0.55	500	<1	2.1	<1	<1	<1	<1	<1
SVMW-39-20'	<0.1	<1	0.34	500	<1	2.7	<1	<1	<1	<1	<1
SVMW-39-40'	<0.1	<1	0.29	500	<1	2.4	<1	<1	<1	<1	<1
MW-5-45'	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
MW-5-117'	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
MW-5-189'	<0.01	<0.1	<0.001	500	<1	^1.6	<1	<1	<1	<1	<1
MW--5-250'	<0.01	<0.1	<0.001	500	<1	3.3	<1	<1	<1	<1	<1
MW-5-267'	<0.01	<0.1	<0.001	500	<1	2.7	<1	<1	<1	<1	<1
MW-5-267' duplicate	<0.01	<0.1	<0.001	500	<1	3	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	0.003	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

µg/L: micrograms per liter
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CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

TABLE 4. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-23-94
Total number of analyses: 25

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.3	78.7
SVMW-33-5'	<1	<1	10	-	NA	1000	<1	<1	100	3	17.6	79.4
SVMW-33-5'	NA	NA	20	1/100	3400	-	NA	NA	-	NA	NA	NA
SVMW-33-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-33-25'	<1	<1	10	1/100	1600	1000	<1	<1	100	2.4	17.5	80.1
SVMW-37-5'	<1	<1	20	1/100	360	1000	<1	<1	100	3.1	17.7	79.2
SVMW-37-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-37-20'	<1	<1	10	1/100	780	1000	<1	<1	100	3	17.6	79.3
SVMW-37-32'	<1	<1	20	1/100	860	1000	<1	<1	100	3.5	16.2	80.3
SVMW-34-5'	<1	<1	10	-	NA	1000	<1	<1	100	1	19	80
SVMW-34-5'	NA	NA	50	1/100	160	-	NA	NA	-	NA	NA	NA
SVMW-34-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-34-20'	<1	<1	50	1/100	320	1000	<1	<1	100	1.1	19.1	79.8
SVMW-36-5'	<1	<1	10	-	41	1000	<1	<1	100	4	16.2	79.8
SVMW-36-20'	<1	<1	10	-	20	1000	<1	<1	100	3.4	16.5	80.1
SVMW-35-5'	<1	<1	20	-	17	1000	<1	<1	100	2	18.4	79.5
SVMW-35-20'	<1	<1	10	-	37	1000	<1	<1	100	2.5	17.6	79.9
SVMW-35-42'	<1	<1	10	-	32	1000	<1	<1	100	3.2	16.4	80.4
SVMW-39-5'	<1	<1	10	-	5	1000	<1	<1	100	4.2	16.5	79.3
SVMW-39-20'	<1	<1	20	-	4.9	1000	<1	<1	100	3.3	17.8	78.9
SVMW-39-40'	<1	<1	20	-	4.2	1000	<1	<1	100	4.3	16.5	79.2
MW-5-45'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.4	19.6	80
MW-5-117'	<1	<1	50	-	<0.1	1000	<1	<1	100	<0.1	15.4	84.6
MW-5-189'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.4	15.6	84
MW-5-250'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.9	13.4	85.7
MW-5-267'	<1	<1	50		<0.1	1000	<1	<1	100	0.3	20	79.7
MW-5-267' duplicate	<1	<1	50	-	<0.1	1000	<1	<1	100	0.3	19.5	80.2
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	20	80
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

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CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

QUALITY CONTROL SUMMARY

Date : June 23, 1994
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:11	% Dif	Actual		Observed	recovery		Observed	recover
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	7:49	uL	ug/L	16:30
cfc11	ECD	DB-624/1213537	0.05	150		0.052	0.058	10%	0.055	150	0.056	102%	150	0.055	100%
ch2cl2	ECD	DB-624/1213537	21.26	150		10.7	11.70	9%	20.3	150	20.5	101%	150	21.7	107%
1,1-dca	ECD	DB-624/1213537	25.25	150		13.7	13.70	0%	21	150	24.1	115%	150	23.5	112%
chcl3	ECD	DB-624/1213537	0.52	150		0.21	0.24	13%	0.54	150	0.49	91%	150	0.58	107%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.118	0.123	4%	0.08	150	0.083	104%	150	0.075	94%
ccl4	ECD	DB-624/1213537	0.018	150		0.015	0.017	12%	0.015	150	0.013	87%	150	0.016	107%
1,2-dca	ECD	DB-624/1213537	19.8	150		7.2	7.60	5%	15	150	18	120%	150	15.9	106%
tce	ECD	DB-624/1213537	0.42	150		0.16	0.160	0%	0.4	150	0.41	103%	150	0.44	110%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.4	2.30	4%	4.5	150	4.1	91%	150	4.4	98%
pce	ECD	DB-624/1213537	0.11	150		0.045	0.043	5%	0.11	150	0.1	91%	150	0.12	109%
1,1-dce	PID	AT-624/6820	27.4	200	470	11.6	11.90	3%	29.1	200	25.6	88%	200	27	93%
t-1,2-dce	PID	AT-624/6820	22.04	200	741	5.9	5.90	0%	22.04	200	20.7	94%	200	21.9	99%
c-1,2-dce	PID	AT-624/6820	24.92	200	480	10.3	10.10	2%	23.58	200	20	85%	200	20.9	89%
benzene	PID	AT-624/6820	13.31	200	500	5.3	5.10	4%	15.21	200	13.6	89%	200	14.5	95%
toluene	PID	AT-624/6820	17.54	200	540	6.5	6.70	3%	17.01	200	14	82%	200	16	94%
ethyl benzene	PID	AT-624/6820	18.51	200	333	11.1	10.40	7%	17.76	200	15.6	88%	200	16.1	91%
m,p-xylene	PID	AT-624/6820	19.86	200	479	8.3	7.70	8%	20.05	200	17.3	86%	200	18.9	94%
o-xylene	PID	AT-624/6820	19.57	200	351	11.2	10.10	11%	16.3	200	15.2	93%	200	15.2	93%
vinyl chloride	PID	AT-624/6820	25	200	249	20.1	19.80	2%	50	100	50.3	101%	100	41.6	83%
chloroethane	FID	DB-624/2557451	1130	100	348	325	311.00	5%	2200	50	2000	91%	50	2200	100%
cfc-113	ECD	DB-1/2553213	0.6	100	220	0.27	0.25	8%	0.6	100	0.64	107%	200	0.72	120%

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

TABLE 5. Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 6-24-94
Total number of analyses: 14

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:01	07:01	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:28	08:28	-	500	-	0.009	<1	<1	<0.01	0.03	<0.001	<1
MW-2-82'	08:47	08:48	2.4	50	-	^0.007	<1	<1	<0.01	0.03	0.015	<1
MW-2-167'	08:59	09:00	4.8	50	-	^0.006	<1	<1	<0.01	0.021	0.006	<1
MW-2-234'	09:13	09:13	6.7	50	-	0.012	<1	<1	<0.01	0.023	0.01	<1
MW-2-284'	09:30	09:31	8.1	30	-	0.021	<10	<10	0.22	0.073	0.091	<10
SVMW-30-5'	09:46	09:46	0.2	20	-	0.039	<10	<10	0.3	0.12	0.012	<10
SVMW-30-5'	09:46	09:55	-	100	1/100	NA	NA	NA	NA	NA	NA	NA
MW-4-38'	10:10	10:10	1.1	50	-	0.16	<1	<1	0.31	0.087	0.18	<1
MW-4-101'	10:23	10:24	2.9	30	-	^0.014	<10	<10	0.28	0.094	0.028	<1
MW-4-160'	10:44	10:44	4.6	50	-	^0.009	<1	<1	^0.029	0.024	0.024	<1
MW-4-224'	10:58	10:58	6.5	50	-	0.04	<1	<1	2.4	0.55	0.12	^20
MW-4-224'	10:58	11:08	-	10	-	NA	NA	NA	NA	NA	NA	NA
MW-4-288'	11:21	11:21	8.2	50	-	0.18	<1	<1	1.6	0.5	NA	NA
MW-4-288'	11:21	11:31	-	10	-	NA	NA	NA	NA	NA	2	^15
MW-1-290'	11:59	12:01	8.2	50	-	0.092	<1	<1	^0.048	0.037	0.025	<1
MW-1-290' duplicate	11:59	12:11	-	50	-	0.085	<1	<1	^0.052	0.038	0.024	<1
Ambient Air #2	12:20	12:20	-	500	-	0.003	<1	<1	<0.01	0.017	<0.001	<1
System/Syringe Blank #2	12:31	12:31	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

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TABLE 5. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-24-94
Total number of analyses: 14

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	0.008	500	<1	<1	<1	<1	<1	<1	<1
MW-2-82'	0.75	<0.1	0.065	500	<1	<1	<1	<1	<1	<1	<1
MW-2-167'	0.12	<0.1	0.024	500	<1	<1	<1	<1	<1	<1	<1
MW-2-234'	0.16	<0.1	0.034	500	<1	^1.5	<1	<1	<1	<1	<1
MW-2-284'	4.7	<1	0.17	500	<1	^1.7	<1	<1	<1	<1	<1
SVMW-30-5'	NA	<1	0.26	500	<1	3	2.7	38	<1	<1	<1
SVMW-30-5'	160	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
MW-4-38'	12	<0.1	0.39	500	<1	^1.6	<1	<1	<1	<1	<1
MW-4-101'	4.2	<1	0.21	500	<1	1.9	<1	<1	<1	<1	<1
MW-4-160'	1.1	<0.1	0.032	500	<1	1.8	<1	<1	<1	<1	<1
MW-4-224'	NA	<0.1	0.85	500	<1	2.5	<1	^1.2	<1	<1	<1
MW-4-224'	31	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
MW-4-288'	NA	<0.1	0.39	500	<1	3.9	<1	<1	<1	<1	<1
MW-4-288'	55	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
MW-1-290'	0.1	<0.1	0.052	500	<1	<1	<1	<1	<1	<1	<1
MW-1-290' duplicate	0.096	<0.1	0.048	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	0.003	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

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CFC-113: trichlorotrifluoroethane
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TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

TABLE 5. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-24-94
Total number of analyses: 14

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.4	78.5
MW-2-82'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.5	21.6	77.9
MW-2-167'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.4	20.8	78.8
MW-2-234'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.3	21.4	78.3
MW-2-284'	<1	<1	50	-	<0.1	1000	<1	<1	100	<0.1	21.2	78.8
SVMW-30-5'	<1	<1	20	-	<1	1000	<1	<1	100	4.2	17.5	78.2
SVMW-30-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
MW-4-38'	<1	<1	20	-	1.2	1000	<1	<1	100	2.5	19.4	78.1
MW-4-101'	<1	<1	30	-	1.4	1000	<1	<1	100	1.5	20.3	78.2
MW-4-160'	<1	<1	50	-	<0.1	1000	<1	<1	100	<0.1	21.4	78.6
MW-4-224'	<1	<1	50	-	<0.1	1000	<1	<1	100	1.4	19.5	79.1
MW-4-224'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
MW-4-288'	<1	<1	50	-	<0.1	1000	<1	<1	100	0.7	19.7	79.5
MW-4-288'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
MW-1-290'	<1	<1	50	-	<0.1	1000	<1	<1	100	2.8	12.2	85.1
MW-1-290' duplicate	<1	<1	50	-	<0.1	1000	<1	<1	100	3.1	11.6	85.3
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.2	78.8
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

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CFC-11: trichlorofluoromethane
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TCA: trichloroethane
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TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

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TABLE 6. Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 6-27-94
Total number of analyses: 26

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:14	07:14	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:43	08:43	-	500	-	0.003	<1	<1	<0.01	0.004	<0.001	<1
MW-3-37'	08:52	08:52	1.1	50	-	NA	NA	<1	<0.01	NA	NA	NA
MW-3-37'	08:52	09:03	-	50	1/100	2	<100	NA	NA	14	2.8	<100
MW-3-37'	08:52	09:12	-	50	-	NA	<1	NA	NA	NA	NA	<1
MW-3-93'	09:23	09:24	2.7	50	1/100	13	<100	<100	<1	3.2	18	<100
MW-3-141'	09:35	09:36	4.1	50	1/100	16	<100	<100	<1	*1.1	29	<100
MW-3-193'	09:49	09:49	5.6	50	1/100	18	<100	<100	<1	*1.1	30	<100
MW-3-193'	09:49	10:00	-	50	-	NA	<1	<1	NA	NA	NA	MI
MW-3-305'	10:20	10:20	8.2	100	1/100	*0.41	<100	<100	<1	1.7	*0.096	<100
SVMW-5-6'	10:48	10:48	0.17	50	-	NA	<1	<1	*0.038	<0.001	NA	NA
SVMW-5-6'	10:48	10:57	-	10	-	1.8	NA	NA	NA	NA	1.9	<10
SVMW-5-6'	10:48	11:04	-	50	-	NA	NA	NA	NA	NA	NA	<1
SVMW-5-21'	11:15	11:16	0.6	100	1/100	2.7	<100	<100	<1	<1	1.9	<100
SVMW-5-42'	11:28	11:28	1.2	10	-	NA	<10	<10	<0.1	<0.1	NA	<10
SVMW-5-42'	11:28	11:37	-	100	1/100	11	NA	NA	NA	NA	9.8	NA
SVMW-11-5'	13:04	13:05	0.15	50	-	0.018	<1	<1	<0.01	0.52	<0.001	<1
SVMW-11-20'	13:29	13:29	0.6	50	-	0.027	<1	<1	<0.01	0.3	<0.001	<1
SVMW-11-32'	13:43	13:43	0.9	50	-	0.12	<1	<1	<0.01	0.32	0.018	<1
SVMW-19-5'	13:58	13:58	0.15	50	-	0.088	<1	<1	<0.01	0.028	0.005	<1
SVMW-19-20'	14:15	14:15	0.6	50	-	0.07	<1	<1	*0.024	0.034	0.012	<1
SVMW-19-42'	14:30	14:30	1.2	50	-	0.3	<1	<1	0.12	0.11	0.083	<1
SVMW-19-42' duplicate	14:30	14:47	-	50	-	0.27	<1	<1	0.12	0.1	0.074	<1
SVMW-1-6'	15:02	15:02	0.15	50	-	0.39	NA	<1	*0.044	2.6	NA	<1
SVMW-1-6'	15:02	15:12	-	10	-	NA	NA	NA	NA	NA	0.6	NA
SVMW-1-6'	15:02	15:18	-	50	-	NA	<1	NA	NA	NA	NA	NA
SVMW-1-20'	15:27	15:28	0.6	10	-	0.68	<10	<10	<0 .1	4	1.3	<10
SVMW-1-42'	15:45	15:45	1.2	10	-	1.8	<10	<10	<0.1	11	NA	<10
SVMW-1-42'	15:45	15:59	-	100	1/100	NA	NA	NA	NA	NA	4	NA
Ambient Air #2	16:05	16:05	-	500	-	0.003	<1	<1	<0.01	0.011	<0.001	<1
System/Syringe Blank #2	16:14	16:14	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

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NA: not analyzed
*: below reporting limits
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MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
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CHCl3: chloroform
TCA: trichloroethane
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TABLE 6. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-27-94
Total number of analyses: 26

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	0.004	500	<1	<1	<1	<1	<1	<1	<1
MW-3-37'	2.2	<0.1	NA	500	<1	5.4	<1	<1	<1	<1	<1
MW-3-37'	NA	NA	14	-	NA	NA	NA	NA	NA	NA	NA
MW-3-37'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
MW-3-93'	49	<10	55	500	<1	6.2	<1	5.1	<1	<1	<1
MW-3-141'	81	<10	98	500	<1	7.2	<1	11	<1	<1	<1
MW-3-193'	86	<10	250	500	<1	8.7	<1	7.7	<1	<1	<1
MW-3-193'	.NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
MW-3-305'	4.7	<10	30	500	<1	^1.6	<1	2.6	<1	<1	<1
SVMW-5-6'	4.2	<0.1	0.46	500	<1	2.8	<1	<1	<1	<1	<1
SVMW-5-6'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-5-6'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-5-21'	4.1	<10	<0.1	500	<1	4.5	<1	^1.5	<1	<1	<1
SVMW-5-42'	27	<1	1.9	500	<1	<1	<1	<1	<1	<1	<1
SVMW-5-42'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-11-5'	<0.01	<0.1	0.05	500	<1	6.6	<1	3.9	<1	<1	<1
SVMW-11-20'	^0.022	<0.1	0.05	500	<1	2.6	<1	<1	<1	<1	<1
SVMW-11-32'	0.096	<0.1	0.13	500	<1	2.6	<1	<1	<1	<1	<1
SVMW-19-5'	0.13	<0.1	0.25	500	<1	2	<1	<1	<1	<1	<1
SVMW-19-20'	0.3	<0.1	0.35	500	<1	<1	<1	<1	<1	<1	<1
SVMW-19-42'	2.2	<0.1	1.2	500	<1	2.1	<1	<1	<1	<1	<1
SVMW-19-42' duplicate	1.9	<0.1	1	500	<1	2.6	<1	<1	<1	<1	<1
SVMW-1-6'	1.3	<0.1	0.28	500	<1	2.5	<1	<1	<1	<1	<1
SVMW-1-6'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-1-6'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-1-20'	2	<1	0.36	500	<1	4.1	<1	<1	<1	<1	<1
SVMW-1-42'	6.4	<1	0.83	500	<1	7.9	<1	<1	<1	<1	<1
SVMW-1-42'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
Ambient Air #2	<0.01	<0.1	0.003	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

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TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

TABLE 6. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-27-94
Total number of analyses: 26

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	20.8	79.2
MW-3-37'	<1	<1	10	-	33	1000	<1	<1	100	0.2	20.1	79.6
MW-3-37'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
MW-3-37'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
MW-3-93'	<1	<1	100	1/100	150	1000	<1	<1	100	<0.1	14.9	85.1
MW-3-141'	<1	<1	50	1/100	230	1000	<1	<1	100	0.4	14.2	85.4
MW-3-193'	<1	<1	50	1/100	260	1000	<1	<1	100	0.6	14.2	85.1
MW-3-193'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
MW-3-305'	<1	<1	10	-	<1	1000	<1	<1	100	<0.1	22.2	77.8
SVMW-5-6'	<1	<1	20	-	3.4	1000	<1	<1	100	0.5	21	78.6
SVMW-5-6'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-5-6'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-5-21'	<1	<1	20	-	4.2	1000	<1	<1	100	0.5	21.1	78.4
SVMW-5-42'	<1	<1	20	-	18	1000	<1	<1	100	0.7	19.1	80.2
SVMW-5-42'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-11-5'	<1	<1	20	-	4.1	1000	<1	<1	100	1.8	19.5	78.8
SVMW-11-20'	<1	<1	20	-	8.2	1000	<1	<1	100	1.8	17.9	80.3
SVMW-11-32'	<1	<1	20	-	20	1000	<1	<1	100	4.2	15.3	80.4
SVMW-19-5'	<1	<1	30	-	<1	1000	<1	<1	100	0.9	19.9	79.2
SVMW-19-20'	<1	<1	30	-	<1	1000	<1	<1	100	0.7	20	79.3
SVMW-19-42'	<1	<1	30	-	<1	1000	<1	<1	100	1.3	19.8	78.9
SVMW-19-42' duplicate	<1	<1	30	-	<1	1000	<1	<1	100	1.4	18.7	79.9
SVMW-1-6'	<1	<1	200	1/100	58	1000	<1	<1	100	0.9	19.8	79.3
SVMW-1-6'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-1-6'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-1-20'	<1	<1	100	1/100	100	1000	<1	<1	100	0.9	19.1	80
SVMW-1-42'	<1	<1	100	1/100	230	1000	<1	<1	100	2.1	17.2	80.8
SVMW-1-42'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	20.1	79.9
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

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PCE: tetrachloroethene
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O2: oxygen
N2: nitrogen

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TABLE 7. Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 6-28-94
Total number of analyses: 20

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	07:02	07:02	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:31	08:31	-	500	-	0.005	<1	<1	<0.01	0.012	<0.001	<1
SVMW-2-5'	08:40	08:40	0.15	50	-	NA	<1	<1	NA	NA	NA	<1
SVMW-2-5'	08:40	08:51	-	10	-	NA	NA	NA	^0.40	0.17	NA	NA
SVMW-2-5'	08:40	09:00	-	100	1/100	2.9	NA	NA	NA	NA	3.7	NA
SVMW-2-20'	09:08	09:09	0.6	200	1/100	4.7	<100	<100	<1	2	6	<100
SVMW-2-39'	09:22	09:23	1.1	100	1/100	6.8	<100	<100	<1	<1	8.2	<100
IDVMW-2-110'	09:40	09:40	3.2	100	1/100	12	<100	<100	<1	<1	19	<100
IDVMW-2-153'	09:55	09:55	4.4	50	1/100	10	<100	<100	<1	<1	18	<100
IDVMW-2-213'	10:16	10:17	6.2	50	1/100	4.6	<100	<100	<1	<1	13	<100
IDVMW-2-265'	10:33	10:34	7.6	50	1/100	3.3	<100	<100	<1	<1	12	<100
IDVMW-2-310'	10:51	10:51	9	50	1/100	2.7	<100	<100	<1	<1	16	<100
SVMW-6-5'	12:05	12:05	0.15	50	-	NA	<1	<1	^0.043	0.54	0.31	<1
SVMW-6-5'	12:05	12:16	-	10	-	0.73	NA	NA	NA	NA	NA	NA
SVMW-6-20'	12:23	12:24	0.6	10	-	1.1	<10	<10	<0.1	0.82	0.43	<10
SVMW-6-34'	12:35	12:36	1	10	-	1.4	<10	<10	<0.1	1.1	0.52	<10
IDVMW-1-93'	12:50	12:51	2.7	100	1/100	3.6	<100	<100	<1	1.2	1.3	<100
IDVMW-1-163'	13:06	13:07	4.7	100	1/100	9.6	<100	<100	<1	1.9	3.8	<100
IDVMW-1-202'	13:22	13:22	5.8	200	1/100	NA	<100	<100	<1	2.6	8	<100
IDVMW-1-202'	13:22	13:33	-	30	1/100	28	NA	NA	NA	NA	NA	NA
IDVMW-1-256'	13:41	13:41	7.4	100	1/100	5.8	<100	<100	<1	1.8	2.9	<100
IDVMW-1-306'	13:55	13:56	8.8	100	1/100	15	<100	<100	<1	<1	16	<100
Ambient Air #2	14:11	14:11	-	500	-	0.003	<1	<1	<0.01	0.014	<0.001	<1
System/Syringe Blank #2	14:21	14:21	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

11558 SORRENTO VALLEY ROAD
SAN DIEGO • CA 92121
619•481•2200 FAX 619•481•1855

TABLE 7. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-28-94
Total number of analyses: 20

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	0.004	500	<1	<1	<1	<1	<1	<1	<1
SVMW-2-5'	NA	NA	NA	500	<1	<1	<1	<1	<1	<1	<1
SVMW-2-5'	61	<1	0.76	-	NA	NA	NA	NA	NA	NA	NA
SVMW-2-5'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-2-20'	56	<10	0.6	500	<1	<1	<1	<1	<1	<1	<1
SVMW-2-39'	75	<10	^0.83	500	<1	<1	<1	<1	<1	<1	<1
IDVMW-2-110'	140	<10	^0.76	500	<1	3.5	<1	<1	<1	<1	<1
IDVMW-2-153'	130	<10	^0.94	500	<1	3.9	<1	^1.4	<1	<1	<1
IDVMW-2-213'	200	<10	^0.99	500	<1	3.5	<1	^1.1	<1	<1	<1
IDVMW-2-265'	270	<10	<0.1	500	<1	4.5	<1	^1.3	<1	<1	<1
IDVMW-2-310'	270	<10	2.8	500	<1	5	<1	<1	<1	<1	<1
SVMW-6-5'	NA	<0.1	NA	500	<1	<1	<1	<1	<1	<1	<1
SVMW-6-5'	22	NA	4.6	-	NA	NA	NA	NA	NA	NA	NA
SVMW-6-20'	30	<1	3.9	500	<1	<1	<1	<1	<1	<1	<1
SVMW-6-34'	43	<1	5.6	500	<1	<1	<1	<1	<1	<1	<1
IDVMW-1-93'	57	<10	7.1	500	<1	3	<1	<1	<1	<1	<1
IDVMW-1-163'	24	<10	<0.1	500	<1	5.1	<1	<1	<1	<1	<1
IDVMW-1-202'	41	<10	^0.28	500	<1	6.7	<1	<1	<1	<1	<1
IDVMW-1-202'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
IDVMW-1-256'	17	<10	^0.32	500	<1	3.3	<1	<1	<1	<1	<1
IDVMW-1-306'	230	<10	50	500	<1	3.6	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	0.002	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

TABLE 7. Continued ...

ANALYZED BY: John Tangeman
DATE: 6-28-94
Total number of analyses: 20

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Acetone (µg/L)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.5	78.5
SVMW-2-5'	<1	<1	10	-	6.6	1000	<1	<1	100	1.2	20	78.8
SVMW-2-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-2-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-2-20'	<1	<1	10	-	9.4	1000	<1	<1	100	1.2	17.9	80.8
SVMW-2-39'	<1	<1	10	-	14	1000	<1	<1	100	1.1	17.5	81.4
IDVMW-2-110'	<1	<1	20	-	16	1000	<1	<1	100	1.3	17.7	81
IDVMW-2-153'	<1	<1	10	-	10	1000	<1	<1	100	1.2	17.9	80.8
IDVMW-2-213'	<1	<1	10	-	3.2	1000	<1	<1	100	0.5	20.3	79.2
IDVMW-2-265'	<1	<1	10	-	3	1000	<1	<1	100	0.5	20.3	79.1
IDVMW-2-310'	<1	<1	10	-	2.2	1000	<1	<1	100	0.4	20	79.5
SVMW-6-5'	<1	<1	20	-	5.4	1000	<1	<1	100	1.2	19.5	79.3
SVMW-6-5'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
SVMW-6-20'	<1	<1	10	-	7.7	1000	<1	<1	100	1.3	19.3	79.4
SVMW-6-34'	<1	<1	10	-	7.7	1000	<1	<1	100	1.1	19.4	79.5
IDVMW-1-93'	<1	<1	10	-	9.9	1000	<1	<1	100	1.5	18.3	80.2
IDVMW-1-163'	<1	<1	200	1/100	28	1000	<1	<1	100	1.7	17.3	81.1
IDVMW-1-202'	<1	<1	200	1/100	42	1000	<1	<1	100	1.2	17.6	81.2
IDVMW-1-202'	NA	NA	-	-	NA	-	NA	NA	-	NA	NA	NA
IDVMW-1-256'	<1	<1	100	1/100	13	1000	<1	<1	100	0.6	19.1	80.3
IDVMW-1-306'	<1	<1	200	1/100	95	1000	<1	<1	100	0.7	17.3	82
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	<1	100	<0.1	21.1	78.9
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	<1	-	NA	NA	NA

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
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MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
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TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 9406265

Work Order Summary

CLIENT: Ms. Louise Adams
Interphase
11558 Sorrento Valley Road, Suite 3
San Diego, CA 92121

BILL TO: Same

PHONE: 619-481-2200
FAX: 619-481-1855
DATE RECEIVED: 6/30/94
DATE COMPLETED: 7/13/94

INVOICE # 4043
P.O. #
PROJECT # 9340
AMOUNT$: $1,170.65

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	PRICE
01A	MW-3-193'	TO-14	2.0 "Hg	$270.00
02A	SVMW-2-39'	TO-14	2.0 "Hg	$270.00
03A	IDVMW-2-110'	TO-14	1.5 "Hg	$270.00
04A	SVMW-33-20'	TO-14	3.0 "Hg	$270.00
05A	Lab Blank	TO-14	NA	NC
05B	Lab Blank	TO-14	NA	NC

Misc. Charges	1 Liter SUMMA Canister Preparation (4) @ $10.00 each.	$40.00
	Shipping (5/17/94 @ $24.36 and 5/19/94 @ $26.29)	$50.65

CERTIFIED BY: Linda L. Freeman
Laboratory Director

DATE: 7/19/94

180 BLUE RAVINE ROAD, SUITE B • FOLSOM, CA 95630
(916) 985-1000 • FAX (916) 985-1020

AIR TOXICS LTD.

SAMPLE NAME: MW-3-193'
ID#: 9406265-01A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	5070911	**Date of Collection:**	6/28/94
Dil. Factor:	540	**Date of Analysis:**	7/8/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	270	Not Detected
Freon 114	270	Not Detected
Chloromethane	270	Not Detected
Vinyl Chloride	270	Not Detected
Bromomethane	270	Not Detected
Chloroethane	270	Not Detected
Freon 11	270	1700
1,1-Dichloroethene	270	2500
Freon 113	270	31000
Methylene Chloride	270	Not Detected
1,1-Dichloroethane	270	Not Detected
cis-1,2-Dichloroethene	270	2200
Chloroform	270	Not Detected
1,1,1-Trichloroethane	270	Not Detected
Carbon Tetrachloride	270	6900
Benzene	270	Not Detected
1,2-Dichloroethane	270	Not Detected
Trichloroethene	270	32000
1,2-Dichloropropane	270	Not Detected
cis-1,3-Dichloropropene	270	Not Detected
Toluene	270	Not Detected
trans-1,3-Dichloropropene	270	Not Detected
1,1,2-Trichloroethane	270	Not Detected
Tetrachloroethene	270	58000
Ethylene Dibromide	270	Not Detected
Chlorobenzene	270	Not Detected
Ethyl Benzene	270	Not Detected
m,p-Xylene	270	Not Detected
o-Xylene	270	Not Detected
Styrene	270	Not Detected
1,1,2,2-Tetrachloroethane	270	Not Detected
1,3,5-Trimethylbenzene	270	Not Detected
1,2,4-Trimethylbenzene	270	Not Detected
1,3-Dichlorobenzene	270	Not Detected
1,4-Dichlorobenzene	270	Not Detected
Chlorotoluene	270	Not Detected
1,2-Dichlorobenzene	270	Not Detected
1,2,4-Trichlorobenzene	270	Not Detected
Hexachlorobutadiene	270	Not Detected

Container Type: 1 Liter SUMMA Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	92	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

AIR TOXICS LTD.

SAMPLE NAME: SVMW-2-39'
ID#: 9406265-02A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	5071106	**Date of Collection:**	6/28/94
Dil. Factor:	220	**Date of Analysis:**	7/11/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	110	Not Detected
Freon 114	110	Not Detected
Chloromethane	110	Not Detected
Vinyl Chloride	110	Not Detected
Bromomethane	110	Not Detected
Chloroethane	110	Not Detected
Freon 11	110	540
1,1-Dichloroethene	110	290
Freon 113	110	1000
Methylene Chloride	110	Not Detected
1,1-Dichloroethane	110	Not Detected
cis-1,2-Dichloroethene	110	Not Detected
Chloroform	110	Not Detected
1,1,1-Trichloroethane	110	Not Detected
Carbon Tetrachloride	110	1600
Benzene	110	Not Detected
1,2-Dichloroethane	110	Not Detected
Trichloroethene	110	28000
1,2-Dichloropropane	110	Not Detected
cis-1,3-Dichloropropene	110	Not Detected
Toluene	110	Not Detected
trans-1,3-Dichloropropene	110	Not Detected
1,1,2-Trichloroethane	110	Not Detected
Tetrachloroethene	110	180
Ethylene Dibromide	110	Not Detected
Chlorobenzene	110	Not Detected
Ethyl Benzene	110	Not Detected
m,p-Xylene	110	Not Detected
o-Xylene	110	Not Detected
Styrene	110	Not Detected
1,1,2,2-Tetrachloroethane	110	Not Detected
1,3,5-Trimethylbenzene	110	Not Detected
1,2,4-Trimethylbenzene	110	Not Detected
1,3-Dichlorobenzene	110	Not Detected
1,4-Dichlorobenzene	110	Not Detected
Chlorotoluene	110	Not Detected
1,2-Dichlorobenzene	110	Not Detected
1,2,4-Trichlorobenzene	110	Not Detected
Hexachlorobutadiene	110	Not Detected

Container Type: 1 Liter SUMMA Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	98	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

AIR TOXICS LTD.

SAMPLE NAME: IDVMW-2-110'
ID#: 9406265-03A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	5070913	**Date of Collection:**	6/28/94
Dil. Factor:	610	**Date of Analysis:**	7/9/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	310	Not Detected
Freon 114	310	Not Detected
Chloromethane	310	Not Detected
Vinyl Chloride	310	Not Detected
Bromomethane	310	Not Detected
Chloroethane	310	Not Detected
Freon 11	310	1400
1,1-Dichloroethene	310	760
Freon 113	310	1400
Methylene Chloride	310	Not Detected
1,1-Dichloroethane	310	Not Detected
cis-1,2-Dichloroethene	310	Not Detected
Chloroform	310	Not Detected
1,1,1-Trichloroethane	310	Not Detected
Carbon Tetrachloride	310	5900
Benzene	310	Not Detected
1,2-Dichloroethane	310	Not Detected
Trichloroethene	310	82000
1,2-Dichloropropane	310	Not Detected
cis-1,3-Dichloropropene	310	Not Detected
Toluene	310	Not Detected
trans-1,3-Dichloropropene	310	Not Detected
1,1,2-Trichloroethane	310	Not Detected
Tetrachloroethene	310	660
Ethylene Dibromide	310	Not Detected
Chlorobenzene	310	Not Detected
Ethyl Benzene	310	Not Detected
m,p-Xylene	310	Not Detected
o-Xylene	310	Not Detected
Styrene	310	Not Detected
1,1,2,2-Tetrachloroethane	310	Not Detected
1,3,5-Trimethylbenzene	310	Not Detected
1,2,4-Trimethylbenzene	310	Not Detected
1,3-Dichlorobenzene	310	Not Detected
1,4-Dichlorobenzene	310	Not Detected
Chlorotoluene	310	Not Detected
1,2-Dichlorobenzene	310	Not Detected
1,2,4-Trichlorobenzene	310	Not Detected
Hexachlorobutadiene	310	Not Detected

Container Type: 1 Liter SUMMA Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	90	70-130

AIR TOXICS LTD.

SAMPLE NAME: SVMW-33-20'
ID#: 9406265-04A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	5070914	**Date of Collection:**	6/28/94
Dil. Factor:	900	**Date of Analysis:**	7/9/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	450	Not Detected
Freon 114	450	Not Detected
Chloromethane	450	Not Detected
Vinyl Chloride	450	Not Detected
Bromomethane	450	Not Detected
Chloroethane	450	Not Detected
Freon 11	450	Not Detected
1,1-Dichloroethene	450	9800
Freon 113	450	140000
Methylene Chloride	450	Not Detected
1,1-Dichloroethane	450	Not Detected
cis-1,2-Dichloroethene	450	Not Detected
Chloroform	450	Not Detected
1,1,1-Trichloroethane	450	20000
Carbon Tetrachloride	450	1500
Benzene	450	Not Detected
1,2-Dichloroethane	450	Not Detected
Trichloroethene	450	11000
1,2-Dichloropropane	450	Not Detected
cis-1,3-Dichloropropene	450	Not Detected
Toluene	450	Not Detected
trans-1,3-Dichloropropene	450	Not Detected
1,1,2-Trichloroethane	450	Not Detected
Tetrachloroethene	450	1200
Ethylene Dibromide	450	Not Detected
Chlorobenzene	450	Not Detected
Ethyl Benzene	450	Not Detected
m,p-Xylene	450	Not Detected
o-Xylene	450	Not Detected
Styrene	450	Not Detected
1,1,2,2-Tetrachloroethane	450	Not Detected
1,3,5-Trimethylbenzene	450	Not Detected
1,2,4-Trimethylbenzene	450	Not Detected
1,3-Dichlorobenzene	450	Not Detected
1,4-Dichlorobenzene	450	Not Detected
Chlorotoluene	450	Not Detected
1,2-Dichlorobenzene	450	Not Detected
1,2,4-Trichlorobenzene	450	Not Detected
Hexachlorobutadiene	450	Not Detected

Container Type: 1 Liter SUMMA Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	101	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	106	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank
ID#: 9406265-05A
EPA METHOD TO-14 GC/MS Full Scan

File Name:	5070907	**Date of Collection:**	NA
Dil. Factor:	1.0	**Date of Analysis:**	7/9/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	0.50	Not Detected
Freon 114	0.50	Not Detected
Chloromethane	0.50	Not Detected
Vinyl Chloride	0.50	Not Detected
Bromomethane	0.50	Not Detected
Chloroethane	0.50	Not Detected
Freon 11	0.50	Not Detected
1,1-Dichloroethene	0.50	Not Detected
Freon 113	0.50	Not Detected
Methylene Chloride	0.50	Not Detected
1,1-Dichloroethane	0.50	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected
Chloroform	0.50	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected
Carbon Tetrachloride	0.50	Not Detected
Benzene	0.50	Not Detected
1,2-Dichloroethane	0.50	Not Detected
Trichloroethene	0.50	Not Detected
1,2-Dichloropropane	0.50	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected
Toluene	0.50	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected
Tetrachloroethene	0.50	Not Detected
Ethylene Dibromide	0.50	Not Detected
Chlorobenzene	0.50	Not Detected
Ethyl Benzene	0.50	Not Detected
m,p-Xylene	0.50	Not Detected
o-Xylene	0.50	Not Detected
Styrene	0.50	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected
Chlorotoluene	0.50	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected
Hexachlorobutadiene	0.50	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
Octafluorotoluene	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	100	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank
ID#: 9406265-05B
EPA METHOD TO-14 GC/MS Full Scan

File Name:	5071104	**Date of Collection:**	NA
Dil. Factor:	1.0	**Date of Analysis:**	7/11/94

Compound	Det. Limit (ppbv)	Amount (ppbv)
Freon 12	0.50	Not Detected
Freon 114	0.50	Not Detected
Chloromethane	0.50	Not Detected
Vinyl Chloride	0.50	Not Detected
Bromomethane	0.50	Not Detected
Chloroethane	0.50	Not Detected
Freon 11	0.50	Not Detected
1,1-Dichloroethene	0.50	Not Detected
Freon 113	0.50	Not Detected
Methylene Chloride	0.50	Not Detected
1,1-Dichloroethane	0.50	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected
Chloroform	0.50	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected
Carbon Tetrachloride	0.50	Not Detected
Benzene	0.50	Not Detected
1,2-Dichloroethane	0.50	Not Detected
Trichloroethene	0.50	Not Detected
1,2-Dichloropropane	0.50	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected
Toluene	0.50	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected
Tetrachloroethene	0.50	Not Detected
Ethylene Dibromide	0.50	Not Detected
Chlorobenzene	0.50	Not Detected
Ethyl Benzene	0.50	Not Detected
m,p-Xylene	0.50	Not Detected
o-Xylene	0.50	Not Detected
Styrene	0.50	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected
Chlorotoluene	0.50	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected
Hexachlorobutadiene	0.50	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
Octafluorotoluene	96	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

9406265

AIR TOXICS LTD.
ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 • FAX (916) 985-1020

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT # 9340 PO # COLLECTED BY (Signature) John Tangeman

REMARKS

	FIELD SAMPLE I.D.#	SAMPLING MEDIA (Tenax, Canister etc.)	DATE/TIME	ANALYSIS	VAC./PRESSURE	LAB I.D. #
01A	MW-3-193'	CANISTER	6-28-94/1425	TO-14	2.0" Hg	
02A	SVMW-2-36'	CANISTER	6-28-94/1450	TO-14	2.0" Hg	
03A	IDVMW-2-110'	CANISTER	6-28-94/1500	TO-14	1.5" Hg	
04A	SVMW-33-20'	CANISTER	6-28-94/1530	TO-14	3.0" Hg	

15 cm

RELINQUISHED BY: DATE/TIME	RECEIVED BY: DATE/TIME	RELINQUISHED BY: DATE/TIME	RECEIVED BY: DATE/TIME
John Tangeman 6-29-94 1200	Melissa Allen 6/30/94 925		

LAB USE ONLY

SHIPPER NAME	AIR BILL #	OPENED BY: DATE/TIME	TEMP(°C)	CONDITION
Fed-X	1613351286	TS 6/30/94 925	room	Good

REMARKS Custody Seal not present - JT

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

August 11, 1994

HARDING LAWSON ASSOCIATES
351 Rolling Oaks Drive, Suite 100
Thousand Oaks, California 91361
Attention: Mr. Tom Lindros

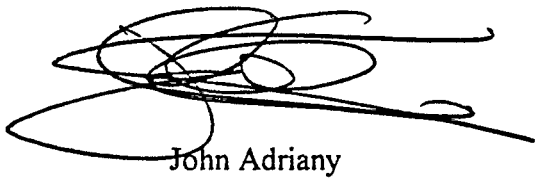
VAPOR WELL ANALYSIS RESULTS
AZUSA/IRWINDALE STUDY AREA (AISA) SITE
AZUSA, CALIFORNIA
PROJECT #: 9340

Mr. Lindros:

InterPhase is pleased to submit these tables presenting concentrations of selected aromatic hydrocarbons, selected halogenated hydrocarbons and selected biogenic gases analyzed in vapor samples collected from the AISA project site in Azusa, California. Our services were performed on Thursday, July 28, 1994.

If you have any questions regarding the results, we would be pleased to discuss them with you. We appreciate the opportunity to have worked with you on this project and look forward to working with you in the future.

Sincerely,
InterPhase



John Adriany
Senior Chemist

attachment

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SAN DIEGO • CA 92121
619•481•2200 FAX 619•481•1855

INTERPHASE
ENVIRONMENTAL CHEMISTRY SPECIALISTS

Concentration of analytes from vapor well samples collected and analyzed at the AISA project site, Azusa, California; (Project 9340)

ANALYZED BY: John Tangeman
DATE: 7-28-94
Total number of analyses: 22

Sample (# - ft)	Time Collected	Time Analyzed	Evacuation Volume (L)	InjVol (uL)	Dilution	CFC-11 (µg/L)	CH2Cl2 (µg/L)	1,1-DCA (µg/L)	CHCl3 (µg/L)	1,1,1-TCA (µg/L)	CCl4 (µg/L)	1,2-DCA (µg/L)
System/Syringe Blank #1	06:54	06:54	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1
Ambient Air #1	08:37	08:37	-	500	-	0.003	<1	<1	<0.01	0.009	<0.001	<1
MW-5-45'	08:51	08:51	1.3	100	-	^0.004	<1	<1	<0.01	<0.001	<0.001	<1
MW-5-117'	09:05	09:05	3.4	100	-	0.005	<1	<1	<0.01	0.009	0.002	<1
MW-5-189'	09:18	09:18	5.4	100	-	^0.003	<1	<1	<0.01	<0.001	0.003	<1
MW-5-250'	09:35	09:35	7.2	100	-	^0.003	<1	<1	<0.01	<0.001	0.029	<1
IDVMW-2-110'	10:12	10:12	3.2	100	1/100	16	<100	<100	<1	<1	NA	<100
IDVMW-2-110'	10:12	10:23	-	30	1/100	NA	NA	NA	NA	NA	32	NA
IDVMW-2-153'	10:33	10:33	4.4	50	1/100	14	<100	<100	<1	<1	30	<100
IDVMW-2-213'	10:47	10:47	6.2	50	1/100	7.6	<100	<100	<1	<1	25	<100
IDVMW-2-265'	11:03	11:04	7.6	50	1/100	3.6	<100	<100	<1	<1	16	<100
IDVMW-2-310'	11:16	11:17	9	50	1/100	3.8	<100	<100	<1	<1	24	<100
IDVMW-1-93'	12:56	12:56	2.7	100	1/100	7.1	<100	<100	<1	2.9	2.8	<100
IDVMW-1-93', duplicate	12:56	13:09	-	100	1/100	7.7	<100	<100	<1	3	3.1	<100
IDVMW-1-163'	13:21	13:22	4.7	100	1/100	18	<100	<100	<1	4	10	<100
IDVMW-1-202'	13:40	13:40	5.8	100	1/100	26	<100	<100	<1	4.8	19	<100
IDVMW-1-256'	13:55	13:55	7.4	100	1/100	14	<100	<100	<1	2.5	14	<100
IDVMW-1-306'	14:10	14:10	8.8	100	1/100	23	<100	<100	<1	2.1	NA	<100
IDVMW-1-306'	14:10	14:21	-	30	1/100	NA	NA	NA	NA	NA	29	NA
SVMW-6-34'	14:34	14:34	1	100	1/100	2.3	<100	<100	<1	3.1	0.7	<100
SVMW-8-20'	14:58	14:58	0.6	20	1/100	7.7	<1000	<1000	<10	660	6.2	<1000
MW-3-307-WC	15:15	15:15	4.6	10	-	0.72	<10	<10	<0.1	1.5	NA	<10
MW-3-307-WC	15:15	15:27	-	100	1/100	NA	NA	NA	NA	NA	1.9	NA
MW-3-307-ST	15:44	15:44	4.5	100	1/100	1	<100	<100	<1	2.5	1.7	<100
SVMW-2-39'	16:05	16:05	1.1	100	1/100	8.9	<100	<100	<1	<1	15	<100
Ambient Air #2	16:18	16:18	-	500	-	0.003	<1	<1	<0.01	0.016	<0.001	<1
System/Syringe Blank #2	16:27	16:27	-	500	-	<0.001	<1	<1	<0.01	<0.001	<0.001	<1

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

11558 SORRENTO VALLEY ROAD
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Concentration of analytes continued....

ANALYZED BY: John Tangeman
DATE: 7-28-94
Total number of analyses: 22

Sample (# - ft)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	Injection Volume (µL)	Vinyl Chloride (µg/L)	1,1-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	*cis*-1,2-DCE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)
System/Syringe Blank #1	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
Ambient Air #1	<0.01	<0.1	0.005	500	<1	<1	<1	<1	<1	<1	<1
MW-5-45'	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
MW-5-117'	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
MW-5-189'	<0.01	<0.1	<0.001	500	<1	2.3	<1	<1	<1	<1	<1
MW-5-250'	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1
IDVMW-2-110'	·440	<10	3.3	500	<1	4.9	<1	1.2	<1	<1	<1
IDVMW-2-110'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
IDVMW-2-153'	480	<10	4	500	<1	6.2	<1	1.9	<1	<1	<1
IDVMW-2-213'	640	<10	2.6	500	<1	5.3	<1	1.4	<1	<1	<1
IDVMW-2-265'	620	<10	2.4	500	<1	12	<1	2.2	<1	<1	<1
IDVMW-2-310'	730	<10	5.1	500	<1	5.4	<1	<1	<1	<1	<1
IDVMW-1-93'	220	<10	18	500	<1	4.4	<1	<1	<1	<1	<1
IDVMW-1-93', duplicate	230	<10	20	500	<1	3.9	<1	<1	<1	<1	<1
IDVMW-1-163'	250	<10	4	500	<1	8	<1	<1	<1	<1	<1
IDVMW-1-202'	390	<10	10	500	<1	11	<1	<1	<1	<1	<1
IDVMW-1-256'	310	<10	6	500	<1	7.8	<1	<1	<1	<1	<1
IDVMW-1-306'	640	<10	260	500	<1	5.2	<1	<1	<1	<1	<1
IDVMW-1-306'	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	NA
SVMW-6-34'	100	<10	9	500	<1	4.8	<1	<1	<1	<1	<1
SVMW-8-20'	84	<100	54	500	<1	30	<1	1.7	<1	<1	<1
MW-3-307-WC	NA	<1	NA	500	<1	5.3	<1	45	<1	<1	<1
MW-3-307-WC	150	NA	130	-	NA	NA	NA	NA	NA	NA	NA
MW-3-307-ST	140	<10	99	500	<1	5.1	<1	48	<1	<1	<1
SVMW-2-39'	340	<10	3.2	500	<1	2.7	<1	<1	<1	<1	<1
Ambient Air #2	<0.01	<0.1	0.005	500	<1	<1	<1	<1	<1	<1	<1
System/Syringe Blank #2	<0.01	<0.1	<0.001	500	<1	<1	<1	<1	<1	<1	<1

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

Concentration of analytes continued....

ANALYZED BY: John Tangeman
DATE: 7-28-94
Total number of analyses: 22

Sample (# - ft)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Injection Volume (µL)	Dilution	CFC-113 (µg/L)	Injection Volume (µL)	Chleth (µg/L)	Injection Volume (µL)	CO2 (%)	'O2 (%)	N2 (%)
System/Syringe Blank #1	<1	<1	500	-	<0.1	1000	<1	-	NA	NA	NA
Ambient Air #1	<1	<1	500	-	<0.1	1000	<1	100	<0.1	21.1	78.9
MW-5-45'	<1	<1	50	-	<0.1	1000	<1	100	0.3	18.3	81.4
MW-5-117'	<1	<1	50	-	<0.1	1000	<1	100	0.3	13.9	85.8
MW-5-189'	<1	<1	50	-	<0.1	1000	<1	100	0.3	16.2	83.6
MW-5-250'	<1	<1	50	-	<0.1	1000	<1	100	1.0	12.7	86.2
IDVMW-2-110'	<1	<1	10	-	18	1000	<1	100	1.3	16.7	82.0
IDVMW-2-110'	NA	NA	-	-	NA	-	NA	-	NA	NA	NA
IDVMW-2-153'	<1	<1	10	-	11	1000	<1	100	1.0	17.6	81.4
IDVMW-2-213'	<1	<1	20	-	5	1000	<1	100	0.8	18.4	80.8
IDVMW-2-265'	<1	<1	20	-	3.5	1000	<1	100	0.8	19.5	79.7
IDVMW-2-310'	<1	<1	20	-	2.1	1000	<1	100	0.5	19.6	79.8
IDVMW-1-93'	<1	<1	200	1/100	24	1000	<1	100	2.4	18.5	79.1
IDVMW-1-93', duplicate	<1	<1	200	1/100	27	1000	<1	100	2.1	17.8	80.1
IDVMW-1-163'	<1	<1	200	1/100	47	1000	<1	100	1.8	17.5	80.7
IDVMW-1-202'	<1	<1	200	1/100	72	1000	<1	100	1.4	17.3	81.2
IDVMW-1-256'	<1	<1	200	1/100	33	1000	<1	100	1.0	17.8	81.2
IDVMW-1-306'	<1	<1	200	1/100	130	1000	<1	100	0.7	17.1	82.2
IDVMW-1-306'	NA	NA	-	-	NA	-	NA	-	NA	NA	NA
SVMW-6-34'	<1	<1	10	-	12	1000	<1	100	1.4	18.8	79.8
SVMW-8-20'	<1	<1	30	1/100	1000	1000	<1	100	0.9	18.5	80.6
MW-3-307-WC	<1	<1	10	-	24	1000	<1	100	0.6	18.4	81.0
MW-3-307-WC	NA	NA	-	1/100	NA	-	NA	-	NA	NA	NA
MW-3-307-ST	<1	<1	10	-	21	1000	<1	100	0.6	18.7	80.7
SVMW-2-39'	<1	<1	10	-	21	1000	<1	100	1.9	16.6	81.5
Ambient Air #2	<1	<1	500	-	<0.1	1000	<1	100	<0.1	21.0	79.0
System/Syringe Blank #2	<1	<1	500	-	<0.1	1000	<1	-	NA	NA	NA

µg/L: micrograms per liter
<: less than
L: liters
uL: microliters
NA: not analyzed
^: below reporting limits
*: exceeds reporting limits
MI: matrix interference

CFC-11: trichlorofluoromethane
CFC-113: trichlorotrifluoroethane
CH2Cl2: methylene chloride
DCE: dichloroethene
DCA: dichloroethane
CHCl3: chloroform
TCA: trichloroethane
CCl4: carbon tetrachloride

TCE: trichloroethene
PCE: tetrachloroethene
ClEth: chloroethane
CO2: carbon dioxide
O2: oxygen
N2: nitrogen

APPENDIX F

SAMPLING INFORMATION DATA SHEETS

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 2/14/94

SAMPLE ID	Sampled TIME Inserted	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
VMW-34-5	0918 ~~0857~~ 0920	5'	NA	→	→	→	GLASS SYRINGE NA	0.14	NA	NA	SUNNY 70°F	AMB. AIR 3 VOL/YES
VMW-34-20	0923 0927	20'	NA	→	→	→	18 ~~0.5~~	0.6	2SEC.	NA	"	3 VOL/YES
VMW-37 5'	0950 0957	5'	NA	→	→	→	GLASS SYRINGE NA	0.14	NA	NA	72°F	3 VOL/YES
VMW-37-20	1000 1007	20'	NA	→	→	→	18	0.6	2SEC.	NA	72°F	3/VOL/YES
VMW-37 32.5	1050 1052	32.5	NA	→	→	→	20	1.0	3SEC.	NA	75°F	3/VOL/YES
VMW-33 5	1116 1119	ACTUAL 4.5 5	NA	→	→	→	GLASS SYRINGE NA	0.13	NA	NA	75°F	3 VOL/ YES
VMW-33 20	1158 1200	20	NA	→	→	→	18	0.6	2sec	NA	75°F	3VOL/ YES AMB. AIR
VMW-36 5	1250 1253	5	NA	→	→	→	GLASS SYRINGE NA	0.14	NA	NA	78°F	3VOL/ YES
VMW-36 20	1306 1316	20	NA	→	→	→	18	0.6	2sec	NA	78°F	3VOL/ YES

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

1.12

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 2/14/94 2 01

SAMPLE ID	Sampled TIME Inserted	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
VMW-39 5	1350 ~~1356~~ / 1356 ~~1256~~	5	NA	→	→	→	NA GLASS SYRINGE	.15	NA	NA	78°F	3 VOL/ VES AMBIENT SAMPLE
VMW-39 20	1422 / 1423	20	NA	→	→	→	18	0.6	2 sec	NA	78°F	3 VOL/ VES AMBIENT AIR
VMW-39 40	1437 / 1438	39.5	NA	→	→	→	22	1.1	3 sec	NA	78°F	3 VOL/ VES
VMW-38 5	1455 / 1456	5	NA	→	→	→	NA GLASS SYRINGE	~~0.9~~	~~3 sec~~	NA	78°F	3 VOL/ VES
VMW-38 30.5	1505 / 1507	30.5	NA	→	→	→	27	0.9	2 sec	NA	78°F	3 VOL/ VES
VMW-38 20	1530 / 1532	20	NA	→	→	→	18 ~~27~~	0.6	2 sec	NA	78°F	3 VOL/ VES
MW-2-82	~~1558~~ 1605 / 1608	82	NA	→	→	→	23	2.3	6 sec	NA	75 F	3 vol/ DUP/ VES BAROMETRIC PRESSURE 29..
MW-2 167	1627 / 1633	167	NA	→	→	→	24	4.8	12 sec	NA	72°F	3 VOL/ VES
MW-2 234	1644 / 1645	234	NA	→	→	→	22	6.7	18 sec	NA	69°F	3 vol/ VES

FAST[illegible]SH ONLY; M FAST-SLIGHT HAMMERING; M SLOW[illegible]UCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-lit[illegible]s; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

3 OF

DATE 2/14/94

SAMPLE ID	Sampled TIME Inserted	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
MW-2 HS-01	1707 / 1708	HEAD SPACE 283.5 bgs	NA	→	→	→		4.3	32 sec	NA	69°F	3 VOL/YES 5.2 ABOVE HIDSOM
VMW-30 3930 24	1725 / 1727	29	NA	→	→	→	24	1.2	3 sec	NA	67°F	3 VOL/YES
VMW-30 20	1750	20	NA	SUMA CANISTER TAREN →	→	→	18	.6	2 sec	NA	67°F	3 VOL/YES SUMA

FAST - USH ONLY; M FAST-SLIGHT HAMMERING; M SLO MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-li rs; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 5/17/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SG 1101	11:43	5	Asphalt	native sand gravel	0-2 mod fast 2-5 m-slow	Dry	glass syringe	.06	NA	① 0.5' ② 5.0'	sprinkles 60-66 °F	
SG 1103	12:17	5	Asphalt	fill / sand/gravel / gravel	0-2 fast / 2-3 m fast / 3-4 m slow / 4-5 slow	Dry	glass syringe	.06	NA	NA	No sprinkles cloudy 60-65°F	
SVMW 10-5	9:22	5	→	→	→	→	glass syringe	.140	NA	NA	cloudy 60-65 °F	QC sample DCA 1 ug/l
SVMW 8-34 5	9:50	5	→	→	→	→	glass syringe	.140	NA	NA	very light sprinkle Baram. 29.35 @ 9:45	well box full of H2O.
SVMW 8-34	10:22	34	→	→	→	→	glass syringe	1	NA	NA	more sprinkle	nozle is clogged
SVMW 8-20	10:24	20	→	→	→	→	glass syringe 15	½ L	NA 2 sec	NA		
SG 1102	13:36	5	Asphalt	sand/gravel / gravel	0-3 m slow / 3-5 V-slow V	Dry	glass syringe	.06	NA	NA	Sprinkle cloudy 60°F	
SG 1104	14:05	5	Asphalt	gravel	0-3 V hard V slow / 3-5 V slow	Dry	glass syringe	.06	NA	NA	Raining very hard	
SG 1105	→	→	Asphalt	→	→	RAINED	→	OUT	→	→	→	→

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 5/24/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
	7:29										cloudy; fog T≈60°F	
SG 1111	9:03	5	Asphalt	sand sand & gravel	0-2 m fast 2-3 m slow 3-5 slow	Dry	glass syringe	0.06	NA	NA		Barometric= 29.34
SG 1110	9:38	4	Asphalt	sand gravel ~~& cobbles~~	0-2 m fast 2-3 slow 3-4 slow	Dry	glass syringe	0.06	NA	① 3' ~~4'~~ ② ~~3.5'~~ 4' ③ 3.0'	overcast T≈65°F	B= 29.34
SG 1109	10:17	2.5	Asphalt	sand gravel ~~& cobbles~~	0-2 m fast 2-3 slow	Dry	glass syringe	~~0.06~~ 0.03	NA	① 2.5' ② 2.5' ③ 2.5		B= 29.35
SG 1108	10:51	5	Asphalt	gravel ~~& cobbles~~	0-2 m slow 2-3 slow 3-5 slow	Dry	glass syringe	0.06	NA	① 1.0' ② 1.0' ③ 5.0'		B= 29.35
SG 1106	11:25	5	Asphalt	sand & gravel	0-3 m slow 3-5 V slow	Dry	glass syringe	0.06	NA	NA	overcast T≈70°F	B= 29.36
SG 1105	12:51	5	Asphalt	sand and gravel	0-3 m fast 3-5 slow	Dry	glass syringe	0.06	NA	NA (Barometric 29.35)	overcast T≈72°F	B= 29.34
SG 1112	13:35	5	Asphalt	sand & gravel	0-3 slow 0-5 slow	Dry	glass syringe	0.06	NA	NA		B= 29.35
SG 1113	13:58	5	Asphalt	sand & gravel	slow - V. slow	Dry	glass syringe	0.06	NA	NA		B= 29.35

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 5/24-6/14

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SG 1117	14:24	3	Asphalt	gravel	slow	Dry	glass syringe	0.03	N/A	① 3' ② 2.5' ③ 1'		B= 29.33
SG 1116	14:50	2.5	Asphalt	gravel	V. slow	Dry	glass syringe	0.03	NA	① 2' ② 2.5' ③ 1'		B= 29.33
SG 1115	15:20	2.5	Asphalt	sand gravel	V. slow	Dry	glass syringe	0.03	NA	① 2.5 ② 6" ③ 2"		B= 29.32
SG 1114	15:51	3	Asphalt	sand gravel	slow	Dry	glass syringe	0.03	NA	① 1' ② 2.5' ③ 3'		B= 29.31

FAST-P[redacted] ONLY; M FAST-SLIGHT HAMMERING; M SLOW-M[redacted]H HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

CA : ICTV448

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 5/25/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW 35	~~8:55~~	5.5	→	→	→	→	glass syringe	.16	NA	NA	light rain T≈65°F	Barometric Pressure (BP) = 29.35
SVMW 35	09:20	20.5	→	→	→	→	1.9 [redacted]	.60	19 sec	NA		BP = 29.35
SVMW 35	09:33	~~40~~ 41	→	→	→	→	18	1.2	4 sec	NA		BP = 29.34
SVMW 11	10:27	~~6~~ 5.5	→	→	→	→	glass syringe	0.16	NA	NA	very light rain	BP = 29.34
SVMW 11	10:49	20.5	→	→	→	→	18	.60	2 sec	NA		BP = 29.35
SVMW 11	11:08	30.5	→	→	→	→	18	0.90	3 sec	NA [Baram. 29.34]		BP = 29.34
SVMW 01	No Lock 14:54	~~6~~ 5.5	→	→	→	→	glass syringe	0.16	NA	NA	No Rain	
SVMW 01	15:26	20.5	→	→	→	→	18	0.6	2 sec	NA		
SVMW 01	15:43	40	→	→	→	→	36	1.2	2 sec	NA		

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 5/25/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
NO LOCKS		1, 19, 5										
SVMW 19	12:55	5 4.5				~~glass syringe~~	glass syringe	0.13	NA	NA	No Rain	
SVMW 19	13:07	20 19.5					18	0.60	2 sec	NA		
SVMW 19	13:27	40.5					36	1.2	2 sec	NA		
SVMV 5	13:46	6					glass syringe	0.17	NA	NA		
SVMV 5	14:05	21					18	0.6	2 sec	NA		
SVMV 5	14:28	42.5					30	1.2	3 sec	NA		
SG 1107	16:20	3	Asphalt	Sand & gravel	0-Rmfast 2-Vslow	Dry	glass syringe	0.03	NA	① 3' ② 3' ③ 2.5'		

FAST-PUS[illegible]NLY; M FAST-SLIGHT HAMMERING; M SLOW-MU[illegible]HAMMERING, DENSE SOIL; SLOW-VERY SLOW PE[illegible]ETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/20/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
IDAmw-02 310'	~~for~~ 10:00	310'	AC	Gravels (See log)	NA	NA	29.7 L/M	8.9	18 sec. (0.3 min)	NA QC sample	Barometer = 29.38 mtg. Sunny 80°F no moist during purge	TEMP = 70°F Sunny - mw-3 dtw = 309.48 - 3 vols
IDAmw-01 - 306'	1054	306'	AC	See Log	NA →		31.4 L/m	8.8	17 sec.	QC sample NA	85°F	no moisture during purging. QC to check 30 dry
SVMW-06 -34	1127	34'	AC	see Log	NA →		30 L/m	1 L	2 sec.	QC sample NA	88°F	equilibration QC to check < 30 dry equil.
SVMW-08 - 5'	1257	5'	AC	see Log.	Check 1 ug/L PCE for 1) DCA 2) 1,2 DCA, 3) 1,1,2 TCA, 4) 1,1,2,2 TCA, 5) Freon NA →		NA Glass Syring	0.15L	NA	NA	Sunny 91°F	Use Glass syringe to purge 5' completion
SVMW-08 -20'	1355	20'	AC	See Log	NA →		36 L/m	0.6	1 sec	NA	95°F	no attempt at 1 ug/l DCA
SVMW-08 - 33.5'	1323	33.5'	AC	See Log	NA →		30 L/m	1 L	2 sec	NA	95°F.	no attempt at 1 ug/l DCA
SVMW-10 -5'	1355	5'	AC	See Log	Check 1 ug/L PCE for 1,1 DCA 2) 1,2 DCA, 3) 1,1,2 TCA, 4) 1,1,2,2 TCA, 5) Freon NA →		NA Glass. Syringe	0.15 L	NA	NA	95°F	Met 1 ug/l, PCE to DCA's 1 DCE
SVMW-10 -20'	1416	20'	AC	See Log	NA →		36 L/m	0.6	1 sec.	NA	95°F	✓
SVMW-10 -30'	1434	30'	AC	See Log	NA →		26 L/m	0.8	2 sec	NA	97°F	—

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR...
...-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/20/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-17-5'	1450	5'	AC	see Log	NA →		Glass Syringe	0.15	NA	NA	97°F	met 1 ug/l DL for 1,1,2 DCA
SVMW-17-20'	1508	20'	AC	see Log.	NA →		36 L/m	0.60	1 sec	NA	97°F	no attempt to reach DL for DCA
SVMW 16-5	1522	5'	AC	see Log.	NA →		NA Glass Syringe	0.15	NA	NA	97°F	met 1 ug/l e DL for DCA's
SVMW-16-20	1536	20'	AC	↓	NA →		36 L/m	0.60	1 sec	NA	98°F	—
SVMW 16-40	1552	40'	AC	↓	NA →		22 L/m	1.1 L	3 sec.	NA	98°F	—
SVMW-04-5'	1610	5'	AC	↓	NA →		NA Glass Syringe	0.15	NA	NA	96°F ~~98~~ F	
SVMW-04-20'	1643	20'	AC	↓	NA →		36 L/m	0.6	1 sec	NA	96°F	[illegible]
SVMW-04-20R	1658	20'	AC	↓	NA	NA	"	"	"	"	"	Replicate sample

FAST-PU[illegible] ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING. DENSE SOIL; [illegible]
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/21/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-24 -5	8:48	5'	AC	see log	NA	NA	NA GLASS SYRINGE	0.2	RKW ~~1 sec~~ NA	NA	Barometer = 29.37 Sunny 70°F	
SVMW-24 -19.5	9:04	19.5'	AC	see log	NA	NA	36	0.6	1 sec	NA	70°F	
SVMW-21 -5	9:38	5'	AC	see log	NA	NA	NA GLASS SYRINGE	0.2	RKW ~~1 sec~~ NA	NA	72°F	petcocks covered w/ water & bentonite
SVMW-21 -20	9:45	20'	AC	see log	NA	NA	36	0.6	1 sec	NA	74°F	"
SVMW-22 -5	10:00	5'	GRASS ~~AC~~ RKW	see log	NA	NA	NA GLASS SYRINGE	0.2	NA	NA	~~74~~°F	
SVMW-22 -18	RKW 10:~~07~~ 29	18'	GRASS ~~AC~~ RKW	see log	NA	NA	30	0.5	1 sec	NA	~~74~~°F	
SVMW-22 -26.5	10:34	26.5'	GRASS ~~AC~~ RKW	see log	NA	NA	24	0.8	2 sec	NA	~~74~~°F	
SVMW-27 -5	10:54	5	AC	see log	NA	NA	NA GLASS SYRINGE	0.2	NA	NA	76°F	
SVMW-27 -20.5	11:12	20.5'	AC	see log	NA	NA	36	0.6	1 sec	NA	73°F	

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/21/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-27 -40	1125	40'	AC	See log	NA	NA	~~SWG 1.2~~ 36	1.2	2 seconds	NA	73°F	Well Box ok
SVMW-30 RCW -5	1300	5'	Grass w/ CONCRETE PAD	See log	NA	NA	NA GLASS SYRINGE	0.2	NA	NA	80°F	
SVMW-~~22.5~~ RCW 30 -21	1312	~~22.5~~ 21' RCW	Grass w/ CONCRETE PAD	See log	NA	NA	21	0.7	2 seconds	NA	80°F	
SVMW-30 -39	1329	39'	GRASS w/ CONCRETE PAD	See log	NA	NA	33	1.1	2 sec	NA	84°F	
SVMW-29 -5	1340	5'	CONCRETE PAD	See log	NA	NA	NA GLASS SYRINGE	0.2	NA	NA	82°F	
SVMW-29 -22.5	1355	22.5'	CONCRETE PAD	See log	NA	NA	21	0.7	2 sec ~~NA~~ RCW	NA	83°F	
SVMW-28 -5	1418	5'	CONCRETE PAD	See log	NA	NA	NA GLASS SYRINGE	0.2	NA	NA	84°F	
SVMW-28 -19	1430	19'	CONCRETE PAD	See log	NA	NA	36	0.6	2 sec	NA	29.33 Bar. Press. 82°F	
SVMW-26 -5	1449	5'	CONCRETE PAD	See log	NA	NA	NA GLASS SYRINGE	0.2	NA	NA	82°F	

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR

*-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/21/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-26 -23.5	1505	23.5	CONCRETE PAD	NA	NA	NA	2L	6.7	2sec	NA	82°F	INSTALLED PET COCK

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
*-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/22/99

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-14 -7.5	8:58	7.5'	CONCRETE WALK	NA	NA	NA	NA GLASS SYRINGE	0.2	NA	NA	SUNNY 72 °F BARO. PRES. = 29.36'	EVACUATED WELL HEAD OF WATER; PETCOCKS NOT SUBMERGED
SVMW-14 -20	9:18	20'	"	NA	NA	NA	18	0.6	2 sec	NA	72°F	"
SVMW-14 -30	9:31	30'	"	NA	NA	NA	27	0.9	2sec	NA	72°F	"
SVMW-15 -5	9:47	5'	AC	NA	NA	NA	NA SYRINGE	0.2	NA	NA	70°F (IN SHADE)	"
SVMW-15 -20	10:01	20'	"	NA	NA	NA	18	0.6	2sec	NA	70°F	"
SVMW-15 -30.5	10:16	30.5'	"	NA	NA	NA	27	0.9	2sec	NA	72°F	"
SVMW-13 -5	10:32	5'	CONCRETE WALK	NA	NA	NA	NA SYRINGE	0.2	NA	NA	74°F	INSTALLED PET COCK; STORED IN BAG IN WELLHEAD
SVMW-13 -20	10.46	20'	"	NA	NA	NA	36	0.6	1 sec	NA	74°F	
SVMW-13 -33.5	11.02	33.5'	"	NA	NA	NA	30	1.0	2 sec	NA	76°F	

FAST-PUS[illegible]ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/22/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-18 -05	12:24	5'	CONCRETE WALK	NA	NA	NA	NA SYRINGE	0.2	NA	NA	SUNNY BREEZY 82°F BARO.PRES.=29.38	PUT LOCK ON WELL COVER
SVMW-18 -20	12:47	20'	"	NA	NA	NA	36	0.6	1sec	NA	82°F	
SVMW-18 -30	13:06	30'	"	NA	NA	NA	27	0.9	2sec	NA	82°F	
SVMW-32 -5	13:25	5'	AC	NA	NA	NA	NA SYRINGE	0.2	NA	NA	82°F	
SVMW-32 -20	13:40	20'	"	NA	NA	NA	18	0.6	2sec	NA	84°F	
SVMW-32 -29.5	13:58	29.5'	"	NA	NA	NA	27	0.9	2sec	NA	86°F	
SVMW-20 -5	14:13	5'	"	NA	NA	NA	NA SYRINGE	0.2	NA	NA	86°F	
SVMW-20 -20	14:26	20'	"	NA	NA	NA	36	0.6	1sec	NA	86°F	

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/22/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-38 -5	14:40	5	AC	NA	NA	NA	NA SYRINGE	0.2	NA	NA	SUNNY 87°F	REMOVED GROUT FROM INSIDE WELL CONTR; NOT COVERING PET COCKS
SVMW-38 -20	15:02	20	AC	NA	NA	NA	36	0.6	1sec	NA	87°F	4
SVMW-38 -30	15:18	30	AC	NA	NA	NA		0.9	3sec	NA	87°F	"
SVMW-39 -5		5		NA	NA	NA	NA SYRINGE	0.2	NA	NA		
SVMW-39 -20		20		NA	NA	NA		0.6		NA		
SVMW-39 -39.5		39.5		NA	NA	NA		1.1		NA		

FAST-PUS NLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/23/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-33 -4.5	8:28	4.5	AC	NA	NA	NA	SYRINGE	0.2	NA	NA	SUNNY BAROMETRIC PRESSURE = 29.34"Hg 70°F	
SVMW-33 -20	8:36 PEW	20	"	"	"	"	36	0.6	1sec	"	74°F	
SVMW-37 -5	9:21	5	"	"	"	"	SYRINGE	0.2	NA	"	76°F	EVACUATED WATER FROM INSIDE METER BOX
SVMW-37 -20	9:52	20	"	"	"	"	36	0.6	1sec	"	76°F	"
SVMW-37 -32.5	10:07	32.5	"	"	"	"	27	0.9	2sec	"	78°F	"
SVMW-34 -5	10:25	5	"	"	"	"	SYRINGE	0.2	NA	"	78°F	
SVMW-34 -19.5	10:57	19.5	"	"	"	"	36	0.6	1sec	"	80°F	
SVMW-36 -5	11:23	5	"	"	"	"	SYRINGE	0.2	NA	"	80°F	EVACUATED WATER FROM WELL COVERS NOT COVERING PET COCKS
SVMW-36 -20	11:40	20	"	"	"	"	18	0.6	2sec	"	82°F	"

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/23/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-35 -5.5	12:48	5.5	AC	NA	NA	NA	SYRINGE	0.2	NA	NA	SUNNY 84°F BARO. PRES. =29.35"Hg	
SVMW-35 -20.5	13:00	20.5	"	"	"	"	18	0.6	2 sec	"	84°F	VALVE MAY BE BROKEN FIXED FLOW
SVMW-35 -41	13:17	41	"	"	"	"	24	1.2	3 sec	"	84°F	
SVMW-39 -5	13:40	5	"	"	"	"	NA SYRINGE	0.2	NA	"	86°F	
SVMW-39 -20	13:54	20	"	"	"	"	18	0.6	2 sec	"	86°F	
SVMW-39 -39.5	14:08	39.5	"	"	"	"	33	1.1	2 sec	"	88°F	
MW-5 -44.5	14:33	44.5	CONCRETE PAD	"	"	"		1.3	3 sec	"	90°F	
-116.5	14:45	116.5	"	"	"	"		3.4	9 sec	"	92°F	
-188.5	15:02	188.5	"	"	"	"		5.4	17 sec	"	94°F	

FAST-PUS[illegible]NLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/23/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
MW-5 -249.5	15:15	249.5	CONCRETE PAD ON DIRT	NA	NA	NA	22.7	7.2	19 sec	NA	SUNNY 95°F	
DRW-5 HS-267	15:30	HS 267	"	"	"	"	9.2	20'=2Q.6 7.8	51 sec	"	95°F	HEADSPACE SAMPLE ~5' ABOVE H2O LEVEL

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/24/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
MW-02 82	8:41	82'	CONCRETE PAD IN DIRT LOT	See log	NA	NA	~~Syringe~~ 24 l/min	2.4	~~60 sec~~ .6 min	NA	Sunny 80°F	
MW-02 167	9:57	167'	"	See log	NA	NA	24 l/min	4.8	12 sec .20 min	NA	84°F	
MW-02 234	9:14	234'	"	See log	NA	NA	9 22	6.7	18 sec	NA	84°F	
MW-02 ~~331 gal~~ 284	9:30	~~331 gal~~ 284'	"	See log	NA	NA	8.8	~~9.4 gal~~ 8.1	55 sec	NA	84°F	HEADSPACE SAMPLE
SVMW-3 -5	9:45	5'	"	See log	NA	NA	Syringe	.2	NA	NA	86°F	
mw-04 -38	10:09	38	AC	See log	"	"	33	1.1	2 sec	"	86°F	
mw-04- -100.5	10:22	100.5	"	"	"	"	16	2.9	11 sec	"	86°F	
mw-04- -159.5	10:42	159.5	"	"	"	"	6	4.6	45 sec	"	86°F	
mw-04- -224	10:58	224	"	"	"	"	20	6.5	20 sec	"	88°F	

FAST-PUS[illegible]NLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/24/99

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
mw-04--288	11:17	288	AC	See log	NA	NA	8	8.2	59sec	NA	SUNNY 88°F	HEADSPACE SAMPLE
mw-01--290	11:53	290	CONCRETE PAD IN DIRT	See log	"	"	8	8.2	60sec	"	90°F	HEADSPACE SAMPLE
mw-03--37												
mw-03--93												
mw-03--140.5												
mw-03--193												
mw-03-												HEADSPACE SAMPLE

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/27/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
MW-03 -37	8:44	37'	AC	See Log	NA	NA	22	1.1	3sec	NA	PARTLY CLOUDY BAROMETRIC PRESSURE = 29.33" Hg 84°F	REPAIRED PET COCK; KNURLED AROUND TOP
MW-03 -93	9:17	93'	"	"	"	"	20	2.7	8sec	"	BREEZY 85°F	
MW-03 -140.5	9:32	140.5'	"	"	"	"	21	4.1	12sec	"	84°F	
MW-03 -193	9:45	193'	"	"	"	"	22	5.6	15sec	"	85°F	CCl4 30 ug/l could not/would not be able to meet 1ug/l DL for DCA's * FM3 = 200 ug/l
MW-03 -304.5	10:10 ~~10:03~~	304.5'	"	"	"	"	7.8	8-2 (ea)	63sec	"	85°F	HEADSPACE SAMPLE
SVMW-05- -6	10:45	6'	AC	See Log	"	"	NA SYRINGE	0.2	NA	"	86°F	EVACUATED METER BOX OF H_2O; NOT COVERING PET COCKS
SVMW-05 -21	11:08	21'	"	"	"	"	18	0.6	2sec	"	89°F	~~INSTALLED NEW LOCK ON WELL COVER~~
SVMW-05 -41.5	11:26	41.5	"	"	"	"	24	1.2	3sec	"	90°F	

FAST-PU[illegible]ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MU[illegible] HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/27/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-11 -5	13:03	5	CONCRETE PAD ON GRASS	See Log	NA	NA	SYRINGE	0.2	NA	NA	SUNNY BREEZY 94°F BARO. PRES = 29.32" Hg	BENTONITE (VOLCLAY GROUT) INSIDE WELL COVER; HAD TO SCOOP OUT
SVMW-11 -20	13:25	20	"	"	"	"	18	0.6	2 sec	"	97°F	TO EXPOSE PET COCKS; EVACUATED H_2O FROM
SVMW-11 -31.5	13:40	31.5	"	"	"	"	27	0.9	2 sec	"	102°F	METER BOX ↓
SVMW-19 -4.9	13:55	4.9	AC	"	"	"	SYRINGE	0.2	NA	"	102°F	
SVMW-19 -19.5	14:13	19.5	"	"	"	"	18	0.6	2 sec	"	101°F	
SVMW-19 -40.5	14:26	40.5	"	"	"	"	24	1.2	3 sec	"	100°F	
SVMW-01 -5.5	14:58	5.5	"	"	"	"	SYRING	0.2	NA	"	102°F	REPLACE PET COCK AFTER SAMPLING
SVMW-01 -20.5	15:24	20.5	"	"	"	"	18	0.6	2 sec	"	102°F	REPLACE PET COCK AFTER SAMPLING
SVMW-01 - 40	15:40	40	"	"	"	"	24	1.2	3 sec	"	100°F	"

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/28/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-02 - 5	8:39	5	AC	See Log	NA	NA	SYRINGE	0.2	NA	NA	SUNNY, HUMID BARO. PRESS. = 29.33" Hg 79°F	DL FOR DCAs MET
SVMW-02 - 20	9:03	20	"	"	"	"	18	0.6	2sec	"	81°F	
SVMW-02 - 39	9:21	39	"	"	"	"	22	1.1	3sec	"	82°F	
IDVMW-02 - 110	9:37	110	"	"	"	"	27	3.2	7sec	"	83°F	DL FOR DCA ~~INSTALLED BOREHOLE WELL COVER~~
IDVMW-02 - 153.5	9:53	153.5	"	"	"	"	13	4.4	21sec	"	84°F	
IDVMW-02 - ~~190~~ 213 REW	10:14	~~190~~ 213 REW	"	"	"	"	10	~~6.8~~ 6.8 REW +1.4	38sec	"	85°F	
IDVMW-02 - ~~248~~ 265 REW	10:30	~~248~~ 265 REW	"	"	"	"	4	7.6 REW	126sec	"	86°F	LOW FLOW IN PIEZO. DURING PURGING 0.5' THICK CLAY LAYER @ 264.5'
IDVMW-02 - 310	10:50	310	"	"	"	"	23	9.0	24sec	"	87°F	

FAST-PUSH [illegible]LY; M FAST-SLIGHT HAMMERING; M SLOW-MUC[illegible]AMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; [illegible]in-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 6/28/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
SVMW-06 -5	12:02	5	AC	See log	NA	NA	SYRINGE	0.2	NA	NA	SUNNY SLIGHT BREEZE 88°F	MET DL FOR DCAs
SVMW-06 - 20	12:21	20	"	"	"	"	18	0.6	2sec	"	90°F	
SVMW-06 - 34	12:34	34	"	"	"	"	22	1.0	3sec	"	91°F	
IDVMW-01 - 93	12:48	93	"	"	"	"		2.7	11sec	"	92°F	MET DL FOR DCAs
IDVMW-01 - 163	13:05	163	"	"	"	"		4.7	13sec	"	94°F	
IDVMW-01 -201.5	13:20	201.5	"	"	"	"		5.8	17sec	"	94°F	
IDVMW-01 - 256	13:38	256	"	"	"	"		7.4	20sec	"	95°F	
IDVMW-01 - 306	13:54	306	"	"	"	"		8.8	25sec	"	95°F	

FAST-PUSH ONLY; M FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
L-liters; min-minutes

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 2/09/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
MW-5	0852	44.5	DRY	SEE LOG	N/A	N/A	26	1.9	3 SEC	N/A	SUNNY, LIGHT WIND, BARO. PRESSURE 29.26" Hg	TEMP. 76.6°F
MW-5	0905	116.5	"	"	"	"	29	3.4	7 SEC	"		
MW-5	0920	188.5	"	"	"	"	27	5.4	12 SEC	"		TEMP. 76.4
MW-5	0935	249.	"	"	"	"	24	7.2	18 SEC	"		TEMP 76.8
IDVMW-02	1017	110	"	"	"	"	27	3.2	7 SEC	"		77 BD.
IDVMW-02	1032	153	"	"	"	"	13	4.4	21 SEC	"	BARO. PRESSURE 29.25" Hg	77 81
IDVMW-02	1046	213	"	"	"	"	9.3	6.2	40 SEC	"		77 84
IDVMW-02	1102	265	"	"	"	"	3.5	7.6	130 SEC	"		77 85
IDVMW-02	1115	310	"	"	"	"	27	9	20 SEC	"		77 86

FAST-[illegible] ONLY; M FAST-SLIGHT HAMMERING; M SLOW-M[illegible] HAMMERING, DENSE SOIL; SLOW-VERY SLOW PE[illegible]TR.
L-lite[illegible]; min-minutes

08-18-1994 10:09 P.08

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET.

DATE 7/28/94

SAMPLE ID	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
IDVMW-01	1253	43'	HC	SEE LOG	N/A	N/A	32.5	2.7	5SEC	N/A	SUNNY, WARM	TEMP-96.8°F
IDVMW-01	1321	163	"	"	"	"	28	4.7	10SEC	"	"	93
IDVMW-01	1333	2015	"	"	"	"	29	5.8	12SEC	"	"	95
IDVMW-01	1355	256	"	"	"	"	24.7	7.4	18SEC	"	"	96
IDVMW-01	1410	306	"	"	"	"		8.8	23SEC	"	"	97
SVMW-06.	1430	34						0.9	2 SEC			97
SVMW-08	1500	39 20						1.1	1SEC			
SVMW-06												

"P"-PUSH ONLY; F FAST-SLIGHT HAMMERING; M SLOW-MUCH HAMMERING, DENSE SOIL; SLOW-VERY SLOW PENETR.
"M": min-minutes

08-18-1994 10:10 P.09

AISA - SOIL GAS INVESTIGATION
SAMPLING INFORMATION SHEET

DATE 3 OF 7/28/93

SAMPLE ID (ASK 9.3)	TIME	SAMPLE DEPTH (feet)	SURFACE COVER	SOIL TYPE	PENETR. RATE	PROBE MOISTURE	PURGE RATE (L/m)	PURGE VOL. (L)	TIME TO ATM (min)	REFUSALS	WEATHER CONDITIONS	REMARKS
MW-3	1515	30' WC	AC	SEE LOG	NA	NA	7.59	4.6	35 sec.	NA	SUNNY WARM	98°F
MW-3	~~1525~~ 1541	30' ST	"	"	"	NA	7.27	4.6	38 SEC	NA		
MW-3												
MW-3												
MW-3			"	"	"	"						
SVMW-02	1605	39'	"	"	"	"	22	1.1	3 sec	"	"	95°F

FAST-P[illegible] ONLY; M FAST-SLIGHT HAMMERING; M SLOW-HU[illegible] HAMMERING, DENSE SOIL; SLOW-VERY SLOW PE[illegible]
L-liters; min-minutes

08-18-1994 10:11

APPENDIX G

SOIL GAS/VAPOR QA/QC DATA SHEETS

QUALITY CONTROL SUMMARY

Date : 2/14/94
Project # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:01am	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	7:26am	uL	ug/L	17:55pm
cfc11	ECD	DB-624/1213537	0.05	100		0.058	0.068	14.7%	0.06	100	0.062	103%	100	0.061	102%
ch2cl2	ECD	DB-624/1213537	21.26	100		12.8	13.40	4.5%	22.5	100	26.7	119%	100	26.1	116%
chcl3	ECD	DB-624/1213537	0.52	100		0.27	0.30	10.0%	0.65	100	0.65	100%	100	0.66	102%
1,1,1-tca	ECD	DB-624/1213537	0.0741	100		0.134	0.139	3.6%	0.086	100	0.083	97%	100	0.076	88%
ccl4	ECD	DB-624/1213537	0.018	100		0.0185	0.019	2.6%	0.015	100	0.016	107%	100	0.016	107%
tce	ECD	DB-624/1213537	0.42	100		0.188	0.187	0.5%	0.35	100	0.41	117%	100	0.36	103%
1,1,2-tca	ECD	DB-624/1213537	4.85	100		2.61	3.07	15.0%	6.5	100	6.9	106%	100	6.1	94%
pce	ECD	DB-624/1213537	0.11	100		0.046	0.049	6.1%	0.11	100	0.128	116%	100	0.12	109%
chbr2cl	ECD	DB-624/1213537	0.13	100		0.11	0.112	1.8%	0.15	100	0.15	100%	100	0.14	93%
1,1-dce	PID	AT-624/6820	27.4	200	474	11.6	13.50	14.1%	29.1	200	33.8	116%	200	30.6	105%
t-1,2-dce	PID	AT-624/6820	22.04	200	745	5.9	6.10	3.3%	22.04	200	24.1	109%	200	23.9	108%
c-1,2-dce	PID	AT-624/6820	24.92	200	506	9.8	10.00	2.0%	23.58	200	24.4	103%	200	23	98%
benzene	PID	AT-624/6820	13.31	200	533	5	5.00	0.0%	15.21	200	15.6	103%	200	15.4	101%
toluene	PID	AT-624/6820	17.54	200	467	7.5	6.90	8.7%	17.01	200	18.9	111%	200	19	112%
ethyl benzene	PID	AT-624/6820	18.51	200	378	9.8	9.50	3.2%	17.76	200	17.9	101%	200	18.5	104%
m,p-xylene	PID	AT-624/6820	19.86	200	509	7.8	8.00	2.5%	20.05	200	23	115%	200	23.2	116%
o-xylene	PID	AT-624/6820	19.57	200	394	9.9	9.40	5.3%	16.3	200	17.9	110%	200	16.3	100%
vinyl chloride	PID	AT-624/6820	25	200	273	18.3	20.10	9.0%	50	100	54.7	109%	100	45.6	91%

QUALITY CONTROL SUMMARY

Date : 2/14/94
Project # : 9340
Chemist : Johan Wohlleben
Machine ID: Phase 9
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1				% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	am	uL	ug/L	pm
cfc113	ECD	DB-624/1625317	0.6				2.660		0.605	500	0.73	121%	500	0.69	114%

QUALITY CONTROL SUMMARY

Date : 5/17/94
Project # : 9210
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1				% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	am	uL	ug/L	pm
cfc11	ECD	DB-624/1213537	0.05	150		0.053	0.058	8.6%	0.055	150	0.058	105%	150	0.049	89%
ch2cl2	ECD	DB-624/1213537	21.26	150		11.5	11.70	1.7%	20.3	150	20.4	100%	150	19.6	97%
1,1-dca	ECD	DB-624/1213537	25.25	150		14.1	13.70	2.9%	25	150	25	100%	150	23	92%
chcl3	ECD	DB-624/1213537	0.52	150		0.26	0.24	8.3%	0.54	150	0.53	98%	150	0.53	98%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.126	0.123	2.4%	0.086	150	0.076	88%	150	0.081	94%
ccl4	ECD	DB-624/1213537	0.018	150		0.018	0.017	5.9%	0.015	150	0.014	93%	150	0.015	100%
1,2-dca	ECD	DB-624/1213537	19.8	150		8.2	7.6	7.9%	18	150	17.8	99%	150	18.1	101%
tce	ECD	DB-624/1213537	0.42	150		0.18	0.16	12.5%	0.4	150	0.44	110%	150	0.44	110%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.4	2.30	4.3%	5	150	4.8	96%	150	4.5	90%
pce	ECD	DB-624/1213537	0.11	150		0.046	0.043	7.0%	0.11	150	0.12	109%	150	0.11	100%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.094	0.094	0.0%	0.14	150	0.13	93%	150	0.13	93%
chlorobenzene	ECD	DB-624/1213537	0.02	150		0.015	0.016	6.3%	0.0067	150	0.007	104%	150	0.0061	91%
1,1-dce	PID	AT-624/6820	27.4	200	466	11.8	11.90	0.8%	29.1	200	28.6	98%	200	23.5	81%
t-1,2-dce	PID	AT-624/6820	22.04	200	784	5.6	5.90	5.1%	22.04	200	24.4	111%	200	18.6	84%
c-1,2-dce	PID	AT-624/6820	24.92	200	501	9.9	10.10	2.0%	23.58	200	23	98%	200	19.2	81%
benzene	PID	AT-624/6820	13.31	200	524	5.1	5.10	0.0%	15.21	200	15.4	101%	200	12.2	80%
toluene	PID	AT-624/6820	17.54	200	534	6.6	6.70	1.5%	17.01	200	18.2	107%	200	14.4	85%
ethyl benzene	PID	AT-624/6820	18.51	200	402	9.2	10.40	11.5%	17.76	200	21	118%	200	15.9	90%
m,p-xylene	PID	AT-624/6820	19.86	200	546	7.3	7.70	5.2%	20.05	200	22.7	113%	200	17.7	88%
o-xylene	PID	AT-624/6820	19.57	200	422	9.3	10.10	7.9%	16.3	200	17.8	109%	200	14.6	90%
vinyl chloride	PID	AT-624/6820	25	200	270	18.5	19.80	6.6%	50	100	54.2	108%	100	45.1	90%
acetone	FID	DB-624/2557451	6400	20	506	253	250.00	1.2%	3200	40	3775	118%	40	3450	108%
cfc-113	ECD	DB-1/2553213	0.6	200	531	0.23	0.25	8.0%	0.6	200	0.68	113%	200	0.64	107%

QUALITY CONTROL SUMMARY

Date : 5/24/94
Project # : 9210
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1				% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	am	uL	ug/L	pm
cfc11	ECD	DB-624/1213537	0.05	150		0.059	0.058	1.7%	0.055	150	0.057	104%	150	0.055	100%
ch2cl2	ECD	DB-624/1213537	21.26	150		12.9	11.70	10.3%	20.3	150	19.9	98%	150	20.1	99%
1,1-dca	ECD	DB-624/1213537	25.25	150		15.7	13.70	14.6%	25	150	22.3	89%	150	22.5	90%
chcl3	ECD	DB-624/1213537	0.52	150		0.24	0.24	0.0%	0.54	150	0.59	109%	150	0.56	104%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.118	0.123	4.1%	0.086	150	0.086	100%	150	0.084	98%
ccl4	ECD	DB-624/1213537	0.018	150		0.016	0.017	5.9%	0.015	150	0.016	107%	150	0.015	100%
1,2-dca	ECD	DB-624/1213537	19.8	150		8.5	7.6	11.8%	18	150	17.9	99%	150	16.8	93%
tce	ECD	DB-624/1213537	0.42	150		0.15	0.16	6.3%	0.4	150	0.45	113%	150	0.44	110%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.5	2.30	8.7%	5	150	5	100%	150	4.3	86%
pce	ECD	DB-624/1213537	0.11	150		0.04	0.043	7.0%	0.11	150	0.12	109%	150	0.11	100%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.098	0.094	4.3%	0.14	150	0.14	100%	150	0.12	86%
chlorobenzene	ECD	DB-624/1213537	0.02	150		0.016	0.016	0.0%	0.0067	150	0.0073	109%	150	0.0057	85%
1,1-dce	PID	AT-624/6820	27.4	200	409	13.4	11.90	12.6%	29.1	200	24.6	85%	200	32.7	112%
t-1,2-dce	PID	AT-624/6820	22.04	200	697	6.3	5.90	6.8%	22.04	200	20.4	93%	200	26	118%
c-1,2-dce	PID	AT-624/6820	24.92	200	453	11	10.10	8.9%	23.58	200	18.9	80%	200	27.7	117%
benzene	PID	AT-624/6820	13.31	200	475	5.6	5.10	9.8%	15.21	200	12.2	80%	200	18	118%
toluene	PID	AT-624/6820	17.54	200	495	7.1	6.70	6.0%	17.01	200	14.3	84%	200	20.1	118%
ethyl benzene	PID	AT-624/6820	18.51	200	340	10.9	10.40	4.8%	17.76	200	17.2	97%	200	15.3	86%
m,p-xylene	PID	AT-624/6820	19.86	200	520	7.6	7.70	1.3%	20.05	200	19	95%	200	17.1	85%
o-xylene	PID	AT-624/6820	19.57	200	371	10.5	10.10	4.0%	16.3	200	16	98%	200	19.3	118%
vinyl chloride	PID	AT-624/6820	25	200	249	20.1	19.80	1.5%	50	100	50.3	101%	100	42.8	86%
acetone	FID	DB-624/2557451	6400	20	829	232	250.00	7.2%	3200	40	2800	88%	150	3200	100%
cfc-113	ECD	DB-1/2553213	0.6	200	276	0.22	0.25	12.0%	0.6	100	0.72	120%	100	0.67	112%

Date : 5/25/94
Project # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK					
				Calibration Information and Detector Response					Recovery Concentrations and Percentages					
		COLUMN	STDconc	Injection 1				% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	am	uL	ug/L	pm
cfc11	ECD	DB-624/1213537	0.05	150		0.052	0.058	10.3%	0.055	150	0.053	96%	150	0.061	111%
ch2cl2	ECD	DB-624/1213537	21.26	150		11.6	11.70	0.9%	20.3	150	22.4	110%	150	19.8	98%
1,1-dca	ECD	DB-624/1213537	25.25	150		14.7	13.70	7.3%	25	150	22.9	92%	150	21.7	87%
chcl3	ECD	DB-624/1213537	0.52	150		0.24	0.24	0.0%	0.54	150	0.56	104%	150	0.63	117%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.119	0.123	3.3%	0.086	150	0.082	95%	150	0.074	86%
ccl4	ECD	DB-624/1213537	0.018	150		0.017	0.017	0.0%	0.015	150	0.015	100%	150	0.017	113%
1,2-dca	ECD	DB-624/1213537	19.8	150		8.6	7.6	13.2%	18	150	16.9	94%	150	16.5	92%
tce	ECD	DB-624/1213537	0.42	150		0.18	0.16	12.5%	0.4	150	0.48	120%	150	0.37	93%
pce	ECD	DB-624/1213537	0.11	150		0.043	0.043	0.0%	0.11	150	0.12	109%	150	0.12	109%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.1	0.094	6.4%	0.14	150	0.13	93%	150	0.13	93%
chlorobenzene	ECD	DB-624/1213537	0.02	150		0.017	0.016	6.3%	0.0067	150	0.0055	82%	150	0.0057	85%
1,1-dce	PID	AT-624/6820	27.4	200	506	10.8	11.90	9.2%	29.1	200	27.8	96%	200	27.5	95%
t-1,2-dce	PID	AT-624/6820	22.04	200	823	5.4	5.90	8.5%	22.04	200	23.4	106%	200	23.5	107%
c-1,2-dce	PID	AT-624/6820	24.92	200	537	9.3	10.10	7.9%	23.58	200	21.5	91%	200	21.9	93%
benzene	PID	AT-624/6820	13.31	200	571	4.7	5.10	7.8%	15.21	200	15.1	99%	200	14.7	97%
toluene	PID	AT-624/6820	17.54	200	565	6.2	6.70	7.5%	17.01	200	16.9	99%	200	16.6	98%
ethyl benzene	PID	AT-624/6820	18.51	200	411	9	10.40	13.5%	17.76	200	19.6	110%	200	16.7	94%
m,p-xylene	PID	AT-624/6820	19.86	200	580	6.8	7.70	11.7%	20.05	200	20	100%	200	19.8	99%
o-xylene	PID	AT-624/6820	19.57	200	450	8.7	10.10	13.9%	16.3	200	17.1	105%	200	15.1	93%
vinyl chloride	PID	AT-624/6820	25	200	250	20	19.80	1.0%	50	100	53.5	107%	100	40.6	81%
acetone	FID	DB-624/2557451	6400	20	764	251	250.00	0.4%	3200	40	3793	119%	150	2600	81%
cfc-113	ECD	DB-1/2553213	0.6	200	279	0.22	0.25	12.0%	0.6	100	0.68	113%	100	0.58	97%

QUALITY CONTROL SUMMARY

Date : 6/20/94
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:43am	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	8:10am	uL	ug/L	12:25pm
:fc11	ECD	DB-624/1213537	0.05	150		0.056	0.058	3%	0.055	150	0.061	111%	150	0.056	102%
:h2cl2	ECD	DB-624/1213537	21.26	150		10.9	11.70	7%	20.3	150	22	108%	150	20.7	102%
l,1-dca	ECD	DB-624/1213537	25.25	150		13.3	13.70	3%	21	150	25	119%	150	22	105%
:hcl3	ECD	DB-624/1213537	0.52	150		0.23	0.24	4%	0.54	150	0.61	113%	150	0.58	107%
l,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.112	0.123	9%	0.08	150	0.088	110%	150	0.093	116%
:cl4	ECD	DB-624/1213537	0.018	150		0.016	0.017	6%	0.015	150	0.016	107%	150	0.016	107%
l,2-dca	ECD	DB-624/1213537	19.8	150		8.1	7.60	7%	15	150	16.7	111%	150	18	120%
.ce	ECD	DB-624/1213537	0.42	150		0.14	0.160	13%	0.4	150	0.45	113%	150	0.36	90%
l,1,2-tca	ECD	DB-624/1213537	4.85	150		2.3	2.30	0%	4.5	150	5.4	120%	150	4.2	93%
)ce	ECD	DB-624/1213537	0.11	150		0.043	0.043	0%	0.11	150	0.11	100%	150	0.11	100%
:hbr2cl	ECD	DB-624/1213537	0.13	150		0.084	0.094	11%	0.12	150	0.12	100%	150	0.12	100%
l,1-dce	PID	AT-624/6820	27.4	200	486	11.3	11.90	5%	29.1	200	27.5	95%	200	27.8	96%
-1,2-dce	PID	AT-624/6820	22.04	200	791	5.6	5.90	5%	22.04	200	22.2	101%	200	22.8	103%
:-1,2-dce	PID	AT-624/6820	24.92	200	505	9.9	10.10	2%	23.58	200	20.4	87%	200	22	93%
)enzene	PID	AT-624/6820	13.31	200	505	5.3	5.10	4%	15.21	200	16.8	110%	200	15.1	99%
oluene	PID	AT-624/6820	17.54	200	522	6.7	6.70	0%	17.01	200	17.9	105%	200	16.6	98%
:thyl benzene	PID	AT-624/6820	18.51	200	330	11.2	10.40	8%	17.76	200	15.9	90%	200	18.6	105%
n,p-xylene	PID	AT-624/6820	19.86	200	484	8.2	7.70	6%	20.05	200	18.1	90%	200	21.9	109%
)-xylene	PID	AT-624/6820	19.57	200	355	11	10.10	9%	16.3	200	17	104%	200	17.7	109%
/inyl chloride	PID	AT-624/6820	25	200	238	21	19.80	6%	50	100	52.7	105%	100	41	82%
:hloroethane	FID	DB-624/2557451	1130	100	382	296	311.00	5%	2200	50	2240	102%	50	2070	94%
:fc-113	ECD	DB-1/2553213	0.6	500	1378	0.22	0.25	12%	0.6	150	0.58	97%	200	0.71	118%

QUALITY CONTROL SUMMARY

Date : June 21, 1994
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK					
				Calibration Information and Detector Response					Recovery Concentrations and Percentages					
		COLUMN	STDconc	Injection 1			7:25	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	7:55	uL	ug/L	15:56
cfc11	ECD	DB-624/1213537	0.05	150		0.051	0.058	12%	0.055	150	0.054	98%	150	0.057	104%
ch2cl2	ECD	DB-624/1213537	21.26	150		11.2	11.70	4%	20.3	150	20.6	101%	150	20.8	102%
1,1-dca	ECD	DB-624/1213537	25.25	150		13.6	13.70	1%	21	150	24.8	118%	150	21.9	104%
chcl3	ECD	DB-624/1213537	0.52	150		0.23	0.24	4%	0.54	150	0.54	100%	150	0.56	104%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.11	0.123	11%	0.08	150	0.089	111%	150	0.092	115%
ccl4	ECD	DB-624/1213537	0.018	150		0.016	0.017	6%	0.015	150	0.014	93%	150	0.014	93%
1,2-dca	ECD	DB-624/1213537	19.8	150		7.1	7.60	7%	15	150	15	100%	150	15.1	101%
tce	ECD	DB-624/1213537	0.42	150		0.15	0.160	6%	0.4	150	0.41	103%	150	0.41	103%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.5	2.30	9%	4.5	150	4.7	104%	150	4	89%
pce	ECD	DB-624/1213537	0.11	150		0.038	0.043	12%	0.11	150	0.12	109%	150	0.11	100%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.094	0.094	0%	0.12	150	0.138	115%	150	0.12	100%
1,1-dce	PID	AT-624/6820	27.4	200	520	10.5	11.90	12%	29.1	200	27.2	93%	200	27	93%
t-1,2-dce	PID	AT-624/6820	22.04	200	741	5.9	5.90	0%	22.04	200	20.8	94%	200	21.4	97%
c-1,2-dce	PID	AT-624/6820	24.92	200	495	10.1	10.10	0%	23.58	200	21.4	91%	200	20.6	87%
benzene	PID	AT-624/6820	13.31	200	523	5.1	5.10	0%	15.21	200	13.9	91%	200	14	92%
toluene	PID	AT-624/6820	17.54	200	513	6.8	6.70	1%	17.01	200	15.6	92%	200	16.6	98%
ethyl benzene	PID	AT-624/6820	18.51	200	340	10.9	10.40	5%	17.76	200	17.2	97%	200	20.4	115%
m,p-xylene	PID	AT-624/6820	19.86	200	450	8.8	7.70	14%	20.05	200	18.6	93%	200	22.2	111%
o-xylene	PID	AT-624/6820	19.57	200	350	11.2	10.10	11%	16.3	200	17.4	107%	200	17.3	106%
vinyl chloride	PID	AT-624/6820	25	200	244	20.5	19.80	4%	50	100	46.3	93%	100	45.5	91%
chloroethane	FID	DB-624/2557451	1130	100	325	348	311.00	12%	2200	50	1800	82%	50	2600	118%
cfc-113	ECD	DB-1/2553213	0.6	100	215	0.28	0.25	12%	0.6	100	0.58	97%	100	0.5	83%

QUALITY CONTROL SUMMARY

Date : June 22, 1994
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:24	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	8:05	uL	ug/L	16:09
cfc11	ECD	DB-624/1213537	0.05	150		0.056	0.058	3%	0.055	150	0.055	100%	150	0.056	102%
ch2cl2	ECD	DB-624/1213537	21.26	150		10	11.70	15%	20.3	150	21.8	107%	150	22.8	112%
1,1-dca	ECD	DB-624/1213537	25.25	150		12.1	13.70	12%	21	150	22.4	107%	150	24	114%
chcl3	ECD	DB-624/1213537	0.52	150		0.21	0.24	13%	0.54	150	0.61	113%	150	0.64	119%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.13	0.123	6%	0.08	150	0.07	88%	150	0.083	104%
ccl4	ECD	DB-624/1213537	0.018	150		0.015	0.017	12%	0.015	150	0.016	107%	150	0.0176	117%
1,2-dca	ECD	DB-624/1213537	19.8	150		6.6	7.60	13%	15	150	16.2	108%	150	17.8	119%
tce	ECD	DB-624/1213537	0.42	150		0.14	0.160	13%	0.4	150	0.32	80%	150	0.36	90%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.3	2.30	0%	4.5	150	4.2	93%	150	4.7	104%
pce	ECD	DB-624/1213537	0.11	150		0.042	0.043	2%	0.11	150	0.13	118%	150	0.12	109%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.09	0.094	4%	0.12	150	0.11	92%	150	0.13	108%
1,1-dce	PID	AT-624/6820	27.4	200	500	11	11.90	8%	29.1	200	29.3	101%	200	23.2	80%
t-1,2-dce	PID	AT-624/6820	22.04	200	819	5.4	5.90	8%	22.04	200	22.9	104%	200	20.6	93%
c-1,2-dce	PID	AT-624/6820	24.92	200	504	9.9	10.10	2%	23.58	200	23	98%	200	20.2	86%
benzene	PID	AT-624/6820	13.31	200	564	4.7	5.10	8%	15.21	200	15.7	103%	200	12.5	82%
toluene	PID	AT-624/6820	17.54	200	569	6.2	6.70	7%	17.01	200	17.1	101%	200	14.4	85%
ethyl benzene	PID	AT-624/6820	18.51	200	385	9.6	10.40	8%	17.76	200	17.8	100%	200	15.1	85%
m,p-xylene	PID	AT-624/6820	19.86	200	481	8.2	7.70	6%	20.05	200	20	100%	200	16.8	84%
o-xylene	PID	AT-624/6820	19.57	200	354	11	10.10	9%	16.3	200	18.6	114%	200	15.2	93%
vinyl chloride	PID	AT-624/6820	25	200	230	21.7	19.80	10%	50	100	50.3	101%	100	41.6	83%
chloroethane	FID	DB-624/2557451	1130	100	320	353	311.00	14%	2200	50	1900	86%	50	2300	105%
cfc-113	ECD	DB-1/2553213	0.6	100	221	0.27	0.25	8%	0.6	100	0.6	100%	200	0.69	115%

QUALITY CONTROL SUMMARY

Date : June 23, 1994
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:11	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	7:49	uL	ug/L	16:30
cfc11	ECD	DB-624/1213537	0.05	150		0.052	0.058	10%	0.055	150	0.056	102%	150	0.055	100%
ch2cl2	ECD	DB-624/1213537	21.26	150		10.7	11.70	9%	20.3	150	20.5	101%	150	21.7	107%
1,1-dca	ECD	DB-624/1213537	25.25	150		13.7	13.70	0%	21	150	24.1	115%	150	23.5	112%
chcl3	ECD	DB-624/1213537	0.52	150		0.21	0.24	13%	0.54	150	0.49	91%	150	0.58	107%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.118	- 0.123	4%	0.08	150	0.083	104%	150	0.075	94%
ccl4	ECD	DB-624/1213537	0.018	150		0.015	0.017	12%	0.015	150	0.013	87%	150	0.016	107%
1,2-dca	ECD	DB-624/1213537	19.8	150		7.2	7.60	5%	15	150	18	120%	150	15.9	106%
tce	ECD	DB-624/1213537	0.42	150		0.16	0.160	0%	0.4	150	0.41	103%	150	0.44	110%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.4	2.30	4%	4.5	150	4.1	91%	150	4.4	98%
pce	ECD	DB-624/1213537	0.11	150		0.045	0.043	5%	0.11	150	0.1	91%	150	0.12	109%
1,1-dce	PID	AT-624/6820	27.4	200	470	11.6	11.90	3%	29.1	200	25.6	88%	200	27	93%
t-1,2-dce	PID	AT-624/6820	22.04	200	741	5.9	5.90	0%	22.04	200	20.7	94%	200	21.9	99%
c-1,2-dce	PID	AT-624/6820	24.92	200	480	10.3	10.10	2%	23.58	200	20	85%	200	20.9	89%
benzene	PID	AT-624/6820	13.31	200	500	5.3	5.10	4%	15.21	200	13.6	89%	200	14.5	95%
toluene	PID	AT-624/6820	17.54	200	540	6.5	6.70	3%	17.01	200	14	82%	200	16	94%
ethyl benzene	PID	AT-624/6820	18.51	200	333	11.1	10.40	7%	17.76	200	15.6	88%	200	16.1	91%
m,p-xylene	PID	AT-624/6820	19.86	200	479	8.3	7.70	8%	20.05	200	17.3	86%	200	18.9	94%
o-xylene	PID	AT-624/6820	19.57	200	351	11.2	10.10	11%	16.3	200	15.2	93%	200	15.2	93%
vinyl chloride	PID	AT-624/6820	25	200	249	20.1	19.80	2%	50	100	50.3	101%	100	41.6	83%
chloroethane	FID	DB-624/2557451	1130	100	348	325	311.00	5%	2200	50	2000	91%	50	2200	100%
cfc-113	ECD	DB-1/2553213	0.6	100	220	0.27	0.25	8%	0.6	100	0.64	107%	200	0.72	120%

QUALITY CONTROL SUMMARY

Date : June 24, 1994
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:14	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	8:06	uL	ug/L	12:42
cfc11	ECD	DB-624/1213537	0.05	150		0.054	0.058	7%	0.055	150	0.05	91%	150	0.056	102%
ch2cl2	ECD	DB-624/1213537	21.26	150		10.5	11.70	10%	20.3	150	21.1	104%	150	21.4	105%
1,1-dca	ECD	DB-624/1213537	25.25	150		12.9	13.70	6%	21	150	23.6	112%	150	22.4	107%
chcl3	ECD	DB-624/1213537	0.52	150		0.22	0.24	8%	0.54	150	0.5	93%	150	0.56	104%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.11	0.123	11%	0.08	150	0.087	109%	150	0.096	120%
ccl4	ECD	DB-624/1213537	0.018	150		0.015	0.017	12%	0.015	150	0.014	93%	150	0.016	107%
1,2-dca	ECD	DB-624/1213537	19.8	150		6.8	7.60	11%	15	150	15.8	105%	150	16.5	110%
tce	ECD	DB-624/1213537	0.42	150		0.16	0.160	0%	0.4	150	0.42	105%	150	0.41	103%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.4	2.30	4%	4.5	150	4.2	93%	150	4	89%
pce	ECD	DB-624/1213537	0.11	150		0.046	0.043	7%	0.11	150	0.1	91%	150	0.1	91%
1,1-dce	PID	AT-624/6820	27.4	200	444	12.3	11.90	3%	29.1	200	31.1	107%	200	25.3	87%
t-1,2-dce	PID	AT-624/6820	22.04	200	711	6.2	5.90	5%	22.04	200	23.6	107%	200	21.5	98%
c-1,2-dce	PID	AT-624/6820	24.92	200	458	10.9	10.10	8%	23.58	200	24.7	105%	200	20.4	87%
benzene	PID	AT-624/6820	13.31	200	512	5.2	5.10	2%	15.21	200	16.8	110%	200	14.8	97%
toluene	PID	AT-624/6820	17.54	200	490	7.2	6.70	7%	17.01	200	18.2	107%	200	16.6	98%
ethyl benzene	PID	AT-624/6820	18.51	200	310	11.9	10.40	14%	17.76	200	20.3	114%	200	16.6	93%
m,p-xylene	PID	AT-624/6820	19.86	200	480	8.3	7.70	8%	20.05	200	23.1	115%	200	19.2	96%
o-xylene	PID	AT-624/6820	19.57	200	370	10.6	10.10	5%	16.3	200	17.7	109%	200	17.2	106%
vinyl chloride	PID	AT-624/6820	25	200	220	22.7	19.80	15%	50	100	45.3	91%	100	43.2	86%
chloroethane	FID	DB-624/2557451	1130	100	320	353	311.00	14%	2200	50	2300	105%	50	2300	105%
cfc-113	ECD	DB-1/2553213	0.6	200	560	0.214	0.25	14%	0.6	200	0.71	118%	200	0.62	103%

QUALITY CONTROL SUMMARY

Date : June 27, 1994
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK					
				Calibration Information and Detector Response					Recovery Concentrations and Percentages					
		COLUMN	STDconc	Injection 1			7:27	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	8:17	uL	ug/L	16:26
cfc11	ECD	DB-624/1213537	0.05	150		0.051	0.058	12%	0.055	150	0.061	111%	150	0.055	100%
ch2cl2	ECD	DB-624/1213537	21.26	150		10.5	11.70	10%	20.3	150	22.9	113%	150	22.2	109%
1,1-dca	ECD	DB-624/1213537	25.25	150		12.6	13.70	8%	21	150	23.4	111%	150	24.4	116%
chcl3	ECD	DB-624/1213537	0.52	150		0.23	0.24	4%	0.54	150	0.55	102%	150	0.55	102%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.113	0.123	8%	0.08	150	0.088	110%	150	0.083	104%
ccl4	ECD	DB-624/1213537	0.018	150		0.017	0.017	0%	0.015	150	0.015	100%	150	0.014	93%
1,2-dca	ECD	DB-624/1213537	19.8	150		6.9	7.60	9%	15	150	16.9	113%	150	16.3	109%
tce	ECD	DB-624/1213537	0.42	150		0.17	0.160	6%	0.4	150	0.44	110%	150	0.41	103%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.4	2.30	4%	4.5	150	5.1	113%	150	4.2	93%
pce	ECD	DB-624/1213537	0.11	150		0.043	0.043	0%	0.11	150	0.13	118%	150	0.11	100%
1,1-dce	PID	AT-624/6820	27.4	200	530	10.3	11.90	13%	29.1	200	25.6	88%	200	30.5	105%
t-1,2-dce	PID	AT-624/6820	22.04	200	820	5.4	5.90	8%	22.04	200	20.4	93%	200	24.5	111%
c-1,2-dce	PID	AT-624/6820	24.92	200	530	9.4	10.10	7%	23.58	200	20.2	86%	200	23.7	101%
benzene	PID	AT-624/6820	13.31	200	600	4.4	5.10	14%	15.21	200	14.5	95%	200	16.6	109%
toluene	PID	AT-624/6820	17.54	200	590	5.9	6.70	12%	17.01	200	17.2	101%	200	18.4	108%
ethyl benzene	PID	AT-624/6820	18.51	200	410	9	10.40	13%	17.76	200	18.5	104%	200	20.8	117%
m,p-xylene	PID	AT-624/6820	19.86	200	600	6.6	7.70	14%	20.05	200	21.2	106%	200	22.7	113%
o-xylene	PID	AT-624/6820	19.57	200	440	8.9	10.10	12%	16.3	200	17.4	107%	200	19.2	118%
vinyl chloride	PID	AT-624/6820	25	200	233	21.4	19.80	8%	50	100	44.6	89%	100	41.6	83%
chloroethane	FID	DB-624/2557451	1130	100	372	303	311.00	3%	2200	50	2300	105%	50	2400	109%
cfc-113	ECD	DB-1/2553213	0.6	200	495	0.24	0.25	4%	0.6	200	0.66	110%	200	0.68	113%

QUALITY CONTROL SUMMARY

Date : 6/28/94
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:15am	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	7:52am	uL	ug/L	14:37pm
cfc11	ECD	DB-624/1213537	0.05	150		0.052	0.058	10%	0.055	150	0.055	100%	150	0.052	95%
ch2cl2	ECD	DB-624/1213537	21.26	150		10.7	11.70	9%	20.3	150	20.6	101%	150	20.2	100%
1,1-dca	ECD	DB-624/1213537	25.25	150		12.8	13.70	7%	21	150	24.2	115%	150	22.6	108%
chcl3	ECD	DB-624/1213537	0.52	150		0.24	0.24	0%	0.54	150	0.55	102%	150	0.54	100%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.11	0.123	11%	0.08	150	0.074	93%	150	0.088	110%
ccl4	ECD	DB-624/1213537	0.018	150		0.016	0.017	6%	0.015	150	0.016	107%	150	0.014	93%
1,2-dca	ECD	DB-624/1213537	19.8	150		7.1	7.60	7%	15	150	15.8	105%	150	16.1	107%
tce	ECD	DB-624/1213537	0.42	150		0.17	0.160	6%	0.4	150	0.47	118%	150	0.41	103%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.3	2.30	0%	4.5	150	4.8	107%	150	3.9	87%
pce	ECD	DB-624/1213537	0.11	150		0.04	0.043	7%	0.11	150	0.12	109%	150	0.11	100%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.104	0.094	11%	0.12	150	0.136	113%	150	0.11	92%
1,1-dce	PID	AT-624/6820	27.4	200	455	12	11.90	1%	29.1	200	26.7	92%	200	28	96%
t-1,2-dce	PID	AT-624/6820	22.04	200	734	6	5.90	2%	22.04	200	21.7	98%	200	21.9	99%
c-1,2-dce	PID	AT-624/6820	24.92	200	462	10.8	10.10	7%	23.58	200	20.6	87%	200	21.3	90%
benzene	PID	AT-624/6820	13.31	200	528	5	5.10	2%	15.21	200	14.8	97%	200	14.9	98%
toluene	PID	AT-624/6820	17.54	200	482	7.3	6.70	9%	17.01	200	16.4	96%	200	17.6	103%
ethyl benzene	PID	AT-624/6820	18.51	200	349	10.6	10.40	2%	17.76	200	18	101%	200	17.7	100%
m,p-xylene	PID	AT-624/6820	19.86	200	524	7.6	7.70	1%	20.05	200	19.6	98%	200	17.9	89%
o-xylene	PID	AT-624/6820	19.57	200	381	10.3	10.10	2%	16.3	200	16.2	99%	200	14.6	90%
vinyl chloride	PID	AT-624/6820	25	200	235	21.3	19.80	8%	50	100	46.3	93%	100	45.5	91%
chloroethane	FID	DB-624/2557451	1130	180	358	316	311.00	2%	2200	50	2100	95%	50	2500	114%
cfc-113	ECD	DB-1/2553213	0.6	200	530	0.23	0.25	8%	0.6	200	0.68	113%	200	0.62	103%

QUALITY CONTROL SUMMARY

Date : July 28, 1994
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:11	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	7:30	uL	ug/L	16:39
cfc11	ECD	DB-624/1213537	0.05	150		0.052	0.054	4%	0.058	150	0.055	95%	150	0.054	93%
ch2cl2	ECD	DB-624/1213537	21.26	150		10.7	10.90	2%	23.3	150	21	90%	150	21.1	91%
1,1-dca	ECD	DB-624/1213537	25.25	150		13	13.10	1%	28.2	150	25.2	89%	150	23.5	83%
chcl3	ECD	DB-624/1213537	0.52	150		0.24	0.25	4%	0.65	150	0.62	95%	150	0.6	92%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.113	0.118	4%	0.097	150	0.085	88%	150	0.1	103%
ccl4	ECD	DB-624/1213537	0.018	150		0.017	0.017	0%	0.016	150	0.016	100%	150	0.015	94%
1,2-dca	ECD	DB-624/1213537	19.8	150		6.9	7.10	3%	21.2	150	20.5	97%	150	21.5	101%
tce	ECD	DB-624/1213537	0.42	150		0.26	0.300	13%	0.98	150	0.95	97%	150	0.81	83%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.7	2.70	0%	6.2	150	5.8	94%	150	6	97%
pce	ECD	DB-624/1213537	0.11	150		0.052	0.052	0%	0.16	150	0.15	94%	150	0.13	81%
1,1-dce	PID	AT-624/6820	27.4	200	411	13.3	14.00	5%	29.1	200	29.4	101%	200	24.9	86%
t-1,2-dce	PID	AT-624/6820	22.04	200	692	6.4	7.00	9%	22.04	200	24.2	110%	200	21.2	96%
c-1,2-dce	PID	AT-624/6820	24.92	200	452	11	11.80	7%	23.58	200	23.5	100%	200	20.1	85%
benzene	PID	AT-624/6820	13.31	200	523	5.1	5.70	11%	15.21	200	16.4	108%	200	14.5	95%
toluene	PID	AT-624/6820	17.54	200	534	6.6	7.70	14%	17.01	200	20.3	119%	200	17.5	103%
ethyl benzene	PID	AT-624/6820	18.51	200	350	10.6	12.20	13%	17.76	200	21.3	120%	200	15.9	90%
m,p-xylene	PID	AT-624/6820	19.86	200	500	7.9	9.20	14%	20.05	200	24	120%	200	17.6	88%
o-xylene	PID	AT-624/6820	19.57	200	365	10.7	12.50	14%	16.3	200	19.6	120%	200	19.6	120%
vinyl chloride	PID	AT-624/6820	25	200	209	23.9	21.20	13%	50	100	46.6	93%	100	44.5	89%
chloroethane	FID	DB-624/2557451	1130	100	322	351	311.00	13%	2200	50	2488	113%	50	1866	85%
cfc-113	ECD	DB-1/2553213	0.6	200	504	0.24	0.24	0%	0.6	200	0.64	107%	200	0.62	103%

QUALITY CONTROL SUMMARY

Date : 6/28/94
Proj # : 9340
Chemist : John Tangeman
Machine ID: Phase 3
Supply Source: Chem Service

				1 POINT CALIBRATION CHECK					QC CHECK						
				Calibration Information and Detector Response					Recovery Concentrations and Percentages						
		COLUMN	STDconc	Injection 1			7:15am	% Dif	Actual		Observed	recovery		Observed	recovery
	DETECTOR	TYPE/SERIAL #	ug/L	uL	area	rf	*Mean rf*	*from mean*	ug/L	uL	ug/L	7:52am	uL	ug/L	14:37pm
cfc11	ECD	DB-624/1213537	0.05	150		0.052	0.058	10%	0.055	150	0.055	100%	150	0.052	95%
ch2cl2	ECD	DB-624/1213537	21.26	150		10.7	11.70	9%	20.3	150	20.6	101%	150	20.2	100%
1,1-dca	ECD	DB-624/1213537	25.25	150		12.8	13.70	7%	21	150	24.2	115%	150	22.6	108%
chcl3	ECD	DB-624/1213537	0.52	150		0.24	0.24	0%	0.54	150	0.55	102%	150	0.54	100%
1,1,1-tca	ECD	DB-624/1213537	0.0741	150		0.11	0.123	11%	0.08	150	0.074	93%	150	0.088	110%
ccl4	ECD	DB-624/1213537	0.018	150		0.016	0.017	6%	0.015	150	0.016	107%	150	0.014	93%
1,2-dca	ECD	DB-624/1213537	19.8	150		7.1	7.60	7%	15	150	15.8	105%	150	16.1	107%
tce	ECD	DB-624/1213537	0.42	150		0.17	0.160	6%	0.4	150	0.47	118%	150	0.41	103%
1,1,2-tca	ECD	DB-624/1213537	4.85	150		2.3	2.30	0%	4.5	150	4.8	107%	150	3.9	87%
pce	ECD	DB-624/1213537	0.11	150		0.04	0.043	7%	0.11	150	0.12	109%	150	0.11	100%
chbr2cl	ECD	DB-624/1213537	0.13	150		0.104	0.094	11%	0.12	150	0.136	113%	150	0.11	92%
1,1-dce	PID	AT-624/6820	27.4	200	455	12	11.90	1%	29.1	200	26.7	92%	200	28	96%
t-1,2-dce	PID	AT-624/6820	22.04	200	734	6	5.90	2%	22.04	200	21.7	98%	200	21.9	99%
c-1,2-dce	PID	AT-624/6820	24.92	200	462	10.8	10.10	7%	23.58	200	20.6	87%	200	21.3	90%
benzene	PID	AT-624/6820	13.31	200	528	5	5.10	2%	15.21	200	14.8	97%	200	14.9	98%
toluene	PID	AT-624/6820	17.54	200	482	7.3	6.70	9%	17.01	200	16.4	96%	200	17.6	103%
ethyl benzene	PID	AT-624/6820	18.51	200	349	10.6	10.40	2%	17.76	200	18	101%	200	17.7	100%
m,p-xylene	PID	AT-624/6820	19.86	200	524	7.6	7.70	1%	20.05	200	19.6	98%	200	17.9	89%
o-xylene	PID	AT-624/6820	19.57	200	381	10.3	10.10	2%	16.3	200	16.2	99%	200	14.6	90%
vinyl chloride	PID	AT-624/6820	25	200	235	21.3	19.80	8%	50	100	46.3	93%	100	45.5	91%
chloroethane	FID	DB-624/2557451	1130	180	358	316	311.00	2%	2200	50	2100	95%	50	2500	114%
cfc-113	ECD	DB-1/2553213	0.6	200	530	0.23	0.25	8%	0.6	200	0.68	113%	200	0.62	103%

APPENDIX H

PROPOSAL FOR TECHNICAL MODIFICATIONS, OPTIMIZATION OF USEPA REGION IX, SUBAREA 1 PROPOSED PROJECT, BALDWIN PARK OPERABLE UNIT, SAN GABRIEL VALLEY SUPERFUND SITES

A Report Prepared by Harding Lawson Associates and
David Keith Todd Consulting Engineers, Inc. for

Aerojet General Corporation and
Azusa Land Reclamation Company

PROPOSAL FOR TECHNICAL MODIFICATIONS OPTIMIZATION OF U.S. EPA REGION IX SUBAREA 1 PROPOSED PROJECT BALDWIN PARK OPERABLE UNIT SAN GABRIEL VALLEY SUPERFUND SITES

HLA Project No. 11075 047

Harding Lawson Associates
7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
(415) 892-0821

David Keith Todd Consulting Engineers, Inc.
2914 Domingo Avenue
Berkeley, California 94705
(510) 841-2091

August 12, 1993

A Report Prepared by Harding Lawson Associates and
David Keith Todd Consulting Engineers, Inc. for

Aerojet General Corporation and
Azusa Land Reclamation Company

PROPOSAL FOR TECHNICAL MODIFICATIONS OPTIMIZATION OF U.S. EPA REGION IX SUBAREA 1 PROPOSED PROJECT BALDWIN PARK OPERABLE UNIT SAN GABRIEL VALLEY SUPERFUND SITES

HLA Project No. 11075 047

Harding Lawson Associates
7655 Redwood Boulevard
P.O. Box 578
Novato, California 94948
(415) 892-0821

David Keith Todd Consulting Engineers, Inc.
2914 Domingo Avenue
Berkeley, California 94705
(510) 841-2091

August 12, 1993

TABLE OF CONTENTS

LIST OF PLATES iv

INTRODUCTION 1

BACKGROUND 1

TECHNICAL EVALUATION 3

GROUNDWATER CONDITIONS 5

LOCAL GROUNDWATER FLOW ANALYSIS 7

MODFLOW GROUNDWATER MODEL DEVELOPMENT 9

MODFLOW INPUT PARAMETERS 11

- Model Domain and Grid 12
- Aquifer Thicknesses 12
- Hydraulic Conductivity 13
- Storage Coefficients 14
- Aquifer Recharge 15
  - Spreading Basins 15
  - San Gabriel River 15
  - Santa Fe Diversion 16
  - Precipitation 16
- Groundwater Production 17
- Initial and Boundary Conditions 18

MODEL CALIBRATION - HISTORICAL MATCHING 18

RESULTS OF GROUNDWATER MODELING SIMULATIONS 21

- EPA's Subarea 1 Proposed Project 21
- Technical Modifications for Subarea 1 Proposed Project 23

REFERENCES 25

PLATES

TABLE OF CONTENTS
(continued)

APPENDICES

A Measured and Simulated Water Level Contour Maps

B Hydrographs of Measured and Simulated Groundwater Elevations

C Well Identification Table

LIST OF PLATES

Plate 1	San Gabriel Groundwater Basin
Plate 2	Area of Investigation
Plate 3	Groundwater Elevation Map - November 1986
Plate 4	Baldwin Park Key Well Hydrograph
Plate 5	Groundwater Elevation Map - January 1986
Plate 6	Groundwater Elevation Map - April 1986
Plate 7	Groundwater Elevation Map - July 1986
Plate 8	Groundwater Elevation Map - April 1983
Plate 9	Correlation of Santa Fe Recharge to Site Gradients at ALR
Plate 10	Model Grid
Plate 11	Representation of Aquifer System
Plate 12	Hydraulic Conductivity
Plate 13	Distribution of Areal Recharge
Plate 14	Production Well Locations
Plate 15	Observation Well Locations
Plate 16	EPA's Subarea 1 Proposed Project
Plate 17	Comparison of TCE and PCE Concentrations in Subarea 1
Plate 18	Proposed Modifications for EPA's Subarea 1 Proposed Project
Plate A-1A	Measured Water Levels, October - December, 1977
Plate A-1B	Simulated Water Levels, October - December, 1977
Plate A-2A	Measured Water Levels, January - March, 1978
Plate A-2B	Simulated Water Levels, January - March, 1978

LIST OF PLATES
(Continued)

Plate A-3A Simulated Water Levels, April - June, 1978

Plate A-3B Measured Water Levels, April - June, 1978

Plate A-4A Measured Water Levels, July - September, 1978

Plate A-4B Simulated Water Levels, July - September, 1978

Plate A-5A Measured Water Levels, January - March 1981

Plate A-5B Simulated Water Levels, January - March 1981

Plate A-6A Measured Water Levels, April - June, 1981

Plate A-6B Simulated Water Levels, April - June, 1981

Plate A-7A Measured Water Levels, July - September, 1981

Plate A-7B Simulated Water Levels, July - September, 1981

Plate A-8A Measured Water Levels, October - December, 1981

Plate A-8B Simulated Water Levels, October - December, 1981

Plate A-9A Measured Water Levels, April - June, 1983

Plate A-9B Simulated Water Levels, April - June, 1983

Plate A-10A Measured Water Levels, July - September, 1983

Plate A-10B Simulated Water Levels, July - September, 1983

Plate A-11A Measured Water Levels, October - December, 1983

Plate A-11B Simulated Water Levels, October - December, 1983

Plate A-12A Measured Water Levels, January - March, 1984

Plate A-12B Simulated Water Levels, January - March, 1984

LIST OF PLATES
(Continued)

Plate A-13A Measured Water Levels, July - September, 1990

Plate A-13B Simulated Water Levels, July - September, 1990

Plate A-14A Measured Water Levels, October - December, 1990

Plate A-14B Simulated Water Levels, October - December, 1990

Plate A-15A Measured Water Levels, January - March, 1991

Plate A-15B Simulated Water Levels, January - March, 1991

Plate A-16A Measured Water Levels, April - June, 1991

Plate A-16B Simulated Water Levels, April - June, 1991

Plate B-1 Hydrograph of Measured and Simulated Groundwater Elevations - Well 1900354

Plate B-2 Hydrograph of Measured and Simulated Groundwater Elevations - Well 1901525

Plate B-3 Hydrograph of Measured and Simulated Groundwater Elevations - Well Z1000006

Plate B-4 Hydrograph of Measured and Simulated Groundwater Elevations - Well AZMW0003

Plate B-5 Hydrograph of Measured and Simulated Groundwater Elevations - Well T1SR11W10R3

Plate B-6 Hydrograph of Measured and Simulated Groundwater Elevations - Well T1SR10W19C3

INTRODUCTION

This report presents suggested technical modifications to the U.S. Environmental Protection Agency's Subarea 1 proposed project as described in EPA's *Proposed Plan, San Gabriel Valley Superfund Sites*, dated May, 1993. The modifications are proposed to optimize the efficiency of contaminant removal by at least an order of magnitude, while maintaining EPA's goal for containment in Subarea 1 of the Baldwin Park Operable Unit (OU). The proposed modifications represent a substantial enhancement to EPA's Subarea 1 proposed project, and will ultimately decrease both the time and costs required for remediation not only Subarea 1, but throughout the OU. This proposal was first discussed with EPA at the June 14, 1993, meeting at EPA Region IX, attended by representatives from EPA, Aerojet General Corporation (Aerojet), Azusa Land Reclamation Company (ALR), David Keith Todd Consulting Engineers, Inc. (DKT), and Harding Lawson Associates (HLA).

BACKGROUND

In May 1993, EPA released the *Proposed Plan* that presents the details of a major groundwater extraction, treatment and distribution project proposed for the San Gabriel Valley Superfund Sites Baldwin Park OU. The *Proposed Plan* was based on a contemporaneous EPA document titled *Baldwin Park Operable Unit Feasibility Study Report (OUFS)* dated April 2, 1993. The results of HLA and DKT's technical review and analyses of these two documents are provided in separate reports titled *Review Comments, Baldwin Park Operable Unit Feasibility Study Report; and Review Comments, Proposed Plan, Baldwin Park Operable Unit.*

The above reports prepared by HLA and DKT identify numerous data gaps and deficiencies associated with EPA's *Proposed Plan*, particularly in Subarea 3. Technical evaluations strongly indicate that the proposed project in Subarea 3 is without technical justification, and requires additional data collection and further analysis prior to remedy selection. Although data deficiencies also exist in Subarea 1, an interim action that specifically targets source control appears feasible at the present time. EPA's Subarea 1 proposed project however, does not address source control, and in fact will likely exacerbate the spread of contaminants from "hot spots" into less contaminated zones of the aquifer. The extraction locations proposed by EPA should therefore be relocated to optimize remedy efficiencies and prevent exacerbation of groundwater contamination.

Review of the chemical data on Figure 7-1 of the *OUFS* indicates that PCE has been detected at maximum concentrations ranging from 2,140 to 12,800 micrograms per liter and TCE from 1,650 to 5,890 ug/l in Wells OSCOMW2 and W10WOMW1, respectively. These levels represent the highest concentrations identified in Subarea 1 by at least an order of magnitude, yet EPA's closest extraction location, Cluster 10, is located up to 1-mile downgradient of these evident "hot spots". It appears evident that the operation of EPA's proposed 10 and 13 cluster wells will exacerbate the spread of contaminants from these "hot spots" into less contaminated zones of the aquifer.

The modifications presented herein were developed specifically to optimize the control or reduction of source areas, to prevent the spread of contaminants from "hot spots" into less contaminated zones of the aquifer, to maintain the Subarea 1 containment component specified by EPA, and to minimize the time and costs required for remediation in the OU. To assist in the development of this proposal, a local-scale

groundwater flow model was developed by HLA and DKT specifically to characterize the complex effects of pumping and recharge conditions in the Baldwin Park area.

The results of this analysis indicate that groundwater extraction should be targeted at the two "hot spots" identified in the areas of the industrial area north of the 210 Foothill Freeway (vicinity of Well W10WOMW1) and the Irwindale Avenue industrial corridor (vicinity of Well OSCOMW2) to optimize the removal of contaminant mass, and at an additional third location along Gladstone Street northeast of EPA's proposed 10 and 13 clusters, to further control contaminant migration from Subarea 1. The specific details of this proposal and a description of the technical analyses that serve as a basis to support these proposed modifications are presented in the following sections.

TECHNICAL EVALUATION

This proposal has been developed on the basis of a detailed technical evaluation of the local groundwater flow regime and contaminant distribution in the OU coupled with local-scale groundwater modeling. This evaluation was conducted by DKT and HLA over a 2-year period and incorporated data from more than 175 production and monitoring wells located in the Baldwin Park area. Well data include specific location and construction information, ground surface elevations, water elevation data, inorganic and organic water quality data, and pumping volumes over a 15-year period. Additional local data compiled include monthly recharge volumes for spreading basins in the study area, monthly precipitation data, stream gauge data, and volumes of imported water brought into the basin. Available regional geologic data on alluvium characteristics and tectonic history were also incorporated into the study.

The study comprised an approximate 50-square-mile area in the north central portion of the San Gabriel Basin covering parts of Townships T1N and T1S and Ranges R10W and R11W (Plate 1). The main area of VOC groundwater contamination as identified in the *OUFS* and all three of the EPA-defined Subarea s are included in the area of investigation. The area extends approximately 3 miles from all boundaries of the Aerojet and ALR facilities (Plate 2) to incorporate the local and regional groundwater flow system into the evaluation.

The scope of the study involved detail analyses of groundwater flow and contaminant distribution through time and the development of a groundwater model capable of simulating local groundwater flow changes. Groundwater level contour maps were prepared for selected years from 1966 through 1992. Additional groundwater level contour maps were prepared during groundwater model development that included both measured and simulated quarterly sets for a 14-year period from 1977 to 1991. Chemical distribution maps were prepared for selected chemicals over various time intervals and compared to pumping and recharge volumes as well as groundwater level contour maps.

Several key components that influence the groundwater flow regime and, in turn, the distribution of contamination are also included in the area of investigation (Plate 2). The Lower Duarte Fault which trends northwest - southeast across the northern portion of the study area separates the upper subbasin from the Main San Gabriel Basin and acts as a groundwater boundary condition during times of low groundwater levels. The Santa Fe Spreading Grounds (SFSG), approximately 1-mile west of the ALR and Aerojet sites, receive large volumes of water for groundwater recharge and storage which control groundwater flow directions locally.

Geologic and hydraulic data as well as data related to over 175 wells within the study area were compiled from numerous published reports on the San Gabriel Basin and unpublished files from various public agencies including EPA, Los Angeles Regional Water Quality Control Board (LARWQCB), California Department of Health Services (now DTSC), Main San Gabriel Basin Watermaster (Watermaster), Los Angeles County Department of Public Works (LADPW), and California Department of Water Resources (CDWR). Additional sources for specific data used for the groundwater model are provided in subsequent sections. A list of wells in the study area is provided on the Well Identification Table in Appendix C.

GROUNDWATER CONDITIONS

The aquifer in the San Gabriel Basin consists of unconsolidated to semi-consolidated alluvial deposits shed during the uplift of the San Gabriel Mountains to the north. CDWR estimates sediment thicknesses from less than 100 feet at the northern perimeter of the basin to over 2,000 feet in the southwest portion of the study area (*CDWR, 1966*). The absence of fine-grained, laterally continuous layers in the upper 500 feet of the aquifer in the study area indicates that these deposits can be viewed as a single aquifer system (*EPA, 1992*).

Although depth to groundwater can be highly variable, groundwater generally occurs from approximately 300 feet below the ground surface in the north central portion of the basin to within 10 feet of the ground surface in the southern basin near Whittier Narrows (Plate 2) (*LADPW, 1991b*). In general, groundwater occurs under water table conditions and flows from the basin perimeters toward the basin center and then southwest to Whittier Narrows where surface water and groundwater discharge into the Coastal Basin (*CDWR, 1966*).

In the northern portion of the San Gabriel Basin, groundwater flow is complicated by a series of faults associated with the Sierra Madre Fault System. One of these faults, the Lower Duarte Fault, trends northwest-southeast through the northern portion of the study area and locally affects groundwater flow. (Additional fault splays that may further complicate flow north of the Lower Duarte are not shown for simplicity.) Groundwater elevations north of the Lower Duarte Fault commonly exceed 500 feet mean sea level (msl), creating groundwater level changes of over 200 feet across the fault. Apparently, this elevation change is the result of uplifted bedrock that creates a low permeability boundary when water levels are low and allows for spilling of groundwater across the fault when water levels are high (*CDWR, 1966*).

Groundwater elevations in the study area average approximately 250 feet msl, but can fluctuate significantly with seasonal and yearly variations in precipitation and recharge. A groundwater elevation contour map plotted with data from November 1986 is representative of static groundwater conditions when no recharge is occurring (Plate 3). Additional maps prepared during "dry" conditions show similar patterns including computer contour maps of measured elevations included in Appendix A. In November 1986, groundwater elevations range from above 260 feet msl in the east to below 230 feet msl in the southwest indicating a westerly to southwesterly groundwater gradient during this time period. Absent recharge and pumping stresses on the groundwater system, these gradients represent "normal" conditions. This local groundwater flow pattern is controlled by the regional groundwater basin flow whereby groundwater flows from the perimeters of the basin toward the central portion of the basin and then southwest toward Whittier Narrows.

Groundwater level fluctuations in the area are documented by the systematic monitoring of water levels in the Baldwin Park Key Well, located approximately 2 miles southwest of ALR (Plate 2). A time plot or hydrograph of these elevations from 1933 through 1992 are presented on Plate 4. During this time period, water levels have fluctuated over 125 feet from an approximate high elevation of 325 feet msl in 1944 to an approximate low elevation of 198 feet msl in 1991. In general, water levels have declined during drought cycles and have rebounded abruptly during years of high precipitation and recharge. This abrupt water level rise during wetter years can cause water level changes of over 60 feet within several months as illustrated on the hydrograph during 1978 (Plate 4).

LOCAL GROUNDWATER FLOW ANALYSIS

The water level fluctuations described above are predominantly the result of focused recharge at the Santa Fe Spreading Grounds (SFSG) approximately 1-mile to the west of the ALR and Aerojet sites. The SFSG are unlined basins into which water is diverted from the San Gabriel River and allowed to infiltrate into the groundwater system. Water diverted into the basins originates upstream as local runoff, releases from Morris Dam (1-mile north of the study area), or imported water from a Metropolitan Water District outlet near Morris Dam.

This recharge has a pronounced affect on groundwater flow directions as demonstrated by a time series of groundwater elevation contour maps (Plates 5 through 7) which are described below. Conditions in 1986 were selected to illustrate the pattern because of the abundant water level data from study area wells including detailed site information from the ALR wells (similar water level data are not available prior to 1985).

Plate 5 illustrates the changes in the local groundwater flow regime as a result of water recharge at SFSG in January 1986. A 20-foot groundwater mound forms at SFSG and propagates outward, raising water levels and changing flow directions. At the ALR and Aerojet sites, gradients shift to the south, locally overwhelming the west to southwesterly regional gradients.

Plate 6 illustrates conditions three months later (April 1986) when spreading is at a maximum and, as a result, flow gradients to the south at the sites are additionally enhanced. Southerly gradients also dominate the flow regime south of the Santa Fe Flood Control Basin. The entire corridor between the San Gabriel River and Big Dalton Wash (which corresponds to the area of groundwater contamination) is affected.

During the summer months when spreading has stopped, the groundwater mound disappears and regional westerly to southwesterly gradients again dominate the area. The July 1986 elevation map (Plate 7) illustrates the gradient change back to regional conditions. These conditions persist into the early winter, as illustrated by groundwater contours for November 1986 discussed earlier (Plate 3), until recharge begins again.

An analysis of groundwater conditions during years when recharge occurs other than 1986 shows a similar pattern (see measured and simulated contour maps in Appendix A). The area impacted by the mounding and the duration of these impacts on groundwater flow is directly related to the volumes of water recharged. For example, in 1982-83 when recharge volumes were at an historic high (125,000 acre-feet), the effects from mounding were much more pronounced and affect an even larger geographic area (Plate 8). Southeasterly gradients dominated the corridor between the San Gabriel River and Big Dalton Wash. Regional data suggests that southeasterly to southerly gradients persisted throughout 1983. During these periods of high usage at

SFSG, groundwater gradients increase dramatically in magnitude and can shift locally approximately 150° in direction.

Gradients at the ALR site can be documented in detail over the last 8 years because of the frequent and consistent measurement of water levels in the ALR wells. These gradient direction changes correlate well to volumes recharged at SFSG. Plate 9 shows the relationship between spreading volumes and gradient shifts from 1985 through 1992. After spreading begins, there is an average two month lag before the wells at ALR respond. Site gradients then shift gradually toward the south-southwest. With further recharge, gradient shifts to the south are more pronounced. During years of large recharge volumes such as 1992, site gradients may rotate further, resulting in southeasterly flow. Within approximately one month after recharge ceases, gradients recover to a regional westerly direction.

Changes in groundwater gradients in the OU directly impact groundwater flow and contaminant transport. Understanding the locally-complex groundwater flow system and being able to quantify its effects are necessary for a detailed evaluation of the Baldwin Park OU and the selection of an interim remedy. To assist in this analysis, local-scale groundwater modeling simulations were performed using MODFLOW, a three-dimensional finite-difference groundwater flow code developed by the U.S. Geological Survey. The following sections summarize details of the MODFLOW groundwater model, present results of the groundwater modeling simulations, and present the details of the suggested modifications for Subarea 1.

MODFLOW GROUNDWATER MODEL DEVELOPMENT

A local-scale MODFLOW groundwater flow model was developed by HLA and DKT specifically to characterize the complex effects of pumping and recharge

conditions in the Baldwin Park area and to also provide a predictive tool to evaluate the performance of groundwater remediation alternatives for the OU. A detailed presentation describing the development and calibration of the model was provided at the June 14, 1993, meeting at EPA Region IX. Data obtained for development of the model was derived from a substantial number of published and unpublished reports and files from the CDWR, LADPW, LARWQCB, U.S. Geological Survey, and San Gabriel Basin Watermaster. Quarterly and/or monthly groundwater elevation data; recharge data from spreading basins and spreading grounds, rivers and diversion channels, and precipitation; and pumping data from 175 wells in the approximate 5-mile wide by 8.5-mile long model domain (Plate 10) were collected for a 14-year period from 1977 through 1991.

The initial objective of the groundwater flow simulations was to evaluate and calibrate historical responses of groundwater to transient recharge and pumping conditions. Once calibrated, the flow model was used in conjunction with the model PATH3D (*Zheng, 1989*) to evaluate groundwater remediation scenarios by simulating the effects of groundwater pumping and recharge and calculating groundwater flow paths and travel times. The local-scale three-dimensional block-centered finite-difference model consists of two layers, the upper layer (Layer 1) is simulated as unconfined, while the lower layer (Layer 2) is simulated as variable unconfined-confined. The transient model was used to simulate historical groundwater fluctuations in response to variable aquifer recharge and pumping conditions over the 14-year period from 1977 to 1991. The finite-difference equations are solved using the Strongly Implicit Procedure. Historical matching, sensitivity analyses, and model calibration were performed to assess

the uncertainty in selected input parameters, such as hydraulic conductivity and areal recharge from precipitation.

PATH3D is a general particle tracking program for calculating groundwater paths and travel times in transient three-dimensional flow fields. PATH3D was used to simulate the movement of groundwater flows and the advection of contaminant solutes in groundwater. The program is particularly useful for delineating contaminant capture zones or wellhead protection zones in order to evaluate the effectiveness of remediation scenarios under complex hydrogeological conditions. PATH3D provides a valuable extension to the groundwater flow model which alone does not provide quantitative information on flow paths and travel times, and also serves as a practical alternative to contaminant transport models. PATH3D capture zones are determined based on advective flow only; hydrodynamic dispersion and molecular diffusion are not accounted for in the flow path predictions.

MODFLOW INPUT PARAMETERS

This section describes the design of the model, including grid construction, boundary conditions, aquifer properties, and simulation of external sources and sinks. Aquifer hydraulic conductivity, thickness, and specific yield data were obtained from California Department of Water Resources Bulletin No. 104-2 (*CDWR, 1966*). Recharge and hydraulic head data were obtained from the Los Angeles County Department of Public Works, and well pumpage rates were obtained from the San Gabriel Basin Watermaster. All input data utilized in the development of this model that are not provided in the following sections or appendices, can be made available upon request.

Model Domain and Grid

Plate 10 shows the model domain and grid. The model consists of a roughly 27,000 by 45,000 feet area (over 43 square miles). The rectangular model grid is oriented somewhat parallel to average groundwater flow directions, with grid columns trending N40°E.

MODFLOW uses a block-centered finite-difference grid, in which nodes are located at the center of each finite-difference block. Non-uniform nodal grid spacing was used, with the finest-mesh area in the center of the model. The dimensions of the nodal blocks range from 250 to 1,000 feet in both the x- and y-directions. Each of the two model layers consists of 94 rows and 62 columns (5,828 cells per layer [Plate 10]).

As shown on Plate 11, the model consists of two layers; the top layer was used to simulate approximately the upper 500 feet of saturated alluvium, from which the vast majority of groundwater is produced and the primary zone in which contaminants have been identified. The second or lower layer was used to simulate the deeper alluvium.

Aquifer Thicknesses

Block thicknesses (in the z-direction) within each layer can vary for each nodal block. For the upper model layer, the thickness is the difference between the water table and a datum located at -250 feet msl, except where bedrock occurs above -250 feet msl (in the northern portion of the model area). This -250 feet msl datum was chosen as it corresponds with the deepest screen locations for the majority of the production wells in the OU.

For the lower model layer, the thickness for each nodal block was taken to be the difference between the -250 feet msl datum and the base of the alluvial aquifer.

Where bedrock occurs above -250 feet msl, as in the northern portion of the model area, lower layer nodes are inactive.

Interpretation of lithologic and geologic logs and geophysics in the study area by CDWR yielded values for the depth to bedrock/aquifer thickness input parameters. To obtain values of depth to bedrock for each nodal cell, the finite difference grid was superimposed on a map of the contoured bedrock elevation values (*CDWR, 1966*). Depths to bedrock for each node were then linearly interpolated from the maps. This interpolation and discretization procedure was also employed to generate arrays of hydraulic conductivity, and specific yield and for initial and boundary conditions using water-level elevation measurements from monitoring wells.

Plate 11 shows a three-dimensional surface plot of the elevations of the base of each layer. In the southern portion of the model domain, the base of the Layer 1 is a horizontal plane at -250 feet msl, while in the northern portion of the model, the base of Layer 1 is the depth to bedrock (where bedrock exists above -250 feet msl). The base of the lower layer slopes to the south, where it reaches an approximate maximum depth at elevation -2,200 feet msl. As shown on Plate 11, the top of the shallow aquifer (model Layer 1) is represented at the water table, while the top of the second layer is the base of the first layer.

Hydraulic Conductivity

Contour maps of hydraulic conductivity were developed by interpolating and extrapolating the results of the ten constant-rate aquifer tests conducted on wells in the model domain. The hydraulic conductivities derived from these tests ranged from 30 to 600 feet/day. The highest values occur in the northern area of the model domain; values decrease to the south and along the eastern margins of the domain where

finer-grained deposits exist. These hydraulic conductivity maps were used to generate arrays of hydraulic conductivity values used as nodal input. Plate 12 shows a contour plot of the hydraulic conductivity values assigned to both nodal layers. All nodal hydraulic conductivities are assumed to be horizontally isotropic.

MODFLOW requires the input of parameters (VCONT arrays) that affect vertical flow between layers (*McDonald and Harbaugh, 1984*). Vertical conductances (vertical hydraulic conductivity divided by vertical distances between layers) were developed on the basis of horizontal hydraulic conductivity and thickness values for the two model layers. For the vertical hydraulic conductivities, an assumed horizontal/vertical anisotropy ratio of 10:1 was applied to the heterogeneous hydraulic conductivity array. The thicknesses between the two layers was taken to be the vertical distances between the midpoints of each upper and lower layer nodal block, and the saturated thickness of the upper layer was assumed to be the difference between the first quarter 1977-78 water table and the base of the upper layer.

Storage Coefficients

The alluvial aquifer as represented by the model is simulated as unconfined, thus release of ground water from storage is controlled by the aquifer's specific yield. Estimates of specific yield in the model area were developed by CDWR (*1966*) on the basis of several aquifer tests and sieve analyses of aquifer materials. Specific yields in the model area range from 0.05 to 0.20. These values were extrapolated and used as transient model input.

Aquifer Recharge

Areal recharge to the alluvial aquifer occurs as a result of infiltration of applied recharge at spreading basins and spreading grounds, from seepage through unlined river and flood control or diversion channels, from precipitation, and from irrigation and other return flows. Plate 13 shows the locations of the recharge sources. Recharge via these facilities also varies over time, with the largest recharge occurring during the wettest years. Accordingly, transient and spatially nonuniform recharge was applied to the aquifer model. For each recharge facility or area, quarterly recharge was quantified using data obtained from LADPW Hydrologic Reports (*LADPW, 1991a*). Except for recharge from precipitation, evaporation and evapotranspiration were not accounted for during development of the recharge estimates. Recharge rates and distribution for each source and area are discussed below.

Spreading Basins

Six spreading basins or spreading ground areas are operated by the LADPW within the model domain. These are the San Gabriel Canyon Spreading Grounds, Santa Fe Flood Control Basin Spreading Grounds, Buena Vista Spreading Basin, Citrus Spreading Basin, Irwindale Spreading Grounds, and the Peck Road Spreading Basin (Plate 13). Groundwater recharge beneath each spreading area was simulated by assigning areal recharge rates to discrete model nodal cells, as shown on Plate 13. Quarterly volumes of water infiltrated at each spreading area over the historical model calibration period were compiled and used to simulate transient areal recharge to groundwater.

San Gabriel River

Infiltration of water from the unlined San Gabriel River contributes significant recharge to groundwater. Estimates of the volumes and rates of infiltration are made by

the LADPW by calculating the difference of surface flow measurements at several stream gauge stations along the river. Within the model domain, recharge along three reaches of the river were quantified: 1) from Morris Dam to Stream Gauge Station F190 (at the intersection of the River and Foothill Boulevard); 2) from F190 to the Santa Fe Dam; and 3) from Santa Fe Dam to Stream Gauge Station F261 (downstream of the convergence of the River and Walnut Creek). For the period 1977-1980, only total recharge from F190 to F261 was reported by the LADPW. Recharge in these zones was applied over finite areas (nodal cells) used to represent the rivers (Plate 13).

Santa Fe Diversion

Recharge also occurs along a diversion channel between the Santa Fe Spreading Basin and the Peck Road Spreading Basin. The volumes of water infiltrated along this diversion channel are generally low relative to the larger spreading basins. A simulated recharge area of approximately 246.8 acres was used in the model (Plate 13). The volume of water infiltrated was applied uniformly over this area. Total quarterly infiltration volumes were obtained directly from LADPW Hydrologic Reports. For the period 1977-87, only total annual River infiltration volumes were reported by the LADPW. For these years, the annual infiltration volumes were assumed to be distributed uniformly in time over the entire modeled water year. Total quarterly infiltration volumes for the Santa Fe Diversion ranged from 0 acre-feet during several quarters to 6,523 acre-feet during each quarter of 1982-83.

Precipitation

Groundwater recharge from infiltration of precipitation was also accounted for in the model. Recharge from precipitation is that percentage of precipitation that infiltrates to the water table; i.e. precipitation minus interception, runoff, evaporation,

and evapotranspiration, excluding artificial recharge from spreading basins and rivers. Time-varying recharge from precipitation was calculated using total quarterly precipitation data compiled from LADPW files. Precipitation totals from Station No. 1041B, located at Santa Fe Dam, near the centroid of the model area, were used. The amount of recharge from precipitation input into the model was based on empirical equations developed by CDWR (*1966*) for total annual precipitation and recharge. For purposes of the transient quarterly stress periods, ratios of total quarterly precipitation to total annual precipitation were multiplied by the estimated total annual recharge to derive quarterly recharge rates. The recharge from precipitation was applied non-uniformly within the model domain using topographic maps and areal photographs to identify likely precipitation recharge areas. Precipitation recharge was assigned to undeveloped and unpaved areas, as shown on Plate 13.

Groundwater Production

Time-varying groundwater production in the model was simulated using quarterly pumpage totals for 175 production wells that operated in the model area during the 14-year period. The locations of these wells are shown on Plate 14. Quarterly production data were obtained from the San Gabriel Basin Watermaster. The majority of groundwater in the OU is produced from the upper 500 feet of the aquifer which is represented by Layer 1 in the model (extending to -250 feet msl). For wells that produce from both Layers 1 and 2 in the model, the total production was proportioned between the two layers as a function of the lengths of the well screen in each layer. For those production wells for which well completion data were not available, it was assumed that all groundwater is produced from Layer 1 only.

Initial and Boundary Conditions

A combination of no-flow and time-varying specified-head (general head) conditions (*McDonald and Harbaugh, 1984*) was used as boundary conditions for the model. General-head conditions were used for nodes located at the grid edges and along the Duarte fault (Plate 13). No-flow nodes were assigned to areas of the model where bedrock outcrops exist (Layer 1) and/or where bedrock exists above -250 feet msl (for model Layer 2). This combination of boundary conditions was selected to assure convergence to a solution during model calibration, while minimizing the influence of constant-head boundaries during transient pumping simulations.

Monthly and/or quarterly groundwater elevation measurements from 1977 through 1991 for approximately 120 wells in the model area (Plate 15) were obtained for LARWQCB site assessment groundwater monitoring wells and also for production and observation wells on file with the Los Angeles Department of Public Works. The groundwater elevation data for quarterly periods from 1977 through 1991 were extrapolated to the general-head nodes and used for boundary condition values. Boundary nodes were assigned a new set of elevations each quarter to simulate the transient groundwater conditions.

MODEL CALIBRATION - HISTORICAL MATCHING

Calibration of the groundwater flow model was performed by adjusting the initial hydraulic conductivity array until model-computed (simulated) hydraulic heads matched closely to measured groundwater elevations from the 14-year quarterly data sets comprising 56 periods. Because hydraulic conductivity is often associated with a relatively moderate degree of uncertainty in relation to other aquifer parameters, it was the primary parameter that was adjusted during calibration. Other characteristics of the

flow system that were subjectively assessed during calibration included flow direction and hydraulic gradients.

Historical matching between the model simulations and the measured groundwater levels was successfully achieved by applying a uniform 35 percent reduction of the hydraulic conductivity array in the model domain. Examples of the historical matching results for a variety of conditions in San Gabriel Basin including wet, dry, and average years; as well as seasonal and temporal variations (based on the hydrograph of water levels of the Baldwin Park Key Well - Plate 4) are shown by comparing the sets of Plates A-1A with A-1B through A-16A with A-16B, respectively (Appendix A). Comparison of each respective set of plates demonstrates the model's ability to simulate local-scale historical responses of groundwater to transient recharge and pumping conditions in the OU for selected periods from 1977 through 1991. These data sets were arbitrarily selected as examples: the remaining 40 sets of quarterly groundwater level contour maps can be made available upon request.

As illustrated on the Plates presented in Appendix A, successful matching is evident in groundwater level elevation contours, flow directions, and hydraulic gradients under a multitude of complex and varying conditions. For example, comparison of Plates A-1A with A-1B demonstrates that simulated groundwater gradients and flow directions match closely with the measured shallow groundwater gradient to the southwest representative of a dry period on the hydrograph (Plate 4) from October to September, 1977. The simulated water levels (A-1B) shown on in the northern portion of the model domain (210 msl contour), central portion of the OU (205 msl contour), and along the southern area of the model domain (200 msl contour) all match closely with the measured water level contours shown on Plate A-1A. In contrast to the

relatively dry period simulated on Plate 1B, comparison of Plates A-3A with A-3B illustrate a wet period on the hydrograph representative of April to June, 1979. As shown in both the measured and simulated results, water level elevations in the vicinity of the Santa Fe Flood Control Basin increased dramatically to approximately 350 msl. The simulated results (Plate A-3B) demonstrate the model's ability to accurately represent the localized changes in the flow regime resulting from increased precipitation and recharge in comparison to the October to September, 1977 conditions. The complexity of the flow regime and ability of model to simulate these changes (as observed in both the measured and simulated results) is evident from the illustrated radial flow directions and steep groundwater gradients away from the immediate vicinity of the Santa Fe Flood Control Basin, and resulting changes in the central and southern areas of the model domain (where flow directions are predominantly to the south in the vicinity of the 240 through 260 msl contours). The effects of similar groundwater level fluctuations and the ability of the model to accurately simulate local-scale responses of groundwater flow to transient recharge and pumping conditions are evident from comparison of the measured and simulated results throughout the 14-year historical matching process, as illustrated for a variety of conditions in the remaining modeling simulations presented in Appendix A.

A second method of verifying model calibration included the comparison of simulated and measured water levels in wells distributed throughout the model domain. Plates B-1 through B-6 (Appendix B) show hydrographs of the simulated and measured water levels for six wells that are spatially distributed throughout the model domain. As shown, the success of matching is evident in terms of water level elevations and fluctuations over time. The magnitude and direction of simulated hydraulic heads

compare well with measured head values. Plate B-1 is a hydrograph prepared for Well 1900354 located immediately north of the spreading grounds area of the Santa Fe Flood Control Basin. It shows the largest fluctuations of groundwater elevations in the model domain, and illustrates the ability of the model to accurately simulate fluctuations of approximately 180 feet with no or few deviations. Similar results are evident on Plate B-3, a hydrograph of the Baldwin Park Key Well (Well Z1000006). As shown, variations in simulated groundwater elevations with time correspond closely with measured quarterly variations. The magnitude of simulated fluctuations is typically within 5 to 10 feet of measured fluctuations, and only once varies as much as 18 feet. This level of accuracy is significantly greater than the 20- to 30-foot range of variations evident in EPA's calibration results for the CFEST model. This second method of model calibration further verifies the model's ability to accurately simulate responses to effects of recharge and pumping within the OU.

RESULTS OF GROUNDWATER MODELING SIMULATIONS

EPA's Subarea 1 Proposed Project

Predictive modeling with the Baldwin Park model was first performed to evaluate the hydraulic effects of operating Clusters 10 and 13 at the locations and extraction rates identified for EPA's Subarea 1 proposed project. To perform this evaluation, the results from the MODFLOW groundwater flow simulations were used in conjunction with PATH3D to simulate the movement of groundwater flows and the advective transport of contaminant solutes in groundwater. This process is particularly useful for identifying contaminant capture zones under complex hydrogeological conditions. PATH3D capture zones are determined based on advective flow only; hydrodynamic dispersion and

molecular diffusion are not accounted for in the flow path (particle tracking) simulations.

The results of the modeling simulations for EPA's Subarea 1 proposed project are shown on Plate 16. The particle tracking results from PATH3D illustrate the capture zones resulting from Clusters 10 and 13. The arrows along each flow line (particle track) indicate flow directions and travel times at 5-year intervals. Particle tracks that end at extraction locations indicate that these flow lines would be captured by pumping, and suggest that contaminant solutes in groundwater from these areas would be removed from the aquifer. The time-related capture zones were calculated using a reverse flow path analysis technique.

Review of Plate 16 indicates that EPA's Subarea 1 proposed project appears to achieve containment at the terminus of Subarea 1, however the high rates of extraction at the 10 and 13 clusters will exacerbate the spread of contaminants from identified "hot spots" in Subarea 1, into less contaminated zones of the aquifer. EPA's project fails to target groundwater extraction at the two identified "hot spots" in the vicinity of Wells W10WOMW1 and OSCOMW2 where the highest concentrations of TCE and PCE have been detected in the OU. Plate 17 (prepared using chemical data from Figure 7-1 of the *OUFS*) illustrates the order of magnitude differences in concentrations between these two "hot spots", a nearby monitoring well, and EPA's 10 and 13 Cluster locations. Source control response actions to maximize the removal of contaminant mass from the aquifer at these two separate and distinct "hot spots" is essential to optimize efficiencies of groundwater remediation in Subarea 1.

Technical Modifications for Subarea 1 Proposed Project

In an effort to optimize source control (maximize the efficiency of contaminant mass removed from the aquifer per volume of water) and containment objectives for Subarea 1, additional modeling simulations were performed to enhance EPA's Subarea 1 proposed project. The first step of the analysis included the relocation of EPA's 10 and 13 extraction clusters to areas slightly downgradient of the TCE/PCE "hot spots" at Wells W10WOMW1 and OSCOMW2 (identified on Figure 7-1 of the *OUFS*) to optimize contaminant removal. The results of computer simulations and particle tracking analysis indicate that the operation of extraction wells at W10WOMW1 and OSCOMW2 at rates of 3,000 and 4,000 gallons per minute (gpm), respectively, result in capture zones that are effective to address "hot spot" remediation and to prevent the spread of contaminants from these "hot spot" areas into less contaminated zones of the aquifer (Plate 18). To enhance these modifications that were developed to address "hot spot" remediation, a third extraction well was incorporated into the modeling simulations to maintain EPA's Subarea 1 containment component. This third well is located along Gladstone Street, just northeast of EPA's 10 and 13 clusters, identified as Well 3 on Plate 18. As shown on Plate 18, the particle tracking analysis demonstrates that downgradient migration control for Subarea 1 is effective by operating Well 3 at an extraction rate of 2,000 gpm.

The results of the above modifications that have been developed to optimize "hot spot" remediation and containment in Subarea 1 are identified in the groundwater modeling simulation illustrated on Plate 18, and includes the operation of three extraction wells (W10WOMW1, OSCOMW2, and 3) at a combined rate of 9,000 gpm. This configuration optimizes contaminant removal at evident "hot spots" and also provides sufficient hydraulic containment (capture) to control higher concentrations of

chemicals from moving into less contaminated areas downgradient of Subarea 1. The strategy to maximize the removal of contaminant mass from the aquifer per volume of water removed optimizes the efficiency of the response action by at least an order of magnitude. The increased efficiencies that result from targeting "hot spot" remediation coupled with containment, will ultimately decrease both the time and costs required for remediation not only Subarea 1, but throughout the OU. Most importantly, the proposed modifications provide the added benefit of preventing the spread of contaminants from "hot spots" into less contaminated zones of the aquifer.

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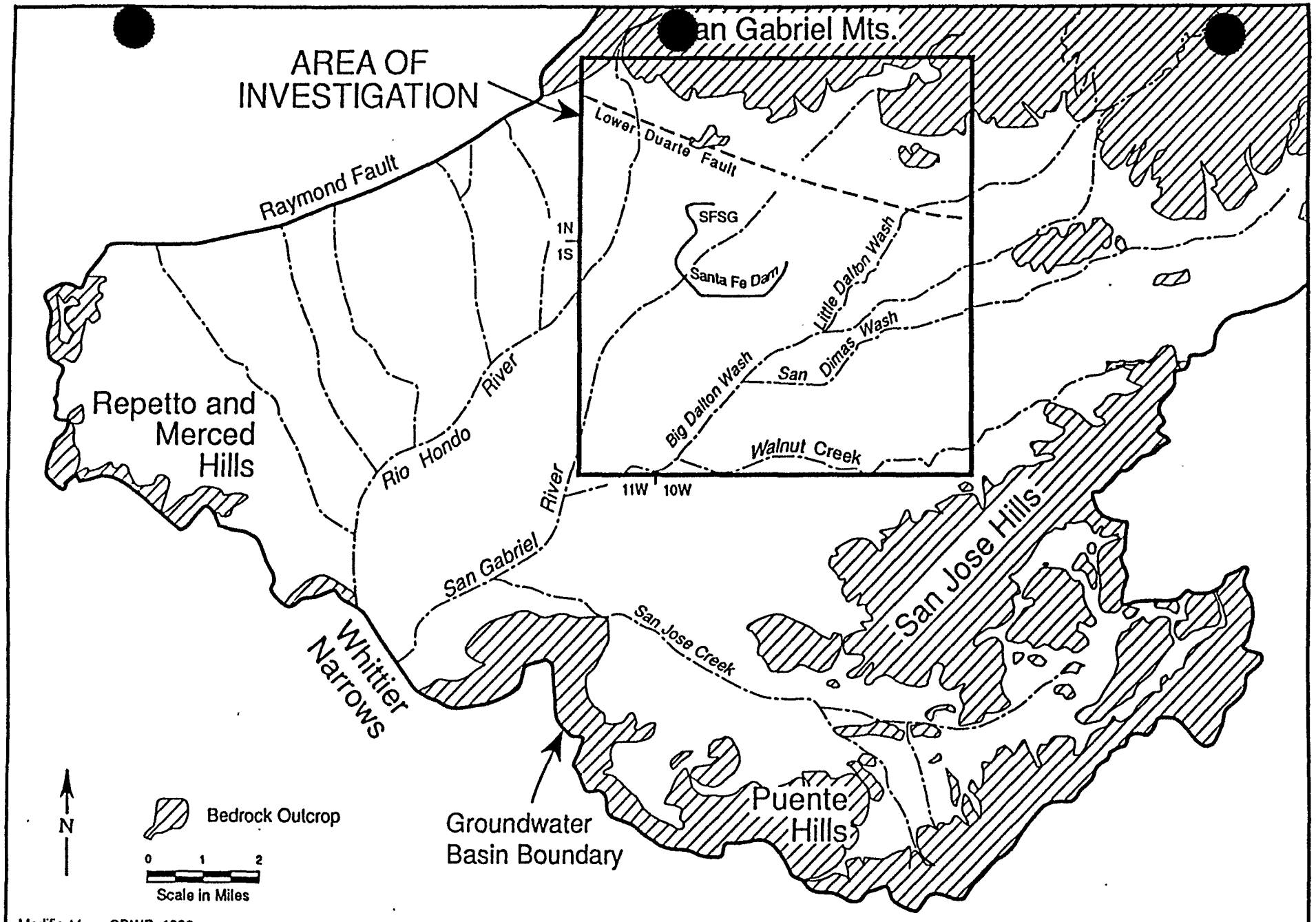
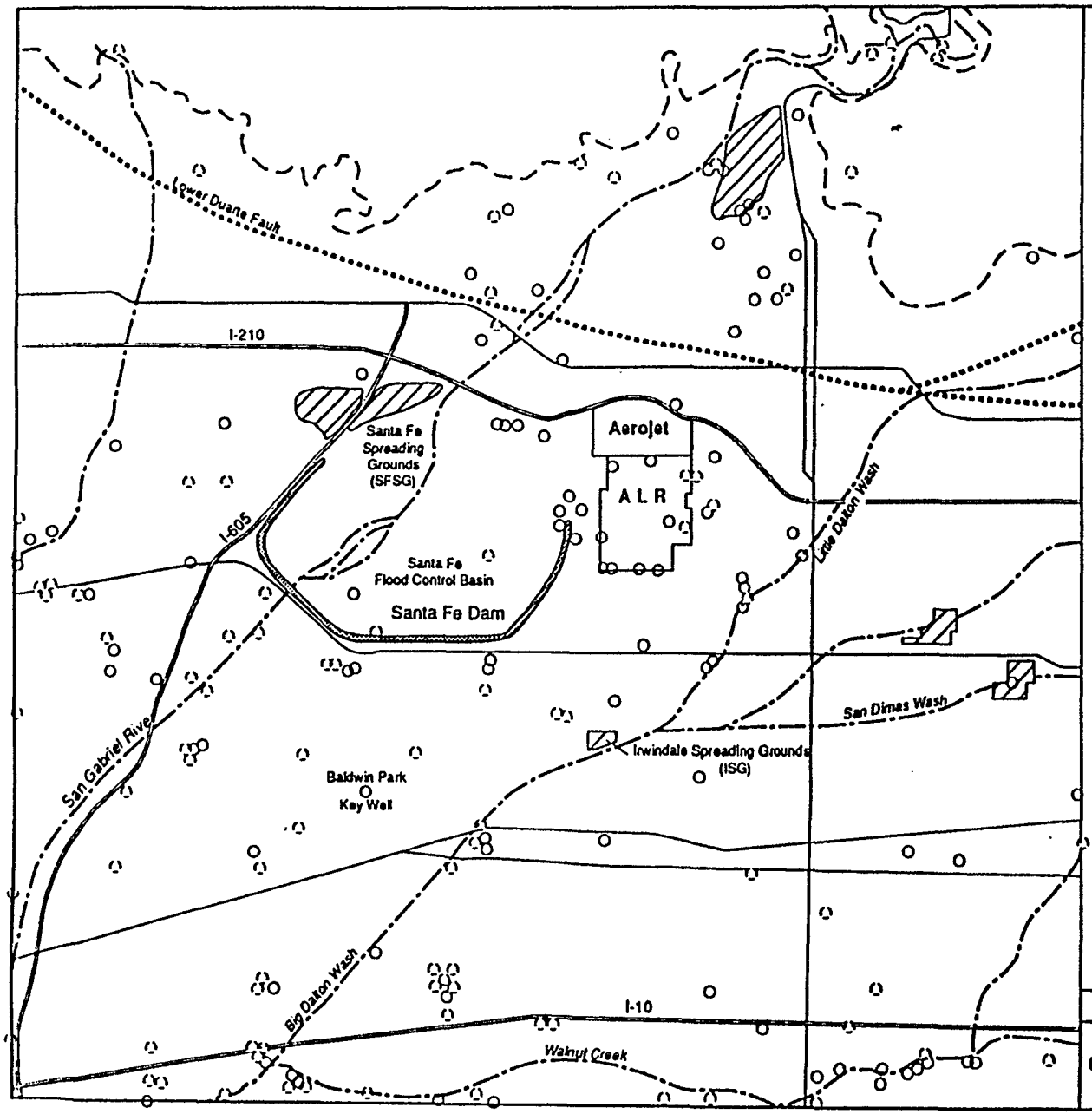
PLATES



August 1993 DAVID KEITH TODD Consulting Engineers, Inc. Berkeley, California	**Plate 1** **San Gabriel Groundwater Basin**



LEGEND

- Approximate Alluvial Aquifer Boundary
- Geologic Fault
- Stream Channel
- Well Location-Production and Monitoring Wells
- Well Location Approximate
- Spreading Basin

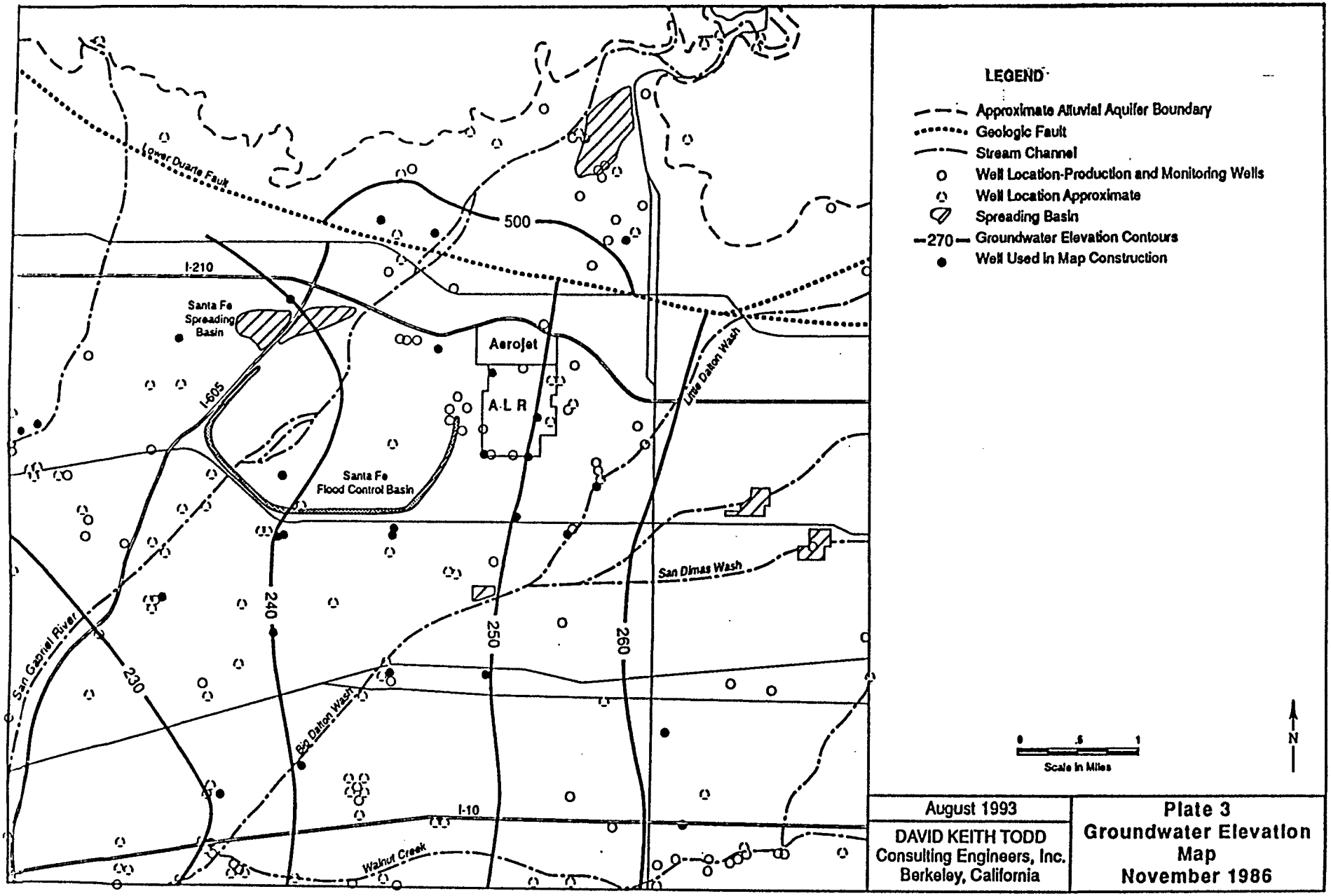
0 .5 1
Scale in Miles

N

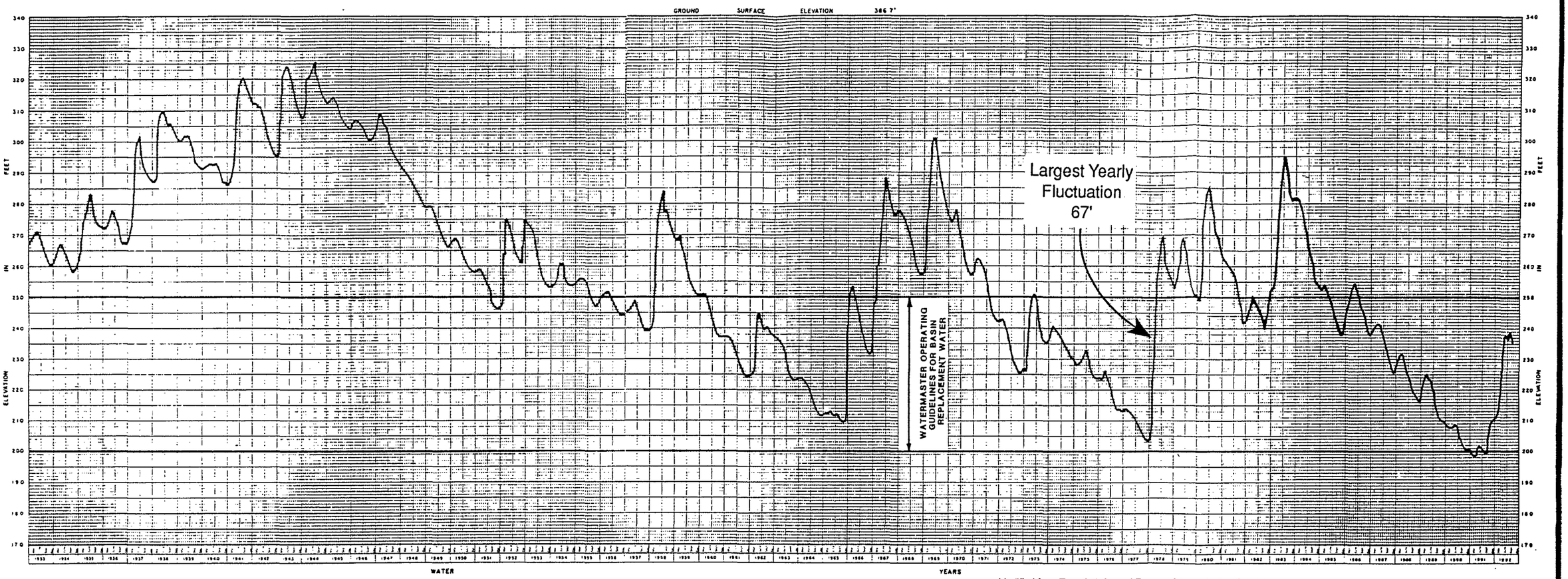
August 1993

DAVID KEITH TODD
Consulting Engineers, Inc.
Berkeley, California

Plate 2
Area of Investigation



August 1993	Plate 3 Groundwater Elevation Map November 1986
DAVID KEITH TODD Consulting Engineers, Inc. Berkeley, California	



Historic High Groundwater Elevation - 325'
Historic Low Groundwater Elevation - 198'

Approximate Water Level Fluctuations in:

- "Wet" Years	-	35' - 67'
- "Dry" Years	-	7' - 11'
- "Average" Years	-	15' - 20'

Modified from Twentieth Annual Report of the Main San Gabriel Basin Watermaster for 1991-1992. November 1, 1992.

STETSON ENGINEERS INC.
•3104 East Garvey Avenue • West Covina, CA 91791
•2171 E. Francisco Blvd., Suite K • San Rafeal, CA 94901
•224 Avenida Del Mar, Suite D • San Clemente, CA 92672
•2651 W. Guadalupe Rd., Suite A209 • Mesa, AZ 85202

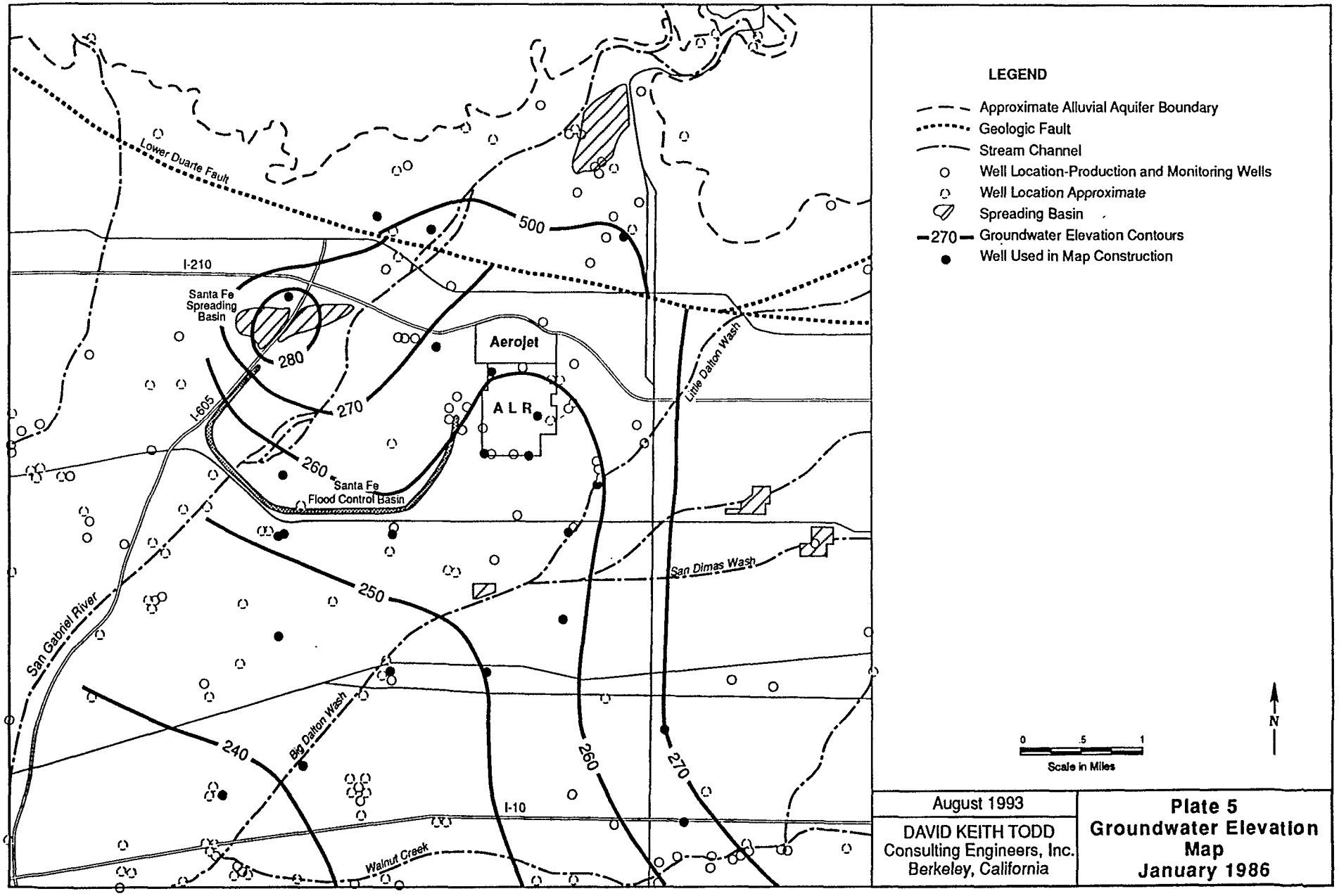
MAIN SAN GABRIEL BASIN WATERMASTER

WATER LEVEL ELEVATIONS
OF BALDWIN PARK KEY WELL
(LACFCD WELL NO. 3030-F)

August 1993

DAVID KEITH TODD
Consulting Engineers, Inc.
Berkeley, California

Plate 4
Baldwin Park
Key Well Hydrograph



August 1993

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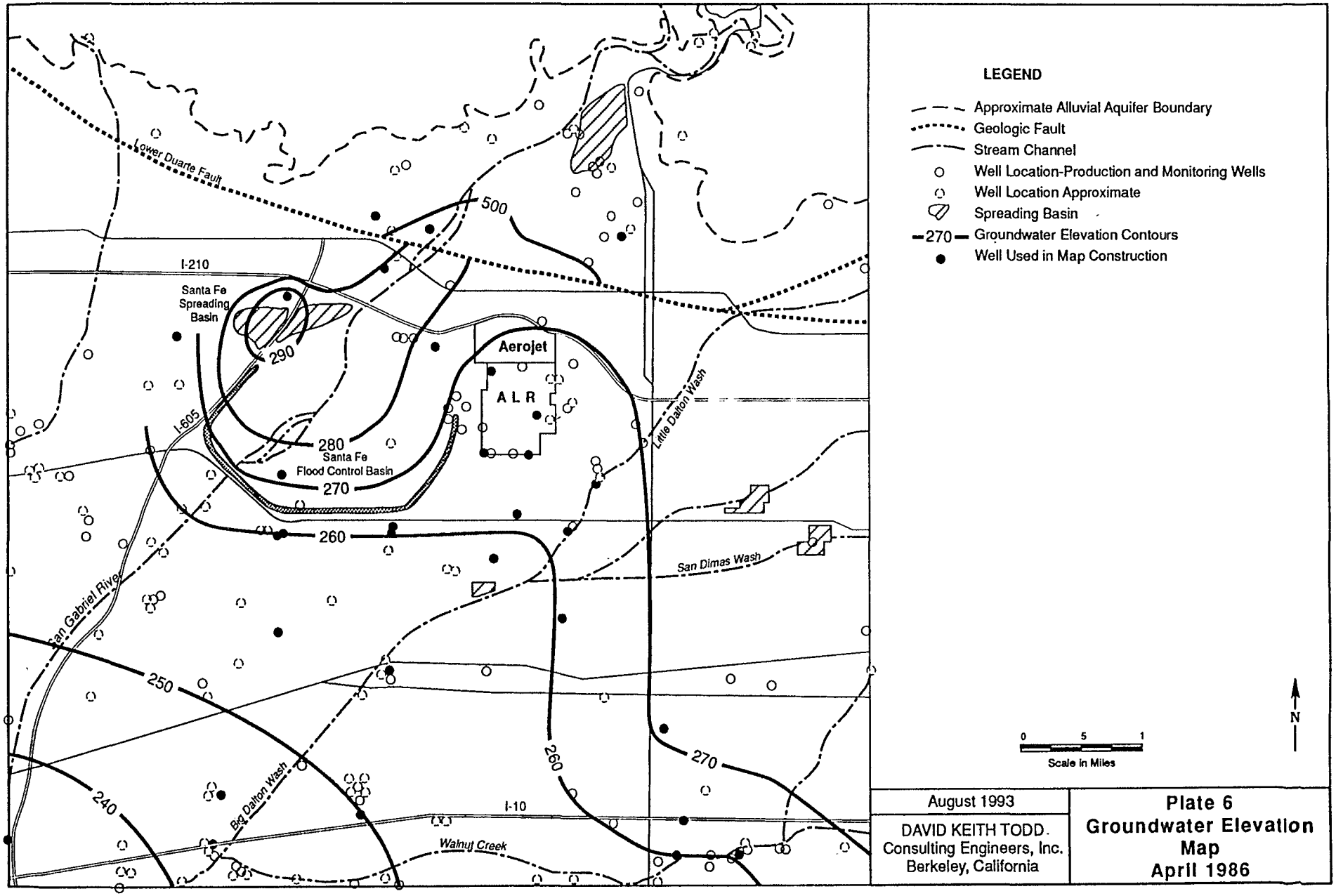
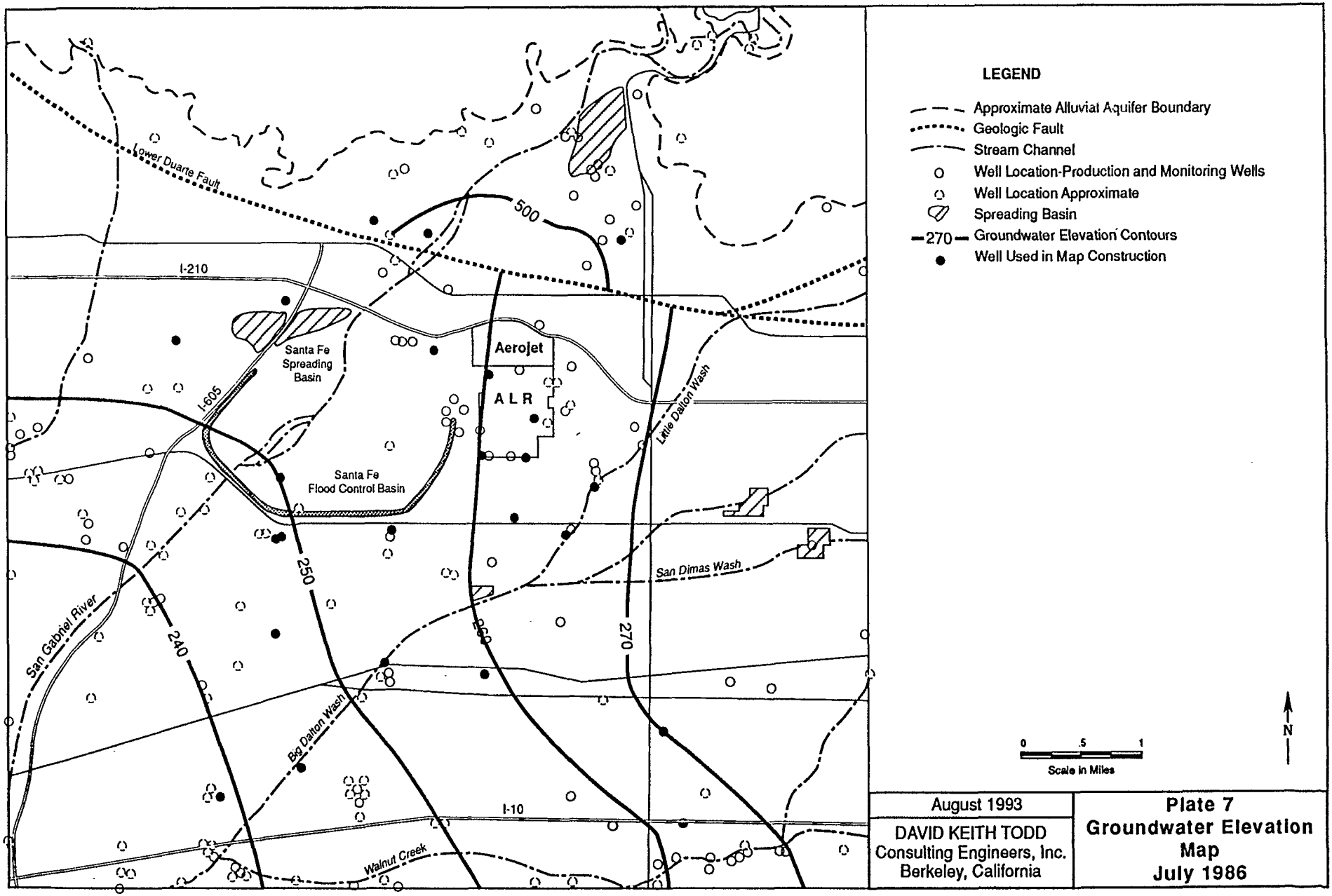
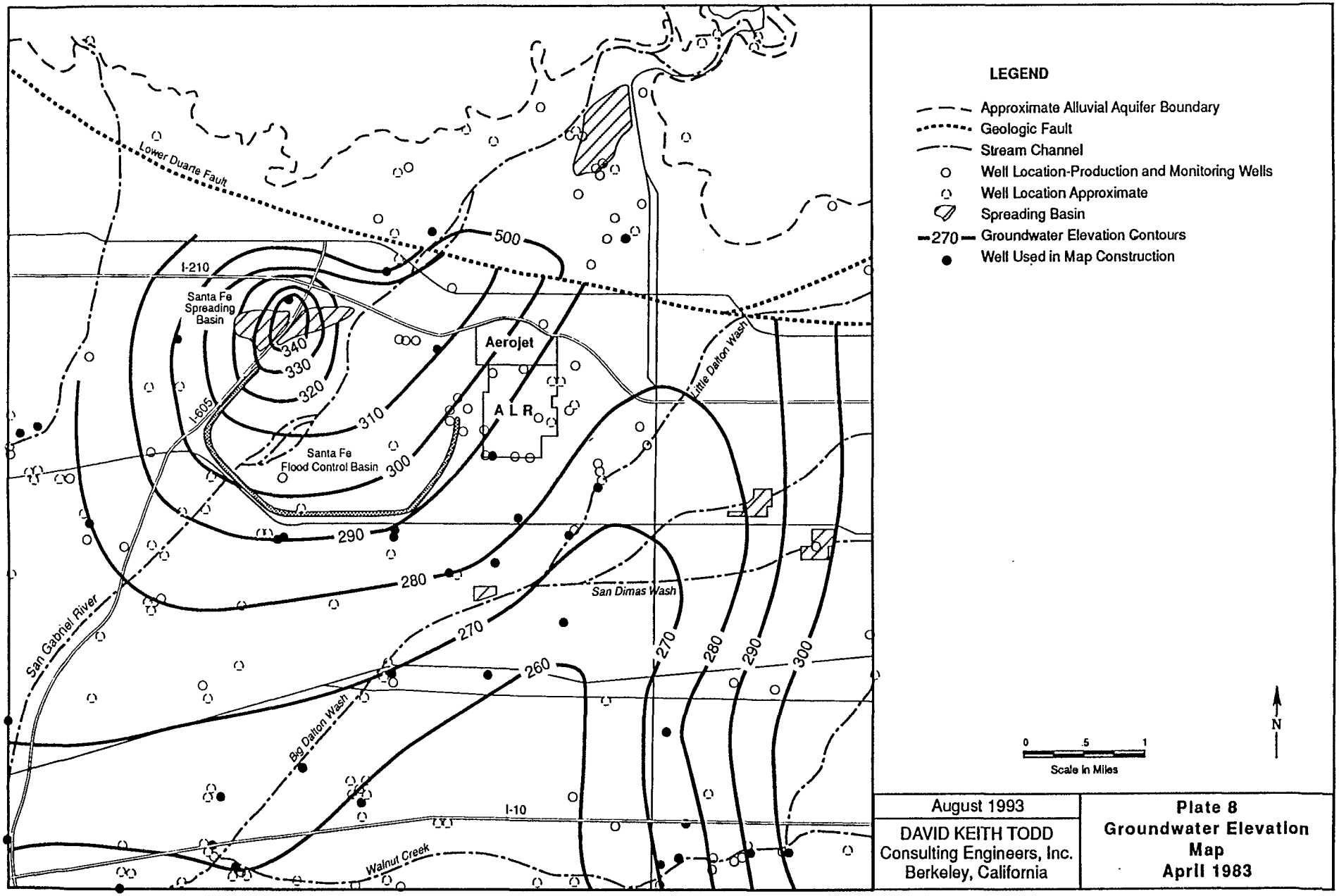
Berkeley, California

Plate 5
Groundwater Elevation Map
January 1986


LEGEND
Approximate Alluvial Aquifer Boundary
Geologic Fault
Stream Channel
Well Location-Production and Monitoring Wells
Well Location Approximate
Spreading Basin
270 Groundwater Elevation Contours
Well Used in Map Construction
Lower Duarte Fault
I-210
Santa Fe Spreading Basin
Aerojet
A L R
I-605
Santa Fe Flood Control Basin
Little Dalton Wash
San Dimas Wash
San Gabriel River
Big Dalton Wash
Walnut Creek
I-10
500
290
280
270
260
250
240
0 5 1
Scale in Miles
N
August 1993
DAVID KEITH TODD. Consulting Engineers, Inc. Berkeley, California
Plate 6
Groundwater Elevation Map
April 1986

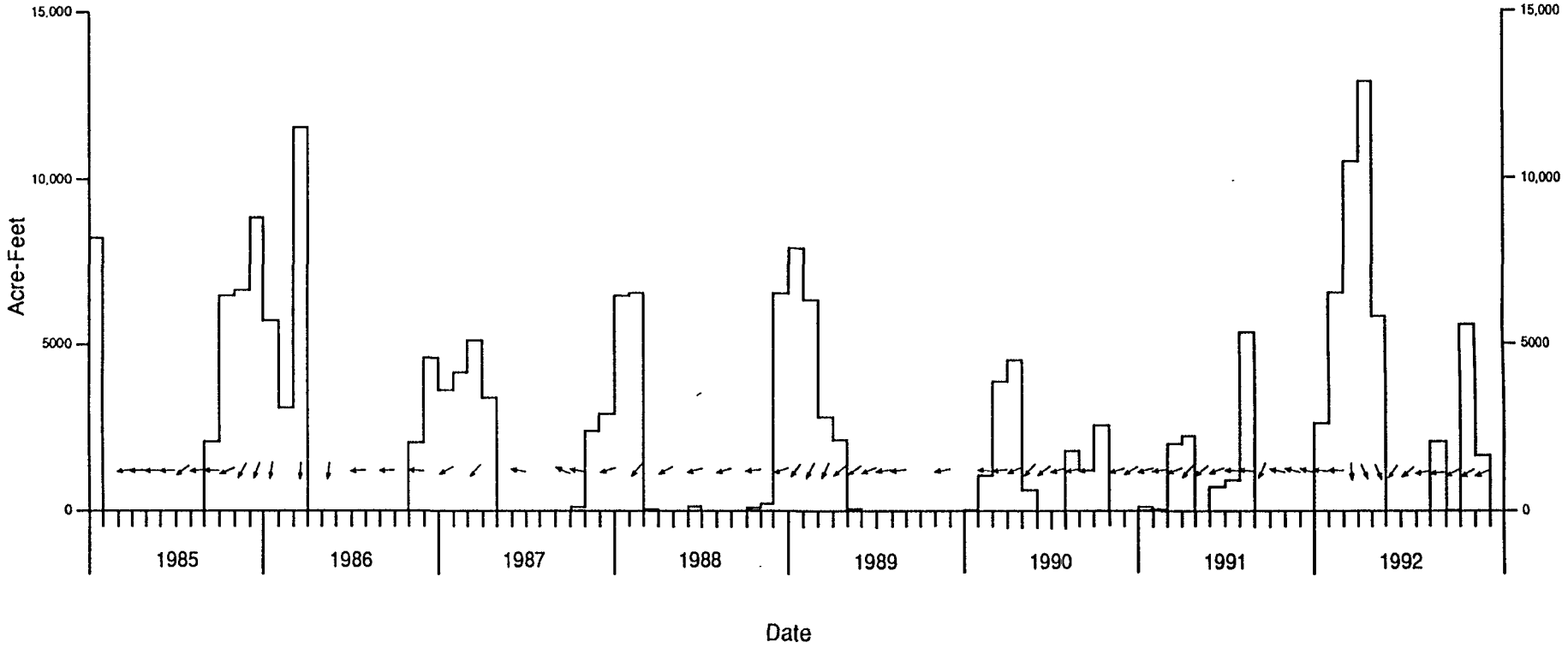


August 1993	**Plate 7**
DAVID KEITH TODD Consulting Engineers, Inc. Berkeley, California	**Groundwater Elevation Map** **July 1986**



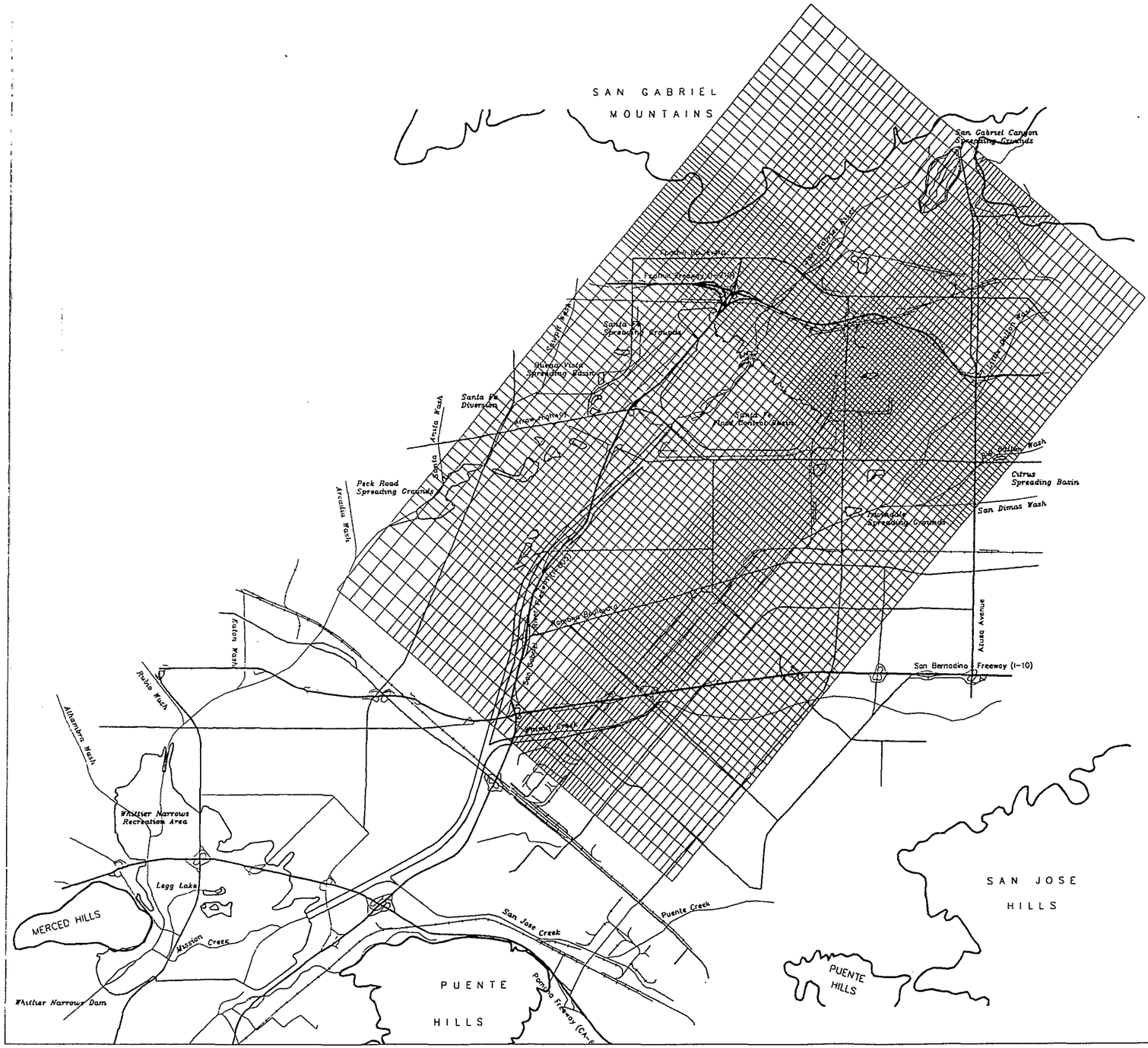
August 1993	**Plate 8**
DAVID KEITH TODD Consulting Engineers, Inc. Berkeley, California	**Groundwater Elevation Map** **April 1983**

Correlation of Monthly Volumes Recharged at Santa Fe Spreading Grounds to Site Gradients at ALR



Note: Arrows show uncorrected gradient directions across ALR site.

August 1993	Plate 9 SFSG Recharge and ALR Site Gradients
DAVID KEITH TODD Consulting Engineers, Inc. Berkeley, California	



EXPLANATION

Individual Cells within
Model Domain
94 Rows x 62 Columns

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

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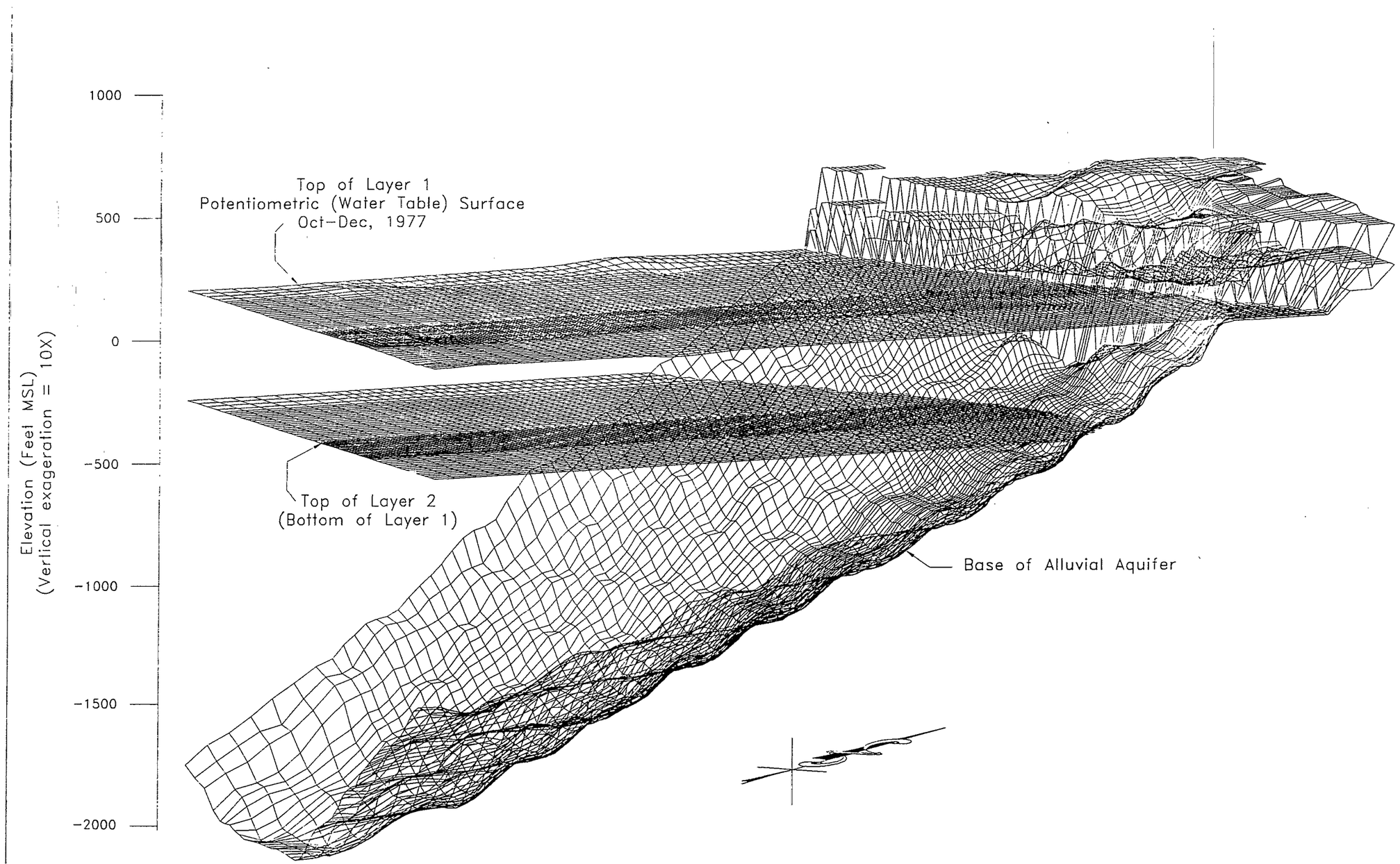
Baldwin Park OU Groundwater Model
Model Grid
San Gabriel Valley Superfund Sites

DRAWING:	10
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



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DATE: | DATE:

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Baldwin Park OU Groundwater Model
Representation of Aquifer System
San Gabriel Valley Superfund Sites

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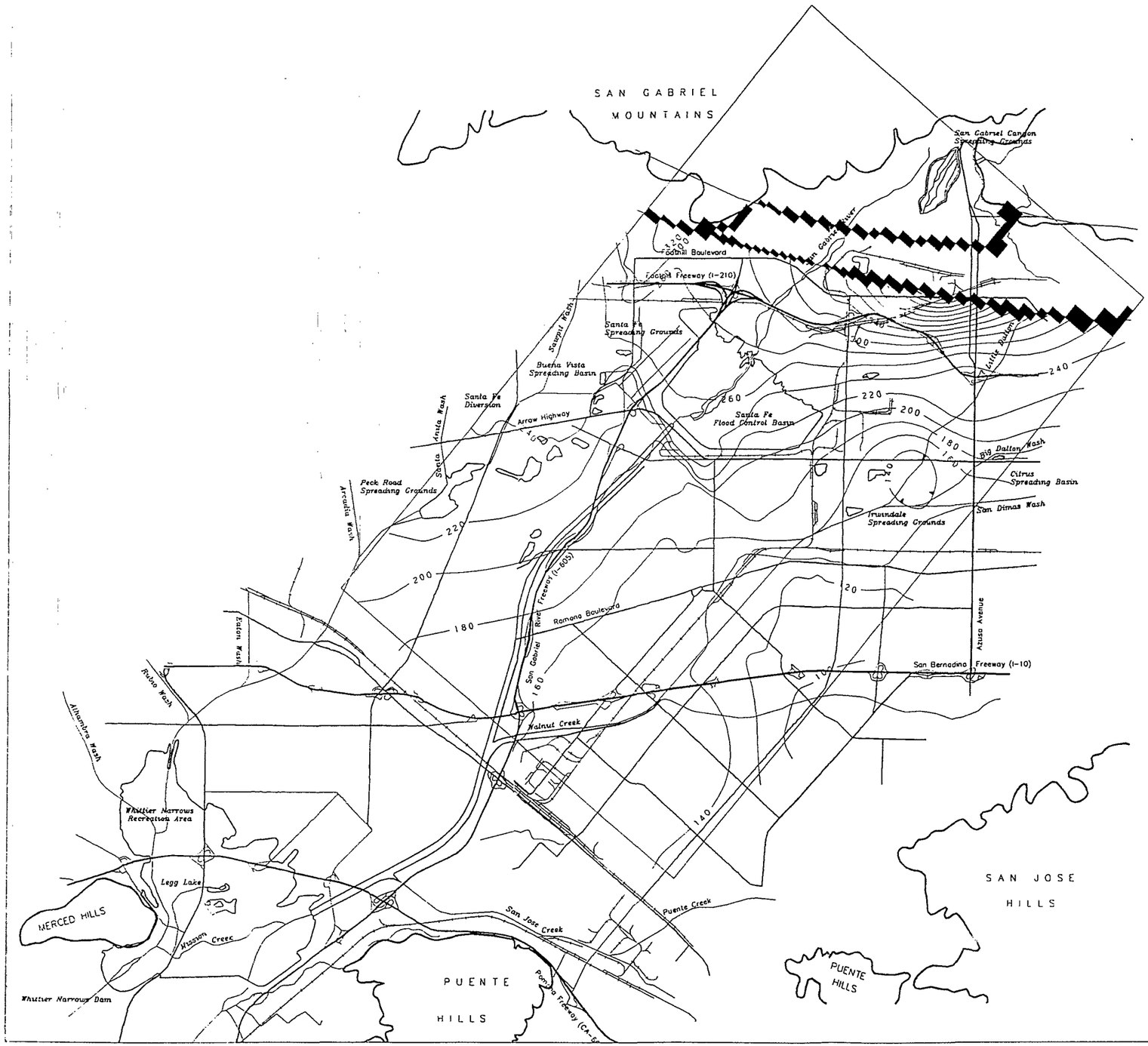
REVISION NUMBER:
DATE: 7/29/93



EXPLANATION

200 Hydraulic Conductivity Contour (ft/day)

NO	DATE	REVISIONS	BY	CHK

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ENGINEER:	SCALE: 1"=3000'		
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Baldwin Park OU Groundwater Model
Hydraulic Conductivity
San Gabriel valley Superfund Sites

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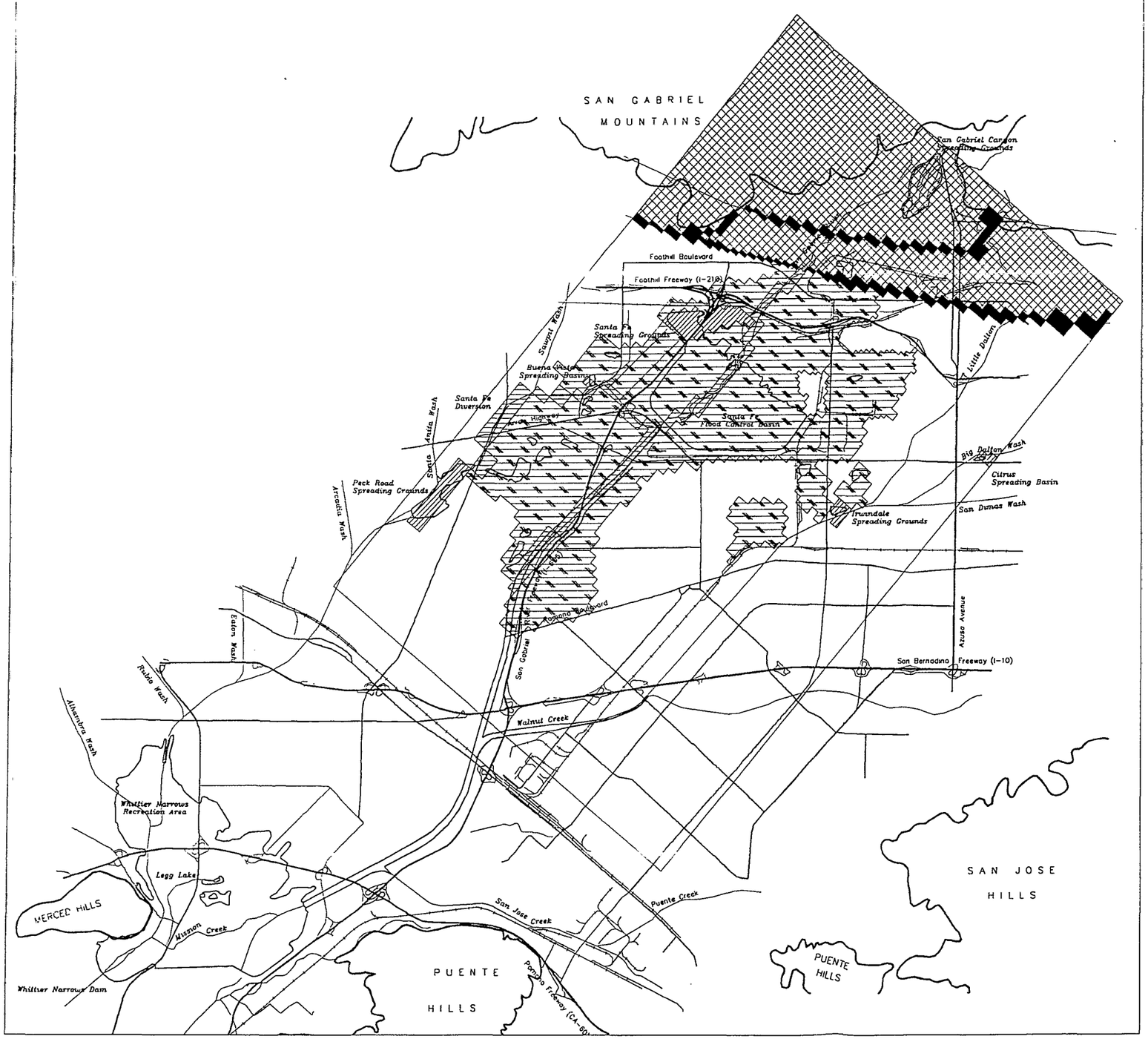

EXPLANATION

SAN GABRIEL MOUNTAINS — Extent of Bedrock Outcrops

Inactive Cells

Cells representing Faults

Cells with recharge from Spreading Basins

Cells with recharge from San Gabriel River and Santa Fe Diversion

Cells with recharge from Precipitation

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

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ENGINEER:	SCALE: 1"=3000'		
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Baldwin Park OU Groundwater Model
Distribution of Areal Recharge
San Gabriel Valley Superfund Sites

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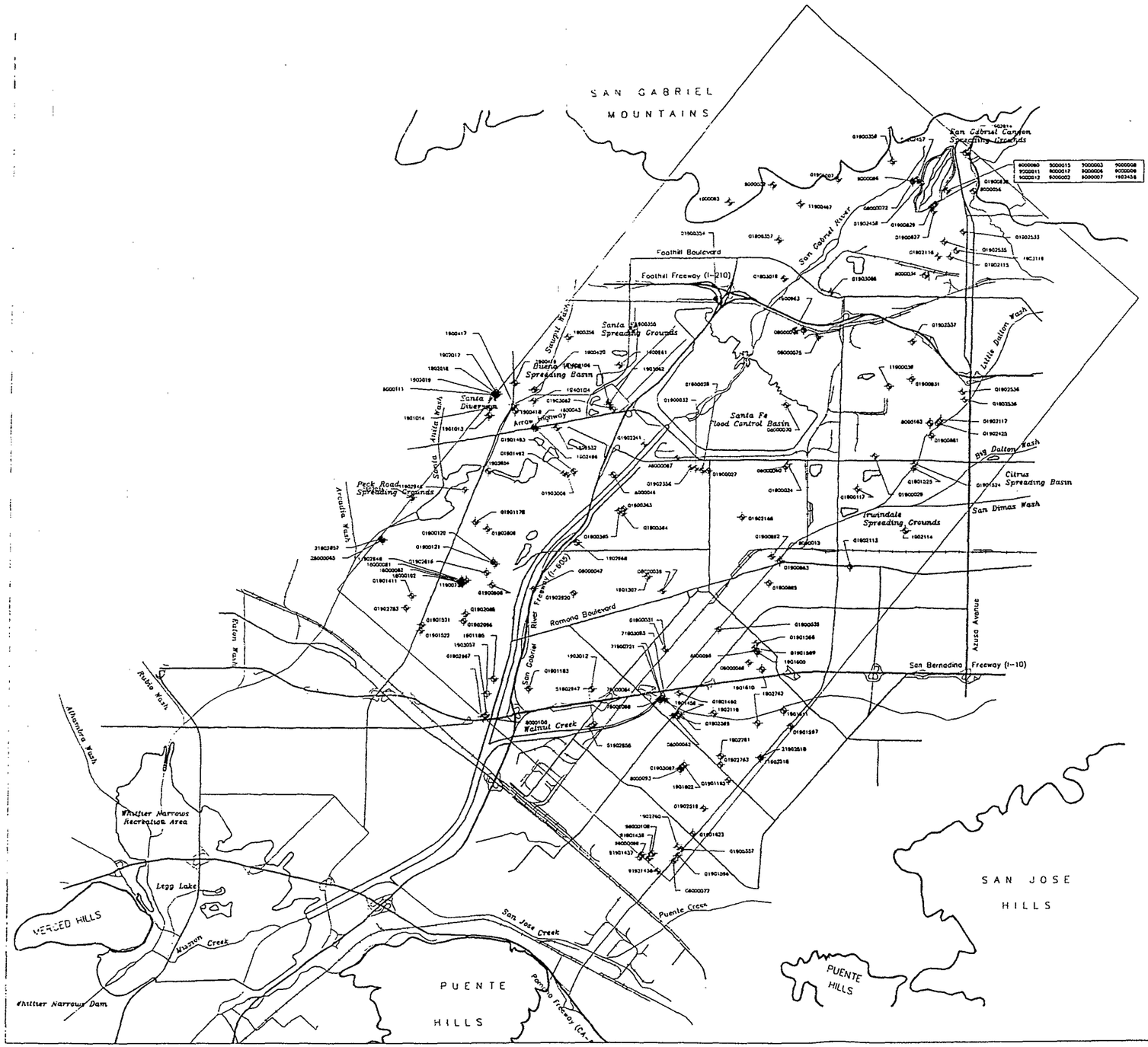

EXPLANATION

Well Recordation Number and Location

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK	

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Baldwin Park OU Groundwater Model
Production Well Locations
San Gabriel Valley Superfund Sites

DRAWING:	14
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REVISION NUMBER:	
DATE:	7/29/93

EXPLANATION

Well Recordation Number and Location

0 2000 4000
SCALE IN FEET

DRAWN:	PROJECT NO: 22731 1	**Harding Lawson Associates** Engineering and Environmental Services	Baldwin Park OU Groundwater Model Observation Well Locations San Gabriel Valley Superfund Sites	DRAWING: 15
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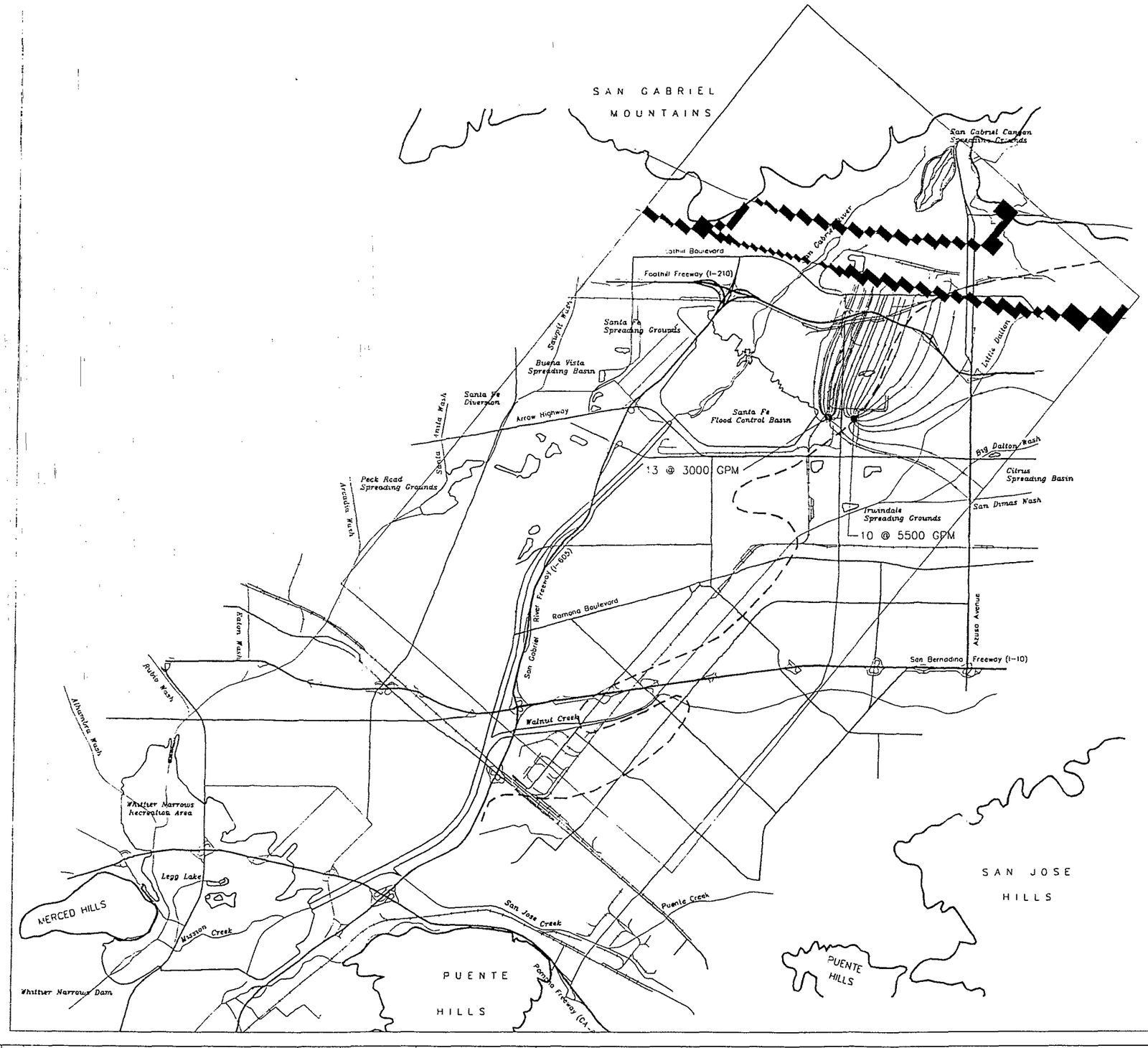

EXPLANATION

13 @ 3000 GPM

Proposed Extraction Well Location and Pumping Rate

Particle Tracks delineating Capture Zones with Arrows indicating Flow Direction at 5 Year Intervals

EPA's Estimated Extent of TCE Contamination >= 5 µg/l

EPA's Estimated Extent of Nitrate Contamination >= 45 mg/l

0 7200 14400
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

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DATE: | DATE:

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Baldwin Park OU Groundwater Model
EPA's Subarea 1 Proposed Project
San Gabriel Valley Superfund Sites

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SHEET: OF
REVISION NUMBER:
DATE: 8/9/93

Comparison of TCE & PCE Concentrations

Upgradient Wells in Subarea 1

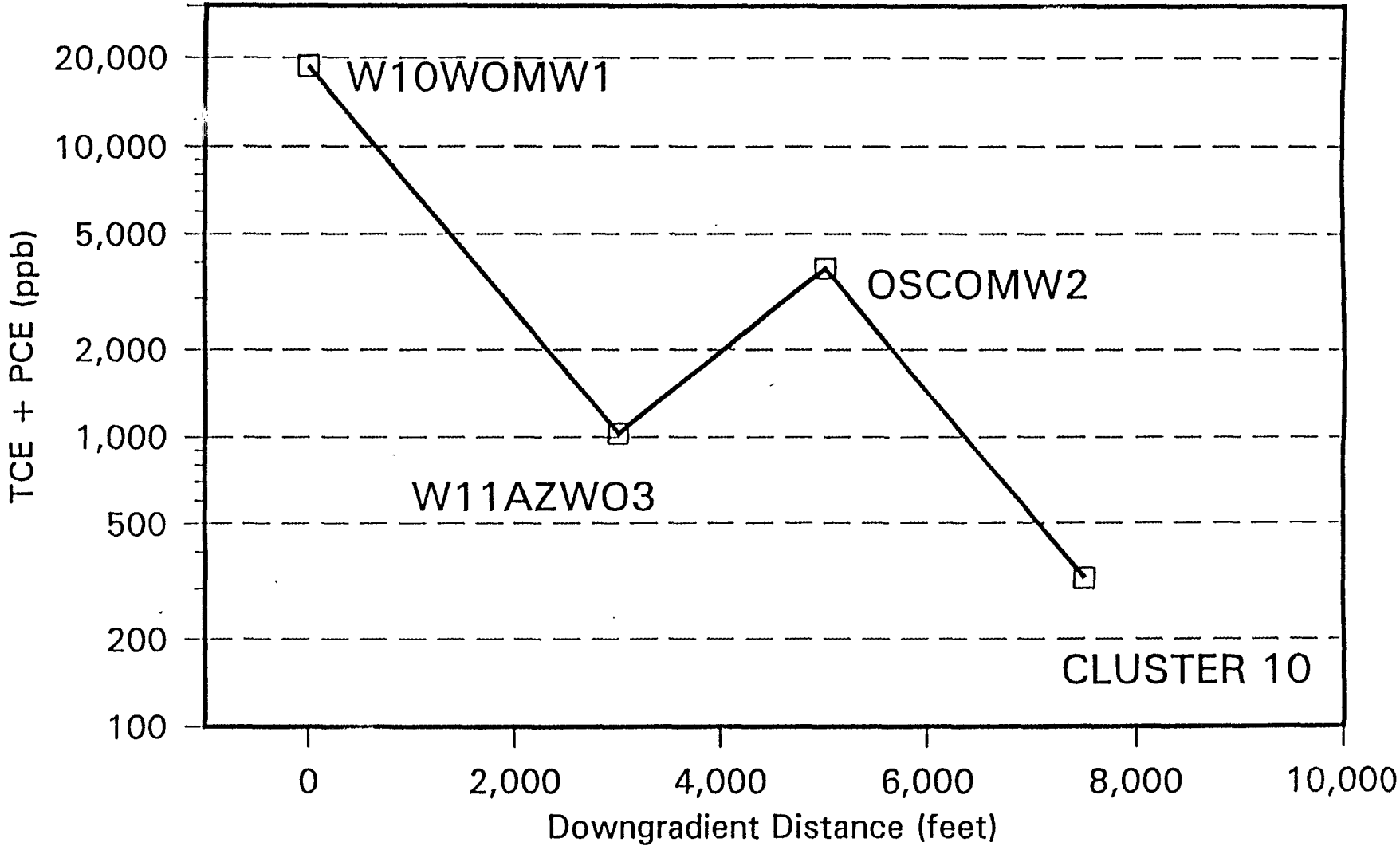
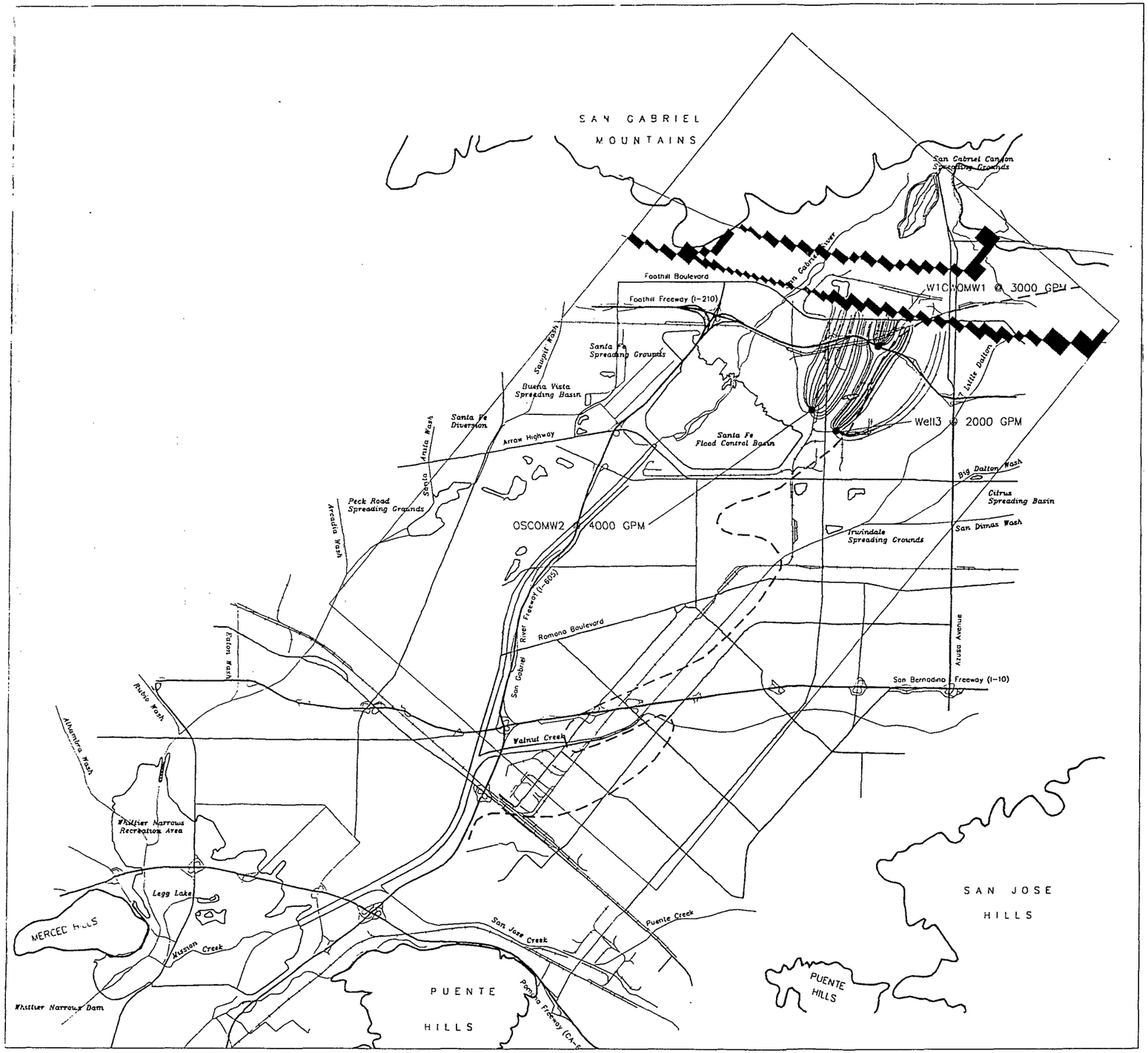


Plate 17



EXPLANATION

W1OWOMW1 @ 3000 GPM

Proposed Extraction Location and Pumping Rate

Particle Tracks delineating Capture Zones with Arrows indicating Flow Direction at 5 Year Intervals

EPA's Estimated Extent of TCE Contamination >= 5 µg/l

EPA's Estimated Extent of Nitrate Contamination >= 45 mg/l

0 2000 4000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

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Proposed Modifications for
EPA's Subarea1 Proposed Project
Capture Zone Analysis/Average Conditions
San Gabriel Valley Superfund Sites

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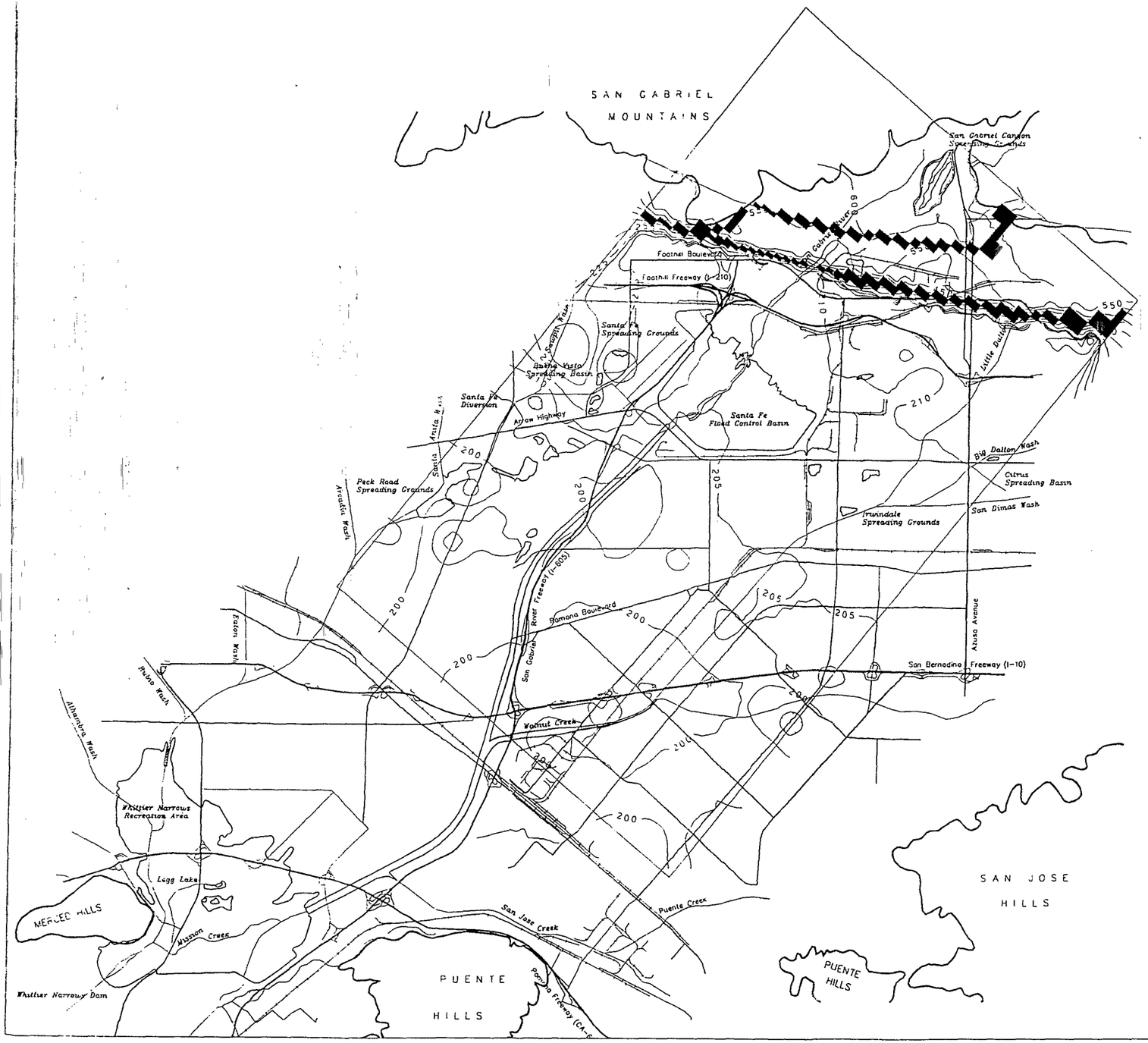
DATE:	7/30/93

Appendix A

MEASURED AND SIMULATED WATER LEVEL CONTOUR MAPS



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

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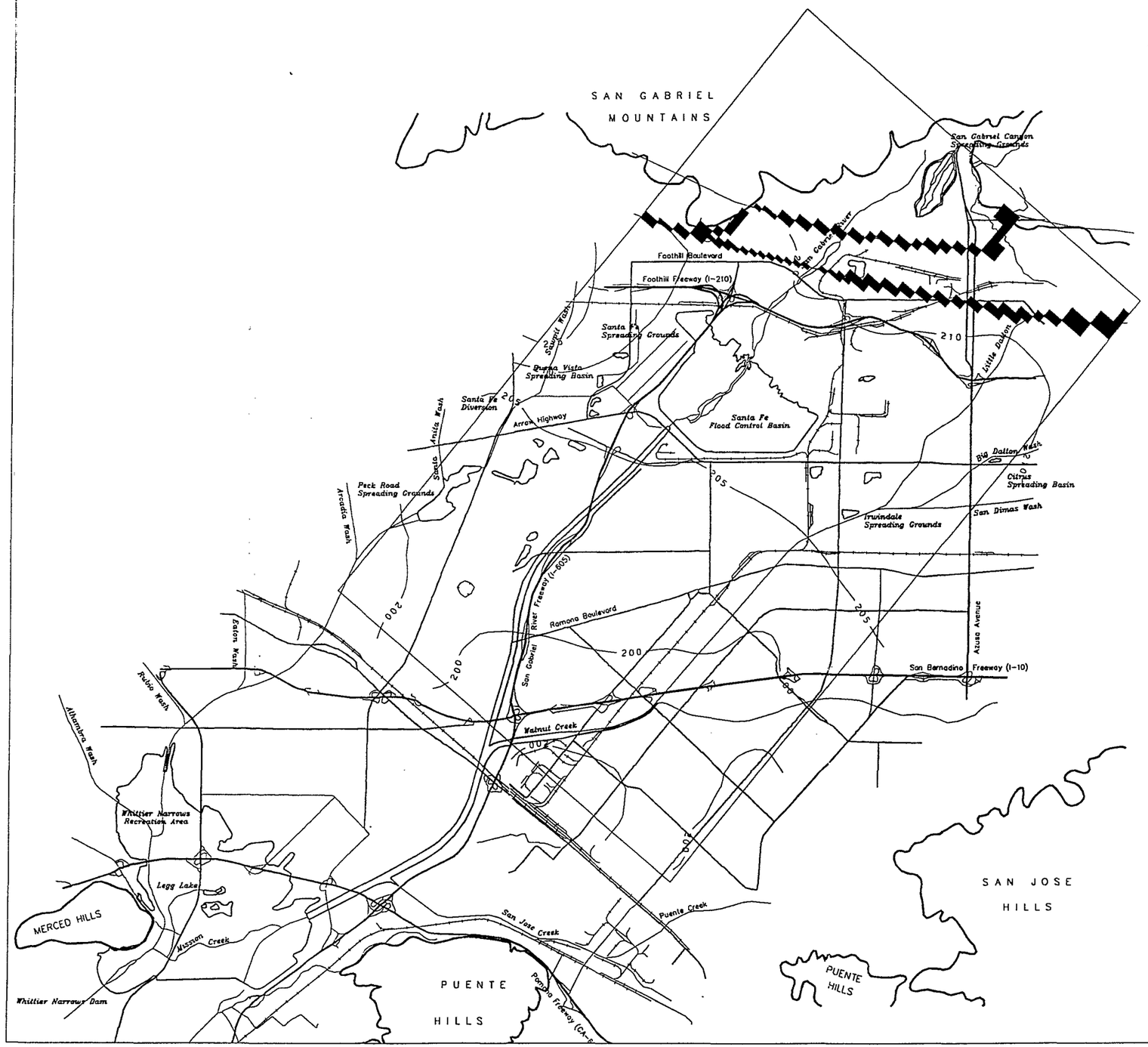
Baldwin Park OU Groundwater Model
Measured Water Levels
October – December, 1977
San Gabriel Valley Superfund Sites

DRAWING:	A-1A
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

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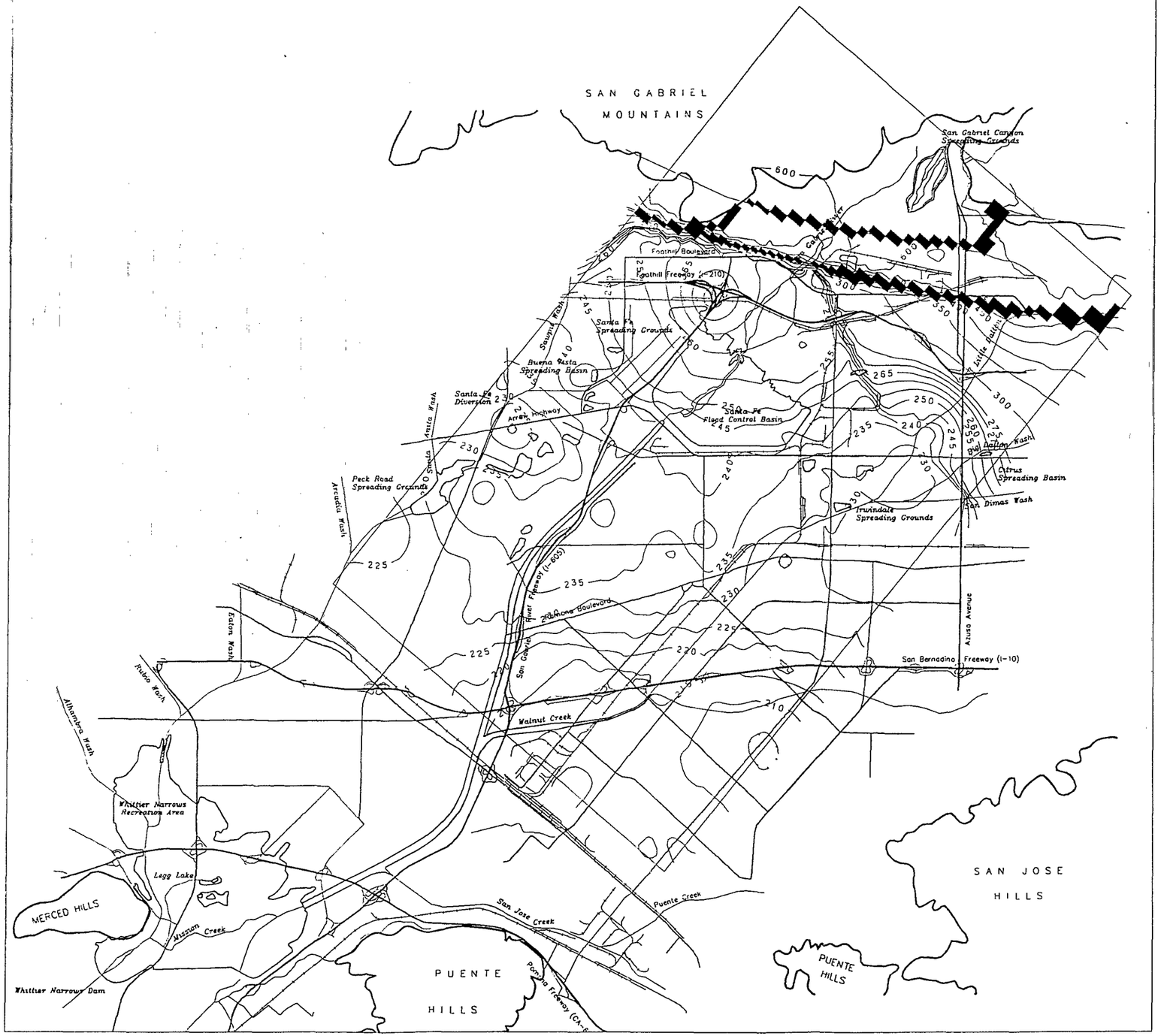
Baldwin Park OU Groundwater Model
Simulated Water Levels
October – December, 1977
San Gabriel Valley Superfund Sites

DRAWING: **A-1B**
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE	DATE:		

Harding Lawson Associates
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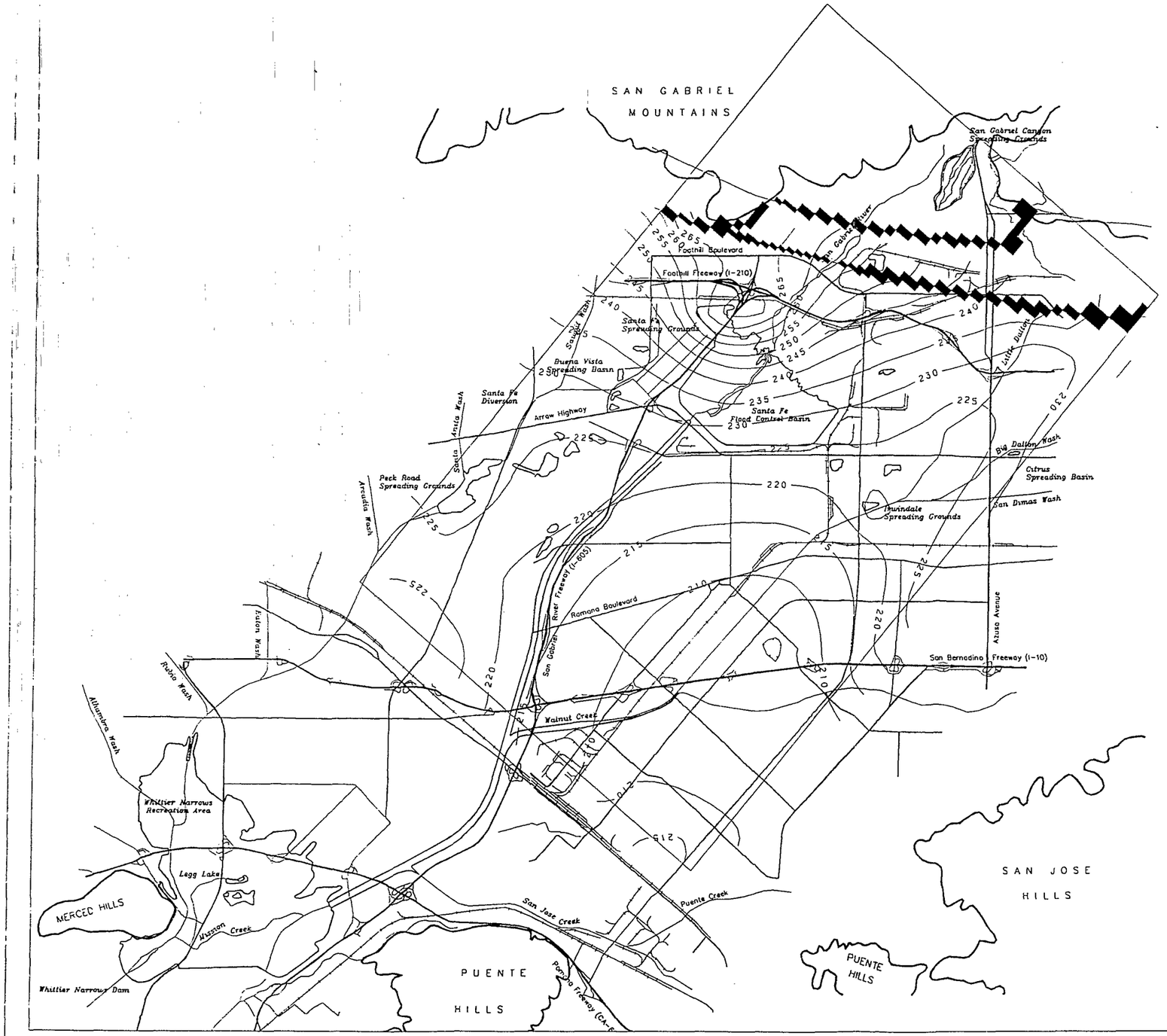
Baldwin Park OU Groundwater Model
Measured Water Levels
January – March, 1978
San Gabriel Valley Superfund Sites

DRAWING:	A-2A
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

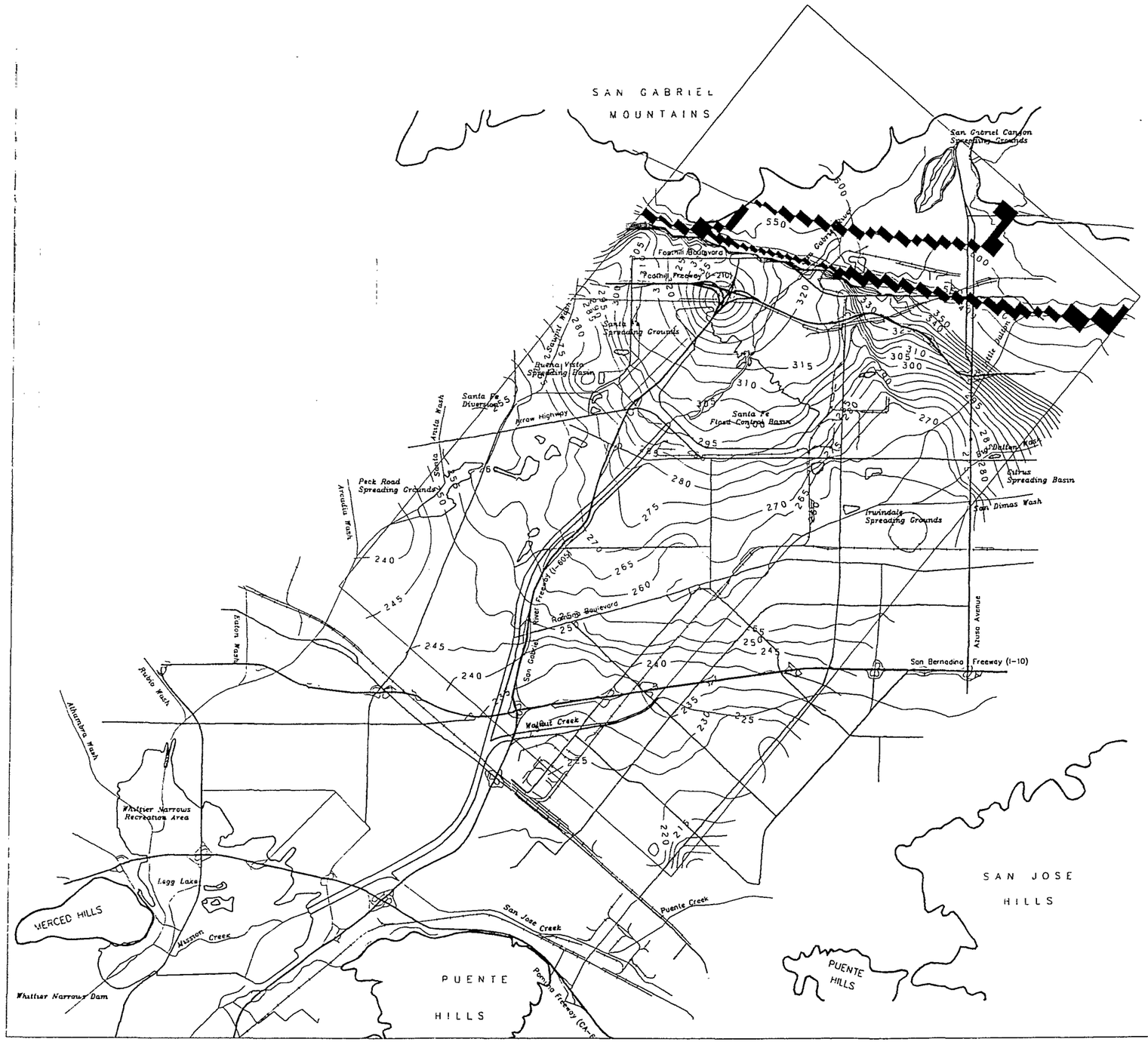
NO.	DATE	REVISIONS	BY	CHK

DRAWN: BEH | PROJECT NO: 22731 1
ENGINEER: | SCALE: 1"=3000'
CHECKED: | APPROVED:
DATE: | DATE:

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
January – March, 1978
San Gabriel Valley Superfund Sites

DRAWING: A-2B
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



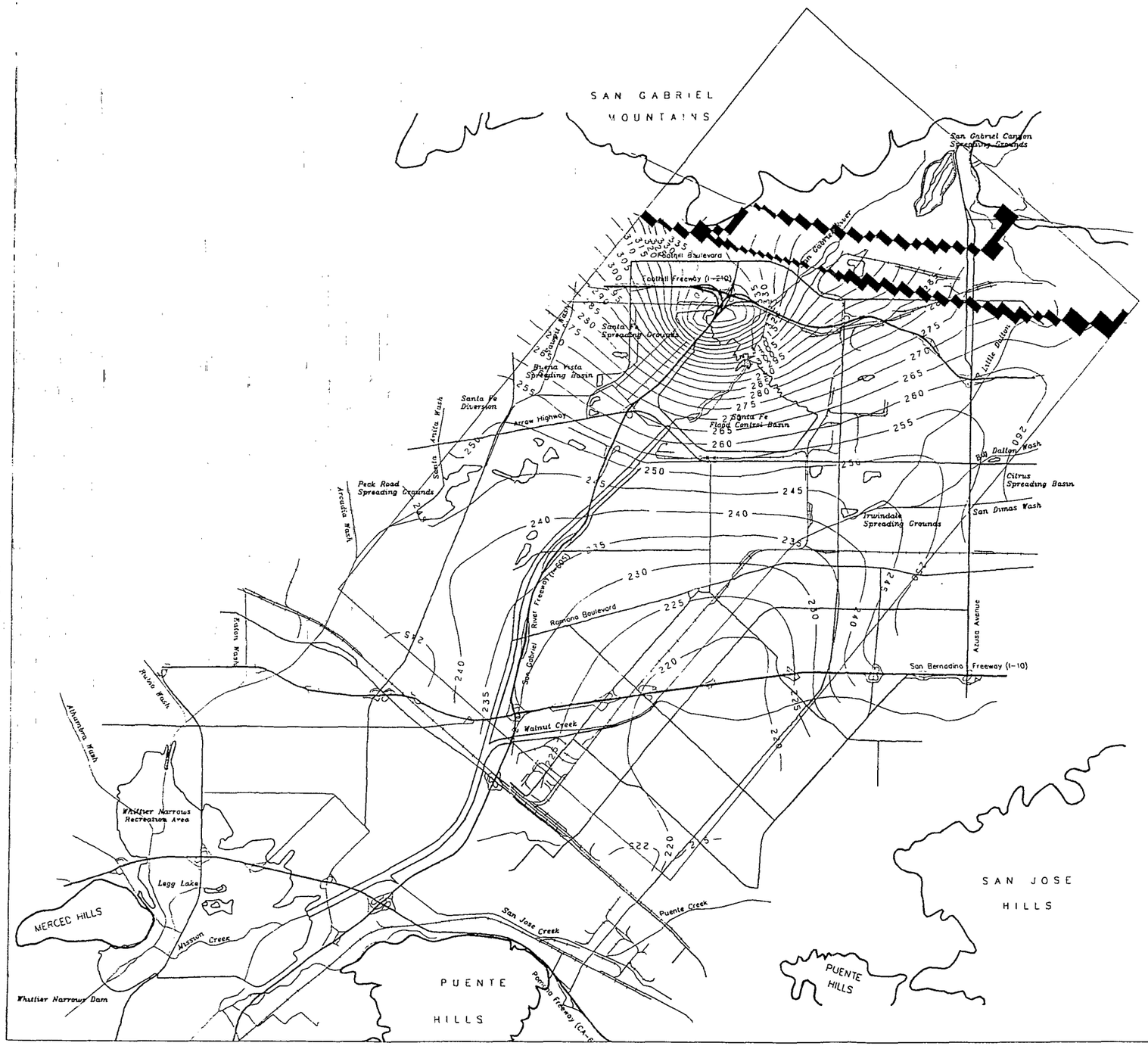
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
April – June, 1978
San Gabriel Valley Superfund Sites

DRAWING:	A-3A
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 7000 14000
SCALE IN FEET

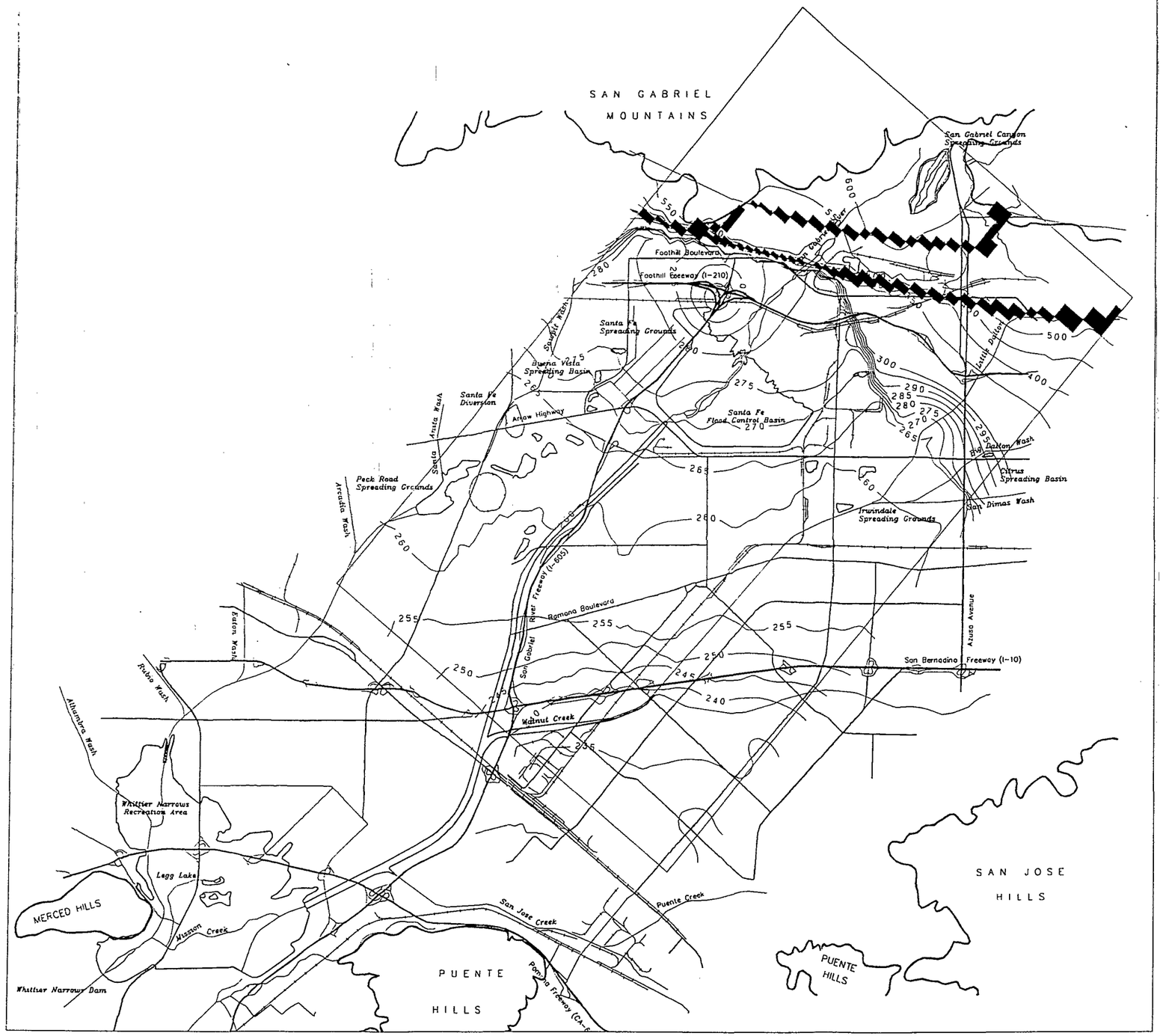
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731.1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
April - June, 1978
San Gabriel Valley Superfund Sites

DRAWING: A-3B
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

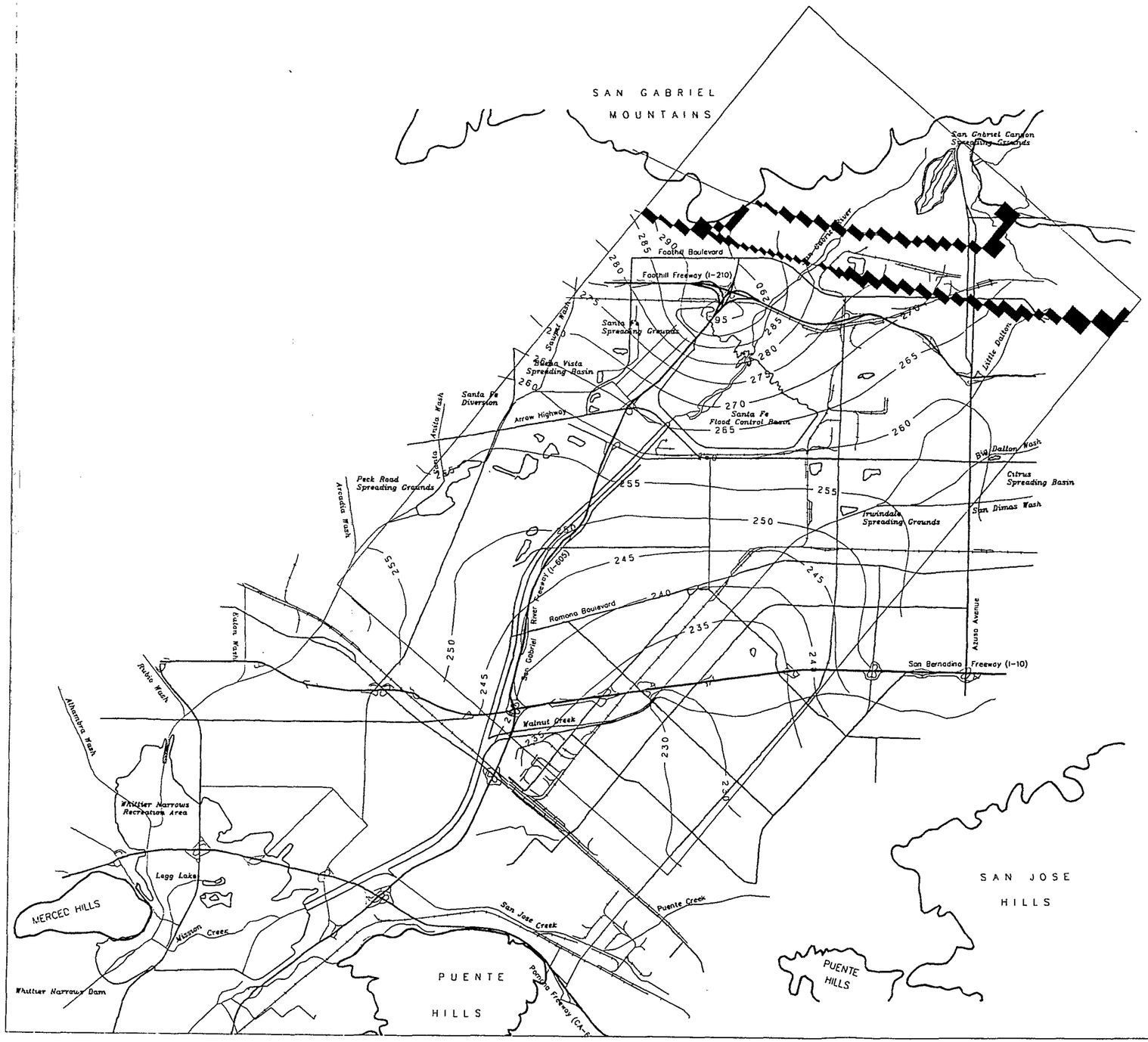
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
July – September, 1978
San Gabriel Valley Superfund Sites

DRAWING:	A-4A
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731.1	Harding Lawson Associates Engineering and Environmental Services	Baldwin Park OU Groundwater Model Simulated Water Levels July – September, 1978 San Gabriel Valley Superfund Sites
ENGINEER:	SCALE: 1"=3000'		DRAWING: A-4B
CHECKED:	APPROVED:		SHEET: OF
DATE:	DATE:		REVISION NUMBER:
			DATE: 8/5/93

Appendix C

WELL IDENTIFICATION TABLE

WELL IDENTIFICATION TABLE
Azusa–Baldwin Park Study Area

WELL OWNER	OWNER'S NUMBER	STATE WELL NUMBER	RECORDATION NUMBER	DPW NO.
MADDOCK, A.G.	1	1N–10W–20	8000002	
CA AM WTR CO.– DUARTE SYSTEM	WILEY	1N–10W–21 P 01	1902907	
OWNER UNKNOWN		1N–10W–21 Q 01		4264
MONROVIA NURSERY	TR PL	1N–10W–22	8000080	
MONROVIA NURSERY WELLS	11	1N–10W–22	9000011	
AZUSA AGRICULTURAL WATER CO.	DIV	1N–10W–22 J	11902459	
AZUSA VALLEY WATER COMPANY	DIV	1N–10W–22 J	11902118	4294 K
AZUSA VALLEY WATER COMPANY	DIV	1N–10W–22 J	21902118	
CORCORAN BROS.	1	1N–10W–22 J	1902814	
CA AM WTR CO.– DUARTE SYSTEM	DIV 2	1N–10W–22 M	21900360	
CA AM WTR CO.– DUARTE SYSTEM	FISHC	1N–10W–22 M 01	1900358	4274
AZUSA AGRICULTURAL WATER CO.	1SOU	1N–10W–22 P 01	1902457	4284 B
AZUSA AGRICULTURAL WATER CO.	2NOR	1N–10W–22 P 02	1902458	4284 A
AZUSA, CITY OF	7	1N–10W–22 P 03	8000072	4284 F
AZUSA, CITY OF	8	1N–10W–22 P 04	8000086	
		1N–10W–22 R 02		4294 H
COVELL, ET AL		1N–10W–23 A	1900390	
NEWMAN		1N–10W–23 A 05		4303 M
COMMITTEE OF NINE	CNYN INN	1N–10W–23 B 01		4303
DALTON/RITTENHOUSE		1N–10W–23 C 01		4303 A
WADE, RICHARD I.	1	1N–10W–23 N	8000056	
ALANDAK? CORP.		1N–10W–25 F 02		4315 A
COVINA IRRIGATING COMPANY	VALEN	1N–10W–25 R 01	11900880	4326
COVINA IRRIGATING COMPANY	VALEN	1N–10W–25 R 01	21900880	
OWL ROCK PRODUCTS		1N–10W–27 B 01	1900827	4285 A
GLENDORA, CITY OF	9–E	1N–10W–27 C 01	1900830	4285 F
GLENDORA, CITY OF	8–E	1N–10W–27 C 02	1900829	4285
		1N–10W–27 C 03		4285 M
GLENDORA, CITY OF	12–G	1N–10W–27 C 04		
		1N–10W–27 E 01		4275 A
LOS ANGELES, COUNTY OF		1N–10W–27 F 01		4285 P
		1N–10W–27 G 03		4285 K
AZUSA, CITY OF	1	1N–10W–27 H 02	1902533	4295 A
		1N–10W–27 H 03		4285 Q
OWL ROCK PRODUCTS CO		1N–10W–27 J	1903119	
OWNER UNKNOWN		1N–10W–27 J 01		4295 B
AZUSA, CITY OF	3	1N–10W–27 J 02	1902535	4285 H
AZUSA VALLEY WATER COMPANY	5	1N–10W–27 K 01	1902116	4285 B
AZUSA VALLEY WATER COMPANY	4	1N–10W–27 K 02	1902115	4285 C
		1N–10W–27 K 03		4285 E
		1N–10W–27 M 02		4275 C
MILLER BREWING CO		1N–10W–27 P 01	8000034	4286
		1N–10W–28 H 01		4275
LOS ANGELES, COUNTY OF		1N–10W–28 M 01		4265 A
OWNER UNKNOWN		1N–10W–29 A 01		4255 B
CA AM WTR CO.– DUARTE SYSTEM	BACON	1N–10W–29 A 03	11900497	4255 A

WELL IDENTIFICATION TABLE
Azusa–Baldwin Park Study Area

WELL OWNER	OWNER'S NUMBER	STATE WELL NUMBER	RECORDATION NUMBER	DPW NO.
BURBANK DEVELOPMENT CO.	BURB	1N–10W–29 D	1900093	
CA AM WTR CO.– DUARTE SYSTEM	LOS L	1N–10W–29 K 01	1900357	4255 E
OWNER UNKNOWN		1N–10W–29 R 01		
CA AM WTR CO.– DUARTE SYSTEM	CR HV	1N–10W–29 R 02	1903018	4256
CA AM WTR CO.– DUARTE SYSTEM	STAFE	1N–10W–31 A 01	1900354	4246
CA AM WTR CO.– DUARTE SYSTEM	B–V	1N–10W–31 M 01	1900355	4227 A
OWNER UNKNOWN		1N–10W–31 N 01		4227
LIVINGSTON–ROCK		1N–10W–32 J 01		4257
LIVINGSTON–GRAHAM	1 KIN	1N–10W–32 J 02	1900963	4257 A
CONROCK COMPANY	1 REL	1N–10W–33 C	1903088	4266 A
MILLER BREWING (RELIANCE RK)	1	1N–10W–33 M 01	8000075	4267
MILLER BREWING CO	2	1N–10W–33 M 02	8000076	
ALR MONITORING WELL	3	1N–10W–33 Q		
AZUSA, CITY OF	5	1N–10W–34 L 01	1902537	4277
DEPT. WTR. RESOURCES	AZTEST1	1N–10W–34 N 01		4277 A
DEPT. WTR. RESOURCES	AZTEST2	1N–10W–34 N 02		4277 B
		1N–10W–35 B 01		4306 B
OWNER UNKNOWN		1N–11W–24 C 01		4213
BANKS, GALE & VICKI	1	1N–11W–24 R	1900415	
CA AM WTR CO.– DUARTE SYSTEM	MTAVE	1N–11W–36 L 01	1900356	4217
LIVINGSTON–GRAHAM(ARROW RK?)	1 DUA	1N–11W–36 R 01	1900961	4227 B
		1S–10W–02 L 03		4198 R
AZUSA, CITY OF	4	1S–10W–03 A 01	1902536	4298
GLENDORA, CITY OF	7–G	1S–10W–03 C 03	1900831	4288 C
AZ–TWO INC.(Transit Mix 2? 4?)	2	1S–10W–03 D	11900038	
AZUSA ROCK	2	1S–10W–03 D 01		4278 A
AZUSA, CITY OF	6	1S–10W–03 H 01	1902538	4298 A
AZUSA VALLEY WATER COMPANY	6	1S–10W–03 K 01	1902117	4288
COVINA IRRIGATING COMPANY	CONTR	1S–10W–03 K 02	1900881	4288 A
AZUSA VALLEY WATER COMPANY	7	1S–10W–03 K 03	1902425	
AZUSA VALLEY WATER COMPANY	8	1S–10W–03 K 04	8000103	4288 B
ALR MONITORING WELL	1	1S–10W–04 G		
DEPT. WTR. RESOURCES	AZTEST3	1S–10W–04 G 01		4278 B
ALR MONITORING WELL	2	1S–10W–04 H		
VALLEY COUNTY WATER DIST.	3MORADA	1S–10W–04 R 02	1900029	4279 D
LOS ANGELES, COUNTY OF	1 SF	1S–10W–05 H	8000070	
		1S–10W–05 N 01		4248
LOS ANGELES, COUNTY OF	SFR	1S–10W–06 J 01	8000074	4238
OWL ROCK PRODUCTS CO		1S–10W–06 N 01	1902241	
UNITED CONCRETE PIPE CORP.		1S–10W–06 P	8000067	
VALLEY COUNTY WATER DIST.	3JOAN	1S–10W–07 A 01	1902356	4239 A
VALLEY COUNTY WATER DIST.	6JOAN	1S–10W–07 A 02	1900032	4239
VALLEY COUNTY WATER DIST.	1MAIN	1S–10W–07 A 06	1900027	4239 E
VALLEY COUNTY WATER DIST.	2MAIN	1S–10W–07 A 07	1900028	4239 F
		1S–10W–07 A 10		4239 G
		1S–10W–07 A 11		4239 H

WELL IDENTIFICATION TABLE
Azusa – Baldwin Park Study Area

WELL OWNER	OWNER'S NUMBER	STATE WELL NUMBER	RECORDATION NUMBER	DPW NO.
LACDPW–BALDWIN PARK KEY WELL	KEY	1S–10W–07 R 02	Z1000006	3030 F
VALLEY COUNTY WATER DIST.	8ARROW	1S–10W–08 A 02	1900034	4259 A
VALLEY COUNTY WATER DIST.	LANTE	1S–10W–08 A 03	8000060	4259 B
POLOPOLUS, ET AL	1	1S–10W–08 L	1902169	
		2S–10W–08 R 01		3050
CONSOLIDATED ROCK	1	1S–10W–09 F 01		4269 A
CONSOLIDATED ROCK	2	1S–10W–09 F 02		4269 B
MANNING BROS ROCK & SD	36230	1S–10W–09 H 01	1900117	4279 B
		1S–10W–09 J 01		3070 A
GLENDORA, CITY OF	3–G	1S–10W–10 C 01	1901525	4289
GLENDORA, CITY OF	4–E	1S–10W–10 C 02	1901524	4289 A
AZUSA VALLEY WATER COMPANY	2	1S–10W–10 P 01	1902114	3080
LOS ANGELES, COUNTY OF		1S–10W–12 C 18		4319 Ah
COVINA, CITY OF	2Grand	1S–10W–12 R 01	1901686	3120
KNIGHT, KATHRYN		1S–10W–13	1901688	
COVINA, CITY OF	3CtyHall	1S–10W–13 E 01	1901687	3111
CITY OF COVINA	Kendall5	1S–10W–13 H 01		3121 A
COVINA, CITY OF	1CtyPk	1S–10W–14 B 01	1901685	3101
KING, L. B.		1S–10W–14 M 01		3091
OWNER UNKNOWN		1S–10W–15 G 01		
AZUSA VALLEY WATER COMPANY	1	1S–10W–16 B 01	1902113	3061
DAVIDSON OPTRONICS INC.		1S–10W–17 A	8000013	
COVINA IRRIGATING COMPANY	1 BAL	1S–10W–17 A 01	1900885	3051
COVINA IRRIGATING COMPANY	2 BAL	1S–10W–17 A 02	1900883	3051 A
COVINA IRRIGATING COMPANY	3 BAL	1S–10W–17 A 03	1900882	3051 B
BALDWIN PARK COUNTY WATER		1S–10W–17 G 01		3051 C
VALLEY COUNTY WATER DIST.	9BDALT	1S–10W–17 N 01	1900035	3042 F
OWNER UNKNOWN		1S–10W–18 B 01		
VALLEY COUNTY WATER DIST.	26–A(11)	1S–10W–18 F 01	1901307	3021 A
VALLEY COUNTY WATER DIST.	26–B PALM	1S–10W–18 F 02	8000039	
VALLEY COUNTY WATER DIST.	5PADDY	1S–10W–19 C 01	1900031	
OWNER UNKNOWN		1S–10W–19 C 02		3032 J
VALLEY COUNTY WATER DIST.	4PADDY	1S–10W–19 C 03		3032 M
LA PUENTE VALLEY CNTY WTR DIST	2	1S–10W–19 K 01	1901460	3033 B
SAN GABRIEL VALLEY WATER CO	B6B2	1S–10W–19 L	78000084	
SAN GABRIEL VALLEY WATER CO	B6B1	1S–10W–19 L 01	71903093	3033 L
SAN GABRIEL VALLEY WATER CO	B6C	1S–10W–19 L 02	71900721	3033 K
SAN GABRIEL VALLEY WATER CO	B6D	1S–10W–19 L 04	7800008	
OWNER UNKNOWN		1S–10W–19 N 01		
LA PUENTE VALLEY CNTY WTR DIST	1	1S–10W–19 Q 05	1901459	
LA PUENTE VALLEY CNTY WTR DIST	3	1S–10W–19 Q 06	1902859	3033 P
LA PUENTE VALLEY CNTY WTR DIST	4	1S–10W–19 Q 07	8000062	
SUBURBAN WATER SYSTEMS	2	1S–10W–20 B 07		3052 E
SUBURBAN WATER SYSTEMS	139W1	1S–10W–20 B 08	1901598	
SUBURBAN WATER SYSTEMS	139W2	1S–10W–20 B 09	1901599	
SUBURBAN WATER SYSTEMS	139W3	1S–10W–20 B 10	1901600	

WELL IDENTIFICATION TABLE
Azusa–Baldwin Park Study Area

WELL OWNER	OWNER'S NUMBER	STATE WELL NUMBER	RECORDATION NUMBER	DPW NO.
SUBURBAN WATER SYSTEMS	139W4	1S–10W–20 B 14	8000069	
SUBURBAN WATER SYSTEMS	139W5	1S–10W–20 B 15	8000095	
SUBURBAN WATER SYSTEMS	111W1	1S–10W–20 G 01	1901610	
SUBURBAN WATER SYSTEMS	149W1	1S–10W–20 N 01	1902119	
SUBURBAN WATER SYSTEMS	154W1	1S–10W–20 Q 01	1902762	3053
SUBURBAN WATER SYSTEMS	112W1	1S–10W–20 R	1901611	
SUBURBAN WATER SYSTEMS	142W1	1S–10W–20 R 01	1901597	3053 G
OWNER UNKNOWN		1S–10W–21 F 01		
CITY OF WEST COVINA		1S–10W–21 F 02		3062 A
SUBURBAN WATER SYSTEMS	117W1	1S–10W–22 C 01	1901614	3082 B
SUBURBAN WATER SYSTEMS	114W1	1S–10W–22 G 01	1901613	3082
SUBURBAN WATER SYSTEMS	106	1S–10W–22 N 01		3073
SUBURBAN WATER SYSTEMS	106W1	1S–10W–22 P 01	1901609	
VALENCIA HEIGHTS WATER CO.	4	1S–10W–23 C 01	8000054	3102 B
SUBURBAN WATER SYSTEMS	103W1?	1S–10W–23 J 03		3103 E
SUBURBAN WATER SYSTEMS	103W1	1S–10W–23 J 04	41901607	
SUBURBAN WATER SYSTEMS	125W1	1S–10W–23 K 01	1901619	3103
SUBURBAN WATER SYSTEMS	126W1	1S–10W–23 K 02	1901620	3103 A
SUBURBAN WATER SYSTEMS	125W2	1S–10W–23 K 03	8000087	
SUBURBAN WATER SYSTEMS	126W2	1S–10W–23 K 04	8000092	
SUBURBAN WATER SYSTEMS	133W1	1S–10W–23 M 05	1901622	3093 F
SUBURBAN WATER SYSTEMS	148W1	1S–10W–23 M 06	1901604	3093 E
OWNER UNKNOWN		1S–10W–23 N 01		3093
VALENCIA HEIGHTS WATER CO.	5	1S–10W–24 G	8000120	
VALENCIA HEIGHTS WATER CO.	3A	1S–10W–24 K 01	8000055	3123 A
VALENCIA HEIGHTS WATER CO.	2	1S–10W–24 M 01	8000052	3113
VALENCIA HEIGHTS WATER CO.	1	1S–10W–24 M 02	8000051	3113 A
		1S–10W–28 K 03		
		1S–10W–29 A 05		3053 L
SUBURBAN WATER SYSTEMS	157W1	1S–10W–29 E	1902763	
		1S–10W–29 E	1902761	
		1S–10W–29 E 07		3044
		1S–10W–29 G 02		3054 F
SUBURBAN WATER SYSTEMS	151W1	1S–10W–29 G	11902518	
SUBURBAN WATER SYSTEMS	140W3	1S–10W–30 G	1903067	
		1S–10W–30 L 05		3034 L
SUBURBAN WATER SYSTEMS	150W1	1S–10W–30 R 01	1902519	
		1S–10W–31 A 02		3035 P
SUBURBAN WATER SYSTEMS	134W1	1S–10W–31 A 03	1901623	
		1S–10W–31 E 01		3025 A
		1S–10W–31 F 03		3035 R
SUBURBAN WATER SYSTEMS	147W2	1S–10W–31 G	1902760	
SUBURBAN WATER SYSTEMS	147W1	1S–10W–31 G 04	1901596	
		1S–10W–31 G 06		3035 U
		1S–10W–31 L 01		3036
		1S–11W–01 B 05		4218 C

WELL IDENTIFICATION TABLE
Azusa – Baldwin Park Study Area

WELL OWNER	OWNER'S NUMBER	STATE WELL NUMBER	RECORDATION NUMBER	DPW NO.
UNITED ROCK/SULLY – MILLER	IRW–1	1S–11W–01 H	1900106	4218 D
UNITED ROCK/SULLY – MILLER	IRW–2	1S–11W–01 H 02	1903062	
B & B RED–I–MIX CONCRETE INC.	1	1S–11W–01 M	1902589	
UNITED ROCK/SULLY – MILLER	SIERR	1S–11W–01 M	1902532	
LIVINGSTON – GRAHAM	4 EL	1S–11W–01 P	1903006	
MONROVIA, CITY OF	5	1S–11W–02 A 01	1940104	4208 D
MONROVIA, CITY OF	3	1S–11W–02 B 01	1900419	4198 K
Southern CA Water Co.	JEF3	1S–11W–02 C 01	1902019	4198 L
City of Arcadia	LON1	1S–11W–02 F 01	1901013	4198 A
		1S–11W–02 F 02		4198 G
MONROVIA, CITY OF	2	1S–11W–02 G 01	1900418	
MONROVIA, CITY OF	1	1S–11W–02 G 02	1900417	
MONROVIA, CITY OF	4	1S–11W–02 H 01	1900420	4208 A
OWL ROCK PRODUCTS CO		1S–11W–02 J	1900043	
W.E. HALL COMPANY		1S–11W–02 J	1902496	
		1S–11W–02 N 01		4198 J
		1S–11W–10 F 01		4179 P
SO. CA WATER CO.	2FAR	1S–11W–10 F 02	1902948	
		1S–11W–10 H 01		4189 G
SAN GABRIEL VALLEY WATER CO.	2C	1S–11W–10 N	21900749	
		1S–11W–10 N 06		2970 M
		1S–11W–10 N 08		2970 N
		1S–11W–10 R 03		2980 M
CITY OF ARCADIA	1PEC	1S–11W–11 C 04	1902854	
		1S–11W–11 C 05		4199 L
		1S–11W–11 F 04		4199 E
OWNER UNKNOWN		1S–11W–11 G 01		
		1S–11W–11 L 03		2990 Q
HEMLOCK MUTUAL WATER CO.	STHRN	1S–11W–11 P	1902806	
SO. CA. EDISON CO.	11ORH	1S–11W–12 A	8000046	
CALLISAN		1S–11W–12 A 01		4229 A
LIVINGSTON – GRAHAM	3 EL	1S–11W–12 C 01	1901493	4219 B
LIVINGSTON – GRAHAM	1 EL	1S–11W–12 C 02	1901492	
		1S–11W–12 G 01		3010 D
		1S–11W–12 J 01		3020
VALLEY VIEW MUTUAL WATER CO.	3	1S–11W–12 J 03	1900365	3020 E
VALLEY VIEW MUTUAL WATER CO.	1	1S–11W–12 J 04	1900363	3020 F
VALLEY VIEW MUTUAL WATER CO.	2	1S–11W–12 J 05	1900364	3020 G
		1S–11W–12 J 06		3020 G
OWNER UNKNOWN		1S–11W–12 J 07		
SPEEDWAY 605 INC.		1S–11W–12 P	1902968	
CONROCK COMPANY	E DUR	1S–11W–13 F	1902920	
CONROCK COMPANY	W DUR	1S–11W–13F	8000063	
RURBAN HOMES (ELMONTE? MANING?)	1NOR	1S–11W–14 C 01	1900120	2991 N
RURBAN HOMES MUTUAL WATER CO	2SOU	1S–11W–14 C 02	1900121	
SAN GABRIEL VALLEY WATER CO.	1B	1S–11W–14 E 02	11900729	

WELL IDENTIFICATION TABLE
Azusa – Baldwin Park Study Area

WELL OWNER	OWNER'S NUMBER	STATE WELL NUMBER	RECORDATION NUMBER	DPW NO.
		1S–11W–14 E 04		2991 T
SO. CA EDISON	MURAT	1S–11W–14 F	8000047	
CHAMPION MUTUAL WATER CO.	2	1S–11W–14 F	1902816	
		1S–11W–14 F 05		
		1S–11W–14 K 01		2991 N
STERLING MUTUAL WATER CO.	SOUTH	1S–11W–14 N 01	1902085	
STERLING MUTUAL WATER CO.	NORTH	1S–11W–14 N 02	1902096	
CEDAR AVENUE MUTUAL WATER CO.	1	1S–11W–15 L 01	1901411	
RICHWOOD MUTUAL WATER CO.	2NOR	1S–11W–15 Q 01	1901522	
RICHWOOD MUTUAL WATER CO.	1SOU	1S–11W–15 Q 03	1901521	
LOS ANGELES, COUNTY OF		1S–11W–23 K 03		2993 W
Cal. Domestic Water Co.	3	1S–11W–23 L 01	1903057	
CA Domestic Water Co.	5A	1S–11W–23 P	8000100	
Cal. Domestic Water Co.	5	1S–11W–23 P 08	1901183	
Cal. Domestic Water Co.	6	1S–11W–23 P 13	1902967	2993 V
		1S–11W–24 F 01		3012 B
H. VIA TRUST	1	1S–11W–24 K	1903012	
		1S–11W–24 Q 04		3013 N
SAN GABRIEL VALLEY WATER CO	B4B	1S–11W–24 Q 07	51902858	
SAN GABRIEL VALLEY WATER CO	B1A	1S–11W–24 Q 08		3013 R
SAN GABRIEL VALLEY WATER CO	B4C	1S–11W–24 Q 09	51902947	
		1S–11W–25 D 01		3003 A
		1S–11W–25 Q 01		3014 L
		1S–11W–26 B 01		3003 B
California Domestic Water Co.	2	1S–11W–26 D 14		2993 V
		1S–11W–26 E 01		
San Gabriel Valley Water Co.		1S–11W–26 G 01		2994 U
San Gabriel Valley Water Co.	B5A	1S–11W–26 K 01	61900718	2994 V

WELL IDENTIFICATION TABLE
Azusa–Baldwin Park Study Area

WELL OWNER	OWNER'S NUMBER	STATE WELL NUMBER	RECORDATION NUMBER	DPW NO.
MONITORING WELLS				
AZUSA LAND RECLAMATION CO.	ALR1			
AZUSA LAND RECLAMATION CO.	ALR2			
AZUSA LAND RECLAMATION CO.	ALR3			
AZUSA LAND RECLAMATION CO.	ALR6			
AZUSA LAND RECLAMATION CO.	ALR8			
AZUSA LAND RECLAMATION CO.	ALR9			
WYNN OIL	MW–1			
VALSPAR	MW–1			
VALSPAR	MW–2			
VALSPAR	MW–3			
PHAOSTRON	MW–1			
CALIFORNIA AMFORGE	MW–1			
NORAC	MW–1			
OSCO	MW–1			
OSCO	MW–2			
OSCO	MW–3			
OSCO	MW–4			
OSCO	MW–5			
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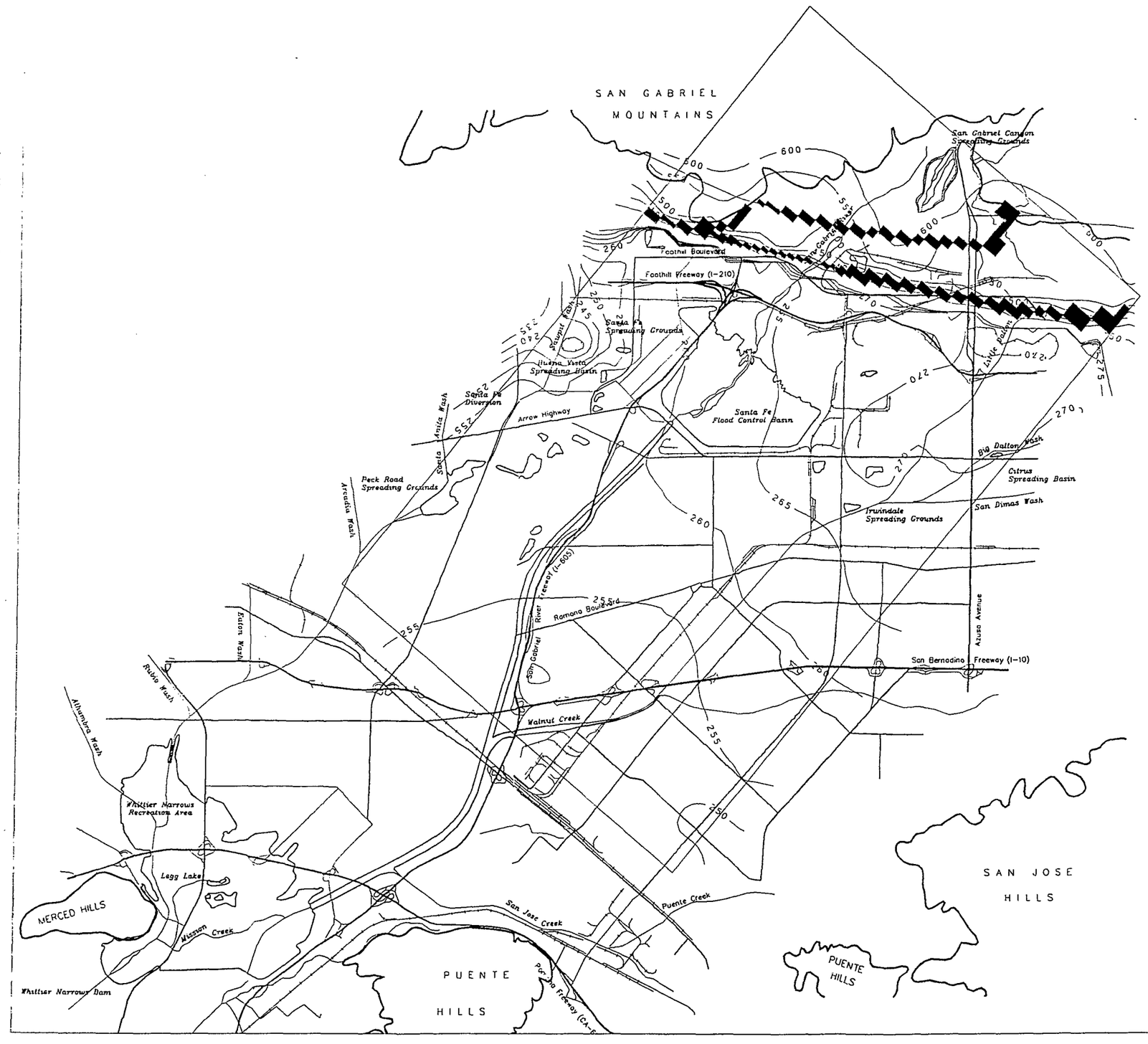


EXPLANATION

220 Water Table Elevation Contours (ft MSL)

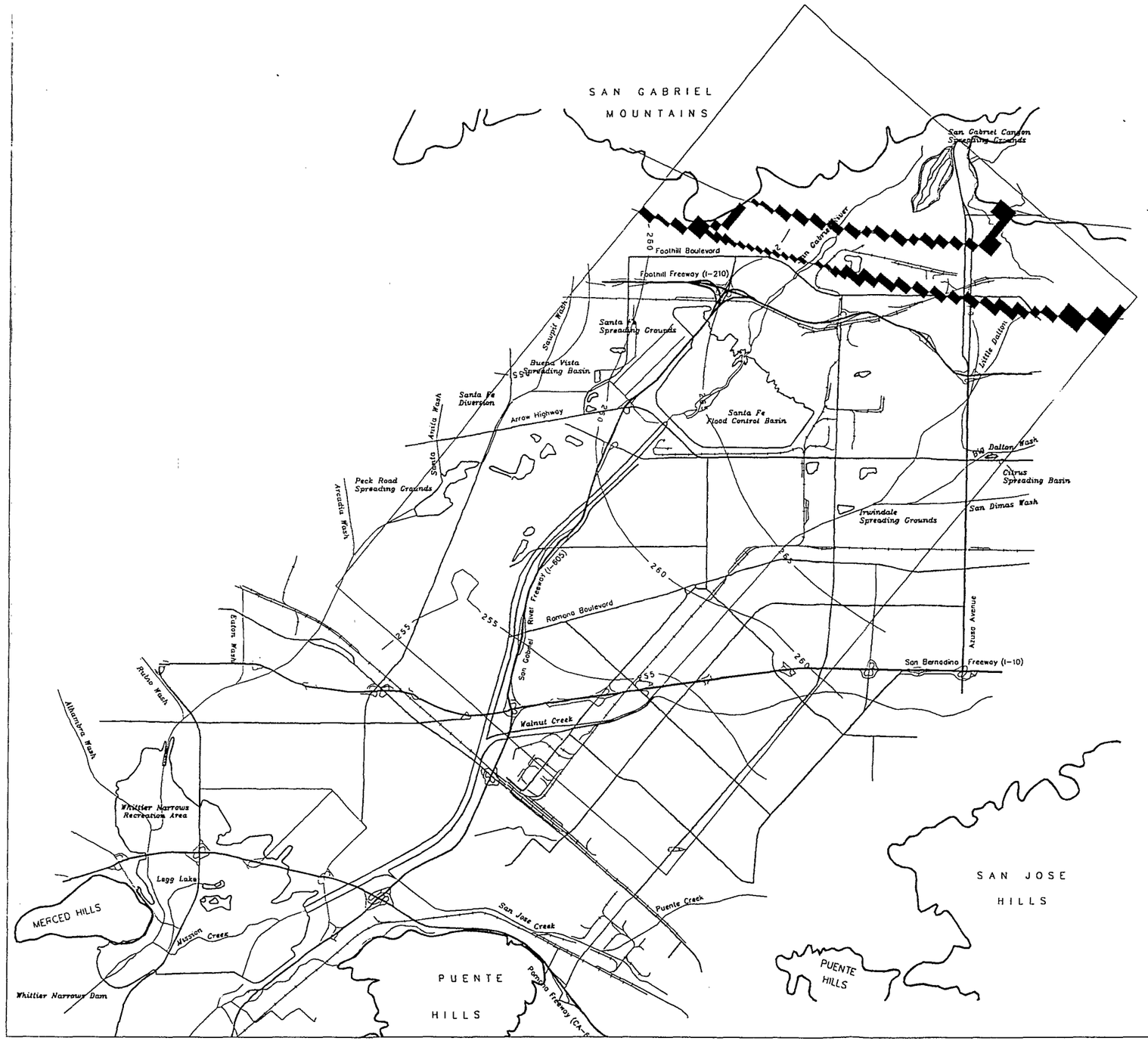
0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK	DRAWN: BEH	PROJECT NO: 22731 1	
					ENGINEER:	SCALE: 1"=3000'	
					CHECKED:	APPROVED:	
					DATE:	DATE:	

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
January - March, 1981
San Gabriel Valley Superfund Sites

DRAWING: A-5A
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

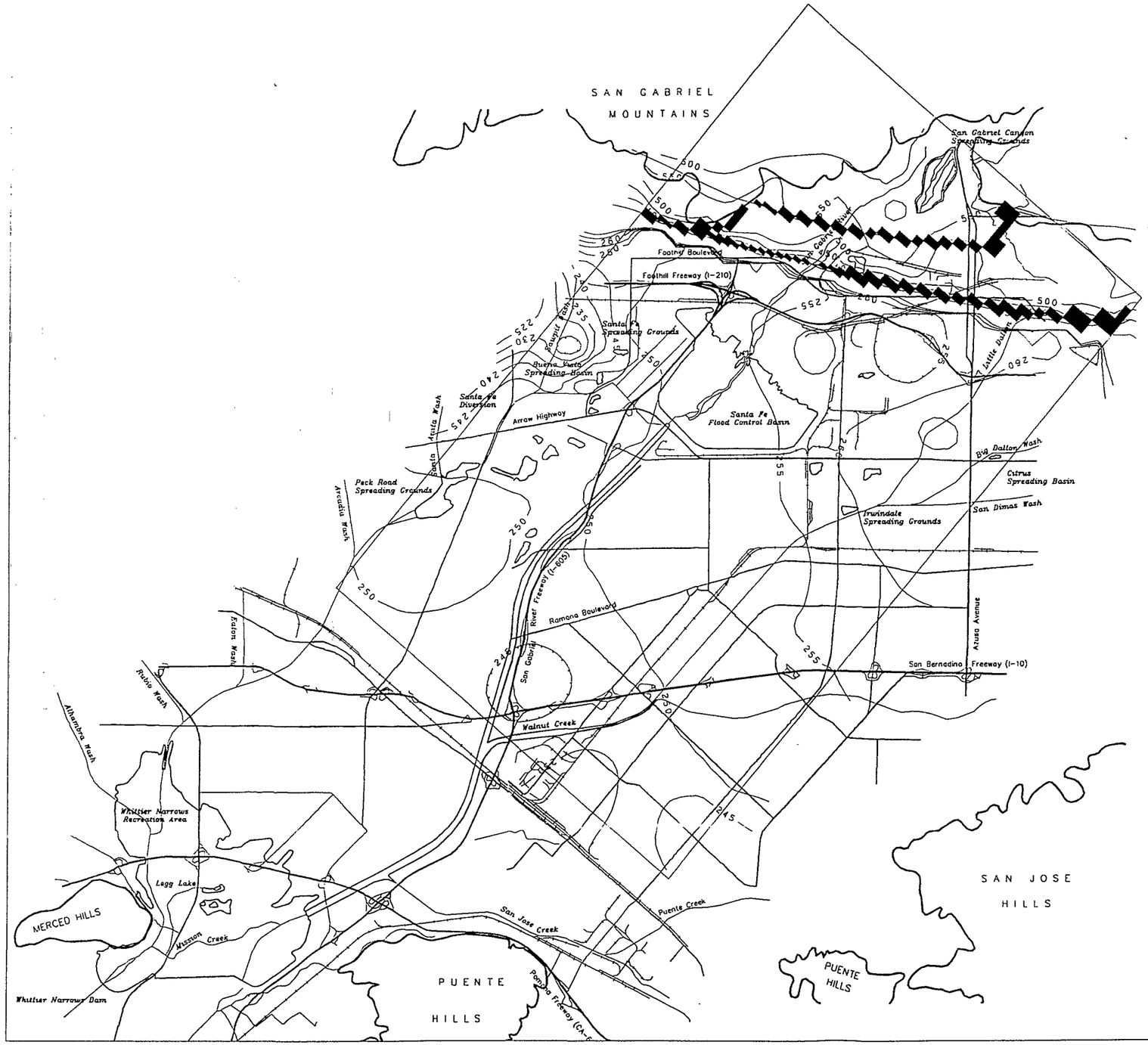
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
January – March, 1981
San Gabriel Valley Superfund Sites

DRAWING.	A-5B
SHEET:	OF
REVISION NUMBER:	



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

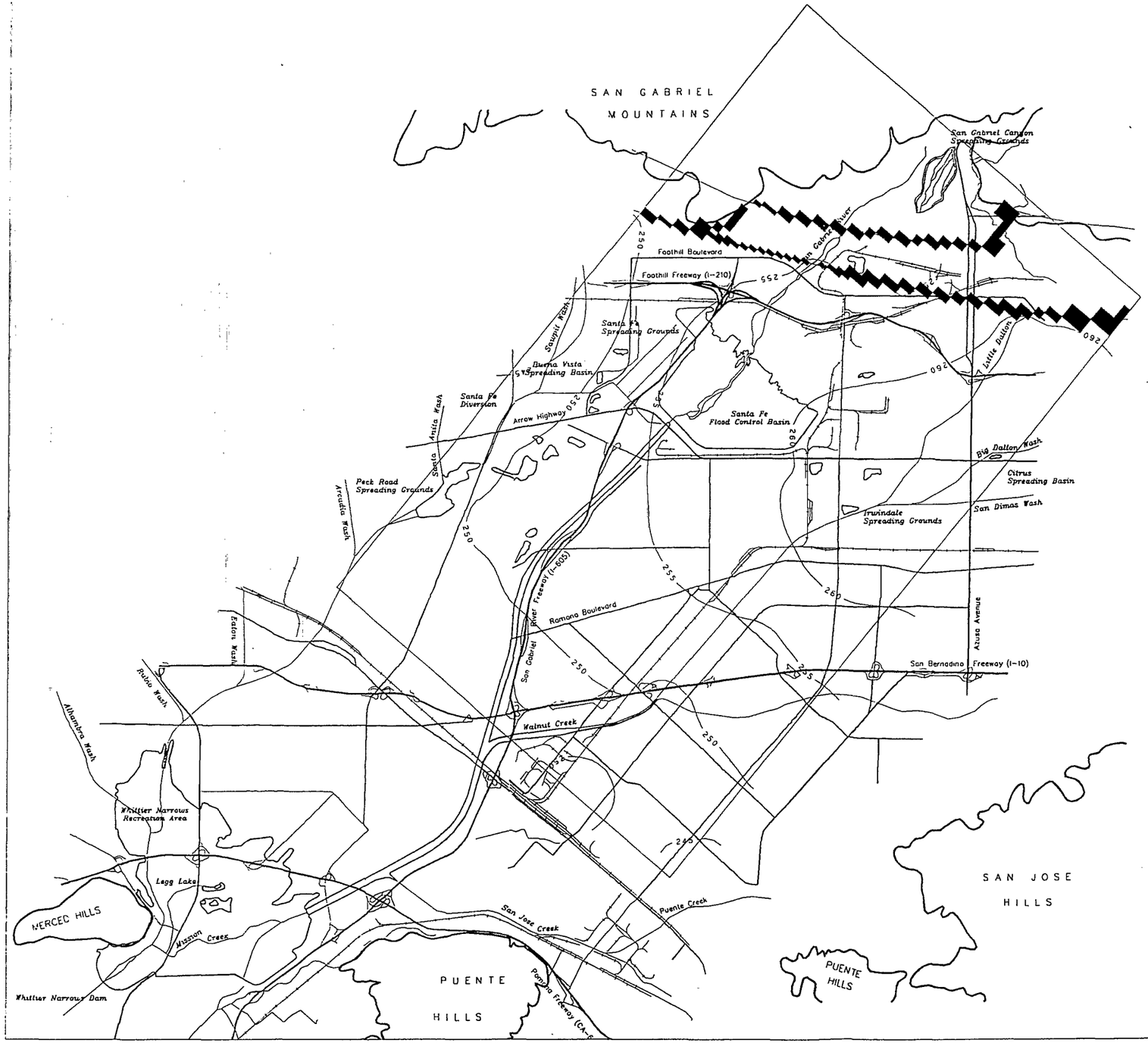
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1
ENGINEER:	SCALE: 1"=3000'
CHECKED:	APPROVED:
DATE:	DATE:

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
April - June, 1981
San Gabriel Valley Superfund Sites

DRAWING:	A-6A
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1
ENGINEER:	SCALE: 1"=3000'
CHECKED:	APPROVED:
DATE	DATE:

Harding Lawson Associates
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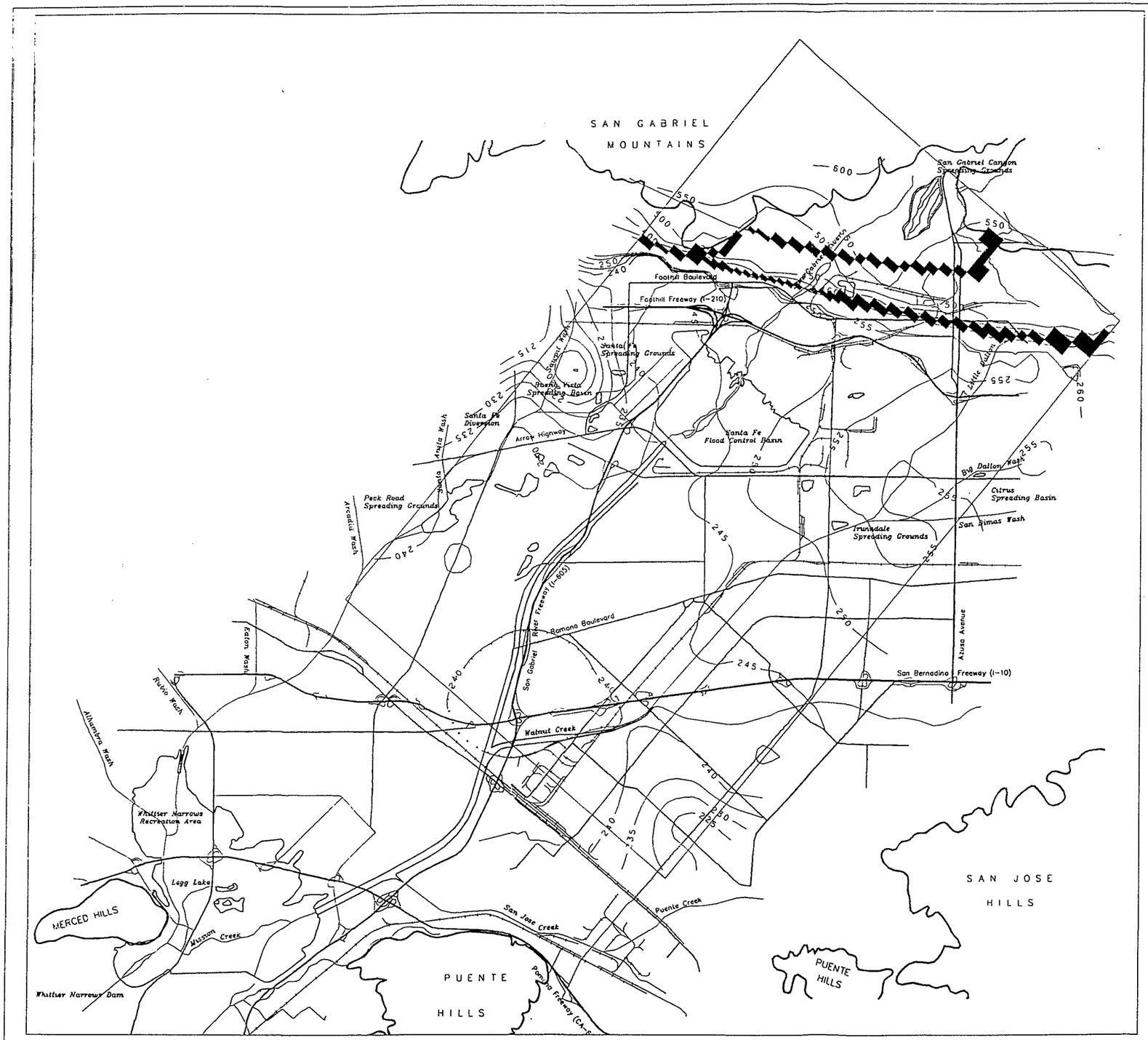
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
April – June, 1981
San Gabriel Valley Superfund Sites

DRAWING: A-6B
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

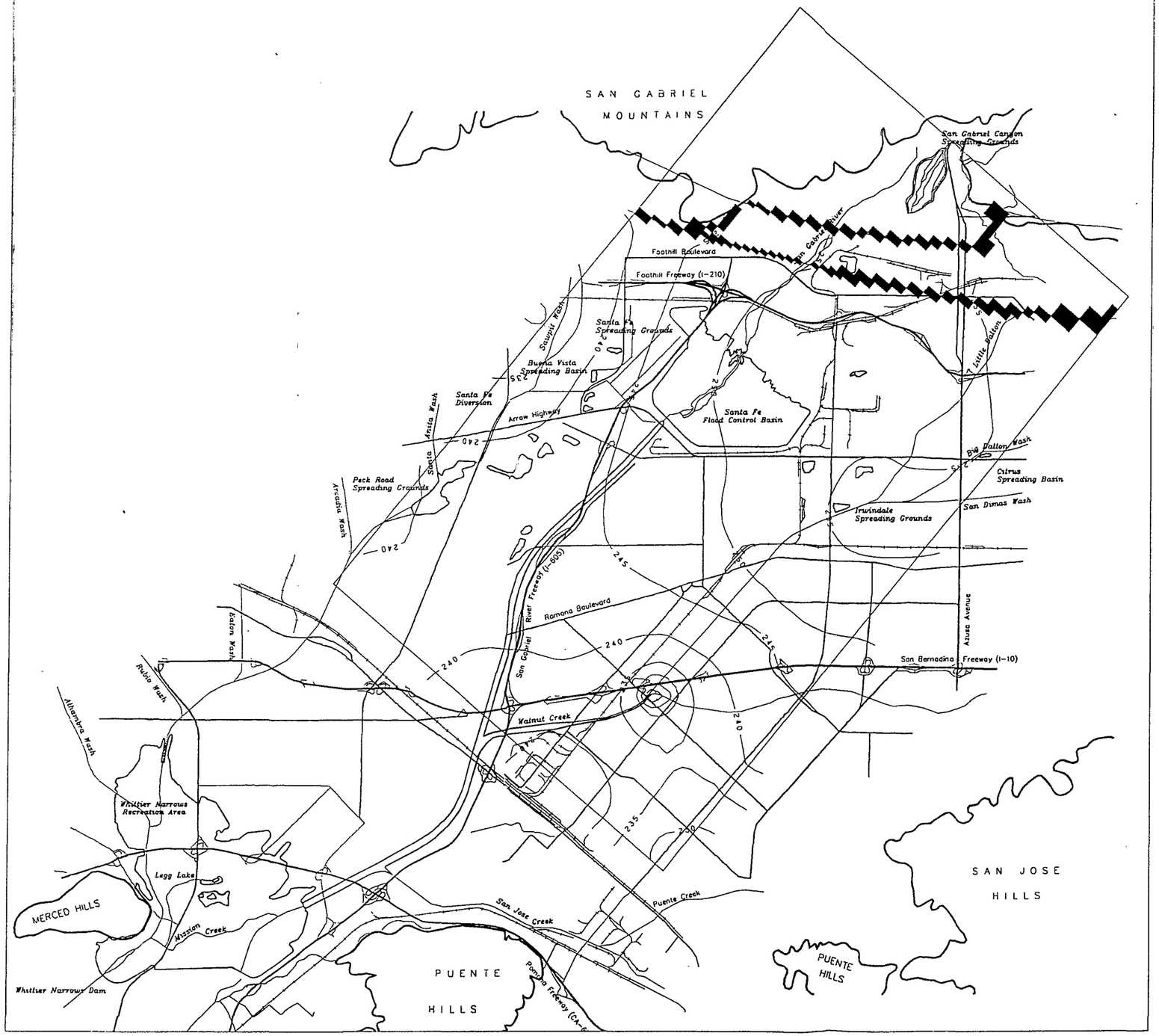
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1
ENGINEER:	SCALE: 1"=3000'
CHECKED:	APPROVED:
DATE:	DATE:

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
July – September, 1981
San Gabriel Valley Superfund Sites

DRAWING:	A-7A
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

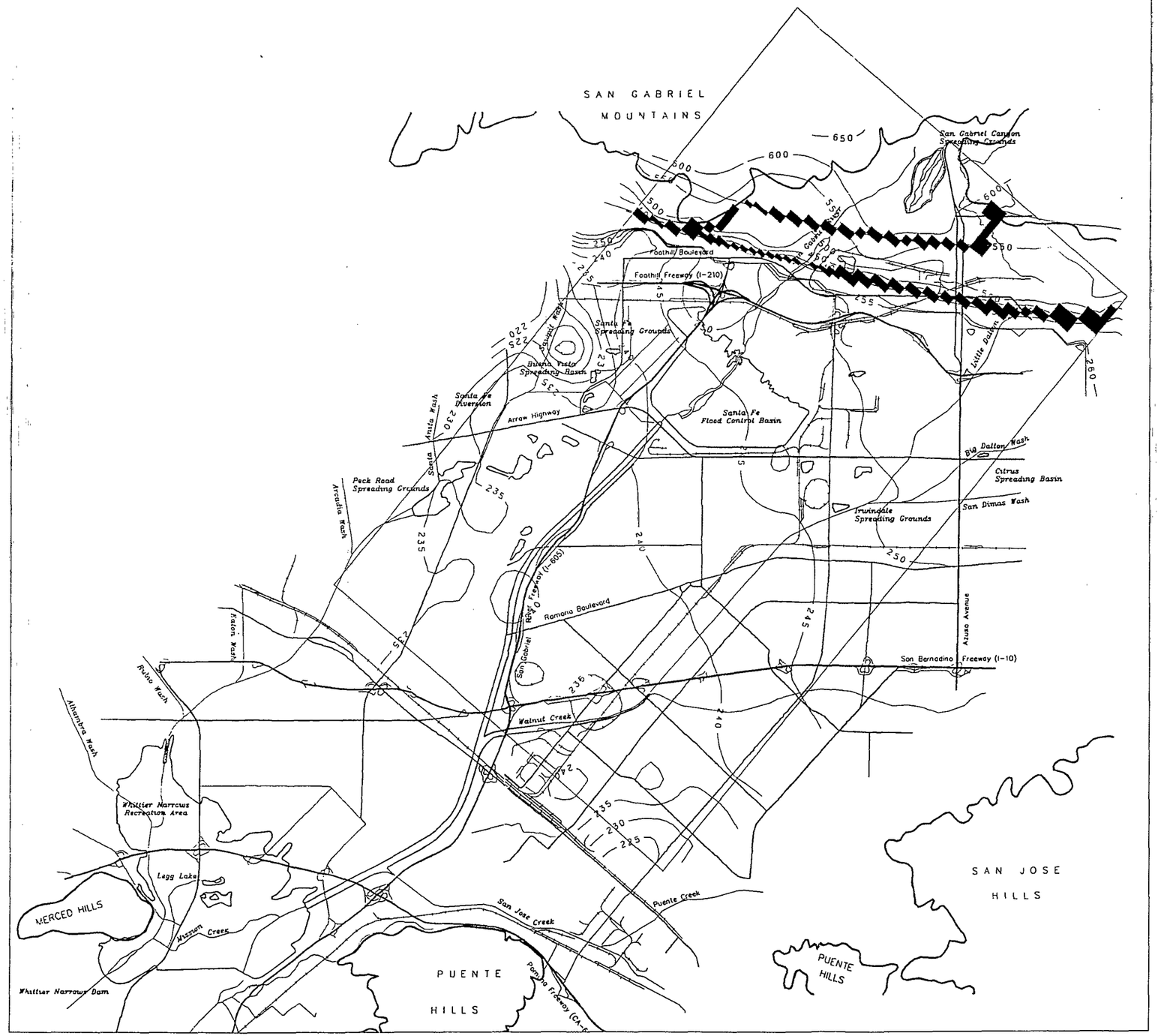
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1
ENGINEER:	SCALE: 1"=3000'
CHECKED:	APPROVED:
DATE	DATE:

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
July – September, 1981
San Gabriel Valley Superfund Sites

DRAWING:	A-7B
SHEET:	OF
REVISION NUMBER:	



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

HLA

Harding Lawson Associates
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Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
October – December, 1981
San Gabriel Valley Superfund Site

DRAWING: **A-8A**
SHEET: 0f
REVISION NUMBER:

EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

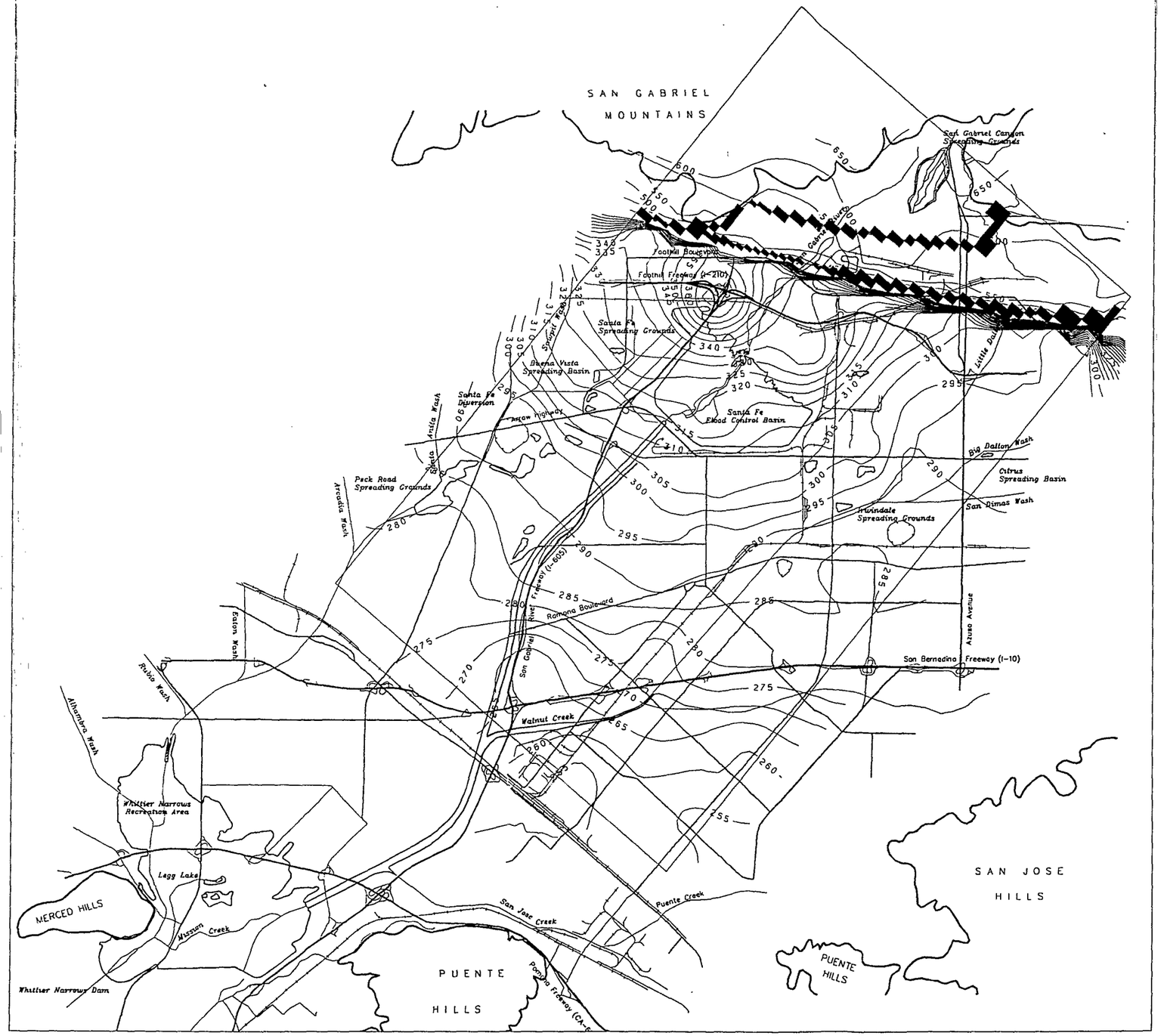
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1
ENGINEER:	SCALE: 1" = 3000'
CHECKED:	APPROVED:
DATE:	DATE:

HLA Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
October – December, 1981
San Gabriel Valley Superfund Sites

DRAWING: A-8B
SHEET: OF
REVISION NUMBER:



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

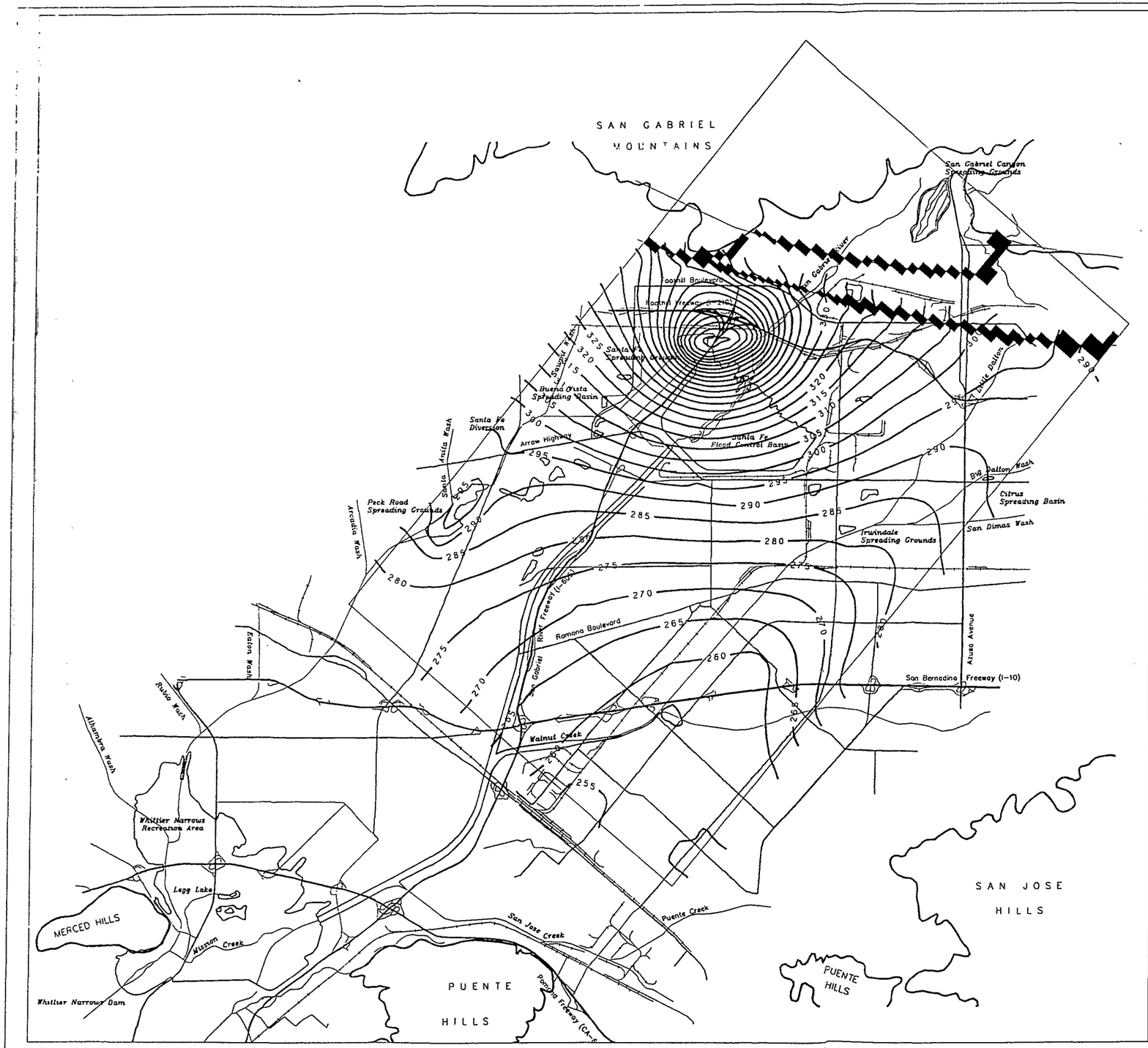
NO.	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
April – June, 1983
San Gabriel Valley Superfund Sites

DRAWING: A-9A
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



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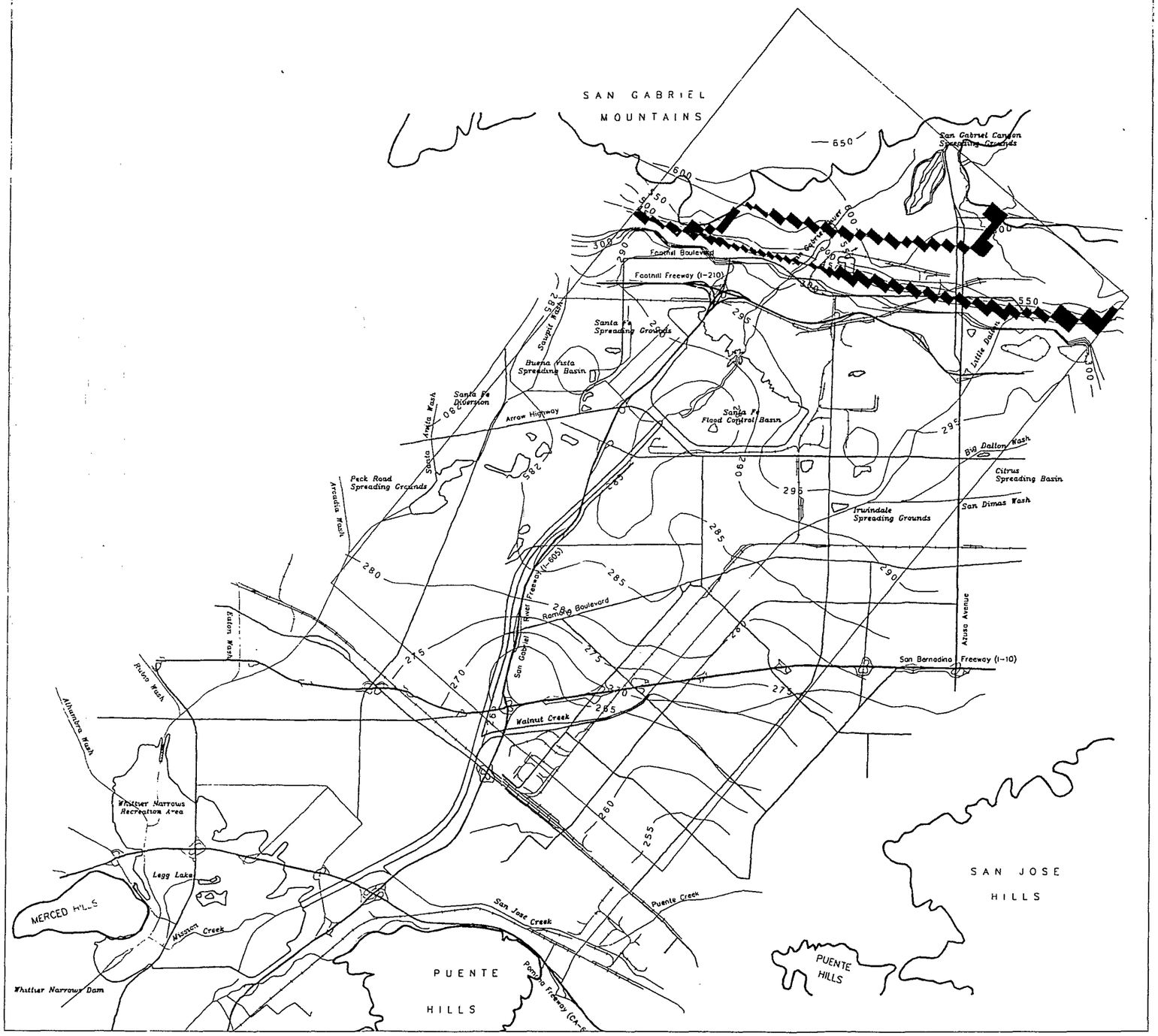
CHECKED:	APPROVED:		SHEET: OF
DATE:	DATE:		REVISION NUMBER:



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 2000 4000
SCALE IN FEET

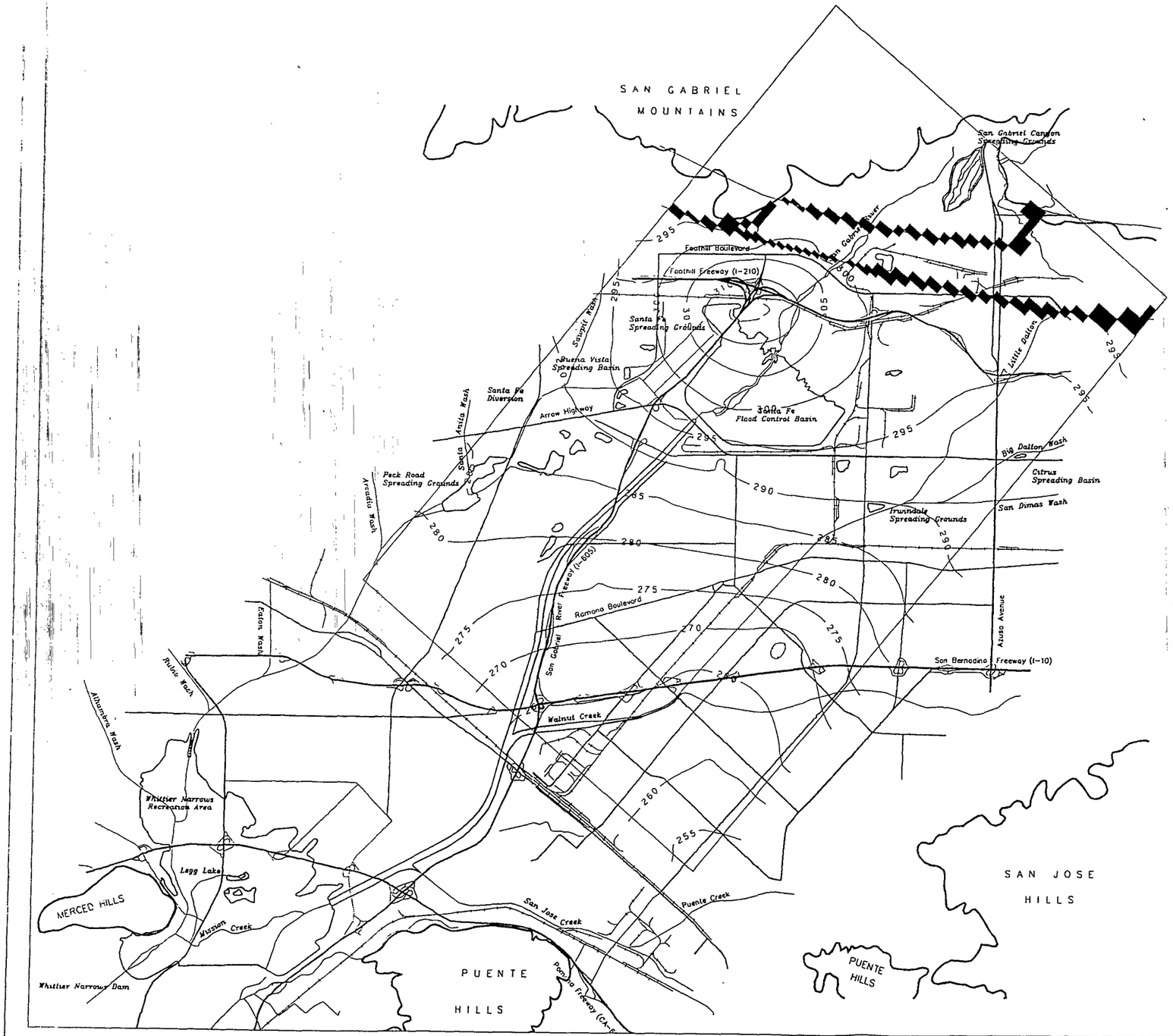
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
July – September, 1983
San Gabriel Valley Superfund Sites

DRAWING: A-10A
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 2000 4000
SCALE IN FEET

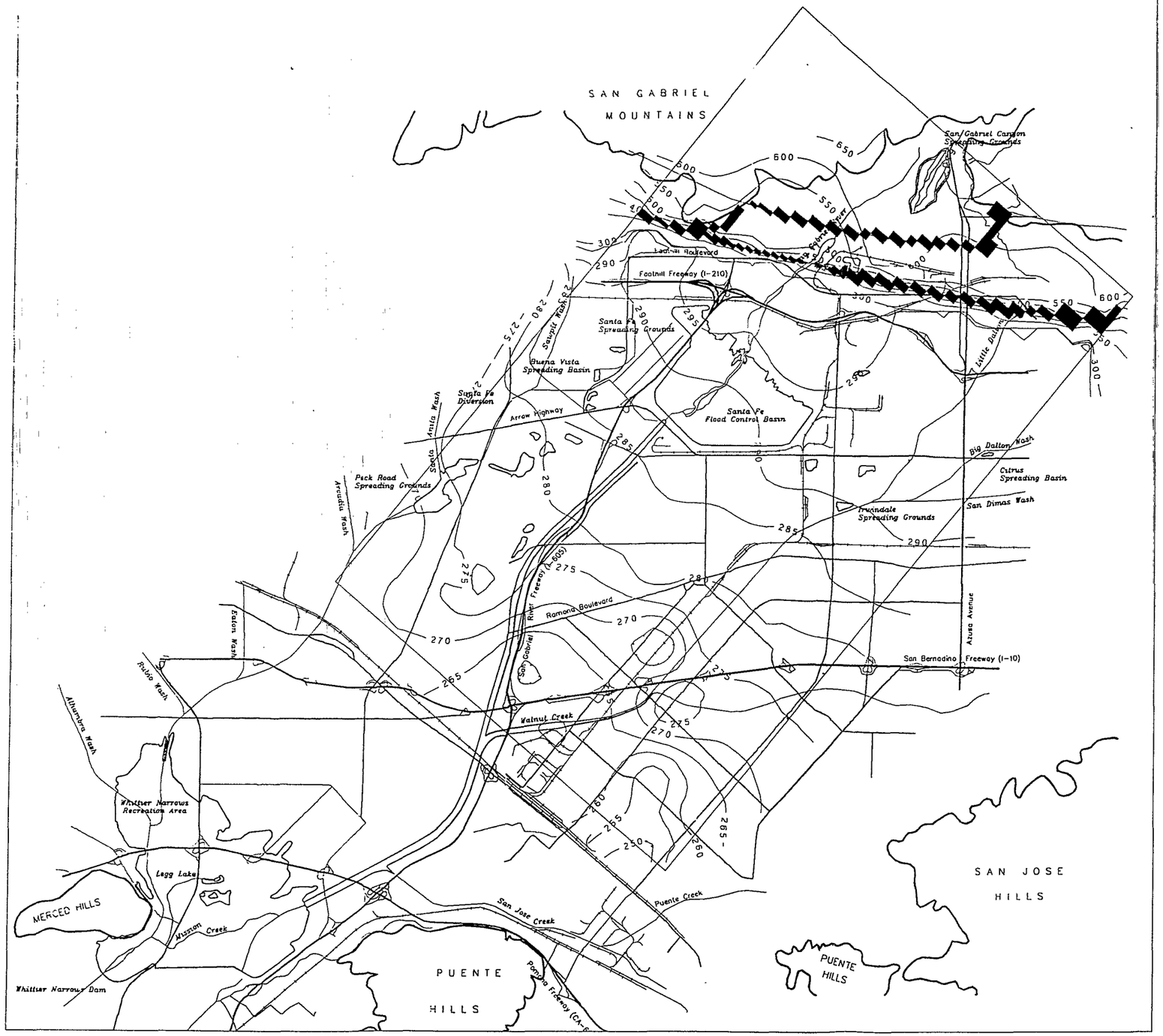
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1
ENGINEER:	SCALE: 1"=3000'
CHECKED:	APPROVED:
DATE:	DATE:

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
July – September, 1983
San Gabriel Valley Superfund Sites

DRAWING: A-10B
SHEET: OF
REVISION NUMBER:



NO	DATE	REVISIONS	BY	CHK

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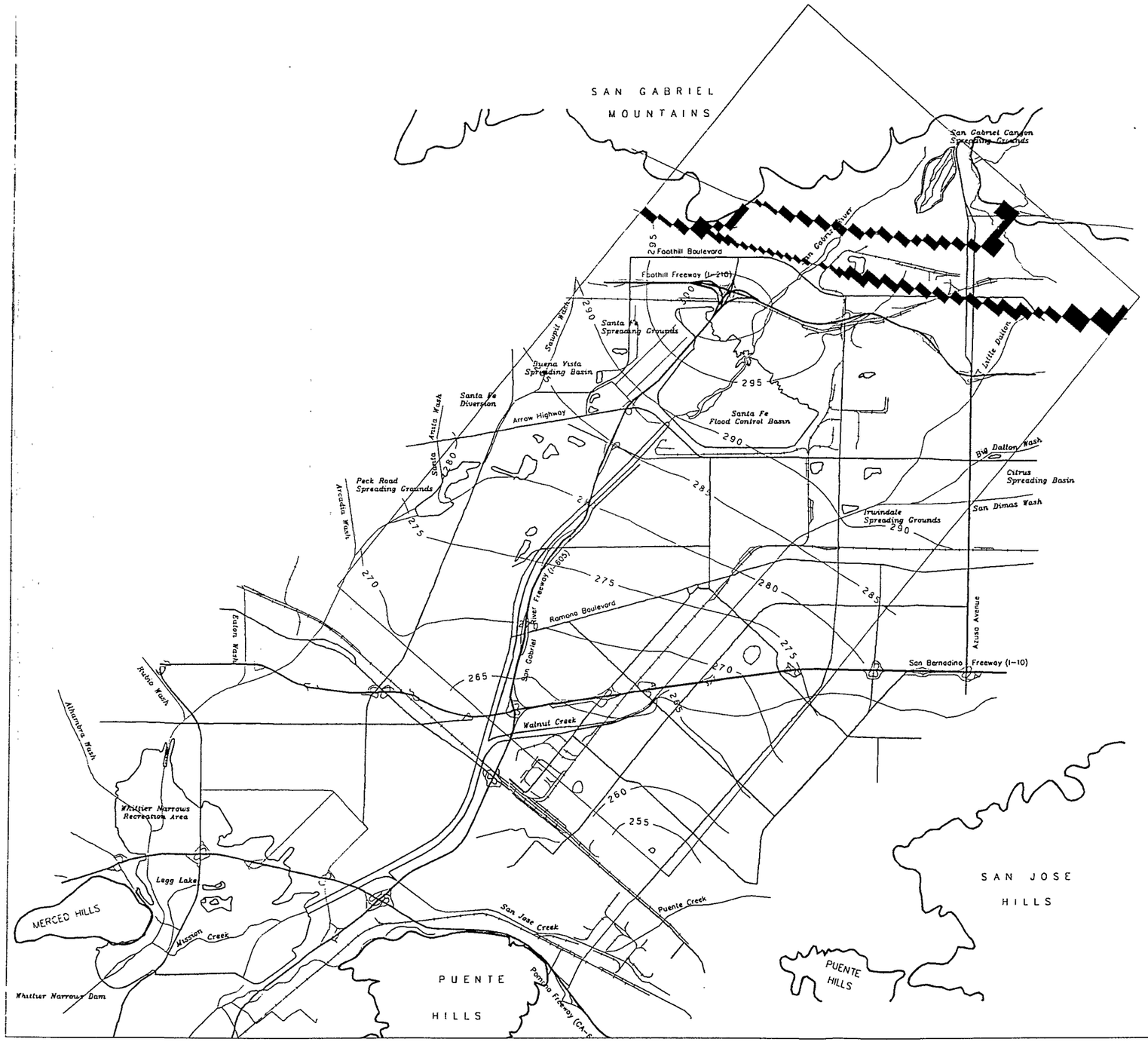
DATE:	DATE:		

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
October – December, 1983
San Gabriel Valley Superfund Sites

DRAWING: A-11A
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1	Harding Lawson Associates Engineering and Environmental Services	Baldwin Park OU Groundwater Model Simulated Water Levels October – December, 1983 San Gabriel Valley Superfund Sites
ENGINEER:	SCALE: 1"=3000'		
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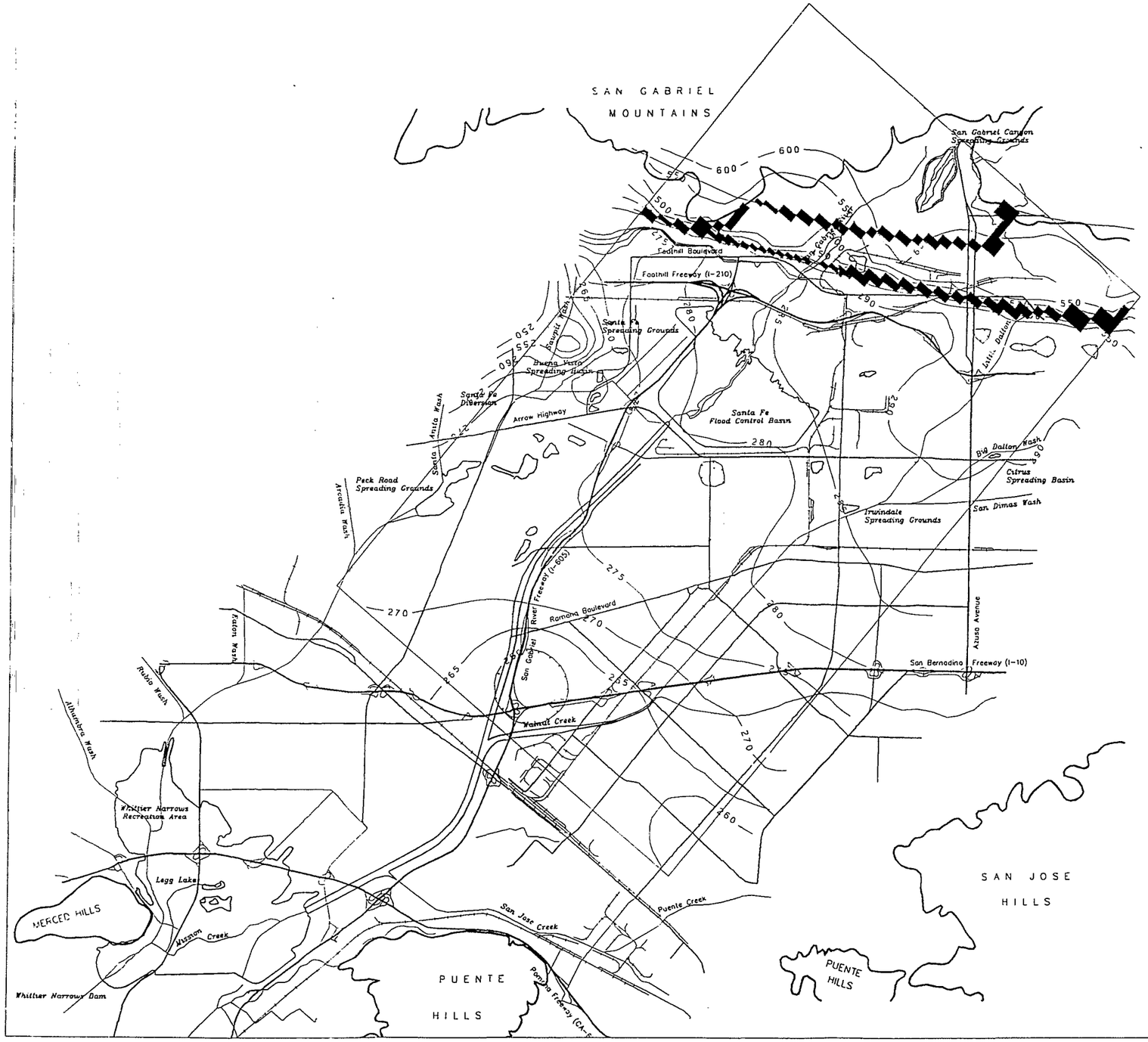
DRAWING: A-11B
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



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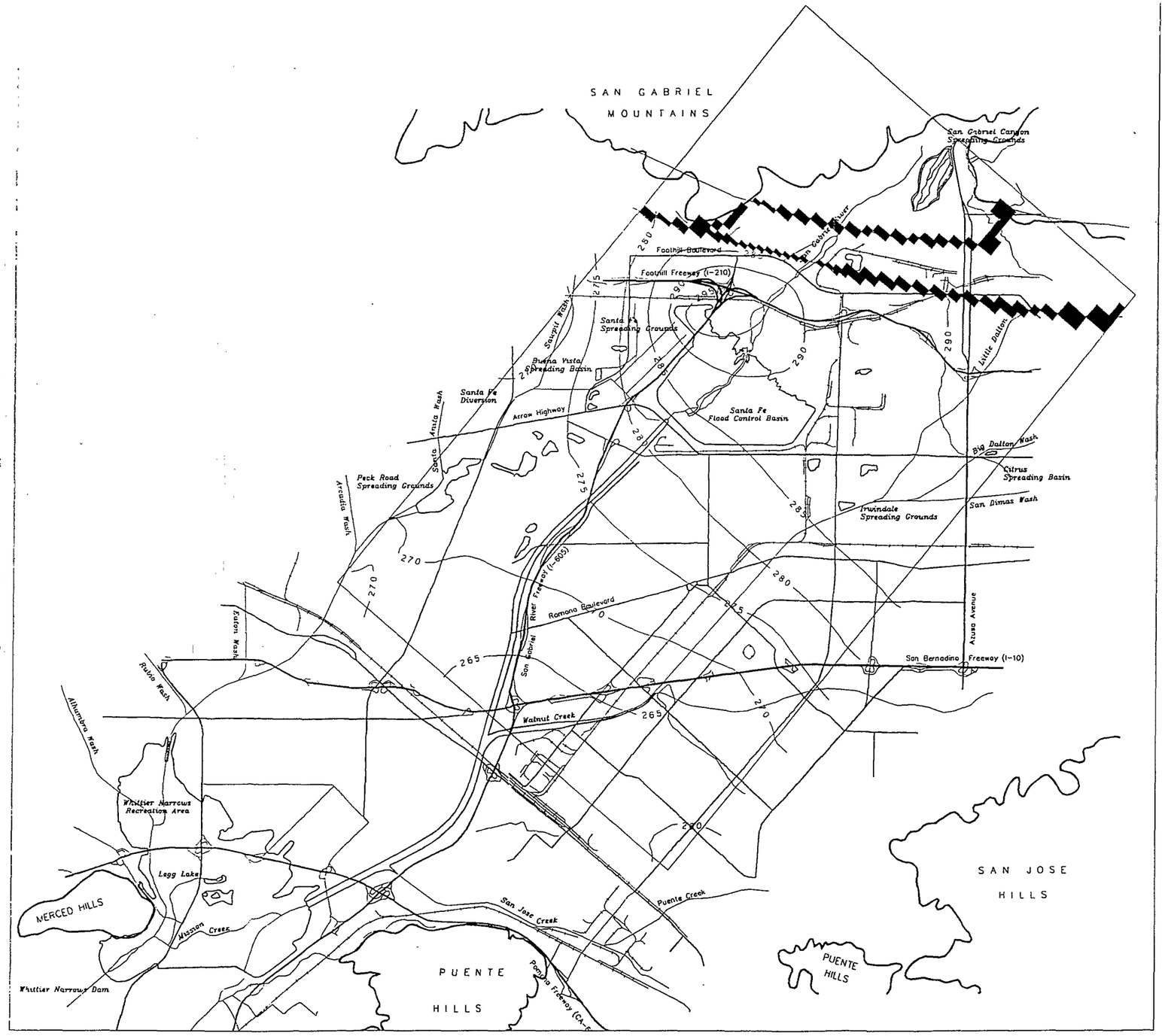
DATE.	DATE:		

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
January – March, 1984
San Gabriel Valley Superfund Sites

DRAWING: A-12A
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



NO	DATE	REVISIONS	BY	CHK

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DATE:	DATE:		

Harding Lawson Associates
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Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
January - March, 1984
San Gabriel Valley Superfund Sites

DRAWING:	A-12B
SHEET:	OF
REVISION NUMBER:	
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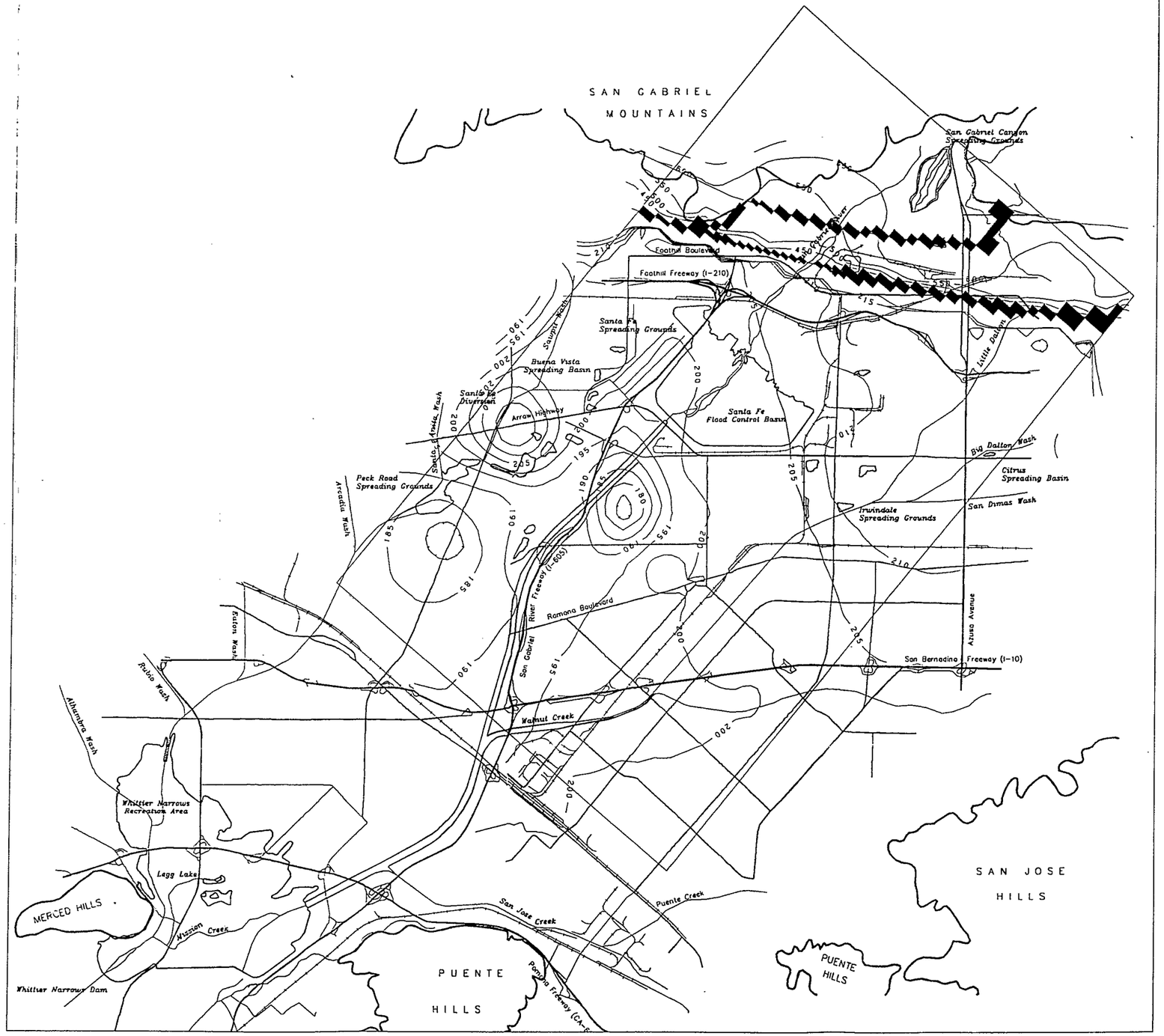

EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731.1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
July – September, 1990
San Gabriel Valley Superfund Sites

DRAWING: A-13A
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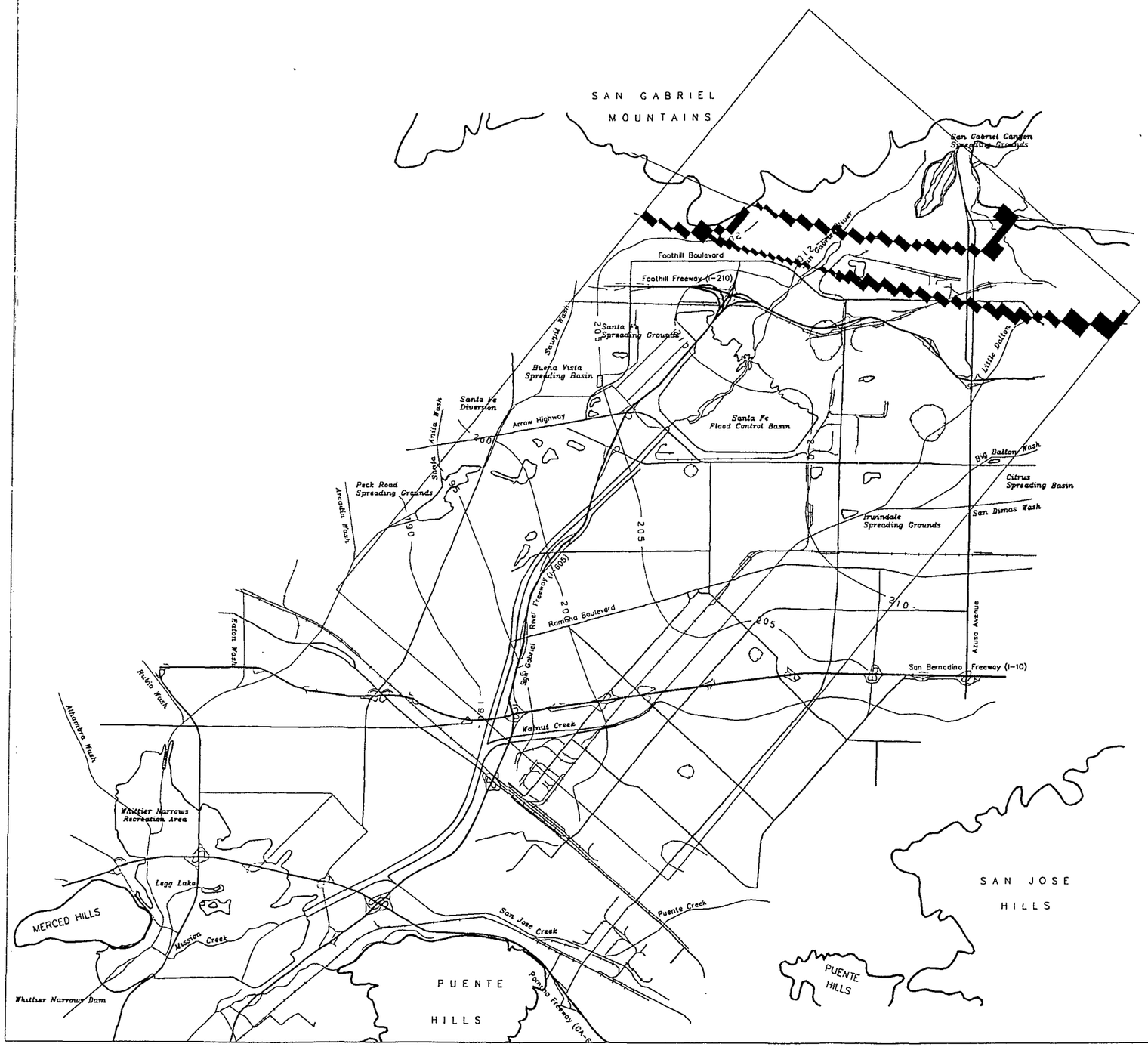
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

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ENGINEER:	SCALE: 1"=3000'		DRAWING: A-13B
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DATE:	DATE:		REVISION NUMBER:
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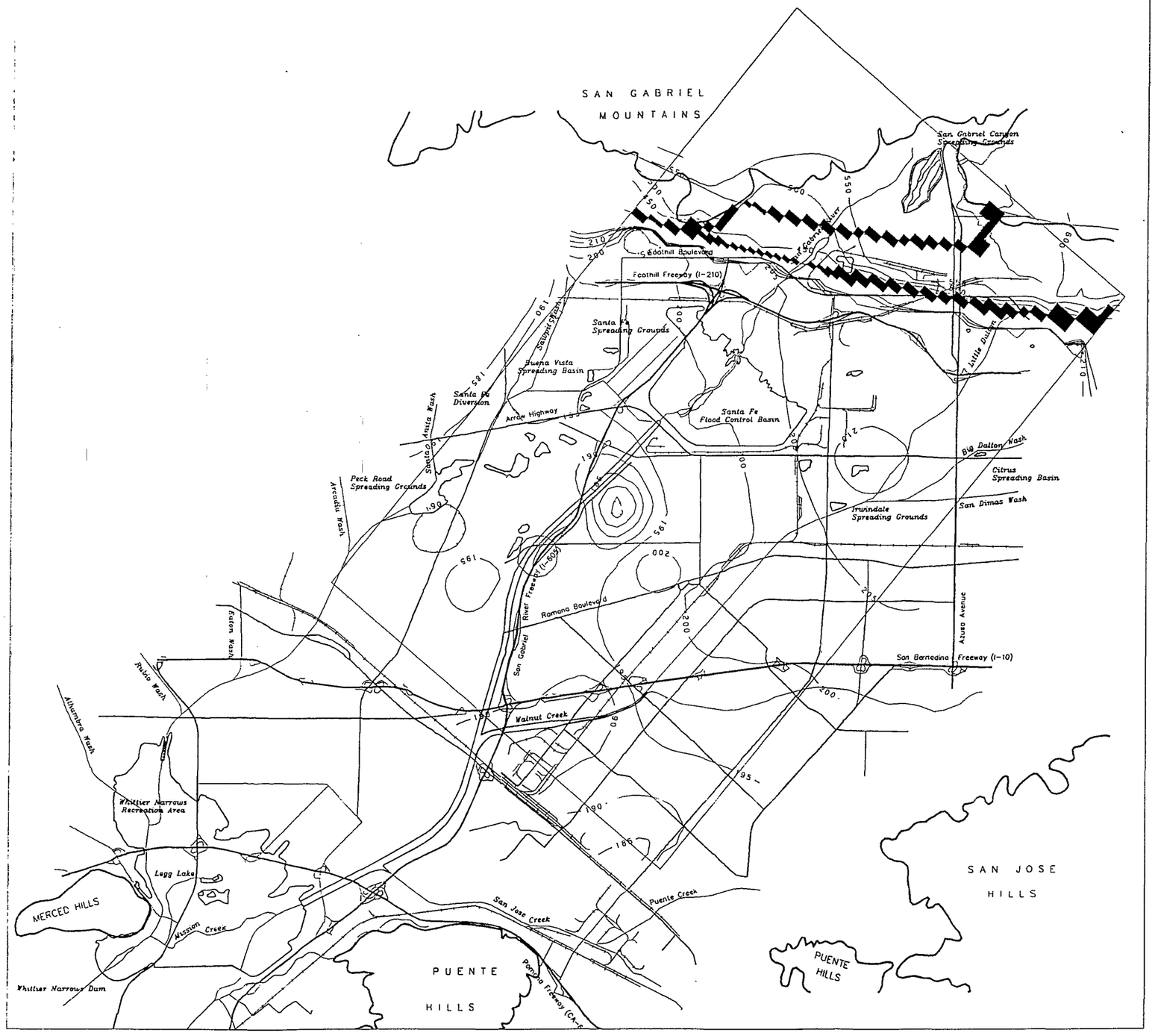

EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
October – December, 1990
San Gabriel Valley Superfund Sites

DRAWING: A-14A
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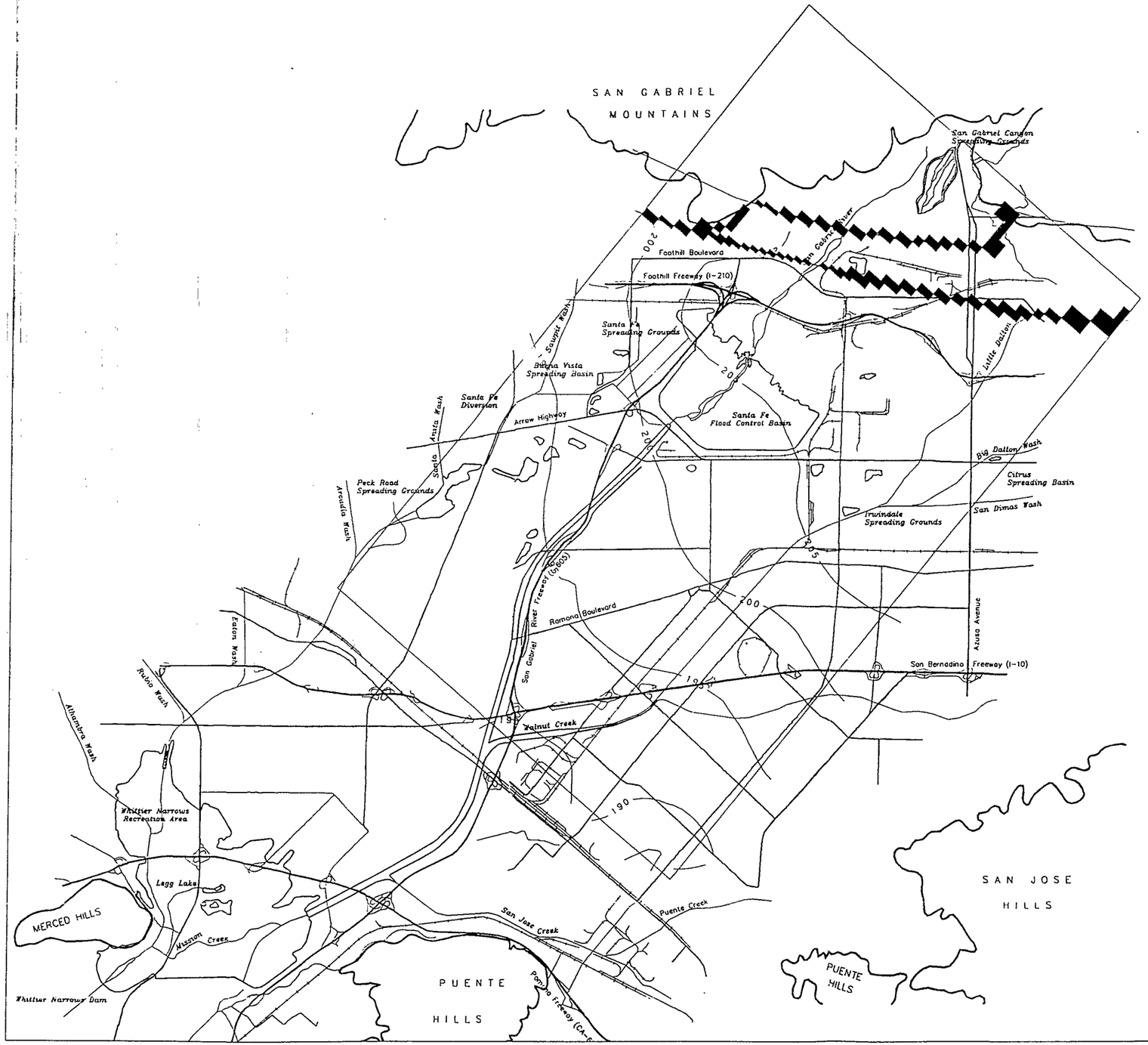
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 — Water Table Elevation Contours (ft MSL)

NO	DATE	REVISIONS	BY	CHK

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ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
October – December, 1990
San Gabriel Valley Superfund Sites

DRAWING: A-14B
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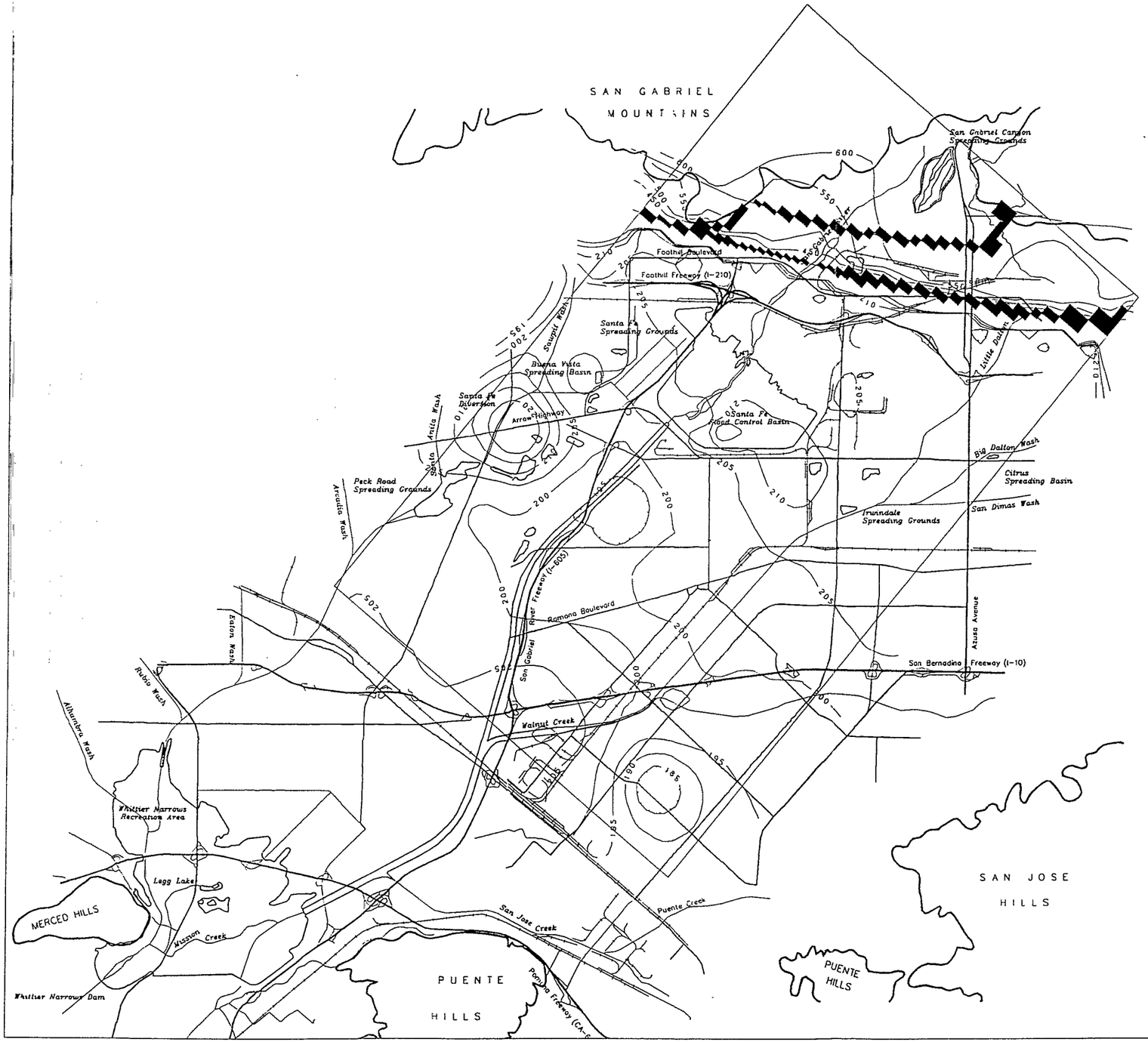
DATE: 8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

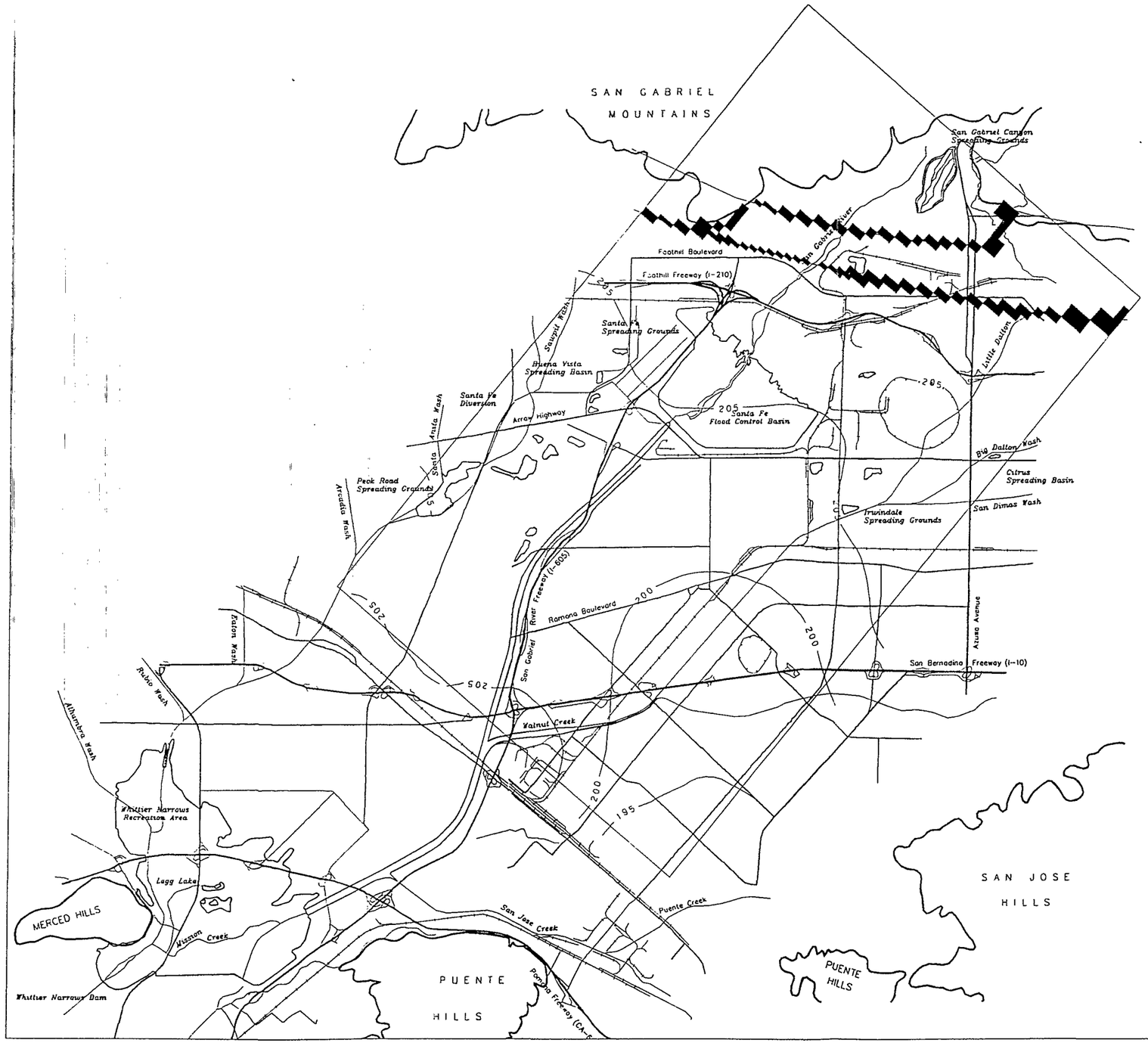
NO.	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1
ENGINEER:	SCALE: 1"=3000'
CHECKED:	APPROVED:
DATE:	DATE:

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
January – March, 1991
San Gabriel Valley Superfund Sites

DRAWING. A-15A
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3050 6100
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHK

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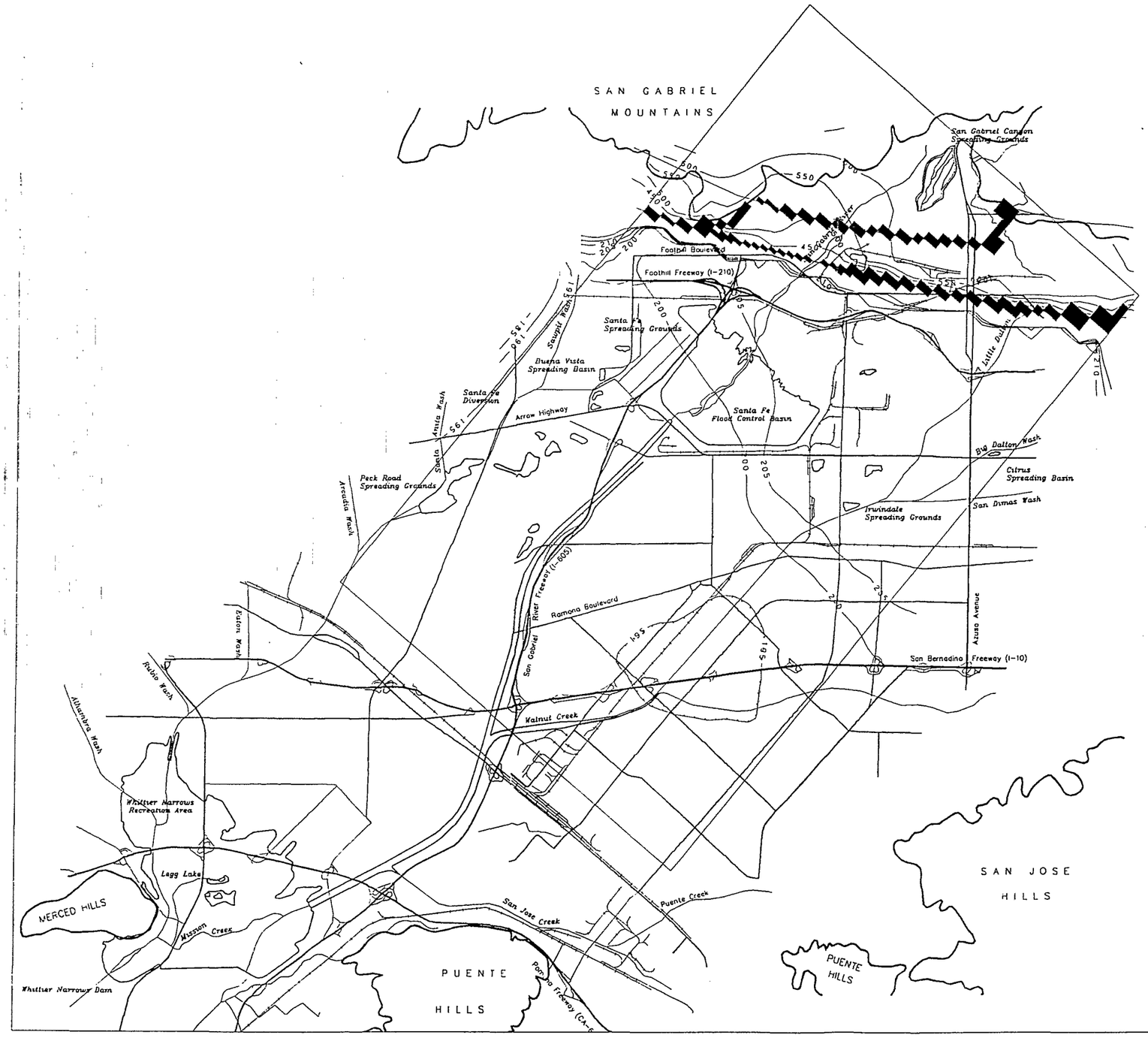
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
January - March, 1991
San Gabriel Valley Superfund Sites

DRAWING:	A-15B
SHEET:	OF
REVISION NUMBER:	
DATE:	8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

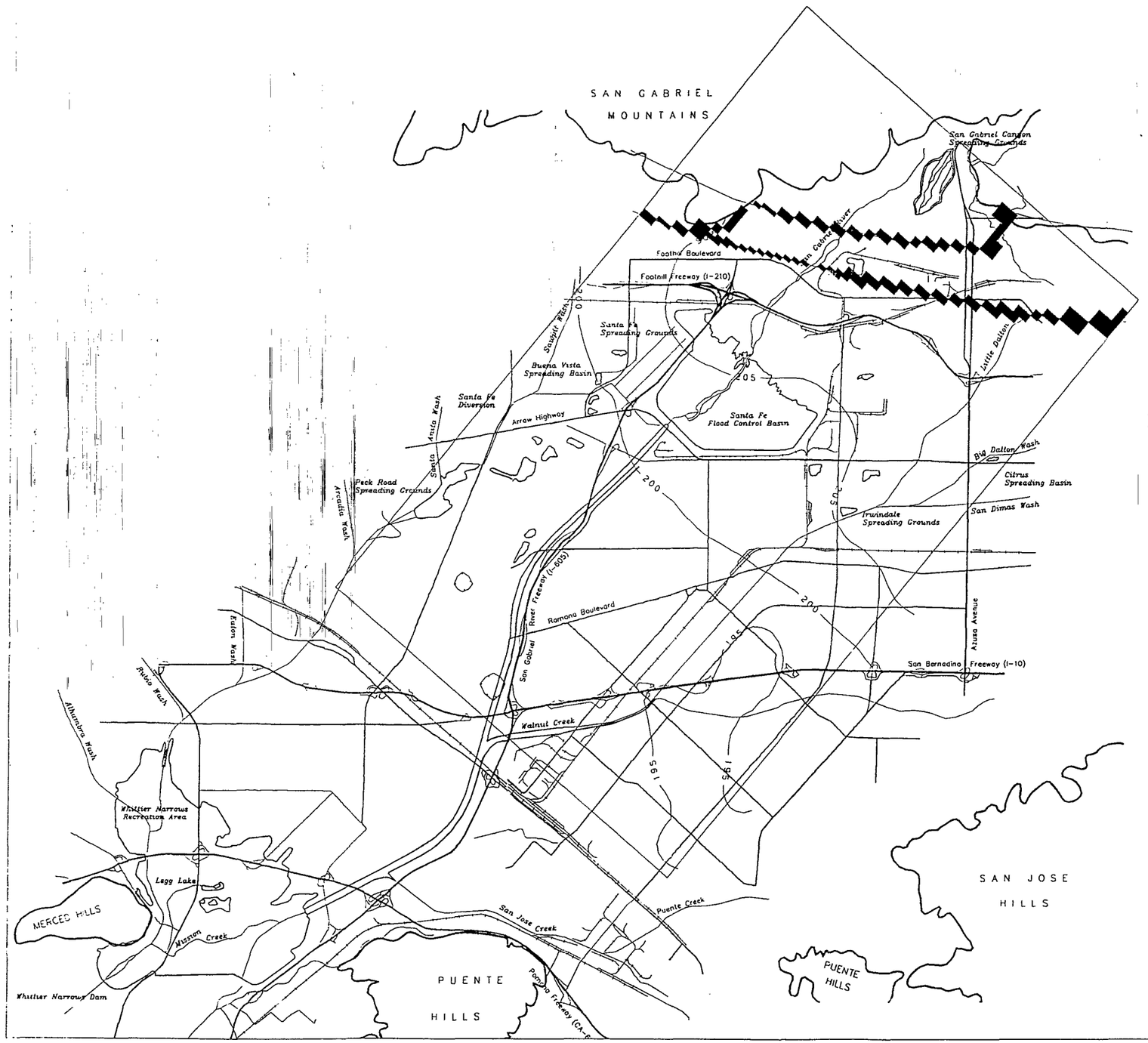
NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH	PROJECT NO: 22731 1		
ENGINEER:	SCALE: 1"=3000'		
CHECKED:	APPROVED:		
DATE:	DATE:		

Harding Lawson Associates
Engineering and Environmental Services

Baldwin Park OU Groundwater Model
Measured Water Levels
April – June, 1991
San Gabriel Valley Superfund Sites

DRAWING: A-16A
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93



EXPLANATION

220 Water Table Elevation Contours (ft MSL)

0 3000 6000
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHK

DRAWN: BEH | PROJECT NO: 22731 1
ENGINEER: | SCALE: 1"=3000'
CHECKED: | APPROVED:
DATE: | DATE:

Harding Lawson Associates
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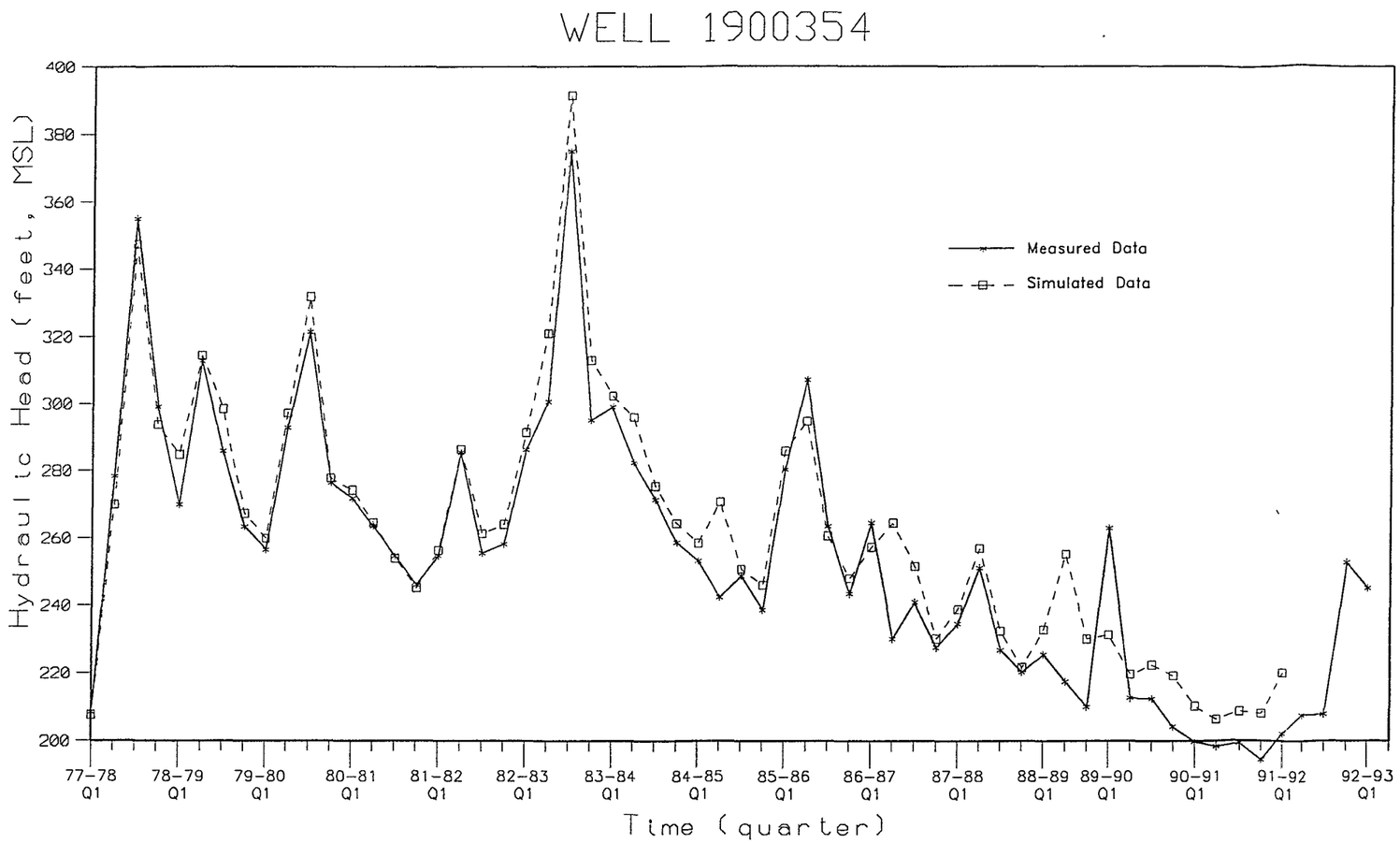
Environmental Services

Baldwin Park OU Groundwater Model
Simulated Water Levels
April – June, 1991
San Gabriel Valley Superfund Sites

DRAWING: **A-16B**
SHEET: OF
REVISION NUMBER:
DATE: 8/5/93

Appendix B

HYDROGRAPHS OF MEASURED AND SIMULATED GROUNDWATER ELEVATIONS



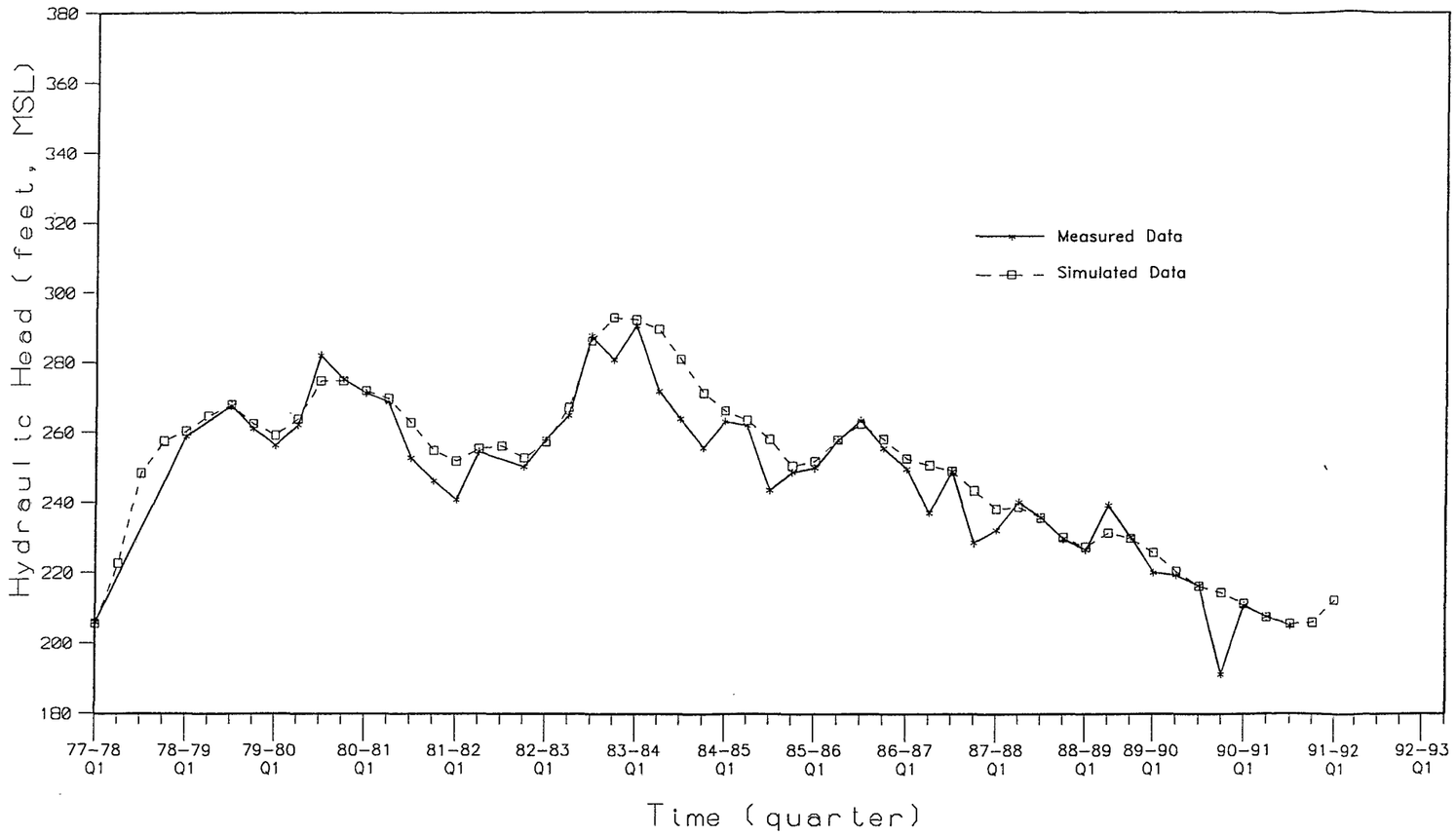
HARDING LAWSON ASSOCIATES
Engineering and
Environmental Services

Hydrograph of Measured and Simulated
Groundwater Elevations - Well 1900354
Baldwin Park OU Groundwater Model
San Gabriel Valley Superfund Sites

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
BEH	22731 1		8/9/93	

PLATE
B-1

WELL 1901525



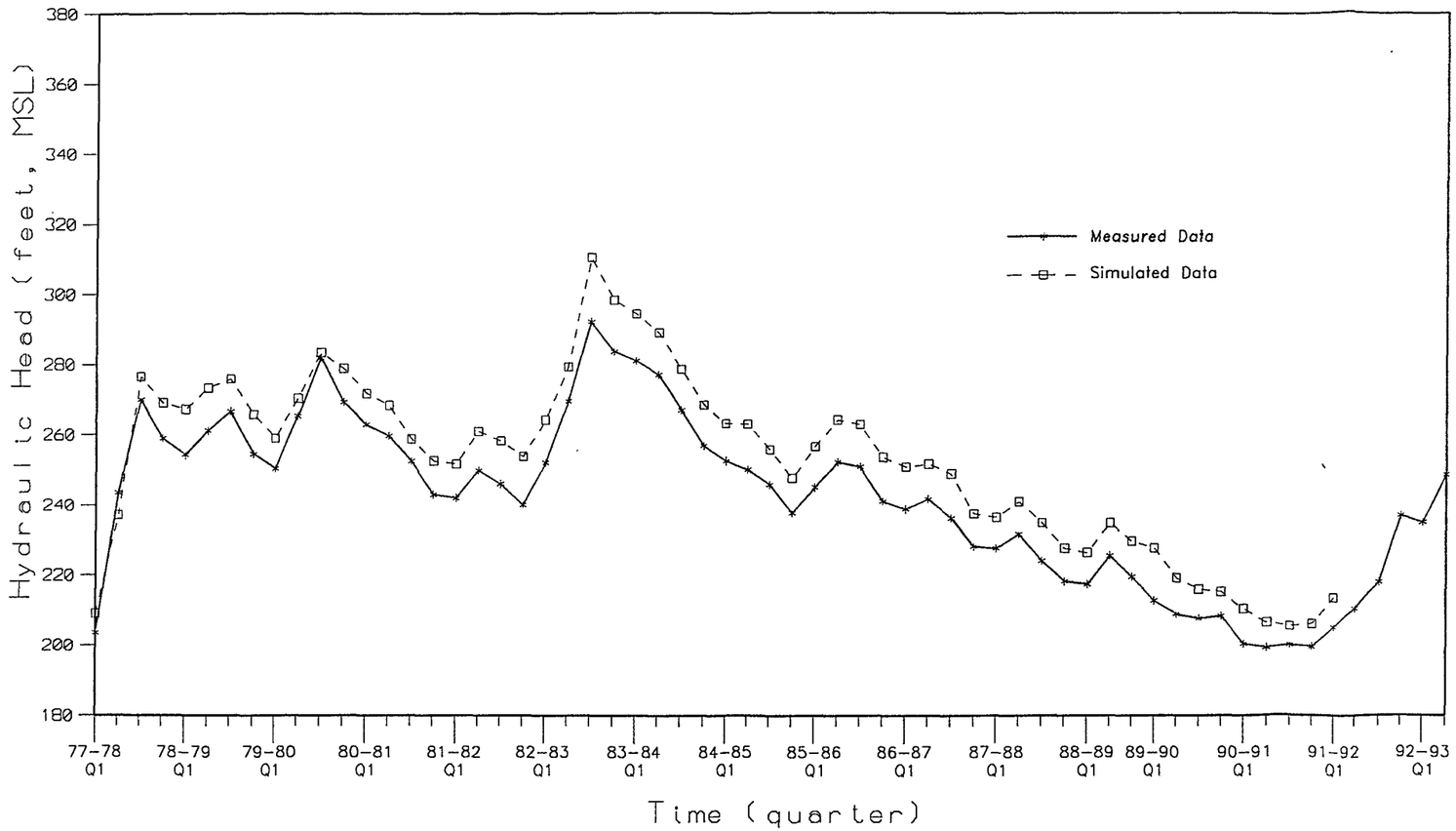
HARDING LAWSON ASSOCIATES
Engineering and
Environmental Services

Hydrograph of Measured and Simulated Groundwater Elevations - Well 1901525
Baldwin Park OU Groundwater Model
San Gabriel Valley Superfund Sites

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
BEH	22731 1		8/9/93	

PLATE **B-2**

Baldwin Park Key
WELL Z1000006



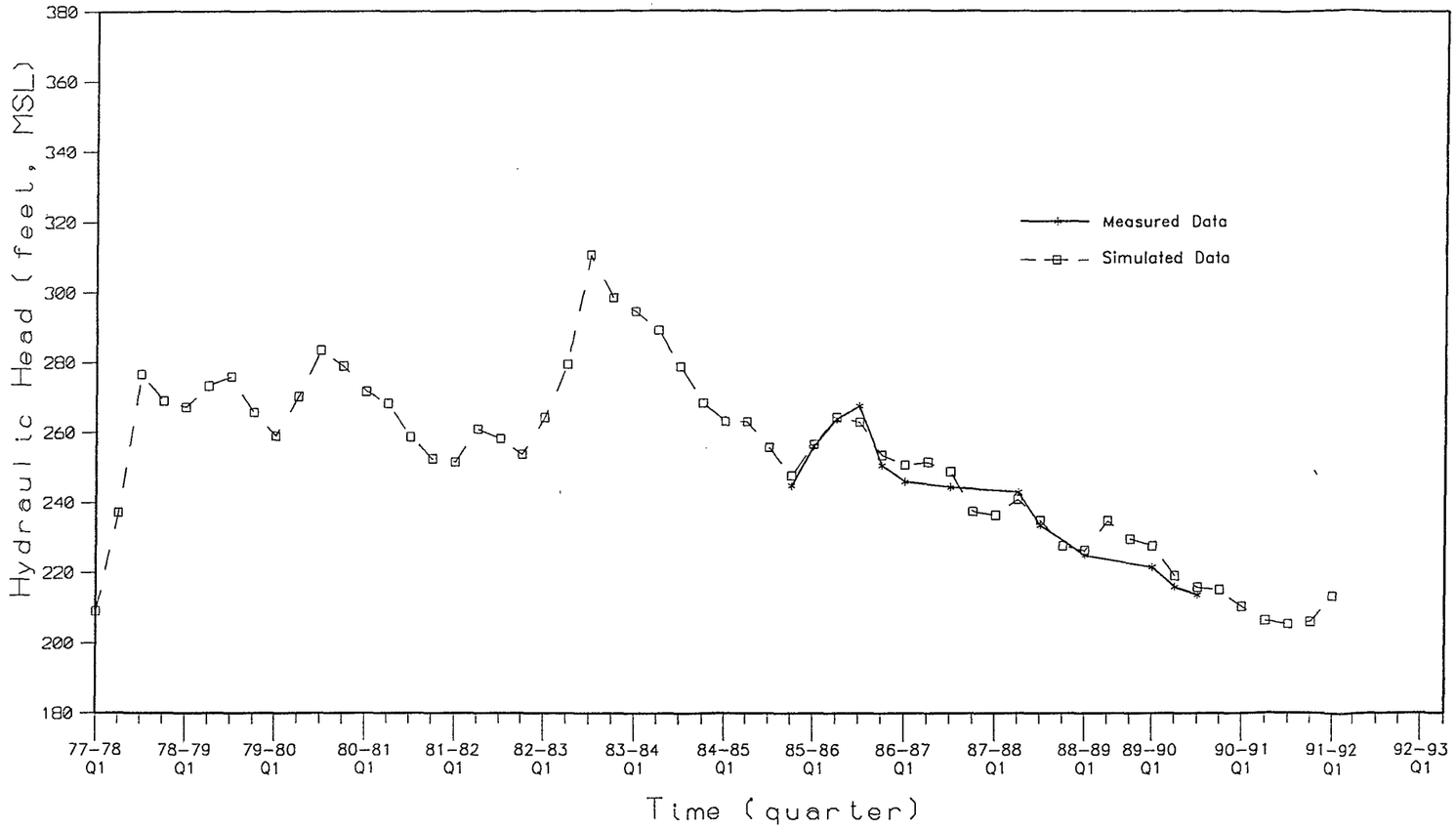
HARDING LAWSON ASSOCIATES
Engineering and
Environmental Services

Hydrograph of Measured and Simulated Groundwater Elevations - Well Z1000006
Baldwin Park OU Groundwater Model
San Gabriel Valley Superfund Sites

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
BEH	22731 1		8/9/93	

PLATE
B-3

WELL AZMW0003



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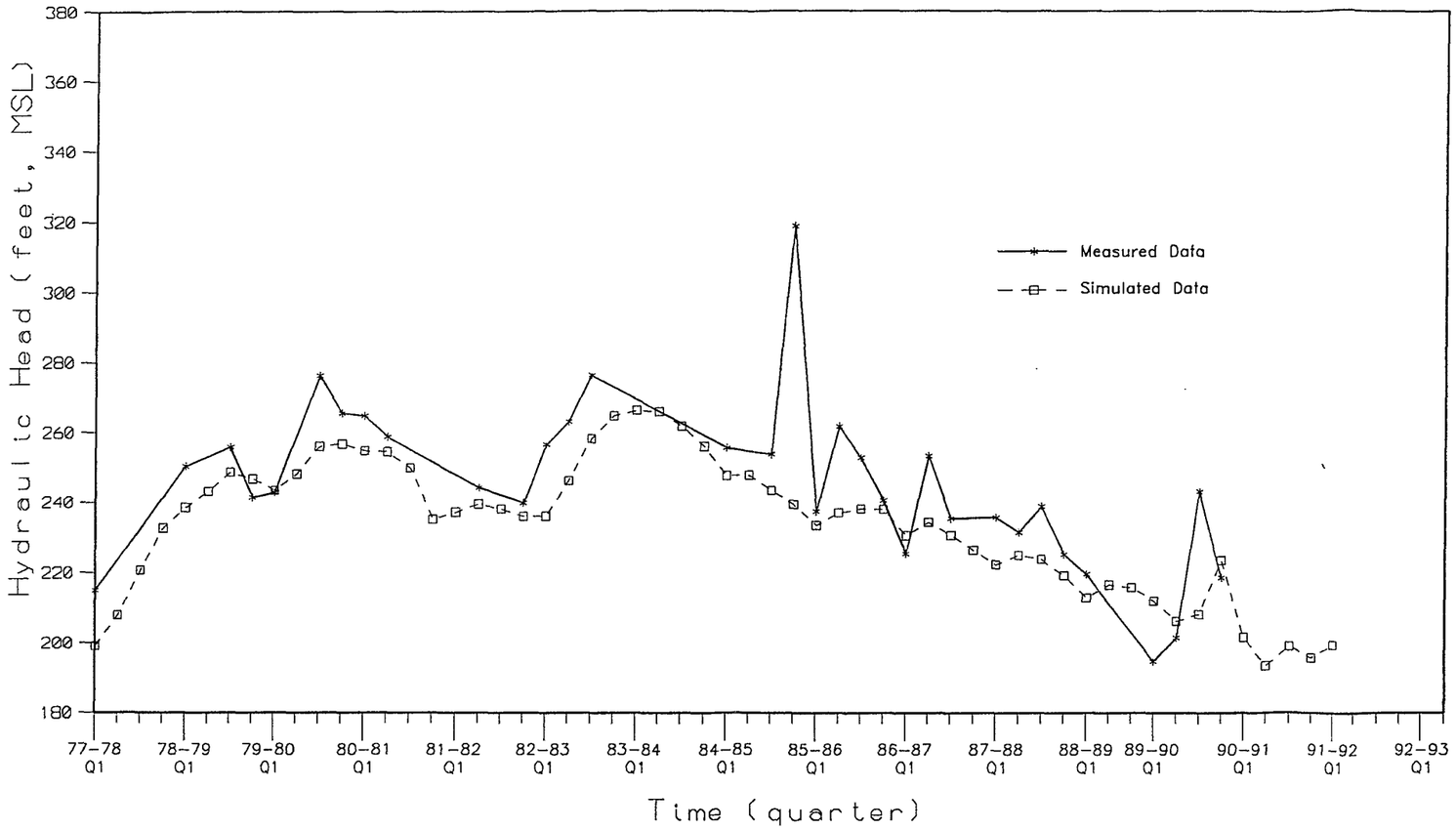
Engineering and
Environmental Services

Hydrograph of Measured and Simulated Groundwater Elevations - Well AZMW0003
Baldwin Park OU Groundwater Model
San Gabriel Valley Superfund Sites

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
BEH	22731 1		8/9/93	

PLATE **B-4**

WELL T1SR11W10R3



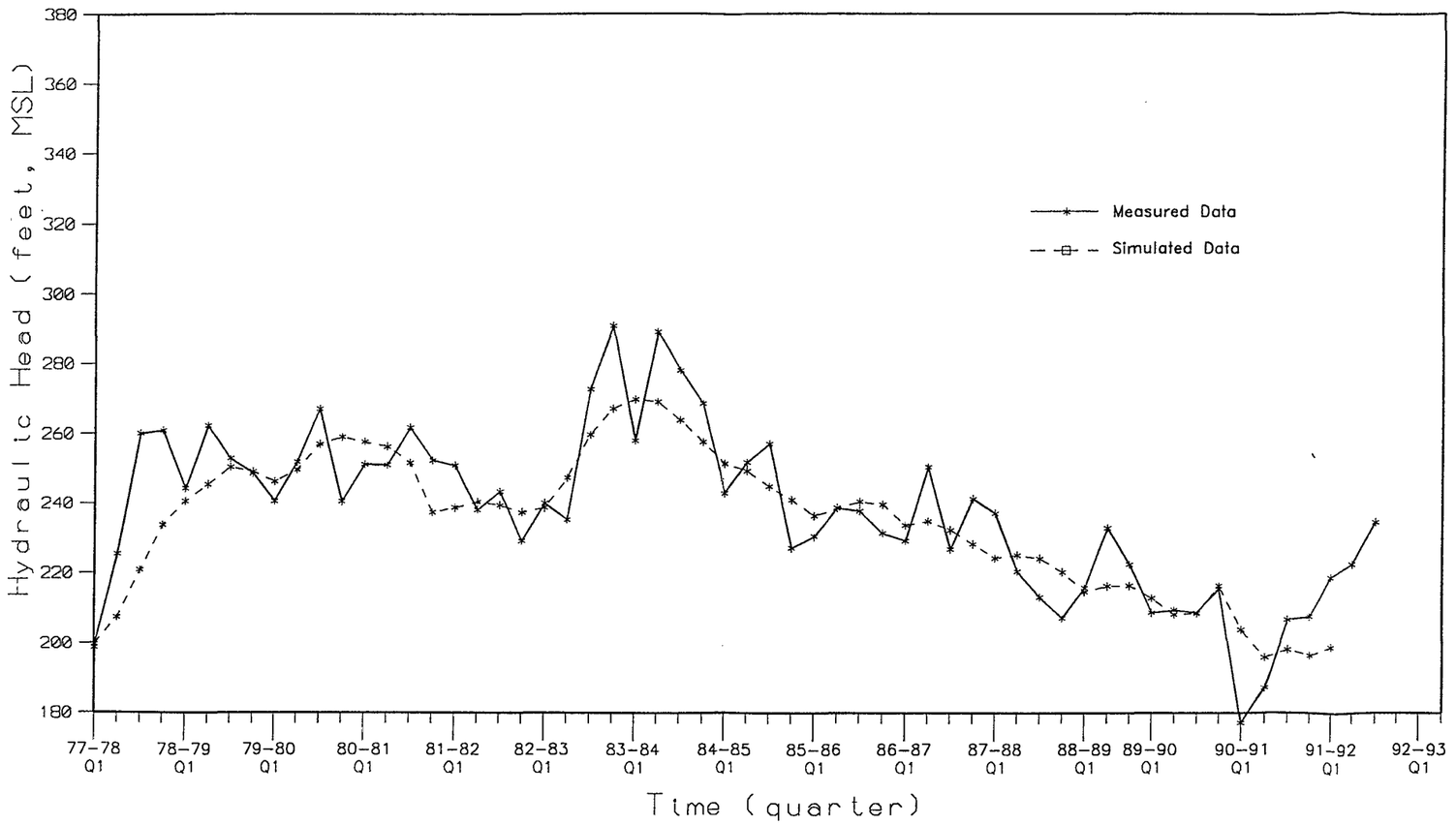
HARDING LAWSON ASSOCIATES
Engineering and Environmental Services

Hydrograph of Measured and Simulated Groundwater Elevations - Well T1SR11W10R3
Baldwin Park OU Groundwater Model
San Gabriel Valley Superfund Sites

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
BEH	22731 1		8/9/93	

PLATE
B-5

WELL T1SR10W19C3



HARDING LAWSON ASSOCIATES
Engineering and
Environmental Services

Hydrograph of Measured and Simulated Groundwater Elevations - Well T1SR10W19C3
Baldwin Park OU Groundwater Model
San Gabriel Valley Superfund Sites

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
BEH	22731 1		8/9/93	

PLATE
B-6

APPENDIX I

VLEACH (Version 2.1, 1994)

By:
Varadhan Ravi and Jeffrey A. Johnson
(USEPA Contractors)
Center for Subsurface Modeling Support
Robert S. Kerr Environmental Research Laboratory
U.S. Environmental Protection Agency
P.O. Box 1198
Ada, OK 74820

Based on the original VLEACH (version 1.0)
developed by CH2M Hill, Redding, California
for USEPA Region IX

RUN VLAJ1-3; UPWARD DIFFUSION FROM WATER TABLE ONLY; 7/12/94; 26915 002
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 10.00 years. Vertical profile stored every 1.00 years.
Koc = 126.00 ml/g, 0.44496E-02cu.ft./g
Kh = 0.38000 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .66000 sq. m/day, 3378.9 sq.ft./yr

Polygon 1
POLY 1 - IMPERMEABLE GROUND SURFACE BC
Polygon area = 1.0000 sq. ft.
30 cells, each cell 10.000 ft. thick.
Soil Properties:
Bulk density = 1.8600 g/ml, 52670. g/cu.ft.
Porosity = 0.3000 Volumetric water content = 0.0500
Organic carbon content = 0.00100000
Recharge Rate = 0.00000000 ft/yr
Conc. in recharge water = 0.00000 mg/l, 0.00000 g/cu.ft
Atmospheric concentration = -1.0000 mg/l, -0.28317E-01g/cu.ft
Water table has a fixed concentration of 2.4000 mg/l, 0.67961E-01g/cu.ft.
with respect to gas diffusion.

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000
5	0.00000	0.00000	0.00000
6	0.00000	0.00000	0.00000
7	0.00000	0.00000	0.00000
8	0.00000	0.00000	0.00000
9	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000
11	0.00000	0.00000	0.00000
12	0.00000	0.00000	0.00000
13	0.00000	0.00000	0.00000
14	0.00000	0.00000	0.00000
15	0.00000	0.00000	0.00000
16	0.00000	0.00000	0.00000
17	0.00000	0.00000	0.00000
18	0.00000	0.00000	0.00000
19	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000
21	0.00000	0.00000	0.00000
22	0.00000	0.00000	0.00000
23	0.00000	0.00000	0.00000
24	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
26	0.00000	0.00000	0.00000
27	0.00000	0.00000	0.00000
28	0.00000	0.00000	0.00000
29	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 1.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.20460E-06	0.53843E-06	0.23958E-13
2	0.25997E-06	0.68413E-06	0.30441E-13
3	0.38568E-06	0.10150E-07	0.45161E-13
4	0.61576E-06	0.16204E-07	0.72103E-13
5	0.10125E-07	0.26644E-07	0.11855E-12
6	0.16831E-07	0.44293E-07	0.19709E-12
7	0.28093E-07	0.73928E-07	0.32895E-12
8	0.46956E-07	0.12357E-06	0.54983E-12
9	0.78526E-07	0.20665E-06	0.91950E-12
10	0.13134E-06	0.34564E-06	0.15380E-11
11	0.21970E-06	0.57817E-06	0.25726E-11
12	0.36752E-06	0.96715E-06	0.43035E-11
13	0.61478E-06	0.16178E-05	0.71988E-11
14	0.10284E-05	0.27063E-05	0.12042E-10
15	0.17203E-05	0.45271E-05	0.20144E-10
16	0.28777E-05	0.75730E-05	0.33697E-10
17	0.48139E-05	0.12668E-04	0.56368E-10
18	0.80527E-05	0.21191E-04	0.94293E-10
19	0.13471E-04	0.35449E-04	0.15773E-09
20	0.22533E-04	0.59299E-04	0.26386E-09
21	0.37694E-04	0.99195E-04	0.44138E-09
22	0.63055E-04	0.16593E-03	0.73834E-09
23	0.10548E-03	0.27757E-03	0.12351E-08
24	0.17644E-03	0.46432E-03	0.20661E-08
25	0.29515E-03	0.77672E-03	0.34561E-08
26	0.49373E-03	0.12993E-02	0.57814E-08
27	0.82592E-03	0.21735E-02	0.96711E-08
28	0.13816E-02	0.36358E-02	0.16178E-07
29	0.23111E-02	0.60819E-02	0.27062E-07
30	0.38661E-02	0.10174E-01	0.45270E-07

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 2.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.74972E-06	0.19729E-07	0.87788E-13
2	0.93873E-06	0.24703E-07	0.10992E-12
3	0.13641E-07	0.35898E-07	0.15973E-12
4	0.21325E-07	0.56120E-07	0.24971E-12
5	0.34363E-07	0.90429E-07	0.40238E-12
6	0.56013E-07	0.14740E-06	0.65589E-12
7	0.91680E-07	0.24126E-06	0.10735E-11
8	0.15025E-06	0.39540E-06	0.17594E-11
9	0.24630E-06	0.64816E-06	0.28841E-11
10	0.40368E-06	0.10623E-05	0.47268E-11
11	0.66138E-06	0.17405E-05	0.77445E-11
12	0.10832E-05	0.28505E-05	0.12684E-10
13	0.17732E-05	0.46662E-05	0.20763E-10
14	0.29013E-05	0.76351E-05	0.33973E-10
15	0.47449E-05	0.12487E-04	0.55561E-10
16	0.77559E-05	0.20410E-04	0.90818E-10
17	0.12671E-04	0.33344E-04	0.14837E-09
18	0.20688E-04	0.54441E-04	0.24224E-09
19	0.33757E-04	0.88835E-04	0.39528E-09
20	0.55049E-04	0.14487E-03	0.64460E-09
21	0.89710E-04	0.23608E-03	0.10505E-08
22	0.14606E-03	0.38445E-03	0.17107E-08
23	0.23773E-03	0.62561E-03	0.27837E-08
24	0.38656E-03	0.10173E-02	0.45264E-08
25	0.62803E-03	0.16527E-02	0.73539E-08
26	0.10194E-02	0.26827E-02	0.11937E-07
27	0.16533E-02	0.43507E-02	0.19359E-07
28	0.26785E-02	0.70486E-02	0.31364E-07
29	0.43349E-02	0.11408E-01	0.50760E-07
30	0.70077E-02	0.18441E-01	0.82057E-07

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 3.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18532E-07	0.48788E-07	0.21700E-12
2	0.22935E-07	0.60354E-07	0.26855E-12
3	0.32775E-07	0.86251E-07	0.38378E-12
4	0.50365E-07	0.13254E-06	0.58975E-12
5	0.79825E-07	0.21006E-06	0.93471E-12
6	0.12804E-06	0.33695E-06	0.14993E-11
7	0.20626E-06	0.54278E-06	0.24152E-11
8	0.33265E-06	0.87539E-06	0.38952E-11
9	0.53649E-06	0.14118E-05	0.62820E-11
10	0.86482E-06	0.22758E-05	0.10127E-10
11	0.13931E-05	0.36662E-05	0.16313E-10
12	0.22425E-05	0.59012E-05	0.26258E-10
13	0.36066E-05	0.94909E-05	0.42231E-10
14	0.57952E-05	0.15250E-04	0.67859E-10
15	0.93031E-05	0.24482E-04	0.10894E-09
16	0.14920E-04	0.39262E-04	0.17470E-09
17	0.23902E-04	0.62899E-04	0.27988E-09
18	0.38248E-04	0.10065E-03	0.44787E-09
19	0.61134E-04	0.16088E-03	0.71585E-09
20	0.97591E-04	0.25682E-03	0.11427E-08
21	0.15558E-03	0.40942E-03	0.18218E-08
22	0.24768E-03	0.65178E-03	0.29002E-08
23	0.39369E-03	0.10360E-02	0.46100E-08
24	0.62477E-03	0.16441E-02	0.73158E-08
25	0.98976E-03	0.26046E-02	0.11590E-07
26	0.15650E-02	0.41185E-02	0.18326E-07
27	0.24696E-02	0.64991E-02	0.28918E-07
28	0.38885E-02	0.10233E-01	0.45533E-07
29	0.61080E-02	0.16074E-01	0.71522E-07
30	0.95662E-02	0.25182E-01	0.11205E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 4.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.37946E-07	0.99858E-07	0.44433E-12
2	0.46500E-07	0.12237E-06	0.54449E-12
3	0.65506E-07	0.17238E-06	0.76705E-12
4	0.99178E-07	0.26099E-06	0.11613E-11
5	0.15498E-06	0.40778E-06	0.18145E-11
6	0.24513E-06	0.64507E-06	0.28703E-11
7	0.38947E-06	0.10249E-05	0.45605E-11
8	0.61949E-06	0.16302E-05	0.72540E-11
9	0.98519E-06	0.25926E-05	0.11536E-10
10	0.15656E-05	0.41201E-05	0.18333E-10
11	0.24856E-05	0.65411E-05	0.29105E-10
12	0.39418E-05	0.10373E-04	0.46157E-10
13	0.62438E-05	0.16431E-04	0.73112E-10
14	0.98774E-05	0.25993E-04	0.11568E-09
15	0.15605E-04	0.41065E-04	0.18272E-09
16	0.24617E-04	0.64783E-04	0.28826E-09
17	0.38777E-04	0.10205E-03	0.45406E-09
18	0.60984E-04	0.16048E-03	0.71409E-09
19	0.95743E-04	0.25196E-03	0.11211E-08
20	0.15004E-03	0.39484E-03	0.17569E-08

21	0.23467E-03	0.61756E-03	0.27479E-08
22	0.36627E-03	0.96387E-03	0.42889E-08
23	0.57038E-03	0.15010E-02	0.66788E-08
24	0.88606E-03	0.23317E-02	0.10375E-07
25	0.13728E-02	0.36127E-02	0.16075E-07
26	0.21206E-02	0.55812E-02	0.24834E-07
27	0.32661E-02	0.85951E-02	0.38245E-07
28	0.50125E-02	0.13191E-01	0.58694E-07
29	0.76631E-02	0.20166E-01	0.89731E-07
30	0.11665E-01	0.30698E-01	0.13659E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 5.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.69202E-07	0.18211E-06	0.81033E-12
2	0.84072E-07	0.22124E-06	0.98444E-12
3	0.11694E-06	0.30775E-06	0.13694E-11
4	0.17473E-06	0.45961E-06	0.20460E-11
5	0.26953E-06	0.70928E-06	0.31560E-11
6	0.42111E-06	0.11082E-05	0.49310E-11
7	0.66091E-06	0.17392E-05	0.77389E-11
8	0.10384E-05	0.27326E-05	0.12159E-10
9	0.16309E-05	0.42919E-05	0.19097E-10
10	0.25592E-05	0.67347E-05	0.29967E-10
11	0.40108E-05	0.10555E-04	0.46964E-10
12	0.62771E-05	0.16519E-04	0.73501E-10
13	0.98092E-05	0.25814E-04	0.11486E-09
14	0.15304E-04	0.40274E-04	0.17921E-09
15	0.23837E-04	0.62730E-04	0.27912E-09
16	0.37061E-04	0.97528E-04	0.43398E-09
17	0.57510E-04	0.15134E-03	0.67341E-09
18	0.89059E-04	0.23437E-03	0.10428E-08
19	0.13761E-03	0.36214E-03	0.16114E-08
20	0.21215E-03	0.55828E-03	0.24841E-08
21	0.32622E-03	0.85848E-03	0.38199E-08
22	0.50027E-03	0.13165E-02	0.58580E-08
23	0.76494E-03	0.20130E-02	0.89571E-08
24	0.11659E-02	0.30681E-02	0.13652E-07
25	0.17708E-02	0.46600E-02	0.20735E-07
26	0.26792E-02	0.70506E-02	0.31373E-07
27	0.40366E-02	0.10623E-01	0.47266E-07
28	0.60529E-02	0.15929E-01	0.70877E-07
29	0.90286E-02	0.23759E-01	0.10572E-06
30	0.13387E-01	0.35229E-01	0.15675E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 6.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11647E-06	0.30650E-06	0.13638E-11
2	0.14041E-06	0.36949E-06	0.16441E-11
3	0.19308E-06	0.50811E-06	0.22609E-11
4	0.28503E-06	0.75006E-06	0.33378E-11
5	0.43458E-06	0.11436E-05	0.50887E-11
6	0.67135E-06	0.17667E-05	0.78611E-11
7	0.10420E-05	0.27420E-05	0.12201E-10
8	0.16189E-05	0.42602E-05	0.18956E-10
9	0.25141E-05	0.66161E-05	0.29439E-10
10	0.38999E-05	0.10263E-04	0.45666E-10
11	0.60409E-05	0.15897E-04	0.70736E-10
12	0.93418E-05	0.24584E-04	0.10939E-09
13	0.14421E-04	0.37950E-04	0.16886E-09
14	0.22219E-04	0.58472E-04	0.26018E-09
15	0.34166E-04	0.89911E-04	0.40007E-09
16	0.52424E-04	0.13796E-03	0.61386E-09
17	0.80255E-04	0.21120E-03	0.93975E-09
18	0.12256E-03	0.32253E-03	0.14351E-08
19	0.18668E-03	0.49127E-03	0.21860E-08
20	0.28355E-03	0.74619E-03	0.33203E-08
21	0.42938E-03	0.11300E-02	0.50279E-08
22	0.64809E-03	0.17055E-02	0.75889E-08
23	0.97472E-03	0.25651E-02	0.11414E-07
24	0.14603E-02	0.38428E-02	0.17099E-07
25	0.21784E-02	0.57325E-02	0.25508E-07
26	0.32343E-02	0.85112E-02	0.37872E-07
27	0.47768E-02	0.12571E-01	0.55935E-07
28	0.70137E-02	0.18457E-01	0.82127E-07
29	0.10230E-01	0.26920E-01	0.11978E-06
30	0.14807E-01	0.38966E-01	0.17338E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 7.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18465E-06	0.48563E-06	0.21622E-11
2	0.22105E-06	0.58170E-06	0.25884E-11
3	0.30060E-06	0.79159E-06	0.35223E-11
4	0.43915E-06	0.11557E-05	0.51422E-11
5	0.66237E-06	0.17431E-05	0.77561E-11
6	0.10126E-05	0.26648E-05	0.11857E-10

7	0.15555E-05	0.40935E-05	0.16215E-10
8	0.23921E-05	0.62950E-05	0.28010E-10
9	0.36764E-05	0.96748E-05	0.43049E-10
10	0.56431E-05	0.14850E-04	0.66078E-10
11	0.86474E-05	0.22756E-04	0.10126E-09
12	0.13227E-04	0.34807E-04	0.15488E-09
13	0.20190E-04	0.53131E-04	0.23642E-09
14	0.30753E-04	0.80928E-04	0.36010E-09
15	0.46734E-04	0.12298E-03	0.54724E-09
16	0.70647E-04	0.18644E-03	0.82959E-09
17	0.10712E-03	0.28190E-03	0.12543E-08
18	0.16152E-03	0.42504E-03	0.18913E-08
19	0.24280E-03	0.63895E-03	0.28431E-08
20	0.36382E-03	0.95743E-03	0.42602E-08
21	0.54327E-03	0.14296E-02	0.63614E-08
22	0.80615E-03	0.21267E-02	0.94631E-08
23	0.11972E-02	0.31508E-02	0.14019E-07
24	0.17657E-02	0.46465E-02	0.20675E-07
25	0.25910E-02	0.68186E-02	0.30340E-07
26	0.37813E-02	0.99506E-02	0.44278E-07
27	0.54844E-02	0.14433E-01	0.64220E-07
28	0.78994E-02	0.20788E-01	0.92499E-07
29	0.11288E-01	0.29705E-01	0.13218E-06
30	0.15983E-01	0.42062E-01	0.18716E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 8.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.27942E-06	0.73532E-06	0.32719E-11
2	0.33235E-06	0.87480E-06	0.38916E-11
3	0.44789E-06	0.11787E-05	0.52448E-11
4	0.64716E-06	0.17030E-05	0.75779E-11
5	0.96633E-06	0.25430E-05	0.11315E-10
6	0.14630E-05	0.38499E-05	0.17131E-10
7	0.22259E-05	0.58576E-05	0.26064E-10
8	0.33903E-05	0.89219E-05	0.39699E-10
9	0.51605E-05	0.13580E-04	0.60427E-10
10	0.78438E-05	0.20641E-04	0.91847E-10
11	0.11900E-04	0.31317E-04	0.13935E-09
12	0.18018E-04	0.47415E-04	0.21098E-09
13	0.27218E-04	0.71628E-04	0.31872E-09
14	0.41019E-04	0.10795E-03	0.48032E-09
15	0.61660E-04	0.16226E-03	0.72201E-09
16	0.92435E-04	0.24325E-03	0.10824E-08
17	0.13817E-03	0.36360E-03	0.16179E-08
18	0.20588E-03	0.54180E-03	0.24108E-08
28	0.87151E-02	0.22934E-01	0.10205E-06
29	0.12223E-01	0.32165E-01	0.14312E-06
30	0.16963E-01	0.44638E-01	0.19862E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 9.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.40721E-06	0.10716E-05	0.47683E-11
2	0.48146E-06	0.12670E-05	0.56377E-11
3	0.64300E-06	0.16921E-05	0.75293E-11
4	0.92010E-06	0.24213E-05	0.10774E-10
5	0.13609E-05	0.35814E-05	0.15938E-10
6	0.20416E-05	0.53725E-05	0.23906E-10
7	0.30784E-05	0.81010E-05	0.36046E-10
8	0.46468E-05	0.12228E-04	0.54412E-10
9	0.70093E-05	0.18446E-04	0.82076E-10
10	0.10556E-04	0.27780E-04	0.12361E-09
11	0.15867E-04	0.41756E-04	0.18580E-09
12	0.23796E-04	0.62621E-04	0.27864E-09
13	0.35600E-04	0.93683E-04	0.41686E-09
14	0.53119E-04	0.13979E-03	0.62200E-09
15	0.79041E-04	0.20800E-03	0.92553E-09
16	0.11726E-03	0.30858E-03	0.13731E-08
17	0.17341E-03	0.45635E-03	0.20306E-08
18	0.25558E-03	0.67257E-03	0.29927E-08
19	0.37530E-03	0.98763E-03	0.43946E-08
20	0.54894E-03	0.14446E-02	0.64278E-08
21	0.79948E-03	0.21039E-02	0.93616E-08
22	0.11590E-02	0.30500E-02	0.13571E-07
23	0.16716E-02	0.43991E-02	0.19574E-07
24	0.23976E-02	0.63096E-02	0.28075E-07
25	0.34178E-02	0.89942E-02	0.40021E-07
26	0.48386E-02	0.12733E-01	0.56658E-07
27	0.67974E-02	0.17888E-01	0.79594E-07
28	0.94858E-02	0.24910E-01	0.11084E-06
29	0.13050E-01	0.34342E-01	0.15281E-06
30	0.17782E-01	0.46794E-01	0.20821E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 10.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.57524E-06	0.15138E-05	0.67357E-11

2	0.67636E-06	0.17799E-05	0.79196E-11
3	0.89565E-06	0.23570E-05	0.10488E-10
4	0.12699E-05	0.33419E-05	0.14870E-10
5	0.18616E-05	0.48990E-05	0.21799E-10
6	0.27685E-05	0.72856E-05	0.32418E-10
7	0.41391E-05	0.10892E-04	0.48467E-10
8	0.61953E-05	0.16303E-04	0.72544E-10
9	0.92656E-05	0.24383E-04	0.10850E-09
10	0.13835E-04	0.36407E-04	0.16200E-09
11	0.20612E-04	0.54243E-04	0.24136E-09
12	0.30637E-04	0.80624E-04	0.35874E-09
13	0.45417E-04	0.11952E-03	0.53181E-09
14	0.67139E-04	0.17668E-03	0.78616E-09
15	0.98951E-04	0.26040E-03	0.11587E-08
16	0.14537E-03	0.38255E-03	0.17022E-08
17	0.21284E-03	0.56010E-03	0.24922E-08
18	0.31047E-03	0.81703E-03	0.36355E-08
19	0.45111E-03	0.11871E-02	0.52823E-08
20	0.65268E-03	0.17176E-02	0.76426E-08
21	0.93997E-03	0.24736E-02	0.11007E-07
22	0.13470E-02	0.35446E-02	0.15772E-07
23	0.19196E-02	0.50516E-02	0.22478E-07
24	0.27193E-02	0.71559E-02	0.31841E-07
25	0.38264E-02	0.10070E-01	0.44806E-07
26	0.53445E-02	0.14065E-01	0.62582E-07
27	0.74028E-02	0.19481E-01	0.86683E-07
28	0.10157E-01	0.26728E-01	0.11893E-06
29	0.13784E-01	0.36274E-01	0.16140E-06
30	0.18470E-01	0.48606E-01	0.21628E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 11.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.79148E-06	0.20628E-05	0.92678E-11
2	0.92579E-06	0.24363E-05	0.10841E-10
3	0.12162E-05	0.32005E-05	0.14241E-10
4	0.17095E-05	0.44986E-05	0.20017E-10
5	0.24847E-05	0.65386E-05	0.29094E-10
6	0.36648E-05	0.96441E-05	0.42913E-10
7	0.54350E-05	0.14303E-04	0.63641E-10
8	0.80897E-05	0.21236E-04	0.94492E-10
9	0.11972E-04	0.31505E-04	0.14019E-09
10	0.17730E-04	0.46657E-04	0.20761E-09
11	0.26197E-04	0.68940E-04	0.30676E-09
12	0.38610E-04	0.10160E-03	0.45210E-09
13	0.56744E-04	0.14933E-03	0.66445E-09
14	0.83147E-04	0.21881E-03	0.97361E-09
15	0.12145E-03	0.31959E-03	0.14221E-08
16	0.17678E-03	0.46521E-03	0.20700E-08
17	0.25639E-03	0.67471E-03	0.30022E-08
18	0.37040E-03	0.97474E-03	0.43372E-08
19	0.53287E-03	0.14023E-02	0.62396E-08
20	0.76312E-03	0.20082E-02	0.89358E-08
21	0.10875E-02	0.28619E-02	0.12734E-07
22	0.15416E-02	0.40567E-02	0.18051E-07
23	0.21724E-02	0.57169E-02	0.25438E-07
24	0.30419E-02	0.80050E-02	0.35619E-07
25	0.42292E-02	0.11129E-01	0.49522E-07
26	0.58335E-02	0.15351E-01	0.68307E-07
27	0.79749E-02	0.20987E-01	0.93383E-07
28	0.10793E-01	0.28402E-01	0.12638E-06
29	0.14437E-01	0.37993E-01	0.16905E-06
30	0.19052E-01	0.50137E-01	0.22309E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 12.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.10647E-05	0.28018E-05	0.12467E-10
2	0.12393E-05	0.32613E-05	0.14512E-10
3	0.16157E-05	0.42519E-05	0.18919E-10
4	0.22524E-05	0.59273E-05	0.26374E-10
5	0.32472E-05	0.85453E-05	0.38023E-10
6	0.47519E-05	0.12505E-04	0.55643E-10
7	0.69931E-05	0.18403E-04	0.81886E-10
8	0.10304E-04	0.27116E-04	0.12065E-09
9	0.15170E-04	0.39920E-04	0.17763E-09
10	0.22291E-04	0.58661E-04	0.26102E-09
11	0.32679E-04	0.85996E-04	0.38265E-09
12	0.47777E-04	0.12573E-03	0.55944E-09
13	0.69645E-04	0.18328E-03	0.81551E-09
14	0.10120E-03	0.26632E-03	0.11850E-08
15	0.14656E-03	0.38568E-03	0.17161E-08
16	0.21148E-03	0.55654E-03	0.24764E-08
17	0.30400E-03	0.79999E-03	0.35597E-08
18	0.43518E-03	0.11452E-02	0.50957E-08
19	0.62020E-03	0.16321E-02	0.72623E-08
20	0.87968E-03	0.23149E-02	0.10301E-07
21	0.12413E-02	0.32665E-02	0.14535E-07

22	0.17416E-02	0.45832E-02	0.20394E-07
23	0.24287E-02	0.63913E-02	0.28439E-07
24	0.33639E-02	0.88524E-02	0.39390E-07
25	0.46245E-02	0.12170E-01	0.54151E-07
26	0.63047E-02	0.16591E-01	0.73825E-07
27	0.85150E-02	0.22406E-01	0.99707E-07
28	0.11378E-01	0.29943E-01	0.13324E-06
29	0.15020E-01	0.39526E-01	0.17588E-06
30	0.19547E-01	0.51439E-01	0.22888E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 13.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.14043E-05	0.36956E-05	0.16444E-10
2	0.16271E-05	0.42819E-05	0.19053E-10
3	0.21061E-05	0.55425E-05	0.24662E-10
4	0.29129E-05	0.76655E-05	0.34109E-10
5	0.41669E-05	0.10966E-04	0.48793E-10
6	0.60520E-05	0.15926E-04	0.70866E-10
7	0.88409E-05	0.23266E-04	0.10352E-09
8	0.12932E-04	0.34031E-04	0.15142E-09
9	0.18899E-04	0.49734E-04	0.22130E-09
10	0.27566E-04	0.72543E-04	0.32279E-09
11	0.40109E-04	0.10555E-03	0.46966E-09
12	0.58194E-04	0.15314E-03	0.68142E-09
13	0.84172E-04	0.22150E-03	0.98561E-09
14	0.12134E-03	0.31932E-03	0.14209E-08
15	0.17431E-03	0.45871E-03	0.20411E-08
16	0.24945E-03	0.65646E-03	0.29210E-08
17	0.35555E-03	0.93566E-03	0.41633E-08
18	0.50458E-03	0.13278E-02	0.59084E-08
19	0.71276E-03	0.18757E-02	0.83461E-08
20	0.10018E-02	0.26363E-02	0.11730E-07
21	0.14004E-02	0.36852E-02	0.16398E-07
22	0.19461E-02	0.51213E-02	0.22788E-07
23	0.26870E-02	0.70711E-02	0.31464E-07
24	0.36839E-02	0.96946E-02	0.43137E-07
25	0.50113E-02	0.13188E-01	0.58680E-07
26	0.67578E-02	0.17784E-01	0.79131E-07
27	0.90244E-02	0.23748E-01	0.10567E-06
28	0.11918E-01	0.31364E-01	0.13956E-06
29	0.15542E-01	0.40899E-01	0.18199E-06
30	0.19970E-01	0.52552E-01	0.23384E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 14.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18208E-05	0.47910E-05	0.21318E-10
2	0.21002E-05	0.55269E-05	0.24593E-10
3	0.27000E-05	0.71052E-05	0.31615E-10
4	0.37061E-05	0.97528E-05	0.43398E-10
5	0.52621E-05	0.13848E-04	0.61616E-10
6	0.75874E-05	0.19967E-04	0.88845E-10
7	0.11006E-04	0.28963E-04	0.12887E-09
8	0.15966E-04	0.42068E-04	0.18719E-09
9	0.23199E-04	0.61049E-04	0.27165E-09
10	0.33599E-04	0.88419E-04	0.39343E-09
11	0.48537E-04	0.12773E-03	0.56835E-09
12	0.69910E-04	0.18397E-03	0.81861E-09
13	0.10037E-03	0.26413E-03	0.11753E-08
14	0.14360E-03	0.37790E-03	0.16815E-08
15	0.20470E-03	0.53868E-03	0.23969E-08
16	0.29064E-03	0.76484E-03	0.34033E-08
17	0.41093E-03	0.10814E-02	0.48118E-08
18	0.57839E-03	0.15221E-02	0.67726E-08
19	0.81015E-03	0.21320E-02	0.94865E-08
20	0.11289E-02	0.29707E-02	0.13219E-07
21	0.15641E-02	0.41161E-02	0.18315E-07
22	0.21539E-02	0.56682E-02	0.25221E-07
23	0.29463E-02	0.77535E-02	0.34500E-07
24	0.40008E-02	0.10528E-01	0.46847E-07
25	0.53887E-02	0.14181E-01	0.63099E-07
26	0.71929E-02	0.18929E-01	0.84225E-07
27	0.95046E-02	0.25012E-01	0.11129E-06
28	0.12417E-01	0.32675E-01	0.14539E-06
29	0.16010E-01	0.42132E-01	0.18747E-06
30	0.20333E-01	0.53509E-01	0.23810E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 15.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.23244E-05	0.61167E-05	0.27217E-10
2	0.26703E-05	0.70271E-05	0.31268E-10
3	0.34104E-05	0.89748E-05	0.39934E-10
4	0.46474E-05	0.12230E-04	0.54419E-10
5	0.65513E-05	0.17240E-04	0.76712E-10
6	0.93807E-05	0.24686E-04	0.10984E-09
7	0.13515E-04	0.35565E-04	0.15825E-09

8	0.19498E-04	0.51311E-04	0.22832E-09
9	0.26108E-04	0.73963E-04	0.32911E-09
10	0.40431E-04	0.10640E-03	0.47343E-09
11	0.58006E-04	0.15265E-03	0.67922E-09
12	0.82966E-04	0.21833E-03	0.97149E-09
13	0.11827E-03	0.31124E-03	0.13849E-08
14	0.16799E-03	0.44209E-03	0.19671E-08
15	0.23771E-03	0.62555E-03	0.27835E-08
16	0.33498E-03	0.88153E-03	0.39225E-08
17	0.46999E-03	0.12368E-02	0.55034E-08
18	0.65635E-03	0.17272E-02	0.76856E-08
19	0.91200E-03	0.24000E-02	0.10679E-07
20	0.12604E-02	0.33168E-02	0.14756E-07
21	0.17317E-02	0.45572E-02	0.20278E-07
22	0.23643E-02	0.62218E-02	0.27685E-07
23	0.32056E-02	0.84358E-02	0.37536E-07
24	0.43135E-02	0.11351E-01	0.50509E-07
25	0.57560E-02	0.15147E-01	0.67400E-07
26	0.76099E-02	0.20026E-01	0.89109E-07
27	0.99572E-02	0.26203E-01	0.11656E-06
28	0.12877E-01	0.33886E-01	0.15078E-06
29	0.16432E-01	0.43242E-01	0.19241E-06
30	0.20648E-01	0.54337E-01	0.24178E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 16.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.29271E-05	0.77030E-05	0.34275E-10
2	0.33495E-05	0.88146E-05	0.39222E-10
3	0.42512E-05	0.11187E-04	0.49780E-10
4	0.57529E-05	0.15139E-04	0.67363E-10
5	0.80536E-05	0.21194E-04	0.94303E-10
6	0.11455E-04	0.30144E-04	0.13413E-09
7	0.16385E-04	0.43144E-04	0.19197E-09
8	0.23500E-04	0.61843E-04	0.27518E-09
9	0.33656E-04	0.88568E-04	0.39409E-09
10	0.48100E-04	0.12658E-03	0.56323E-09
11	0.68554E-04	0.18040E-03	0.80273E-09
12	0.97398E-04	0.25631E-03	0.11405E-08
13	0.13790E-03	0.36290E-03	0.16148E-08
14	0.19453E-03	0.51191E-03	0.22778E-08
15	0.27331E-03	0.71925E-03	0.32004E-08
16	0.38239E-03	0.10063E-02	0.44776E-08
17	0.53259E-03	0.14016E-02	0.62364E-08
18	0.73822E-03	0.19427E-02	0.86442E-08
19	0.10179E-02	0.26788E-02	0.11920E-07
20	0.13958E-02	0.36733E-02	0.16345E-07
21	0.19026E-02	0.50067E-02	0.22278E-07
22	0.25763E-02	0.67798E-02	0.30168E-07
23	0.34640E-02	0.91158E-02	0.40562E-07
24	0.46214E-02	0.12162E-01	0.54114E-07
25	0.61129E-02	0.16087E-01	0.71579E-07
26	0.80094E-02	0.21077E-01	0.93786E-07
27	0.10384E-01	0.27325E-01	0.12159E-06
28	0.13302E-01	0.35007E-01	0.15577E-06
29	0.16813E-01	0.44244E-01	0.19687E-06
30	0.20922E-01	0.55057E-01	0.24498E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 17.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.36410E-05	0.95815E-05	0.42634E-10
2	0.41508E-05	0.10923E-04	0.48604E-10
3	0.52366E-05	0.13781E-04	0.61319E-10
4	0.70389E-05	0.18523E-04	0.82422E-10
5	0.97880E-05	0.25758E-04	0.11461E-09
6	0.13831E-04	0.36398E-04	0.16196E-09
7	0.19671E-04	0.51767E-04	0.23034E-09
8	0.28021E-04	0.73741E-04	0.32812E-09
9	0.39681E-04	0.10495E-03	0.46699E-09
10	0.56640E-04	0.14905E-03	0.66323E-09
11	0.80215E-04	0.21109E-03	0.93928E-09
12	0.11323E-03	0.29799E-03	0.13258E-08
13	0.15928E-03	0.41916E-03	0.18651E-08
14	0.22319E-03	0.58735E-03	0.26135E-08
15	0.31147E-03	0.81967E-03	0.36472E-08
16	0.43279E-03	0.11389E-02	0.50678E-08
17	0.59857E-03	0.15752E-02	0.70089E-08
18	0.82374E-03	0.21677E-02	0.96456E-08
19	0.11276E-02	0.29673E-02	0.13204E-07
20	0.15347E-02	0.40387E-02	0.17971E-07
21	0.20760E-02	0.54631E-02	0.24309E-07
22	0.27894E-02	0.73404E-02	0.32662E-07
23	0.37207E-02	0.97914E-02	0.43568E-07
24	0.49238E-02	0.12957E-01	0.57655E-07
25	0.64591E-02	0.16998E-01	0.75633E-07
26	0.83916E-02	0.22083E-01	0.98262E-07
27	0.10786E-01	0.28384E-01	0.12630E-06

28	0.13697E-01	0.36044E-01	0.16038E-06
29	0.17158E-01	0.45153E-01	0.20091E-06
30	0.21161E-01	0.55688E-01	0.24779E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 18.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.44785E-05	0.11786E-04	0.52442E-10
2	0.50873E-05	0.13388E-04	0.59570E-10
3	0.63813E-05	0.16793E-04	0.74723E-10
4	0.85221E-05	0.22427E-04	0.99790E-10
5	0.11774E-04	0.30984E-04	0.13787E-09
6	0.16533E-04	0.43509E-04	0.19360E-09
7	0.23371E-04	0.61502E-04	0.27366E-09
8	0.33091E-04	0.87080E-04	0.38748E-09
18	0.91265E-03	0.24017E-02	0.10687E-07
19	0.12406E-02	0.32647E-02	0.14527E-07
20	0.16765E-02	0.44119E-02	0.19631E-07
21	0.22514E-02	0.59247E-02	0.26363E-07
22	0.30027E-02	0.79020E-02	0.35161E-07
23	0.39752E-02	0.10461E-01	0.46548E-07
24	0.52202E-02	0.13737E-01	0.61126E-07
25	0.67945E-02	0.17880E-01	0.79560E-07
26	0.87572E-02	0.23045E-01	0.10254E-06
27	0.11165E-01	0.29381E-01	0.13074E-06
28	0.14063E-01	0.37007E-01	0.16467E-06
29	0.17472E-01	0.45979E-01	0.20459E-06
30	0.21373E-01	0.56243E-01	0.25026E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 19.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.54530E-05	0.14350E-04	0.63852E-10
2	0.61730E-05	0.16245E-04	0.72283E-10
3	0.77004E-05	0.20264E-04	0.90168E-10
4	0.10219E-04	0.26893E-04	0.11966E-09
5	0.14031E-04	0.36923E-04	0.16429E-09
6	0.19583E-04	0.51533E-04	0.22930E-09
7	0.27517E-04	0.72413E-04	0.32221E-09
8	0.38734E-04	0.10193E-03	0.45356E-09
9	0.54479E-04	0.14337E-03	0.63792E-09
10	0.76457E-04	0.20120E-03	0.89527E-09
11	0.10699E-03	0.28154E-03	0.12528E-08
12	0.14920E-03	0.39263E-03	0.17471E-08
13	0.20729E-03	0.54551E-03	0.24273E-08
14	0.28685E-03	0.75488E-03	0.33589E-08
15	0.39525E-03	0.10401E-02	0.46282E-08
16	0.54211E-03	0.14266E-02	0.63479E-08
17	0.73993E-03	0.19472E-02	0.86643E-08
18	0.10047E-02	0.26439E-02	0.11764E-07
19	0.13566E-02	0.35700E-02	0.15885E-07
20	0.18209E-02	0.47917E-02	0.21321E-07
21	0.24283E-02	0.63902E-02	0.28434E-07
22	0.32159E-02	0.84629E-02	0.37657E-07
23	0.42269E-02	0.11123E-01	0.49495E-07
24	0.55103E-02	0.14501E-01	0.64523E-07
25	0.71191E-02	0.18734E-01	0.83361E-07
26	0.91068E-02	0.23965E-01	0.10664E-06
27	0.11523E-01	0.30323E-01	0.13493E-06
28	0.14403E-01	0.37902E-01	0.16865E-06
29	0.17758E-01	0.46732E-01	0.20794E-06
30	0.21559E-01	0.56736E-01	0.25245E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 20.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.65778E-05	0.17310E-04	0.77023E-10
2	0.74219E-05	0.19531E-04	0.86907E-10
3	0.92091E-05	0.24235E-04	0.10783E-09
4	0.12148E-04	0.31968E-04	0.14225E-09
5	0.16577E-04	0.43624E-04	0.19411E-09
6	0.23000E-04	0.60527E-04	0.26932E-09
7	0.32134E-04	0.84564E-04	0.37628E-09
8	0.44978E-04	0.11836E-03	0.52667E-09
9	0.62906E-04	0.16554E-03	0.73659E-09
10	0.87785E-04	0.23101E-03	0.10279E-08
11	0.12214E-03	0.32142E-03	0.14302E-08
12	0.16935E-03	0.44567E-03	0.19831E-08
13	0.23383E-03	0.61560E-03	0.27392E-08
14	0.32180E-03	0.84683E-03	0.37681E-08
15	0.44073E-03	0.11598E-02	0.51608E-08
16	0.60082E-03	0.15811E-02	0.70353E-08
17	0.81498E-03	0.21447E-02	0.95430E-08
18	0.10996E-02	0.28937E-02	0.12876E-07
19	0.14753E-02	0.38823E-02	0.17275E-07
20	0.19673E-02	0.51770E-02	0.23036E-07
21	0.26062E-02	0.68584E-02	0.30517E-07
22	0.34283E-02	0.90219E-02	0.40144E-07

23	0.44754E-02	0.11777E-01	0.52405E-07
24	0.57939E-02	0.15247E-01	0.67844E-07
25	0.74329E-02	0.19560E-01	0.87036E-07
26	0.94411E-02	0.24845E-01	0.11055E-06
27	0.11861E-01	0.31212E-01	0.13888E-06
28	0.14719E-01	0.38735E-01	0.17236E-06
29	0.18020E-01	0.47422E-01	0.21101E-06
30	0.21726E-01	0.57174E-01	0.25440E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 21.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.78670E-05	0.20703E-04	0.92118E-10
2	0.88485E-05	0.23286E-04	0.10361E-09
3	0.10923E-04	0.28745E-04	0.12790E-09
4	0.14325E-04	0.37697E-04	0.16774E-09
5	0.19433E-04	0.51138E-04	0.22755E-09
6	0.26808E-04	0.70546E-04	0.31390E-09
7	0.37245E-04	0.98013E-04	0.43612E-09
8	0.51846E-04	0.13644E-03	0.60709E-09
9	0.72116E-04	0.18978E-03	0.84444E-09
10	0.10009E-03	0.26339E-03	0.11720E-08
11	0.13850E-03	0.36446E-03	0.16217E-08
12	0.19096E-03	0.50254E-03	0.22361E-08
13	0.26229E-03	0.69025E-03	0.30713E-08
14	0.35878E-03	0.94411E-03	0.42009E-08
15	0.48852E-03	0.12856E-02	0.57203E-08
16	0.66205E-03	0.17422E-02	0.77523E-08
17	0.89269E-03	0.23492E-02	0.10453E-07
18	0.11972E-02	0.31505E-02	0.14019E-07
19	0.15963E-02	0.42008E-02	0.18692E-07
20	0.21154E-02	0.55668E-02	0.24770E-07
21	0.27847E-02	0.73281E-02	0.32607E-07
22	0.36396E-02	0.95778E-02	0.42618E-07
23	0.47203E-02	0.12422E-01	0.55272E-07
24	0.60707E-02	0.15975E-01	0.71085E-07
25	0.77363E-02	0.20359E-01	0.90588E-07
26	0.97606E-02	0.25686E-01	0.11429E-06
27	0.12180E-01	0.32052E-01	0.14262E-06
28	0.15015E-01	0.39512E-01	0.17581E-06
29	0.18261E-01	0.48054E-01	0.21382E-06
30	0.21875E-01	0.57567E-01	0.25615E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 22.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.93347E-05	0.24565E-04	0.10931E-09
2	0.10468E-04	0.27547E-04	0.12257E-09
3	0.12858E-04	0.33837E-04	0.15056E-09
4	0.16767E-04	0.44123E-04	0.19633E-09
5	0.22615E-04	0.59514E-04	0.26481E-09
6	0.31024E-04	0.81643E-04	0.36328E-09
7	0.42870E-04	0.11282E-03	0.50199E-09
8	0.59359E-04	0.15621E-03	0.69507E-09
9	0.82130E-04	0.21613E-03	0.96171E-09
10	0.11339E-03	0.29838E-03	0.13277E-08
11	0.15606E-03	0.41068E-03	0.18274E-08
12	0.21403E-03	0.56323E-03	0.25062E-08
13	0.29238E-03	0.76941E-03	0.34236E-08
14	0.39770E-03	0.10466E-02	0.46569E-08
15	0.53853E-03	0.14172E-02	0.63058E-08
16	0.72569E-03	0.19097E-02	0.84975E-08
17	0.97289E-03	0.25602E-02	0.11392E-07
18	0.12971E-02	0.34135E-02	0.15189E-07
19	0.17194E-02	0.45247E-02	0.20133E-07
20	0.22648E-02	0.59601E-02	0.26520E-07
21	0.29633E-02	0.77982E-02	0.34699E-07
22	0.38483E-02	0.10130E-01	0.45074E-07
23	0.49613E-02	0.13056E-01	0.58094E-07
24	0.63406E-02	0.16686E-01	0.74246E-07
25	0.80293E-02	0.21130E-01	0.94019E-07
26	0.10066E-01	0.26490E-01	0.11787E-06
27	0.12482E-01	0.32846E-01	0.14615E-06
28	0.15290E-01	0.40238E-01	0.17904E-06
29	0.18482E-01	0.48637E-01	0.21641E-06
30	0.22010E-01	0.57920E-01	0.25772E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 23.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.10998E-04	0.28936E-04	0.12875E-09
2	0.12294E-04	0.32354E-04	0.14396E-09
3	0.15030E-04	0.39552E-04	0.17599E-09
4	0.19491E-04	0.51293E-04	0.22823E-09
5	0.26144E-04	0.68799E-04	0.30613E-09
6	0.35671E-04	0.93870E-04	0.41769E-09
7	0.49031E-04	0.12903E-03	0.57413E-09
8	0.67538E-04	0.17773E-03	0.79084E-09

9	0.92968E-04	0.24465E-03	0.10686E-06
10	0.12769E-03	0.33603E-03	0.14952E-06
11	0.17484E-03	0.46011E-03	0.20473E-06
12	0.23854E-03	0.62774E-03	0.27932E-06
13	0.32415E-03	0.85302E-03	0.37956E-06
14	0.43858E-03	0.11542E-02	0.51355E-06
15	0.59067E-03	0.15544E-02	0.69165E-06
16	0.79162E-03	0.20832E-02	0.92695E-06
17	0.10554E-02	0.27774E-02	0.12358E-07
18	0.13993E-02	0.36823E-02	0.16385E-07
19	0.18442E-02	0.48532E-02	0.21595E-07
20	0.24153E-02	0.63560E-02	0.28282E-07
21	0.31418E-02	0.82679E-02	0.36789E-07
22	0.40572E-02	0.10677E-01	0.47507E-07
23	0.51982E-02	0.13679E-01	0.60868E-07
24	0.66037E-02	0.17378E-01	0.77326E-07
25	0.83122E-02	0.21874E-01	0.97332E-07
26	0.10358E-01	0.27259E-01	0.12129E-06
27	0.12767E-01	0.33598E-01	0.14950E-06
28	0.15548E-01	0.40917E-01	0.18206E-06
29	0.18686E-01	0.49174E-01	0.21881E-06
30	0.22131E-01	0.58241E-01	0.25915E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 24.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12864E-04	0.33854E-04	0.15064E-09
2	0.14344E-04	0.37746E-04	0.16796E-09
3	0.17454E-04	0.45933E-04	0.20438E-09
4	0.22515E-04	0.59249E-04	0.26364E-09
5	0.30036E-04	0.79042E-04	0.35171E-09
6	0.40765E-04	0.10728E-03	0.47734E-09
7	0.55745E-04	0.14670E-03	0.65275E-09
8	0.76401E-04	0.20106E-03	0.89462E-09
9	0.10464E-03	0.27538E-03	0.12253E-06
10	0.14301E-03	0.37635E-03	0.16746E-06
11	0.19484E-03	0.51275E-03	0.22815E-06
12	0.26449E-03	0.69603E-03	0.30971E-06
13	0.35758E-03	0.94100E-03	0.41871E-06
14	0.48132E-03	0.12666E-02	0.56361E-06
15	0.64487E-03	0.16970E-02	0.75511E-06
16	0.85969E-03	0.22623E-02	0.10067E-07
17	0.11400E-02	0.30001E-02	0.13349E-07
18	0.15033E-02	0.39561E-02	0.17603E-07
19	0.19705E-02	0.51856E-02	0.23074E-07
20	0.25665E-02	0.67538E-02	0.30052E-07
21	0.33198E-02	0.87363E-02	0.38873E-07
22	0.42629E-02	0.11218E-01	0.49916E-07
23	0.54307E-02	0.14291E-01	0.63591E-07
24	0.68598E-02	0.18052E-01	0.80325E-07
25	0.85854E-02	0.22593E-01	0.10053E-06
26	0.10638E-01	0.27994E-01	0.12456E-06
27	0.13038E-01	0.34310E-01	0.15267E-06
28	0.15790E-01	0.41553E-01	0.18490E-06
29	0.18875E-01	0.49672E-01	0.22102E-06
30	0.22242E-01	0.58532E-01	0.26045E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 25.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.14956E-04	0.39358E-04	0.17513E-09
2	0.16631E-04	0.43765E-04	0.19474E-09
3	0.20147E-04	0.53019E-04	0.23592E-09
4	0.25854E-04	0.68037E-04	0.30274E-09
5	0.34309E-04	0.90287E-04	0.40174E-09
6	0.46325E-04	0.12191E-03	0.54244E-09
7	0.63032E-04	0.16587E-03	0.73807E-09
8	0.85965E-04	0.22622E-03	0.10066E-08
9	0.11717E-03	0.30835E-03	0.13720E-06
10	0.15936E-03	0.41937E-03	0.18660E-06
11	0.21606E-03	0.56859E-03	0.25300E-06
12	0.29186E-03	0.76806E-03	0.34176E-06
13	0.39264E-03	0.10333E-02	0.45977E-06
14	0.52589E-03	0.13839E-02	0.61579E-06
15	0.70102E-03	0.18448E-02	0.82066E-06
16	0.92979E-03	0.24468E-02	0.10887E-07
17	0.12266E-02	0.32280E-02	0.14363E-07
18	0.16091E-02	0.42345E-02	0.18842E-07
19	0.20981E-02	0.55212E-02	0.24567E-07
20	0.27180E-02	0.71528E-02	0.31827E-07
21	0.34970E-02	0.92027E-02	0.40949E-07
22	0.44662E-02	0.11753E-01	0.52297E-07
23	0.56589E-02	0.14892E-01	0.66263E-07
24	0.71091E-02	0.18706E-01	0.83245E-07
25	0.88490E-02	0.23287E-01	0.10362E-06
26	0.10905E-01	0.28698E-01	0.12770E-06
27	0.13295E-01	0.34986E-01	0.15567E-06
28	0.16017E-01	0.42151E-01	0.18756E-06

29	0.19051E-01	0.50134E-01	0.22308E-06
30	0.22343E-01	0.58798E-01	0.26163E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 26.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.17285E-04	0.45488E-04	0.20240E-09
2	0.19171E-04	0.50450E-04	0.22448E-09
3	0.23125E-04	0.60854E-04	0.27078E-09
4	0.29525E-04	0.77699E-04	0.34573E-09
5	0.38980E-04	0.10258E-03	0.45644E-09
6	0.52367E-04	0.13781E-03	0.61320E-09
7	0.70906E-04	0.18660E-03	0.83028E-09
8	0.96243E-04	0.25327E-03	0.11270E-08
9	0.13056E-03	0.34359E-03	0.15288E-08
10	0.17674E-03	0.46510E-03	0.20695E-08
11	0.23850E-03	0.62762E-03	0.27927E-08
12	0.32064E-03	0.84379E-03	0.37545E-08
13	0.42929E-03	0.11297E-02	0.50268E-08
14	0.57220E-03	0.15058E-02	0.67002E-08
15	0.75904E-03	0.19975E-02	0.88880E-08
16	0.10018E-02	0.26363E-02	0.11730E-07
17	0.13150E-02	0.34606E-02	0.15398E-07
18	0.17164E-02	0.45168E-02	0.20098E-07
19	0.22266E-02	0.58595E-02	0.26072E-07
20	0.28698E-02	0.75521E-02	0.33604E-07
21	0.36733E-02	0.96665E-02	0.43012E-07
22	0.46670E-02	0.12281E-01	0.54648E-07
23	0.58825E-02	0.15480E-01	0.68882E-07
24	0.73516E-02	0.19346E-01	0.86084E-07
25	0.91035E-02	0.23957E-01	0.10660E-06
26	0.11161E-01	0.29372E-01	0.13070E-06
27	0.13538E-01	0.35627E-01	0.15853E-06
28	0.16231E-01	0.42713E-01	0.19006E-06
29	0.19215E-01	0.50565E-01	0.22499E-06
30	0.22436E-01	0.59043E-01	0.26272E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 27.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.19867E-04	0.52282E-04	0.23264E-09
2	0.21979E-04	0.57840E-04	0.25737E-09
3	0.26402E-04	0.69478E-04	0.30915E-09
4	0.33545E-04	0.88276E-04	0.39280E-09
5	0.44065E-04	0.11596E-03	0.51598E-09
6	0.58909E-04	0.15502E-03	0.68979E-09
7	0.79384E-04	0.20891E-03	0.92955E-09
8	0.10725E-03	0.28224E-03	0.12558E-08
9	0.14483E-03	0.38112E-03	0.16959E-08
10	0.19515E-03	0.51355E-03	0.22851E-08
11	0.26214E-03	0.68983E-03	0.30695E-08
12	0.35080E-03	0.92315E-03	0.41077E-08
13	0.46749E-03	0.12302E-02	0.54741E-08
14	0.62020E-03	0.16321E-02	0.72623E-08
15	0.81883E-03	0.21548E-02	0.95881E-08
16	0.10755E-02	0.28304E-02	0.12594E-07
17	0.14051E-02	0.36975E-02	0.16453E-07
18	0.18250E-02	0.48026E-02	0.21370E-07
19	0.23559E-02	0.61998E-02	0.27587E-07
20	0.30215E-02	0.79513E-02	0.35380E-07
21	0.38483E-02	0.10127E-01	0.45061E-07
22	0.48650E-02	0.12803E-01	0.56966E-07
23	0.61016E-02	0.16057E-01	0.71446E-07
24	0.75875E-02	0.19967E-01	0.88846E-07
25	0.93492E-02	0.24603E-01	0.10947E-06
26	0.11407E-01	0.30018E-01	0.13357E-06
27	0.13770E-01	0.36236E-01	0.16124E-06
28	0.16432E-01	0.43243E-01	0.19241E-06
29	0.19367E-01	0.50966E-01	0.22678E-06
30	0.22522E-01	0.59268E-01	0.26372E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 28.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.22717E-04	0.59781E-04	0.26600E-09
2	0.25071E-04	0.65977E-04	0.29357E-09
3	0.29994E-04	0.78931E-04	0.35121E-09
4	0.37928E-04	0.99810E-04	0.44412E-09
5	0.49579E-04	0.13047E-03	0.58055E-09
6	0.65964E-04	0.17359E-03	0.77241E-09
7	0.88479E-04	0.23284E-03	0.10361E-08
8	0.11899E-03	0.31314E-03	0.13934E-08
9	0.15997E-03	0.42097E-03	0.18732E-08
10	0.21459E-03	0.56472E-03	0.25128E-08
11	0.28697E-03	0.75518E-03	0.33603E-08
12	0.38231E-03	0.10061E-02	0.44767E-08
13	0.50720E-03	0.13347E-02	0.59391E-08
14	0.66963E-03	0.17627E-02	0.78433E-08

15	0.88030E-03	0.23166E-02	0.10308E-07
16	0.11509E-02	0.30288E-02	0.13477E-07
17	0.14966E-02	0.39384E-02	0.17524E-07
18	0.19347E-02	0.50914E-02	0.22655E-07
19	0.24858E-02	0.65415E-02	0.29107E-07
20	0.31729E-02	0.83496E-02	0.37153E-07
21	0.40218E-02	0.10584E-01	0.47094E-07
22	0.50601E-02	0.13316E-01	0.59251E-07
23	0.63160E-02	0.16621E-01	0.73957E-07
24	0.78168E-02	0.20571E-01	0.91531E-07
25	0.95864E-02	0.25227E-01	0.11225E-06
26	0.11642E-01	0.30637E-01	0.13632E-06
27	0.13990E-01	0.36816E-01	0.16382E-06
28	0.16622E-01	0.43743E-01	0.19464E-06
29	0.19510E-01	0.51342E-01	0.22845E-06
30	0.22601E-01	0.59477E-01	0.26465E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 29.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.25849E-04	0.68024E-04	0.30268E-09
2	0.28461E-04	0.74898E-04	0.33327E-09
3	0.33916E-04	0.89253E-04	0.39714E-09
4	0.42690E-04	0.11234E-03	0.49988E-09
5	0.55538E-04	0.14615E-03	0.65033E-09
6	0.73547E-04	0.19354E-03	0.86120E-09
7	0.98203E-04	0.25843E-03	0.11499E-08
8	0.13149E-03	0.34602E-03	0.15397E-08
9	0.17599E-03	0.46314E-03	0.20606E-08
10	0.23507E-03	0.61859E-03	0.27525E-08
11	0.31299E-03	0.82364E-03	0.36649E-08
12	0.41516E-03	0.10925E-02	0.48613E-08
13	0.54837E-03	0.14431E-02	0.64211E-08
14	0.72100E-03	0.18974E-02	0.84426E-08
15	0.94335E-03	0.24825E-02	0.11046E-07
16	0.12279E-02	0.32312E-02	0.14378E-07
17	0.15894E-02	0.41827E-02	0.18611E-07
18	0.20454E-02	0.53827E-02	0.23951E-07
19	0.26160E-02	0.68842E-02	0.30632E-07
20	0.33239E-02	0.87470E-02	0.38921E-07
21	0.41938E-02	0.11036E-01	0.49108E-07
22	0.52522E-02	0.13822E-01	0.61501E-07
23	0.65258E-02	0.17173E-01	0.76414E-07
24	0.80397E-02	0.21157E-01	0.94141E-07
25	0.98154E-02	0.25830E-01	0.11493E-06
26	0.11867E-01	0.31230E-01	0.13898E-06
27	0.14200E-01	0.37368E-01	0.16627E-06
28	0.16802E-01	0.44215E-01	0.19674E-06
29	0.19644E-01	0.51695E-01	0.23002E-06
30	0.22675E-01	0.59671E-01	0.26551E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 30.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.29278E-04	0.77048E-04	0.34284E-09
2	0.32165E-04	0.84644E-04	0.37663E-09
3	0.38183E-04	0.10048E-03	0.44711E-09
4	0.47845E-04	0.12591E-03	0.56024E-09
5	0.61956E-04	0.16304E-03	0.72547E-09
6	0.81671E-04	0.21492E-03	0.95633E-09
7	0.10857E-03	0.28571E-03	0.12713E-08
8	0.14474E-03	0.38089E-03	0.16948E-08
9	0.19290E-03	0.50764E-03	0.22588E-08
10	0.25656E-03	0.67516E-03	0.30042E-08
11	0.34017E-03	0.89517E-03	0.39832E-08
12	0.44931E-03	0.11824E-02	0.52612E-08
13	0.59095E-03	0.15551E-02	0.69197E-08
14	0.77367E-03	0.20360E-02	0.90593E-08
15	0.10079E-02	0.26524E-02	0.11802E-07
16	0.13062E-02	0.34374E-02	0.15295E-07
17	0.16834E-02	0.44301E-02	0.19712E-07
18	0.21569E-02	0.56761E-02	0.25256E-07
19	0.27464E-02	0.72275E-02	0.32160E-07
20	0.34742E-02	0.91425E-02	0.40681E-07
21	0.43641E-02	0.11484E-01	0.51101E-07
22	0.54413E-02	0.14319E-01	0.63715E-07
23	0.67310E-02	0.17713E-01	0.78817E-07
24	0.82564E-02	0.21727E-01	0.96678E-07
25	0.10037E-01	0.26412E-01	0.11752E-06
26	0.12084E-01	0.31799E-01	0.14150E-06
27	0.14400E-01	0.37894E-01	0.16861E-06
28	0.16972E-01	0.44662E-01	0.19873E-06
29	0.19770E-01	0.52026E-01	0.23150E-06
30	0.22743E-01	0.59851E-01	0.26631E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 31.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.33020E-04	0.86894E-04	0.38665E-09
2	0.36196E-04	0.95251E-04	0.42383E-09
3	0.42610E-04	0.11266E-03	0.50129E-09
4	0.53408E-04	0.14055E-03	0.62538E-09
5	0.68845E-04	0.18117E-03	0.80615E-09
6	0.90349E-04	0.23776E-03	0.10579E-08
7	0.11958E-03	0.31469E-03	0.14003E-08
8	0.15875E-03	0.41776E-03	0.18589E-08
9	0.21070E-03	0.55446E-03	0.24671E-08
10	0.27907E-03	0.73441E-03	0.32678E-08
11	0.36849E-03	0.96972E-03	0.43149E-08
12	0.48472E-03	0.12756E-02	0.56758E-08
13	0.63489E-03	0.16708E-02	0.74343E-08
14	0.82774E-03	0.21783E-02	0.96925E-08
15	0.10738E-02	0.28259E-02	0.12574E-07
16	0.13858E-02	0.36469E-02	0.16227E-07
17	0.17785E-02	0.46802E-02	0.20825E-07
18	0.22690E-02	0.59711E-02	0.26569E-07
19	0.28769E-02	0.75708E-02	0.33687E-07
20	0.36237E-02	0.95360E-02	0.42432E-07
21	0.45325E-02	0.11928E-01	0.53073E-07
22	0.56273E-02	0.14809E-01	0.65893E-07
23	0.69316E-02	0.18241E-01	0.81166E-07
24	0.84669E-02	0.22281E-01	0.99144E-07
25	0.10250E-01	0.26974E-01	0.12003E-06
26	0.12291E-01	0.32348E-01	0.14393E-06
27	0.14590E-01	0.38396E-01	0.17085E-06
28	0.17133E-01	0.45086E-01	0.20062E-06
29	0.19888E-01	0.52338E-01	0.23288E-06
30	0.22808E-01	0.60020E-01	0.26707E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 32.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.37087E-04	0.97598E-04	0.43428E-09
2	0.40589E-04	0.10676E-03	0.47504E-09
3	0.47811E-04	0.12582E-03	0.55984E-09
4	0.59392E-04	0.15629E-03	0.69545E-09
5	0.76220E-04	0.20058E-03	0.89250E-09
6	0.99590E-04	0.26208E-03	0.11662E-08
7	0.13126E-03	0.34541E-03	0.15369E-08
8	0.17352E-03	0.45664E-03	0.20319E-08
9	0.22937E-03	0.60361E-03	0.26859E-08
10	0.30259E-03	0.79630E-03	0.35432E-08
11	0.39795E-03	0.10472E-02	0.46598E-08
12	0.52137E-03	0.13720E-02	0.61050E-08
13	0.68015E-03	0.17899E-02	0.79642E-08
14	0.88317E-03	0.23241E-02	0.10341E-07
15	0.11411E-02	0.30029E-02	0.13362E-07
16	0.14668E-02	0.38595E-02	0.17173E-07
17	0.18745E-02	0.49328E-02	0.21949E-07
18	0.23817E-02	0.62675E-02	0.27888E-07
19	0.30073E-02	0.79139E-02	0.35214E-07
20	0.37723E-02	0.99270E-02	0.44172E-07
21	0.46989E-02	0.12366E-01	0.55022E-07
22	0.58101E-02	0.15290E-01	0.68033E-07
23	0.71277E-02	0.18757E-01	0.83462E-07
24	0.86716E-02	0.22820E-01	0.10154E-06
25	0.10457E-01	0.27518E-01	0.12244E-06
26	0.12491E-01	0.32871E-01	0.14626E-06
27	0.14772E-01	0.38875E-01	0.17298E-06
28	0.17286E-01	0.45489E-01	0.20241E-06
29	0.20000E-01	0.52632E-01	0.23419E-06
30	0.22868E-01	0.60178E-01	0.26777E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 33.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.41495E-04	0.10920E-03	0.48589E-09
2	0.45297E-04	0.11920E-03	0.53041E-09
3	0.53199E-04	0.14000E-03	0.62293E-09
4	0.65810E-04	0.17318E-03	0.77060E-09
5	0.84091E-04	0.22129E-03	0.98466E-09
6	0.10941E-03	0.28791E-03	0.12811E-08
7	0.14359E-03	0.37788E-03	0.16814E-08
8	0.18907E-03	0.49755E-03	0.22139E-08
9	0.24893E-03	0.65508E-03	0.29149E-08
10	0.32711E-03	0.86081E-03	0.38303E-08
11	0.42851E-03	0.11276E-02	0.50176E-08
12	0.55921E-03	0.14716E-02	0.65481E-08
13	0.72667E-03	0.19123E-02	0.85089E-08
14	0.93987E-03	0.24733E-02	0.11005E-07
15	0.12096E-02	0.31831E-02	0.14164E-07
16	0.15485E-02	0.40749E-02	0.18132E-07
17	0.19712E-02	0.51874E-02	0.23082E-07
18	0.24948E-02	0.65648E-02	0.29211E-07
19	0.31374E-02	0.82563E-02	0.36737E-07
20	0.39198E-02	0.10315E-01	0.45899E-07

21	0.48634E-02	0.12798E-01	0.56948E-07
22	0.59897E-02	0.15762E-01	0.70136E-07
23	0.73194E-02	0.19261E-01	0.85706E-07
24	0.88705E-02	0.23343E-01	0.10387E-06
25	0.10656E-01	0.28043E-01	0.12478E-06
26	0.12683E-01	0.33378E-01	0.14851E-06
27	0.14947E-01	0.39333E-01	0.17502E-06
28	0.17431E-01	0.45872E-01	0.20411E-06
29	0.20106E-01	0.52911E-01	0.23543E-06
30	0.22924E-01	0.60327E-01	0.26843E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 34.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.46257E-04	0.12173E-03	0.54165E-09
2	0.50396E-04	0.13262E-03	0.59011E-09
3	0.58987E-04	0.15523E-03	0.69071E-09
4	0.72674E-04	0.19125E-03	0.85098E-09
5	0.92469E-04	0.24334E-03	0.10828E-08
6	0.11980E-03	0.31527E-03	0.14028E-08
7	0.15660E-03	0.41212E-03	0.18338E-08
8	0.20539E-03	0.54049E-03	0.24050E-08
9	0.26937E-03	0.70886E-03	0.31541E-08
10	0.35260E-03	0.92790E-03	0.41288E-08
11	0.46015E-03	0.12109E-02	0.53881E-08
12	0.59822E-03	0.15743E-02	0.70049E-08
13	0.77439E-03	0.20379E-02	0.90678E-08
14	0.99777E-03	0.26257E-02	0.11683E-07
15	0.12792E-02	0.33663E-02	0.14979E-07
16	0.16313E-02	0.42928E-02	0.19101E-07
17	0.20687E-02	0.54438E-02	0.24223E-07
18	0.26078E-02	0.68627E-02	0.30537E-07
19	0.32671E-02	0.85977E-02	0.38256E-07
20	0.40862E-02	0.10701E-01	0.47613E-07
21	0.50257E-02	0.13225E-01	0.58848E-07
22	0.61660E-02	0.16226E-01	0.72201E-07
23	0.75066E-02	0.19754E-01	0.87899E-07
24	0.90638E-02	0.23852E-01	0.10613E-06
25	0.10849E-01	0.28551E-01	0.12704E-06
26	0.12867E-01	0.33862E-01	0.15067E-06
27	0.15113E-01	0.39772E-01	0.17697E-06
28	0.17570E-01	0.46236E-01	0.20573E-06
29	0.20206E-01	0.53175E-01	0.23661E-06
30	0.22978E-01	0.60467E-01	0.26906E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 35.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.51387E-04	0.13523E-03	0.60172E-09
2	0.55877E-04	0.14705E-03	0.65430E-09
3	0.65188E-04	0.17155E-03	0.76332E-09
4	0.79997E-04	0.21052E-03	0.93673E-09
5	0.10137E-03	0.26675E-03	0.11869E-08
6	0.13079E-03	0.34419E-03	0.15315E-08
7	0.17029E-03	0.44813E-03	0.19940E-08
8	0.22247E-03	0.58545E-03	0.26050E-08
9	0.29067E-03	0.76492E-03	0.34036E-08
10	0.37906E-03	0.99754E-03	0.44387E-08
11	0.49284E-03	0.12970E-02	0.57710E-08
12	0.63835E-03	0.16799E-02	0.74748E-08
13	0.82328E-03	0.21665E-02	0.96402E-08
14	0.10568E-02	0.27811E-02	0.12375E-07
15	0.13498E-02	0.35522E-02	0.15806E-07
16	0.17150E-02	0.45130E-02	0.20081E-07
17	0.21666E-02	0.57017E-02	0.25370E-07
18	0.27212E-02	0.71610E-02	0.31864E-07
19	0.33964E-02	0.89378E-02	0.39770E-07
20	0.42113E-02	0.11082E-01	0.49313E-07
21	0.51858E-02	0.13647E-01	0.60723E-07
22	0.63392E-02	0.16682E-01	0.74229E-07
23	0.76896E-02	0.20236E-01	0.90041E-07
24	0.92518E-02	0.24347E-01	0.10833E-06
25	0.11036E-01	0.29042E-01	0.12923E-06
26	0.13045E-01	0.34329E-01	0.15275E-06
27	0.15273E-01	0.40192E-01	0.17884E-06
28	0.17702E-01	0.46584E-01	0.20728E-06
29	0.20302E-01	0.53425E-01	0.23772E-06
30	0.23028E-01	0.60600E-01	0.26965E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 36.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.56897E-04	0.14973E-03	0.66624E-09
2	0.61754E-04	0.16251E-03	0.72311E-09
3	0.71814E-04	0.18898E-03	0.84091E-09
4	0.87789E-04	0.23102E-03	0.10280E-08
5	0.11079E-03	0.29155E-03	0.12973E-08
6	0.14238E-03	0.37469E-03	0.16672E-08

7	0.18466E-03	0.48594E-03	0.21622E-06
8	0.24033E-03	0.63244E-03	0.28141E-06
9	0.31283E-03	0.82325E-03	0.36631E-06
10	0.40648E-03	0.10697E-02	0.47597E-06
11	0.52657E-03	0.13857E-02	0.61659E-06
12	0.67957E-03	0.17883E-02	0.79574E-06
13	0.87327E-03	0.22981E-02	0.10226E-07
14	0.11169E-02	0.29393E-02	0.13079E-07
15	0.14215E-02	0.37407E-02	0.16645E-07
16	0.17994E-02	0.47353E-02	0.21070E-07
17	0.22651E-02	0.59606E-02	0.26523E-07
18	0.28345E-02	0.74592E-02	0.33191E-07
19	0.35250E-02	0.92764E-02	0.41277E-07
20	0.43552E-02	0.11461E-01	0.50997E-07
21	0.53437E-02	0.14062E-01	0.62573E-07
22	0.65092E-02	0.17129E-01	0.76220E-07
23	0.78683E-02	0.20706E-01	0.92134E-07
24	0.94345E-02	0.24828E-01	0.11047E-06
25	0.11217E-01	0.29517E-01	0.13134E-06
26	0.13216E-01	0.34779E-01	0.15476E-06
27	0.15426E-01	0.40595E-01	0.18063E-06
28	0.17828E-01	0.46916E-01	0.20876E-06
29	0.20392E-01	0.53663E-01	0.23878E-06
30	0.23076E-01	0.60725E-01	0.27020E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 37.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.62600E-04	0.16526E-03	0.73536E-09
2	0.68038E-04	0.17905E-03	0.79670E-09
3	0.78878E-04	0.20757E-03	0.92362E-09
4	0.96062E-04	0.25279E-03	0.11248E-08
5	0.12075E-03	0.31776E-03	0.14139E-08
6	0.15457E-03	0.40677E-03	0.18100E-08
7	0.19970E-03	0.52554E-03	0.23384E-08
8	0.25895E-03	0.68144E-03	0.30322E-08
9	0.33585E-03	0.88382E-03	0.39327E-08
10	0.43483E-03	0.11443E-02	0.50916E-08
11	0.56130E-03	0.14771E-02	0.65725E-08
12	0.72183E-03	0.18996E-02	0.84523E-08
13	0.92431E-03	0.24324E-02	0.10823E-07
14	0.11781E-02	0.31002E-02	0.13795E-07
15	0.14940E-02	0.39315E-02	0.17494E-07
16	0.18845E-02	0.49593E-02	0.22067E-07
17	0.23639E-02	0.62206E-02	0.27680E-07
18	0.29477E-02	0.77572E-02	0.34517E-07
19	0.36530E-02	0.96132E-02	0.42775E-07
20	0.44976E-02	0.11836E-01	0.52664E-07
21	0.54994E-02	0.14472E-01	0.64398E-07
22	0.66760E-02	0.17568E-01	0.78173E-07
23	0.80428E-02	0.21165E-01	0.94178E-07
24	0.96122E-02	0.25295E-01	0.11255E-06
25	0.11391E-01	0.29978E-01	0.13339E-06
26	0.13381E-01	0.35213E-01	0.15669E-06
27	0.15573E-01	0.40981E-01	0.18235E-06
28	0.17949E-01	0.47233E-01	0.21017E-06
29	0.20478E-01	0.53890E-01	0.23979E-06
30	0.23121E-01	0.60844E-01	0.27073E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 38.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.69109E-04	0.18187E-03	0.80924E-09
2	0.74743E-04	0.19669E-03	0.87520E-09
3	0.86389E-04	0.22734E-03	0.10116E-08
4	0.10482E-03	0.27585E-03	0.12274E-08
5	0.13125E-03	0.34541E-03	0.15369E-08
6	0.16738E-03	0.44046E-03	0.19599E-08
7	0.21544E-03	0.56694E-03	0.25227E-08
8	0.27833E-03	0.73245E-03	0.32591E-08
9	0.35971E-03	0.94661E-03	0.42120E-08
10	0.46409E-03	0.12213E-02	0.54343E-08
11	0.59700E-03	0.15711E-02	0.69906E-08
12	0.76510E-03	0.20134E-02	0.89590E-08
13	0.97636E-03	0.25694E-02	0.11433E-07
14	0.12401E-02	0.32635E-02	0.14521E-07
15	0.15673E-02	0.41244E-02	0.18352E-07
16	0.19702E-02	0.51848E-02	0.23071E-07
17	0.24630E-02	0.64815E-02	0.28840E-07
18	0.30608E-02	0.80547E-02	0.35840E-07
19	0.37802E-02	0.99480E-02	0.44265E-07
20	0.46385E-02	0.12207E-01	0.54315E-07
21	0.56529E-02	0.14876E-01	0.66192E-07
22	0.68397E-02	0.17999E-01	0.80089E-07
23	0.82134E-02	0.21614E-01	0.96175E-07
24	0.97851E-02	0.25750E-01	0.11458E-06
25	0.11561E-01	0.30423E-01	0.13537E-06
26	0.13540E-01	0.35632E-01	0.15855E-06

27	0.15714E-01	0.41353E-01	0.18400E-06
28	0.18064E-01	0.47537E-01	0.21152E-06
29	0.20560E-01	0.54106E-01	0.24075E-06
30	0.23184E-01	0.60957E-01	0.27124E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 39.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.75835E-04	0.19957E-03	0.88800E-09
2	0.81878E-04	0.21547E-03	0.95875E-09
3	0.94359E-04	0.24831E-03	0.11049E-08
4	0.11408E-03	0.30022E-03	0.13359E-08
5	0.14231E-03	0.37450E-03	0.16664E-08
6	0.18079E-03	0.47577E-03	0.21170E-08
7	0.23185E-03	0.61014E-03	0.27149E-08
8	0.29847E-03	0.78548E-03	0.34950E-08
9	0.38440E-03	0.10116E-02	0.45012E-08
10	0.49425E-03	0.13007E-02	0.57875E-08
11	0.63365E-03	0.16675E-02	0.74197E-08
12	0.80935E-03	0.21299E-02	0.94771E-08
13	0.10294E-02	0.27068E-02	0.12053E-07
14	0.13031E-02	0.34291E-02	0.15258E-07
15	0.16413E-02	0.43193E-02	0.19219E-07
16	0.20565E-02	0.54117E-02	0.24080E-07
17	0.25622E-02	0.67426E-02	0.30002E-07
18	0.31736E-02	0.83515E-02	0.37161E-07
19	0.39066E-02	0.10281E-01	0.45745E-07
20	0.47760E-02	0.12574E-01	0.55948E-07
21	0.58040E-02	0.15274E-01	0.67962E-07
22	0.70002E-02	0.18422E-01	0.81969E-07
23	0.83800E-02	0.22053E-01	0.98126E-07
24	0.99532E-02	0.26193E-01	0.11655E-06
25	0.11725E-01	0.30855E-01	0.13729E-06
26	0.13694E-01	0.36038E-01	0.16035E-06
27	0.15850E-01	0.41710E-01	0.18559E-06
28	0.18174E-01	0.47827E-01	0.21281E-06
29	0.20639E-01	0.54313E-01	0.24167E-06
30	0.23205E-01	0.61065E-01	0.27172E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 40.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.82990E-04	0.21839E-03	0.97177E-09
2	0.89455E-04	0.23541E-03	0.10475E-08
3	0.10280E-03	0.27052E-03	0.12037E-08
4	0.12385E-03	0.32593E-03	0.14503E-08
5	0.15392E-03	0.40506E-03	0.18024E-08
6	0.19482E-03	0.51269E-03	0.22813E-08
7	0.24895E-03	0.65513E-03	0.29151E-08
8	0.31937E-03	0.84044E-03	0.37397E-08
9	0.40991E-03	0.10787E-02	0.47999E-08
10	0.52529E-03	0.13823E-02	0.61509E-08
11	0.67122E-03	0.17664E-02	0.78596E-08
12	0.85452E-03	0.22487E-02	0.10006E-07
13	0.10833E-02	0.28507E-02	0.12684E-07
14	0.13868E-02	0.35969E-02	0.16005E-07
15	0.17181E-02	0.45159E-02	0.20094E-07
16	0.21431E-02	0.56397E-02	0.25095E-07
17	0.26615E-02	0.70040E-02	0.31165E-07
18	0.32860E-02	0.86474E-02	0.38478E-07
19	0.40321E-02	0.10611E-01	0.47214E-07
20	0.49158E-02	0.12936E-01	0.57562E-07
21	0.59528E-02	0.15665E-01	0.69705E-07
22	0.71577E-02	0.18836E-01	0.83813E-07
23	0.85427E-02	0.22481E-01	0.10003E-06
24	0.10117E-01	0.26623E-01	0.11846E-06
25	0.11884E-01	0.31274E-01	0.13916E-06
26	0.13842E-01	0.36426E-01	0.16206E-06
27	0.15980E-01	0.42053E-01	0.18712E-06
28	0.18280E-01	0.48106E-01	0.21405E-06
29	0.20714E-01	0.54510E-01	0.24255E-06
30	0.23244E-01	0.61168E-01	0.27217E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 41.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.90584E-04	0.23838E-03	0.10607E-08
2	0.97485E-04	0.25654E-03	0.11415E-08
3	0.11171E-03	0.29398E-03	0.13081E-08
4	0.13414E-03	0.35299E-03	0.15707E-08
5	0.16610E-03	0.43710E-03	0.19450E-08
6	0.20948E-03	0.55125E-03	0.24529E-08
7	0.26673E-03	0.70192E-03	0.31233E-08
8	0.34101E-03	0.89739E-03	0.39931E-08
9	0.43623E-03	0.11480E-02	0.51080E-08
10	0.55719E-03	0.14663E-02	0.65244E-08
11	0.70967E-03	0.18676E-02	0.83099E-08
12	0.90057E-03	0.23699E-02	0.10545E-07

13	0.11380E-02	0.29948E-02	0.13326E-07
14	0.14314E-02	0.37667E-02	0.16761E-07
15	0.17914E-02	0.47141E-02	0.20976E-07
16	0.22301E-02	0.58687E-02	0.26113E-07
17	0.27609E-02	0.72654E-02	0.32328E-07
18	0.33980E-02	0.89422E-02	0.39789E-07
19	0.41567E-02	0.10939E-01	0.48673E-07
20	0.50521E-02	0.13295E-01	0.59158E-07
21	0.60994E-02	0.16051E-01	0.71421E-07
22	0.73121E-02	0.19242E-01	0.85622E-07
23	0.87017E-02	0.22898E-01	0.10189E-06
24	0.10276E-01	0.27042E-01	0.12033E-06
25	0.12038E-01	0.31679E-01	0.14096E-06
26	0.13985E-01	0.36803E-01	0.16376E-06
27	0.16106E-01	0.42384E-01	0.18859E-06
28	0.18382E-01	0.48374E-01	0.21525E-06
29	0.20786E-01	0.54699E-01	0.24339E-06
30	0.23281E-01	0.61266E-01	0.27261E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 42.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.96627E-04	0.25954E-03	0.11549E-06
2	0.10598E-03	0.27888E-03	0.12409E-06
3	0.12112E-03	0.31873E-03	0.14182E-06
4	0.14494E-03	0.38143E-03	0.16972E-06
5	0.17884E-03	0.47064E-03	0.20942E-06
6	0.22475E-03	0.59144E-03	0.26317E-06
7	0.28519E-03	0.75050E-03	0.33394E-06
8	0.36339E-03	0.95628E-03	0.42551E-06
9	0.46334E-03	0.12193E-02	0.54255E-06
10	0.58992E-03	0.15524E-02	0.69076E-06
11	0.74898E-03	0.19710E-02	0.87702E-06
12	0.94749E-03	0.24934E-02	0.11095E-07
13	0.11936E-02	0.31409E-02	0.13978E-07
14	0.14966E-02	0.39384E-02	0.17524E-07
15	0.18672E-02	0.49137E-02	0.21864E-07
16	0.23174E-02	0.60984E-02	0.27136E-07
17	0.28602E-02	0.75267E-02	0.33491E-07
18	0.35096E-02	0.92357E-02	0.41095E-07
19	0.42802E-02	0.11264E-01	0.50119E-07
20	0.51868E-02	0.13650E-01	0.60735E-07
21	0.62437E-02	0.16431E-01	0.73111E-07
22	0.74636E-02	0.19641E-01	0.87395E-07
23	0.88571E-02	0.23308E-01	0.10371E-06
24	0.10431E-01	0.27450E-01	0.12214E-06
25	0.12188E-01	0.32073E-01	0.14271E-06
26	0.14123E-01	0.37167E-01	0.16538E-06
27	0.16227E-01	0.42703E-01	0.19001E-06
28	0.18480E-01	0.48631E-01	0.21639E-06
29	0.20855E-01	0.54881E-01	0.24420E-06
30	0.23317E-01	0.61360E-01	0.27303E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 43.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.10713E-03	0.28192E-03	0.12544E-06
2	0.11494E-03	0.30247E-03	0.13459E-06
3	0.13101E-03	0.34477E-03	0.15341E-06
4	0.15628E-03	0.41126E-03	0.18299E-06
5	0.19216E-03	0.50569E-03	0.22501E-06
6	0.24064E-03	0.63328E-03	0.28178E-06
7	0.30433E-03	0.80086E-03	0.35635E-06
8	0.38650E-03	0.10171E-02	0.45257E-06
9	0.49122E-03	0.12927E-02	0.57520E-06
10	0.62346E-03	0.16407E-02	0.73004E-06
11	0.78912E-03	0.20766E-02	0.92402E-06
12	0.99521E-03	0.26190E-02	0.11653E-07
13	0.12499E-02	0.32891E-02	0.14635E-07
14	0.15624E-02	0.41117E-02	0.18296E-07
15	0.19435E-02	0.51146E-02	0.22758E-07
16	0.24049E-02	0.63287E-02	0.28160E-07
17	0.29593E-02	0.77877E-02	0.34653E-07
18	0.36205E-02	0.95278E-02	0.42395E-07
19	0.44027E-02	0.11586E-01	0.51553E-07
20	0.53199E-02	0.14000E-01	0.62293E-07
21	0.63857E-02	0.16804E-01	0.74773E-07
22	0.76122E-02	0.20032E-01	0.89135E-07
23	0.90069E-02	0.23708E-01	0.10549E-06
24	0.10582E-01	0.27848E-01	0.12391E-06
25	0.12333E-01	0.32455E-01	0.14441E-06
26	0.14257E-01	0.37519E-01	0.16695E-06
27	0.16344E-01	0.43010E-01	0.19138E-06
28	0.18574E-01	0.48879E-01	0.21749E-06
29	0.20921E-01	0.55055E-01	0.24497E-06
30	0.23351E-01	0.61450E-01	0.27343E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 44.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11610E-03	0.30553E-03	0.13595E-06
2	0.12438E-03	0.32732E-03	0.14564E-06
3	0.14141E-03	0.37214E-03	0.16559E-06
4	0.16815E-03	0.44249E-03	0.19689E-06
5	0.20605E-03	0.54224E-03	0.24128E-06
6	0.25716E-03	0.67675E-03	0.30113E-06
7	0.32414E-03	0.85299E-03	0.37955E-06
8	0.41033E-03	0.10798E-02	0.48047E-06
9	0.51987E-03	0.13681E-02	0.60875E-06
10	0.65779E-03	0.17310E-02	0.77024E-06
11	0.83006E-03	0.21844E-02	0.97196E-06
12	0.10437E-02	0.27466E-02	0.12221E-07
13	0.13069E-02	0.34392E-02	0.15303E-07
14	0.16289E-02	0.42866E-02	0.19074E-07
15	0.20203E-02	0.53165E-02	0.23656E-07
16	0.24926E-02	0.65593E-02	0.29187E-07
17	0.30583E-02	0.80483E-02	0.35812E-07
18	0.37309E-02	0.98183E-02	0.43688E-07
19	0.45241E-02	0.11905E-01	0.52975E-07
20	0.54513E-02	0.14345E-01	0.63832E-07
21	0.65254E-02	0.17172E-01	0.76410E-07
22	0.77578E-02	0.20415E-01	0.90840E-07
23	0.91573E-02	0.24098E-01	0.10723E-06
24	0.10729E-01	0.28235E-01	0.12563E-06
25	0.12474E-01	0.32826E-01	0.14607E-06
26	0.14387E-01	0.37861E-01	0.16847E-06
27	0.16457E-01	0.43307E-01	0.19270E-06
28	0.18664E-01	0.49117E-01	0.21855E-06
29	0.20984E-01	0.55222E-01	0.24572E-06
30	0.23384E-01	0.61536E-01	0.27381E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 45.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12555E-03	0.33039E-03	0.14701E-06
2	0.13431E-03	0.35345E-03	0.15727E-06
3	0.15232E-03	0.40085E-03	0.17836E-06
4	0.18056E-03	0.47515E-03	0.21142E-06
5	0.22052E-03	0.58032E-03	0.25822E-06
6	0.27430E-03	0.72185E-03	0.32120E-06
7	0.34461E-03	0.90687E-03	0.40352E-06
8	0.43487E-03	0.11444E-02	0.50921E-06
9	0.54927E-03	0.14454E-02	0.64317E-06
10	0.69290E-03	0.18234E-02	0.81135E-06
11	0.87177E-03	0.22941E-02	0.10206E-07
12	0.10929E-02	0.28762E-02	0.12798E-07
13	0.13646E-02	0.35910E-02	0.15978E-07
14	0.16959E-02	0.44629E-02	0.19858E-07
15	0.20973E-02	0.55193E-02	0.24559E-07
16	0.25803E-02	0.67903E-02	0.30214E-07
17	0.31571E-02	0.83082E-02	0.36968E-07
18	0.38407E-02	0.10107E-01	0.44973E-07
19	0.46443E-02	0.12222E-01	0.54383E-07
20	0.55810E-02	0.14687E-01	0.65351E-07
21	0.66629E-02	0.17534E-01	0.78020E-07
22	0.79007E-02	0.20791E-01	0.92513E-07
23	0.93023E-02	0.24480E-01	0.10893E-06
24	0.10872E-01	0.28612E-01	0.12731E-06
25	0.12611E-01	0.33187E-01	0.14767E-06
26	0.14513E-01	0.38191E-01	0.16994E-06
27	0.16566E-01	0.43594E-01	0.19398E-06
28	0.18752E-01	0.49347E-01	0.21957E-06
29	0.21045E-01	0.55383E-01	0.24643E-06
30	0.23415E-01	0.61619E-01	0.27418E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 46.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13548E-03	0.35653E-03	0.15864E-06
2	0.14474E-03	0.38089E-03	0.16948E-06
3	0.16375E-03	0.43091E-03	0.19174E-06
4	0.19351E-03	0.50924E-03	0.22659E-06
5	0.23557E-03	0.61993E-03	0.27585E-06
6	0.29206E-03	0.76859E-03	0.34199E-06
7	0.36575E-03	0.96250E-03	0.42828E-06
8	0.46011E-03	0.12106E-02	0.53877E-06
9	0.57940E-03	0.15247E-02	0.67845E-06
10	0.72874E-03	0.19177E-02	0.85333E-06
11	0.91421E-03	0.24058E-02	0.10705E-07
12	0.11429E-02	0.30076E-02	0.13382E-07
13	0.14229E-02	0.37444E-02	0.16661E-07
14	0.17634E-02	0.46405E-02	0.20648E-07
15	0.21747E-02	0.57230E-02	0.25465E-07
16	0.26681E-02	0.70213E-02	0.31242E-07
17	0.32556E-02	0.85673E-02	0.38121E-07
18	0.39498E-02	0.10394E-01	0.46250E-07

19	0.47634E-02	0.12535E-01	0.55777E-07
20	0.57090E-02	0.15024E-01	0.66850E-07
21	0.67962E-02	0.17890E-01	0.79604E-07
22	0.80408E-02	0.21160E-01	0.94154E-07
23	0.94441E-02	0.24853E-01	0.11059E-06
24	0.11012E-01	0.28979E-01	0.12895E-06
25	0.12744E-01	0.33537E-01	0.14923E-06
26	0.14634E-01	0.38511E-01	0.17136E-06
27	0.16671E-01	0.43871E-01	0.19521E-06
28	0.18836E-01	0.49568E-01	0.22056E-06
29	0.21104E-01	0.55537E-01	0.24712E-06
30	0.23446E-01	0.61699E-01	0.27454E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 47.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.14590E-03	0.38396E-03	0.17085E-06
2	0.15566E-03	0.40964E-03	0.18228E-06
3	0.17569E-03	0.46234E-03	0.20573E-06
4	0.20701E-03	0.54477E-03	0.24240E-06
5	0.25121E-03	0.66107E-03	0.29415E-06
6	0.31045E-03	0.81696E-03	0.36352E-06
7	0.38755E-03	0.10199E-02	0.45380E-06
8	0.48604E-03	0.12791E-02	0.56913E-06
9	0.61024E-03	0.16059E-02	0.71456E-06
10	0.76532E-03	0.20140E-02	0.89615E-06
11	0.95737E-03	0.25194E-02	0.11210E-07
12	0.11935E-02	0.31407E-02	0.13975E-07
13	0.14817E-02	0.38993E-02	0.17350E-07
14	0.18313E-02	0.48193E-02	0.21444E-07
15	0.22524E-02	0.59273E-02	0.26374E-07
16	0.27559E-02	0.72524E-02	0.32270E-07
17	0.33537E-02	0.88256E-02	0.39271E-07
18	0.40581E-02	0.10679E-01	0.47518E-07
19	0.48813E-02	0.12846E-01	0.57158E-07
20	0.58354E-02	0.15356E-01	0.68330E-07
21	0.69313E-02	0.18240E-01	0.81162E-07
22	0.81781E-02	0.21521E-01	0.95762E-07
23	0.95827E-02	0.25218E-01	0.11221E-06
24	0.11148E-01	0.29337E-01	0.13054E-06
25	0.12873E-01	0.33877E-01	0.15074E-06
26	0.14752E-01	0.38822E-01	0.17274E-06
27	0.16773E-01	0.44139E-01	0.19640E-06
28	0.18917E-01	0.49782E-01	0.22151E-06
29	0.21161E-01	0.55687E-01	0.24778E-06
30	0.23475E-01	0.61776E-01	0.27488E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 48.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.15683E-03	0.41271E-03	0.18364E-06
2	0.16710E-03	0.43974E-03	0.19567E-06
3	0.18816E-03	0.49516E-03	0.22033E-06
4	0.22107E-03	0.58175E-03	0.25886E-06
5	0.26742E-03	0.70374E-03	0.31314E-06
6	0.32944E-03	0.86695E-03	0.38576E-06
7	0.40999E-03	0.10789E-02	0.48006E-06
8	0.51265E-03	0.13491E-02	0.60029E-06
9	0.64178E-03	0.16889E-02	0.75150E-06
10	0.80259E-03	0.21121E-02	0.93960E-06
11	0.10012E-02	0.26347E-02	0.11724E-07
12	0.12447E-02	0.32755E-02	0.14575E-07
13	0.15411E-02	0.40557E-02	0.18046E-07
14	0.18996E-02	0.49991E-02	0.22244E-07
15	0.23302E-02	0.61321E-02	0.27285E-07
16	0.28436E-02	0.74832E-02	0.33298E-07
17	0.34515E-02	0.90829E-02	0.40415E-07
18	0.41657E-02	0.10962E-01	0.48778E-07
19	0.49981E-02	0.13153E-01	0.58525E-07
20	0.59601E-02	0.15685E-01	0.69790E-07
21	0.70622E-02	0.18585E-01	0.82695E-07
22	0.83129E-02	0.21876E-01	0.97340E-07
23	0.97182E-02	0.25574E-01	0.11380E-06
24	0.11281E-01	0.29686E-01	0.13209E-06
25	0.12999E-01	0.34209E-01	0.15221E-06
26	0.14867E-01	0.39123E-01	0.17408E-06
27	0.16872E-01	0.44399E-01	0.19756E-06
28	0.18996E-01	0.49988E-01	0.22243E-06
29	0.21216E-01	0.55831E-01	0.24842E-06
30	0.23503E-01	0.61850E-01	0.27521E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 49.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.16826E-03	0.44279E-03	0.19702E-06
2	0.17905E-03	0.47119E-03	0.20966E-06
3	0.20117E-03	0.52938E-03	0.23556E-06
4	0.23567E-03	0.62020E-03	0.27596E-06

5	0.28422E-03	0.74795E-03	0.33281E-06
6	0.34905E-03	0.91856E-03	0.40872E-06
7	0.43308E-03	0.11397E-02	0.50712E-06
8	0.53993E-03	0.14209E-02	0.63224E-06
9	0.67401E-03	0.17737E-02	0.78923E-06
10	0.84054E-03	0.22120E-02	0.98424E-06
11	0.10457E-02	0.27518E-02	0.12245E-07
12	0.12985E-02	0.34119E-02	0.15182E-07
13	0.16011E-02	0.42133E-02	0.18748E-07
14	0.19683E-02	0.51798E-02	0.23048E-07
15	0.24082E-02	0.63373E-02	0.28199E-07
16	0.29313E-02	0.77139E-02	0.34324E-07
17	0.35488E-02	0.93391E-02	0.41555E-07
18	0.42725E-02	0.11243E-01	0.50029E-07
19	0.51136E-02	0.13457E-01	0.59878E-07
20	0.60832E-02	0.16006E-01	0.71231E-07
21	0.71910E-02	0.18924E-01	0.84203E-07
22	0.84451E-02	0.22224E-01	0.98888E-07
23	0.98508E-02	0.25923E-01	0.11535E-06
24	0.11410E-01	0.30027E-01	0.13361E-06
25	0.13122E-01	0.34531E-01	0.15365E-06
26	0.14978E-01	0.39416E-01	0.17538E-06
27	0.16967E-01	0.44650E-01	0.19868E-06
28	0.19072E-01	0.50188E-01	0.22332E-06
29	0.21268E-01	0.55969E-01	0.24904E-06
30	0.23530E-01	0.61921E-01	0.27553E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 50.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18020E-03	0.47421E-03	0.21101E-06
2	0.19152E-03	0.50400E-03	0.22426E-06
3	0.21470E-03	0.56501E-03	0.25141E-06
4	0.25084E-03	0.66010E-03	0.29372E-06
5	0.30160E-03	0.79368E-03	0.35316E-06
6	0.36927E-03	0.97177E-03	0.43240E-06
7	0.45681E-03	0.12021E-02	0.53490E-06
8	0.56787E-03	0.14944E-02	0.66495E-06
9	0.70689E-03	0.18602E-02	0.82774E-06
10	0.87915E-03	0.23136E-02	0.10294E-07
11	0.10908E-02	0.28705E-02	0.12773E-07
12	0.13489E-02	0.35497E-02	0.15795E-07
13	0.16614E-02	0.43722E-02	0.19455E-07
14	0.20373E-02	0.53613E-02	0.23856E-07
15	0.24863E-02	0.65428E-02	0.29113E-07
16	0.30188E-02	0.79441E-02	0.35348E-07
17	0.36457E-02	0.95941E-02	0.42690E-07
18	0.43784E-02	0.11522E-01	0.51269E-07
19	0.52279E-02	0.13758E-01	0.61216E-07
20	0.62045E-02	0.16328E-01	0.72652E-07
21	0.73177E-02	0.19257E-01	0.85686E-07
22	0.85747E-02	0.22565E-01	0.10041E-06
23	0.99805E-02	0.26264E-01	0.11687E-06
24	0.11537E-01	0.30360E-01	0.13509E-06
25	0.13241E-01	0.34844E-01	0.15504E-06
26	0.15086E-01	0.39699E-01	0.17665E-06
27	0.17060E-01	0.44894E-01	0.19976E-06
28	0.19145E-01	0.50381E-01	0.22418E-06
29	0.21319E-01	0.56104E-01	0.24964E-06
30	0.23556E-01	0.61990E-01	0.27583E-06

VLEACH (Version 2.1, 1994)

By:
Varadhan Ravi and Jeffrey A. Johnson
(USEPA Contractors)
Center for Subsurface Modeling Support
Robert S. Kerr Environmental Research Laboratory
U.S. Environmental Protection Agency
P.O. Box 1198
Ada, OK 74820

Based on the original VLEACH (version 1.0)
developed by CH2M Hill, Redding, California
for USEPA Region IX

RUN VLAJ3-2; UPWARD DIFFUSION FROM WATER TABLE; MW-02 2/94 PCE
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 10.00 years. Vertical profile stored every 1.00 years.
Koc = 364.00 ml/g, 0.12654E-01cu.ft./g
Kh = 1.1800 (dimensionless).
Aqueous solubility = 150.00 mg/l, 4.2476 g/cu.ft
Free air diffusion coefficient = .86000 sq. m/day, 3378.9 sq.ft./yr

Polygon 1
POLY 1 - IMPERMEABLE GROUND SURFACE BC
Polygon area = 1.0000 sq. ft.
30 cells, each cell 10.000 ft. thick.
Soil Properties:
Bulk density = 1.8600 g/ml, 52670. g/cu.ft.
Porosity = 0.3000 Volumetric water content = 0.0500
Organic carbon content = 0.00100000
Recharge Rate = 0.00000000 ft/yr
Conc. in recharge water = 0.00000 mg/l, 0.00000 g/cu.ft
Atmospheric concentration = -1.0000 mg/l, -0.28317E-01g/cu.ft
Water table has a fixed concentration of 0.12000 mg/l, 0.33980E-02g/cu.ft.
with respect to gas diffusion.

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000
5	0.00000	0.00000	0.00000
6	0.00000	0.00000	0.00000
7	0.00000	0.00000	0.00000
8	0.00000	0.00000	0.00000
9	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000
11	0.00000	0.00000	0.00000
12	0.00000	0.00000	0.00000
13	0.00000	0.00000	0.00000
14	0.00000	0.00000	0.00000
15	0.00000	0.00000	0.00000
16	0.00000	0.00000	0.00000
17	0.00000	0.00000	0.00000
18	0.00000	0.00000	0.00000
19	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000
21	0.00000	0.00000	0.00000
22	0.00000	0.00000	0.00000
23	0.00000	0.00000	0.00000
24	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
26	0.00000	0.00000	0.00000
27	0.00000	0.00000	0.00000
28	0.00000	0.00000	0.00000
29	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 1.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.38615E-09	0.31030E-09	0.39687E-14
2	0.46523E-09	0.39427E-09	0.50681E-14
3	0.69021E-09	0.58492E-09	0.75188E-14
4	0.11019E-08	0.93386E-09	0.12004E-13
5	0.18119E-08	0.15355E-08	0.19738E-13
6	0.30121E-08	0.25526E-08	0.32813E-13
7	0.50274E-08	0.42605E-08	0.54767E-13
8	0.84031E-08	0.71213E-08	0.91541E-13
9	0.14053E-07	0.11909E-07	0.15309E-12
10	0.23505E-07	0.19920E-07	0.25606E-12
11	0.39318E-07	0.33320E-07	0.42831E-12
12	0.65770E-07	0.55737E-07	0.71647E-12
13	0.11002E-06	0.93237E-07	0.11985E-11
14	0.18404E-06	0.15597E-06	0.20049E-11
15	0.30786E-06	0.26090E-06	0.33537E-11
16	0.51499E-06	0.43644E-06	0.56101E-11
17	0.86148E-06	0.73007E-06	0.93847E-11
18	0.14411E-05	0.12213E-05	0.15699E-10
19	0.24107E-05	0.20429E-05	0.26261E-10
20	0.40325E-05	0.34174E-05	0.43929E-10
21	0.67456E-05	0.57166E-05	0.73484E-10
22	0.11284E-04	0.95628E-05	0.12292E-09
23	0.18876E-04	0.15997E-04	0.20563E-09
24	0.31576E-04	0.26759E-04	0.34398E-09
25	0.52820E-04	0.44763E-04	0.57540E-09
26	0.88358E-04	0.74879E-04	0.96253E-09
27	0.14780E-03	0.12526E-03	0.16101E-08
28	0.24725E-03	0.20953E-03	0.26934E-08
29	0.41360E-03	0.35051E-03	0.45056E-08
30	0.69186E-03	0.58633E-03	0.75369E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 2.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.77521E-09	0.77521E-09	0.30114E-14
2	0.96535E-09	0.96535E-09	0.37500E-14
3	0.13918E-08	0.13918E-08	0.54064E-14
4	0.21578E-08	0.21578E-08	0.83820E-14
5	0.34486E-08	0.34486E-08	0.13396E-13
6	0.55754E-08	0.55754E-08	0.21658E-13
7	0.90493E-08	0.90493E-08	0.35153E-13
8	0.14702E-07	0.14702E-07	0.57113E-13
9	0.23883E-07	0.23883E-07	0.92777E-13
10	0.38773E-07	0.38773E-07	0.15062E-12
11	0.62895E-07	0.62895E-07	0.24432E-12
12	0.10193E-06	0.10193E-06	0.39595E-12
13	0.16501E-06	0.16501E-06	0.64101E-12
14	0.26685E-06	0.26685E-06	0.10366E-11
15	0.43103E-06	0.43103E-06	0.16744E-11
16	0.69534E-06	0.69534E-06	0.27011E-11
17	0.11202E-05	0.11202E-05	0.43515E-11
18	0.18020E-05	0.18020E-05	0.69999E-11
19	0.28941E-05	0.28941E-05	0.11242E-10
20	0.46400E-05	0.46400E-05	0.18025E-10
21	0.74253E-05	0.74253E-05	0.28844E-10
22	0.11858E-04	0.11858E-04	0.46064E-10
23	0.18894E-04	0.18894E-04	0.73397E-10
24	0.30031E-04	0.30031E-04	0.11666E-09
25	0.47601E-04	0.47601E-04	0.18491E-09
26	0.75219E-04	0.75219E-04	0.29220E-09
27	0.11845E-03	0.11845E-03	0.46014E-09
28	0.18581E-03	0.18581E-03	0.72181E-09
29	0.29020E-03	0.29020E-03	0.11273E-08
30	0.45092E-03	0.45092E-03	0.17517E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 3.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.24966E-08	0.24966E-08	0.96984E-14
2	0.30584E-08	0.30584E-08	0.11881E-13
3	0.43057E-08	0.43057E-08	0.16726E-13
4	0.65129E-08	0.65129E-08	0.25300E-13
5	0.10163E-07	0.10163E-07	0.39481E-13
6	0.16053E-07	0.16053E-07	0.62358E-13
7	0.25457E-07	0.25457E-07	0.98890E-13
8	0.40401E-07	0.40401E-07	0.15694E-12
9	0.64078E-07	0.64078E-07	0.24892E-12
10	0.10151E-06	0.10151E-06	0.39434E-12
11	0.16058E-06	0.16058E-06	0.62380E-12
12	0.25361E-06	0.25361E-06	0.98518E-12
13	0.39982E-06	0.39982E-06	0.15531E-11
14	0.62913E-06	0.62913E-06	0.24436E-11
15	0.98791E-06	0.98791E-06	0.38376E-11
16	0.15479E-05	0.15479E-05	0.60130E-11
17	0.24196E-05	0.24196E-05	0.93993E-11
18	0.37726E-05	0.37726E-05	0.14655E-10
19	0.58659E-05	0.58659E-05	0.22786E-10
20	0.90932E-05	0.90932E-05	0.35323E-10
21	0.14050E-04	0.14050E-04	0.54578E-10
22	0.21631E-04	0.21631E-04	0.84026E-10
23	0.33169E-04	0.33169E-04	0.12885E-09
24	0.50640E-04	0.50640E-04	0.19672E-09
25	0.76933E-04	0.76933E-04	0.29885E-09
26	0.11623E-03	0.11623E-03	0.45152E-09
27	0.17451E-03	0.17451E-03	0.67790E-09
28	0.26013E-03	0.26013E-03	0.10105E-08
29	0.38454E-03	0.38454E-03	0.14938E-08
30	0.56291E-03	0.56291E-03	0.21867E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 4.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.62636E-08	0.62636E-08	0.24331E-13
2	0.75663E-08	0.75663E-08	0.29392E-13
3	0.10435E-07	0.10435E-07	0.40535E-13
4	0.15446E-07	0.15446E-07	0.60002E-13
5	0.23603E-07	0.23603E-07	0.91689E-13
6	0.36527E-07	0.36527E-07	0.14189E-12
7	0.56764E-07	0.56764E-07	0.22050E-12
8	0.88268E-07	0.88268E-07	0.34288E-12
9	0.13713E-06	0.13713E-06	0.53270E-12
10	0.21270E-06	0.21270E-06	0.82627E-12
11	0.32928E-06	0.32928E-06	0.12791E-11
12	0.50864E-06	0.50864E-06	0.19759E-11
13	0.78385E-06	0.78385E-06	0.30449E-11
14	0.12049E-05	0.12049E-05	0.46805E-11
15	0.18471E-05	0.18471E-05	0.71752E-11
16	0.28233E-05	0.28233E-05	0.10967E-10
17	0.43019E-05	0.43019E-05	0.16711E-10
18	0.65326E-05	0.65326E-05	0.25377E-10
19	0.98838E-05	0.98838E-05	0.38394E-10
20	0.14894E-04	0.14894E-04	0.57858E-10

21	0.22347E-04	0.22347E-04	0.86810E-10
22	0.33369E-04	0.33369E-04	0.12963E-09
23	0.49565E-04	0.49565E-04	0.19254E-09
24	0.73191E-04	0.73191E-04	0.28432E-09
25	0.10737E-03	0.10737E-03	0.41709E-09
26	0.15635E-03	0.15635E-03	0.60735E-09
27	0.22576E-03	0.22576E-03	0.87697E-09
28	0.32283E-03	0.32283E-03	0.12541E-08
29	0.45644E-03	0.45644E-03	0.17731E-08
30	0.63673E-03	0.63673E-03	0.24734E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 5.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13425E-07	0.13425E-07	0.52149E-13
2	0.16020E-07	0.16020E-07	0.62230E-13
3	0.21693E-07	0.21693E-07	0.84267E-13
4	0.31493E-07	0.31493E-07	0.12234E-12
5	0.47222E-07	0.47222E-07	0.18344E-12
6	0.71748E-07	0.71748E-07	0.27871E-12
7	0.10949E-06	0.10949E-06	0.42534E-12
8	0.16720E-06	0.16720E-06	0.64949E-12
9	0.25501E-06	0.25501E-06	0.99062E-12
10	0.38821E-06	0.38821E-06	0.15080E-11
11	0.58958E-06	0.58958E-06	0.22903E-11
12	0.89307E-06	0.89307E-06	0.34692E-11
13	0.13489E-05	0.13489E-05	0.52401E-11
14	0.20313E-05	0.20313E-05	0.78908E-11
15	0.30489E-05	0.30489E-05	0.11844E-10
16	0.45602E-05	0.45602E-05	0.17714E-10
17	0.67950E-05	0.67950E-05	0.26396E-10
18	0.10084E-04	0.10084E-04	0.39172E-10
19	0.14899E-04	0.14899E-04	0.57877E-10
20	0.21909E-04	0.21909E-04	0.85107E-10
21	0.32049E-04	0.32049E-04	0.12450E-09
22	0.46615E-04	0.46615E-04	0.18108E-09
23	0.67377E-04	0.67377E-04	0.26173E-09
24	0.96706E-04	0.96706E-04	0.37566E-09
25	0.13772E-03	0.13772E-03	0.53500E-09
26	0.19442E-03	0.19442E-03	0.75525E-09
27	0.27173E-03	0.27173E-03	0.10556E-08
28	0.37544E-03	0.37544E-03	0.14584E-08
29	0.51182E-03	0.51182E-03	0.19882E-08
30	0.68875E-03	0.68875E-03	0.26677E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 6.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.25759E-07	0.25759E-07	0.10006E-12
2	0.30406E-07	0.30406E-07	0.11812E-12
3	0.40499E-07	0.40499E-07	0.15732E-12
4	0.57764E-07	0.57764E-07	0.22439E-12
5	0.85129E-07	0.85129E-07	0.33069E-12
6	0.12719E-06	0.12719E-06	0.49406E-12
7	0.19093E-06	0.19093E-06	0.74167E-12
8	0.28676E-06	0.28676E-06	0.11140E-11
9	0.43015E-06	0.43015E-06	0.16710E-11
10	0.64383E-06	0.64383E-06	0.25010E-11
11	0.96108E-06	0.96108E-06	0.37334E-11
12	0.14304E-05	0.14304E-05	0.55564E-11
13	0.21220E-05	0.21220E-05	0.82429E-11
14	0.31370E-05	0.31370E-05	0.12186E-10
15	0.46204E-05	0.46204E-05	0.17948E-10
16	0.67781E-05	0.67781E-05	0.26330E-10
17	0.99010E-05	0.99010E-05	0.38462E-10
18	0.14396E-04	0.14396E-04	0.55924E-10
19	0.20829E-04	0.20829E-04	0.80911E-10
20	0.29973E-04	0.29973E-04	0.11643E-09
21	0.42879E-04	0.42879E-04	0.16657E-09
22	0.60948E-04	0.60948E-04	0.23676E-09
23	0.86022E-04	0.86022E-04	0.33416E-09
24	0.12046E-03	0.12046E-03	0.46795E-09
25	0.16723E-03	0.16723E-03	0.64963E-09
26	0.22990E-03	0.22990E-03	0.89306E-09
27	0.31256E-03	0.31256E-03	0.12142E-08
28	0.41959E-03	0.41959E-03	0.16300E-08
29	0.55506E-03	0.55506E-03	0.21562E-08
30	0.72167E-03	0.72167E-03	0.28034E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 7.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.45491E-07	0.45491E-07	0.17671E-12
2	0.53175E-07	0.53175E-07	0.20656E-12
3	0.69769E-07	0.69769E-07	0.27102E-12
4	0.97901E-07	0.97901E-07	0.38030E-12
5	0.14199E-06	0.14199E-06	0.55157E-12
6	0.20688E-06	0.20688E-06	0.81142E-12

7	0.30681E-06	0.30681E-06	0.11996E-11
8	0.45684E-06	0.45684E-06	0.17746E-11
9	0.67489E-06	0.67489E-06	0.26217E-11
10	0.99463E-06	0.99463E-06	0.38637E-11
11	0.14615E-05	0.14615E-05	0.56775E-11
12	0.21406E-05	0.21406E-05	0.83154E-11
13	0.31240E-05	0.31240E-05	0.12136E-10
14	0.45418E-05	0.45418E-05	0.17643E-10
15	0.65780E-05	0.65780E-05	0.25545E-10
16	0.94797E-05	0.94797E-05	0.36825E-10
17	0.13601E-04	0.13601E-04	0.52836E-10
18	0.19417E-04	0.19417E-04	0.75427E-10
19	0.27568E-04	0.27568E-04	0.10709E-09
20	0.38912E-04	0.38912E-04	0.15116E-09
21	0.54572E-04	0.54572E-04	0.21199E-09
22	0.76002E-04	0.76002E-04	0.29524E-09
23	0.10504E-03	0.10504E-03	0.40804E-09
24	0.14395E-03	0.14395E-03	0.55919E-09
25	0.19544E-03	0.19544E-03	0.75919E-09
26	0.26257E-03	0.26257E-03	0.10200E-08
27	0.34864E-03	0.34864E-03	0.13543E-08
28	0.45677E-03	0.45677E-03	0.17744E-08
29	0.58931E-03	0.58931E-03	0.22892E-08
30	0.74683E-03	0.74683E-03	0.29011E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 8.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.75283E-07	0.75283E-07	0.29244E-12
2	0.87222E-07	0.87222E-07	0.33882E-12
3	0.11287E-06	0.11287E-06	0.43845E-12
4	0.15600E-06	0.15600E-06	0.60600E-12
5	0.22291E-06	0.22291E-06	0.86590E-12
6	0.32321E-06	0.32321E-06	0.12556E-11
7	0.47113E-06	0.47113E-06	0.18301E-11
8	0.68724E-06	0.68724E-06	0.26696E-11
9	0.10010E-05	0.10010E-05	0.38885E-11
10	0.14544E-05	0.14544E-05	0.56496E-11
11	0.21064E-05	0.21064E-05	0.81823E-11
12	0.30399E-05	0.30399E-05	0.11809E-10
13	0.43703E-05	0.43703E-05	0.16977E-10
14	0.62571E-05	0.62571E-05	0.24306E-10
15	0.89192E-05	0.89192E-05	0.34647E-10
16	0.12654E-04	0.12654E-04	0.49156E-10
17	0.17862E-04	0.17862E-04	0.69388E-10
18	0.25078E-04	0.25078E-04	0.97419E-10
19	0.35005E-04	0.35005E-04	0.13598E-09
20	0.48554E-04	0.48554E-04	0.18861E-09
21	0.66891E-04	0.66891E-04	0.25984E-09
22	0.91472E-04	0.91472E-04	0.35533E-09
23	0.12408E-03	0.12408E-03	0.48199E-09
24	0.16682E-03	0.16682E-03	0.64801E-09
25	0.22209E-03	0.22209E-03	0.86272E-09
26	0.29247E-03	0.29247E-03	0.11361E-08
27	0.38049E-03	0.38049E-03	0.14781E-08
28	0.48826E-03	0.48826E-03	0.18967E-08
29	0.61687E-03	0.61687E-03	0.23963E-08
30	0.76554E-03	0.76554E-03	0.29738E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 9.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11821E-06	0.11821E-06	0.45921E-12
2	0.13585E-06	0.13585E-06	0.52773E-12
3	0.17357E-06	0.17357E-06	0.67425E-12
4	0.23653E-06	0.23653E-06	0.91884E-12
5	0.33329E-06	0.33329E-06	0.12947E-11
6	0.47676E-06	0.47676E-06	0.18520E-11
7	0.68581E-06	0.68581E-06	0.26641E-11
8	0.98735E-06	0.98735E-06	0.38355E-11
9	0.14194E-05	0.14194E-05	0.55137E-11
10	0.20351E-05	0.20351E-05	0.79053E-11
11	0.29081E-05	0.29081E-05	0.11297E-10
12	0.41401E-05	0.41401E-05	0.16083E-10
13	0.58701E-05	0.58701E-05	0.22803E-10
14	0.82868E-05	0.82868E-05	0.32191E-10
15	0.11644E-04	0.11644E-04	0.45231E-10
16	0.16279E-04	0.16279E-04	0.63238E-10
17	0.22639E-04	0.22639E-04	0.87944E-10
18	0.31305E-04	0.31305E-04	0.12161E-09
19	0.43023E-04	0.43023E-04	0.16713E-09
20	0.58739E-04	0.58739E-04	0.22818E-09
21	0.79626E-04	0.79626E-04	0.30931E-09
22	0.10711E-03	0.10711E-03	0.41608E-09
23	0.14287E-03	0.14287E-03	0.55501E-09
24	0.18884E-03	0.18884E-03	0.73356E-09
25	0.24709E-03	0.24709E-03	0.95983E-09
26	0.31972E-03	0.31972E-03	0.12420E-08

27	0.40863E-03	0.40863E-03	0.15874E-08
28	0.51512E-03	0.51512E-03	0.20010E-08
29	0.63939E-03	0.63939E-03	0.24838E-08
30	0.77968E-03	0.77968E-03	0.30295E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 10.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.17773E-06	0.17773E-06	0.69041E-12
2	0.20274E-06	0.20274E-06	0.78755E-12
3	0.25597E-06	0.25597E-06	0.99435E-12
4	0.34424E-06	0.34424E-06	0.13372E-11
5	0.47871E-06	0.47871E-06	0.18596E-11
6	0.67610E-06	0.67610E-06	0.26264E-11
7	0.96052E-06	0.96052E-06	0.37312E-11
8	0.13659E-05	0.13659E-05	0.53061E-11
9	0.19397E-05	0.19397E-05	0.75348E-11
10	0.27468E-05	0.27468E-05	0.10670E-10
11	0.38764E-05	0.38764E-05	0.15058E-10
12	0.54492E-05	0.54492E-05	0.21168E-10
13	0.76275E-05	0.76275E-05	0.29630E-10
14	0.10628E-04	0.10628E-04	0.41285E-10
15	0.14736E-04	0.14736E-04	0.57243E-10
16	0.20326E-04	0.20326E-04	0.78958E-10
17	0.27881E-04	0.27881E-04	0.10831E-09
18	0.38018E-04	0.38018E-04	0.14769E-09
19	0.51512E-04	0.51512E-04	0.20010E-09
20	0.69321E-04	0.69321E-04	0.26928E-09
21	0.92602E-04	0.92602E-04	0.35972E-09
22	0.12272E-03	0.12272E-03	0.47673E-09
23	0.16125E-03	0.16125E-03	0.62637E-09
24	0.20989E-03	0.20989E-03	0.81532E-09
25	0.27042E-03	0.27042E-03	0.10505E-08
26	0.34453E-03	0.34453E-03	0.13384E-08
27	0.43356E-03	0.43356E-03	0.16842E-08
28	0.53821E-03	0.53821E-03	0.20907E-08
29	0.65808E-03	0.65808E-03	0.25564E-08
30	0.79118E-03	0.79118E-03	0.30734E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 11.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.25761E-06	0.25761E-06	0.10007E-11
2	0.29184E-06	0.29184E-06	0.11337E-11
3	0.36443E-06	0.36443E-06	0.14157E-11
4	0.48405E-06	0.48405E-06	0.18803E-11
5	0.66480E-06	0.66480E-06	0.25825E-11
6	0.92766E-06	0.92766E-06	0.36036E-11
7	0.13025E-05	0.13025E-05	0.50597E-11
8	0.18309E-05	0.18309E-05	0.71124E-11
9	0.25701E-05	0.25701E-05	0.99838E-11
10	0.35977E-05	0.35977E-05	0.13975E-10
11	0.50182E-05	0.50182E-05	0.19494E-10
12	0.69712E-05	0.69712E-05	0.27080E-10
13	0.96416E-05	0.96416E-05	0.37454E-10
14	0.13272E-04	0.13272E-04	0.51556E-10
15	0.18176E-04	0.18176E-04	0.70606E-10
16	0.24760E-04	0.24760E-04	0.96182E-10
17	0.33534E-04	0.33534E-04	0.13027E-09
18	0.45142E-04	0.45142E-04	0.17536E-09
19	0.60370E-04	0.60370E-04	0.23451E-09
20	0.80172E-04	0.80172E-04	0.31144E-09
21	0.10567E-03	0.10567E-03	0.41049E-09
22	0.13816E-03	0.13816E-03	0.53669E-09
23	0.17906E-03	0.17906E-03	0.69559E-09
24	0.22990E-03	0.22990E-03	0.89305E-09
25	0.29214E-03	0.29214E-03	0.11348E-08
26	0.36711E-03	0.36711E-03	0.14261E-08
27	0.45573E-03	0.45573E-03	0.17703E-08
28	0.55822E-03	0.55822E-03	0.21685E-08
29	0.67381E-03	0.67381E-03	0.26175E-08
30	0.80033E-03	0.80033E-03	0.31090E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 12.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.36188E-06	0.36188E-06	0.14058E-11
2	0.40737E-06	0.40737E-06	0.15825E-11
3	0.50348E-06	0.50348E-06	0.19558E-11
4	0.66093E-06	0.66093E-06	0.25675E-11
5	0.89710E-06	0.89710E-06	0.34849E-11
6	0.12376E-05	0.12376E-05	0.48074E-11
7	0.17184E-05	0.17184E-05	0.66752E-11
8	0.23892E-05	0.23892E-05	0.92812E-11
9	0.33175E-05	0.33175E-05	0.12887E-10
10	0.45935E-05	0.45935E-05	0.17844E-10
11	0.63373E-05	0.63373E-05	0.24618E-10
12	0.87067E-05	0.87067E-05	0.33822E-10

13	0.11908E-04	0.11908E-04	0.46256E-10
14	0.16206E-04	0.16206E-04	0.62954E-10
15	0.21941E-04	0.21941E-04	0.85234E-10
16	0.29543E-04	0.29543E-04	0.11476E-09
17	0.39544E-04	0.39544E-04	0.15361E-09
18	0.52600E-04	0.52600E-04	0.20433E-09
19	0.69502E-04	0.69502E-04	0.26999E-09
20	0.91183E-04	0.91183E-04	0.35421E-09
21	0.11872E-03	0.11872E-03	0.46117E-09
22	0.15331E-03	0.15331E-03	0.59555E-09
23	0.19625E-03	0.19625E-03	0.76235E-09
24	0.24885E-03	0.24885E-03	0.96667E-09
25	0.31233E-03	0.31233E-03	0.12133E-08
26	0.38770E-03	0.38770E-03	0.15061E-08
27	0.47552E-03	0.47552E-03	0.18472E-08
28	0.57571E-03	0.57571E-03	0.22364E-08
29	0.68723E-03	0.68723E-03	0.26696E-08
30	0.80790E-03	0.80790E-03	0.31384E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 13.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.49477E-06	0.49477E-06	0.19220E-11
2	0.56368E-06	0.55368E-06	0.21506E-11
3	0.67773E-06	0.67773E-06	0.26327E-11
4	0.87988E-06	0.87988E-06	0.34180E-11
5	0.11810E-05	0.11810E-05	0.45877E-11
6	0.16115E-05	0.16115E-05	0.62602E-11
7	0.22141E-05	0.22141E-05	0.86009E-11
8	0.30467E-05	0.30467E-05	0.11835E-10
9	0.41871E-05	0.41871E-05	0.16265E-10
10	0.57382E-05	0.57382E-05	0.22291E-10
11	0.78352E-05	0.78352E-05	0.30436E-10
12	0.10653E-04	0.10653E-04	0.41383E-10
13	0.14417E-04	0.14417E-04	0.56005E-10
14	0.19414E-04	0.19414E-04	0.75417E-10
15	0.26005E-04	0.26005E-04	0.10102E-09
16	0.34636E-04	0.34636E-04	0.13455E-09
17	0.45856E-04	0.45856E-04	0.17813E-09
18	0.60326E-04	0.60326E-04	0.23434E-09
19	0.78827E-04	0.78827E-04	0.30621E-09
20	0.10226E-03	0.10226E-03	0.39725E-09
21	0.13165E-03	0.13165E-03	0.51140E-09
22	0.16810E-03	0.16810E-03	0.65298E-09
23	0.21275E-03	0.21275E-03	0.82647E-09
24	0.26675E-03	0.26675E-03	0.10362E-08
25	0.33109E-03	0.33109E-03	0.12862E-08
26	0.40650E-03	0.40650E-03	0.15791E-08
27	0.49329E-03	0.49329E-03	0.19162E-08
28	0.59111E-03	0.59111E-03	0.22962E-08
29	0.69882E-03	0.69882E-03	0.27146E-08
30	0.81429E-03	0.81429E-03	0.31632E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 14.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.66062E-06	0.66062E-06	0.25662E-11
2	0.73522E-06	0.73522E-06	0.28560E-11
3	0.89181E-06	0.89181E-06	0.34643E-11
4	0.11457E-05	0.11457E-05	0.44507E-11
5	0.15216E-05	0.15216E-05	0.59106E-11
6	0.20548E-05	0.20548E-05	0.79822E-11
7	0.27948E-05	0.27948E-05	0.10857E-10
8	0.38081E-05	0.38081E-05	0.14793E-10
9	0.51826E-05	0.51826E-05	0.20132E-10
10	0.70338E-05	0.70338E-05	0.27324E-10
11	0.95110E-05	0.95110E-05	0.36946E-10
12	0.12805E-04	0.12805E-04	0.49744E-10
13	0.17160E-04	0.17160E-04	0.66658E-10
14	0.22878E-04	0.22878E-04	0.88873E-10
15	0.30338E-04	0.30338E-04	0.11785E-09
16	0.40000E-04	0.40000E-04	0.15538E-09
17	0.52420E-04	0.52420E-04	0.20363E-09
18	0.68256E-04	0.68256E-04	0.26515E-09
19	0.88271E-04	0.88271E-04	0.34290E-09
20	0.11333E-03	0.11333E-03	0.44025E-09
21	0.14439E-03	0.14439E-03	0.56090E-09
22	0.18246E-03	0.18246E-03	0.70879E-09
23	0.22856E-03	0.22856E-03	0.88787E-09
24	0.28365E-03	0.28365E-03	0.11019E-08
25	0.34853E-03	0.34853E-03	0.13539E-08
26	0.42372E-03	0.42372E-03	0.16460E-08
27	0.50930E-03	0.50930E-03	0.19784E-08
28	0.60478E-03	0.60478E-03	0.23493E-08
29	0.70895E-03	0.70895E-03	0.27540E-08
30	0.81978E-03	0.81978E-03	0.31845E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 15.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.86382E-06	0.86382E-06	0.33556E-11
2	0.95645E-06	0.95645E-06	0.37154E-11
3	0.11503E-05	0.11503E-05	0.44685E-11
4	0.14632E-05	0.14632E-05	0.56840E-11
5	0.19236E-05	0.19236E-05	0.74722E-11
6	0.25721E-05	0.25721E-05	0.99916E-11
7	0.34650E-05	0.34650E-05	0.13460E-10
8	0.46770E-05	0.46770E-05	0.18168E-10
9	0.63065E-05	0.63065E-05	0.24498E-10
10	0.84806E-05	0.84806E-05	0.32944E-10
11	0.11362E-04	0.11362E-04	0.44137E-10
12	0.15157E-04	0.15157E-04	0.58877E-10
13	0.20122E-04	0.20122E-04	0.78167E-10
14	0.26578E-04	0.26578E-04	0.10324E-09
15	0.34913E-04	0.34913E-04	0.13562E-09
16	0.45597E-04	0.45597E-04	0.17713E-09
17	0.59188E-04	0.59188E-04	0.22992E-09
18	0.76334E-04	0.76334E-04	0.29652E-09
19	0.97774E-04	0.97774E-04	0.37981E-09
20	0.12433E-03	0.12433E-03	0.48298E-09
21	0.15689E-03	0.15689E-03	0.60946E-09
22	0.19637E-03	0.19637E-03	0.76282E-09
23	0.24367E-03	0.24367E-03	0.94654E-09
24	0.29959E-03	0.29959E-03	0.11638E-08
25	0.36476E-03	0.36476E-03	0.14169E-08
26	0.43952E-03	0.43952E-03	0.17073E-08
27	0.52380E-03	0.52380E-03	0.20347E-08
28	0.61700E-03	0.61700E-03	0.23968E-08
29	0.71789E-03	0.71789E-03	0.27887E-08
30	0.82456E-03	0.82456E-03	0.32031E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 16.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11087E-05	0.11087E-05	0.43070E-11
2	0.12218E-05	0.12218E-05	0.47460E-11
3	0.14576E-05	0.14576E-05	0.56624E-11
4	0.18368E-05	0.18368E-05	0.71351E-11
5	0.23914E-05	0.23914E-05	0.92894E-11
6	0.31675E-05	0.31675E-05	0.12304E-10
7	0.42280E-05	0.42280E-05	0.16424E-10
8	0.56560E-05	0.56560E-05	0.21971E-10
9	0.75596E-05	0.75596E-05	0.29366E-10
10	0.10077E-04	0.10077E-04	0.39145E-10
11	0.13384E-04	0.13384E-04	0.51989E-10
12	0.17698E-04	0.17698E-04	0.68748E-10
13	0.23290E-04	0.23290E-04	0.90474E-10
14	0.30492E-04	0.30492E-04	0.11845E-09
15	0.39701E-04	0.39701E-04	0.15422E-09
16	0.51392E-04	0.51392E-04	0.19964E-09
17	0.66116E-04	0.66116E-04	0.25684E-09
18	0.84510E-04	0.84510E-04	0.32829E-09
19	0.10728E-03	0.10728E-03	0.41675E-09
20	0.13521E-03	0.13521E-03	0.52523E-09
21	0.16911E-03	0.16911E-03	0.65692E-09
22	0.20981E-03	0.20981E-03	0.81501E-09
23	0.25808E-03	0.25808E-03	0.10025E-08
24	0.31461E-03	0.31461E-03	0.12221E-08
25	0.37987E-03	0.37987E-03	0.14756E-08
26	0.45406E-03	0.45406E-03	0.17638E-08
27	0.53699E-03	0.53699E-03	0.20860E-08
28	0.62799E-03	0.62799E-03	0.24395E-08
29	0.72584E-03	0.72584E-03	0.28196E-08
30	0.82877E-03	0.82877E-03	0.32194E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 17.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13997E-05	0.13997E-05	0.54373E-11
2	0.15355E-05	0.15355E-05	0.59646E-11
3	0.18181E-05	0.18181E-05	0.70625E-11
4	0.22705E-05	0.22705E-05	0.88201E-11
5	0.29289E-05	0.29289E-05	0.11377E-10
6	0.38445E-05	0.38445E-05	0.14934E-10
7	0.50867E-05	0.50867E-05	0.19760E-10
8	0.67468E-05	0.67468E-05	0.26208E-10
9	0.89419E-05	0.89419E-05	0.34736E-10
10	0.11821E-04	0.11821E-04	0.45919E-10
11	0.15570E-04	0.15570E-04	0.60482E-10
12	0.20419E-04	0.20419E-04	0.79318E-10
13	0.26649E-04	0.26649E-04	0.10352E-09
14	0.34600E-04	0.34600E-04	0.13441E-09
15	0.44676E-04	0.44676E-04	0.17355E-09
16	0.57349E-04	0.57349E-04	0.22278E-09
17	0.73165E-04	0.73165E-04	0.28422E-09
18	0.92740E-04	0.92740E-04	0.36026E-09

19	0.11675E-03	0.11675E-03	0.45353E-09
20	0.14563E-03	0.14563E-03	0.56687E-09
21	0.18102E-03	0.18102E-03	0.70317E-09
22	0.22276E-03	0.22276E-03	0.86532E-09
23	0.27183E-03	0.27183E-03	0.10559E-08
24	0.32878E-03	0.32878E-03	0.12772E-08
25	0.39397E-03	0.39397E-03	0.15304E-08
26	0.46749E-03	0.46749E-03	0.18160E-08
27	0.54905E-03	0.54905E-03	0.21328E-08
28	0.63794E-03	0.63794E-03	0.24781E-08
29	0.73298E-03	0.73298E-03	0.28473E-08
30	0.83252E-03	0.83252E-03	0.32340E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 18.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.17408E-05	0.17408E-05	0.67624E-11
2	0.19016E-05	0.19016E-05	0.73871E-11
3	0.22356E-05	0.22356E-05	0.86845E-11
4	0.27683E-05	0.27683E-05	0.10754E-10
5	0.35396E-05	0.35396E-05	0.13750E-10
6	0.46059E-05	0.46059E-05	0.17892E-10
7	0.60431E-05	0.60431E-05	0.23475E-10
8	0.79498E-05	0.79498E-05	0.30882E-10
9	0.10452E-04	0.10452E-04	0.40602E-10
10	0.13708E-04	0.13708E-04	0.53250E-10
11	0.17914E-04	0.17914E-04	0.69587E-10
12	0.23309E-04	0.23309E-04	0.90544E-10
13	0.30182E-04	0.30182E-04	0.11725E-09
14	0.38881E-04	0.38881E-04	0.15104E-09
15	0.49809E-04	0.49809E-04	0.19349E-09
16	0.63438E-04	0.63438E-04	0.24643E-09
17	0.80300E-04	0.80300E-04	0.31193E-09
18	0.10099E-03	0.10099E-03	0.39230E-09
19	0.12615E-03	0.12615E-03	0.49003E-09
20	0.15646E-03	0.15646E-03	0.60777E-09
21	0.19260E-03	0.19260E-03	0.74816E-09
22	0.23523E-03	0.23523E-03	0.91376E-09
23	0.28493E-03	0.28493E-03	0.11068E-08
24	0.34215E-03	0.34215E-03	0.13291E-08
25	0.40715E-03	0.40715E-03	0.15816E-08
26	0.47992E-03	0.47992E-03	0.18643E-08
27	0.56011E-03	0.56011E-03	0.21758E-08
28	0.64700E-03	0.64700E-03	0.25133E-08
29	0.73943E-03	0.73943E-03	0.28724E-08
30	0.83588E-03	0.83588E-03	0.32471E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 19.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.21361E-05	0.21361E-05	0.82979E-11
2	0.23242E-05	0.23242E-05	0.90286E-11
3	0.27140E-05	0.27140E-05	0.10543E-10
4	0.33336E-05	0.33336E-05	0.12950E-10
5	0.42264E-05	0.42264E-05	0.16418E-10
6	0.54540E-05	0.54540E-05	0.21187E-10
7	0.70983E-05	0.70983E-05	0.27574E-10
8	0.92650E-05	0.92650E-05	0.35991E-10
9	0.12088E-04	0.12088E-04	0.46957E-10
10	0.15734E-04	0.15734E-04	0.61121E-10
11	0.20408E-04	0.20408E-04	0.79275E-10
12	0.26356E-04	0.26356E-04	0.10238E-09
13	0.33875E-04	0.33875E-04	0.13159E-09
14	0.43314E-04	0.43314E-04	0.16826E-09
15	0.55078E-04	0.55078E-04	0.21395E-09
16	0.69629E-04	0.69629E-04	0.27048E-09
17	0.87488E-04	0.87488E-04	0.33986E-09
18	0.10922E-03	0.10922E-03	0.42429E-09
19	0.13544E-03	0.13544E-03	0.52614E-09
20	0.16677E-03	0.16677E-03	0.64784E-09
21	0.20384E-03	0.20384E-03	0.79183E-09
22	0.24722E-03	0.24722E-03	0.96035E-09
23	0.29741E-03	0.29741E-03	0.11553E-08
24	0.35478E-03	0.35478E-03	0.13782E-08
25	0.41950E-03	0.41950E-03	0.16296E-08
26	0.49147E-03	0.49147E-03	0.19091E-08
27	0.57031E-03	0.57031E-03	0.22154E-08
28	0.65528E-03	0.65528E-03	0.25455E-08
29	0.74530E-03	0.74530E-03	0.28952E-08
30	0.83893E-03	0.83893E-03	0.32589E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 20.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.25893E-05	0.25893E-05	0.10058E-10
2	0.28068E-05	0.28068E-05	0.10903E-10
3	0.32567E-05	0.32567E-05	0.12651E-10
4	0.39694E-05	0.39694E-05	0.15419E-10

5	0.49920E-05	0.49920E-05	0.19392E-10
6	0.63906E-05	0.63906E-05	0.24825E-10
7	0.82529E-05	0.82529E-05	0.32059E-10
8	0.10691E-04	0.10691E-04	0.41531E-10
9	0.13847E-04	0.13847E-04	0.53789E-10
10	0.17894E-04	0.17894E-04	0.69509E-10
11	0.23043E-04	0.23043E-04	0.89512E-10
12	0.29549E-04	0.29549E-04	0.11478E-09
13	0.37711E-04	0.37711E-04	0.14649E-09
14	0.47880E-04	0.47880E-04	0.18599E-09
15	0.60458E-04	0.60458E-04	0.23485E-09
16	0.75898E-04	0.75898E-04	0.29483E-09
17	0.94703E-04	0.94703E-04	0.36788E-09
18	0.11742E-03	0.11742E-03	0.45611E-09
19	0.14461E-03	0.14461E-03	0.56174E-09
20	0.17686E-03	0.17686E-03	0.68703E-09
21	0.21474E-03	0.21474E-03	0.83416E-09
22	0.25875E-03	0.25875E-03	0.10051E-08
23	0.30932E-03	0.30932E-03	0.12016E-08
24	0.36673E-03	0.36673E-03	0.14246E-08
25	0.43107E-03	0.43107E-03	0.16745E-08
26	0.50222E-03	0.50222E-03	0.19509E-08
27	0.57973E-03	0.57973E-03	0.22520E-08
28	0.66290E-03	0.66290E-03	0.25751E-08
29	0.75067E-03	0.75067E-03	0.29160E-08
30	0.84171E-03	0.84171E-03	0.32697E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 21.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.31038E-05	0.31038E-05	0.12057E-10
2	0.33528E-05	0.33528E-05	0.13024E-10
3	0.38667E-05	0.38667E-05	0.15021E-10
4	0.46783E-05	0.46783E-05	0.18173E-10
5	0.58382E-05	0.58382E-05	0.22679E-10
6	0.74168E-05	0.74168E-05	0.28811E-10
7	0.95070E-05	0.95070E-05	0.36931E-10
8	0.12227E-04	0.12227E-04	0.47498E-10
9	0.15725E-04	0.15725E-04	0.61065E-10
10	0.20180E-04	0.20180E-04	0.78383E-10
11	0.25811E-04	0.25811E-04	0.10027E-09
12	0.32875E-04	0.32875E-04	0.12771E-09
13	0.41675E-04	0.41675E-04	0.16189E-09
14	0.52561E-04	0.52561E-04	0.20418E-09
15	0.65928E-04	0.65928E-04	0.25610E-09
16	0.82220E-04	0.82220E-04	0.31939E-09
17	0.10192E-03	0.10192E-03	0.39592E-09
18	0.12555E-03	0.12555E-03	0.48769E-09
19	0.15363E-03	0.15363E-03	0.59679E-09
20	0.18671E-03	0.18671E-03	0.72529E-09
21	0.22529E-03	0.22529E-03	0.87517E-09
22	0.26983E-03	0.26983E-03	0.10482E-08
23	0.32067E-03	0.32067E-03	0.12457E-08
24	0.37803E-03	0.37803E-03	0.14685E-08
25	0.44196E-03	0.44196E-03	0.17168E-08
26	0.51225E-03	0.51225E-03	0.19899E-08
27	0.58848E-03	0.58848E-03	0.22860E-08
28	0.66993E-03	0.66993E-03	0.26024E-08
29	0.75560E-03	0.75560E-03	0.29352E-08
30	0.84425E-03	0.84425E-03	0.32796E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 22.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.36828E-05	0.36828E-05	0.14306E-10
2	0.39651E-05	0.39651E-05	0.15403E-10
3	0.45468E-05	0.45468E-05	0.17663E-10
4	0.54628E-05	0.54628E-05	0.21221E-10
5	0.67667E-05	0.67667E-05	0.26286E-10
6	0.85332E-05	0.85332E-05	0.33148E-10
7	0.10660E-04	0.10660E-04	0.42186E-10
8	0.13870E-04	0.13870E-04	0.53881E-10
9	0.17718E-04	0.17718E-04	0.68827E-10
10	0.22588E-04	0.22588E-04	0.87746E-10
11	0.28703E-04	0.28703E-04	0.11150E-09
12	0.36324E-04	0.36324E-04	0.14110E-09
13	0.45753E-04	0.45753E-04	0.17773E-09
14	0.57339E-04	0.57339E-04	0.22274E-09
15	0.71469E-04	0.71469E-04	0.27763E-09
16	0.88575E-04	0.88575E-04	0.34408E-09
17	0.10912E-03	0.10912E-03	0.42389E-09
18	0.13359E-03	0.13359E-03	0.51895E-09
19	0.16249E-03	0.16249E-03	0.63122E-09
20	0.19631E-03	0.19631E-03	0.76260E-09
21	0.23551E-03	0.23551E-03	0.91486E-09
22	0.28047E-03	0.28047E-03	0.10895E-08
23	0.33150E-03	0.33150E-03	0.12877E-08
24	0.38875E-03	0.38875E-03	0.15101E-08

25	0.45220E-03	0.45220E-03	0.17566E-08
26	0.52165E-03	0.52165E-03	0.20264E-08
27	0.59662E-03	0.59662E-03	0.23176E-08
28	0.67644E-03	0.67644E-03	0.26277E-08
29	0.76015E-03	0.76015E-03	0.29529E-08
30	0.84660E-03	0.84660E-03	0.32887E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 23.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.43292E-05	0.43292E-05	0.16817E-10
2	0.46466E-05	0.46466E-05	0.18050E-10
3	0.52994E-05	0.52994E-05	0.20586E-10
4	0.63246E-05	0.63246E-05	0.24568E-10
5	0.77786E-05	0.77786E-05	0.30217E-10
6	0.97399E-05	0.97399E-05	0.37836E-10
7	0.12310E-04	0.12310E-04	0.47821E-10
8	0.15619E-04	0.15619E-04	0.60672E-10
9	0.19822E-04	0.19822E-04	0.77000E-10
10	0.25111E-04	0.25111E-04	0.97545E-10
11	0.31710E-04	0.31710E-04	0.12318E-09
12	0.39883E-04	0.39883E-04	0.15493E-09
13	0.49931E-04	0.49931E-04	0.19396E-09
14	0.62198E-04	0.62198E-04	0.24161E-09
15	0.77063E-04	0.77063E-04	0.29936E-09
16	0.94944E-04	0.94944E-04	0.36882E-09
17	0.11628E-03	0.11628E-03	0.45171E-09
18	0.14154E-03	0.14154E-03	0.54984E-09
19	0.17119E-03	0.17119E-03	0.66500E-09
20	0.20567E-03	0.20567E-03	0.79894E-09
21	0.24539E-03	0.24539E-03	0.95325E-09
22	0.29070E-03	0.29070E-03	0.11293E-08
23	0.34184E-03	0.34184E-03	0.13279E-08
24	0.39891E-03	0.39891E-03	0.15496E-08
25	0.46187E-03	0.46187E-03	0.17942E-08
26	0.53046E-03	0.53046E-03	0.20606E-08
27	0.60423E-03	0.60423E-03	0.23472E-08
28	0.68250E-03	0.68250E-03	0.26512E-08
29	0.76437E-03	0.76437E-03	0.29693E-08
30	0.84876E-03	0.84876E-03	0.32971E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 24.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.50456E-05	0.50456E-05	0.19600E-10
2	0.53995E-05	0.53995E-05	0.20975E-10
3	0.61265E-05	0.61265E-05	0.23799E-10
4	0.72651E-05	0.72651E-05	0.28222E-10
5	0.88747E-05	0.88747E-05	0.34475E-10
6	0.11037E-04	0.11037E-04	0.42873E-10
7	0.13857E-04	0.13857E-04	0.53830E-10
8	0.17468E-04	0.17468E-04	0.67857E-10
9	0.22032E-04	0.22032E-04	0.85584E-10
10	0.27741E-04	0.27741E-04	0.10776E-09
11	0.34823E-04	0.34823E-04	0.13527E-09
12	0.43541E-04	0.43541E-04	0.16914E-09
13	0.54195E-04	0.54195E-04	0.21053E-09
14	0.67123E-04	0.67123E-04	0.26075E-09
15	0.82695E-04	0.82695E-04	0.32124E-09
16	0.10131E-03	0.10131E-03	0.39355E-09
17	0.12340E-03	0.12340E-03	0.47935E-09
18	0.14938E-03	0.14938E-03	0.58030E-09
19	0.17971E-03	0.17971E-03	0.69809E-09
20	0.21478E-03	0.21478E-03	0.83431E-09
21	0.25495E-03	0.25495E-03	0.99038E-09
22	0.30053E-03	0.30053E-03	0.11675E-08
23	0.35172E-03	0.35172E-03	0.13663E-08
24	0.40857E-03	0.40857E-03	0.15871E-08
25	0.47100E-03	0.47100E-03	0.18296E-08
26	0.53875E-03	0.53875E-03	0.20928E-08
27	0.61135E-03	0.61135E-03	0.23748E-08
28	0.68815E-03	0.68815E-03	0.26732E-08
29	0.76829E-03	0.76829E-03	0.29845E-08
30	0.85078E-03	0.85078E-03	0.33049E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 25.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.58340E-05	0.58340E-05	0.22663E-10
2	0.62259E-05	0.62259E-05	0.24185E-10
3	0.70297E-05	0.70297E-05	0.27306E-10
4	0.82856E-05	0.82856E-05	0.32186E-10
5	0.10055E-04	0.10055E-04	0.39061E-10
6	0.12423E-04	0.12423E-04	0.48259E-10
7	0.15498E-04	0.15498E-04	0.60205E-10
8	0.19417E-04	0.19417E-04	0.75425E-10
9	0.24343E-04	0.24343E-04	0.94561E-10
10	0.30472E-04	0.30472E-04	0.11837E-09

11	0.38033E-04	0.38033E-04	0.14774E-09
12	0.47288E-04	0.47288E-04	0.18369E-09
13	0.58534E-04	0.58534E-04	0.22738E-09
14	0.72101E-04	0.72101E-04	0.28008E-09
15	0.88349E-04	0.88349E-04	0.34320E-09
16	0.10766E-03	0.10766E-03	0.41823E-09
17	0.13045E-03	0.13045E-03	0.50673E-09
18	0.15711E-03	0.15711E-03	0.61030E-09
19	0.18805E-03	0.18805E-03	0.73048E-09
20	0.22363E-03	0.22363E-03	0.86872E-09
21	0.26420E-03	0.26420E-03	0.10263E-08
22	0.30999E-03	0.30999E-03	0.12042E-08
23	0.36116E-03	0.36116E-03	0.14030E-08
24	0.41775E-03	0.41775E-03	0.16228E-08
25	0.47964E-03	0.47964E-03	0.18632E-08
26	0.54656E-03	0.54656E-03	0.21232E-08
27	0.61803E-03	0.61803E-03	0.24008E-08
28	0.69344E-03	0.69344E-03	0.26937E-08
29	0.77196E-03	0.77196E-03	0.29987E-08
30	0.85265E-03	0.85265E-03	0.33122E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 26.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.66964E-05	0.66964E-05	0.26013E-10
2	0.71275E-05	0.71275E-05	0.27687E-10
3	0.80104E-05	0.80104E-05	0.31117E-10
4	0.93867E-05	0.93867E-05	0.36464E-10
5	0.11320E-04	0.11320E-04	0.43975E-10
6	0.13898E-04	0.13898E-04	0.53988E-10
7	0.17232E-04	0.17232E-04	0.66938E-10
8	0.21460E-04	0.21460E-04	0.83362E-10
9	0.26749E-04	0.26749E-04	0.10391E-09
10	0.33297E-04	0.33297E-04	0.12934E-09
11	0.41331E-04	0.41331E-04	0.16056E-09
12	0.51113E-04	0.51113E-04	0.19855E-09
13	0.62935E-04	0.62935E-04	0.24448E-09
14	0.77119E-04	0.77119E-04	0.29958E-09
15	0.94014E-04	0.94014E-04	0.36520E-09
16	0.11399E-03	0.11399E-03	0.44280E-09
17	0.13742E-03	0.13742E-03	0.53384E-09
18	0.16470E-03	0.16470E-03	0.63981E-09
19	0.19620E-03	0.19620E-03	0.76215E-09
20	0.23225E-03	0.23225E-03	0.90218E-09
21	0.27313E-03	0.27313E-03	0.10610E-08
22	0.31908E-03	0.31908E-03	0.12395E-08
23	0.37020E-03	0.37020E-03	0.14381E-08
24	0.42650E-03	0.42650E-03	0.16568E-08
25	0.48784E-03	0.48784E-03	0.18951E-08
26	0.55393E-03	0.55393E-03	0.21518E-08
27	0.62432E-03	0.62432E-03	0.24252E-08
28	0.69840E-03	0.69840E-03	0.27130E-08
29	0.77539E-03	0.77539E-03	0.30121E-08
30	0.85441E-03	0.85441E-03	0.33190E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 27.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.76342E-05	0.76342E-05	0.29656E-10
2	0.81055E-05	0.81055E-05	0.31487E-10
3	0.90694E-05	0.90694E-05	0.35231E-10
4	0.10569E-04	0.10569E-04	0.41056E-10
5	0.12669E-04	0.12669E-04	0.49215E-10
6	0.15460E-04	0.15460E-04	0.60056E-10
7	0.19055E-04	0.19055E-04	0.74020E-10
8	0.23594E-04	0.23594E-04	0.91653E-10
9	0.29246E-04	0.29246E-04	0.11361E-09
10	0.36209E-04	0.36209E-04	0.14066E-09
11	0.44711E-04	0.44711E-04	0.17368E-09
12	0.55008E-04	0.55008E-04	0.21368E-09
13	0.67389E-04	0.67389E-04	0.26178E-09
14	0.82166E-04	0.82166E-04	0.31918E-09
15	0.99677E-04	0.99677E-04	0.38720E-09
16	0.12027E-03	0.12027E-03	0.46722E-09
17	0.14432E-03	0.14432E-03	0.56062E-09
18	0.17217E-03	0.17217E-03	0.66881E-09
19	0.20417E-03	0.20417E-03	0.79311E-09
20	0.24062E-03	0.24062E-03	0.93471E-09
21	0.28178E-03	0.28178E-03	0.10946E-08
22	0.32783E-03	0.32783E-03	0.12735E-08
23	0.37886E-03	0.37886E-03	0.14717E-08
24	0.43484E-03	0.43484E-03	0.16892E-08
25	0.49562E-03	0.49562E-03	0.19253E-08
26	0.56091E-03	0.56091E-03	0.21789E-08
27	0.63026E-03	0.63026E-03	0.24483E-08
28	0.70307E-03	0.70307E-03	0.27311E-08
29	0.77861E-03	0.77861E-03	0.30246E-08
30	0.85605E-03	0.85605E-03	0.33254E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 28.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.86487E-05	0.86487E-05	0.33597E-10
2	0.91610E-05	0.91610E-05	0.35587E-10
3	0.10208E-04	0.10208E-04	0.39652E-10
4	0.11832E-04	0.11832E-04	0.45963E-10
5	0.14102E-04	0.14102E-04	0.54781E-10
6	0.17108E-04	0.17108E-04	0.66456E-10
7	0.20965E-04	0.20965E-04	0.81440E-10
8	0.25816E-04	0.25816E-04	0.10028E-09
9	0.31829E-04	0.31829E-04	0.12364E-09
10	0.39203E-04	0.39203E-04	0.15229E-09
11	0.48163E-04	0.48163E-04	0.18709E-09
12	0.58963E-04	0.58963E-04	0.22905E-09
13	0.71885E-04	0.71885E-04	0.27924E-09
14	0.87232E-04	0.87232E-04	0.33886E-09
15	0.10533E-03	0.10533E-03	0.40916E-09
16	0.12651E-03	0.12651E-03	0.49146E-09
17	0.15113E-03	0.15113E-03	0.58707E-09
18	0.17950E-03	0.17950E-03	0.69729E-09
19	0.21195E-03	0.21195E-03	0.82335E-09
20	0.24876E-03	0.24876E-03	0.96632E-09
21	0.29014E-03	0.29014E-03	0.11271E-08
22	0.33625E-03	0.33625E-03	0.13062E-08
23	0.38715E-03	0.38715E-03	0.15039E-08
24	0.44280E-03	0.44280E-03	0.17201E-08
25	0.50303E-03	0.50303E-03	0.19541E-08
26	0.56753E-03	0.56753E-03	0.22046E-08
27	0.63587E-03	0.63587E-03	0.24701E-08
28	0.70747E-03	0.70747E-03	0.27482E-08
29	0.78165E-03	0.78165E-03	0.30364E-08
30	0.85760E-03	0.85760E-03	0.33314E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 29.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.97407E-05	0.97407E-05	0.37839E-10
2	0.10295E-04	0.10295E-04	0.39991E-10
3	0.11425E-04	0.11425E-04	0.44381E-10
4	0.13176E-04	0.13176E-04	0.51185E-10
5	0.15617E-04	0.15617E-04	0.60666E-10
6	0.18839E-04	0.18839E-04	0.73183E-10
7	0.22959E-04	0.22959E-04	0.89188E-10
8	0.28121E-04	0.28121E-04	0.10924E-09
9	0.34492E-04	0.34492E-04	0.13399E-09
10	0.42271E-04	0.42271E-04	0.16421E-09
11	0.51680E-04	0.51680E-04	0.20076E-09
12	0.62970E-04	0.62970E-04	0.24461E-09
13	0.76414E-04	0.76414E-04	0.29684E-09
14	0.92308E-04	0.92308E-04	0.35858E-09
15	0.11096E-03	0.11096E-03	0.43105E-09
16	0.13270E-03	0.13270E-03	0.51548E-09
17	0.15784E-03	0.15784E-03	0.61314E-09
18	0.18670E-03	0.18670E-03	0.72524E-09
19	0.21955E-03	0.21955E-03	0.85288E-09
20	0.25667E-03	0.25667E-03	0.99704E-09
21	0.29823E-03	0.29823E-03	0.11585E-08
22	0.34436E-03	0.34436E-03	0.13377E-08
23	0.39511E-03	0.39511E-03	0.15349E-08
24	0.45041E-03	0.45041E-03	0.17497E-08
25	0.51008E-03	0.51008E-03	0.19814E-08
26	0.57381E-03	0.57381E-03	0.22290E-08
27	0.64118E-03	0.64118E-03	0.24907E-08
28	0.71163E-03	0.71163E-03	0.27644E-08
29	0.78451E-03	0.78451E-03	0.30475E-08
30	0.85906E-03	0.85906E-03	0.33371E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 30.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.10911E-04	0.10911E-04	0.42384E-10
2	0.11507E-04	0.11507E-04	0.44700E-10
3	0.12722E-04	0.12722E-04	0.49419E-10
4	0.14601E-04	0.14601E-04	0.56720E-10
5	0.17214E-04	0.17214E-04	0.66869E-10
6	0.20653E-04	0.20653E-04	0.80227E-10
7	0.25035E-04	0.25035E-04	0.97252E-10
8	0.30505E-04	0.30505E-04	0.11850E-09
9	0.37231E-04	0.37231E-04	0.14463E-09
10	0.45408E-04	0.45408E-04	0.17639E-09
11	0.55256E-04	0.55256E-04	0.21465E-09
12	0.67021E-04	0.67021E-04	0.26035E-09
13	0.80969E-04	0.80969E-04	0.31453E-09
14	0.97385E-04	0.97385E-04	0.37830E-09
15	0.11657E-03	0.11657E-03	0.45282E-09
16	0.13882E-03	0.13882E-03	0.53928E-09

17	0.16446E-03	0.16446E-03	0.63884E-09
18	0.19375E-03	0.19375E-03	0.75264E-09
19	0.22697E-03	0.22697E-03	0.88170E-09
20	0.26435E-03	0.26435E-03	0.10269E-08
21	0.30605E-03	0.30605E-03	0.11889E-08
22	0.35218E-03	0.35218E-03	0.13681E-08
23	0.40276E-03	0.40276E-03	0.15645E-08
24	0.45769E-03	0.45769E-03	0.17780E-08
25	0.51680E-03	0.51680E-03	0.20076E-08
26	0.57979E-03	0.57979E-03	0.22522E-08
27	0.64622E-03	0.64622E-03	0.25103E-08
28	0.71557E-03	0.71557E-03	0.27797E-08
29	0.78722E-03	0.78722E-03	0.30580E-08
30	0.86044E-03	0.86044E-03	0.33425E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 31.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12159E-04	0.12159E-04	0.47234E-10
2	0.12798E-04	0.12798E-04	0.49714E-10
3	0.14098E-04	0.14098E-04	0.54765E-10
4	0.16106E-04	0.16106E-04	0.62564E-10
5	0.18890E-04	0.18890E-04	0.73382E-10
6	0.22546E-04	0.22546E-04	0.87582E-10
7	0.27190E-04	0.27190E-04	0.10562E-09
8	0.32965E-04	0.32965E-04	0.12806E-09
9	0.40040E-04	0.40040E-04	0.15554E-09
10	0.48607E-04	0.48607E-04	0.18882E-09
11	0.58884E-04	0.58884E-04	0.22874E-09
12	0.71109E-04	0.71109E-04	0.27623E-09
13	0.85542E-04	0.85542E-04	0.33229E-09
14	0.10246E-03	0.10246E-03	0.39801E-09
15	0.12214E-03	0.12214E-03	0.47447E-09
16	0.14488E-03	0.14488E-03	0.56282E-09
17	0.17097E-03	0.17097E-03	0.66415E-09
18	0.20067E-03	0.20067E-03	0.77951E-09
19	0.23422E-03	0.23422E-03	0.90983E-09
20	0.27182E-03	0.27182E-03	0.10559E-08
21	0.31363E-03	0.31363E-03	0.12183E-08
22	0.35973E-03	0.35973E-03	0.13974E-08
23	0.41010E-03	0.41010E-03	0.15931E-08
24	0.46467E-03	0.46467E-03	0.18050E-08
25	0.52323E-03	0.52323E-03	0.20325E-08
26	0.58548E-03	0.58548E-03	0.22743E-08
27	0.65101E-03	0.65101E-03	0.25289E-08
28	0.71931E-03	0.71931E-03	0.27942E-08
29	0.78978E-03	0.78978E-03	0.30680E-08
30	0.86174E-03	0.86174E-03	0.33475E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 32.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13486E-04	0.13486E-04	0.52387E-10
2	0.14167E-04	0.14167E-04	0.55034E-10
3	0.15553E-04	0.15553E-04	0.60416E-10
4	0.17689E-04	0.17689E-04	0.68714E-10
5	0.20646E-04	0.20646E-04	0.80200E-10
6	0.24517E-04	0.24517E-04	0.95237E-10
7	0.29420E-04	0.29420E-04	0.11428E-09
8	0.35497E-04	0.35497E-04	0.13789E-09
9	0.42915E-04	0.42915E-04	0.16671E-09
10	0.51864E-04	0.51864E-04	0.20147E-09
11	0.62557E-04	0.62557E-04	0.24301E-09
12	0.75227E-04	0.75227E-04	0.29223E-09
13	0.90126E-04	0.90126E-04	0.35010E-09
14	0.10752E-03	0.10752E-03	0.41766E-09
15	0.12768E-03	0.12768E-03	0.49597E-09
16	0.15087E-03	0.15087E-03	0.58609E-09
17	0.17738E-03	0.17738E-03	0.68905E-09
18	0.20744E-03	0.20744E-03	0.80583E-09
19	0.24128E-03	0.24128E-03	0.93729E-09
20	0.27908E-03	0.27908E-03	0.10841E-08
21	0.32097E-03	0.32097E-03	0.12468E-08
22	0.36700E-03	0.36700E-03	0.14257E-08
23	0.41717E-03	0.41717E-03	0.16205E-08
24	0.47136E-03	0.47136E-03	0.18310E-08
25	0.52937E-03	0.52937E-03	0.20564E-08
26	0.59091E-03	0.59091E-03	0.22954E-08
27	0.65557E-03	0.65557E-03	0.25466E-08
28	0.72287E-03	0.72287E-03	0.28081E-08
29	0.79222E-03	0.79222E-03	0.30775E-08
30	0.86298E-03	0.86298E-03	0.33523E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 33.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.14891E-04	0.14891E-04	0.57844E-10
2	0.15615E-04	0.15615E-04	0.60656E-10

3	0.17085E-04	0.17085E-04	0.66370E-10
4	0.19350E-04	0.19350E-04	0.75166E-10
5	0.22478E-04	0.22478E-04	0.87317E-10
6	0.26563E-04	0.26563E-04	0.10319E-09
7	0.31722E-04	0.31722E-04	0.12323E-09
8	0.38097E-04	0.38097E-04	0.14799E-09
9	0.45852E-04	0.45852E-04	0.17812E-09
10	0.55174E-04	0.55174E-04	0.21433E-09
11	0.66271E-04	0.66271E-04	0.25743E-09
12	0.79370E-04	0.79370E-04	0.30832E-09
13	0.94716E-04	0.94716E-04	0.36793E-09
14	0.11256E-03	0.11256E-03	0.43725E-09
15	0.13317E-03	0.13317E-03	0.51730E-09
16	0.15679E-03	0.15679E-03	0.60907E-09
17	0.18369E-03	0.18369E-03	0.71355E-09
18	0.21408E-03	0.21408E-03	0.83162E-09
19	0.24818E-03	0.24818E-03	0.96408E-09
20	0.28614E-03	0.28614E-03	0.11116E-08
21	0.32808E-03	0.32808E-03	0.12745E-08
22	0.37403E-03	0.37403E-03	0.14530E-08
23	0.42397E-03	0.42397E-03	0.16469E-08
24	0.47778E-03	0.47778E-03	0.18560E-08
25	0.53525E-03	0.53525E-03	0.20792E-08
26	0.59610E-03	0.59610E-03	0.23156E-08
27	0.65992E-03	0.65992E-03	0.25635E-08
28	0.72625E-03	0.72625E-03	0.28212E-08
29	0.79454E-03	0.79454E-03	0.30864E-08
30	0.86416E-03	0.86416E-03	0.33569E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 34.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.16373E-04	0.16373E-04	0.63603E-10
2	0.17139E-04	0.17139E-04	0.66580E-10
3	0.18695E-04	0.18695E-04	0.72624E-10
4	0.21087E-04	0.21087E-04	0.81915E-10
5	0.24385E-04	0.24385E-04	0.94725E-10
6	0.28682E-04	0.28682E-04	0.11142E-09
7	0.34094E-04	0.34094E-04	0.13244E-09
8	0.40761E-04	0.40761E-04	0.15834E-09
9	0.48845E-04	0.48845E-04	0.18974E-09
10	0.58530E-04	0.58530E-04	0.22737E-09
11	0.70019E-04	0.70019E-04	0.27199E-09
12	0.83532E-04	0.83532E-04	0.32449E-09
13	0.99305E-04	0.99305E-04	0.38576E-09
14	0.11758E-03	0.11758E-03	0.45675E-09
15	0.13861E-03	0.13861E-03	0.53844E-09
16	0.16263E-03	0.16263E-03	0.63178E-09
17	0.18989E-03	0.18989E-03	0.73763E-09
18	0.22059E-03	0.22059E-03	0.85688E-09
19	0.25491E-03	0.25491E-03	0.99023E-09
20	0.29301E-03	0.29301E-03	0.11382E-08
21	0.33497E-03	0.33497E-03	0.13012E-08
22	0.38082E-03	0.38082E-03	0.14793E-08
23	0.43052E-03	0.43052E-03	0.16724E-08
24	0.48394E-03	0.48394E-03	0.18799E-08
25	0.54089E-03	0.54089E-03	0.21011E-08
26	0.60106E-03	0.60106E-03	0.23349E-08
27	0.66408E-03	0.66408E-03	0.25797E-08
28	0.72948E-03	0.72948E-03	0.28337E-08
29	0.79674E-03	0.79674E-03	0.30950E-08
30	0.86528E-03	0.86528E-03	0.33613E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 35.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.17932E-04	0.17932E-04	0.69659E-10
2	0.18741E-04	0.18741E-04	0.72800E-10
3	0.20381E-04	0.20381E-04	0.79172E-10
4	0.22899E-04	0.22899E-04	0.88955E-10
5	0.26365E-04	0.26365E-04	0.10242E-09
6	0.30871E-04	0.30871E-04	0.11992E-09
7	0.36531E-04	0.36531E-04	0.14191E-09
8	0.43485E-04	0.43485E-04	0.16892E-09
9	0.51891E-04	0.51891E-04	0.20158E-09
10	0.61929E-04	0.61929E-04	0.24057E-09
11	0.73797E-04	0.73797E-04	0.28667E-09
12	0.87708E-04	0.87708E-04	0.34071E-09
13	0.10389E-03	0.10389E-03	0.40357E-09
14	0.12258E-03	0.12258E-03	0.47616E-09
15	0.14400E-03	0.14400E-03	0.55938E-09
16	0.16840E-03	0.16840E-03	0.65415E-09
17	0.19598E-03	0.19598E-03	0.76131E-09
18	0.22695E-03	0.22695E-03	0.88162E-09
19	0.26148E-03	0.26148E-03	0.10157E-08
20	0.29969E-03	0.29969E-03	0.11642E-08
21	0.34165E-03	0.34165E-03	0.13272E-08
22	0.38738E-03	0.38738E-03	0.15048E-08

23	0.43684E-03	0.43684E-03	0.16969E-08
24	0.48988E-03	0.48988E-03	0.19030E-08
25	0.54630E-03	0.54630E-03	0.21221E-08
26	0.60581E-03	0.60581E-03	0.23533E-08
27	0.66805E-03	0.66805E-03	0.25951E-08
28	0.73256E-03	0.73256E-03	0.28457E-08
29	0.79885E-03	0.79885E-03	0.31032E-08
30	0.86635E-03	0.86635E-03	0.33654E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 36.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.19567E-04	0.19567E-04	0.76011E-10
2	0.20418E-04	0.20418E-04	0.79315E-10
3	0.22142E-04	0.22142E-04	0.86011E-10
4	0.24785E-04	0.24785E-04	0.96279E-10
5	0.28416E-04	0.28416E-04	0.11039E-09
6	0.33128E-04	0.33128E-04	0.12869E-09
7	0.39033E-04	0.39033E-04	0.15163E-09
8	0.46267E-04	0.46267E-04	0.17973E-09
9	0.54966E-04	0.54966E-04	0.21360E-09
10	0.65366E-04	0.65366E-04	0.25392E-09
11	0.77600E-04	0.77600E-04	0.30144E-09
12	0.91894E-04	0.91894E-04	0.35697E-09
13	0.10847E-03	0.10847E-03	0.42135E-09
14	0.12754E-03	0.12754E-03	0.49544E-09
15	0.14934E-03	0.14934E-03	0.58012E-09
16	0.17408E-03	0.17408E-03	0.67623E-09
17	0.20197E-03	0.20197E-03	0.78458E-09
18	0.23319E-03	0.23319E-03	0.90585E-09
19	0.26789E-03	0.26789E-03	0.10407E-08
20	0.30619E-03	0.30619E-03	0.11894E-08
21	0.34813E-03	0.34813E-03	0.13523E-08
22	0.39373E-03	0.39373E-03	0.15295E-08
23	0.44293E-03	0.44293E-03	0.17206E-08
24	0.49559E-03	0.49559E-03	0.19252E-08
25	0.55149E-03	0.55149E-03	0.21423E-08
26	0.61037E-03	0.61037E-03	0.23710E-08
27	0.67185E-03	0.67185E-03	0.26099E-08
28	0.73551E-03	0.73551E-03	0.28572E-08
29	0.80086E-03	0.80086E-03	0.31110E-08
30	0.86737E-03	0.86737E-03	0.33694E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 37.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.21277E-04	0.21277E-04	0.82653E-10
2	0.22169E-04	0.22169E-04	0.86118E-10
3	0.23975E-04	0.23975E-04	0.93135E-10
4	0.26742E-04	0.26742E-04	0.10388E-09
5	0.30537E-04	0.30537E-04	0.11862E-09
6	0.35450E-04	0.35450E-04	0.13771E-09
7	0.41594E-04	0.41594E-04	0.16158E-09
8	0.49102E-04	0.49102E-04	0.19074E-09
9	0.58126E-04	0.58126E-04	0.22579E-09
10	0.68838E-04	0.68838E-04	0.26741E-09
11	0.81424E-04	0.81424E-04	0.31630E-09
12	0.96085E-04	0.96085E-04	0.37325E-09
13	0.11303E-03	0.11303E-03	0.43907E-09
14	0.13247E-03	0.13247E-03	0.51459E-09
15	0.15462E-03	0.15462E-03	0.60064E-09
16	0.17969E-03	0.17969E-03	0.69801E-09
17	0.20786E-03	0.20786E-03	0.80744E-09
18	0.23930E-03	0.23930E-03	0.92958E-09
19	0.27415E-03	0.27415E-03	0.10650E-08
20	0.31251E-03	0.31251E-03	0.12140E-08
21	0.35442E-03	0.35442E-03	0.13768E-08
22	0.39988E-03	0.39988E-03	0.15534E-08
23	0.44882E-03	0.44882E-03	0.17435E-08
24	0.50109E-03	0.50109E-03	0.19465E-08
25	0.55649E-03	0.55649E-03	0.21617E-08
26	0.61474E-03	0.61474E-03	0.23880E-08
27	0.67549E-03	0.67549E-03	0.26240E-08
28	0.73833E-03	0.73833E-03	0.28681E-08
29	0.80279E-03	0.80279E-03	0.31185E-08
30	0.86834E-03	0.86834E-03	0.33732E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 38.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.23061E-04	0.23061E-04	0.89582E-10
2	0.23993E-04	0.23993E-04	0.93204E-10
3	0.25881E-04	0.25881E-04	0.10054E-09
4	0.28769E-04	0.28769E-04	0.11175E-09
5	0.32724E-04	0.32724E-04	0.12712E-09
6	0.37835E-04	0.37835E-04	0.14697E-09
7	0.44213E-04	0.44213E-04	0.17175E-09
8	0.51987E-04	0.51987E-04	0.20195E-09

9	0.61307E-04	0.61307E-04	0.23815E-09
10	0.72339E-04	0.72339E-04	0.28101E-09
11	0.85265E-04	0.85265E-04	0.33122E-09
12	0.10028E-03	0.10028E-03	0.38954E-09
13	0.11758E-03	0.11758E-03	0.45674E-09
14	0.13737E-03	0.13737E-03	0.53361E-09
15	0.15985E-03	0.15985E-03	0.62094E-09
16	0.18521E-03	0.18521E-03	0.71947E-09
17	0.21364E-03	0.21364E-03	0.82990E-09
18	0.24528E-03	0.24528E-03	0.95281E-09
19	0.28026E-03	0.28026E-03	0.10887E-08
20	0.31866E-03	0.31866E-03	0.12379E-08
21	0.36053E-03	0.36053E-03	0.14005E-08
22	0.40583E-03	0.40583E-03	0.15765E-08
23	0.45450E-03	0.45450E-03	0.17656E-08
24	0.50639E-03	0.50639E-03	0.19671E-08
25	0.56130E-03	0.56130E-03	0.21804E-08
26	0.61895E-03	0.61895E-03	0.24044E-08
27	0.67899E-03	0.67899E-03	0.26376E-08
28	0.74104E-03	0.74104E-03	0.28786E-08
29	0.80463E-03	0.80463E-03	0.31257E-08
30	0.86928E-03	0.86928E-03	0.33768E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 39.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.24916E-04	0.24916E-04	0.96790E-10
2	0.25889E-04	0.25889E-04	0.10057E-09
3	0.27857E-04	0.27857E-04	0.10821E-09
4	0.30863E-04	0.30863E-04	0.11989E-09
5	0.34975E-04	0.34975E-04	0.13587E-09
6	0.40280E-04	0.40280E-04	0.15647E-09
7	0.46886E-04	0.46886E-04	0.18213E-09
8	0.54919E-04	0.54919E-04	0.21334E-09
9	0.64526E-04	0.64526E-04	0.25066E-09
10	0.75868E-04	0.75868E-04	0.29472E-09
11	0.89120E-04	0.89120E-04	0.34620E-09
12	0.10447E-03	0.10447E-03	0.40582E-09
13	0.12210E-03	0.12210E-03	0.47433E-09
14	0.14222E-03	0.14222E-03	0.55247E-09
15	0.16501E-03	0.16501E-03	0.64100E-09
16	0.19066E-03	0.19066E-03	0.74062E-09
17	0.21932E-03	0.21932E-03	0.85196E-09
18	0.25114E-03	0.25114E-03	0.97557E-09
19	0.28623E-03	0.28623E-03	0.11119E-08
20	0.32466E-03	0.32466E-03	0.12612E-08
21	0.36646E-03	0.36646E-03	0.14235E-08
22	0.41160E-03	0.41160E-03	0.15989E-08
23	0.46000E-03	0.46000E-03	0.17869E-08
24	0.51152E-03	0.51152E-03	0.19870E-08
25	0.56594E-03	0.56594E-03	0.21984E-08
26	0.62299E-03	0.62299E-03	0.24201E-08
27	0.68235E-03	0.68235E-03	0.26507E-08
28	0.74363E-03	0.74363E-03	0.28887E-08
29	0.80640E-03	0.80640E-03	0.31325E-08
30	0.87017E-03	0.87017E-03	0.33803E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 40.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.26843E-04	0.26843E-04	0.10427E-09
2	0.27855E-04	0.27855E-04	0.10820E-09
3	0.29901E-04	0.29901E-04	0.11615E-09
4	0.33024E-04	0.33024E-04	0.12828E-09
5	0.37290E-04	0.37290E-04	0.14485E-09
6	0.42783E-04	0.42783E-04	0.16620E-09
7	0.49610E-04	0.49610E-04	0.19272E-09
8	0.57896E-04	0.57896E-04	0.22490E-09
9	0.67780E-04	0.67780E-04	0.26330E-09
10	0.79420E-04	0.79420E-04	0.30852E-09
11	0.92986E-04	0.92986E-04	0.36121E-09
12	0.10865E-03	0.10865E-03	0.42208E-09
13	0.12661E-03	0.12661E-03	0.49183E-09
14	0.14704E-03	0.14704E-03	0.57119E-09
15	0.17012E-03	0.17012E-03	0.66084E-09
16	0.19602E-03	0.19602E-03	0.76146E-09
17	0.22490E-03	0.22490E-03	0.87363E-09
18	0.25687E-03	0.25687E-03	0.99785E-09
19	0.29206E-03	0.29206E-03	0.11345E-08
20	0.33050E-03	0.33050E-03	0.12839E-08
21	0.37222E-03	0.37222E-03	0.14459E-08
22	0.41719E-03	0.41719E-03	0.16206E-08
23	0.46532E-03	0.46532E-03	0.18076E-08
24	0.51646E-03	0.51646E-03	0.20062E-08
25	0.57040E-03	0.57040E-03	0.22158E-08
26	0.62689E-03	0.62689E-03	0.24352E-08
27	0.68559E-03	0.68559E-03	0.26632E-08
28	0.74613E-03	0.74613E-03	0.28984E-08

29	0.80610E-03	0.80610E-03	0.31391E-08
30	0.87103E-03	0.87103E-03	0.33836E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 41.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.28838E-04	0.28838E-04	0.11202E-09
2	0.29889E-04	0.29889E-04	0.11610E-09
3	0.32011E-04	0.32011E-04	0.12435E-09
4	0.35248E-04	0.35248E-04	0.13693E-09
5	0.39664E-04	0.39664E-04	0.15408E-09
6	0.45342E-04	0.45342E-04	0.17613E-09
7	0.52384E-04	0.52384E-04	0.20349E-09
8	0.60913E-04	0.60913E-04	0.23662E-09
9	0.71066E-04	0.71066E-04	0.27606E-09
10	0.82993E-04	0.82993E-04	0.32240E-09
11	0.96859E-04	0.96859E-04	0.37626E-09
12	0.11283E-03	0.11283E-03	0.43831E-09
13	0.13109E-03	0.13109E-03	0.50925E-09
14	0.15181E-03	0.15181E-03	0.58974E-09
15	0.17516E-03	0.17516E-03	0.68044E-09
16	0.20130E-03	0.20130E-03	0.78199E-09
17	0.23037E-03	0.23037E-03	0.89491E-09
18	0.26249E-03	0.26249E-03	0.10197E-08
19	0.29775E-03	0.29775E-03	0.11566E-08
20	0.33619E-03	0.33619E-03	0.13060E-08
21	0.37783E-03	0.37783E-03	0.14677E-08
22	0.42262E-03	0.42262E-03	0.16417E-08
23	0.47047E-03	0.47047E-03	0.18276E-08
24	0.52124E-03	0.52124E-03	0.20248E-08
25	0.57472E-03	0.57472E-03	0.22325E-08
26	0.63064E-03	0.63064E-03	0.24498E-08
27	0.68870E-03	0.68870E-03	0.26753E-08
28	0.74853E-03	0.74853E-03	0.29077E-08
29	0.80973E-03	0.80973E-03	0.31455E-08
30	0.87186E-03	0.87186E-03	0.33868E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 42.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.30901E-04	0.30901E-04	0.12004E-09
2	0.31989E-04	0.31989E-04	0.12426E-09
3	0.34186E-04	0.34186E-04	0.13280E-09
4	0.37535E-04	0.37535E-04	0.14581E-09
5	0.42096E-04	0.42096E-04	0.16353E-09
6	0.47953E-04	0.47953E-04	0.18628E-09
7	0.55204E-04	0.55204E-04	0.21445E-09
8	0.63969E-04	0.63969E-04	0.24849E-09
9	0.74380E-04	0.74380E-04	0.28894E-09
10	0.86584E-04	0.86584E-04	0.33634E-09
11	0.10074E-03	0.10074E-03	0.39132E-09
12	0.11700E-03	0.11700E-03	0.45451E-09
13	0.13555E-03	0.13555E-03	0.52656E-09
14	0.15655E-03	0.15655E-03	0.60812E-09
15	0.18015E-03	0.18015E-03	0.69981E-09
16	0.20651E-03	0.20651E-03	0.80221E-09
17	0.23576E-03	0.23576E-03	0.91582E-09
18	0.26800E-03	0.26800E-03	0.10411E-08
19	0.30331E-03	0.30331E-03	0.11782E-08
20	0.34174E-03	0.34174E-03	0.13275E-08
21	0.38328E-03	0.38328E-03	0.14889E-08
22	0.42789E-03	0.42789E-03	0.16622E-08
23	0.47547E-03	0.47547E-03	0.18470E-08
24	0.52587E-03	0.52587E-03	0.20428E-08
25	0.57888E-03	0.57888E-03	0.22487E-08
26	0.63426E-03	0.63426E-03	0.24639E-08
27	0.69170E-03	0.69170E-03	0.26870E-08
28	0.75084E-03	0.75084E-03	0.29167E-08
29	0.81130E-03	0.81130E-03	0.31516E-08
30	0.87265E-03	0.87265E-03	0.33899E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 43.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.33029E-04	0.33029E-04	0.12830E-09
2	0.34153E-04	0.34153E-04	0.13267E-09
3	0.36424E-04	0.36424E-04	0.14149E-09
4	0.39880E-04	0.39880E-04	0.15492E-09
5	0.44584E-04	0.44584E-04	0.17319E-09
6	0.50614E-04	0.50614E-04	0.19661E-09
7	0.58068E-04	0.58068E-04	0.22557E-09
8	0.67061E-04	0.67061E-04	0.26051E-09
9	0.77721E-04	0.77721E-04	0.30191E-09
10	0.90190E-04	0.90190E-04	0.35035E-09
11	0.10462E-03	0.10462E-03	0.40640E-09
12	0.12116E-03	0.12116E-03	0.47066E-09
13	0.13998E-03	0.13998E-03	0.54377E-09
14	0.16124E-03	0.16124E-03	0.62634E-09

15	0.18506E-03	0.18506E-03	0.71894E-09
16	0.21164E-03	0.21164E-03	0.82213E-09
17	0.24104E-03	0.24104E-03	0.93636E-09
18	0.27339E-03	0.27339E-03	0.10620E-08
19	0.30875E-03	0.30875E-03	0.11994E-08
20	0.34715E-03	0.34715E-03	0.13485E-08
21	0.38859E-03	0.38859E-03	0.15095E-08
22	0.43301E-03	0.43301E-03	0.16820E-08
23	0.48031E-03	0.48031E-03	0.18658E-08
24	0.53034E-03	0.53034E-03	0.20602E-08
25	0.58291E-03	0.58291E-03	0.22644E-08
26	0.63776E-03	0.63776E-03	0.24774E-08
27	0.69459E-03	0.69459E-03	0.26982E-08
28	0.75307E-03	0.75307E-03	0.29254E-08
29	0.81281E-03	0.81281E-03	0.31575E-08
30	0.87342E-03	0.87342E-03	0.33929E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 44.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.35220E-04	0.35220E-04	0.13682E-09
2	0.36381E-04	0.36381E-04	0.14132E-09
3	0.38722E-04	0.38722E-04	0.15042E-09
4	0.42284E-04	0.42284E-04	0.16426E-09
5	0.47125E-04	0.47125E-04	0.18306E-09
6	0.53324E-04	0.53324E-04	0.20714E-09
7	0.60974E-04	0.60974E-04	0.23686E-09
8	0.70186E-04	0.70186E-04	0.27264E-09
9	0.81086E-04	0.81086E-04	0.31498E-09
10	0.93808E-04	0.93808E-04	0.36441E-09
11	0.10850E-03	0.10850E-03	0.42147E-09
12	0.12531E-03	0.12531E-03	0.48678E-09
13	0.14438E-03	0.14438E-03	0.56087E-09
14	0.16588E-03	0.16588E-03	0.64438E-09
15	0.18994E-03	0.18994E-03	0.73784E-09
16	0.21669E-03	0.21669E-03	0.84174E-09
17	0.24624E-03	0.24624E-03	0.95654E-09
18	0.27868E-03	0.27868E-03	0.10826E-08
19	0.31407E-03	0.31407E-03	0.12200E-08
20	0.35243E-03	0.35243E-03	0.13690E-08
21	0.39375E-03	0.39375E-03	0.15296E-08
22	0.43798E-03	0.43798E-03	0.17014E-08
23	0.48500E-03	0.48500E-03	0.18840E-08
24	0.53468E-03	0.53468E-03	0.20770E-08
25	0.58681E-03	0.58681E-03	0.22795E-08
26	0.64114E-03	0.64114E-03	0.24906E-08
27	0.69739E-03	0.69739E-03	0.27091E-08
28	0.75522E-03	0.75522E-03	0.29337E-08
29	0.81427E-03	0.81427E-03	0.31631E-08
30	0.87416E-03	0.87416E-03	0.33957E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 45.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.37474E-04	0.37474E-04	0.14557E-09
2	0.38669E-04	0.38669E-04	0.15021E-09
3	0.41079E-04	0.41079E-04	0.15958E-09
4	0.44743E-04	0.44743E-04	0.17381E-09
5	0.49718E-04	0.49718E-04	0.19313E-09
6	0.56079E-04	0.56079E-04	0.21784E-09
7	0.63918E-04	0.63918E-04	0.24830E-09
8	0.73342E-04	0.73342E-04	0.28490E-09
9	0.84471E-04	0.84471E-04	0.32814E-09
10	0.97437E-04	0.97437E-04	0.37850E-09
11	0.11238E-03	0.11238E-03	0.43654E-09
12	0.12944E-03	0.12944E-03	0.50280E-09
13	0.14876E-03	0.14876E-03	0.57786E-09
14	0.17048E-03	0.17048E-03	0.66225E-09
15	0.19474E-03	0.19474E-03	0.75650E-09
16	0.22166E-03	0.22166E-03	0.86107E-09
17	0.25134E-03	0.25134E-03	0.97636E-09
18	0.28386E-03	0.28386E-03	0.11027E-08
19	0.31927E-03	0.31927E-03	0.12402E-08
20	0.35758E-03	0.35758E-03	0.13891E-08
21	0.39878E-03	0.39878E-03	0.15491E-08
22	0.44281E-03	0.44281E-03	0.17201E-08
23	0.48956E-03	0.48956E-03	0.19018E-08
24	0.53888E-03	0.53888E-03	0.20933E-08
25	0.59058E-03	0.59058E-03	0.22942E-08
26	0.64441E-03	0.64441E-03	0.25033E-08
27	0.70009E-03	0.70009E-03	0.27195E-08
28	0.75730E-03	0.75730E-03	0.29418E-08
29	0.81568E-03	0.81568E-03	0.31686E-08
30	0.87487E-03	0.87487E-03	0.33985E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 46.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.39787E-04	0.39787E-04	0.15455E-09
2	0.41016E-04	0.41016E-04	0.15933E-09
3	0.43493E-04	0.43493E-04	0.16895E-09
4	0.47255E-04	0.47255E-04	0.18357E-09
5	0.52359E-04	0.52359E-04	0.20339E-09
6	0.58878E-04	0.58878E-04	0.22872E-09
7	0.66899E-04	0.66899E-04	0.25987E-09
8	0.76527E-04	0.76527E-04	0.29727E-09
9	0.87876E-04	0.87876E-04	0.34136E-09
10	0.10107E-03	0.10107E-03	0.39263E-09
11	0.11625E-03	0.11625E-03	0.45159E-09
12	0.13355E-03	0.13355E-03	0.51878E-09
13	0.15310E-03	0.15310E-03	0.59472E-09
14	0.17504E-03	0.17504E-03	0.67994E-09
15	0.19949E-03	0.19949E-03	0.77493E-09
16	0.22656E-03	0.22656E-03	0.88010E-09
17	0.25636E-03	0.25636E-03	0.99584E-09
18	0.28894E-03	0.28894E-03	0.11224E-08
19	0.32435E-03	0.32435E-03	0.12600E-08
20	0.36261E-03	0.36261E-03	0.14086E-08
21	0.40369E-03	0.40369E-03	0.15682E-08
22	0.44752E-03	0.44752E-03	0.17384E-08
23	0.49399E-03	0.49399E-03	0.19190E-08
24	0.54296E-03	0.54296E-03	0.21092E-08
25	0.59423E-03	0.59423E-03	0.23084E-08
26	0.64757E-03	0.64757E-03	0.25155E-08
27	0.70270E-03	0.70270E-03	0.27297E-08
28	0.75930E-03	0.75930E-03	0.29496E-08
29	0.81704E-03	0.81704E-03	0.31739E-08
30	0.87556E-03	0.87556E-03	0.34012E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 47.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.42157E-04	0.42157E-04	0.16376E-09
2	0.43419E-04	0.43419E-04	0.16867E-09
3	0.45961E-04	0.45961E-04	0.17854E-09
4	0.49819E-04	0.49819E-04	0.19353E-09
5	0.55048E-04	0.55048E-04	0.21384E-09
6	0.61718E-04	0.61718E-04	0.23975E-09
7	0.69914E-04	0.69914E-04	0.27159E-09
8	0.79738E-04	0.79738E-04	0.30975E-09
9	0.91299E-04	0.91299E-04	0.35466E-09
10	0.10472E-03	0.10472E-03	0.40679E-09
11	0.12012E-03	0.12012E-03	0.46663E-09
12	0.13764E-03	0.13764E-03	0.53469E-09
13	0.15741E-03	0.15741E-03	0.61147E-09
14	0.17955E-03	0.17955E-03	0.69746E-09
15	0.20417E-03	0.20417E-03	0.79312E-09
16	0.23139E-03	0.23139E-03	0.89885E-09
17	0.26128E-03	0.26128E-03	0.10150E-08
18	0.29392E-03	0.29392E-03	0.11418E-08
19	0.32933E-03	0.32933E-03	0.12793E-08
20	0.36752E-03	0.36752E-03	0.14277E-08
21	0.40847E-03	0.40847E-03	0.15867E-08
22	0.45209E-03	0.45209E-03	0.17562E-08
23	0.49829E-03	0.49829E-03	0.19357E-08
24	0.54692E-03	0.54692E-03	0.21246E-08
25	0.59778E-03	0.59778E-03	0.23221E-08
26	0.65063E-03	0.65063E-03	0.25274E-08
27	0.70522E-03	0.70522E-03	0.27395E-08
28	0.76124E-03	0.76124E-03	0.29571E-08
29	0.81836E-03	0.81836E-03	0.31790E-08
30	0.87622E-03	0.87622E-03	0.34038E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 48.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.44584E-04	0.44584E-04	0.17319E-09
2	0.45877E-04	0.45877E-04	0.17821E-09
3	0.48481E-04	0.48481E-04	0.18833E-09
4	0.52432E-04	0.52432E-04	0.20368E-09
5	0.57781E-04	0.57781E-04	0.22446E-09
6	0.64597E-04	0.64597E-04	0.25093E-09
7	0.72962E-04	0.72962E-04	0.28343E-09
8	0.82973E-04	0.82973E-04	0.32232E-09
9	0.94736E-04	0.94736E-04	0.36801E-09
10	0.10837E-03	0.10837E-03	0.42096E-09
11	0.12399E-03	0.12399E-03	0.48164E-09
12	0.14172E-03	0.14172E-03	0.55052E-09
13	0.16169E-03	0.16169E-03	0.62809E-09
14	0.18401E-03	0.18401E-03	0.71481E-09
15	0.20880E-03	0.20880E-03	0.81109E-09
16	0.23614E-03	0.23614E-03	0.91732E-09
17	0.26613E-03	0.26613E-03	0.10338E-08
18	0.29880E-03	0.29880E-03	0.11607E-08
19	0.33420E-03	0.33420E-03	0.12982E-08
20	0.37232E-03	0.37232E-03	0.14463E-08

21	0.41313E-03	0.41313E-03	0.16048E-08
22	0.45655E-03	0.45655E-03	0.17735E-08
23	0.50248E-03	0.50248E-03	0.19519E-08
24	0.55078E-03	0.55078E-03	0.21395E-08
25	0.60121E-03	0.60121E-03	0.23355E-08
26	0.65360E-03	0.65360E-03	0.25390E-08
27	0.70767E-03	0.70767E-03	0.27490E-08
28	0.76312E-03	0.76312E-03	0.29644E-08
29	0.81983E-03	0.81983E-03	0.31839E-08
30	0.87686E-03	0.87686E-03	0.34063E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 49.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.47064E-04	0.47064E-04	0.18282E-09
2	0.48388E-04	0.48388E-04	0.18797E-09
3	0.51052E-04	0.51052E-04	0.19832E-09
4	0.55092E-04	0.55092E-04	0.21401E-09
5	0.60557E-04	0.60557E-04	0.23524E-09
6	0.67513E-04	0.67513E-04	0.26226E-09
7	0.76040E-04	0.76040E-04	0.29538E-09
8	0.86230E-04	0.86230E-04	0.33497E-09
9	0.98186E-04	0.98186E-04	0.38141E-09
10	0.11202E-03	0.11202E-03	0.43514E-09
11	0.12784E-03	0.12784E-03	0.49661E-09
12	0.14577E-03	0.14577E-03	0.56628E-09
13	0.16593E-03	0.16593E-03	0.64459E-09
14	0.18843E-03	0.18843E-03	0.73197E-09
15	0.21336E-03	0.21336E-03	0.82883E-09
16	0.24083E-03	0.24083E-03	0.93551E-09
17	0.27089E-03	0.27089E-03	0.10523E-08
18	0.30359E-03	0.30359E-03	0.11793E-08
19	0.33897E-03	0.33897E-03	0.13168E-08
20	0.37701E-03	0.37701E-03	0.14645E-08
21	0.41768E-03	0.41768E-03	0.16225E-08
22	0.46090E-03	0.46090E-03	0.17904E-08
23	0.50655E-03	0.50655E-03	0.19677E-08
24	0.55450E-03	0.55450E-03	0.21540E-08
25	0.60455E-03	0.60455E-03	0.23484E-08
26	0.65648E-03	0.65648E-03	0.25502E-08
27	0.71004E-03	0.71004E-03	0.27582E-08
28	0.76494E-03	0.76494E-03	0.29715E-08
29	0.82086E-03	0.82086E-03	0.31887E-08
30	0.87749E-03	0.87749E-03	0.34087E-08

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 50.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.49596E-04	0.49596E-04	0.19266E-09
2	0.50949E-04	0.50949E-04	0.19792E-09
3	0.53672E-04	0.53672E-04	0.20849E-09
4	0.57797E-04	0.57797E-04	0.22452E-09
5	0.63373E-04	0.63373E-04	0.24618E-09
6	0.70464E-04	0.70464E-04	0.27372E-09
7	0.79146E-04	0.79146E-04	0.30745E-09
8	0.89508E-04	0.89508E-04	0.34770E-09
9	0.10165E-03	0.10165E-03	0.39486E-09
10	0.11567E-03	0.11567E-03	0.44934E-09
11	0.13169E-03	0.13169E-03	0.51156E-09
12	0.14981E-03	0.14981E-03	0.58195E-09
13	0.17015E-03	0.17015E-03	0.66095E-09
14	0.19280E-03	0.19280E-03	0.74896E-09
15	0.21787E-03	0.21787E-03	0.84635E-09
16	0.24544E-03	0.24544E-03	0.95344E-09
17	0.27557E-03	0.27557E-03	0.10705E-08
18	0.30830E-03	0.30830E-03	0.11976E-08
19	0.34364E-03	0.34364E-03	0.13349E-08
20	0.38160E-03	0.38160E-03	0.14824E-08
21	0.42212E-03	0.42212E-03	0.16398E-08
22	0.46513E-03	0.46513E-03	0.18068E-08
23	0.51052E-03	0.51052E-03	0.19831E-08
24	0.55813E-03	0.55813E-03	0.21681E-08
25	0.60779E-03	0.60779E-03	0.23610E-08
26	0.65928E-03	0.65928E-03	0.25610E-08
27	0.71234E-03	0.71234E-03	0.27672E-08
28	0.76670E-03	0.76670E-03	0.29783E-08
29	0.82206E-03	0.82206E-03	0.31934E-08
30	0.87809E-03	0.87809E-03	0.34110E-08

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|          VLEACH (Version 2.1, 1994)          |
|                                              |
|                    By:                       |
|     Varadhan Ravi and Jeffrey A. Johnson     |
|          (USEPA Contractors)                 |
|     Center for Subsurface Modeling Support   |
|     Robert S. Kerr Environmental Research Laboratory |
|     U.S. Environmental Protection Agency     |
|     P.O. Box 1198                            |
|     Ada, OK 74820                            |
|                                              |
|     Based on the original VLEACH (version 1.0) |
|     developed by CH2M Hill, Redding, California |
|     for USEPA Region IX                      |
|----------------------------------------------|
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RUN VLAJ3-2B; UPWARD DIFFUSION FROM WATER TABLE; MW-03 2/94 PCE
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 10.00 years. Vertical profile stored every 1.00 years.
Koc = 364.00 ml/g, 0.12654E-01cu.ft./g
Kh = 1.1800 (dimensionless).
Aqueous solubility = 150.00 mg/l, 4.2476 g/cu.ft
Free air diffusion coefficient = .86000 sq. m/day, 3378.9 sq.ft./yr

Polygon 1
POLY 1 - IMPERMEABLE GROUND SURFACE BC
Polygon area = 1.0000 sq. ft.
30 cells, each cell 10.000 ft. thick.
Soil Properties:
Bulk density = 1.8600 g/ml, 52670. g/cu.ft.
Porosity = 0.3000 Volumetric water content = 0.0500
Organic carbon content = 0.00100000
Recharge Rate = 0.00000000 ft/yr
Conc. in recharge water = 0.00000 mg/l, 0.00000 g/cu.ft
Atmospheric concentration = -1.0000 mg/l, -0.28317E-01g/cu.ft
Water table has a fixed concentration of 5.9000 mg/l, 0.16707 g/cu.ft.
with respect to gas diffusion.

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000
5	0.00000	0.00000	0.00000
6	0.00000	0.00000	0.00000
7	0.00000	0.00000	0.00000
8	0.00000	0.00000	0.00000
9	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000
11	0.00000	0.00000	0.00000
12	0.00000	0.00000	0.00000
13	0.00000	0.00000	0.00000
14	0.00000	0.00000	0.00000
15	0.00000	0.00000	0.00000
16	0.00000	0.00000	0.00000
17	0.00000	0.00000	0.00000
18	0.00000	0.00000	0.00000
19	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000
21	0.00000	0.00000	0.00000
22	0.00000	0.00000	0.00000
23	0.00000	0.00000	0.00000
24	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
26	0.00000	0.00000	0.00000
27	0.00000	0.00000	0.00000
28	0.00000	0.00000	0.00000
29	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 1.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18002E-07	0.15256E-07	0.19611E-12
2	0.22874E-07	0.19385E-07	0.24918E-12
3	0.33935E-07	0.28759E-07	0.36968E-12
4	0.54179E-07	0.45915E-07	0.59021E-12
5	0.89084E-07	0.75495E-07	0.97045E-12
6	0.14810E-06	0.12550E-06	0.16133E-11
7	0.24718E-06	0.20948E-06	0.26927E-11
8	0.41315E-06	0.35013E-06	0.45007E-11
9	0.69093E-06	0.58553E-06	0.75267E-11
10	0.11557E-05	0.97938E-06	0.12589E-10
11	0.19331E-05	0.16382E-05	0.21059E-10
12	0.32337E-05	0.27404E-05	0.35227E-10
13	0.54093E-05	0.45842E-05	0.58927E-10
14	0.90487E-05	0.76684E-05	0.98573E-10
15	0.15137E-04	0.12828E-04	0.16489E-09
16	0.25321E-04	0.21458E-04	0.27583E-09
17	0.42356E-04	0.35895E-04	0.46141E-09
18	0.70853E-04	0.60045E-04	0.77185E-09
19	0.11852E-03	0.10044E-03	0.12912E-08
20	0.19827E-03	0.16802E-03	0.21598E-08
21	0.33166E-03	0.28107E-03	0.36130E-08
22	0.55480E-03	0.47017E-03	0.60438E-08
23	0.92807E-03	0.78650E-03	0.10110E-07
24	0.15525E-02	0.13157E-02	0.16912E-07
25	0.25970E-02	0.22008E-02	0.28291E-07
26	0.43442E-02	0.36816E-02	0.47325E-07
27	0.72671E-02	0.61585E-02	0.79165E-07
28	0.12156E-01	0.10302E-01	0.13243E-06
29	0.20335E-01	0.17233E-01	0.22152E-06
30	0.34017E-01	0.28828E-01	0.37056E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 2.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.70538E-07	0.59778E-07	0.76841E-12
2	0.88220E-07	0.74762E-07	0.96103E-12
3	0.12799E-06	0.10846E-06	0.13942E-11
4	0.19974E-06	0.16927E-06	0.21759E-11
5	0.32130E-06	0.27229E-06	0.35002E-11
6	0.52286E-06	0.44310E-06	0.56958E-11
7	0.85433E-06	0.72401E-06	0.93067E-11
8	0.13977E-05	0.11845E-05	0.15226E-10
9	0.22870E-05	0.19381E-05	0.24913E-10
10	0.37411E-05	0.31705E-05	0.40755E-10
11	0.61174E-05	0.51843E-05	0.66641E-10
12	0.99981E-05	0.84730E-05	0.10892E-09
13	0.16332E-04	0.13840E-04	0.17791E-09
14	0.26662E-04	0.22595E-04	0.29045E-09
15	0.43501E-04	0.36865E-04	0.47388E-09
16	0.70928E-04	0.60109E-04	0.77266E-09
17	0.11557E-03	0.97942E-04	0.12590E-08
18	0.18818E-03	0.15947E-03	0.20500E-08
19	0.30618E-03	0.25947E-03	0.33354E-08
20	0.49776E-03	0.42183E-03	0.54225E-08
21	0.80856E-03	0.68522E-03	0.88082E-08
22	0.13123E-02	0.11121E-02	0.14295E-07
23	0.21277E-02	0.18031E-02	0.23178E-07
24	0.34464E-02	0.29207E-02	0.37544E-07
25	0.55765E-02	0.47256E-02	0.60748E-07
26	0.90128E-02	0.76379E-02	0.98182E-07
27	0.14549E-01	0.12329E-01	0.15849E-06
28	0.23454E-01	0.19876E-01	0.25549E-06
29	0.37756E-01	0.31996E-01	0.41130E-06
30	0.60688E-01	0.51429E-01	0.66109E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 3.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18307E-06	0.15514E-06	0.19943E-11
2	0.22610E-06	0.19161E-06	0.24630E-11
3	0.32215E-06	0.27301E-06	0.35094E-11
4	0.49349E-06	0.41821E-06	0.53759E-11
5	0.77976E-06	0.66082E-06	0.84944E-11
6	0.12470E-05	0.10568E-05	0.13584E-10
7	0.20026E-05	0.16971E-05	0.21815E-10
8	0.32196E-05	0.27285E-05	0.35073E-10
9	0.51758E-05	0.43863E-05	0.56383E-10
10	0.83155E-05	0.70470E-05	0.90586E-10
11	0.13349E-04	0.11313E-04	0.14542E-09
12	0.21409E-04	0.18144E-04	0.23323E-09
13	0.34303E-04	0.29070E-04	0.37368E-09
14	0.54902E-04	0.46527E-04	0.59806E-09
15	0.87773E-04	0.74384E-04	0.95617E-09
16	0.14016E-03	0.11878E-03	0.15268E-08
17	0.22352E-03	0.18942E-03	0.24349E-08
18	0.35598E-03	0.30168E-03	0.38780E-08
19	0.56815E-03	0.47979E-03	0.61674E-08
20	0.89902E-03	0.76188E-03	0.97936E-08
21	0.14253E-02	0.12079E-02	0.15526E-07
22	0.22556E-02	0.19115E-02	0.24572E-07
23	0.35630E-02	0.30195E-02	0.38814E-07
24	0.56168E-02	0.47600E-02	0.61187E-07
25	0.88350E-02	0.74873E-02	0.96245E-07
26	0.13864E-01	0.11749E-01	0.15103E-06
27	0.21700E-01	0.18390E-01	0.23639E-06
28	0.33867E-01	0.28701E-01	0.36893E-06
29	0.52692E-01	0.44654E-01	0.57400E-06
30	0.81696E-01	0.69234E-01	0.88996E-06

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 4.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.38938E-06	0.32999E-06	0.42418E-11
2	0.47582E-06	0.40324E-06	0.51834E-11
3	0.66755E-06	0.56572E-06	0.72721E-11
4	0.10063E-05	0.85280E-06	0.10962E-10
5	0.15656E-05	0.13268E-05	0.17055E-10
6	0.24662E-05	0.20900E-05	0.26868E-10
7	0.39020E-05	0.33067E-05	0.42507E-10
8	0.61799E-05	0.52372E-05	0.67322E-10
9	0.97847E-05	0.82921E-05	0.10659E-09
10	0.15479E-04	0.13117E-04	0.16862E-09
11	0.24458E-04	0.20727E-04	0.26644E-09
12	0.38597E-04	0.32709E-04	0.42046E-09
13	0.60824E-04	0.51546E-04	0.66260E-09
14	0.95710E-04	0.81110E-04	0.10426E-08
15	0.15037E-03	0.12743E-03	0.16381E-08
16	0.23585E-03	0.19987E-03	0.25692E-08
17	0.36925E-03	0.31293E-03	0.40225E-08
18	0.57703E-03	0.48901E-03	0.62859E-08
19	0.89989E-03	0.76262E-03	0.98030E-08
20	0.14003E-02	0.11867E-02	0.15255E-07

21	0.21740E-02	0.18424E-02	0.23683E-07
22	0.33666E-02	0.28531E-02	0.36675E-07
23	0.51992E-02	0.44061E-02	0.56635E-07
24	0.80056E-02	0.67844E-02	0.87210E-07
25	0.12287E-01	0.10412E-01	0.13385E-06
26	0.18790E-01	0.15924E-01	0.20469E-06
27	0.28623E-01	0.24256E-01	0.31180E-06
28	0.43410E-01	0.36788E-01	0.47269E-06
29	0.65515E-01	0.55521E-01	0.71370E-06
30	0.98332E-01	0.83332E-01	0.10712E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 5.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.73235E-06	0.62063E-06	0.79779E-11
2	0.88664E-06	0.75139E-06	0.96587E-11
3	0.12270E-05	0.10398E-05	0.13367E-10
4	0.18233E-05	0.15452E-05	0.19863E-10
5	0.27976E-05	0.23708E-05	0.30476E-10
6	0.43482E-05	0.36849E-05	0.47367E-10
7	0.67886E-05	0.57530E-05	0.73952E-10
8	0.10609E-04	0.89909E-05	0.11557E-09
9	0.16572E-04	0.14044E-04	0.18053E-09
10	0.25858E-04	0.21914E-04	0.28169E-09
11	0.40290E-04	0.34144E-04	0.43891E-09
12	0.62677E-04	0.53116E-04	0.68277E-09
13	0.97333E-04	0.82485E-04	0.10603E-08
14	0.15087E-03	0.12786E-03	0.16436E-08
15	0.23341E-03	0.19780E-03	0.25426E-08
16	0.36033E-03	0.30537E-03	0.39253E-08
17	0.55504E-03	0.47037E-03	0.60464E-08
18	0.85293E-03	0.72282E-03	0.92914E-08
19	0.13073E-02	0.11079E-02	0.14242E-07
20	0.19983E-02	0.16935E-02	0.21769E-07
21	0.30455E-02	0.25809E-02	0.33177E-07
22	0.46265E-02	0.39208E-02	0.50400E-07
23	0.70037E-02	0.59354E-02	0.76296E-07
24	0.10562E-01	0.89508E-02	0.11506E-06
25	0.15861E-01	0.13441E-01	0.17278E-06
26	0.23708E-01	0.20091E-01	0.25827E-06
27	0.35254E-01	0.29876E-01	0.38404E-06
28	0.52119E-01	0.44169E-01	0.56777E-06
29	0.76547E-01	0.64870E-01	0.83387E-06
30	0.11158	0.94559E-01	0.12155E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 6.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12645E-05	0.10716E-05	0.13775E-10
2	0.15183E-05	0.12867E-05	0.16539E-10
3	0.20753E-05	0.17587E-05	0.22608E-10
4	0.30440E-05	0.25798E-05	0.33160E-10
5	0.46118E-05	0.39083E-05	0.50240E-10
6	0.70805E-05	0.60004E-05	0.77132E-10
7	0.10922E-04	0.92556E-05	0.11898E-09
8	0.16863E-04	0.14291E-04	0.18370E-09
9	0.26021E-04	0.22051E-04	0.28346E-09
10	0.40099E-04	0.33982E-04	0.43682E-09
11	0.61691E-04	0.52280E-04	0.67204E-09
12	0.94732E-04	0.80282E-04	0.10320E-08
13	0.14518E-03	0.12303E-03	0.15815E-08
14	0.22200E-03	0.18814E-03	0.24184E-08
15	0.33870E-03	0.28703E-03	0.36898E-08
16	0.51546E-03	0.43683E-03	0.56153E-08
17	0.78243E-03	0.66307E-03	0.85235E-08
18	0.11843E-02	0.10037E-02	0.12901E-07
19	0.17872E-02	0.15146E-02	0.19469E-07
20	0.26883E-02	0.22782E-02	0.29285E-07
21	0.40294E-02	0.34148E-02	0.43895E-07
22	0.60166E-02	0.50988E-02	0.65542E-07
23	0.89463E-02	0.75816E-02	0.97457E-07
24	0.13242E-01	0.11222E-01	0.14425E-06
25	0.19501E-01	0.16526E-01	0.21243E-06
26	0.28557E-01	0.24201E-01	0.31109E-06
27	0.41557E-01	0.35218E-01	0.45271E-06
28	0.60046E-01	0.50887E-01	0.65412E-06
29	0.86061E-01	0.72933E-01	0.93751E-06
30	0.12219	0.10355	0.13311E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 7.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.20485E-05	0.17360E-05	0.22316E-10
2	0.24412E-05	0.20688E-05	0.26593E-10
3	0.32993E-05	0.27960E-05	0.35942E-10
4	0.47815E-05	0.40521E-05	0.52088E-10
5	0.71601E-05	0.60679E-05	0.78000E-10
6	0.10869E-04	0.92111E-05	0.11840E-09

7	0.16580E-04	0.14051E-04	0.18061E-09
8	0.25315E-04	0.21454E-04	0.27577E-09
9	0.38626E-04	0.32734E-04	0.42078E-09
10	0.58848E-04	0.49871E-04	0.64107E-09
11	0.89489E-04	0.75838E-04	0.97486E-09
12	0.13580E-03	0.11508E-03	0.14793E-08
13	0.20560E-03	0.17423E-03	0.22397E-08
14	0.31051E-03	0.26314E-03	0.33826E-08
15	0.46774E-03	0.39639E-03	0.50953E-08
16	0.70262E-03	0.59544E-03	0.76540E-08
17	0.10523E-02	0.89178E-03	0.11463E-07
18	0.15710E-02	0.13314E-02	0.17114E-07
19	0.23373E-02	0.19808E-02	0.25462E-07
20	0.34648E-02	0.29361E-02	0.37742E-07
21	0.51150E-02	0.43347E-02	0.55721E-07
22	0.75187E-02	0.63718E-02	0.81906E-07
23	0.10999E-01	0.93215E-02	0.11982E-06
24	0.16007E-01	0.13565E-01	0.17438E-06
25	0.23160E-01	0.19627E-01	0.25230E-06
26	0.33293E-01	0.28214E-01	0.36268E-06
27	0.47513E-01	0.40265E-01	0.51759E-06
28	0.67250E-01	0.56991E-01	0.73259E-06
29	0.94288E-01	0.79905E-01	0.10271E-05
30	0.13075	0.11081	0.14244E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 8.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.31574E-05	0.26758E-05	0.34396E-10
2	0.37368E-05	0.31668E-05	0.40706E-10
3	0.49980E-05	0.42358E-05	0.54446E-10
4	0.71627E-05	0.60701E-05	0.78028E-10
5	0.10609E-04	0.89910E-05	0.11558E-09
6	0.15936E-04	0.13505E-04	0.17360E-09
7	0.24057E-04	0.20388E-04	0.26207E-09
8	0.36354E-04	0.30808E-04	0.39603E-09
9	0.54892E-04	0.46519E-04	0.59796E-09
10	0.82749E-04	0.70126E-04	0.90144E-09
11	0.12448E-03	0.10550E-03	0.13561E-08
12	0.18683E-03	0.15833E-03	0.20353E-08
13	0.27971E-03	0.23704E-03	0.30470E-08
14	0.41761E-03	0.35391E-03	0.45493E-08
15	0.62172E-03	0.52688E-03	0.67728E-08
16	0.92273E-03	0.78197E-03	0.10052E-07
17	0.13650E-02	0.11567E-02	0.14869E-07
18	0.20120E-02	0.17051E-02	0.21918E-07
19	0.29546E-02	0.25039E-02	0.32186E-07
20	0.43210E-02	0.36619E-02	0.47071E-07
21	0.62912E-02	0.53316E-02	0.68534E-07
22	0.91157E-02	0.77251E-02	0.99303E-07
23	0.13138E-01	0.11134E-01	0.14312E-06
24	0.18828E-01	0.15954E-01	0.20508E-06
25	0.26803E-01	0.22714E-01	0.29198E-06
26	0.37885E-01	0.32106E-01	0.41270E-06
27	0.53117E-01	0.45014E-01	0.57864E-06
28	0.73790E-01	0.62534E-01	0.80384E-06
29	0.10143	0.85955E-01	0.11049E-05
30	0.13770	0.11669	0.15000E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 9.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.46748E-05	0.39617E-05	0.50926E-10
2	0.54976E-05	0.46590E-05	0.59889E-10
3	0.72818E-05	0.61710E-05	0.79325E-10
4	0.10327E-04	0.87515E-05	0.11250E-09
5	0.15140E-04	0.12830E-04	0.16493E-09
6	0.22516E-04	0.19082E-04	0.24528E-09
7	0.33661E-04	0.28527E-04	0.36669E-09
8	0.50375E-04	0.42691E-04	0.54877E-09
9	0.75324E-04	0.63834E-04	0.82055E-09
10	0.11243E-03	0.95279E-04	0.12248E-08
11	0.16744E-03	0.14190E-03	0.18240E-08
12	0.24874E-03	0.21080E-03	0.27097E-08
13	0.36850E-03	0.31229E-03	0.40143E-08
14	0.54433E-03	0.46129E-03	0.59297E-08
15	0.80153E-03	0.67926E-03	0.87316E-08
16	0.11763E-02	0.99689E-03	0.12814E-07
17	0.17202E-02	0.14578E-02	0.18739E-07
18	0.25059E-02	0.21237E-02	0.27299E-07
19	0.36355E-02	0.30810E-02	0.39604E-07
20	0.52508E-02	0.44499E-02	0.57201E-07
21	0.75474E-02	0.63981E-02	0.82218E-07
22	0.10791E-01	0.91452E-02	0.11756E-06
23	0.15341E-01	0.13001E-01	0.16712E-06
24	0.21672E-01	0.18366E-01	0.23606E-06
25	0.30400E-01	0.25763E-01	0.33117E-06
26	0.42312E-01	0.35858E-01	0.46093E-06

27	0.58373E-01	0.49469E-01	0.63590E-06
28	0.79727E-01	0.67566E-01	0.86852E-06
29	0.10764	0.91222E-01	0.11726E-05
30	0.14338	0.12151	0.15620E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 10.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.66947E-05	0.56735E-05	0.72930E-10
2	0.78266E-05	0.66327E-05	0.85260E-10
3	0.10273E-04	0.87056E-05	0.11191E-09
4	0.14425E-04	0.12224E-04	0.15714E-09
5	0.20944E-04	0.17749E-04	0.22815E-09
6	0.30856E-04	0.26150E-04	0.33614E-09
7	0.45707E-04	0.38735E-04	0.49792E-09
8	0.67779E-04	0.57440E-04	0.73836E-09
9	0.10042E-03	0.85100E-04	0.10939E-08
10	0.14850E-03	0.12584E-03	0.16176E-08
11	0.21907E-03	0.18565E-03	0.23865E-08
12	0.32231E-03	0.27315E-03	0.35112E-08
13	0.47283E-03	0.40070E-03	0.51508E-08
14	0.69146E-03	0.58598E-03	0.75325E-08
15	0.10078E-02	0.85406E-03	0.10978E-07
16	0.14636E-02	0.12403E-02	0.15944E-07
17	0.21174E-02	0.17944E-02	0.23066E-07
18	0.30507E-02	0.25854E-02	0.33233E-07
19	0.43761E-02	0.37085E-02	0.47671E-07
20	0.62473E-02	0.52944E-02	0.68056E-07
21	0.88728E-02	0.75194E-02	0.96657E-07
22	0.12531E-01	0.10620E-01	0.13651E-06
23	0.17589E-01	0.14906E-01	0.19161E-06
24	0.24522E-01	0.20781E-01	0.26713E-06
25	0.33932E-01	0.28756E-01	0.36964E-06
26	0.46561E-01	0.39456E-01	0.50722E-06
27	0.63293E-01	0.53638E-01	0.68949E-06
28	0.85121E-01	0.72136E-01	0.92727E-06
29	0.11307	0.95826E-01	0.12318E-05
30	0.14807	0.12548	0.16130E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 11.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.93214E-05	0.78995E-05	0.10154E-09
2	0.10837E-04	0.91842E-05	0.11806E-09
3	0.14103E-04	0.11951E-04	0.15363E-09
4	0.19618E-04	0.16626E-04	0.21372E-09
5	0.28223E-04	0.23918E-04	0.30745E-09
6	0.41212E-04	0.34925E-04	0.44894E-09
7	0.60515E-04	0.51284E-04	0.65923E-09
8	0.88962E-04	0.75392E-04	0.96912E-09
9	0.13066E-03	0.11073E-03	0.14233E-08
10	0.19152E-03	0.16231E-03	0.20864E-08
11	0.28003E-03	0.23731E-03	0.30505E-08
12	0.40827E-03	0.34599E-03	0.44476E-08
13	0.59341E-03	0.50289E-03	0.64643E-08
14	0.85962E-03	0.72849E-03	0.93644E-08
15	0.12408E-02	0.10516E-02	0.13517E-07
16	0.17843E-02	0.15121E-02	0.19438E-07
17	0.25555E-02	0.21657E-02	0.27838E-07
18	0.36440E-02	0.30882E-02	0.39697E-07
19	0.51720E-02	0.43830E-02	0.56342E-07
20	0.73037E-02	0.61895E-02	0.79563E-07
21	0.10258E-01	0.86930E-02	0.11174E-06
22	0.14321E-01	0.12137E-01	0.15601E-06
23	0.19865E-01	0.16834E-01	0.21640E-06
24	0.27358E-01	0.23184E-01	0.29802E-06
25	0.37380E-01	0.31678E-01	0.40720E-06
26	0.50626E-01	0.42904E-01	0.55150E-06
27	0.67890E-01	0.57534E-01	0.73957E-06
28	0.90024E-01	0.76291E-01	0.98068E-06
29	0.11784	0.99866E-01	0.12837E-05
30	0.15196	0.12878	0.16553E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 12.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12669E-04	0.10736E-04	0.13801E-09
2	0.14653E-04	0.12418E-04	0.15963E-09
3	0.18915E-04	0.16029E-04	0.20605E-09
4	0.26079E-04	0.22101E-04	0.28409E-09
5	0.37188E-04	0.31516E-04	0.40512E-09
6	0.53843E-04	0.45630E-04	0.58654E-09
7	0.78407E-04	0.66447E-04	0.85414E-09
8	0.11432E-03	0.96880E-04	0.12453E-08
9	0.16851E-03	0.14111E-03	0.18139E-08
10	0.24205E-03	0.20513E-03	0.26368E-08
11	0.35092E-03	0.29739E-03	0.38228E-08
12	0.50724E-03	0.42987E-03	0.55257E-08

13	0.73061E-03	0.61933E-03	0.79612E-06
14	0.10492E-02	0.88919E-03	0.11430E-07
15	0.15008E-02	0.12719E-02	0.16349E-07
16	0.21381E-02	0.18120E-02	0.23292E-07
17	0.30332E-02	0.25705E-02	0.33042E-07
18	0.42832E-02	0.36298E-02	0.46660E-07
19	0.60188E-02	0.51007E-02	0.65567E-07
20	0.84131E-02	0.71297E-02	0.91649E-07
21	0.11693E-01	0.99089E-02	0.12737E-06
22	0.16149E-01	0.13686E-01	0.17593E-06
23	0.22154E-01	0.18774E-01	0.24134E-06
24	0.30165E-01	0.25563E-01	0.32860E-06
25	0.40734E-01	0.34521E-01	0.44374E-06
26	0.54505E-01	0.46191E-01	0.59376E-06
27	0.72183E-01	0.61172E-01	0.78634E-06
28	0.94487E-01	0.80074E-01	0.10293E-05
29	0.12204	0.10343	0.13295E-05
30	0.15521	0.13154	0.16908E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 13.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.16861E-04	0.14289E-04	0.18368E-09
2	0.19407E-04	0.16447E-04	0.21141E-09
3	0.24859E-04	0.21067E-04	0.27081E-09
4	0.33985E-04	0.28801E-04	0.37022E-09
5	0.48057E-04	0.40726E-04	0.52352E-09
6	0.69014E-04	0.58487E-04	0.75182E-09
7	0.99704E-04	0.84495E-04	0.10861E-08
8	0.14423E-03	0.12223E-03	0.15712E-08
9	0.20843E-03	0.17664E-03	0.22706E-08
10	0.30058E-03	0.25473E-03	0.32744E-08
11	0.43228E-03	0.36634E-03	0.47091E-08
12	0.61975E-03	0.52521E-03	0.67513E-08
13	0.88550E-03	0.75042E-03	0.96463E-08
14	0.12608E-02	0.10683E-02	0.13732E-07
15	0.17876E-02	0.15149E-02	0.19473E-07
16	0.25243E-02	0.21392E-02	0.27499E-07
17	0.35488E-02	0.30075E-02	0.38660E-07
18	0.49655E-02	0.42080E-02	0.54092E-07
19	0.69122E-02	0.58578E-02	0.75298E-07
20	0.95691E-02	0.81094E-02	0.10424E-06
21	0.13169E-01	0.11160E-01	0.14345E-06
22	0.18005E-01	0.15258E-01	0.19614E-06
23	0.24444E-01	0.20716E-01	0.26629E-06
24	0.32931E-01	0.27908E-01	0.35874E-06
25	0.43986E-01	0.37277E-01	0.47917E-06
26	0.58199E-01	0.49321E-01	0.63399E-06
27	0.76190E-01	0.64568E-01	0.82999E-06
28	0.98557E-01	0.83523E-01	0.10736E-05
29	0.12576	0.10658	0.13700E-05
30	0.15796	0.13387	0.17208E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 14.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.22031E-04	0.18670E-04	0.23999E-09
2	0.25241E-04	0.21390E-04	0.27496E-09
3	0.32096E-04	0.27200E-04	0.34965E-09
4	0.43524E-04	0.36885E-04	0.47413E-09
5	0.61051E-04	0.51738E-04	0.66507E-09
6	0.86992E-04	0.73722E-04	0.94768E-09
7	0.12472E-03	0.10570E-03	0.13587E-08
8	0.17906E-03	0.15175E-03	0.19508E-08
9	0.25683E-03	0.21765E-03	0.27978E-08
10	0.36757E-03	0.31150E-03	0.40041E-08
11	0.52457E-03	0.44455E-03	0.57145E-08
12	0.74822E-03	0.63239E-03	0.81291E-08
13	0.10578E-02	0.89643E-03	0.11523E-07
14	0.14937E-02	0.12659E-02	0.16272E-07
15	0.21008E-02	0.17804E-02	0.22886E-07
16	0.29419E-02	0.24932E-02	0.32048E-07
17	0.41008E-02	0.34752E-02	0.44672E-07
18	0.56879E-02	0.48202E-02	0.61961E-07
19	0.78475E-02	0.66504E-02	0.85488E-07
20	0.10765E-01	0.91233E-02	0.11727E-06
21	0.14678E-01	0.12439E-01	0.15989E-06
22	0.19878E-01	0.16846E-01	0.21655E-06
23	0.26726E-01	0.22649E-01	0.29114E-06
24	0.35647E-01	0.30209E-01	0.38833E-06
25	0.47131E-01	0.39941E-01	0.51343E-06
26	0.61711E-01	0.52298E-01	0.67226E-06
27	0.79931E-01	0.67738E-01	0.87073E-06
28	0.10227	0.86673E-01	0.11141E-05
29	0.12906	0.10938	0.14060E-05
30	0.16031	0.13585	0.17463E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 15.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.28318E-04	0.23998E-04	0.30849E-09
2	0.32303E-04	0.27375E-04	0.35189E-09
3	0.40792E-04	0.34570E-04	0.44438E-09
4	0.54887E-04	0.46514E-04	0.59792E-09
5	0.76395E-04	0.64742E-04	0.83222E-09
6	0.10604E-03	0.91561E-04	0.11770E-08
7	0.15377E-03	0.13031E-03	0.16751E-08
8	0.21917E-03	0.18574E-03	0.23876E-08
9	0.31210E-03	0.26449E-03	0.33999E-08
10	0.44343E-03	0.37579E-03	0.48306E-08
11	0.62820E-03	0.53238E-03	0.68434E-08
12	0.88701E-03	0.75170E-03	0.96627E-08
13	0.12479E-02	0.10575E-02	0.13594E-07
14	0.17487E-02	0.14819E-02	0.19049E-07
15	0.24402E-02	0.20679E-02	0.26582E-07
16	0.33900E-02	0.28728E-02	0.36929E-07
17	0.46870E-02	0.39720E-02	0.51058E-07
18	0.64473E-02	0.54638E-02	0.70235E-07
19	0.88205E-02	0.74750E-02	0.96067E-07
20	0.11996E-01	0.10166E-01	0.13068E-06
21	0.16213E-01	0.13739E-01	0.17661E-06
22	0.21760E-01	0.18441E-01	0.23705E-06
23	0.28990E-01	0.24567E-01	0.31580E-06
24	0.38306E-01	0.32463E-01	0.41729E-06
25	0.50165E-01	0.42513E-01	0.54648E-06
26	0.65048E-01	0.55126E-01	0.70861E-06
27	0.83423E-01	0.70697E-01	0.90878E-06
28	0.10568	0.89558E-01	0.11512E-05
29	0.13201	0.11188	0.14381E-05
30	0.16232	0.13756	0.17682E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 16.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.35872E-04	0.30400E-04	0.39077E-09
2	0.40750E-04	0.34534E-04	0.44392E-09
3	0.51119E-04	0.43321E-04	0.55687E-09
4	0.68270E-04	0.57856E-04	0.74371E-09
5	0.94316E-04	0.79929E-04	0.10274E-08
6	0.13242E-03	0.11222E-03	0.14426E-08
7	0.18715E-03	0.15860E-03	0.20387E-08
8	0.26490E-03	0.22449E-03	0.28857E-08
9	0.37460E-03	0.31745E-03	0.40807E-08
10	0.52853E-03	0.44791E-03	0.57576E-08
11	0.74351E-03	0.63010E-03	0.80995E-08
12	0.10424E-02	0.88335E-03	0.11355E-07
13	0.14558E-02	0.12338E-02	0.15859E-07
14	0.20251E-02	0.17162E-02	0.22061E-07
15	0.28049E-02	0.23771E-02	0.30556E-07
16	0.38671E-02	0.32772E-02	0.42127E-07
17	0.53055E-02	0.44962E-02	0.57796E-07
18	0.72408E-02	0.61363E-02	0.78879E-07
19	0.98288E-02	0.83278E-02	0.10705E-06
20	0.13256E-01	0.11234E-01	0.14441E-06
21	0.17766E-01	0.15056E-01	0.19354E-06
22	0.23644E-01	0.20038E-01	0.25757E-06
23	0.31228E-01	0.26465E-01	0.34019E-06
24	0.40903E-01	0.34663E-01	0.44558E-06
25	0.53089E-01	0.44990E-01	0.57833E-06
26	0.68217E-01	0.57811E-01	0.74313E-06
27	0.86686E-01	0.73463E-01	0.94433E-06
28	0.10880	0.92201E-01	0.11852E-05
29	0.13466	0.11412	0.14669E-05
30	0.16406	0.13903	0.17872E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 17.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.44847E-04	0.38006E-04	0.48854E-09
2	0.50746E-04	0.43005E-04	0.55280E-09
3	0.63255E-04	0.53606E-04	0.68908E-09
4	0.83873E-04	0.71079E-04	0.91368E-09
5	0.11504E-03	0.97492E-04	0.12532E-08
6	0.16040E-03	0.13593E-03	0.17473E-08
7	0.22514E-03	0.19080E-03	0.24526E-08
8	0.31655E-03	0.26826E-03	0.34483E-08
9	0.44466E-03	0.37683E-03	0.48439E-08
10	0.62319E-03	0.52813E-03	0.67888E-08
11	0.87077E-03	0.73794E-03	0.94858E-08
12	0.12124E-02	0.10275E-02	0.13208E-07
13	0.16817E-02	0.14252E-02	0.18320E-07
14	0.23229E-02	0.19685E-02	0.25305E-07
15	0.31944E-02	0.27071E-02	0.34799E-07
16	0.43722E-02	0.37053E-02	0.47629E-07
17	0.59543E-02	0.50460E-02	0.64863E-07
18	0.80654E-02	0.68351E-02	0.87861E-07

19	0.10862E-01	0.92055E-02	0.11833E-06
20	0.14540E-01	0.12322E-01	0.15839E-06
21	0.19333E-01	0.16384E-01	0.21061E-06
22	0.25524E-01	0.21630E-01	0.27805E-06
23	0.33436E-01	0.28336E-01	0.36424E-06
24	0.43433E-01	0.36806E-01	0.47315E-06
25	0.55902E-01	0.47374E-01	0.60897E-06
26	0.71224E-01	0.60359E-01	0.77589E-06
27	0.89737E-01	0.76049E-01	0.97756E-06
28	0.11167	0.94633E-01	0.12165E-05
29	0.13704	0.11614	0.14929E-05
30	0.16557	0.14032	0.18037E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 18.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.55403E-04	0.46952E-04	0.60354E-09
2	0.62457E-04	0.52929E-04	0.68038E-09
3	0.77381E-04	0.65577E-04	0.84298E-09
4	0.10190E-03	0.86352E-04	0.11100E-08
5	0.13879E-03	0.11762E-03	0.15119E-08
6	0.19221E-03	0.16289E-03	0.20938E-08
7	0.26803E-03	0.22714E-03	0.29198E-08
8	0.37441E-03	0.31730E-03	0.40787E-08
9	0.52257E-03	0.44286E-03	0.56927E-08
10	0.72769E-03	0.61668E-03	0.79271E-08
11	0.10102E-02	0.85609E-03	0.11005E-07
12	0.13973E-02	0.11842E-02	0.15222E-07
13	0.19253E-02	0.16316E-02	0.20973E-07
14	0.26415E-02	0.22386E-02	0.28775E-07
15	0.36077E-02	0.30574E-02	0.39301E-07
16	0.49037E-02	0.41557E-02	0.53419E-07
17	0.66311E-02	0.56196E-02	0.72236E-07
18	0.89179E-02	0.75576E-02	0.97149E-07
19	0.11923E-01	0.10105E-01	0.12989E-06
20	0.15842E-01	0.13426E-01	0.17258E-06
21	0.20908E-01	0.17718E-01	0.22776E-06
22	0.27393E-01	0.23214E-01	0.29841E-06
23	0.35608E-01	0.30177E-01	0.38791E-06
24	0.45895E-01	0.38894E-01	0.49996E-06
25	0.58606E-01	0.49666E-01	0.63843E-06
26	0.74078E-01	0.62778E-01	0.80698E-06
27	0.92593E-01	0.78469E-01	0.10087E-05
28	0.11431	0.96874E-01	0.12453E-05
29	0.13919	0.11796	0.15163E-05
30	0.16891	0.14145	0.18182E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 19.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.67708E-04	0.57380E-04	0.73758E-09
2	0.76055E-04	0.64453E-04	0.82851E-09
3	0.93681E-04	0.79390E-04	0.10205E-08
4	0.12254E-03	0.10385E-03	0.13349E-08
5	0.16579E-03	0.14050E-03	0.18061E-08
6	0.22810E-03	0.19331E-03	0.24849E-08
7	0.31606E-03	0.26785E-03	0.34431E-08
8	0.43877E-03	0.37184E-03	0.47798E-08
9	0.60860E-03	0.51577E-03	0.66299E-08
10	0.84223E-03	0.71376E-03	0.91750E-08
11	0.11619E-02	0.98467E-03	0.12657E-07
12	0.15971E-02	0.13535E-02	0.17398E-07
13	0.21885E-02	0.18529E-02	0.23819E-07
14	0.29804E-02	0.25258E-02	0.32468E-07
15	0.40440E-02	0.34271E-02	0.44054E-07
16	0.54602E-02	0.46273E-02	0.59481E-07
17	0.73338E-02	0.62151E-02	0.79892E-07
18	0.97957E-02	0.83014E-02	0.10671E-06
19	0.13006E-01	0.11022E-01	0.14168E-06
20	0.17159E-01	0.14542E-01	0.18693E-06
21	0.22485E-01	0.19055E-01	0.24494E-06
22	0.29247E-01	0.24785E-01	0.31860E-06
23	0.37742E-01	0.31984E-01	0.41114E-06
24	0.48287E-01	0.40921E-01	0.52602E-06
25	0.61203E-01	0.51867E-01	0.66673E-06
26	0.76788E-01	0.65074E-01	0.83650E-06
27	0.95269E-01	0.80737E-01	0.10378E-05
28	0.11675	0.98944E-01	0.12719E-05
29	0.14115	0.11962	0.15376E-05
30	0.16809	0.14245	0.18311E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 20.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.81930E-04	0.69432E-04	0.89251E-09
2	0.91716E-04	0.77725E-04	0.99912E-09
3	0.11234E-03	0.95204E-04	0.12238E-08
4	0.14601E-03	0.12373E-03	0.15905E-08

5	0.19626E-03	0.18632E-03	0.21380E-06
6	0.26832E-03	0.22739E-03	0.29229E-06
7	0.36950E-03	0.31313E-03	0.40252E-06
8	0.50966E-03	0.43206E-03	0.55542E-06
9	0.70297E-03	0.59574E-03	0.76579E-06
10	0.96701E-03	0.81950E-03	0.10534E-07
11	0.13260E-02	0.11238E-02	0.14445E-07
12	0.18116E-02	0.15353E-02	0.19735E-07
13	0.24650E-02	0.20889E-02	0.26852E-07
14	0.33392E-02	0.28298E-02	0.36376E-07
15	0.45023E-02	0.38155E-02	0.49046E-07
16	0.60402E-02	0.51188E-02	0.65799E-07
17	0.80604E-02	0.68309E-02	0.87807E-07
18	0.10696E-01	0.90642E-02	0.11652E-06
19	0.14107E-01	0.11955E-01	0.15368E-06
20	0.18487E-01	0.15667E-01	0.20139E-06
21	0.24060E-01	0.20390E-01	0.26210E-06
22	0.31082E-01	0.26340E-01	0.33859E-06
23	0.39832E-01	0.33756E-01	0.43392E-06
24	0.50607E-01	0.42888E-01	0.55130E-06
25	0.63697E-01	0.53981E-01	0.69390E-06
26	0.79360E-01	0.67254E-01	0.86452E-06
27	0.97780E-01	0.82864E-01	0.10652E-05
28	0.11901	0.10086	0.12965E-05
29	0.14293	0.12113	0.15571E-05
30	0.16914	0.14334	0.18426E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 21.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.98242E-04	0.83256E-04	0.10702E-06
2	0.10962E-03	0.92896E-04	0.11941E-06
3	0.13355E-03	0.11318E-03	0.14548E-06
4	0.17249E-03	0.14618E-03	0.18791E-06
5	0.23040E-03	0.19528E-03	0.25099E-06
6	0.31306E-03	0.26531E-03	0.34104E-06
7	0.42855E-03	0.36318E-03	0.46685E-06
8	0.58789E-03	0.49821E-03	0.64043E-06
9	0.80588E-03	0.68295E-03	0.87789E-06
10	0.11022E-02	0.93403E-03	0.12007E-07
11	0.15026E-02	0.12734E-02	0.16368E-07
12	0.20408E-02	0.17295E-02	0.22232E-07
13	0.27604E-02	0.23393E-02	0.30071E-07
14	0.37170E-02	0.31500E-02	0.40492E-07
15	0.49814E-02	0.42215E-02	0.54266E-07
16	0.66421E-02	0.56289E-02	0.72357E-07
17	0.88088E-02	0.74651E-02	0.95980E-07
18	0.11616E-01	0.98437E-02	0.12654E-06
19	0.15223E-01	0.12901E-01	0.16584E-06
20	0.19822E-01	0.16798E-01	0.21593E-06
21	0.25631E-01	0.21721E-01	0.27921E-06
22	0.32895E-01	0.27877E-01	0.35834E-06
23	0.41879E-01	0.35491E-01	0.45622E-06
24	0.52858E-01	0.44795E-01	0.57581E-06
25	0.66092E-01	0.56010E-01	0.71998E-06
26	0.81804E-01	0.69325E-01	0.89114E-06
27	0.10014	0.84863E-01	0.10909E-05
28	0.12111	0.10264	0.13194E-05
29	0.14457	0.12251	0.15748E-05
30	0.17009	0.14414	0.18529E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 22.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11682E-03	0.98999E-04	0.12726E-06
2	0.12964E-03	0.11012E-03	0.14155E-06
3	0.15749E-03	0.13346E-03	0.17156E-06
4	0.20219E-03	0.17135E-03	0.22026E-06
5	0.26843E-03	0.22748E-03	0.29242E-06
6	0.36256E-03	0.30726E-03	0.39496E-06
7	0.49344E-03	0.41817E-03	0.53754E-06
8	0.67307E-03	0.57040E-03	0.73322E-06
9	0.91747E-03	0.77752E-03	0.99946E-06
10	0.12478E-02	0.10574E-02	0.13593E-07
11	0.16915E-02	0.14335E-02	0.18427E-07
12	0.22845E-02	0.19360E-02	0.24886E-07
13	0.30724E-02	0.26037E-02	0.33469E-07
14	0.41133E-02	0.34859E-02	0.44809E-07
15	0.54804E-02	0.46444E-02	0.59702E-07
16	0.72645E-02	0.61563E-02	0.79137E-07
17	0.95769E-02	0.81160E-02	0.10433E-06
18	0.12552E-01	0.10638E-01	0.13674E-06
19	0.16351E-01	0.13857E-01	0.17813E-06
20	0.21161E-01	0.17933E-01	0.23051E-06
21	0.27193E-01	0.23045E-01	0.29622E-06
22	0.34682E-01	0.29392E-01	0.37782E-06
23	0.43880E-01	0.37186E-01	0.47801E-06
24	0.55038E-01	0.46642E-01	0.59956E-06

25	0.68390E-01	0.57957E-01	0.74501E-06
26	0.84126E-01	0.71293E-01	0.91644E-06
27	0.10236	0.86743E-01	0.11150E-05
28	0.12307	0.10429	0.13406E-05
29	0.14607	0.12378	0.15912E-05
30	0.17095	0.14487	0.18622E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 23.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13784E-03	0.11681E-03	0.15015E-06
2	0.15286E-03	0.12954E-03	0.16652E-06
3	0.18434E-03	0.15622E-03	0.20082E-06
4	0.23530E-03	0.19941E-03	0.25633E-06
5	0.31054E-03	0.26317E-03	0.33829E-06
6	0.41701E-03	0.35340E-03	0.45427E-06
7	0.56435E-03	0.47827E-03	0.61478E-06
8	0.76557E-03	0.64879E-03	0.83396E-06
9	0.10379E-02	0.87956E-03	0.11306E-07
10	0.14039E-02	0.11897E-02	0.15293E-07
11	0.18929E-02	0.16041E-02	0.20620E-07
12	0.25424E-02	0.21546E-02	0.27696E-07
13	0.34005E-02	0.28818E-02	0.37043E-07
14	0.45273E-02	0.38367E-02	0.49319E-07
15	0.59982E-02	0.50832E-02	0.65342E-07
16	0.79058E-02	0.66998E-02	0.86123E-07
17	0.10363E-01	0.87820E-02	0.11289E-06
18	0.13504E-01	0.11444E-01	0.14711E-06
19	0.17489E-01	0.14821E-01	0.19052E-06
20	0.22500E-01	0.19068E-01	0.24510E-06
21	0.28743E-01	0.24359E-01	0.31312E-06
22	0.36443E-01	0.30884E-01	0.39700E-06
23	0.45834E-01	0.38843E-01	0.49930E-06
24	0.57149E-01	0.48431E-01	0.62255E-06
25	0.70595E-01	0.59828E-01	0.76904E-06
26	0.86335E-01	0.73165E-01	0.94050E-06
27	0.10445	0.88514E-01	0.11378E-05
28	0.12489	0.10584	0.13605E-05
29	0.14745	0.12496	0.16062E-05
30	0.17172	0.14553	0.18707E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 24.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.16147E-03	0.13684E-03	0.17590E-06
2	0.17855E-03	0.15132E-03	0.19451E-06
3	0.21430E-03	0.18161E-03	0.23345E-06
4	0.27200E-03	0.23051E-03	0.29631E-06
5	0.35891E-03	0.30247E-03	0.38880E-06
6	0.47659E-03	0.40389E-03	0.51918E-06
7	0.64146E-03	0.54361E-03	0.69878E-06
8	0.86552E-03	0.73349E-03	0.94287E-06
9	0.11672E-02	0.98916E-03	0.12715E-07
10	0.15705E-02	0.13310E-02	0.17109E-07
11	0.21064E-02	0.17851E-02	0.22947E-07
12	0.28144E-02	0.23851E-02	0.30659E-07
13	0.37442E-02	0.31730E-02	0.40788E-07
14	0.49582E-02	0.42019E-02	0.54013E-07
15	0.65336E-02	0.55370E-02	0.71175E-07
16	0.85645E-02	0.72581E-02	0.93299E-07
17	0.11165E-01	0.94615E-02	0.12162E-06
18	0.14468E-01	0.12261E-01	0.15761E-06
19	0.18633E-01	0.15791E-01	0.20298E-06
20	0.23837E-01	0.20201E-01	0.25967E-06
21	0.30280E-01	0.25661E-01	0.32988E-06
22	0.38175E-01	0.32351E-01	0.41586E-06
23	0.47741E-01	0.40459E-01	0.52008E-06
24	0.59192E-01	0.50163E-01	0.64481E-06
25	0.72712E-01	0.61621E-01	0.79210E-06
26	0.88437E-01	0.74948E-01	0.96339E-06
27	0.10842	0.90184E-01	0.11593E-05
28	0.12659	0.10728	0.13790E-05
29	0.14873	0.12604	0.16202E-05
30	0.17243	0.14613	0.18784E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 25.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18790E-03	0.15924E-03	0.20469E-06
2	0.20720E-03	0.17556E-03	0.22572E-06
3	0.24754E-03	0.20978E-03	0.26966E-06
4	0.31248E-03	0.26482E-03	0.34041E-06
5	0.40773E-03	0.34554E-03	0.44417E-06
6	0.54147E-03	0.45887E-03	0.58986E-06
7	0.72492E-03	0.61434E-03	0.78970E-06
8	0.97305E-03	0.82462E-03	0.10600E-07
9	0.13055E-02	0.11064E-02	0.14222E-07
10	0.17477E-02	0.14811E-02	0.19039E-07

11	0.23321E-02	0.19784E-02	0.25405E-07
12	0.31000E-02	0.26271E-02	0.33770E-07
13	0.41030E-02	0.34771E-02	0.44698E-07
14	0.54053E-02	0.45807E-02	0.58883E-07
15	0.70855E-02	0.60047E-02	0.77187E-07
16	0.92392E-02	0.78299E-02	0.10065E-06
17	0.11960E-01	0.10153E-01	0.13051E-06
18	0.15443E-01	0.13087E-01	0.16823E-06
19	0.19781E-01	0.16764E-01	0.21549E-06
20	0.25170E-01	0.21331E-01	0.27420E-06
21	0.31801E-01	0.26950E-01	0.34643E-06
22	0.39876E-01	0.33793E-01	0.43440E-06
23	0.49601E-01	0.42035E-01	0.54033E-06
24	0.61169E-01	0.51838E-01	0.66635E-06
25	0.74745E-01	0.63343E-01	0.81424E-06
26	0.90439E-01	0.76643E-01	0.98520E-06
27	0.10828	0.91762E-01	0.11795E-05
28	0.12818	0.10863	0.13963E-05
29	0.14991	0.12705	0.16331E-05
30	0.17308	0.14668	0.18855E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 26.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.21730E-03	0.18415E-03	0.23671E-06
2	0.23898E-03	0.20253E-03	0.26034E-06
3	0.28423E-03	0.24087E-03	0.30963E-06
4	0.35691E-03	0.30247E-03	0.38881E-06
5	0.46318E-03	0.39252E-03	0.50457E-06
6	0.61182E-03	0.51849E-03	0.66649E-06
7	0.81486E-03	0.69056E-03	0.88768E-06
8	0.10883E-02	0.92226E-03	0.11855E-07
9	0.14528E-02	0.12312E-02	0.15826E-07
10	0.19353E-02	0.16401E-02	0.21082E-07
11	0.25697E-02	0.21777E-02	0.27993E-07
12	0.33989E-02	0.28805E-02	0.37027E-07
13	0.44763E-02	0.37935E-02	0.48763E-07
14	0.58676E-02	0.49725E-02	0.63919E-07
15	0.76529E-02	0.64855E-02	0.83368E-07
16	0.99285E-02	0.84140E-02	0.10816E-06
17	0.12808E-01	0.10855E-01	0.13953E-06
18	0.16426E-01	0.13920E-01	0.17894E-06
19	0.20932E-01	0.17738E-01	0.22803E-06
20	0.26497E-01	0.22455E-01	0.28865E-06
21	0.33304E-01	0.28224E-01	0.36281E-06
22	0.41546E-01	0.35209E-01	0.45259E-06
23	0.51413E-01	0.43571E-01	0.56008E-06
24	0.63082E-01	0.53460E-01	0.68720E-06
25	0.76697E-01	0.64998E-01	0.83551E-06
26	0.92347E-01	0.78260E-01	0.10060E-05
27	0.11004	0.93254E-01	0.11987E-05
28	0.12968	0.10989	0.14126E-05
29	0.15102	0.12798	0.16451E-05
30	0.17368	0.14719	0.18920E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 27.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.24983E-03	0.21172E-03	0.27216E-06
2	0.27406E-03	0.23226E-03	0.29855E-06
3	0.32455E-03	0.27504E-03	0.35355E-06
4	0.40546E-03	0.34361E-03	0.44169E-06
5	0.52340E-03	0.44356E-03	0.57017E-06
6	0.68778E-03	0.58287E-03	0.74924E-06
7	0.91141E-03	0.77239E-03	0.99286E-06
8	0.12112E-02	0.10265E-02	0.13195E-07
9	0.16091E-02	0.13637E-02	0.17529E-07
10	0.21333E-02	0.18078E-02	0.23239E-07
11	0.28190E-02	0.23890E-02	0.30709E-07
12	0.37108E-02	0.31448E-02	0.40425E-07
13	0.48636E-02	0.41217E-02	0.52982E-07
14	0.63444E-02	0.53766E-02	0.69114E-07
15	0.82346E-02	0.69785E-02	0.89705E-07
16	0.10631E-01	0.90093E-02	0.11581E-06
17	0.13647E-01	0.11566E-01	0.14867E-06
18	0.17415E-01	0.14759E-01	0.18971E-06
19	0.22063E-01	0.18715E-01	0.24057E-06
20	0.27816E-01	0.23573E-01	0.30301E-06
21	0.34786E-01	0.29482E-01	0.37898E-06
22	0.43184E-01	0.36597E-01	0.47043E-06
23	0.53179E-01	0.45067E-01	0.57931E-06
24	0.64933E-01	0.55028E-01	0.70736E-06
25	0.78573E-01	0.66587E-01	0.85594E-06
26	0.94167E-01	0.79803E-01	0.10258E-05
27	0.11171	0.94667E-01	0.12169E-05
28	0.13108	0.11109	0.14280E-05
29	0.15205	0.12886	0.16564E-05
30	0.17424	0.14766	0.18981E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 28.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.28568E-03	0.24210E-03	0.31121E-08
2	0.31262E-03	0.26493E-03	0.34055E-08
3	0.36866E-03	0.31242E-03	0.40161E-08
4	0.45829E-03	0.38838E-03	0.49924E-08
5	0.58855E-03	0.49877E-03	0.64115E-08
6	0.76948E-03	0.65210E-03	0.83824E-08
7	0.10147E-02	0.85989E-03	0.11053E-07
8	0.13420E-02	0.11373E-02	0.14619E-07
9	0.17745E-02	0.15038E-02	0.19331E-07
10	0.23415E-02	0.19843E-02	0.25507E-07
11	0.30798E-02	0.26100E-02	0.33551E-07
12	0.40353E-02	0.34198E-02	0.43959E-07
13	0.52642E-02	0.44612E-02	0.57346E-07
14	0.68349E-02	0.57923E-02	0.74457E-07
15	0.88296E-02	0.74827E-02	0.96186E-07
16	0.11345E-01	0.96146E-02	0.12359E-06
17	0.14495E-01	0.12284E-01	0.15791E-06
18	0.18409E-01	0.15601E-01	0.20054E-06
19	0.23233E-01	0.19689E-01	0.25309E-06
20	0.29125E-01	0.24682E-01	0.31727E-06
21	0.36253E-01	0.30723E-01	0.39493E-06
22	0.44790E-01	0.37957E-01	0.48792E-06
23	0.54899E-01	0.46524E-01	0.59804E-06
24	0.66724E-01	0.56546E-01	0.72687E-06
25	0.80375E-01	0.68115E-01	0.87558E-06
26	0.95905E-01	0.81276E-01	0.10448E-05
27	0.11329	0.96008E-01	0.12341E-05
28	0.13241	0.11221	0.14424E-05
29	0.15302	0.12968	0.16669E-05
30	0.17475	0.14810	0.19037E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 29.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.32500E-03	0.27543E-03	0.35404E-08
2	0.35480E-03	0.30068E-03	0.38651E-08
3	0.41673E-03	0.35316E-03	0.45397E-08
4	0.51555E-03	0.43691E-03	0.56162E-08
5	0.65877E-03	0.55828E-03	0.71764E-08
6	0.85704E-03	0.72630E-03	0.93363E-08
7	0.11247E-02	0.95314E-03	0.12252E-07
8	0.14806E-02	0.12547E-02	0.16129E-07
9	0.19488E-02	0.16515E-02	0.21229E-07
10	0.25598E-02	0.21693E-02	0.27886E-07
11	0.33518E-02	0.28405E-02	0.36514E-07
12	0.43719E-02	0.37050E-02	0.47626E-07
13	0.56776E-02	0.48115E-02	0.61850E-07
14	0.73383E-02	0.62189E-02	0.79940E-07
15	0.94367E-02	0.79972E-02	0.10280E-06
16	0.12070E-01	0.10229E-01	0.13149E-06
17	0.15351E-01	0.13009E-01	0.16723E-06
18	0.19407E-01	0.16446E-01	0.21141E-06
19	0.24380E-01	0.20661E-01	0.26558E-06
20	0.30423E-01	0.25782E-01	0.33141E-06
21	0.37697E-01	0.31946E-01	0.41065E-06
22	0.46363E-01	0.39290E-01	0.50508E-06
23	0.56573E-01	0.47943E-01	0.61628E-06
24	0.68457E-01	0.58014E-01	0.74574E-06
25	0.82109E-01	0.69584E-01	0.89446E-06
26	0.97566E-01	0.82683E-01	0.10628E-05
27	0.11479	0.97282E-01	0.12505E-05
28	0.13366	0.11327	0.14560E-05
29	0.15392	0.13044	0.16768E-05
30	0.17524	0.14851	0.19090E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 30.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.36798E-03	0.31183E-03	0.40084E-08
2	0.40079E-03	0.33965E-03	0.43660E-08
3	0.46890E-03	0.39738E-03	0.51061E-08
4	0.57739E-03	0.48931E-03	0.62899E-08
5	0.73419E-03	0.62220E-03	0.79980E-08
6	0.95056E-03	0.80556E-03	0.10355E-07
7	0.12416E-02	0.10522E-02	0.13526E-07
8	0.16270E-02	0.13788E-02	0.17724E-07
9	0.21320E-02	0.18068E-02	0.23225E-07
10	0.27881E-02	0.23628E-02	0.30373E-07
11	0.36348E-02	0.30803E-02	0.39586E-07
12	0.47202E-02	0.40002E-02	0.51421E-07
13	0.61031E-02	0.51721E-02	0.66485E-07
14	0.78537E-02	0.66557E-02	0.85555E-07
15	0.10055E-01	0.85213E-02	0.10954E-06
16	0.12804E-01	0.10851E-01	0.13949E-06

17	0.16213E-01	0.13740E-01	0.17662E-06
18	0.20406E-01	0.17293E-01	0.22230E-06
19	0.25522E-01	0.21629E-01	0.27803E-06
20	0.31708E-01	0.26871E-01	0.34542E-06
21	0.39118E-01	0.33151E-01	0.42613E-06
22	0.47902E-01	0.40595E-01	0.52183E-06
23	0.58202E-01	0.49324E-01	0.63403E-06
24	0.70134E-01	0.59435E-01	0.76401E-06
25	0.83776E-01	0.70997E-01	0.91263E-06
26	0.99155E-01	0.84029E-01	0.10802E-05
27	0.11622	0.98493E-01	0.12661E-05
28	0.13484	0.11427	0.14689E-05
29	0.15478	0.13117	0.16861E-05
30	0.17589	0.14899	0.19139E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 31.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.41472E-03	0.35145E-03	0.45177E-06
2	0.45072E-03	0.38196E-03	0.49099E-06
3	0.52534E-03	0.44520E-03	0.57228E-06
4	0.64394E-03	0.54571E-03	0.70149E-06
5	0.81493E-03	0.69062E-03	0.88775E-06
6	0.10501E-02	0.88994E-03	0.11440E-07
7	0.13654E-02	0.11571E-02	0.14874E-07
8	0.17813E-02	0.15098E-02	0.19405E-07
9	0.23240E-02	0.19695E-02	0.25317E-07
10	0.30262E-02	0.25646E-02	0.32966E-07
11	0.39283E-02	0.33291E-02	0.42794E-07
12	0.50798E-02	0.43049E-02	0.55338E-07
13	0.65401E-02	0.55425E-02	0.71246E-07
14	0.83803E-02	0.71019E-02	0.91292E-07
15	0.10684E-01	0.90540E-02	0.11638E-06
16	0.13547E-01	0.11480E-01	0.14757E-06
17	0.17080E-01	0.14475E-01	0.18606E-06
18	0.21406E-01	0.18141E-01	0.23319E-06
19	0.26659E-01	0.22592E-01	0.29041E-06
20	0.32980E-01	0.27949E-01	0.35927E-06
21	0.40517E-01	0.34336E-01	0.44137E-06
22	0.49410E-01	0.41872E-01	0.53825E-06
23	0.59788E-01	0.50668E-01	0.65131E-06
24	0.71757E-01	0.60811E-01	0.78169E-06
25	0.85382E-01	0.72357E-01	0.93012E-06
26	0.10068	0.85318E-01	0.10967E-05
27	0.11758	0.99646E-01	0.12809E-05
28	0.13596	0.11522	0.14811E-05
29	0.15558	0.13185	0.16948E-05
30	0.17611	0.14925	0.19185E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 32.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.46541E-03	0.39442E-03	0.50700E-06
2	0.50474E-03	0.42775E-03	0.54985E-06
3	0.58616E-03	0.49675E-03	0.63855E-06
4	0.71533E-03	0.60622E-03	0.77926E-06
5	0.90109E-03	0.76363E-03	0.98161E-06
6	0.11558E-02	0.97952E-03	0.12591E-07
7	0.14961E-02	0.12679E-02	0.16298E-07
8	0.19434E-02	0.16470E-02	0.21171E-07
9	0.25247E-02	0.21396E-02	0.27504E-07
10	0.32739E-02	0.27745E-02	0.35664E-07
11	0.42322E-02	0.35866E-02	0.46104E-07
12	0.54502E-02	0.46188E-02	0.59372E-07
13	0.69881E-02	0.59221E-02	0.76125E-07
14	0.89174E-02	0.75571E-02	0.97142E-07
15	0.11322E-01	0.95945E-02	0.12333E-06
16	0.14297E-01	0.12116E-01	0.15574E-06
17	0.17951E-01	0.15213E-01	0.19555E-06
18	0.22405E-01	0.18987E-01	0.24407E-06
19	0.27788E-01	0.23549E-01	0.30272E-06
20	0.34238E-01	0.29015E-01	0.37298E-06
21	0.41893E-01	0.35502E-01	0.45636E-06
22	0.50884E-01	0.43122E-01	0.55431E-06
23	0.61332E-01	0.51976E-01	0.66812E-06
24	0.73328E-01	0.62142E-01	0.79881E-06
25	0.86928E-01	0.73667E-01	0.94696E-06
26	0.10213	0.86553E-01	0.11126E-05
27	0.11888	0.10075	0.12950E-05
28	0.13702	0.11612	0.14927E-05
29	0.15634	0.13249	0.17031E-05
30	0.17651	0.14958	0.19228E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 33.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.52021E-03	0.44085E-03	0.56669E-06
2	0.56301E-03	0.47713E-03	0.61332E-06

3	0.65152E-03	0.55214E-03	0.70974E-08
4	0.79169E-03	0.67092E-03	0.86243E-08
5	0.99276E-03	0.84132E-03	0.10815E-07
6	0.12677E-02	0.10743E-02	0.13810E-07
7	0.16338E-02	0.13846E-02	0.17798E-07
8	0.21133E-02	0.17909E-02	0.23021E-07
9	0.27341E-02	0.23170E-02	0.29784E-07
10	0.35309E-02	0.29923E-02	0.38464E-07
11	0.45461E-02	0.38526E-02	0.49523E-07
12	0.58309E-02	0.49414E-02	0.63519E-07
13	0.74463E-02	0.63104E-02	0.81117E-07
14	0.94641E-02	0.80204E-02	0.10310E-06
15	0.11968E-01	0.10142E-01	0.13037E-06
16	0.15052E-01	0.12756E-01	0.16397E-06
17	0.18824E-01	0.15953E-01	0.20507E-06
18	0.23402E-01	0.19832E-01	0.25493E-06
19	0.28911E-01	0.24500E-01	0.31494E-06
20	0.35481E-01	0.30069E-01	0.38652E-06
21	0.43245E-01	0.36649E-01	0.47110E-06
22	0.52327E-01	0.44345E-01	0.57003E-06
23	0.62834E-01	0.53249E-01	0.68449E-06
24	0.74849E-01	0.63432E-01	0.81538E-06
25	0.88417E-01	0.74930E-01	0.96318E-06
26	0.10353	0.87737E-01	0.11278E-05
27	0.12012	0.10179	0.13085E-05
28	0.13804	0.11696	0.15037E-05
29	0.15706	0.13310	0.17106E-05
30	0.17688	0.14990	0.19269E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 34.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.57923E-03	0.49087E-03	0.63099E-08
2	0.62565E-03	0.53021E-03	0.68156E-08
3	0.72153E-03	0.61147E-03	0.78601E-08
4	0.87311E-03	0.73992E-03	0.95113E-08
5	0.10900E-02	0.92377E-03	0.11875E-07
6	0.13859E-02	0.11745E-02	0.15097E-07
7	0.17785E-02	0.15072E-02	0.19374E-07
8	0.22909E-02	0.19414E-02	0.24956E-07
9	0.29519E-02	0.25016E-02	0.32157E-07
10	0.37971E-02	0.32178E-02	0.41364E-07
11	0.48696E-02	0.41268E-02	0.53048E-07
12	0.62215E-02	0.52724E-02	0.67774E-07
13	0.79142E-02	0.67069E-02	0.86214E-07
14	0.10020E-01	0.84914E-02	0.10915E-06
15	0.12621E-01	0.10696E-01	0.13749E-06
16	0.15813E-01	0.13401E-01	0.17226E-06
17	0.19700E-01	0.16695E-01	0.21460E-06
18	0.24396E-01	0.20675E-01	0.26578E-06
19	0.30024E-01	0.25444E-01	0.32707E-06
20	0.36709E-01	0.31109E-01	0.39989E-06
21	0.44575E-01	0.37775E-01	0.48558E-06
22	0.53737E-01	0.45540E-01	0.58539E-06
23	0.64296E-01	0.54488E-01	0.70041E-06
24	0.76323E-01	0.64681E-01	0.83143E-06
25	0.89853E-01	0.76147E-01	0.97883E-06
26	0.10487	0.88874E-01	0.11424E-05
27	0.12130	0.10280	0.13214E-05
28	0.13900	0.11779	0.15142E-05
29	0.15774	0.13368	0.17184E-05
30	0.17724	0.15020	0.19308E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 35.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.64261E-03	0.54459E-03	0.70004E-08
2	0.69279E-03	0.58711E-03	0.75470E-08
3	0.79632E-03	0.67484E-03	0.86748E-08
4	0.95970E-03	0.81330E-03	0.10455E-07
5	0.11930E-02	0.10110E-02	0.12996E-07
6	0.15103E-02	0.12799E-02	0.16453E-07
7	0.19301E-02	0.16357E-02	0.21026E-07
8	0.24762E-02	0.20984E-02	0.26974E-07
9	0.31781E-02	0.26933E-02	0.34621E-07
10	0.40721E-02	0.34510E-02	0.44360E-07
11	0.52024E-02	0.44068E-02	0.56673E-07
12	0.66214E-02	0.56114E-02	0.72131E-07
13	0.83912E-02	0.71112E-02	0.91410E-07
14	0.10584E-01	0.89693E-02	0.11530E-06
15	0.13282E-01	0.11256E-01	0.14469E-06
16	0.16578E-01	0.14049E-01	0.18059E-06
17	0.20576E-01	0.17437E-01	0.22415E-06
18	0.25387E-01	0.21514E-01	0.27655E-06
19	0.31126E-01	0.26380E-01	0.33910E-06
20	0.37920E-01	0.32136E-01	0.41309E-06
21	0.45881E-01	0.38882E-01	0.49981E-06
22	0.55117E-01	0.46709E-01	0.60042E-06

23	0.65719E-01	0.55694E-01	0.71592E-06
24	0.77751E-01	0.65891E-01	0.84699E-06
25	0.91239E-01	0.77321E-01	0.99392E-06
26	0.10616	0.89966E-01	0.11565E-05
27	0.12243	0.10376	0.13337E-05
28	0.13992	0.11857	0.15242E-05
29	0.15839	0.13423	0.17254E-05
30	0.17758	0.15049	0.19345E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 36.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.71049E-03	0.60211E-03	0.77398E-06
2	0.76455E-03	0.64792E-03	0.83287E-06
3	0.87596E-03	0.74236E-03	0.95426E-06
4	0.10515E-02	0.89114E-03	0.11455E-07
5	0.13017E-02	0.11031E-02	0.14180E-07
6	0.16410E-02	0.13907E-02	0.17877E-07
7	0.20687E-02	0.17701E-02	0.22753E-07
8	0.26090E-02	0.22619E-02	0.29075E-07
9	0.34124E-02	0.28918E-02	0.37173E-07
10	0.43559E-02	0.36914E-02	0.47451E-07
11	0.55442E-02	0.46985E-02	0.60396E-07
12	0.70304E-02	0.59579E-02	0.76586E-07
13	0.88767E-02	0.75226E-02	0.96699E-07
14	0.11155E-01	0.94535E-02	0.12152E-06
15	0.13948E-01	0.11820E-01	0.15194E-06
16	0.17348E-01	0.14700E-01	0.18896E-06
17	0.21452E-01	0.18180E-01	0.23369E-06
18	0.26373E-01	0.22350E-01	0.28729E-06
19	0.32222E-01	0.27307E-01	0.35102E-06
20	0.39116E-01	0.33149E-01	0.42611E-06
21	0.47163E-01	0.39969E-01	0.51378E-06
22	0.56465E-01	0.47852E-01	0.61511E-06
23	0.67104E-01	0.56868E-01	0.73101E-06
24	0.79135E-01	0.67064E-01	0.86207E-06
25	0.92576E-01	0.78454E-01	0.10085E-05
26	0.10740	0.91016E-01	0.11700E-05
27	0.12352	0.10468	0.13456E-05
28	0.14079	0.11931	0.15337E-05
29	0.15901	0.13475	0.17322E-05
30	0.17790	0.15076	0.19379E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 37.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.78297E-03	0.66354E-03	0.85294E-06
2	0.84104E-03	0.71275E-03	0.91620E-06
3	0.96063E-03	0.81409E-03	0.10465E-07
4	0.11487E-02	0.97351E-03	0.12514E-07
5	0.14162E-02	0.12002E-02	0.15428E-07
6	0.17781E-02	0.15069E-02	0.19370E-07
7	0.22541E-02	0.19103E-02	0.24556E-07
8	0.28693E-02	0.24316E-02	0.31257E-07
9	0.36547E-02	0.30972E-02	0.39813E-07
10	0.46480E-02	0.39390E-02	0.50634E-07
11	0.58945E-02	0.49954E-02	0.64213E-07
12	0.74478E-02	0.63117E-02	0.81133E-07
13	0.93701E-02	0.79408E-02	0.10207E-06
14	0.11733E-01	0.99436E-02	0.12782E-06
15	0.14619E-01	0.12389E-01	0.15925E-06
16	0.18117E-01	0.15354E-01	0.19736E-06
17	0.22327E-01	0.18921E-01	0.24322E-06
18	0.27353E-01	0.23181E-01	0.29798E-06
19	0.33306E-01	0.28225E-01	0.36282E-06
20	0.40294E-01	0.34148E-01	0.43895E-06
21	0.48422E-01	0.41036E-01	0.52749E-06
22	0.57784E-01	0.48969E-01	0.62947E-06
23	0.68453E-01	0.58011E-01	0.74570E-06
24	0.80477E-01	0.68201E-01	0.87669E-06
25	0.93868E-01	0.79549E-01	0.10226E-05
26	0.10859	0.92026E-01	0.11829E-05
27	0.12456	0.10556	0.13569E-05
28	0.14163	0.12002	0.15428E-05
29	0.15960	0.13525	0.17386E-05
30	0.17820	0.15102	0.19413E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 38.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.86018E-03	0.72897E-03	0.93705E-06
2	0.92238E-03	0.78168E-03	0.10048E-07
3	0.10503E-02	0.89013E-03	0.11442E-07
4	0.12513E-02	0.10605E-02	0.13632E-07
5	0.15366E-02	0.13022E-02	0.16739E-07
6	0.19215E-02	0.16284E-02	0.20932E-07
7	0.24264E-02	0.20563E-02	0.26433E-07
8	0.30770E-02	0.26076E-02	0.33520E-07

9	0.39049E-02	0.33092E-02	0.42538E-07
10	0.49483E-02	0.41935E-02	0.53905E-07
11	0.62531E-02	0.52993E-02	0.68119E-07
12	0.78732E-02	0.66722E-02	0.85768E-07
13	0.98710E-02	0.83652E-02	0.10753E-06
14	0.12318E-01	0.10439E-01	0.13419E-06
15	0.15295E-01	0.12961E-01	0.16661E-06
16	0.18890E-01	0.16006E-01	0.20578E-06
17	0.23200E-01	0.19661E-01	0.25274E-06
18	0.28328E-01	0.24007E-01	0.30860E-06
19	0.34379E-01	0.29134E-01	0.37451E-06
20	0.41456E-01	0.35132E-01	0.45160E-06
21	0.49658E-01	0.42083E-01	0.54096E-06
22	0.59073E-01	0.50062E-01	0.64351E-06
23	0.69786E-01	0.59124E-01	0.76001E-06
24	0.81779E-01	0.69304E-01	0.89087E-06
25	0.95116E-01	0.80607E-01	0.10362E-05
26	0.10974	0.92998E-01	0.11954E-05
27	0.12556	0.10640	0.13678E-05
28	0.14243	0.12070	0.15516E-05
29	0.16016	0.13573	0.17447E-05
30	0.17849	0.15126	0.19444E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 39.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.94221E-03	0.79848E-03	0.10264E-07
2	0.10067E-02	0.85479E-03	0.10988E-07
3	0.11452E-02	0.97053E-03	0.12476E-07
4	0.13594E-02	0.11521E-02	0.14809E-07
5	0.16628E-02	0.14091E-02	0.18114E-07
6	0.20712E-02	0.17553E-02	0.22563E-07
7	0.26056E-02	0.22081E-02	0.28384E-07
8	0.32920E-02	0.27898E-02	0.35862E-07
9	0.41627E-02	0.35277E-02	0.45347E-07
10	0.52565E-02	0.44547E-02	0.57262E-07
11	0.66197E-02	0.56099E-02	0.72112E-07
12	0.83062E-02	0.70392E-02	0.90485E-07
13	0.10379E-01	0.87955E-02	0.11306E-06
14	0.12908E-01	0.10939E-01	0.14061E-06
15	0.15974E-01	0.13537E-01	0.17401E-06
16	0.19664E-01	0.16664E-01	0.21421E-06
17	0.24071E-01	0.20399E-01	0.26222E-06
18	0.29296E-01	0.24827E-01	0.31914E-06
19	0.35440E-01	0.30034E-01	0.38607E-06
20	0.42600E-01	0.36102E-01	0.46407E-06
21	0.50871E-01	0.43111E-01	0.55417E-06
22	0.60333E-01	0.51130E-01	0.65724E-06
23	0.71045E-01	0.60206E-01	0.77394E-06
24	0.83042E-01	0.70375E-01	0.90463E-06
25	0.96323E-01	0.81629E-01	0.10493E-05
26	0.11084	0.93936E-01	0.12075E-05
27	0.12652	0.10722	0.13782E-05
28	0.14320	0.12135	0.15599E-05
29	0.16069	0.13618	0.17505E-05
30	0.17877	0.15150	0.19474E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 40.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.10292E-02	0.87217E-03	0.11211E-07
2	0.11000E-02	0.93217E-03	0.11983E-07
3	0.12453E-02	0.10554E-02	0.13566E-07
4	0.14730E-02	0.12483E-02	0.16047E-07
5	0.17949E-02	0.15211E-02	0.19553E-07
6	0.22273E-02	0.18875E-02	0.24263E-07
7	0.27915E-02	0.23657E-02	0.30409E-07
8	0.35141E-02	0.29781E-02	0.38281E-07
9	0.44280E-02	0.37525E-02	0.48236E-07
10	0.55723E-02	0.47223E-02	0.60703E-07
11	0.69937E-02	0.59269E-02	0.76187E-07
12	0.87484E-02	0.74122E-02	0.95280E-07
13	0.10893E-01	0.92311E-02	0.11866E-06
14	0.13503E-01	0.11443E-01	0.14710E-06
15	0.16656E-01	0.14115E-01	0.18145E-06
16	0.20438E-01	0.17320E-01	0.22264E-06
17	0.24939E-01	0.21135E-01	0.27168E-06
18	0.30257E-01	0.25642E-01	0.32961E-06
19	0.36489E-01	0.30923E-01	0.39750E-06
20	0.43728E-01	0.37058E-01	0.47636E-06
21	0.52062E-01	0.44120E-01	0.56714E-06
22	0.61565E-01	0.52174E-01	0.67066E-06
23	0.72291E-01	0.61264E-01	0.78751E-06
24	0.84268E-01	0.71414E-01	0.91798E-06
25	0.97490E-01	0.82619E-01	0.10620E-05
26	0.11191	0.94840E-01	0.12191E-05
27	0.12744	0.10800	0.13883E-05
28	0.14393	0.12198	0.15680E-05

29	0.16121	0.13662	0.17561E-05
30	0.17903	0.15172	0.19503E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 41.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11211E-02	0.95010E-03	0.12213E-07
2	0.11964E-02	0.10139E-02	0.13033E-07
3	0.13508E-02	0.11447E-02	0.14715E-07
4	0.15922E-02	0.13494E-02	0.17345E-07
5	0.19330E-02	0.16381E-02	0.21057E-07
6	0.23897E-02	0.20251E-02	0.26032E-07
7	0.29840E-02	0.25288E-02	0.32507E-07
8	0.37433E-02	0.31723E-02	0.40778E-07
9	0.47005E-02	0.39835E-02	0.51205E-07
10	0.58955E-02	0.49962E-02	0.64223E-07
11	0.73750E-02	0.62500E-02	0.80340E-07
12	0.91933E-02	0.77909E-02	0.10015E-06
13	0.11413E-01	0.96716E-02	0.12432E-06
14	0.14103E-01	0.11951E-01	0.15363E-06
15	0.17341E-01	0.14696E-01	0.18891E-06
16	0.21212E-01	0.17976E-01	0.23107E-06
17	0.25804E-01	0.21868E-01	0.28110E-06
18	0.31211E-01	0.26450E-01	0.34000E-06
19	0.37526E-01	0.31802E-01	0.40879E-06
20	0.44838E-01	0.37999E-01	0.48845E-06
21	0.53230E-01	0.45110E-01	0.57987E-06
22	0.62769E-01	0.53194E-01	0.68379E-06
23	0.73505E-01	0.62292E-01	0.80073E-06
24	0.85459E-01	0.72423E-01	0.93095E-06
25	0.98620E-01	0.83576E-01	0.10743E-05
26	0.11294	0.95712E-01	0.12303E-05
27	0.12833	0.10875	0.13979E-05
28	0.14464	0.12258	0.15757E-05
29	0.16170	0.13704	0.17615E-05
30	0.17929	0.15194	0.19531E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 42.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12182E-02	0.10324E-02	0.13270E-07
2	0.12980E-02	0.11000E-02	0.14140E-07
3	0.14616E-02	0.12386E-02	0.15922E-07
4	0.17171E-02	0.14551E-02	0.18705E-07
5	0.20770E-02	0.17601E-02	0.22626E-07
6	0.25583E-02	0.21681E-02	0.27869E-07
7	0.31832E-02	0.26976E-02	0.34677E-07
8	0.39793E-02	0.33723E-02	0.43349E-07
9	0.49801E-02	0.42204E-02	0.54251E-07
10	0.62257E-02	0.52760E-02	0.67820E-07
11	0.77631E-02	0.65789E-02	0.84568E-07
12	0.96465E-02	0.81750E-02	0.10508E-06
13	0.11938E-01	0.10117E-01	0.13004E-06
14	0.14706E-01	0.12463E-01	0.16020E-06
15	0.18028E-01	0.15278E-01	0.19639E-06
16	0.21985E-01	0.18631E-01	0.23949E-06
17	0.26665E-01	0.22597E-01	0.29047E-06
18	0.32157E-01	0.27252E-01	0.35031E-06
19	0.38551E-01	0.32670E-01	0.41996E-06
20	0.45932E-01	0.38925E-01	0.50036E-06
21	0.54376E-01	0.46082E-01	0.59235E-06
22	0.63947E-01	0.54193E-01	0.69662E-06
23	0.74688E-01	0.63295E-01	0.81362E-06
24	0.86615E-01	0.73403E-01	0.94355E-06
25	0.99715E-01	0.84504E-01	0.10863E-05
26	0.11393	0.96555E-01	0.12412E-05
27	0.12918	0.10948	0.14073E-05
28	0.14532	0.12315	0.15831E-05
29	0.16217	0.13744	0.17667E-05
30	0.17953	0.15214	0.19557E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 43.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13204E-02	0.11190E-02	0.14384E-07
2	0.14048E-02	0.11905E-02	0.15303E-07
3	0.15778E-02	0.13371E-02	0.17187E-07
4	0.18475E-02	0.15657E-02	0.20126E-07
5	0.22269E-02	0.18872E-02	0.24259E-07
6	0.27332E-02	0.23162E-02	0.29774E-07
7	0.33889E-02	0.28720E-02	0.36918E-07
8	0.42221E-02	0.35780E-02	0.45994E-07
9	0.52668E-02	0.44632E-02	0.57372E-07
10	0.65628E-02	0.55617E-02	0.71492E-07
11	0.81577E-02	0.69133E-02	0.88867E-07
12	0.10106E-01	0.85640E-02	0.11009E-06
13	0.12468E-01	0.10566E-01	0.13582E-06
14	0.15313E-01	0.12977E-01	0.16681E-06

15	0.18716E-01	0.15861E-01	0.20388E-06
16	0.22757E-01	0.19285E-01	0.24790E-06
17	0.27521E-01	0.23323E-01	0.29980E-06
18	0.33094E-01	0.28046E-01	0.36052E-06
19	0.39563E-01	0.33528E-01	0.43099E-06
20	0.47006E-01	0.39837E-01	0.51209E-06
21	0.55501E-01	0.47034E-01	0.60460E-06
22	0.65099E-01	0.55169E-01	0.70916E-06
23	0.75841E-01	0.64272E-01	0.82618E-06
24	0.87739E-01	0.74355E-01	0.95580E-06
25	0.10078	0.85403E-01	0.10978E-05
26	0.11490	0.97369E-01	0.12516E-05
27	0.13001	0.11017	0.14162E-05
28	0.14597	0.12371	0.15902E-05
29	0.16263	0.13782	0.17716E-05
30	0.17976	0.15234	0.19583E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 44.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.14278E-02	0.12100E-02	0.15554E-07
2	0.15170E-02	0.12856E-02	0.16525E-07
3	0.16994E-02	0.14402E-02	0.18513E-07
4	0.19837E-02	0.16811E-02	0.21609E-07
5	0.23827E-02	0.20192E-02	0.25958E-07
6	0.29142E-02	0.24697E-02	0.31746E-07
7	0.36011E-02	0.30517E-02	0.39228E-07
8	0.44715E-02	0.37894E-02	0.48711E-07
9	0.55598E-02	0.47117E-02	0.60566E-07
10	0.69064E-02	0.58529E-02	0.75235E-07
11	0.85585E-02	0.72530E-02	0.93233E-07
12	0.10570E-01	0.89577E-02	0.11515E-06
13	0.13002E-01	0.11019E-01	0.14164E-06
14	0.15922E-01	0.13494E-01	0.17345E-06
15	0.19404E-01	0.16444E-01	0.21138E-06
16	0.23527E-01	0.19938E-01	0.25629E-06
17	0.28372E-01	0.24044E-01	0.30907E-06
18	0.34023E-01	0.28833E-01	0.37064E-06
19	0.40563E-01	0.34375E-01	0.44188E-06
20	0.48067E-01	0.40735E-01	0.52363E-06
21	0.56604E-01	0.47969E-01	0.61662E-06
22	0.66225E-01	0.56123E-01	0.72143E-06
23	0.76965E-01	0.65225E-01	0.83843E-06
24	0.88832E-01	0.75261E-01	0.96770E-06
25	0.10180	0.86274E-01	0.11090E-05
26	0.11582	0.98156E-01	0.12617E-05
27	0.13080	0.11085	0.14249E-05
28	0.14660	0.12424	0.15971E-05
29	0.16307	0.13819	0.17764E-05
30	0.17999	0.15253	0.19607E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 45.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.15408E-02	0.13056E-02	0.16782E-07
2	0.16345E-02	0.13852E-02	0.17805E-07
3	0.18266E-02	0.15479E-02	0.19898E-07
4	0.21255E-02	0.18013E-02	0.23154E-07
5	0.25445E-02	0.21563E-02	0.27718E-07
6	0.31014E-02	0.26283E-02	0.33786E-07
7	0.38195E-02	0.32369E-02	0.41608E-07
8	0.47274E-02	0.40062E-02	0.51498E-07
9	0.58594E-02	0.49656E-02	0.63830E-07
10	0.72563E-02	0.61494E-02	0.79047E-07
11	0.89652E-02	0.75978E-02	0.97663E-07
12	0.11040E-01	0.93558E-02	0.12026E-06
13	0.13541E-01	0.11475E-01	0.14751E-06
14	0.16535E-01	0.14012E-01	0.18012E-06
15	0.20094E-01	0.17029E-01	0.21889E-06
16	0.24295E-01	0.20589E-01	0.26466E-06
17	0.29218E-01	0.24761E-01	0.31829E-06
18	0.34944E-01	0.29613E-01	0.38066E-06
19	0.41550E-01	0.35212E-01	0.45263E-06
20	0.49110E-01	0.41619E-01	0.53498E-06
21	0.57686E-01	0.48887E-01	0.62841E-06
22	0.67327E-01	0.57057E-01	0.73344E-06
23	0.78062E-01	0.66154E-01	0.85037E-06
24	0.89894E-01	0.76182E-01	0.97928E-06
25	0.10280	0.87120E-01	0.11199E-05
26	0.11672	0.98919E-01	0.12715E-05
27	0.13157	0.11150	0.14333E-05
28	0.14721	0.12476	0.16037E-05
29	0.16349	0.13855	0.17810E-05
30	0.18020	0.15271	0.19630E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 46.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.16587E-02	0.14056E-02	0.18069E-07
2	0.17574E-02	0.14893E-02	0.19144E-07
3	0.19593E-02	0.16604E-02	0.21343E-07
4	0.22730E-02	0.19263E-02	0.24762E-07
5	0.27121E-02	0.22984E-02	0.29544E-07
6	0.32947E-02	0.27921E-02	0.35891E-07
7	0.40442E-02	0.34273E-02	0.44056E-07
8	0.49895E-02	0.42284E-02	0.54354E-07
9	0.61653E-02	0.52248E-02	0.67162E-07
10	0.76122E-02	0.64510E-02	0.82924E-07
11	0.93774E-02	0.79469E-02	0.10215E-06
12	0.11514E-01	0.97579E-02	0.12543E-06
13	0.14083E-01	0.11935E-01	0.15341E-06
14	0.17149E-01	0.14533E-01	0.18681E-06
15	0.20783E-01	0.17613E-01	0.22640E-06
16	0.25060E-01	0.21238E-01	0.27300E-06
17	0.30058E-01	0.25473E-01	0.32745E-06
18	0.35855E-01	0.30386E-01	0.39059E-06
19	0.42524E-01	0.36038E-01	0.46325E-06
20	0.50136E-01	0.42488E-01	0.54616E-06
21	0.58748E-01	0.49786E-01	0.63998E-06
22	0.68405E-01	0.57970E-01	0.74518E-06
23	0.79131E-01	0.67060E-01	0.86203E-06
24	0.90928E-01	0.77058E-01	0.99054E-06
25	0.10377	0.87940E-01	0.11304E-05
26	0.11759	0.99657E-01	0.12810E-05
27	0.13231	0.11213	0.14414E-05
28	0.14780	0.12525	0.16101E-05
29	0.16389	0.13889	0.17854E-05
30	0.18041	0.15289	0.19653E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 47.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.17821E-02	0.15103E-02	0.19414E-07
2	0.18858E-02	0.15981E-02	0.20543E-07
3	0.20975E-02	0.17775E-02	0.22849E-07
4	0.24262E-02	0.20561E-02	0.26431E-07
5	0.28856E-02	0.24454E-02	0.31435E-07
6	0.34940E-02	0.29610E-02	0.38062E-07
7	0.42751E-02	0.36229E-02	0.46571E-07
8	0.52579E-02	0.44558E-02	0.57277E-07
9	0.64772E-02	0.54892E-02	0.70560E-07
10	0.79739E-02	0.67575E-02	0.86865E-07
11	0.97948E-02	0.83007E-02	0.10670E-06
12	0.11993E-01	0.10164E-01	0.13065E-06
13	0.14628E-01	0.12397E-01	0.15935E-06
14	0.17764E-01	0.15055E-01	0.19352E-06
15	0.21472E-01	0.18196E-01	0.23390E-06
16	0.25823E-01	0.21884E-01	0.28130E-06
17	0.30893E-01	0.26181E-01	0.33654E-06
18	0.36757E-01	0.31150E-01	0.40042E-06
19	0.43486E-01	0.36853E-01	0.47372E-06
20	0.51145E-01	0.43344E-01	0.55716E-06
21	0.59790E-01	0.50669E-01	0.65133E-06
22	0.69459E-01	0.58864E-01	0.75686E-06
23	0.80175E-01	0.67945E-01	0.87340E-06
24	0.91935E-01	0.77911E-01	0.10015E-05
25	0.10471	0.88737E-01	0.11407E-05
26	0.11844	0.10037	0.12902E-05
27	0.13303	0.11274	0.14492E-05
28	0.14836	0.12573	0.16162E-05
29	0.16428	0.13922	0.17896E-05
30	0.18061	0.15306	0.19675E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 48.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.19110E-02	0.16195E-02	0.20818E-07
2	0.20196E-02	0.17115E-02	0.22001E-07
3	0.22413E-02	0.18994E-02	0.24416E-07
4	0.25852E-02	0.21908E-02	0.28162E-07
5	0.30649E-02	0.25974E-02	0.33388E-07
6	0.36992E-02	0.31350E-02	0.40298E-07
7	0.45119E-02	0.38237E-02	0.49151E-07
8	0.55322E-02	0.46883E-02	0.60266E-07
9	0.67950E-02	0.57585E-02	0.74023E-07
10	0.83411E-02	0.70687E-02	0.90865E-07
11	0.10217E-01	0.86587E-02	0.11130E-06
12	0.12476E-01	0.10573E-01	0.13591E-06
13	0.15176E-01	0.12861E-01	0.16532E-06
14	0.18381E-01	0.15577E-01	0.20024E-06
15	0.22160E-01	0.18779E-01	0.24140E-06
16	0.26582E-01	0.22527E-01	0.28958E-06
17	0.31722E-01	0.26883E-01	0.34556E-06
18	0.37650E-01	0.31907E-01	0.41014E-06
19	0.44435E-01	0.37657E-01	0.48406E-06
20	0.52139E-01	0.44185E-01	0.56798E-06

21	0.60812E-01	0.51536E-01	0.66246E-06
22	0.70491E-01	0.59738E-01	0.76790E-06
23	0.81194E-01	0.68806E-01	0.88449E-06
24	0.92915E-01	0.78741E-01	0.10122E-05
25	0.10562	0.89511E-01	0.11506E-05
26	0.11926	0.10107	0.12991E-05
27	0.13373	0.11333	0.14568E-05
28	0.14891	0.12620	0.16222E-05
29	0.16466	0.13954	0.17938E-05
30	0.18080	0.15322	0.19696E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 49.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.20453E-02	0.17333E-02	0.22261E-07
2	0.21589E-02	0.18296E-02	0.23518E-07
3	0.23907E-02	0.20260E-02	0.26043E-07
4	0.27497E-02	0.23303E-02	0.29955E-07
5	0.32500E-02	0.27543E-02	0.35405E-07
6	0.39104E-02	0.33139E-02	0.42596E-07
7	0.47547E-02	0.40294E-02	0.51796E-07
8	0.58124E-02	0.49258E-02	0.63319E-07
9	0.71185E-02	0.60326E-02	0.77546E-07
10	0.87136E-02	0.73844E-02	0.94923E-07
11	0.10644E-01	0.90206E-02	0.11595E-06
12	0.12963E-01	0.10985E-01	0.14121E-06
13	0.15727E-01	0.13328E-01	0.17132E-06
14	0.18999E-01	0.16101E-01	0.20697E-06
15	0.22846E-01	0.19361E-01	0.24888E-06
16	0.27338E-01	0.23168E-01	0.29781E-06
17	0.32544E-01	0.27579E-01	0.35452E-06
18	0.38533E-01	0.32655E-01	0.41976E-06
19	0.45371E-01	0.38450E-01	0.49426E-06
20	0.53116E-01	0.45014E-01	0.57863E-06
21	0.61815E-01	0.52386E-01	0.67339E-06
22	0.71501E-01	0.60594E-01	0.77890E-06
23	0.82188E-01	0.69651E-01	0.89533E-06
24	0.93869E-01	0.79550E-01	0.10228E-05
25	0.10651	0.90263E-01	0.11603E-05
26	0.12005	0.10174	0.13078E-05
27	0.13440	0.11390	0.14641E-05
28	0.14944	0.12664	0.16279E-05
29	0.16503	0.13985	0.17977E-05
30	0.18099	0.15338	0.19716E-05

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 50.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.21851E-02	0.18518E-02	0.23804E-07
2	0.23037E-02	0.19523E-02	0.25096E-07
3	0.25456E-02	0.21573E-02	0.27731E-07
4	0.29200E-02	0.24746E-02	0.31809E-07
5	0.34409E-02	0.29160E-02	0.37484E-07
6	0.41273E-02	0.34977E-02	0.44961E-07
7	0.50033E-02	0.42401E-02	0.54504E-07
8	0.60984E-02	0.51681E-02	0.66433E-07
9	0.74474E-02	0.63114E-02	0.81129E-07
10	0.90911E-02	0.77043E-02	0.99035E-07
11	0.11076E-01	0.93862E-02	0.12065E-06
12	0.13453E-01	0.11401E-01	0.14655E-06
13	0.16280E-01	0.13796E-01	0.17735E-06
14	0.19618E-01	0.16625E-01	0.21371E-06
15	0.23532E-01	0.19942E-01	0.25635E-06
16	0.28090E-01	0.23805E-01	0.30600E-06
17	0.33359E-01	0.28271E-01	0.36340E-06
18	0.39407E-01	0.33396E-01	0.42928E-06
19	0.46295E-01	0.39233E-01	0.50432E-06
20	0.54078E-01	0.45828E-01	0.58910E-06
21	0.62799E-01	0.53220E-01	0.68411E-06
22	0.72490E-01	0.61432E-01	0.78967E-06
23	0.83159E-01	0.70474E-01	0.90591E-06
24	0.94799E-01	0.80338E-01	0.10327E-05
25	0.10737	0.90994E-01	0.11697E-05
26	0.12082	0.10239	0.13162E-05
27	0.13505	0.11445	0.14712E-05
28	0.14995	0.12708	0.16335E-05
29	0.16538	0.14015	0.18016E-05
30	0.18117	0.15353	0.19736E-05

VLEACH (Version 2.1, 1994)

By:
Varadhan Ravi and Jeffrey A. Johnson
(USEPA Contractors)
Center for Subsurface Modeling Support
Robert S. Kerr Environmental Research Laboratory
U.S. Environmental Protection Agency
P.O. Box 1198
Ada, OK 74820

Based on the original VLEACH (version 1.0)
developed by CH2M Hill, Redding, California
for USEPA Region IX

RUN VLAJ3-3; UPWARD DIFFUSION FROM WATER TABLE; CFC-11 5 PPB SOURCE
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 10.00 years. Vertical profile stored every 1.00 years.
Koc = 159.00 ml/g, 0.56150E-02cu.ft./g
Kh = 4.6000 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .86000 sq. m/day, 3378.9 sq.ft./yr

Polygon 1
POLY 1 - IMPERMEABLE GROUND SURFACE BC
Polygon area = 1.0000 sq. ft.
30 cells, each cell 10.000 ft. thick.
Soil Properties:
Bulk density = 1.8600 g/ml, 52670. g/cu.ft.
Porosity = 0.3000 Volumetric water content = 0.0500
Organic carbon content = 0.00100000
Recharge Rate = 0.00000000 ft/yr
Conc. in recharge water = 0.00000 mg/l, 0.00000 g/cu.ft
Atmospheric concentration = -1.0000 mg/l, -0.28317E-01g/cu.ft
Water table has a fixed concentration of 0.50000E-02mg/l, 0.14158E-03g/cu.ft.
with respect to gas diffusion.

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.00000	0.00000	0.00000
2	0.00000	0.00000	0.00000
3	0.00000	0.00000	0.00000
4	0.00000	0.00000	0.00000
5	0.00000	0.00000	0.00000
6	0.00000	0.00000	0.00000
7	0.00000	0.00000	0.00000
8	0.00000	0.00000	0.00000
9	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000
11	0.00000	0.00000	0.00000
12	0.00000	0.00000	0.00000
13	0.00000	0.00000	0.00000
14	0.00000	0.00000	0.00000
15	0.00000	0.00000	0.00000
16	0.00000	0.00000	0.00000
17	0.00000	0.00000	0.00000
18	0.00000	0.00000	0.00000
19	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000
21	0.00000	0.00000	0.00000
22	0.00000	0.00000	0.00000
23	0.00000	0.00000	0.00000
24	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
26	0.00000	0.00000	0.00000
27	0.00000	0.00000	0.00000
28	0.00000	0.00000	0.00000
29	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 1.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.15842E-09	0.34439E-10	0.19338E-15
2	0.20129E-09	0.43759E-10	0.24571E-15
3	0.29863E-09	0.64919E-10	0.36452E-15
4	0.47678E-09	0.10365E-09	0.58198E-15
5	0.78394E-09	0.17042E-09	0.95692E-15
6	0.13032E-08	0.28331E-09	0.15908E-14
7	0.21752E-08	0.47287E-09	0.26551E-14
8	0.36357E-08	0.79038E-09	0.44380E-14
9	0.60801E-08	0.13218E-08	0.74217E-14
10	0.10170E-07	0.22106E-08	0.12414E-13
11	0.17011E-07	0.36961E-08	0.20765E-13
12	0.28456E-07	0.61862E-08	0.34735E-13
13	0.47602E-07	0.10348E-07	0.58105E-13
14	0.79628E-07	0.17310E-07	0.97198E-13
15	0.13320E-06	0.28957E-07	0.16259E-12
16	0.22282E-06	0.48439E-07	0.27199E-12
17	0.37273E-06	0.81029E-07	0.45498E-12
18	0.62351E-06	0.13555E-06	0.76109E-12
19	0.10430E-05	0.22674E-06	0.12731E-11
20	0.17447E-05	0.37929E-06	0.21297E-11
21	0.29186E-05	0.63448E-06	0.35626E-11
22	0.48822E-05	0.10614E-05	0.59595E-11
23	0.81670E-05	0.17754E-05	0.99691E-11
24	0.13662E-04	0.29700E-05	0.16676E-10
25	0.22853E-04	0.49681E-05	0.27896E-10
26	0.38229E-04	0.83107E-05	0.46665E-10
27	0.63950E-04	0.13902E-04	0.78061E-10
28	0.10698E-03	0.23256E-04	0.13058E-09
29	0.17895E-03	0.38902E-04	0.21843E-09
30	0.29935E-03	0.65075E-04	0.36540E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 2.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.11263E-06	0.24485E-09	0.13748E-14
2	0.13961E-06	0.30394E-09	0.17066E-14
3	0.20064E-06	0.43618E-09	0.24491E-14
4	0.30955E-06	0.67294E-09	0.37785E-14
5	0.49231E-06	0.10702E-06	0.60093E-14
6	0.79197E-06	0.17217E-06	0.96672E-14
7	0.12788E-07	0.27801E-06	0.15610E-13
8	0.20665E-07	0.44923E-06	0.25224E-13
9	0.33377E-07	0.72558E-06	0.40741E-13
10	0.53855E-07	0.11706E-07	0.65739E-13
11	0.86792E-07	0.18868E-07	0.10594E-12
12	0.13967E-06	0.30364E-07	0.17049E-12
13	0.22443E-06	0.48790E-07	0.27395E-12
14	0.36002E-06	0.78265E-07	0.43946E-12
15	0.57646E-06	0.12532E-06	0.70366E-12
16	0.92118E-06	0.20026E-06	0.11244E-11
17	0.14688E-05	0.31931E-06	0.17929E-11
18	0.23364E-05	0.50790E-06	0.28519E-11
19	0.37064E-05	0.80574E-06	0.45242E-11
20	0.58624E-05	0.12744E-05	0.71560E-11
21	0.92418E-05	0.20091E-05	0.11281E-10
22	0.14515E-04	0.31554E-05	0.17717E-10
23	0.22700E-04	0.49347E-05	0.27706E-10
24	0.35328E-04	0.76800E-05	0.43123E-10
25	0.54674E-04	0.11886E-04	0.66738E-10
26	0.84060E-04	0.18274E-04	0.10261E-09
27	0.12824E-03	0.27878E-04	0.15653E-09
28	0.19381E-03	0.42133E-04	0.23658E-09
29	0.28958E-03	0.62952E-04	0.35347E-09
30	0.42647E-03	0.92712E-04	0.52058E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 3.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.44936E-06	0.97687E-09	0.54851E-14
2	0.54676E-06	0.11886E-06	0.66741E-14
3	0.76206E-06	0.16567E-06	0.93021E-14
4	0.11404E-07	0.24791E-06	0.13920E-13
5	0.17606E-07	0.38275E-06	0.21491E-13
6	0.27511E-07	0.59806E-06	0.33581E-13
7	0.43150E-07	0.93803E-06	0.52671E-13
8	0.67699E-07	0.14717E-07	0.82637E-13
9	0.10609E-06	0.23064E-07	0.12950E-12
10	0.16596E-06	0.36079E-07	0.20258E-12
11	0.25905E-06	0.56314E-07	0.31621E-12
12	0.40335E-06	0.87685E-07	0.49235E-12
13	0.62638E-06	0.13617E-06	0.76459E-12
14	0.96992E-06	0.21085E-06	0.11839E-11
15	0.14972E-05	0.32548E-06	0.18275E-11
16	0.23033E-05	0.50071E-06	0.28115E-11
17	0.35302E-05	0.76744E-06	0.43092E-11
18	0.53890E-05	0.11715E-05	0.65781E-11
19	0.81899E-05	0.17804E-05	0.99970E-11
20	0.12386E-04	0.26925E-05	0.15119E-10
21	0.18630E-04	0.40499E-05	0.22740E-10
22	0.27851E-04	0.60547E-05	0.33997E-10
23	0.41355E-04	0.89903E-05	0.50480E-10
24	0.60934E-04	0.13247E-04	0.74380E-10
25	0.88995E-04	0.19347E-04	0.10863E-09
26	0.12866E-03	0.27971E-04	0.15705E-09
27	0.18382E-03	0.39962E-04	0.22438E-09
28	0.25897E-03	0.56298E-04	0.31611E-09
29	0.35872E-03	0.77984E-04	0.43788E-09
30	0.48670E-03	0.10580E-03	0.59409E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 4.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13234E-07	0.28770E-06	0.16155E-13
2	0.15825E-07	0.34402E-06	0.19317E-13
3	0.21490E-07	0.46718E-06	0.26232E-13
4	0.31286E-07	0.68013E-06	0.38189E-13
5	0.47021E-07	0.10222E-07	0.57396E-13
6	0.71571E-07	0.15559E-07	0.87364E-13
7	0.10937E-06	0.23776E-07	0.13350E-12
8	0.16715E-06	0.36336E-07	0.20403E-12
9	0.25504E-06	0.55442E-07	0.31131E-12
10	0.38819E-06	0.84389E-07	0.47385E-12
11	0.58916E-06	0.12806E-06	0.71916E-12
12	0.89130E-06	0.19376E-06	0.10880E-11
13	0.13437E-05	0.29210E-06	0.16401E-11
14	0.20180E-05	0.43869E-06	0.24633E-11
15	0.30184E-05	0.65617E-06	0.36844E-11
16	0.44949E-05	0.97715E-06	0.54867E-11
17	0.66617E-05	0.14482E-05	0.81316E-11
18	0.96220E-05	0.21352E-05	0.11969E-10
19	0.14400E-04	0.31303E-05	0.17577E-10
20	0.20960E-04	0.45609E-05	0.25609E-10

21	0.30359E-04	0.65996E-05	0.37058E-10
22	0.43601E-04	0.94785E-05	0.53222E-10
23	0.62095E-04	0.13499E-04	0.75796E-10
24	0.87604E-04	0.19044E-04	0.10693E-09
25	0.12229E-03	0.26585E-04	0.14928E-09
26	0.16867E-03	0.36668E-04	0.20589E-09
27	0.22946E-03	0.49882E-04	0.28009E-09
28	0.30722E-03	0.66786E-04	0.37500E-09
29	0.40371E-03	0.87784E-04	0.49280E-09
30	0.51891E-03	0.11281E-03	0.63341E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 5.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.32042E-07	0.69657E-08	0.39112E-13
2	0.37730E-07	0.82022E-08	0.46056E-13
3	0.50057E-07	0.10882E-07	0.61102E-13
4	0.71068E-07	0.15450E-07	0.86750E-13
5	0.10422E-06	0.22656E-07	0.12721E-12
6	0.15488E-06	0.33670E-07	0.18906E-12
7	0.23115E-06	0.50250E-07	0.28216E-12
8	0.34500E-06	0.74999E-07	0.42112E-12
9	0.51392E-06	0.11172E-06	0.62732E-12
10	0.76337E-06	0.16595E-06	0.93181E-12
11	0.11300E-05	0.24566E-06	0.13794E-11
12	0.16664E-05	0.36226E-06	0.20341E-11
13	0.24473E-05	0.53202E-06	0.29873E-11
14	0.35781E-05	0.77784E-06	0.43676E-11
15	0.52064E-05	0.11318E-05	0.63552E-11
16	0.75369E-05	0.16385E-05	0.91999E-11
17	0.10850E-04	0.23587E-05	0.13244E-10
18	0.15526E-04	0.33753E-05	0.18952E-10
19	0.22074E-04	0.47988E-05	0.26944E-10
20	0.31161E-04	0.67741E-05	0.38036E-10
21	0.43650E-04	0.94890E-05	0.53281E-10
22	0.60628E-04	0.13180E-04	0.74005E-10
23	0.83427E-04	0.18136E-04	0.10184E-09
24	0.11362E-03	0.24700E-04	0.13869E-09
25	0.15298E-03	0.33258E-04	0.18673E-09
26	0.20334E-03	0.44204E-04	0.24820E-09
27	0.26641E-03	0.57915E-04	0.32519E-09
28	0.34340E-03	0.74653E-04	0.41918E-09
29	0.43452E-03	0.94461E-04	0.53040E-09
30	0.53830E-03	0.11702E-03	0.65707E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 6.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.67482E-07	0.14670E-07	0.82371E-13
2	0.78386E-07	0.17040E-07	0.95682E-13
3	0.10183E-06	0.22136E-07	0.12430E-12
4	0.14128E-06	0.30714E-07	0.17246E-12
5	0.20255E-06	0.44032E-07	0.24724E-12
6	0.29447E-06	0.64015E-07	0.35944E-12
7	0.43006E-06	0.93495E-07	0.52496E-12
8	0.62821E-06	0.13657E-06	0.76682E-12
9	0.91570E-06	0.19907E-06	0.11178E-11
10	0.13305E-05	0.28925E-06	0.16241E-11
11	0.19259E-05	0.41868E-06	0.23509E-11
12	0.27759E-05	0.60346E-06	0.33884E-11
13	0.39627E-05	0.86580E-06	0.48615E-11
14	0.56858E-05	0.12360E-05	0.69404E-11
15	0.80742E-05	0.17553E-05	0.98558E-11
16	0.11401E-04	0.24785E-05	0.13917E-10
17	0.16001E-04	0.34784E-05	0.19531E-10
18	0.22309E-04	0.48498E-05	0.27232E-10
19	0.30885E-04	0.67142E-05	0.37700E-10
20	0.42433E-04	0.92246E-05	0.51796E-10
21	0.57818E-04	0.12569E-04	0.70575E-10
22	0.78074E-04	0.16973E-04	0.95301E-10
23	0.10440E-03	0.22695E-04	0.12743E-09
24	0.13810E-03	0.30022E-04	0.16857E-09
25	0.18055E-03	0.39250E-04	0.22039E-09
26	0.23300E-03	0.50653E-04	0.28442E-09
27	0.29642E-03	0.64440E-04	0.36183E-09
28	0.37118E-03	0.80692E-04	0.45308E-09
29	0.45872E-03	0.99287E-04	0.55750E-09
30	0.55120E-03	0.11983E-03	0.67282E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 7.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12793E-06	0.27812E-07	0.15616E-12
2	0.14681E-06	0.31916E-07	0.17921E-12
3	0.18711E-06	0.40675E-07	0.22839E-12
4	0.25418E-06	0.55256E-07	0.31026E-12
5	0.35684E-06	0.77574E-07	0.43558E-12
6	0.50834E-06	0.11051E-06	0.62051E-12

7	0.72782E-06	0.15822E-06	0.88841E-12
8	0.10423E-05	0.22659E-06	0.12723E-11
9	0.14895E-05	0.32381E-06	0.18182E-11
10	0.21214E-05	0.46118E-06	0.25895E-11
11	0.30091E-05	0.65415E-06	0.36731E-11
12	0.42487E-05	0.92364E-06	0.51862E-11
13	0.59694E-05	0.12977E-05	0.72865E-11
14	0.83424E-05	0.18136E-05	0.10183E-10
15	0.11593E-04	0.25201E-05	0.14151E-10
16	0.16012E-04	0.34808E-05	0.19545E-10
17	0.21973E-04	0.47768E-05	0.26821E-10
18	0.29945E-04	0.65099E-05	0.36553E-10
19	0.40508E-04	0.88062E-05	0.49447E-10
20	0.54362E-04	0.11818E-04	0.66357E-10
21	0.72331E-04	0.15724E-04	0.88291E-10
22	0.95353E-04	0.20729E-04	0.11639E-09
23	0.12445E-03	0.27055E-04	0.15191E-09
24	0.16069E-03	0.34932E-04	0.19614E-09
25	0.20505E-03	0.44577E-04	0.25030E-09
26	0.25836E-03	0.56165E-04	0.31537E-09
27	0.32107E-03	0.69797E-04	0.39191E-09
28	0.39306E-03	0.85448E-04	0.47979E-09
29	0.47347E-03	0.10293E-03	0.57794E-09
30	0.56048E-03	0.12184E-03	0.68415E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 8.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.22336E-06	0.48556E-07	0.27264E-12
2	0.25354E-06	0.55118E-07	0.30949E-12
3	0.31756E-06	0.69034E-07	0.38763E-12
4	0.42306E-06	0.91970E-07	0.51641E-12
5	0.58249E-06	0.12663E-06	0.71102E-12
6	0.81428E-06	0.17702E-06	0.99395E-12
7	0.11446E-05	0.24882E-06	0.13971E-11
8	0.16096E-05	0.34991E-06	0.19647E-11
9	0.22588E-05	0.49104E-06	0.27572E-11
10	0.31588E-05	0.68670E-06	0.38558E-11
11	0.43987E-05	0.95624E-06	0.53693E-11
12	0.60960E-05	0.13252E-05	0.74411E-11
13	0.84043E-05	0.18270E-05	0.10259E-10
14	0.11522E-04	0.25048E-05	0.14065E-10
15	0.15704E-04	0.34138E-05	0.19169E-10
16	0.21267E-04	0.46234E-05	0.25960E-10
17	0.28610E-04	0.62195E-05	0.34923E-10
18	0.38213E-04	0.83072E-05	0.46645E-10
19	0.50853E-04	0.11011E-04	0.61829E-10
20	0.66598E-04	0.14478E-04	0.81293E-10
21	0.86805E-04	0.18871E-04	0.10598E-09
22	0.11210E-03	0.24369E-04	0.13683E-09
23	0.14332E-03	0.31158E-04	0.17495E-09
24	0.18131E-03	0.39415E-04	0.22131E-09
25	0.22675E-03	0.49294E-04	0.27679E-09
26	0.28014E-03	0.60899E-04	0.34195E-09
27	0.34158E-03	0.74257E-04	0.41695E-09
28	0.41073E-03	0.89289E-04	0.50136E-09
29	0.48660E-03	0.10578E-03	0.59397E-09
30	0.56755E-03	0.12338E-03	0.69278E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 9.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.36489E-06	0.79324E-07	0.44541E-12
2	0.41017E-06	0.89167E-07	0.50067E-12
3	0.50565E-06	0.10992E-06	0.61722E-12
4	0.66162E-06	0.14383E-06	0.80761E-12
5	0.89460E-06	0.19448E-06	0.10920E-11
6	0.12288E-05	0.26712E-06	0.14999E-11
7	0.16979E-05	0.36910E-06	0.20725E-11
8	0.23478E-05	0.51040E-06	0.28659E-11
9	0.32402E-05	0.70438E-06	0.39551E-11
10	0.44560E-05	0.96870E-06	0.54392E-11
11	0.61015E-05	0.13264E-05	0.74478E-11
12	0.83134E-05	0.18073E-05	0.10148E-10
13	0.11267E-04	0.24493E-05	0.13753E-10
14	0.15181E-04	0.33003E-05	0.18531E-10
15	0.20332E-04	0.44201E-05	0.24819E-10
16	0.27055E-04	0.58816E-05	0.33025E-10
17	0.35756E-04	0.77729E-05	0.43645E-10
18	0.46912E-04	0.10198E-04	0.57263E-10
19	0.61078E-04	0.13278E-04	0.74555E-10
20	0.78875E-04	0.17147E-04	0.96280E-10
21	0.10098E-03	0.21952E-04	0.12326E-09
22	0.12810E-03	0.27847E-04	0.15636E-09
23	0.16091E-03	0.34981E-04	0.19642E-09
24	0.20005E-03	0.43490E-04	0.24420E-09
25	0.24599E-03	0.53476E-04	0.30027E-09
26	0.29897E-03	0.64993E-04	0.36494E-09

27	0.35891E-03	0.78023E-04	0.43810E-09
28	0.42531E-03	0.92459E-04	0.51916E-09
29	0.49722E-03	0.10809E-03	0.60693E-09
30	0.57317E-03	0.12460E-03	0.69964E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 10.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.56441E-06	0.12270E-06	0.68894E-12
2	0.62886E-06	0.13671E-06	0.76762E-12
3	0.76410E-06	0.16611E-06	0.93270E-12
4	0.98325E-06	0.21375E-06	0.12002E-11
5	0.13072E-05	0.28418E-06	0.15957E-11
6	0.17663E-05	0.38398E-06	0.21560E-11
7	0.24020E-05	0.52217E-06	0.29320E-11
8	0.32700E-05	0.71087E-06	0.39915E-11
9	0.44436E-05	0.96599E-06	0.54240E-11
10	0.60176E-05	0.13082E-05	0.73453E-11
11	0.81134E-05	0.17638E-05	0.99037E-11
12	0.10885E-04	0.23662E-05	0.13286E-10
13	0.14523E-04	0.31572E-05	0.17728E-10
14	0.19265E-04	0.41880E-05	0.23516E-10
15	0.25397E-04	0.55212E-05	0.31001E-10
16	0.33264E-04	0.72313E-05	0.40604E-10
17	0.43268E-04	0.94060E-05	0.52815E-10
18	0.55872E-04	0.12146E-04	0.68200E-10
19	0.71596E-04	0.15564E-04	0.87394E-10
20	0.91006E-04	0.19784E-04	0.11109E-09
21	0.11469E-03	0.24933E-04	0.14000E-09
22	0.14325E-03	0.31141E-04	0.17486E-09
23	0.17723E-03	0.38527E-04	0.21633E-09
24	0.21708E-03	0.47191E-04	0.26498E-09
25	0.26311E-03	0.57197E-04	0.32116E-09
26	0.31539E-03	0.68564E-04	0.38499E-09
27	0.37373E-03	0.81247E-04	0.45620E-09
28	0.43758E-03	0.95127E-04	0.53414E-09
29	0.50602E-03	0.11001E-03	0.61768E-09
30	0.57778E-03	0.12560E-03	0.70527E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 11.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.83399E-06	0.18130E-06	0.10180E-11
2	0.92184E-06	0.20040E-06	0.11252E-11
3	0.11053E-05	0.24029E-06	0.13492E-11
4	0.14005E-05	0.30447E-06	0.17096E-11
5	0.18329E-05	0.39846E-06	0.22374E-11
6	0.24388E-05	0.53017E-06	0.29769E-11
7	0.32674E-05	0.71031E-06	0.39884E-11
8	0.43840E-05	0.95304E-06	0.53513E-11
9	0.58726E-05	0.12766E-05	0.71684E-11
10	0.78405E-05	0.17044E-05	0.95705E-11
11	0.10422E-04	0.22657E-05	0.12722E-10
12	0.13785E-04	0.29967E-05	0.16827E-10
13	0.18133E-04	0.39419E-05	0.22134E-10
14	0.23713E-04	0.51549E-05	0.28945E-10
15	0.30817E-04	0.66994E-05	0.37617E-10
16	0.39790E-04	0.86499E-05	0.48569E-10
17	0.51022E-04	0.11092E-04	0.62280E-10
18	0.64953E-04	0.14120E-04	0.79286E-10
19	0.82084E-04	0.17840E-04	0.10017E-09
20	0.10286E-03	0.22361E-04	0.12555E-09
21	0.12785E-03	0.27793E-04	0.15606E-09
22	0.15753E-03	0.34245E-04	0.19229E-09
23	0.19232E-03	0.41808E-04	0.23475E-09
24	0.23255E-03	0.50555E-04	0.28387E-09
25	0.27840E-03	0.60522E-04	0.33983E-09
26	0.32984E-03	0.71704E-04	0.40262E-09
27	0.38658E-03	0.84040E-04	0.47189E-09
28	0.44808E-03	0.97409E-04	0.54695E-09
29	0.51348E-03	0.11163E-03	0.62678E-09
30	0.58166E-03	0.12645E-03	0.71000E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 12.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11855E-05	0.25771E-06	0.14471E-11
2	0.13009E-05	0.28281E-06	0.15880E-11
3	0.15410E-05	0.33500E-06	0.18810E-11
4	0.19248E-05	0.41844E-06	0.23496E-11
5	0.24822E-05	0.53962E-06	0.30300E-11
6	0.32555E-05	0.70771E-06	0.39738E-11
7	0.43012E-05	0.93504E-06	0.52502E-11
8	0.56932E-05	0.12376E-05	0.69494E-11
9	0.75254E-05	0.16360E-05	0.91859E-11
10	0.99157E-05	0.21556E-05	0.12104E-10
11	0.13009E-04	0.28281E-05	0.15880E-10
12	0.16984E-04	0.36921E-05	0.20731E-10

13	0.22052E-04	0.47938E-05	0.26917E-10
14	0.28464E-04	0.61879E-05	0.34745E-10
15	0.36516E-04	0.79382E-05	0.44573E-10
16	0.46541E-04	0.10118E-04	0.56810E-10
17	0.58915E-04	0.12808E-04	0.71914E-10
18	0.74048E-04	0.16097E-04	0.90387E-10
19	0.92378E-04	0.20082E-04	0.11276E-09
20	0.11435E-03	0.24859E-04	0.13958E-09
21	0.14040E-03	0.30522E-04	0.17138E-09
22	0.17093E-03	0.37160E-04	0.20865E-09
23	0.20628E-03	0.44843E-04	0.25179E-09
24	0.24666E-03	0.53621E-04	0.30108E-09
25	0.29215E-03	0.63510E-04	0.35661E-09
26	0.34265E-03	0.74489E-04	0.41826E-09
27	0.39784E-03	0.86488E-04	0.48563E-09
28	0.45718E-03	0.99388E-04	0.55806E-09
29	0.51989E-03	0.11302E-03	0.63460E-09
30	0.58497E-03	0.12717E-03	0.71405E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 13.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.16301E-05	0.35437E-06	0.19898E-11
2	0.17771E-05	0.38632E-06	0.21692E-11
3	0.20817E-05	0.45255E-06	0.25411E-11
4	0.25659E-05	0.55781E-06	0.31321E-11
5	0.32637E-05	0.70950E-06	0.39839E-11
6	0.42228E-05	0.91801E-06	0.51546E-11
7	0.55068E-05	0.11971E-05	0.67218E-11
8	0.71969E-05	0.15645E-05	0.87850E-11
9	0.93958E-05	0.20426E-05	0.11469E-10
10	0.12230E-04	0.26586E-05	0.14928E-10
11	0.15853E-04	0.34462E-05	0.19350E-10
12	0.20448E-04	0.44453E-05	0.24960E-10
13	0.26234E-04	0.57031E-05	0.32023E-10
14	0.33463E-04	0.72745E-05	0.40847E-10
15	0.42423E-04	0.92223E-05	0.51783E-10
16	0.53437E-04	0.11617E-04	0.65228E-10
17	0.66861E-04	0.14535E-04	0.81614E-10
18	0.83073E-04	0.18059E-04	0.10140E-09
19	0.10247E-03	0.22275E-04	0.12506E-09
20	0.12543E-03	0.27268E-04	0.15311E-09
21	0.15234E-03	0.33117E-04	0.18595E-09
22	0.18351E-03	0.39893E-04	0.22400E-09
23	0.21920E-03	0.47651E-04	0.26756E-09
24	0.25954E-03	0.56422E-04	0.31681E-09
25	0.30456E-03	0.66208E-04	0.37176E-09
26	0.35409E-03	0.76977E-04	0.43222E-09
27	0.40781E-03	0.88654E-04	0.49779E-09
28	0.46517E-03	0.10112E-03	0.56782E-09
29	0.52548E-03	0.11424E-03	0.64143E-09
30	0.58785E-03	0.12779E-03	0.71757E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 14.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.21780E-05	0.47347E-06	0.26585E-11
2	0.23602E-05	0.51308E-06	0.28810E-11
3	0.27367E-05	0.59493E-06	0.33405E-11
4	0.33319E-05	0.72432E-06	0.40670E-11
5	0.41837E-05	0.90950E-06	0.51068E-11
6	0.53449E-05	0.11619E-05	0.65242E-11
7	0.68847E-05	0.14967E-05	0.84039E-11
8	0.88914E-05	0.19329E-05	0.10853E-10
9	0.11474E-04	0.24944E-05	0.14006E-10
10	0.14766E-04	0.32100E-05	0.18024E-10
11	0.18927E-04	0.41145E-05	0.23103E-10
12	0.24144E-04	0.52488E-05	0.29472E-10
13	0.30637E-04	0.66602E-05	0.37397E-10
14	0.38855E-04	0.84032E-05	0.47184E-10
15	0.48478E-04	0.10539E-04	0.59174E-10
16	0.60414E-04	0.13133E-04	0.73744E-10
17	0.74795E-04	0.16260E-04	0.91298E-10
18	0.91967E-04	0.19993E-04	0.11226E-09
19	0.11228E-03	0.24409E-04	0.13706E-09
20	0.13608E-03	0.29582E-04	0.16610E-09
21	0.16366E-03	0.35579E-04	0.19978E-09
22	0.19530E-03	0.42457E-04	0.23839E-09
23	0.23117E-03	0.50255E-04	0.28218E-09
24	0.27136E-03	0.58991E-04	0.33124E-09
25	0.31583E-03	0.68658E-04	0.38551E-09
26	0.36439E-03	0.79214E-04	0.44479E-09
27	0.41670E-03	0.90586E-04	0.50864E-09
28	0.47226E-03	0.10266E-03	0.57646E-09
29	0.53042E-03	0.11531E-03	0.64746E-09
30	0.59039E-03	0.12835E-03	0.72066E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 15.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.28381E-05	0.61697E-06	0.34643E-11
2	0.30588E-05	0.66496E-06	0.37337E-11
3	0.35135E-05	0.76380E-06	0.42887E-11
4	0.42289E-05	0.91934E-06	0.51621E-11
5	0.52465E-05	0.11405E-05	0.64041E-11
6	0.66231E-05	0.14396E-05	0.80845E-11
7	0.84332E-05	0.18333E-05	0.10294E-10
8	0.10770E-04	0.23413E-05	0.13147E-10
9	0.13749E-04	0.29888E-05	0.16782E-10
10	0.17507E-04	0.38058E-05	0.21369E-10
11	0.22207E-04	0.48276E-05	0.27107E-10
12	0.28039E-04	0.60954E-05	0.34226E-10
13	0.35220E-04	0.76564E-05	0.42991E-10
14	0.43993E-04	0.95636E-05	0.53700E-10
15	0.54628E-04	0.11876E-04	0.66681E-10
16	0.67415E-04	0.14655E-04	0.82291E-10
17	0.82663E-04	0.17970E-04	0.10090E-09
18	0.10068E-03	0.21888E-04	0.12290E-09
19	0.12179E-03	0.26476E-04	0.14866E-09
20	0.14628E-03	0.31799E-04	0.17855E-09
21	0.17440E-03	0.37912E-04	0.21288E-09
22	0.20636E-03	0.44861E-04	0.25189E-09
23	0.24229E-03	0.52672E-04	0.29576E-09
24	0.28223E-03	0.61355E-04	0.34451E-09
25	0.32611E-03	0.70892E-04	0.39806E-09
26	0.37370E-03	0.81240E-04	0.45616E-09
27	0.42469E-03	0.92324E-04	0.51840E-09
28	0.47880E-03	0.10404E-03	0.58420E-09
29	0.53481E-03	0.11626E-03	0.65282E-09
30	0.59264E-03	0.12883E-03	0.72341E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 16.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.36179E-05	0.78650E-06	0.44162E-11
2	0.38800E-05	0.84347E-06	0.47361E-11
3	0.44183E-05	0.96050E-06	0.53932E-11
4	0.52617E-05	0.11439E-05	0.64227E-11
5	0.64545E-05	0.14031E-05	0.78787E-11
6	0.80571E-05	0.17515E-05	0.98349E-11
7	0.10148E-04	0.22061E-05	0.12387E-10
8	0.12825E-04	0.27880E-05	0.15654E-10
9	0.16206E-04	0.35230E-05	0.19781E-10
10	0.20432E-04	0.44417E-05	0.24940E-10
11	0.25667E-04	0.55798E-05	0.31330E-10
12	0.32100E-04	0.69783E-05	0.39183E-10
13	0.39944E-04	0.86835E-05	0.48758E-10
14	0.49435E-04	0.10747E-04	0.60343E-10
15	0.60829E-04	0.13224E-04	0.74251E-10
16	0.74398E-04	0.16173E-04	0.90814E-10
17	0.90425E-04	0.19658E-04	0.11038E-09
18	0.10919E-03	0.23738E-04	0.13329E-09
19	0.13098E-03	0.28474E-04	0.15988E-09
20	0.15603E-03	0.33920E-04	0.19046E-09
21	0.18457E-03	0.40123E-04	0.22529E-09
22	0.21674E-03	0.47118E-04	0.26457E-09
23	0.25264E-03	0.54922E-04	0.30839E-09
24	0.29227E-03	0.63537E-04	0.35676E-09
25	0.33552E-03	0.72940E-04	0.40956E-09
26	0.38219E-03	0.83084E-04	0.46652E-09
27	0.43193E-03	0.93898E-04	0.52724E-09
28	0.48431E-03	0.10528E-03	0.59117E-09
29	0.53876E-03	0.11712E-03	0.65764E-09
30	0.59466E-03	0.12927E-03	0.72587E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 17.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.45235E-05	0.98338E-06	0.55217E-11
2	0.48292E-05	0.10498E-05	0.58947E-11
3	0.54555E-05	0.11860E-05	0.66593E-11
4	0.64331E-05	0.13985E-05	0.78526E-11
5	0.78084E-05	0.16975E-05	0.95313E-11
6	0.96447E-05	0.20967E-05	0.11773E-10
7	0.12024E-04	0.26138E-05	0.14677E-10
8	0.15045E-04	0.32707E-05	0.18365E-10
9	0.18831E-04	0.40937E-05	0.22986E-10
10	0.23522E-04	0.51135E-05	0.28712E-10
11	0.29283E-04	0.63659E-05	0.35745E-10
12	0.36299E-04	0.78912E-05	0.44309E-10
13	0.44778E-04	0.97344E-05	0.54659E-10
14	0.54948E-04	0.11945E-04	0.67070E-10
15	0.67044E-04	0.14575E-04	0.81838E-10
16	0.81328E-04	0.17680E-04	0.99273E-10
17	0.98054E-04	0.21316E-04	0.11969E-09
18	0.11748E-03	0.25539E-04	0.14340E-09

19	0.13984E-03	0.30401E-04	0.17070E-09
20	0.16536E-03	0.35948E-04	0.20185E-09
21	0.19421E-03	0.42219E-04	0.23706E-09
22	0.22650E-03	0.49239E-04	0.27648E-09
23	0.26230E-03	0.57021E-04	0.32017E-09
24	0.30157E-03	0.65558E-04	0.36811E-09
25	0.34419E-03	0.74825E-04	0.42014E-09
26	0.38995E-03	0.84772E-04	0.47600E-09
27	0.43852E-03	0.95331E-04	0.53526E-09
28	0.48949E-03	0.10641E-03	0.59749E-09
29	0.54233E-03	0.11790E-03	0.66200E-09
30	0.59648E-03	0.12967E-03	0.72810E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 18.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.55595E-05	0.12086E-05	0.67862E-11
2	0.59104E-05	0.12849E-05	0.72146E-11
3	0.66281E-05	0.14409E-05	0.80907E-11
4	0.77443E-05	0.16836E-05	0.94532E-11
5	0.93073E-05	0.20233E-05	0.11361E-10
6	0.11382E-04	0.24744E-05	0.13894E-10
7	0.14053E-04	0.30550E-05	0.17154E-10
8	0.17422E-04	0.37874E-05	0.21266E-10
9	0.21610E-04	0.46978E-05	0.26378E-10
10	0.26760E-04	0.58173E-05	0.32664E-10
11	0.33032E-04	0.71810E-05	0.40321E-10
12	0.40610E-04	0.88283E-05	0.49571E-10
13	0.49692E-04	0.10803E-04	0.60657E-10
14	0.60494E-04	0.13151E-04	0.73842E-10
15	0.73244E-04	0.15923E-04	0.89406E-10
16	0.88177E-04	0.19169E-04	0.10763E-09
17	0.10553E-03	0.22941E-04	0.12881E-09
18	0.12552E-03	0.27288E-04	0.15322E-09
19	0.14838E-03	0.32256E-04	0.18112E-09
20	0.17427E-03	0.37885E-04	0.21272E-09
21	0.20334E-03	0.44205E-04	0.24821E-09
22	0.23569E-03	0.51236E-04	0.28769E-09
23	0.27132E-03	0.58983E-04	0.33119E-09
24	0.31021E-03	0.67436E-04	0.37865E-09
25	0.35220E-03	0.76566E-04	0.42992E-09
26	0.39709E-03	0.86324E-04	0.48471E-09
27	0.44456E-03	0.96643E-04	0.54265E-09
28	0.49422E-03	0.10744E-03	0.60327E-09
29	0.54559E-03	0.11861E-03	0.66597E-09
30	0.59814E-03	0.13003E-03	0.73012E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 19.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.67288E-05	0.14628E-05	0.82135E-11
2	0.71263E-05	0.15492E-05	0.86988E-11
3	0.79376E-05	0.17256E-05	0.96891E-11
4	0.91954E-05	0.19990E-05	0.11224E-10
5	0.10949E-04	0.23803E-05	0.13365E-10
6	0.13266E-04	0.28838E-05	0.16193E-10
7	0.16229E-04	0.35281E-05	0.19810E-10
8	0.19943E-04	0.43354E-05	0.24343E-10
9	0.24528E-04	0.53323E-05	0.29941E-10
10	0.30126E-04	0.65491E-05	0.36773E-10
11	0.36894E-04	0.80204E-05	0.45035E-10
12	0.45008E-04	0.97844E-05	0.54939E-10
13	0.54661E-04	0.11883E-04	0.66722E-10
14	0.66055E-04	0.14360E-04	0.80630E-10
15	0.79405E-04	0.17262E-04	0.96926E-10
16	0.94926E-04	0.20636E-04	0.11587E-09
17	0.11283E-03	0.24529E-04	0.13773E-09
18	0.13333E-03	0.28984E-04	0.16275E-09
19	0.15659E-03	0.34042E-04	0.19114E-09
20	0.18278E-03	0.39735E-04	0.22311E-09
21	0.21201E-03	0.46090E-04	0.25879E-09
22	0.24434E-03	0.53118E-04	0.29826E-09
23	0.27978E-03	0.60822E-04	0.34152E-09
24	0.31826E-03	0.69186E-04	0.38848E-09
25	0.35963E-03	0.78180E-04	0.43898E-09
26	0.40368E-03	0.87757E-04	0.49276E-09
27	0.45011E-03	0.97851E-04	0.54943E-09
28	0.49855E-03	0.10838E-03	0.60856E-09
29	0.54856E-03	0.11925E-03	0.66961E-09
30	0.59965E-03	0.13036E-03	0.73197E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 20.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.80331E-05	0.17463E-05	0.98056E-11
2	0.84779E-05	0.18430E-05	0.10349E-10
3	0.93842E-05	0.20400E-05	0.11455E-10
4	0.10785E-04	0.23446E-05	0.13165E-10

5	0.12731E-04	0.27676E-05	0.15540E-10
6	0.15289E-04	0.33236E-05	0.18662E-10
7	0.18543E-04	0.40312E-05	0.22635E-10
8	0.22598E-04	0.49126E-05	0.27584E-10
9	0.27572E-04	0.59940E-05	0.33656E-10
10	0.33604E-04	0.73053E-05	0.41019E-10
11	0.40848E-04	0.88800E-05	0.49861E-10
12	0.49473E-04	0.10755E-04	0.60390E-10
13	0.59662E-04	0.12970E-04	0.72827E-10
14	0.71607E-04	0.15567E-04	0.87408E-10
15	0.85507E-04	0.18588E-04	0.10437E-09
16	0.10156E-03	0.22078E-04	0.12397E-09
17	0.11996E-03	0.26078E-04	0.14643E-09
18	0.14088E-03	0.30627E-04	0.17197E-09
19	0.16449E-03	0.35759E-04	0.20079E-09
20	0.19092E-03	0.41504E-04	0.23304E-09
21	0.22025E-03	0.47880E-04	0.26884E-09
22	0.25252E-03	0.54896E-04	0.30824E-09
23	0.28772E-03	0.62549E-04	0.35121E-09
24	0.32578E-03	0.70822E-04	0.39766E-09
25	0.36654E-03	0.79683E-04	0.44742E-09
26	0.40979E-03	0.89085E-04	0.50021E-09
27	0.45525E-03	0.98966E-04	0.55570E-09
28	0.50255E-03	0.10925E-03	0.61344E-09
29	0.55130E-03	0.11985E-03	0.67295E-09
30	0.60105E-03	0.13066E-03	0.73367E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 21.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.94728E-05	0.20593E-05	0.11563E-10
2	0.99653E-05	0.21664E-05	0.12164E-10
3	0.10967E-04	0.23841E-05	0.13387E-10
4	0.12511E-04	0.27198E-05	0.15271E-10
5	0.14648E-04	0.31843E-05	0.17880E-10
6	0.17445E-04	0.37925E-05	0.21295E-10
7	0.20987E-04	0.45625E-05	0.25618E-10
8	0.25378E-04	0.55165E-05	0.30975E-10
9	0.30728E-04	0.66801E-05	0.37509E-10
10	0.37180E-04	0.80825E-05	0.45383E-10
11	0.44878E-04	0.97562E-05	0.54781E-10
12	0.53987E-04	0.11736E-04	0.65899E-10
13	0.64678E-04	0.14061E-04	0.78950E-10
14	0.77133E-04	0.16768E-04	0.94153E-10
15	0.91535E-04	0.19899E-04	0.11173E-09
16	0.10807E-03	0.23493E-04	0.13191E-09
17	0.12690E-03	0.27587E-04	0.15490E-09
18	0.14820E-03	0.32217E-04	0.18090E-09
19	0.17209E-03	0.37411E-04	0.21007E-09
20	0.19870E-03	0.43195E-04	0.24254E-09
21	0.22807E-03	0.49581E-04	0.27840E-09
22	0.26025E-03	0.56577E-04	0.31768E-09
23	0.29520E-03	0.64174E-04	0.36034E-09
24	0.33283E-03	0.72354E-04	0.40627E-09
25	0.37299E-03	0.81085E-04	0.45529E-09
26	0.41547E-03	0.90321E-04	0.50715E-09
27	0.46001E-03	0.10000E-03	0.56151E-09
28	0.50625E-03	0.11005E-03	0.61798E-09
29	0.55383E-03	0.12040E-03	0.67604E-09
30	0.60233E-03	0.13094E-03	0.73524E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 22.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.11047E-04	0.24016E-05	0.13485E-10
2	0.11587E-04	0.25189E-05	0.14144E-10
3	0.12683E-04	0.27573E-05	0.15482E-10
4	0.14370E-04	0.31239E-05	0.17540E-10
5	0.16696E-04	0.36298E-05	0.20380E-10
6	0.19729E-04	0.42890E-05	0.24083E-10
7	0.23553E-04	0.51202E-05	0.28750E-10
8	0.28266E-04	0.61448E-05	0.34503E-10
9	0.33984E-04	0.73879E-05	0.41483E-10
10	0.40838E-04	0.88777E-05	0.49849E-10
11	0.48969E-04	0.10645E-04	0.59774E-10
12	0.58533E-04	0.12725E-04	0.71449E-10
13	0.69694E-04	0.15151E-04	0.85072E-10
14	0.82619E-04	0.17961E-04	0.10085E-09
15	0.97479E-04	0.21191E-04	0.11899E-09
16	0.11444E-03	0.24878E-04	0.13969E-09
17	0.13366E-03	0.29056E-04	0.16315E-09
18	0.15527E-03	0.33755E-04	0.18953E-09
19	0.17940E-03	0.39000E-04	0.21899E-09
20	0.20614E-03	0.44812E-04	0.25162E-09
21	0.23552E-03	0.51201E-04	0.28749E-09
22	0.26758E-03	0.58169E-04	0.32662E-09
23	0.30225E-03	0.65706E-04	0.36894E-09
24	0.33945E-03	0.73794E-04	0.41435E-09

25	0.37903E-03	0.82398E-04	0.46266E-09
26	0.42078E-03	0.91474E-04	0.51362E-09
27	0.46444E-03	0.10096E-03	0.56692E-09
28	0.50969E-03	0.11080E-03	0.62215E-09
29	0.55618E-03	0.12091E-03	0.67891E-09
30	0.60352E-03	0.13120E-03	0.73669E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 23.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12754E-04	0.27727E-05	0.15569E-10
2	0.13341E-04	0.29002E-05	0.16285E-10
3	0.14531E-04	0.31590E-05	0.17738E-10
4	0.16358E-04	0.35560E-05	0.19967E-10
5	0.18870E-04	0.41022E-05	0.23034E-10
6	0.22134E-04	0.48117E-05	0.27018E-10
7	0.26231E-04	0.57024E-05	0.32019E-10
8	0.31259E-04	0.67954E-05	0.38156E-10
9	0.37329E-04	0.81149E-05	0.45565E-10
10	0.44566E-04	0.96882E-05	0.54399E-10
11	0.53107E-04	0.11545E-04	0.64825E-10
12	0.63099E-04	0.13717E-04	0.77022E-10
13	0.74666E-04	0.16238E-04	0.91178E-10
14	0.88054E-04	0.19142E-04	0.10748E-09
15	0.10333E-03	0.22463E-04	0.12613E-09
16	0.12067E-03	0.26234E-04	0.14730E-09
17	0.14023E-03	0.30484E-04	0.17117E-09
18	0.16211E-03	0.35242E-04	0.19789E-09
19	0.18643E-03	0.40529E-04	0.22757E-09
20	0.21326E-03	0.46360E-04	0.26031E-09
21	0.24262E-03	0.52744E-04	0.29616E-09
22	0.27452E-03	0.59679E-04	0.33510E-09
23	0.30891E-03	0.67155E-04	0.37707E-09
24	0.34569E-03	0.75149E-04	0.42196E-09
25	0.38470E-03	0.83630E-04	0.46958E-09
26	0.42574E-03	0.92553E-04	0.51969E-09
27	0.46858E-03	0.10186E-03	0.57197E-09
28	0.51290E-03	0.11150E-03	0.62607E-09
29	0.55837E-03	0.12138E-03	0.68157E-09
30	0.60463E-03	0.13144E-03	0.73804E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 24.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.14592E-04	0.31721E-05	0.17811E-10
2	0.15225E-04	0.33097E-05	0.18584E-10
3	0.16506E-04	0.35884E-05	0.20149E-10
4	0.18470E-04	0.40152E-05	0.22545E-10
5	0.21164E-04	0.46008E-05	0.25834E-10
6	0.24652E-04	0.53591E-05	0.30091E-10
7	0.29014E-04	0.63074E-05	0.35416E-10
8	0.34344E-04	0.74661E-05	0.41922E-10
9	0.40750E-04	0.88588E-05	0.49742E-10
10	0.48352E-04	0.10511E-04	0.59021E-10
11	0.57280E-04	0.12452E-04	0.69919E-10
12	0.67673E-04	0.14711E-04	0.82605E-10
13	0.79674E-04	0.17320E-04	0.97254E-10
14	0.93429E-04	0.20311E-04	0.11404E-09
15	0.10908E-03	0.23713E-04	0.13315E-09
16	0.12677E-03	0.27559E-04	0.15474E-09
17	0.14662E-03	0.31873E-04	0.17897E-09
18	0.16873E-03	0.36681E-04	0.20598E-09
19	0.19320E-03	0.42000E-04	0.23583E-09
20	0.22008E-03	0.47844E-04	0.26864E-09
21	0.24939E-03	0.54216E-04	0.30442E-09
22	0.28113E-03	0.61114E-04	0.34316E-09
23	0.31522E-03	0.68526E-04	0.38477E-09
24	0.35157E-03	0.76428E-04	0.42914E-09
25	0.39003E-03	0.84789E-04	0.47609E-09
26	0.43040E-03	0.93586E-04	0.52537E-09
27	0.47245E-03	0.10271E-03	0.57670E-09
28	0.51589E-03	0.11215E-03	0.62973E-09
29	0.56041E-03	0.12183E-03	0.68407E-09
30	0.60567E-03	0.13167E-03	0.73931E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 25.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.16556E-04	0.35991E-05	0.20209E-10
2	0.17234E-04	0.37464E-05	0.21036E-10
3	0.18605E-04	0.40446E-05	0.22710E-10
4	0.20702E-04	0.45004E-05	0.25270E-10
5	0.23572E-04	0.51243E-05	0.28773E-10
6	0.27276E-04	0.59297E-05	0.33295E-10
7	0.31894E-04	0.69334E-05	0.38931E-10
8	0.37514E-04	0.81551E-05	0.45791E-10
9	0.44240E-04	0.96174E-05	0.54002E-10
10	0.52187E-04	0.11345E-04	0.63702E-10

11	0.61478E-04	0.13365E-04	0.75044E-10
12	0.72244E-04	0.15705E-04	0.88185E-10
13	0.84619E-04	0.18395E-04	0.10329E-09
14	0.98737E-04	0.21465E-04	0.12052E-09
15	0.11473E-03	0.24942E-04	0.14005E-09
16	0.13272E-03	0.28853E-04	0.16201E-09
17	0.15283E-03	0.33223E-04	0.18655E-09
18	0.17513E-03	0.38073E-04	0.21378E-09
19	0.19972E-03	0.43417E-04	0.24379E-09
20	0.22662E-03	0.49266E-04	0.27663E-09
21	0.25586E-03	0.55622E-04	0.31232E-09
22	0.28741E-03	0.62480E-04	0.35063E-09
23	0.32120E-03	0.69826E-04	0.39207E-09
24	0.35713E-03	0.77638E-04	0.43594E-09
25	0.39506E-03	0.85883E-04	0.48223E-09
26	0.43479E-03	0.94520E-04	0.53073E-09
27	0.47609E-03	0.10350E-03	0.58115E-09
28	0.51870E-03	0.11276E-03	0.63316E-09
29	0.56233E-03	0.12224E-03	0.68640E-09
30	0.60663E-03	0.13188E-03	0.74049E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 26.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.18643E-04	0.40528E-05	0.22756E-10
2	0.19364E-04	0.42096E-05	0.23637E-10
3	0.20822E-04	0.45266E-05	0.25417E-10
4	0.23048E-04	0.50105E-05	0.28134E-10
5	0.26087E-04	0.56712E-05	0.31844E-10
6	0.30001E-04	0.65219E-05	0.36620E-10
7	0.34862E-04	0.75787E-05	0.42554E-10
8	0.40758E-04	0.88605E-05	0.49752E-10
9	0.47789E-04	0.10389E-04	0.58333E-10
10	0.56061E-04	0.12187E-04	0.68431E-10
11	0.65693E-04	0.14281E-04	0.80188E-10
12	0.76806E-04	0.16697E-04	0.93753E-10
13	0.89525E-04	0.19462E-04	0.10928E-09
14	0.10397E-03	0.22603E-04	0.12692E-09
15	0.12028E-03	0.26147E-04	0.14681E-09
16	0.13854E-03	0.30117E-04	0.16911E-09
17	0.15886E-03	0.34535E-04	0.19392E-09
18	0.18133E-03	0.39419E-04	0.22134E-09
19	0.20600E-03	0.44782E-04	0.25145E-09
20	0.23290E-03	0.50631E-04	0.28429E-09
21	0.26205E-03	0.56968E-04	0.31987E-09
22	0.29339E-03	0.63782E-04	0.35813E-09
23	0.32688E-03	0.71062E-04	0.39901E-09
24	0.36241E-03	0.78784E-04	0.44237E-09
25	0.39981E-03	0.86916E-04	0.48804E-09
26	0.43893E-03	0.95419E-04	0.53578E-09
27	0.47952E-03	0.10424E-03	0.58533E-09
28	0.52135E-03	0.11334E-03	0.63639E-09
29	0.56412E-03	0.12264E-03	0.68860E-09
30	0.60754E-03	0.13207E-03	0.74160E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 27.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.20848E-04	0.45321E-05	0.25448E-10
2	0.21611E-04	0.46981E-05	0.26380E-10
3	0.23153E-04	0.50333E-05	0.28262E-10
4	0.25503E-04	0.55441E-05	0.31130E-10
5	0.28705E-04	0.62403E-05	0.35039E-10
6	0.32818E-04	0.71343E-05	0.40059E-10
7	0.37912E-04	0.82418E-05	0.46278E-10
8	0.44071E-04	0.95806E-05	0.53795E-10
9	0.51388E-04	0.11171E-04	0.62727E-10
10	0.59967E-04	0.13036E-04	0.73198E-10
11	0.69916E-04	0.15199E-04	0.85343E-10
12	0.81350E-04	0.17685E-04	0.99301E-10
13	0.94388E-04	0.20519E-04	0.11521E-09
14	0.10914E-03	0.23726E-04	0.13322E-09
15	0.12571E-03	0.27329E-04	0.15345E-09
16	0.14421E-03	0.31351E-04	0.17604E-09
17	0.16473E-03	0.35810E-04	0.20108E-09
18	0.18732E-03	0.40723E-04	0.22866E-09
19	0.21205E-03	0.46098E-04	0.25884E-09
20	0.23893E-03	0.51942E-04	0.29165E-09
21	0.26796E-03	0.58253E-04	0.32709E-09
22	0.29911E-03	0.65024E-04	0.36511E-09
23	0.33229E-03	0.72238E-04	0.40561E-09
24	0.36741E-03	0.79872E-04	0.44848E-09
25	0.40432E-03	0.87895E-04	0.49353E-09
26	0.44284E-03	0.96269E-04	0.54055E-09
27	0.48276E-03	0.10495E-03	0.58928E-09
28	0.52384E-03	0.11388E-03	0.63943E-09
29	0.56582E-03	0.12300E-03	0.69067E-09
30	0.60840E-03	0.13226E-03	0.74265E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 28.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.23166E-04	0.50361E-05	0.28278E-10
2	0.23970E-04	0.52109E-05	0.29259E-10
3	0.25592E-04	0.55635E-05	0.31239E-10
4	0.28061E-04	0.61002E-05	0.34253E-10
5	0.31419E-04	0.68302E-05	0.38351E-10
6	0.35722E-04	0.77656E-05	0.43604E-10
7	0.41037E-04	0.89211E-05	0.50092E-10
8	0.47444E-04	0.10314E-04	0.57912E-10
9	0.55031E-04	0.11963E-04	0.67174E-10
10	0.63896E-04	0.13890E-04	0.77995E-10
11	0.74141E-04	0.16118E-04	0.90501E-10
12	0.85873E-04	0.18668E-04	0.10482E-09
13	0.99198E-04	0.21565E-04	0.12109E-09
14	0.11422E-03	0.24831E-04	0.13943E-09
15	0.13105E-03	0.28488E-04	0.15996E-09
16	0.14976E-03	0.32555E-04	0.18280E-09
17	0.17043E-03	0.37050E-04	0.20804E-09
18	0.19313E-03	0.41984E-04	0.23574E-09
19	0.21789E-03	0.47368E-04	0.26597E-09
20	0.24473E-03	0.53203E-04	0.29873E-09
21	0.27364E-03	0.59487E-04	0.33402E-09
22	0.30457E-03	0.66211E-04	0.37177E-09
23	0.33745E-03	0.73358E-04	0.41191E-09
24	0.37217E-03	0.80906E-04	0.45429E-09
25	0.40859E-03	0.88824E-04	0.49875E-09
26	0.44654E-03	0.97075E-04	0.54507E-09
27	0.48582E-03	0.10561E-03	0.59302E-09
28	0.52620E-03	0.11439E-03	0.64230E-09
29	0.56742E-03	0.12335E-03	0.69262E-09
30	0.60921E-03	0.13244E-03	0.74363E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 29.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.25593E-04	0.55636E-05	0.31240E-10
2	0.26435E-04	0.57468E-05	0.32268E-10
3	0.28134E-04	0.61160E-05	0.34342E-10
4	0.30716E-04	0.66774E-05	0.37493E-10
5	0.34222E-04	0.74396E-05	0.41773E-10
6	0.38705E-04	0.84142E-05	0.47246E-10
7	0.44230E-04	0.96151E-05	0.53989E-10
8	0.50871E-04	0.11059E-04	0.62095E-10
9	0.58711E-04	0.12763E-04	0.71666E-10
10	0.67844E-04	0.14749E-04	0.82813E-10
11	0.78363E-04	0.17035E-04	0.95654E-10
12	0.90368E-04	0.19645E-04	0.11031E-09
13	0.10396E-03	0.22600E-04	0.12690E-09
14	0.11923E-03	0.25920E-04	0.14554E-09
15	0.13627E-03	0.29624E-04	0.16634E-09
16	0.15516E-03	0.33731E-04	0.18940E-09
17	0.17597E-03	0.38255E-04	0.21480E-09
18	0.19875E-03	0.43207E-04	0.24261E-09
19	0.22353E-03	0.48593E-04	0.27285E-09
20	0.25031E-03	0.54416E-04	0.30554E-09
21	0.27908E-03	0.60670E-04	0.34066E-09
22	0.30979E-03	0.67346E-04	0.37815E-09
23	0.34237E-03	0.74428E-04	0.41791E-09
24	0.37670E-03	0.81892E-04	0.45982E-09
25	0.41265E-03	0.89708E-04	0.50371E-09
26	0.45006E-03	0.97839E-04	0.54937E-09
27	0.48872E-03	0.10624E-03	0.59656E-09
28	0.52843E-03	0.11488E-03	0.64503E-09
29	0.56893E-03	0.12368E-03	0.69447E-09
30	0.60997E-03	0.13260E-03	0.74457E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 30.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.28122E-04	0.61135E-05	0.34327E-10
2	0.29001E-04	0.63046E-05	0.35400E-10
3	0.30773E-04	0.66897E-05	0.37563E-10
4	0.33462E-04	0.72744E-05	0.40846E-10
5	0.37109E-04	0.80672E-05	0.45297E-10
6	0.41763E-04	0.90788E-05	0.50978E-10
7	0.47484E-04	0.10323E-04	0.57962E-10
8	0.54345E-04	0.11814E-04	0.66336E-10
9	0.62423E-04	0.13570E-04	0.76197E-10
10	0.71804E-04	0.15609E-04	0.87647E-10
11	0.82577E-04	0.17951E-04	0.10080E-09
12	0.94833E-04	0.20616E-04	0.11576E-09
13	0.10866E-03	0.23623E-04	0.13264E-09
14	0.12416E-03	0.26991E-04	0.15155E-09
15	0.14139E-03	0.30738E-04	0.17259E-09
16	0.16044E-03	0.34879E-04	0.19585E-09

17	0.18137E-03	0.39427E-04	0.22139E-09
18	0.20420E-03	0.44392E-04	0.24926E-09
19	0.22896E-03	0.49777E-04	0.27950E-09
20	0.25589E-03	0.55684E-04	0.31210E-09
21	0.28431E-03	0.61807E-04	0.34705E-09
22	0.31480E-03	0.68435E-04	0.38426E-09
23	0.34707E-03	0.75451E-04	0.42366E-09
24	0.38103E-03	0.82832E-04	0.46510E-09
25	0.41652E-03	0.90549E-04	0.50843E-09
26	0.45340E-03	0.98566E-04	0.55345E-09
27	0.49148E-03	0.10684E-03	0.59993E-09
28	0.53054E-03	0.11534E-03	0.64761E-09
29	0.57036E-03	0.12399E-03	0.69622E-09
30	0.61070E-03	0.13276E-03	0.74545E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 31.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.30749E-04	0.66845E-05	0.37533E-10
2	0.31663E-04	0.68832E-05	0.38649E-10
3	0.33503E-04	0.72833E-05	0.40896E-10
4	0.36295E-04	0.78902E-05	0.44303E-10
5	0.40074E-04	0.87117E-05	0.48916E-10
6	0.44888E-04	0.97583E-05	0.54793E-10
7	0.50795E-04	0.11042E-04	0.62003E-10
8	0.57861E-04	0.12578E-04	0.70626E-10
9	0.66160E-04	0.14383E-04	0.80758E-10
10	0.75771E-04	0.16472E-04	0.92491E-10
11	0.86778E-04	0.18865E-04	0.10593E-09
12	0.99265E-04	0.21579E-04	0.12117E-09
13	0.11331E-03	0.24634E-04	0.13832E-09
14	0.12901E-03	0.28045E-04	0.15747E-09
15	0.14641E-03	0.31829E-04	0.17872E-09
16	0.16560E-03	0.36000E-04	0.20214E-09
17	0.18661E-03	0.40568E-04	0.22779E-09
18	0.20949E-03	0.45541E-04	0.25571E-09
19	0.23424E-03	0.50922E-04	0.28593E-09
20	0.26087E-03	0.56711E-04	0.31843E-09
21	0.28934E-03	0.62900E-04	0.35318E-09
22	0.31960E-03	0.69479E-04	0.39012E-09
23	0.35158E-03	0.76430E-04	0.42915E-09
24	0.38516E-03	0.83730E-04	0.47014E-09
25	0.42022E-03	0.91351E-04	0.51294E-09
26	0.45659E-03	0.99256E-04	0.55734E-09
27	0.49410E-03	0.10741E-03	0.60313E-09
28	0.53256E-03	0.11577E-03	0.65007E-09
29	0.57173E-03	0.12429E-03	0.69788E-09
30	0.61139E-03	0.13291E-03	0.74629E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 32.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.33467E-04	0.72755E-05	0.40852E-10
2	0.34414E-04	0.74813E-05	0.42006E-10
3	0.36320E-04	0.78956E-05	0.44334E-10
4	0.39207E-04	0.85233E-05	0.47858E-10
5	0.43111E-04	0.93720E-05	0.52624E-10
6	0.48076E-04	0.10451E-04	0.58684E-10
7	0.54156E-04	0.11773E-04	0.66106E-10
8	0.61414E-04	0.13351E-04	0.74965E-10
9	0.69918E-04	0.15200E-04	0.85346E-10
10	0.79743E-04	0.17335E-04	0.97338E-10
11	0.90964E-04	0.19775E-04	0.11104E-09
12	0.10366E-03	0.22535E-04	0.12653E-09
13	0.11791E-03	0.25632E-04	0.14392E-09
14	0.13378E-03	0.29082E-04	0.16330E-09
15	0.15134E-03	0.32899E-04	0.18473E-09
16	0.17064E-03	0.37095E-04	0.20829E-09
17	0.19172E-03	0.41678E-04	0.23402E-09
18	0.21462E-03	0.46656E-04	0.26197E-09
19	0.23934E-03	0.52030E-04	0.29215E-09
20	0.26587E-03	0.57798E-04	0.32453E-09
21	0.29418E-03	0.63952E-04	0.35909E-09
22	0.32421E-03	0.70482E-04	0.39575E-09
23	0.35589E-03	0.77368E-04	0.43442E-09
24	0.38911E-03	0.84590E-04	0.47497E-09
25	0.42374E-03	0.92118E-04	0.51724E-09
26	0.45963E-03	0.99920E-04	0.56105E-09
27	0.49660E-03	0.10796E-03	0.60618E-09
28	0.53447E-03	0.11619E-03	0.65241E-09
29	0.57302E-03	0.12457E-03	0.69946E-09
30	0.61204E-03	0.13305E-03	0.74709E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 33.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.36272E-04	0.78852E-05	0.44275E-10
2	0.37250E-04	0.80978E-05	0.45469E-10

3	0.39216E-04	0.85253E-05	0.47870E-10
4	0.42194E-04	0.91726E-05	0.51504E-10
5	0.46215E-04	0.10047E-04	0.56412E-10
6	0.51321E-04	0.11157E-04	0.62645E-10
7	0.57563E-04	0.12514E-04	0.70264E-10
8	0.64999E-04	0.14130E-04	0.79341E-10
9	0.73693E-04	0.16020E-04	0.89954E-10
10	0.83714E-04	0.18199E-04	0.10219E-09
11	0.95132E-04	0.20681E-04	0.11612E-09
12	0.10802E-03	0.23482E-04	0.13185E-09
13	0.12244E-03	0.26618E-04	0.14946E-09
14	0.13847E-03	0.30103E-04	0.16903E-09
15	0.15616E-03	0.33948E-04	0.19062E-09
16	0.17555E-03	0.38164E-04	0.21429E-09
17	0.19669E-03	0.42760E-04	0.24010E-09
18	0.21960E-03	0.47739E-04	0.26805E-09
19	0.24427E-03	0.53103E-04	0.29817E-09
20	0.27070E-03	0.58848E-04	0.33043E-09
21	0.29884E-03	0.64966E-04	0.36479E-09
22	0.32865E-03	0.71446E-04	0.40117E-09
23	0.36004E-03	0.78269E-04	0.43948E-09
24	0.39290E-03	0.85413E-04	0.47960E-09
25	0.42712E-03	0.92851E-04	0.52136E-09
26	0.46254E-03	0.10055E-03	0.56460E-09
27	0.49899E-03	0.10848E-03	0.60910E-09
28	0.53630E-03	0.11659E-03	0.65464E-09
29	0.57426E-03	0.12484E-03	0.70097E-09
30	0.61266E-03	0.13319E-03	0.74785E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 34.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.39157E-04	0.85125E-05	0.47798E-10
2	0.40164E-04	0.87314E-05	0.49027E-10
3	0.42188E-04	0.91714E-05	0.51497E-10
4	0.45250E-04	0.98370E-05	0.55235E-10
5	0.49380E-04	0.10735E-04	0.60276E-10
6	0.54618E-04	0.11873E-04	0.66670E-10
7	0.61010E-04	0.13263E-04	0.74472E-10
8	0.68611E-04	0.14915E-04	0.83750E-10
9	0.77481E-04	0.16844E-04	0.94577E-10
10	0.87682E-04	0.19061E-04	0.10703E-09
11	0.99279E-04	0.21582E-04	0.12119E-09
12	0.11234E-03	0.24421E-04	0.13713E-09
13	0.12692E-03	0.27592E-04	0.15493E-09
14	0.14309E-03	0.31106E-04	0.17466E-09
15	0.16089E-03	0.34976E-04	0.19639E-09
16	0.18036E-03	0.39209E-04	0.22016E-09
17	0.20154E-03	0.43813E-04	0.24601E-09
18	0.22444E-03	0.48791E-04	0.27396E-09
19	0.24905E-03	0.54142E-04	0.30401E-09
20	0.27537E-03	0.59863E-04	0.33613E-09
21	0.30334E-03	0.65944E-04	0.37028E-09
22	0.33292E-03	0.72374E-04	0.40638E-09
23	0.36402E-03	0.79135E-04	0.44434E-09
24	0.39654E-03	0.86204E-04	0.48403E-09
25	0.43035E-03	0.93554E-04	0.52531E-09
26	0.46532E-03	0.10116E-03	0.56799E-09
27	0.50127E-03	0.10897E-03	0.61188E-09
28	0.53805E-03	0.11697E-03	0.65677E-09
29	0.57544E-03	0.12510E-03	0.70242E-09
30	0.61326E-03	0.13332E-03	0.74858E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 35.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.42118E-04	0.91562E-05	0.51412E-10
2	0.43152E-04	0.93809E-05	0.52674E-10
3	0.45230E-04	0.98326E-05	0.55210E-10
4	0.48371E-04	0.10515E-04	0.59044E-10
5	0.52602E-04	0.11435E-04	0.64209E-10
6	0.57962E-04	0.12600E-04	0.70751E-10
7	0.64494E-04	0.14020E-04	0.78724E-10
8	0.72247E-04	0.15708E-04	0.88186E-10
9	0.81278E-04	0.17669E-04	0.99212E-10
10	0.91643E-04	0.19922E-04	0.11186E-09
11	0.10340E-03	0.22479E-04	0.12622E-09
12	0.11662E-03	0.25352E-04	0.14235E-09
13	0.13134E-03	0.28553E-04	0.16033E-09
14	0.14763E-03	0.32094E-04	0.18021E-09
15	0.16553E-03	0.35984E-04	0.20205E-09
16	0.18506E-03	0.40231E-04	0.22590E-09
17	0.20626E-03	0.44840E-04	0.25178E-09
18	0.22914E-03	0.49814E-04	0.27970E-09
19	0.25369E-03	0.55150E-04	0.30967E-09
20	0.27989E-03	0.60845E-04	0.34164E-09
21	0.30769E-03	0.66889E-04	0.37558E-09
22	0.33704E-03	0.73269E-04	0.41141E-09

23	0.36785E-03	0.79967E-04	0.44902E-09
24	0.40003E-03	0.86963E-04	0.48830E-09
25	0.43345E-03	0.94229E-04	0.52909E-09
26	0.46796E-03	0.10173E-03	0.57124E-09
27	0.50346E-03	0.10945E-03	0.61455E-09
28	0.53972E-03	0.11733E-03	0.65881E-09
29	0.57657E-03	0.12534E-03	0.70379E-09
30	0.61383E-03	0.13344E-03	0.74927E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 36.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.45149E-04	0.98151E-05	0.55112E-10
2	0.46209E-04	0.10045E-04	0.56405E-10
3	0.48336E-04	0.10508E-04	0.59001E-10
4	0.51550E-04	0.11206E-04	0.62924E-10
5	0.55876E-04	0.12147E-04	0.68205E-10
6	0.61349E-04	0.13337E-04	0.74885E-10
7	0.68009E-04	0.14785E-04	0.83015E-10
8	0.75903E-04	0.16501E-04	0.92651E-10
9	0.85081E-04	0.18496E-04	0.10385E-09
10	0.95597E-04	0.20782E-04	0.11669E-09
11	0.10750E-03	0.23371E-04	0.13123E-09
12	0.12086E-03	0.26274E-04	0.14753E-09
13	0.13571E-03	0.29502E-04	0.16565E-09
14	0.15210E-03	0.33066E-04	0.18566E-09
15	0.17008E-03	0.36973E-04	0.20760E-09
16	0.18966E-03	0.41230E-04	0.23151E-09
17	0.21087E-03	0.45842E-04	0.25740E-09
18	0.23372E-03	0.50809E-04	0.28529E-09
19	0.25819E-03	0.56129E-04	0.31516E-09
20	0.28426E-03	0.61798E-04	0.34699E-09
21	0.31189E-03	0.67802E-04	0.38071E-09
22	0.34101E-03	0.74132E-04	0.41625E-09
23	0.37154E-03	0.80770E-04	0.45352E-09
24	0.40339E-03	0.87693E-04	0.49240E-09
25	0.43643E-03	0.94876E-04	0.53273E-09
26	0.47054E-03	0.10229E-03	0.57436E-09
27	0.50555E-03	0.10990E-03	0.61711E-09
28	0.54132E-03	0.11768E-03	0.66076E-09
29	0.57765E-03	0.12558E-03	0.70511E-09
30	0.61438E-03	0.13356E-03	0.74994E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 37.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.48245E-04	0.10488E-04	0.58891E-10
2	0.49328E-04	0.10723E-04	0.60212E-10
3	0.51502E-04	0.11196E-04	0.62866E-10
4	0.54783E-04	0.11909E-04	0.68871E-10
5	0.59197E-04	0.12869E-04	0.72258E-10
6	0.64774E-04	0.14081E-04	0.79066E-10
7	0.71552E-04	0.15555E-04	0.87340E-10
8	0.79574E-04	0.17299E-04	0.97133E-10
9	0.88887E-04	0.19323E-04	0.10850E-09
10	0.99539E-04	0.21639E-04	0.12150E-09
11	0.11158E-03	0.24257E-04	0.13620E-09
12	0.12506E-03	0.27186E-04	0.15265E-09
13	0.14002E-03	0.30439E-04	0.17091E-09
14	0.15650E-03	0.34022E-04	0.19103E-09
15	0.17454E-03	0.37943E-04	0.21305E-09
16	0.19418E-03	0.42206E-04	0.23700E-09
17	0.21537E-03	0.46819E-04	0.26289E-09
18	0.23818E-03	0.51777E-04	0.29073E-09
19	0.26256E-03	0.57079E-04	0.32050E-09
20	0.28850E-03	0.62718E-04	0.35216E-09
21	0.31595E-03	0.68685E-04	0.38567E-09
22	0.34484E-03	0.74966E-04	0.42093E-09
23	0.37510E-03	0.81543E-04	0.45787E-09
24	0.40662E-03	0.88396E-04	0.49634E-09
25	0.43930E-03	0.95499E-04	0.53623E-09
26	0.47299E-03	0.10282E-03	0.57736E-09
27	0.50757E-03	0.11034E-03	0.61956E-09
28	0.54285E-03	0.11801E-03	0.66264E-09
29	0.57869E-03	0.12580E-03	0.70638E-09
30	0.61490E-03	0.13367E-03	0.75058E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 38.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.51401E-04	0.11174E-04	0.62743E-10
2	0.52506E-04	0.11414E-04	0.64091E-10
3	0.54722E-04	0.11896E-04	0.66797E-10
4	0.58066E-04	0.12623E-04	0.70878E-10
5	0.62560E-04	0.13600E-04	0.76364E-10
6	0.68233E-04	0.14833E-04	0.83289E-10
7	0.75120E-04	0.16330E-04	0.91695E-10
8	0.83259E-04	0.18100E-04	0.10163E-09

9	0.92695E-04	0.20151E-04	0.11315E-09
10	0.10347E-03	0.22493E-04	0.12630E-09
11	0.11563E-03	0.25137E-04	0.14114E-09
12	0.12922E-03	0.28091E-04	0.15773E-09
13	0.14427E-03	0.31363E-04	0.17611E-09
14	0.16083E-03	0.34963E-04	0.19632E-09
15	0.17892E-03	0.38896E-04	0.21840E-09
16	0.19856E-03	0.43165E-04	0.24237E-09
17	0.21976E-03	0.47774E-04	0.26825E-09
18	0.24252E-03	0.52721E-04	0.29603E-09
19	0.26681E-03	0.58003E-04	0.32569E-09
20	0.29262E-03	0.63613E-04	0.35718E-09
21	0.31988E-03	0.69540E-04	0.39047E-09
22	0.34855E-03	0.75772E-04	0.42546E-09
23	0.37853E-03	0.82290E-04	0.46206E-09
24	0.40974E-03	0.89074E-04	0.50015E-09
25	0.44206E-03	0.96100E-04	0.53960E-09
26	0.47536E-03	0.10334E-03	0.58025E-09
27	0.50950E-03	0.11076E-03	0.62192E-09
28	0.54433E-03	0.11833E-03	0.66444E-09
29	0.57969E-03	0.12602E-03	0.70760E-09
30	0.61540E-03	0.13378E-03	0.75119E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 39.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.54613E-04	0.11872E-04	0.66663E-10
2	0.55737E-04	0.12117E-04	0.68036E-10
3	0.57993E-04	0.12607E-04	0.70789E-10
4	0.61394E-04	0.13347E-04	0.74941E-10
5	0.65962E-04	0.14340E-04	0.80516E-10
6	0.71723E-04	0.15592E-04	0.87548E-10
7	0.78708E-04	0.17110E-04	0.96075E-10
8	0.86955E-04	0.18903E-04	0.10614E-09
9	0.96500E-04	0.20978E-04	0.11779E-09
10	0.10739E-03	0.23345E-04	0.13108E-09
11	0.11965E-03	0.26011E-04	0.14605E-09
12	0.13333E-03	0.28986E-04	0.16275E-09
13	0.14847E-03	0.32276E-04	0.18123E-09
14	0.16509E-03	0.35890E-04	0.20152E-09
15	0.18322E-03	0.39831E-04	0.22365E-09
16	0.20287E-03	0.44102E-04	0.24763E-09
17	0.22405E-03	0.48706E-04	0.27349E-09
18	0.24675E-03	0.53641E-04	0.30119E-09
19	0.27095E-03	0.58901E-04	0.33073E-09
20	0.29661E-03	0.64481E-04	0.36206E-09
21	0.32370E-03	0.70369E-04	0.39512E-09
22	0.35214E-03	0.76552E-04	0.42984E-09
23	0.38185E-03	0.83012E-04	0.46611E-09
24	0.41275E-03	0.89729E-04	0.50383E-09
25	0.44472E-03	0.96678E-04	0.54285E-09
26	0.47763E-03	0.10383E-03	0.58303E-09
27	0.51136E-03	0.11117E-03	0.62419E-09
28	0.54575E-03	0.11864E-03	0.66617E-09
29	0.58065E-03	0.12623E-03	0.70877E-09
30	0.61588E-03	0.13389E-03	0.75178E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 40.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.57875E-04	0.12581E-04	0.70645E-10
2	0.59017E-04	0.12830E-04	0.72040E-10
3	0.61309E-04	0.13328E-04	0.74837E-10
4	0.64763E-04	0.14079E-04	0.79053E-10
5	0.69398E-04	0.15087E-04	0.84711E-10
6	0.75239E-04	0.16356E-04	0.91841E-10
7	0.82315E-04	0.17894E-04	0.10048E-09
8	0.90658E-04	0.19708E-04	0.11066E-09
9	0.10030E-03	0.21805E-04	0.12243E-09
10	0.11129E-03	0.24193E-04	0.13584E-09
11	0.12364E-03	0.26879E-04	0.15093E-09
12	0.13741E-03	0.29872E-04	0.16773E-09
13	0.15262E-03	0.33178E-04	0.18629E-09
14	0.16929E-03	0.36802E-04	0.20664E-09
15	0.18744E-03	0.40749E-04	0.22880E-09
16	0.20710E-03	0.45021E-04	0.25279E-09
17	0.22824E-03	0.49618E-04	0.27860E-09
18	0.25087E-03	0.54538E-04	0.30623E-09
19	0.27497E-03	0.59776E-04	0.33564E-09
20	0.30049E-03	0.65325E-04	0.36680E-09
21	0.32740E-03	0.71173E-04	0.39964E-09
22	0.35561E-03	0.77307E-04	0.43408E-09
23	0.38507E-03	0.83710E-04	0.47003E-09
24	0.41566E-03	0.90361E-04	0.50738E-09
25	0.44729E-03	0.97237E-04	0.54598E-09
26	0.47983E-03	0.10431E-03	0.58571E-09
27	0.51316E-03	0.11156E-03	0.62638E-09
28	0.54712E-03	0.11894E-03	0.66784E-09

29	0.58157E-03	0.12643E-03	0.70989E-09
30	0.61635E-03	0.13399E-03	0.75235E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 41.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.61183E-04	0.13301E-04	0.74683E-10
2	0.62342E-04	0.13553E-04	0.76096E-10
3	0.64667E-04	0.14058E-04	0.78936E-10
4	0.68169E-04	0.14819E-04	0.83210E-10
5	0.72865E-04	0.15840E-04	0.88943E-10
6	0.78779E-04	0.17126E-04	0.96162E-10
7	0.85938E-04	0.18682E-04	0.10490E-09
8	0.94366E-04	0.20514E-04	0.11519E-09
9	0.10410E-03	0.22630E-04	0.12707E-09
10	0.11517E-03	0.25037E-04	0.14058E-09
11	0.12761E-03	0.27741E-04	0.15577E-09
12	0.14145E-03	0.30750E-04	0.17266E-09
13	0.15671E-03	0.34068E-04	0.19129E-09
14	0.17342E-03	0.37701E-04	0.21169E-09
15	0.19159E-03	0.41651E-04	0.23387E-09
16	0.21124E-03	0.45921E-04	0.25784E-09
17	0.23234E-03	0.50509E-04	0.28361E-09
18	0.25490E-03	0.55413E-04	0.31115E-09
19	0.27889E-03	0.60628E-04	0.34043E-09
20	0.30427E-03	0.66145E-04	0.37141E-09
21	0.33099E-03	0.71954E-04	0.40402E-09
22	0.35898E-03	0.78040E-04	0.43819E-09
23	0.38818E-03	0.84386E-04	0.47383E-09
24	0.41847E-03	0.90972E-04	0.51081E-09
25	0.44977E-03	0.97776E-04	0.54901E-09
26	0.48195E-03	0.10477E-03	0.58829E-09
27	0.51489E-03	0.11193E-03	0.62850E-09
28	0.54844E-03	0.11923E-03	0.66945E-09
29	0.58246E-03	0.12662E-03	0.71098E-09
30	0.61679E-03	0.13409E-03	0.75289E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 42.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.64533E-04	0.14029E-04	0.78773E-10
2	0.65708E-04	0.14284E-04	0.80206E-10
3	0.68062E-04	0.14796E-04	0.83080E-10
4	0.71608E-04	0.15567E-04	0.87408E-10
5	0.76360E-04	0.16600E-04	0.93209E-10
6	0.82339E-04	0.17900E-04	0.10051E-09
7	0.89569E-04	0.19472E-04	0.10933E-09
8	0.98076E-04	0.21321E-04	0.11972E-09
9	0.10789E-03	0.23454E-04	0.13170E-09
10	0.11904E-03	0.25878E-04	0.14530E-09
11	0.13155E-03	0.28597E-04	0.16057E-09
12	0.14545E-03	0.31619E-04	0.17754E-09
13	0.16076E-03	0.34947E-04	0.19623E-09
14	0.17750E-03	0.38586E-04	0.21666E-09
15	0.19567E-03	0.42538E-04	0.23885E-09
16	0.21530E-03	0.46803E-04	0.26280E-09
17	0.23635E-03	0.51381E-04	0.28851E-09
18	0.25884E-03	0.56269E-04	0.31595E-09
19	0.28271E-03	0.61459E-04	0.34509E-09
20	0.30794E-03	0.66944E-04	0.37589E-09
21	0.33448E-03	0.72713E-04	0.40828E-09
22	0.36225E-03	0.78751E-04	0.44218E-09
23	0.39119E-03	0.85041E-04	0.47751E-09
24	0.42120E-03	0.91564E-04	0.51413E-09
25	0.45217E-03	0.98298E-04	0.55194E-09
26	0.48400E-03	0.10522E-03	0.59080E-09
27	0.51656E-03	0.11230E-03	0.63054E-09
28	0.54971E-03	0.11950E-03	0.67101E-09
29	0.58332E-03	0.12681E-03	0.71203E-09
30	0.61723E-03	0.13418E-03	0.75342E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 43.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.67921E-04	0.14765E-04	0.82908E-10
2	0.69110E-04	0.15024E-04	0.84359E-10
3	0.71491E-04	0.15542E-04	0.87266E-10
4	0.75078E-04	0.16321E-04	0.91642E-10
5	0.79879E-04	0.17365E-04	0.97504E-10
6	0.85917E-04	0.18678E-04	0.10487E-09
7	0.93212E-04	0.20263E-04	0.11378E-09
8	0.10179E-03	0.22128E-04	0.12425E-09
9	0.11167E-03	0.24276E-04	0.13631E-09
10	0.12288E-03	0.26714E-04	0.15000E-09
11	0.13546E-03	0.29447E-04	0.16534E-09
12	0.14940E-03	0.32479E-04	0.18237E-09
13	0.16475E-03	0.35815E-04	0.20110E-09
14	0.18151E-03	0.39458E-04	0.22156E-09

15	0.19968E-03	0.43410E-04	0.24374E-09
16	0.21928E-03	0.47669E-04	0.26766E-09
17	0.24028E-03	0.52236E-04	0.29330E-09
18	0.26268E-03	0.57104E-04	0.32064E-09
19	0.28644E-03	0.62269E-04	0.34964E-09
20	0.31152E-03	0.67722E-04	0.38026E-09
21	0.33787E-03	0.73451E-04	0.41242E-09
22	0.36543E-03	0.79441E-04	0.44606E-09
23	0.39411E-03	0.85677E-04	0.48107E-09
24	0.42383E-03	0.92138E-04	0.51736E-09
25	0.45450E-03	0.98803E-04	0.55478E-09
26	0.48596E-03	0.10565E-03	0.59322E-09
27	0.51817E-03	0.11265E-03	0.63251E-09
28	0.55094E-03	0.11977E-03	0.67251E-09
29	0.58414E-03	0.12699E-03	0.71304E-09
30	0.61764E-03	0.13427E-03	0.75393E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 44.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.71344E-04	0.15509E-04	0.87066E-10
2	0.72544E-04	0.15771E-04	0.88552E-10
3	0.74950E-04	0.16294E-04	0.91488E-10
4	0.78571E-04	0.17081E-04	0.95908E-10
5	0.83418E-04	0.18134E-04	0.10182E-09
6	0.89509E-04	0.19458E-04	0.10926E-09
7	0.96862E-04	0.21057E-04	0.11823E-09
8	0.10550E-03	0.22935E-04	0.12878E-09
9	0.11544E-03	0.25098E-04	0.14091E-09
10	0.12671E-03	0.27546E-04	0.15467E-09
11	0.13933E-03	0.30290E-04	0.17008E-09
12	0.15332E-03	0.33331E-04	0.18715E-09
13	0.16870E-03	0.36673E-04	0.20592E-09
14	0.18546E-03	0.40318E-04	0.22639E-09
15	0.20363E-03	0.44267E-04	0.24856E-09
16	0.22319E-03	0.48519E-04	0.27244E-09
17	0.24413E-03	0.53072E-04	0.29800E-09
18	0.26644E-03	0.57922E-04	0.32523E-09
19	0.29008E-03	0.63061E-04	0.35409E-09
20	0.31501E-03	0.68480E-04	0.38452E-09
21	0.34118E-03	0.74169E-04	0.41646E-09
22	0.36852E-03	0.80112E-04	0.44983E-09
23	0.39695E-03	0.86294E-04	0.48454E-09
24	0.42639E-03	0.92695E-04	0.52048E-09
25	0.45675E-03	0.99293E-04	0.55753E-09
26	0.48790E-03	0.10607E-03	0.59556E-09
27	0.51974E-03	0.11299E-03	0.63442E-09
28	0.55213E-03	0.12003E-03	0.67396E-09
29	0.58495E-03	0.12716E-03	0.71402E-09
30	0.61805E-03	0.13436E-03	0.75442E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 45.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.74797E-04	0.16260E-04	0.91301E-10
2	0.76008E-04	0.16524E-04	0.92780E-10
3	0.78436E-04	0.17051E-04	0.95743E-10
4	0.82088E-04	0.17845E-04	0.10020E-09
5	0.86975E-04	0.18908E-04	0.10617E-09
6	0.93112E-04	0.20242E-04	0.11366E-09
7	0.10052E-03	0.21851E-04	0.12270E-09
8	0.10921E-03	0.23741E-04	0.13330E-09
9	0.11920E-03	0.25914E-04	0.14550E-09
10	0.13052E-03	0.28374E-04	0.15932E-09
11	0.14318E-03	0.31127E-04	0.17478E-09
12	0.15720E-03	0.34175E-04	0.19189E-09
13	0.17260E-03	0.37521E-04	0.21068E-09
14	0.18936E-03	0.41166E-04	0.23115E-09
15	0.20751E-03	0.45111E-04	0.25330E-09
16	0.22703E-03	0.49354E-04	0.27712E-09
17	0.24790E-03	0.53892E-04	0.30261E-09
18	0.27012E-03	0.58721E-04	0.32972E-09
19	0.29363E-03	0.63833E-04	0.35843E-09
20	0.31841E-03	0.69220E-04	0.38867E-09
21	0.34439E-03	0.74868E-04	0.42039E-09
22	0.37152E-03	0.80765E-04	0.45350E-09
23	0.39971E-03	0.86893E-04	0.48791E-09
24	0.42888E-03	0.93235E-04	0.52351E-09
25	0.45893E-03	0.99768E-04	0.56020E-09
26	0.48976E-03	0.10647E-03	0.59783E-09
27	0.52125E-03	0.11332E-03	0.63627E-09
28	0.55328E-03	0.12028E-03	0.67537E-09
29	0.58572E-03	0.12733E-03	0.71496E-09
30	0.61844E-03	0.13444E-03	0.75490E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 46.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)

1	0.78278E-04	0.17017E-04	0.95548E-10
2	0.79498E-04	0.17282E-04	0.97040E-10
3	0.81945E-04	0.17814E-04	0.10003E-09
4	0.85625E-04	0.18614E-04	0.10452E-09
5	0.90548E-04	0.19684E-04	0.11053E-09
6	0.96726E-04	0.21027E-04	0.11807E-09
7	0.10417E-03	0.22647E-04	0.12716E-09
8	0.11291E-03	0.24546E-04	0.13782E-09
9	0.12295E-03	0.26728E-04	0.15006E-09
10	0.13431E-03	0.29196E-04	0.16395E-09
11	0.14700E-03	0.31958E-04	0.17944E-09
12	0.16105E-03	0.35010E-04	0.19658E-09
13	0.17645E-03	0.38358E-04	0.21538E-09
14	0.19321E-03	0.42002E-04	0.23584E-09
15	0.21133E-03	0.45941E-04	0.25796E-09
16	0.23080E-03	0.50174E-04	0.28172E-09
17	0.25160E-03	0.54696E-04	0.30712E-09
18	0.27372E-03	0.59504E-04	0.33412E-09
19	0.29711E-03	0.64589E-04	0.36267E-09
20	0.32173E-03	0.69942E-04	0.39272E-09
21	0.34753E-03	0.75550E-04	0.42421E-09
22	0.37444E-03	0.81401E-04	0.45706E-09
23	0.40239E-03	0.87477E-04	0.49118E-09
24	0.43129E-03	0.93760E-04	0.52646E-09
25	0.46105E-03	0.10023E-03	0.56279E-09
26	0.49157E-03	0.10686E-03	0.60003E-09
27	0.52272E-03	0.11364E-03	0.63806E-09
28	0.55440E-03	0.12052E-03	0.67673E-09
29	0.58647E-03	0.12749E-03	0.71588E-09
30	0.61882E-03	0.13453E-03	0.75536E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 47.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.81780E-04	0.17778E-04	0.99825E-10
2	0.83011E-04	0.18046E-04	0.10133E-09
3	0.85475E-04	0.18582E-04	0.10434E-09
4	0.89179E-04	0.19387E-04	0.10886E-09
5	0.94133E-04	0.20464E-04	0.11490E-09
6	0.10035E-03	0.21814E-04	0.12249E-09
7	0.10783E-03	0.23442E-04	0.13163E-09
8	0.11661E-03	0.25350E-04	0.14234E-09
9	0.12668E-03	0.27540E-04	0.15464E-09
10	0.13808E-03	0.30017E-04	0.16854E-09
11	0.15080E-03	0.32782E-04	0.18407E-09
12	0.16485E-03	0.35838E-04	0.20123E-09
13	0.18026E-03	0.39186E-04	0.22003E-09
14	0.19700E-03	0.42826E-04	0.24047E-09
15	0.21509E-03	0.46758E-04	0.26255E-09
16	0.23450E-03	0.50979E-04	0.28625E-09
17	0.25523E-03	0.55485E-04	0.31155E-09
18	0.27725E-03	0.60271E-04	0.33842E-09
19	0.30051E-03	0.65328E-04	0.36682E-09
20	0.32497E-03	0.70647E-04	0.39668E-09
21	0.35059E-03	0.76215E-04	0.42795E-09
22	0.37729E-03	0.82020E-04	0.46054E-09
23	0.40500E-03	0.88044E-04	0.49437E-09
24	0.43364E-03	0.94270E-04	0.52933E-09
25	0.46312E-03	0.10068E-03	0.56530E-09
26	0.49332E-03	0.10724E-03	0.60217E-09
27	0.52415E-03	0.11395E-03	0.63980E-09
28	0.55548E-03	0.12078E-03	0.67805E-09
29	0.58720E-03	0.12765E-03	0.71677E-09
30	0.61918E-03	0.13460E-03	0.75581E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 48.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.85305E-04	0.18545E-04	0.10413E-09
2	0.86543E-04	0.18814E-04	0.10564E-09
3	0.89022E-04	0.19353E-04	0.10867E-09
4	0.92748E-04	0.20163E-04	0.11321E-09
5	0.97728E-04	0.21245E-04	0.11929E-09
6	0.10397E-03	0.22603E-04	0.12691E-09
7	0.11149E-03	0.24237E-04	0.13609E-09
8	0.12030E-03	0.26152E-04	0.14684E-09
9	0.13040E-03	0.28349E-04	0.15918E-09
10	0.14182E-03	0.30831E-04	0.17311E-09
11	0.15456E-03	0.33600E-04	0.18866E-09
12	0.16862E-03	0.36657E-04	0.20583E-09
13	0.18402E-03	0.40004E-04	0.22462E-09
14	0.20074E-03	0.43640E-04	0.24504E-09
15	0.21879E-03	0.47563E-04	0.26707E-09
16	0.23815E-03	0.51771E-04	0.29070E-09
17	0.25880E-03	0.56260E-04	0.31590E-09
18	0.28070E-03	0.61022E-04	0.34264E-09
19	0.30383E-03	0.66051E-04	0.37088E-09
20	0.32814E-03	0.71336E-04	0.40055E-09

21	0.35358E-03	0.76865E-04	0.43160E-09
22	0.38007E-03	0.82624E-04	0.46393E-09
23	0.40755E-03	0.88598E-04	0.49748E-09
24	0.43593E-03	0.94767E-04	0.53212E-09
25	0.46512E-03	0.10111E-03	0.56775E-09
26	0.49503E-03	0.10761E-03	0.60425E-09
27	0.52554E-03	0.11425E-03	0.64150E-09
28	0.55654E-03	0.12099E-03	0.67934E-09
29	0.58791E-03	0.12781E-03	0.71764E-09
30	0.61954E-03	0.13468E-03	0.75624E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 49.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.88847E-04	0.19315E-04	0.10845E-09
2	0.90092E-04	0.19585E-04	0.10997E-09
3	0.92584E-04	0.20127E-04	0.11301E-09
4	0.96328E-04	0.20941E-04	0.11758E-09
5	0.10133E-03	0.22028E-04	0.12369E-09
6	0.10780E-03	0.23391E-04	0.13134E-09
7	0.11515E-03	0.25032E-04	0.14055E-09
8	0.12398E-03	0.26952E-04	0.15134E-09
9	0.13411E-03	0.29154E-04	0.16370E-09
10	0.14554E-03	0.31640E-04	0.17766E-09
11	0.15829E-03	0.34411E-04	0.19322E-09
12	0.17236E-03	0.37469E-04	0.21039E-09
13	0.18774E-03	0.40813E-04	0.22917E-09
14	0.20444E-03	0.44443E-04	0.24955E-09
15	0.22244E-03	0.48357E-04	0.27152E-09
16	0.24173E-03	0.52551E-04	0.29507E-09
17	0.26229E-03	0.57020E-04	0.32017E-09
18	0.28409E-03	0.61759E-04	0.34678E-09
19	0.30709E-03	0.66759E-04	0.37485E-09
20	0.33124E-03	0.72010E-04	0.40433E-09
21	0.35650E-03	0.77499E-04	0.43516E-09
22	0.38278E-03	0.83213E-04	0.46724E-09
23	0.41003E-03	0.89137E-04	0.50050E-09
24	0.43816E-03	0.95251E-04	0.53484E-09
25	0.46707E-03	0.10154E-03	0.57013E-09
26	0.49668E-03	0.10797E-03	0.60628E-09
27	0.52688E-03	0.11454E-03	0.64314E-09
28	0.55756E-03	0.12121E-03	0.68059E-09
29	0.58860E-03	0.12796E-03	0.71848E-09
30	0.61988E-03	0.13476E-03	0.75666E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 50.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.92405E-04	0.20088E-04	0.11279E-09
2	0.93655E-04	0.20360E-04	0.11432E-09
3	0.96158E-04	0.20904E-04	0.11738E-09
4	0.99917E-04	0.21721E-04	0.12196E-09
5	0.10494E-03	0.22813E-04	0.12809E-09
6	0.11123E-03	0.24180E-04	0.13577E-09
7	0.11880E-03	0.25826E-04	0.14501E-09
8	0.12765E-03	0.27750E-04	0.15582E-09
9	0.13780E-03	0.29956E-04	0.16820E-09
10	0.14925E-03	0.32445E-04	0.18218E-09
11	0.16200E-03	0.35217E-04	0.19774E-09
12	0.17606E-03	0.38273E-04	0.21490E-09
13	0.19142E-03	0.41613E-04	0.23366E-09
14	0.20808E-03	0.45236E-04	0.25400E-09
15	0.22604E-03	0.49138E-04	0.27591E-09
16	0.24526E-03	0.53317E-04	0.29938E-09
17	0.26573E-03	0.57768E-04	0.32437E-09
18	0.28742E-03	0.62482E-04	0.35084E-09
19	0.31028E-03	0.67453E-04	0.37875E-09
20	0.33428E-03	0.72669E-04	0.40804E-09
21	0.35935E-03	0.78119E-04	0.43864E-09
22	0.38543E-03	0.83789E-04	0.47048E-09
23	0.41245E-03	0.89663E-04	0.50346E-09
24	0.44033E-03	0.95723E-04	0.53749E-09
25	0.46898E-03	0.10195E-03	0.57246E-09
26	0.49830E-03	0.10833E-03	0.60825E-09
27	0.52819E-03	0.11482E-03	0.64474E-09
28	0.55855E-03	0.12142E-03	0.68180E-09
29	0.58927E-03	0.12810E-03	0.71929E-09
30	0.62022E-03	0.13483E-03	0.75707E-09

VLEACH (Version 2.1, 1994)

By:
Varadhan Ravi and Jeffrey A. Johnson
(USEPA Contractors)
Center for Subsurface Modeling Support
Robert S. Kerr Environmental Research Laboratory
U.S. Environmental Protection Agency
P.O. Box 1198
Ada, OK 74820

Based on the original VLEACH (version 1.0)
developed by CH2M Hill, Redding, California
for USEPA Region IX

RUN VLAJ4-1; DOWNWARD DIFFUSION FROM SOIL SOURCES; CFC-113
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 10.00 years. Vertical profile stored every 10.00 years.
Koc = 190.00 ml/g, 0.67096E-02cu.ft./g
Kh = 22.000 (dimensionless).
Aqueous solubility = 10.000 mg/l, 0.26317 g/cu.ft
Free air diffusion coefficient = .86000 sq. m/day, 3378.9 sq.ft./yr

Polygon 1
POLY 1 - IMPERMEABLE GROUND SURFACE BC
Polygon area = 1.0000 sq. ft.
60 cells, each cell 5.000 ft. thick.
Soil Properties:
Bulk density = 1.8600 g/ml, 52670. g/cu.ft.
Porosity = 0.3000 Volumetric water content = 0.0500
Organic carbon content = 0.00100000
Recharge Rate = 0.00000000 ft/yr
Conc. in recharge water = 0.00000 mg/l, 0.00000 g/cu.ft
Atmospheric concentration = -1.0000 mg/l, -0.28317E-01g/cu.ft
Water table has a fixed concentration of 0.00000 mg/l, 0.00000 g/cu.ft.
with respect to gas diffusion.

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.96371E-01	0.43805E-02	0.29392E-07
2	0.96371E-01	0.43805E-02	0.29392E-07
3	0.96371E-01	0.43805E-02	0.29392E-07
4	0.45241E-01	0.20564E-02	0.13798E-07
5	0.45241E-01	0.20564E-02	0.13798E-07
6	0.24358E-01	0.11072E-02	0.74288E-08
7	0.24358E-01	0.11072E-02	0.74288E-08
8	0.24358E-01	0.11072E-02	0.74288E-08
9	0.24358E-01	0.11072E-02	0.74288E-08
10	0.24358E-01	0.11072E-02	0.74288E-08
11	0.00000	0.00000	0.00000
12	0.00000	0.00000	0.00000
13	0.00000	0.00000	0.00000
14	0.00000	0.00000	0.00000
15	0.00000	0.00000	0.00000
16	0.00000	0.00000	0.00000
17	0.00000	0.00000	0.00000
18	0.00000	0.00000	0.00000
19	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000
21	0.00000	0.00000	0.00000
22	0.00000	0.00000	0.00000
23	0.00000	0.00000	0.00000
24	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
26	0.00000	0.00000	0.00000
27	0.00000	0.00000	0.00000
28	0.00000	0.00000	0.00000
29	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000
31	0.00000	0.00000	0.00000
32	0.00000	0.00000	0.00000
33	0.00000	0.00000	0.00000
34	0.00000	0.00000	0.00000
35	0.00000	0.00000	0.00000
36	0.00000	0.00000	0.00000
37	0.00000	0.00000	0.00000
38	0.00000	0.00000	0.00000
39	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000
41	0.00000	0.00000	0.00000
42	0.00000	0.00000	0.00000
43	0.00000	0.00000	0.00000
44	0.00000	0.00000	0.00000
45	0.00000	0.00000	0.00000
46	0.00000	0.00000	0.00000
47	0.00000	0.00000	0.00000
48	0.00000	0.00000	0.00000
49	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000
51	0.00000	0.00000	0.00000
52	0.00000	0.00000	0.00000
53	0.00000	0.00000	0.00000
54	0.00000	0.00000	0.00000
55	0.00000	0.00000	0.00000
56	0.00000	0.00000	0.00000
57	0.00000	0.00000	0.00000
58	0.00000	0.00000	0.00000
59	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 10.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.24246E-01	0.11021E-02	0.73948E-08
2	0.24149E-01	0.10977E-02	0.73652E-08
3	0.23957E-01	0.10889E-02	0.73065E-08
4	0.23671E-01	0.10760E-02	0.72194E-08

5	0.23296E-01	0.10589E-02	0.71051E-06
6	0.22637E-01	0.10381E-02	0.69651E-06
7	0.22300E-01	0.10136E-02	0.68012E-06
8	0.21691E-01	0.98594E-03	0.66154E-06
9	0.21018E-01	0.95535E-03	0.64101E-06
10	0.20288E-01	0.92220E-03	0.61877E-06
11	0.19511E-01	0.88689E-03	0.59508E-06
12	0.18695E-01	0.84979E-03	0.57018E-06
13	0.17848E-01	0.81129E-03	0.54435E-06
14	0.16979E-01	0.77178E-03	0.51784E-06
15	0.16096E-01	0.73162E-03	0.49090E-06
16	0.15206E-01	0.69117E-03	0.46376E-06
17	0.14317E-01	0.65076E-03	0.43664E-06
18	0.13435E-01	0.61068E-03	0.40975E-06
19	0.12567E-01	0.57122E-03	0.38327E-06
20	0.11717E-01	0.53261E-03	0.35737E-06
21	0.10892E-01	0.49507E-03	0.33218E-06
22	0.10093E-01	0.45879E-03	0.30783E-06
23	0.93257E-02	0.42390E-03	0.28442E-06
24	0.85915E-02	0.39052E-03	0.26203E-06
25	0.78927E-02	0.35876E-03	0.24072E-06
26	0.72307E-02	0.32867E-03	0.22053E-06
27	0.66062E-02	0.30028E-03	0.20148E-06
28	0.60198E-02	0.27363E-03	0.18360E-06
29	0.54713E-02	0.24869E-03	0.16687E-06
30	0.49602E-02	0.22546E-03	0.15128E-06
31	0.44858E-02	0.20390E-03	0.13681E-06
32	0.40471E-02	0.18396E-03	0.12343E-06
33	0.36426E-02	0.16557E-03	0.11110E-06
34	0.32711E-02	0.14868E-03	0.99764E-09
35	0.29308E-02	0.13322E-03	0.89386E-09
36	0.26201E-02	0.11910E-03	0.79912E-09
37	0.23374E-02	0.10624E-03	0.71287E-09
38	0.20806E-02	0.94574E-04	0.63457E-09
39	0.18482E-02	0.84010E-04	0.56369E-09
40	0.16384E-02	0.74471E-04	0.49968E-09
41	0.14493E-02	0.65877E-04	0.44202E-09
42	0.12794E-02	0.58154E-04	0.39020E-09
43	0.11270E-02	0.51227E-04	0.34372E-09
44	0.99060E-03	0.45027E-04	0.30212E-09
45	0.86873E-03	0.39488E-04	0.26495E-09
46	0.76002E-03	0.34546E-04	0.23180E-09
47	0.66315E-03	0.30143E-04	0.20225E-09
48	0.57691E-03	0.26223E-04	0.17595E-09
49	0.50017E-03	0.22735E-04	0.15255E-09
50	0.43188E-03	0.19631E-04	0.13172E-09
51	0.37104E-03	0.16865E-04	0.11316E-09
52	0.31675E-03	0.14398E-04	0.96606E-10
53	0.26817E-03	0.12190E-04	0.81789E-10
54	0.22450E-03	0.10205E-04	0.68471E-10
55	0.18502E-03	0.84099E-05	0.56428E-10
56	0.14903E-03	0.67741E-05	0.45452E-10
57	0.11589E-03	0.52679E-05	0.35348E-10
58	0.84996E-04	0.38634E-05	0.25923E-10
59	0.55754E-04	0.25343E-05	0.17004E-10
60	0.27606E-04	0.12548E-05	0.84195E-11

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 20.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.17106E-01	0.77763E-03	0.52177E-06
2	0.17075E-01	0.77614E-03	0.52077E-06
3	0.17010E-01	0.77318E-03	0.51879E-06
4	0.16913E-01	0.76876E-03	0.51582E-06
5	0.16784E-01	0.76291E-03	0.51189E-06
6	0.16624E-01	0.75566E-03	0.50703E-06
7	0.16435E-01	0.74706E-03	0.50126E-06
8	0.16217E-01	0.73715E-03	0.49461E-06
9	0.15972E-01	0.72600E-03	0.48713E-06
10	0.15701E-01	0.71367E-03	0.47885E-06
11	0.15405E-01	0.70023E-03	0.46984E-06
12	0.15087E-01	0.68575E-03	0.46012E-06
13	0.14747E-01	0.67032E-03	0.44977E-06
14	0.14388E-01	0.65402E-03	0.43883E-06
15	0.14012E-01	0.63692E-03	0.42736E-06
16	0.13621E-01	0.61914E-03	0.41542E-06
17	0.13216E-01	0.60074E-03	0.40306E-06
18	0.12800E-01	0.58182E-03	0.39039E-06
19	0.12374E-01	0.56247E-03	0.37741E-06
20	0.11941E-01	0.54279E-03	0.36420E-06
21	0.11503E-01	0.52284E-03	0.35082E-06
22	0.11060E-01	0.50273E-03	0.33732E-06
23	0.10616E-01	0.48253E-03	0.32376E-06
24	0.10171E-01	0.46232E-03	0.31020E-06
25	0.97277E-02	0.44217E-03	0.29668E-06
26	0.92873E-02	0.42215E-03	0.28325E-06
27	0.88513E-02	0.40233E-03	0.26996E-06
28	0.84211E-02	0.38278E-03	0.25683E-06

29	0.79977E-02	0.36353E-03	0.24392E-08
30	0.75824E-02	0.34465E-03	0.23125E-08
31	0.71760E-02	0.32618E-03	0.21886E-08
32	0.67796E-02	0.30816E-03	0.20677E-08
33	0.63937E-02	0.29062E-03	0.19500E-08
34	0.60192E-02	0.27360E-03	0.18358E-08
35	0.56564E-02	0.25711E-03	0.17251E-08
36	0.53057E-02	0.24117E-03	0.16182E-08
37	0.49676E-02	0.22580E-03	0.15151E-08
38	0.46421E-02	0.21101E-03	0.14158E-08
39	0.43294E-02	0.19679E-03	0.13204E-08
40	0.40295E-02	0.18316E-03	0.12290E-08
41	0.37423E-02	0.17010E-03	0.11414E-08
42	0.34676E-02	0.15762E-03	0.10576E-08
43	0.32052E-02	0.14569E-03	0.97755E-09
44	0.29548E-02	0.13431E-03	0.90119E-09
45	0.27160E-02	0.12346E-03	0.82836E-09
46	0.24884E-02	0.11311E-03	0.75894E-09
47	0.22715E-02	0.10325E-03	0.69278E-09
48	0.20647E-02	0.93852E-04	0.62972E-09
49	0.18676E-02	0.84889E-04	0.56959E-09
50	0.16794E-02	0.76335E-04	0.51219E-09
51	0.14995E-02	0.68158E-04	0.45733E-09
52	0.13273E-02	0.60330E-04	0.40480E-09
53	0.11620E-02	0.52817E-04	0.35439E-09
54	0.10029E-02	0.45588E-04	0.30588E-09
55	0.84937E-03	0.38608E-04	0.25905E-09
56	0.70053E-03	0.31842E-04	0.21365E-09
57	0.55565E-03	0.25257E-04	0.16947E-09
58	0.41394E-03	0.18816E-04	0.12625E-09
59	0.27463E-03	0.12483E-04	0.83759E-10
60	0.13692E-03	0.62235E-05	0.41758E-10

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 30.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13944E-01	0.63384E-03	0.42529E-08
2	0.13927E-01	0.63304E-03	0.42475E-08
3	0.13892E-01	0.63144E-03	0.42368E-08
4	0.13839E-01	0.62905E-03	0.42208E-08
5	0.13769E-01	0.62588E-03	0.41995E-08
6	0.13683E-01	0.62195E-03	0.41731E-08
7	0.13580E-01	0.61725E-03	0.41416E-08
8	0.13460E-01	0.61182E-03	0.41052E-08
9	0.13325E-01	0.60567E-03	0.40639E-08
10	0.13174E-01	0.59883E-03	0.40180E-08
11	0.13009E-01	0.59131E-03	0.39676E-08
12	0.12829E-01	0.58316E-03	0.39128E-08
13	0.12636E-01	0.57439E-03	0.38540E-08
14	0.12431E-01	0.56503E-03	0.37912E-08
15	0.12213E-01	0.55513E-03	0.37248E-08
16	0.11984E-01	0.54471E-03	0.36549E-08
17	0.11744E-01	0.53380E-03	0.35817E-08
18	0.11494E-01	0.52245E-03	0.35055E-08
19	0.11235E-01	0.51069E-03	0.34266E-08
20	0.10968E-01	0.49856E-03	0.33452E-08
21	0.10694E-01	0.48609E-03	0.32616E-08
22	0.10413E-01	0.47333E-03	0.31759E-08
23	0.10127E-01	0.46030E-03	0.30885E-08
24	0.98349E-02	0.44704E-03	0.29995E-08
25	0.95391E-02	0.43360E-03	0.29093E-08
26	0.92400E-02	0.42000E-03	0.28181E-08
27	0.89382E-02	0.40628E-03	0.27260E-08
28	0.86345E-02	0.39248E-03	0.26334E-08
29	0.83295E-02	0.37862E-03	0.25404E-08
30	0.80241E-02	0.36473E-03	0.24473E-08
31	0.77187E-02	0.35085E-03	0.23541E-08
32	0.74140E-02	0.33700E-03	0.22612E-08
33	0.71106E-02	0.32321E-03	0.21688E-08
34	0.68089E-02	0.30949E-03	0.20768E-08
35	0.65094E-02	0.29588E-03	0.19853E-08
36	0.62126E-02	0.28239E-03	0.18948E-08
37	0.59188E-02	0.26903E-03	0.18052E-08
38	0.56283E-02	0.25583E-03	0.17166E-08
39	0.53415E-02	0.24280E-03	0.16291E-08
40	0.50587E-02	0.22994E-03	0.15428E-08
41	0.47799E-02	0.21727E-03	0.14578E-08
42	0.45053E-02	0.20479E-03	0.13741E-08
43	0.42351E-02	0.19250E-03	0.12917E-08
44	0.39693E-02	0.18042E-03	0.12106E-08
45	0.37079E-02	0.16854E-03	0.11309E-08
46	0.34509E-02	0.15686E-03	0.10525E-08
47	0.31982E-02	0.14537E-03	0.97543E-09
48	0.29498E-02	0.13406E-03	0.89965E-09
49	0.27054E-02	0.12297E-03	0.82512E-09
50	0.24650E-02	0.11204E-03	0.75178E-09
51	0.22282E-02	0.10128E-03	0.67957E-09
52	0.19949E-02	0.90677E-04	0.60842E-09

53	0.17648E-02	0.60217E-04	0.53824E-09
54	0.15376E-02	0.60890E-04	0.46804E-09
55	0.13130E-02	0.59680E-04	0.40044E-09
56	0.10906E-02	0.49573E-04	0.33262E-09
57	0.87016E-03	0.39553E-04	0.26539E-09
58	0.65125E-03	0.29602E-04	0.19862E-09
59	0.43351E-03	0.19705E-04	0.13222E-09
60	0.21656E-03	0.98437E-05	0.66049E-10

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 40.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.12031E-01	0.54687E-03	0.36693E-08
2	0.12019E-01	0.54634E-03	0.36658E-08
3	0.11996E-01	0.54528E-03	0.36587E-08
4	0.11961E-01	0.54370E-03	0.36481E-08
5	0.11915E-01	0.54159E-03	0.36340E-08
6	0.11857E-01	0.53897E-03	0.36164E-08
7	0.11789E-01	0.53584E-03	0.35954E-08
8	0.11709E-01	0.53221E-03	0.35710E-08
9	0.11618E-01	0.52809E-03	0.35434E-08
10	0.11517E-01	0.52349E-03	0.35125E-08
11	0.11405E-01	0.51841E-03	0.34784E-08
12	0.11283E-01	0.51288E-03	0.34413E-08
13	0.11152E-01	0.50690E-03	0.34012E-08
14	0.11011E-01	0.50050E-03	0.33582E-08
15	0.10861E-01	0.49367E-03	0.33124E-08
16	0.10702E-01	0.48645E-03	0.32640E-08
17	0.10535E-01	0.47885E-03	0.32129E-08
18	0.10359E-01	0.47088E-03	0.31595E-08
19	0.10176E-01	0.46256E-03	0.31036E-08
20	0.99860E-02	0.45391E-03	0.30456E-08
21	0.97888E-02	0.44495E-03	0.29855E-08
22	0.95852E-02	0.43569E-03	0.29234E-08
23	0.93756E-02	0.42616E-03	0.28595E-08
24	0.91603E-02	0.41638E-03	0.27938E-08
25	0.89398E-02	0.40636E-03	0.27266E-08
26	0.87145E-02	0.39612E-03	0.26578E-08
27	0.84848E-02	0.38567E-03	0.25878E-08
28	0.82511E-02	0.37505E-03	0.25165E-08
29	0.80138E-02	0.36426E-03	0.24441E-08
30	0.77732E-02	0.35333E-03	0.23707E-08
31	0.75297E-02	0.34226E-03	0.22965E-08
32	0.72837E-02	0.33108E-03	0.22214E-08
33	0.70355E-02	0.31979E-03	0.21457E-08
34	0.67854E-02	0.30843E-03	0.20695E-08
35	0.65338E-02	0.29699E-03	0.19927E-08
36	0.62809E-02	0.28550E-03	0.19156E-08
37	0.60270E-02	0.27396E-03	0.18382E-08
38	0.57724E-02	0.26238E-03	0.17605E-08
39	0.55173E-02	0.25078E-03	0.16827E-08
40	0.52618E-02	0.23917E-03	0.16048E-08
41	0.50063E-02	0.22756E-03	0.15269E-08
42	0.47508E-02	0.21595E-03	0.14490E-08
43	0.44956E-02	0.20435E-03	0.13711E-08
44	0.42407E-02	0.19276E-03	0.12934E-08
45	0.39863E-02	0.18119E-03	0.12158E-08
46	0.37324E-02	0.16965E-03	0.11383E-08
47	0.34791E-02	0.15814E-03	0.10611E-08
48	0.32266E-02	0.14666E-03	0.98407E-09
49	0.29747E-02	0.13521E-03	0.90725E-09
50	0.27236E-02	0.12380E-03	0.83066E-09
51	0.24732E-02	0.11242E-03	0.75429E-09
52	0.22235E-02	0.10107E-03	0.67814E-09
53	0.19745E-02	0.89749E-04	0.60220E-09
54	0.17261E-02	0.78460E-04	0.52645E-09
55	0.14784E-02	0.67198E-04	0.45088E-09
56	0.12311E-02	0.55960E-04	0.37548E-09
57	0.98433E-03	0.44742E-04	0.30021E-09
58	0.73792E-03	0.33542E-04	0.22506E-09
59	0.49178E-03	0.22354E-04	0.14999E-09
60	0.24584E-03	0.11175E-04	0.74980E-10

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 50.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.10670E-01	0.48496E-03	0.32541E-08
2	0.10661E-01	0.48458E-03	0.32514E-08
3	0.10643E-01	0.48379E-03	0.32461E-08
4	0.10617E-01	0.48259E-03	0.32381E-08
5	0.10582E-01	0.48101E-03	0.32274E-08
6	0.10539E-01	0.47903E-03	0.32142E-08
7	0.10487E-01	0.47666E-03	0.31983E-08
8	0.10426E-01	0.47391E-03	0.31798E-08
9	0.10357E-01	0.47078E-03	0.31588E-08
10	0.10280E-01	0.46728E-03	0.31353E-08
11	0.10195E-01	0.46341E-03	0.31094E-08
12	0.10102E-01	0.45918E-03	0.30810E-08

13	0.10001E-01	0.45460E-03	0.30502E-06
14	0.98926E-02	0.44966E-03	0.30171E-06
15	0.97767E-02	0.44439E-03	0.29818E-06
16	0.96535E-02	0.43880E-03	0.29442E-06
17	0.95232E-02	0.43287E-03	0.29045E-06
18	0.93861E-02	0.42664E-03	0.28627E-06
19	0.92424E-02	0.42011E-03	0.28188E-06
20	0.90922E-02	0.41328E-03	0.27730E-06
21	0.89358E-02	0.40617E-03	0.27253E-06
22	0.87734E-02	0.39879E-03	0.26758E-06
23	0.86053E-02	0.39115E-03	0.26245E-06
24	0.84317E-02	0.38326E-03	0.25716E-06
25	0.82528E-02	0.37513E-03	0.25170E-06
26	0.80689E-02	0.36677E-03	0.24609E-06
27	0.78802E-02	0.35819E-03	0.24034E-06
28	0.76869E-02	0.34940E-03	0.23444E-06
29	0.74893E-02	0.34042E-03	0.22841E-06
30	0.72876E-02	0.33125E-03	0.22226E-06
31	0.70820E-02	0.32191E-03	0.21599E-06
32	0.68726E-02	0.31240E-03	0.20961E-06
33	0.66601E-02	0.30273E-03	0.20313E-06
34	0.64443E-02	0.29292E-03	0.19654E-06
35	0.62255E-02	0.28298E-03	0.18987E-06
36	0.60038E-02	0.27290E-03	0.18311E-06
37	0.57796E-02	0.26271E-03	0.17627E-06
38	0.55530E-02	0.25241E-03	0.16936E-06
39	0.53242E-02	0.24201E-03	0.16238E-06
40	0.50934E-02	0.23152E-03	0.15534E-06
41	0.48606E-02	0.22094E-03	0.14824E-06
42	0.46262E-02	0.21028E-03	0.14109E-06
43	0.43902E-02	0.19955E-03	0.13389E-06
44	0.41527E-02	0.18876E-03	0.12665E-06
45	0.39140E-02	0.17791E-03	0.11937E-06
46	0.36741E-02	0.16700E-03	0.11206E-06
47	0.34332E-02	0.15605E-03	0.10471E-06
48	0.31913E-02	0.14506E-03	0.97332E-09
49	0.29488E-02	0.13403E-03	0.89930E-09
50	0.27052E-02	0.12296E-03	0.82505E-09
51	0.24611E-02	0.11187E-03	0.75061E-09
52	0.22165E-02	0.10075E-03	0.67600E-09
53	0.19713E-02	0.89607E-04	0.60124E-09
54	0.17258E-02	0.78445E-04	0.52635E-09
55	0.14799E-02	0.67267E-04	0.45135E-09
56	0.12337E-02	0.56076E-04	0.37625E-09
57	0.98722E-03	0.44873E-04	0.30109E-09
58	0.74057E-03	0.33662E-04	0.22587E-09
59	0.49379E-03	0.22445E-04	0.15060E-09
60	0.24692E-03	0.11224E-04	0.75307E-10

VLEACH (Version 2.1, 1994)

By:
Varadhan Ravi and Jeffrey A. Johnson
(USEPA Contractors)
Center for Subsurface Modeling Support
Robert S. Kerr Environmental Research Laboratory
U.S. Environmental Protection Agency
P.O. Box 1198
Ada, OK 74820

Based on the original VLEACH (version 1.0)
developed by CH2M Hill, Redding, California
for USEPA Region IX

RUN VLAJ4-1; DOWNWARD DIFFUSION FROM SOIL SOURCES; CFC-113
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 10.00 years. Vertical profile stored every 10.00 years.
Koc = 190.00 ml/g, 0.67098E-02cu.ft./g
Kh = 22.000 (dimensionless).
Aqueous solubility = 10.000 mg/l, 0.28317 g/cu.ft
Free air diffusion coefficient = .86000 sq. m/day, 3378.9 sq.ft./yr

Polygon 1
POLY 1 - IMPERMEABLE GROUND SURFACE BC
Polygon area = 1.0000 sq. ft.
60 cells, each cell 5.000 ft. thick.
Soil Properties:
Bulk density = 1.8600 g/ml, 52670. g/cu.ft.
Porosity = 0.3000 Volumetric water content = 0.0500
Organic carbon content = 0.00100000
Recharge Rate = 0.00000000 ft/yr
Conc. in recharge water = 0.00000 mg/l, 0.00000 g/cu.ft
Atmospheric concentration = -1.0000 mg/l, -0.28317E-01g/cu.ft
Water table has a fixed concentration of 0.00000 mg/l, 0.00000 g/cu.ft.
with respect to gas diffusion.

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.96371E-01	0.43805E-02	0.29392E-07
2	0.96371E-01	0.43805E-02	0.29392E-07
3	0.96371E-01	0.43805E-02	0.29392E-07
4	0.45241E-01	0.20564E-02	0.13798E-07
5	0.45241E-01	0.20564E-02	0.13798E-07
6	0.24358E-01	0.11072E-02	0.74288E-08
7	0.24358E-01	0.11072E-02	0.74288E-08
8	0.24358E-01	0.11072E-02	0.74288E-08
9	0.24358E-01	0.11072E-02	0.74288E-08
10	0.24358E-01	0.11072E-02	0.74288E-08
11	0.00000	0.00000	0.00000
12	0.00000	0.00000	0.00000
13	0.00000	0.00000	0.00000
14	0.00000	0.00000	0.00000
15	0.00000	0.00000	0.00000
16	0.00000	0.00000	0.00000
17	0.00000	0.00000	0.00000
18	0.00000	0.00000	0.00000
19	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000
21	0.00000	0.00000	0.00000
22	0.00000	0.00000	0.00000
23	0.00000	0.00000	0.00000
24	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
26	0.00000	0.00000	0.00000
27	0.00000	0.00000	0.00000
28	0.00000	0.00000	0.00000
29	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000
31	0.00000	0.00000	0.00000
32	0.00000	0.00000	0.00000
33	0.00000	0.00000	0.00000
34	0.00000	0.00000	0.00000
35	0.00000	0.00000	0.00000
36	0.00000	0.00000	0.00000
37	0.00000	0.00000	0.00000
38	0.00000	0.00000	0.00000
39	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000
41	0.00000	0.00000	0.00000
42	0.00000	0.00000	0.00000
43	0.00000	0.00000	0.00000
44	0.00000	0.00000	0.00000
45	0.00000	0.00000	0.00000
46	0.00000	0.00000	0.00000
47	0.00000	0.00000	0.00000
48	0.00000	0.00000	0.00000
49	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000
51	0.00000	0.00000	0.00000
52	0.00000	0.00000	0.00000
53	0.00000	0.00000	0.00000
54	0.00000	0.00000	0.00000
55	0.00000	0.00000	0.00000
56	0.00000	0.00000	0.00000
57	0.00000	0.00000	0.00000
58	0.00000	0.00000	0.00000
59	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 10.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.24246E-01	0.11021E-02	0.73948E-08
2	0.24149E-01	0.10977E-02	0.73652E-08
3	0.23957E-01	0.10889E-02	0.73065E-08
4	0.23671E-01	0.10760E-02	0.72194E-08

5	0.83648E-02	0.13941E-01	0.74834E-07
6	0.77337E-02	0.12889E-01	0.69188E-07
7	0.72849E-02	0.12142E-01	0.65173E-07
8	0.67954E-02	0.11326E-01	0.60794E-07
9	0.62679E-02	0.10446E-01	0.56074E-07
10	0.57054E-02	0.95090E-02	0.51042E-07
11	0.48925E-02	0.81542E-02	0.43770E-07
12	0.43400E-02	0.72334E-02	0.38827E-07
13	0.38313E-02	0.63856E-02	0.34276E-07
14	0.33674E-02	0.56124E-02	0.30126E-07
15	0.29477E-02	0.49129E-02	0.26372E-07
16	0.25708E-02	0.42848E-02	0.22999E-07
17	0.22343E-02	0.37239E-02	0.19989E-07
18	0.19357E-02	0.32262E-02	0.17317E-07
19	0.16720E-02	0.27866E-02	0.14958E-07
20	0.14402E-02	0.24003E-02	0.12884E-07
21	0.12373E-02	0.20621E-02	0.11069E-07
22	0.10603E-02	0.17672E-02	0.94862E-08
23	0.90662E-03	0.15110E-02	0.81109E-08
24	0.77348E-03	0.12891E-02	0.69199E-08
25	0.65854E-03	0.10976E-02	0.58915E-08
26	0.55957E-03	0.93262E-03	0.50061E-08
27	0.47459E-03	0.79098E-03	0.42458E-08
28	0.40180E-03	0.66967E-03	0.35947E-08
29	0.33960E-03	0.56601E-03	0.30382E-08
30	0.28657E-03	0.47762E-03	0.25637E-08
31	0.24144E-03	0.40241E-03	0.21600E-08
32	0.20312E-03	0.33854E-03	0.18172E-08
33	0.17064E-03	0.28441E-03	0.15266E-08
34	0.14316E-03	0.23861E-03	0.12808E-08
35	0.11995E-03	0.19992E-03	0.10731E-08
36	0.10038E-03	0.16729E-03	0.89799E-09
37	0.83892E-04	0.13982E-03	0.75053E-09
38	0.70034E-04	0.11672E-03	0.62655E-09
39	0.58398E-04	0.97331E-04	0.52245E-09
40	0.48642E-04	0.81070E-04	0.43517E-09
41	0.40472E-04	0.67453E-04	0.36208E-09
42	0.33638E-04	0.56064E-04	0.30094E-09
43	0.27929E-04	0.46548E-04	0.24986E-09
44	0.23163E-04	0.38606E-04	0.20723E-09
45	0.19190E-04	0.31984E-04	0.17168E-09
46	0.15880E-04	0.26467E-04	0.14207E-09
47	0.13124E-04	0.21874E-04	0.11741E-09
48	0.10831E-04	0.18051E-04	0.96896E-10
49	0.89229E-05	0.14871E-04	0.79827E-10
50	0.73352E-05	0.12225E-04	0.65623E-10
51	0.60130E-05	0.10022E-04	0.53795E-10
52	0.49103E-05	0.81838E-05	0.43929E-10
53	0.39880E-05	0.66467E-05	0.35678E-10
54	0.32133E-05	0.53556E-05	0.28748E-10
55	0.25584E-05	0.42640E-05	0.22888E-10
56	0.19993E-05	0.33322E-05	0.17886E-10
57	0.15155E-05	0.25258E-05	0.13558E-10
58	0.10889E-05	0.18149E-05	0.97421E-11
59	0.70374E-06	0.11729E-05	0.62959E-11
60	0.34529E-06	0.57549E-06	0.30891E-11

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 20.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.67276E-02	0.11213E-01	0.60188E-07
2	0.66882E-02	0.11147E-01	0.59835E-07
3	0.66098E-02	0.11016E-01	0.59133E-07
4	0.64977E-02	0.10830E-01	0.58131E-07
5	0.63417E-02	0.10570E-01	0.56735E-07
6	0.61431E-02	0.10239E-01	0.54959E-07
7	0.59200E-02	0.98666E-02	0.52962E-07
8	0.56708E-02	0.94509E-02	0.50731E-07
9	0.53992E-02	0.89987E-02	0.48303E-07
10	0.51104E-02	0.85173E-02	0.45719E-07
11	0.48035E-02	0.80058E-02	0.42974E-07
12	0.44973E-02	0.74956E-02	0.40235E-07
13	0.41910E-02	0.69850E-02	0.37494E-07
14	0.38883E-02	0.64804E-02	0.34786E-07
15	0.35923E-02	0.59871E-02	0.32138E-07
16	0.33056E-02	0.55093E-02	0.29573E-07
17	0.30304E-02	0.50506E-02	0.27111E-07
18	0.27681E-02	0.46135E-02	0.24764E-07
19	0.25199E-02	0.41999E-02	0.22544E-07
20	0.22865E-02	0.38109E-02	0.20456E-07
21	0.20684E-02	0.34473E-02	0.18504E-07
22	0.18655E-02	0.31092E-02	0.16689E-07
23	0.16778E-02	0.27963E-02	0.15010E-07
24	0.15049E-02	0.25082E-02	0.13463E-07
25	0.13463E-02	0.22439E-02	0.12045E-07
26	0.12015E-02	0.20025E-02	0.10749E-07
27	0.10697E-02	0.17828E-02	0.95699E-08
28	0.95018E-03	0.15836E-02	0.85007E-08

29	0.84218E-03	0.14036E-02	0.75344E-08
30	0.74487E-03	0.12415E-02	0.66639E-08
31	0.65747E-03	0.10958E-02	0.58820E-08
32	0.57919E-03	0.96532E-03	0.51816E-08
33	0.50926E-03	0.84877E-03	0.45560E-08
34	0.44696E-03	0.74493E-03	0.39987E-08
35	0.39159E-03	0.65264E-03	0.35033E-08
36	0.34248E-03	0.57080E-03	0.30640E-08
37	0.29903E-03	0.49839E-03	0.26753E-08
38	0.26067E-03	0.43446E-03	0.23321E-08
39	0.22687E-03	0.37812E-03	0.20297E-08
40	0.19714E-03	0.32857E-03	0.17637E-08
41	0.17104E-03	0.28507E-03	0.15302E-08
42	0.14817E-03	0.24695E-03	0.13256E-08
43	0.12815E-03	0.21358E-03	0.11465E-08
44	0.11066E-03	0.18443E-03	0.98998E-09
45	0.95391E-04	0.15898E-03	0.85340E-09
46	0.82080E-04	0.13680E-03	0.73431E-09
47	0.70484E-04	0.11747E-03	0.63057E-09
48	0.60387E-04	0.10065E-03	0.54024E-09
49	0.51596E-04	0.85993E-04	0.46160E-09
50	0.43938E-04	0.73231E-04	0.39309E-09
51	0.37260E-04	0.62101E-04	0.33334E-09
52	0.31425E-04	0.52375E-04	0.28114E-09
53	0.26309E-04	0.43848E-04	0.23537E-09
54	0.21802E-04	0.36337E-04	0.19505E-09
55	0.17806E-04	0.29676E-04	0.15930E-09
56	0.14230E-04	0.23717E-04	0.12731E-09
57	0.10994E-04	0.18323E-04	0.98355E-10
58	0.80212E-05	0.13369E-04	0.71760E-10
59	0.52419E-05	0.87365E-05	0.46896E-10
60	0.25895E-05	0.43159E-05	0.23167E-10

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 30.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.55394E-02	0.92323E-02	0.49557E-07
2	0.55164E-02	0.91940E-02	0.49352E-07
3	0.54706E-02	0.91179E-02	0.48943E-07
4	0.54031E-02	0.90052E-02	0.48338E-07
5	0.53141E-02	0.88569E-02	0.47542E-07
6	0.52049E-02	0.86749E-02	0.46565E-07
7	0.50774E-02	0.84624E-02	0.45424E-07
8	0.49332E-02	0.82221E-02	0.44134E-07
9	0.47742E-02	0.79571E-02	0.42712E-07
10	0.46025E-02	0.76708E-02	0.41175E-07
11	0.44200E-02	0.73666E-02	0.39543E-07
12	0.42293E-02	0.70488E-02	0.37836E-07
13	0.40323E-02	0.67206E-02	0.36075E-07
14	0.38313E-02	0.63854E-02	0.34276E-07
15	0.36280E-02	0.60466E-02	0.32457E-07
16	0.34242E-02	0.57071E-02	0.30634E-07
17	0.32217E-02	0.53695E-02	0.28823E-07
18	0.30219E-02	0.50365E-02	0.27035E-07
19	0.28260E-02	0.47100E-02	0.25283E-07
20	0.26352E-02	0.43921E-02	0.23576E-07
21	0.24505E-02	0.40841E-02	0.21923E-07
22	0.22725E-02	0.37875E-02	0.20331E-07
23	0.21020E-02	0.35033E-02	0.18805E-07
24	0.19393E-02	0.32321E-02	0.17349E-07
25	0.17847E-02	0.29748E-02	0.15967E-07
26	0.16386E-02	0.27310E-02	0.14660E-07
27	0.15010E-02	0.25018E-02	0.13428E-07
28	0.13718E-02	0.22863E-02	0.12272E-07
29	0.12510E-02	0.20850E-02	0.11192E-07
30	0.11384E-02	0.18973E-02	0.10184E-07
31	0.10338E-02	0.17230E-02	0.92486E-08
32	0.93691E-03	0.15615E-02	0.83819E-08
33	0.84745E-03	0.14124E-02	0.75816E-08
34	0.76506E-03	0.12751E-02	0.68445E-08
35	0.68939E-03	0.11490E-02	0.61675E-08
36	0.62006E-03	0.10334E-02	0.55472E-08
37	0.55669E-03	0.92782E-03	0.49803E-08
38	0.49891E-03	0.83151E-03	0.44634E-08
39	0.44633E-03	0.74388E-03	0.39930E-08
40	0.39859E-03	0.66431E-03	0.35656E-08
41	0.35531E-03	0.59219E-03	0.31788E-08
42	0.31616E-03	0.52694E-03	0.28285E-08
43	0.28080E-03	0.46799E-03	0.25121E-08
44	0.24889E-03	0.41482E-03	0.22267E-08
45	0.22015E-03	0.36692E-03	0.19695E-08
46	0.19428E-03	0.32380E-03	0.17381E-08
47	0.17101E-03	0.28501E-03	0.15299E-08
48	0.15007E-03	0.25012E-03	0.13426E-08
49	0.13125E-03	0.21874E-03	0.11742E-08
50	0.11430E-03	0.19049E-03	0.10225E-08
51	0.99015E-04	0.16502E-03	0.88582E-09
52	0.85204E-04	0.14201E-03	0.76227E-09

53	0.72682E-04	0.12114E-03	0.65024E-09
54	0.61274E-04	0.10212E-03	0.54818E-09
55	0.50819E-04	0.84699E-04	0.45465E-09
56	0.41164E-04	0.68607E-04	0.36827E-09
57	0.32163E-04	0.53606E-04	0.28774E-09
58	0.23678E-04	0.39464E-04	0.21183E-09
59	0.15575E-04	0.25959E-04	0.13934E-09
60	0.77248E-05	0.12875E-04	0.69109E-10

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 40.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.47968E-02	0.79980E-02	0.42931E-07
2	0.47841E-02	0.79735E-02	0.42800E-07
3	0.47548E-02	0.79247E-02	0.42538E-07
4	0.47114E-02	0.78523E-02	0.42149E-07
5	0.46541E-02	0.77568E-02	0.41637E-07
6	0.45836E-02	0.76394E-02	0.41007E-07
7	0.45007E-02	0.75012E-02	0.40265E-07
8	0.44062E-02	0.73436E-02	0.39419E-07
9	0.43009E-02	0.71681E-02	0.38477E-07
10	0.41859E-02	0.69765E-02	0.37449E-07
11	0.40623E-02	0.67706E-02	0.36343E-07
12	0.39313E-02	0.65521E-02	0.35170E-07
13	0.37938E-02	0.63230E-02	0.33941E-07
14	0.36512E-02	0.60853E-02	0.32664E-07
15	0.35044E-02	0.58407E-02	0.31352E-07
16	0.33547E-02	0.55911E-02	0.30012E-07
17	0.32030E-02	0.53383E-02	0.28655E-07
18	0.30504E-02	0.50840E-02	0.27290E-07
19	0.28978E-02	0.48297E-02	0.25925E-07
20	0.27462E-02	0.45770E-02	0.24568E-07
21	0.25963E-02	0.43271E-02	0.23227E-07
22	0.24488E-02	0.40813E-02	0.21907E-07
23	0.23043E-02	0.38406E-02	0.20615E-07
24	0.21636E-02	0.36059E-02	0.19356E-07
25	0.20269E-02	0.33782E-02	0.18134E-07
26	0.18948E-02	0.31581E-02	0.16952E-07
27	0.17676E-02	0.29460E-02	0.15814E-07
28	0.16455E-02	0.27426E-02	0.14722E-07
29	0.15288E-02	0.25480E-02	0.13677E-07
30	0.14175E-02	0.23625E-02	0.12681E-07
31	0.13118E-02	0.21863E-02	0.11735E-07
32	0.12116E-02	0.20193E-02	0.10839E-07
33	0.11169E-02	0.18615E-02	0.99923E-08
34	0.10277E-02	0.17129E-02	0.91945E-08
35	0.94395E-03	0.15732E-02	0.84449E-08
36	0.86540E-03	0.14423E-02	0.77421E-08
37	0.79194E-03	0.13199E-02	0.70850E-08
38	0.72339E-03	0.12057E-02	0.64717E-08
39	0.65957E-03	0.10993E-02	0.59007E-08
40	0.60024E-03	0.10004E-02	0.53700E-08
41	0.54521E-03	0.90868E-03	0.48776E-08
42	0.49424E-03	0.82373E-03	0.44216E-08
43	0.44706E-03	0.74515E-03	0.39998E-08
44	0.40354E-03	0.67257E-03	0.36102E-08
45	0.36335E-03	0.60558E-03	0.32507E-08
46	0.32629E-03	0.54381E-03	0.29191E-08
47	0.29212E-03	0.48686E-03	0.26134E-08
48	0.26061E-03	0.43436E-03	0.23315E-08
49	0.23156E-03	0.38593E-03	0.20716E-08
50	0.20473E-03	0.34122E-03	0.18316E-08
51	0.17992E-03	0.29987E-03	0.16097E-08
52	0.15692E-03	0.26154E-03	0.14039E-08
53	0.13554E-03	0.22589E-03	0.12126E-08
54	0.11556E-03	0.19261E-03	0.10339E-08
55	0.96817E-04	0.16136E-03	0.86616E-09
56	0.79111E-04	0.13185E-03	0.70776E-09
57	0.62267E-04	0.10378E-03	0.55706E-09
58	0.46106E-04	0.76843E-04	0.41248E-09
59	0.30455E-04	0.50758E-04	0.27246E-09
60	0.15143E-04	0.25238E-04	0.13547E-09

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 50.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.42889E-02	0.71482E-02	0.38370E-07
2	0.42786E-02	0.71310E-02	0.38278E-07
3	0.42581E-02	0.70968E-02	0.38094E-07
4	0.42275E-02	0.70458E-02	0.37821E-07
5	0.41871E-02	0.69785E-02	0.37459E-07
6	0.41372E-02	0.68954E-02	0.37013E-07
7	0.40783E-02	0.67971E-02	0.36486E-07
8	0.40107E-02	0.66845E-02	0.35881E-07
9	0.39350E-02	0.65583E-02	0.35204E-07
10	0.38517E-02	0.64196E-02	0.34459E-07
11	0.37616E-02	0.62693E-02	0.33652E-07
12	0.36651E-02	0.61088E-02	0.32790E-07

13	0.35631E-02	0.59385E-02	0.31877E-07
14	0.34562E-02	0.57603E-02	0.30920E-07
15	0.33450E-02	0.55750E-02	0.29926E-07
16	0.32304E-02	0.53840E-02	0.28900E-07
17	0.31129E-02	0.51882E-02	0.27849E-07
18	0.29933E-02	0.49889E-02	0.26779E-07
19	0.28723E-02	0.47872E-02	0.25696E-07
20	0.27504E-02	0.45840E-02	0.24606E-07
21	0.26283E-02	0.43805E-02	0.23514E-07
22	0.25066E-02	0.41776E-02	0.22425E-07
23	0.23857E-02	0.39762E-02	0.21343E-07
24	0.22662E-02	0.37770E-02	0.20274E-07
25	0.21485E-02	0.35809E-02	0.19222E-07
26	0.20331E-02	0.33885E-02	0.18189E-07
27	0.19202E-02	0.32003E-02	0.17179E-07
28	0.18102E-02	0.30170E-02	0.16195E-07
29	0.17034E-02	0.28389E-02	0.15239E-07
30	0.15999E-02	0.26665E-02	0.14313E-07
31	0.15000E-02	0.25001E-02	0.13420E-07
32	0.14039E-02	0.23398E-02	0.12560E-07
33	0.13116E-02	0.21859E-02	0.11734E-07
34	0.12231E-02	0.20386E-02	0.10943E-07
35	0.11386E-02	0.18977E-02	0.10187E-07
36	0.10581E-02	0.17635E-02	0.94661E-08
37	0.98149E-03	0.16358E-02	0.87807E-08
38	0.90875E-03	0.15146E-02	0.81300E-08
39	0.83984E-03	0.13997E-02	0.75135E-08
40	0.77465E-03	0.12911E-02	0.69303E-08
41	0.71309E-03	0.11885E-02	0.63795E-08
42	0.65503E-03	0.10917E-02	0.58601E-08
43	0.60034E-03	0.10006E-02	0.53708E-08
44	0.54887E-03	0.91479E-03	0.49104E-08
45	0.50048E-03	0.83413E-03	0.44775E-08
46	0.45499E-03	0.75832E-03	0.40705E-08
47	0.41224E-03	0.68707E-03	0.36881E-08
48	0.37206E-03	0.62009E-03	0.33285E-08
49	0.33426E-03	0.55709E-03	0.29904E-08
50	0.29866E-03	0.49777E-03	0.26719E-08
51	0.26509E-03	0.44181E-03	0.23716E-08
52	0.23335E-03	0.38892E-03	0.20877E-08
53	0.20327E-03	0.33879E-03	0.18185E-08
54	0.17466E-03	0.29110E-03	0.15626E-08
55	0.14733E-03	0.24555E-03	0.13181E-08
56	0.12110E-03	0.20183E-03	0.10834E-08
57	0.95784E-04	0.15964E-03	0.85691E-09
58	0.71199E-04	0.11866E-03	0.63697E-09
59	0.47162E-04	0.78603E-04	0.42193E-09
60	0.23490E-04	0.39150E-04	0.21015E-09

VLEACH (Version 2.1, 1994)

By:
Varadhan Ravi and Jeffrey A. Johnson
(USEPA Contractors)
Center for Subsurface Modeling Support
Robert S. Kerr Environmental Research Laboratory
U.S. Environmental Protection Agency
P.O. Box 1198
Ada, OK 74820

Based on the original VLEACH (version 1.0)
developed by CH2M Hill, Redding, California
for USEPA Region IX

RUN VLAJ4-5; DOWNWARD DIFFUSION FROM SOIL SOURCES; TCE
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 10.00 years. Vertical profile stored every 10.00 years.
Koc = 126.00 ml/g, 0.44496E-02cu.ft./g
Kh = 0.38000 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .86000 sq. m/day, 3378.9 sq.ft./yr

Polygon 1
POLY 1 - IMPERMEABLE GROUND SURFACE BC
Polygon area = 1.0000 sq. ft.
60 cells, each cell 5.000 ft. thick.
Soil Properties:
Bulk density = 1.8600 g/ml, 52670. g/cu.ft.
Porosity = 0.3000 Volumetric water content = 0.0500
Organic carbon content = 0.00100000
Recharge Rate = 0.00000000 ft/yr
Conc. in recharge water = 0.00000 mg/l, 0.00000 g/cu.ft
Atmospheric concentration = -1.0000 mg/l, -0.28317E-01g/cu.ft
Water table has a fixed concentration of 0.00000 mg/l, 0.00000 g/cu.ft.
with respect to gas diffusion.

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 0.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.55395E-02	0.14578E-01	0.64864E-07
2	0.55395E-02	0.14578E-01	0.64864E-07
3	0.55395E-02	0.14578E-01	0.64864E-07
4	0.47481E-03	0.12495E-02	0.55598E-08
5	0.47481E-03	0.12495E-02	0.55598E-08
6	0.42205E-04	0.11107E-03	0.49421E-09
7	0.42205E-04	0.11107E-03	0.49421E-09
8	0.42205E-04	0.11107E-03	0.49421E-09
9	0.42205E-04	0.11107E-03	0.49421E-09
10	0.42205E-04	0.11107E-03	0.49421E-09
11	0.00000	0.00000	0.00000
12	0.00000	0.00000	0.00000
13	0.00000	0.00000	0.00000
14	0.00000	0.00000	0.00000
15	0.00000	0.00000	0.00000
16	0.00000	0.00000	0.00000
17	0.00000	0.00000	0.00000
18	0.00000	0.00000	0.00000
19	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000
21	0.00000	0.00000	0.00000
22	0.00000	0.00000	0.00000
23	0.00000	0.00000	0.00000
24	0.00000	0.00000	0.00000
25	0.00000	0.00000	0.00000
26	0.00000	0.00000	0.00000
[illegible]	0.00000	0.00000	0.00000
[illegible]	0.00000	0.00000	0.00000
[illegible]	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000
31	0.00000	0.00000	0.00000
32	0.00000	0.00000	0.00000
33	0.00000	0.00000	0.00000
34	0.00000	0.00000	0.00000
35	0.00000	0.00000	0.00000
36	0.00000	0.00000	0.00000
37	0.00000	0.00000	0.00000
38	0.00000	0.00000	0.00000
39	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000
41	0.00000	0.00000	0.00000
42	0.00000	0.00000	0.00000
43	0.00000	0.00000	0.00000
44	0.00000	0.00000	0.00000
45	0.00000	0.00000	0.00000
46	0.00000	0.00000	0.00000
47	0.00000	0.00000	0.00000
48	0.00000	0.00000	0.00000
49	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000
51	0.00000	0.00000	0.00000
52	0.00000	0.00000	0.00000
53	0.00000	0.00000	0.00000
54	0.00000	0.00000	0.00000
55	0.00000	0.00000	0.00000
56	0.00000	0.00000	0.00000
57	0.00000	0.00000	0.00000
58	0.00000	0.00000	0.00000
59	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000

POLY 1 - IMPERMEABLE GROUND SURFACE BC
Time: 10.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
[illegible]	0.21995E-02	0.57882E-02	0.25755E-07
[illegible]	0.21389E-02	0.56287E-02	0.25046E-07
[illegible]	0.20183E-02	0.53112E-02	0.23633E-07
4	0.15552E-02	0.40926E-02	0.18211E-07
5	0.13831E-02	0.36398E-02	0.16196E-07
6	0.11954E-02	0.31458E-02	0.13998E-07
7	0.10465E-02	0.27539E-02	0.12254E-07
8	0.91200E-03	0.24000E-02	0.10679E-07
9	0.79148E-03	0.20828E-02	0.92679E-08
10	0.68412E-03	0.18003E-02	0.80107E-08

11	0.58659E-03	0.15437E-02	0.68687E-08
12	0.50313E-03	0.13240E-02	0.58914E-08
13	0.43029E-03	0.11323E-02	0.50385E-08
14	0.36700E-03	0.96579E-03	0.42974E-08
15	0.31223E-03	0.82167E-03	0.36561E-08
16	0.26502E-03	0.69742E-03	0.31032E-08
17	0.22445E-03	0.59065E-03	0.26282E-08
18	0.18969E-03	0.49919E-03	0.22212E-08
19	0.16001E-03	0.42107E-03	0.18736E-08
20	0.13472E-03	0.35452E-03	0.15775E-08
21	0.11323E-03	0.29797E-03	0.13259E-08
22	0.95011E-04	0.25003E-03	0.11125E-08
23	0.79599E-04	0.20947E-03	0.93206E-09
24	0.66587E-04	0.17523E-03	0.77970E-09
25	0.55623E-04	0.14638E-03	0.65131E-09
26	0.46401E-04	0.12211E-03	0.54333E-09
27	0.38657E-04	0.10173E-03	0.45266E-09
28	0.32166E-04	0.84647E-04	0.37665E-09
29	0.26733E-04	0.70350E-04	0.31303E-09
30	0.22192E-04	0.58400E-04	0.25986E-09
31	0.18402E-04	0.48427E-04	0.21548E-09
32	0.15244E-04	0.40115E-04	0.17849E-09
33	0.12614E-04	0.33195E-04	0.14771E-09
34	0.10428E-04	0.27442E-04	0.12211E-09
35	0.86126E-05	0.22665E-04	0.10085E-09
36	0.71068E-05	0.18702E-04	0.83217E-10
37	0.58590E-05	0.15418E-04	0.68606E-10
38	0.48261E-05	0.12700E-04	0.56512E-10
39	0.39720E-05	0.10453E-04	0.46510E-10
40	0.32664E-05	0.85958E-05	0.38248E-10
41	0.26840E-05	0.70631E-05	0.31428E-10
42	0.22037E-05	0.57991E-05	0.25804E-10
43	0.18079E-05	0.47575E-05	0.21169E-10
44	0.14820E-05	0.38999E-05	0.17353E-10
45	0.12138E-05	0.31942E-05	0.14213E-10
46	0.99327E-06	0.26139E-05	0.11631E-10
47	0.81200E-06	0.21369E-05	0.95082E-11
48	0.66306E-06	0.17449E-05	0.77641E-11
49	0.54067E-06	0.14228E-05	0.63310E-11
50	0.44008E-06	0.11581E-05	0.51531E-11
51	0.35733E-06	0.94035E-06	0.41842E-11
52	0.28917E-06	0.76096E-06	0.33860E-11
53	0.23286E-06	0.61278E-06	0.27266E-11
54	0.18614E-06	0.48985E-06	0.21797E-11
55	0.14714E-06	0.38721E-06	0.17229E-11
56	0.11425E-06	0.30066E-06	0.13378E-11
57	0.86134E-07	0.22667E-06	0.10086E-11
58	0.61622E-07	0.16216E-06	0.72156E-12
59	0.39696E-07	0.10446E-06	0.46482E-12
60	0.19439E-07	0.51154E-07	0.22762E-12

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 20.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.13615E-02	0.35830E-02	0.15943E-07
2	0.13416E-02	0.35304E-02	0.15709E-07
3	0.13024E-02	0.34274E-02	0.15251E-07
4	0.12299E-02	0.32367E-02	0.14402E-07
5	0.11656E-02	0.30673E-02	0.13648E-07
6	0.10944E-02	0.28800E-02	0.12815E-07
7	0.10217E-02	0.26887E-02	0.11964E-07
8	0.94793E-03	0.24945E-02	0.11100E-07
9	0.87443E-03	0.23011E-02	0.10239E-07
10	0.80237E-03	0.21115E-02	0.93954E-08
11	0.73251E-03	0.19276E-02	0.85773E-08
12	0.66583E-03	0.17522E-02	0.77966E-08
13	0.60270E-03	0.15860E-02	0.70573E-08
14	0.54343E-03	0.14301E-02	0.63633E-08
15	0.48820E-03	0.12847E-02	0.57166E-08
16	0.43708E-03	0.11502E-02	0.51180E-08
17	0.39006E-03	0.10265E-02	0.45674E-08
18	0.34703E-03	0.91325E-03	0.40636E-08
19	0.30787E-03	0.81019E-03	0.36050E-08
20	0.27239E-03	0.71681E-03	0.31895E-08
21	0.24037E-03	0.63256E-03	0.28146E-08
22	0.21160E-03	0.55684E-03	0.24777E-08
23	0.18584E-03	0.48904E-03	0.21761E-08
24	0.16285E-03	0.42854E-03	0.19069E-08
25	0.14240E-03	0.37473E-03	0.16674E-08
26	0.12426E-03	0.32701E-03	0.14551E-08
27	0.10823E-03	0.28481E-03	0.12673E-08
28	0.94088E-04	0.24760E-03	0.11017E-08
29	0.81647E-04	0.21486E-03	0.95605E-09
30	0.70730E-04	0.18613E-03	0.82822E-09
31	0.61171E-04	0.16098E-03	0.71629E-09
32	0.52820E-04	0.13900E-03	0.61850E-09
33	0.45539E-04	0.11984E-03	0.53324E-09
34	0.39203E-04	0.10317E-03	0.45905E-09
35	0.33700E-04	0.88685E-04	0.39462E-09
36	0.28930E-04	0.76131E-04	0.33875E-09
37	0.24801E-04	0.65265E-04	0.29041E-09
38	0.21233E-04	0.55877E-04	0.24863E-09
39	0.18156E-04	0.47778E-04	0.21259E-09
40	0.15504E-04	0.40801E-04	0.18155E-09
41	0.13224E-04	0.34799E-04	0.15484E-09

42	0.11265E-04	0.29644E-04	0.13190E-09
43	0.95837E-05	0.25220E-04	0.11222E-09
44	0.81431E-05	0.21429E-04	0.95352E-10
45	0.69097E-05	0.18183E-04	0.80909E-10
46	0.58545E-05	0.15407E-04	0.68554E-10
47	0.49525E-05	0.13033E-04	0.57992E-10
48	0.41817E-05	0.11004E-04	0.48965E-10
[illegible]	0.35229E-05	0.92709E-05	0.41252E-10
[illegible]	0.29597E-05	0.77888E-05	0.34657E-10
[illegible]	0.24777E-05	0.65203E-05	0.29013E-10
52	0.20643E-05	0.54325E-05	0.24172E-10
53	0.17087E-05	0.44966E-05	0.20008E-10
54	0.14013E-05	0.36876E-05	0.16408E-10
55	0.11337E-05	0.29835E-05	0.13275E-10
56	0.89863E-06	0.23648E-05	0.10523E-10
57	0.68945E-06	0.18143E-05	0.80731E-11
58	0.50024E-06	0.13164E-05	0.58576E-11
59	0.32560E-06	0.85683E-06	0.38126E-11
60	0.16045E-06	0.42224E-06	0.18788E-11

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 30.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.10465E-02	0.27539E-02	0.12254E-07
2	0.10386E-02	0.27330E-02	0.12161E-07
3	0.10230E-02	0.26921E-02	0.11979E-07
4	0.99942E-03	0.26300E-02	0.11703E-07
5	0.97103E-03	0.25554E-02	0.11370E-07
6	0.93771E-03	0.24677E-02	0.10980E-07
7	0.90050E-03	0.23697E-02	0.10544E-07
8	0.86018E-03	0.22636E-02	0.10072E-07
9	0.81754E-03	0.21514E-02	0.95730E-08
10	0.77332E-03	0.20351E-02	0.90552E-08
11	0.72820E-03	0.19163E-02	0.85269E-08
12	0.68280E-03	0.17969E-02	0.79953E-08
13	0.63765E-03	0.16780E-02	0.74666E-08
14	0.59321E-03	0.15611E-02	0.69462E-08
15	0.54985E-03	0.14470E-02	0.64385E-08
16	0.50790E-03	0.13366E-02	0.59472E-08
17	0.46759E-03	0.12305E-02	0.54753E-08
18	0.42913E-03	0.11293E-02	0.50249E-08
19	0.39264E-03	0.10333E-02	0.45977E-08
20	0.35823E-03	0.94270E-03	0.41946E-08
21	0.32592E-03	0.85769E-03	0.38164E-08
22	0.29575E-03	0.77829E-03	0.34631E-08
23	0.26769E-03	0.70444E-03	0.31345E-08
[illegible]	0.24170E-03	0.63606E-03	0.28302E-08
[illegible]	0.21773E-03	0.57296E-03	0.25495E-08
[illegible]	0.19569E-03	0.51496E-03	0.22914E-08
27	0.17550E-03	0.46183E-03	0.20550E-08
28	0.15706E-03	0.41332E-03	0.18391E-08
29	0.14028E-03	0.36915E-03	0.16426E-08
30	0.12505E-03	0.32907E-03	0.14642E-08
31	0.11126E-03	0.29278E-03	0.13028E-08
32	0.98807E-04	0.26002E-03	0.11570E-08
33	0.87596E-04	0.23052E-03	0.10257E-08
34	0.77524E-04	0.20401E-03	0.90777E-09
35	0.68496E-04	0.18025E-03	0.80206E-09
36	0.60421E-04	0.15900E-03	0.70750E-09
37	0.53213E-04	0.14003E-03	0.62309E-09
38	0.46791E-04	0.12314E-03	0.54791E-09
39	0.41082E-04	0.10811E-03	0.48105E-09
40	0.36014E-04	0.94774E-04	0.42171E-09
41	0.31524E-04	0.82957E-04	0.36913E-09
42	0.27551E-04	0.72501E-04	0.32260E-09
43	0.24040E-04	0.63264E-04	0.28150E-09
44	0.20943E-04	0.55113E-04	0.24523E-09
45	0.18213E-04	0.47928E-04	0.21326E-09
46	0.15809E-04	0.41602E-04	0.18511E-09
47	0.13693E-04	0.36033E-04	0.16033E-09
48	0.11831E-04	0.31134E-04	0.13853E-09
49	0.10192E-04	0.26822E-04	0.11935E-09
50	0.87496E-05	0.23025E-04	0.10245E-09
51	0.74773E-05	0.19677E-04	0.87555E-10
52	0.63526E-05	0.16717E-04	0.74387E-10
53	0.53552E-05	0.14093E-04	0.62706E-10
54	0.44661E-05	0.11753E-04	0.52296E-10
55	0.36685E-05	0.96539E-05	0.42956E-10
56	0.29467E-05	0.77544E-05	0.34504E-10
57	0.22862E-05	0.60164E-05	0.26771E-10
58	0.16737E-05	0.44045E-05	0.19599E-10
59	0.10965E-05	0.28855E-05	0.12840E-10
60	0.54250E-06	0.14276E-05	0.63524E-11

POLY 1 - IMPERMEABLE GROUND SURFACE BC

[illegible] 40.000

Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1 0.88149E-03	0.23197E-02	0.10322E-07
2 0.87728E-03	0.23086E-02	0.10273E-07
3 0.86896E-03	0.22867E-02	0.10175E-07
4 0.85665E-03	0.22543E-02	0.10031E-07
5 0.84075E-03	0.22125E-02	0.98448E-08
6 0.82152E-03	0.21619E-02	0.96196E-08
7 0.79931E-03	0.21035E-02	0.93596E-08
[illegible]	[illegible]	[illegible]

9	0.74745E-03	0.19670E-02	0.87523E-08
10	0.71856E-03	0.18909E-02	0.84140E-08
11	0.68820E-03	0.18111E-02	0.80585E-08
12	0.65676E-03	0.17283E-02	0.76903E-08
13	0.62456E-03	0.16436E-02	0.73133E-08
14	0.59195E-03	0.15578E-02	0.69315E-08
15	0.55922E-03	0.14716E-02	0.65482E-08
16	0.52665E-03	0.13859E-02	0.61668E-08
17	0.49447E-03	0.13012E-02	0.57901E-08
18	0.46291E-03	0.12182E-02	0.54204E-08
19	0.43214E-03	0.11372E-02	0.50601E-08
20	0.40231E-03	0.10587E-02	0.47109E-08
21	0.37356E-03	0.98305E-03	0.43742E-08
22	0.34598E-03	0.91046E-03	0.40512E-08
23	0.31964E-03	0.84116E-03	0.37428E-08
24	0.29461E-03	0.77528E-03	0.34497E-08
25	0.27090E-03	0.71290E-03	0.31722E-08
26	0.24855E-03	0.65408E-03	0.29104E-08
27	0.22755E-03	0.59881E-03	0.26645E-08
28	0.20788E-03	0.54705E-03	0.24342E-08
29	0.18952E-03	0.49874E-03	0.22192E-08
30	0.17244E-03	0.45380E-03	0.20192E-08
31	0.15660E-03	0.41211E-03	0.18337E-08
32	0.14194E-03	0.37354E-03	0.16621E-08
33	0.12842E-03	0.33796E-03	0.15038E-08
34	0.11598E-03	0.30522E-03	0.13581E-08
35	0.10456E-03	0.27516E-03	0.12244E-08
36	0.94103E-04	0.24764E-03	0.11019E-08
37	0.84547E-04	0.22249E-03	0.99000E-09
38	0.75832E-04	0.19956E-03	0.88796E-09
39	0.67902E-04	0.17869E-03	0.79510E-09
40	0.60699E-04	0.15973E-03	0.71075E-09
41	0.54167E-04	0.14255E-03	0.63427E-09
42	0.48254E-04	0.12698E-03	0.56503E-09
43	0.42908E-04	0.11292E-03	0.50244E-09
44	0.38082E-04	0.10022E-03	0.44592E-09
45	0.33729E-04	0.88760E-04	0.39495E-09
46	0.29806E-04	0.78436E-04	0.34901E-09
47	0.26272E-04	0.69136E-04	0.30763E-09
48	0.23088E-04	0.60759E-04	0.27036E-09
49	0.20220E-04	0.53211E-04	0.23677E-09
50	0.17633E-04	0.46404E-04	0.20648E-09
51	0.15296E-04	0.40254E-04	0.17911E-09
52	0.13180E-04	0.34685E-04	0.15433E-09
53	0.11257E-04	0.29624E-04	0.13181E-09
54	0.95012E-05	0.25003E-04	0.11125E-09
55	0.78883E-05	0.20759E-04	0.92368E-10
56	0.63955E-05	0.16830E-04	0.74889E-10
57	0.50010E-05	0.13161E-04	0.58560E-10
58	0.36840E-05	0.96947E-05	0.43138E-10
59	0.24244E-05	0.63800E-05	0.28389E-10
60	0.12028E-05	0.31651E-05	0.14084E-10

POLY 1 - IMPERMEABLE GROUND SURFACE BC

Time: 50.000

Cell	Cgas(g/cu.ft)	Cliq(g/cu.ft)	Csol(g/g)
1	0.77656E-03	0.20436E-02	0.90931E-08
2	0.77385E-03	0.20365E-02	0.90615E-08
3	0.76849E-03	0.20223E-02	0.89987E-08
4	0.76053E-03	0.20014E-02	0.89055E-08
5	0.75010E-03	0.19739E-02	0.87833E-08
6	0.73732E-03	0.19403E-02	0.86337E-08
7	0.72237E-03	0.19010E-02	0.84586E-08
8	0.70542E-03	0.18564E-02	0.82601E-08
9	0.68666E-03	0.18070E-02	0.80405E-08
10	0.66632E-03	0.17535E-02	0.78023E-08
11	0.64459E-03	0.16963E-02	0.75479E-08
12	0.62171E-03	0.16361E-02	0.72799E-08
13	0.59788E-03	0.15734E-02	0.70009E-08
14	0.57332E-03	0.15087E-02	0.67133E-08
15	0.54823E-03	0.14427E-02	0.64196E-08
16	0.52282E-03	0.13758E-02	0.61219E-08
17	0.49725E-03	0.13086E-02	0.58226E-08
18	0.47172E-03	0.12414E-02	0.55236E-08
19	0.44636E-03	0.11746E-02	0.52267E-08
20	0.42133E-03	0.11088E-02	0.49335E-08
21	0.39674E-03	0.10441E-02	0.46457E-08
22	0.37272E-03	0.98084E-03	0.43644E-08
23	0.34935E-03	0.91935E-03	0.40907E-08
24	0.32672E-03	0.85979E-03	0.38257E-08
25	0.30489E-03	0.80234E-03	0.35701E-08
26	0.28392E-03	0.74715E-03	0.33245E-08
27	0.26384E-03	0.69432E-03	0.30895E-08
28	0.24469E-03	0.64392E-03	0.28652E-08
29	0.22648E-03	0.59599E-03	0.26519E-08
30	0.20922E-03	0.55057E-03	0.24498E-08
31	0.19291E-03	0.50765E-03	0.22589E-08
32	0.17754E-03	0.46721E-03	0.20789E-08
33	0.16310E-03	0.42920E-03	0.19098E-08
34	0.14956E-03	0.39358E-03	0.17513E-08
35	0.13690E-03	0.36027E-03	0.16031E-08
36	0.12510E-03	0.32920E-03	0.14648E-08
37	0.11411E-03	0.30029E-03	0.13362E-08
38	0.10391E-03	0.27344E-03	0.12167E-08
39	0.94447E-04	0.24855E-03	0.11059E-08

40	0.85696E-04	0.22552E-03	0.10035E-08
41	0.77614E-04	0.20425E-03	0.90882E-09
42	0.70160E-04	0.18463E-03	0.82154E-09
43	0.63295E-04	0.16656E-03	0.74115E-09
44	0.56979E-04	0.14995E-03	0.66720E-09
45	0.51175E-04	0.13467E-03	0.59923E-09
46	0.45843E-04	0.12064E-03	0.53680E-09
47	0.40947E-04	0.10776E-03	0.47947E-09
[redacted]	0.36451E-04	0.95924E-04	0.42683E-09
[redacted]	0.32320E-04	0.85053E-04	0.37845E-09
50	0.28520E-04	0.75052E-04	0.33396E-09
51	0.25018E-04	0.65838E-04	0.29295E-09
52	0.21784E-04	0.57326E-04	0.25508E-09
53	0.18786E-04	0.49437E-04	0.21997E-09
54	0.15996E-04	0.42094E-04	0.18730E-09
55	0.13385E-04	0.35223E-04	0.15673E-09
56	0.10926E-04	0.28752E-04	0.12793E-09
57	0.85919E-05	0.22610E-04	0.10061E-09
58	0.63576E-05	0.16731E-04	0.74445E-10
59	0.41975E-05	0.11046E-04	0.49150E-10
60	0.20865E-05	0.54907E-05	0.24432E-10

[redacted]

[redacted]

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Azusa/Irwindale Study Area
San Gabriel Valley
Los Angeles, California

September 2, 1994

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