1994 Annual Water Monitoring Report
LEHR Environmental Restoration
University of California at Davis

July 1995

U.S. Department of Energy

Oakland Operations Office
Environmental Restoration

PNL-XXXX
Limited Distribution

1994 Annual Water Monitoring Report
Water Monitoring Program

LEHR Environmental Restoration
Davis, California

July 1995

Prepared for the Oakland Operations Office
under Related Services Agreement
with the U.S. Department of Energy
Contract DE-AC-06-76RLO 1830

Pacific Northwest Laboratory
Richland, Washington 99352

SAC156.01

1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION
UNIVERSITY OF CALIFORNIA AT DAVIS

SAC156.01

1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION
UNIVERSITY OF CALIFORNIA AT DAVIS

TABLE OF CONTENTS

SECTION	PAGE
LIST OF ACRONYMS AND ABBREVIATIONS	viii
EXECUTIVE SUMMARY	x
1.0 INTRODUCTION	1.1
1.1 PURPOSE AND OBJECTIVES	1.1
1.2 ORGANIZATION OF REPORT	1.2
1.3 PROJECT OVERVIEW	1.3
2.0 1994 WATER MONITORING PROGRAM	2.1
2.1 GROUNDWATER MONITORING	2.1
2.2 SURFACE WATER AND STORM WATER MONITORING	2.2
2.3 ANALYTICAL PROGRAM	2.3
2.4 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM	2.3
3.0 QUALITY ASSURANCE AND DATA VALIDATION SUMMARY	3.1
3.1 QUALITY ASSURANCE CRITERIA	3.1
3.1.1 Precision	3.1
3.1.2 Accuracy	3.2
3.1.3 Representativeness	3.3
3.1.4 Comparability	3.4
3.1.5 Completeness	3.4
3.2 DATA VALIDATION METHODS	3.5
3.3 DATA VALIDATION RESULTS	3.6
3.3.1 Volatile Organic Compounds (EPA CLP OLC2.0)	3.6
3.3.2 Semivolatile Organic Compounds (EPA CLP OLM1.8)	3.8
3.3.3 Pesticides/Polychlorinated Biphenyls (EPA CLP OLM1.8)	3.10
3.3.4 Metals (EPA CLP ILC2.0 and EPA 7196)	3.11
3.3.5 Radionuclides	3.13
3.3.6 General Chemicals	3.15
3.4 SUMMARY	3.18
4.0 HYDROGEOLOGY	4.1
4.1 REGIONAL SETTING	4.1
4.2 LEHR SITE STRATIGRAPHY	4.2
4.3 LEHR SITE HYDROGEOLOGY	4.3
4.4 GROUNDWATER ELEVATIONS AND GRADIENTS	4.3
4.4.1 Groundwater Elevations During 1994	4.4
4.4.2 Lateral Groundwater Gradients during 1994	4.4
4.4.3 Vertical Groundwater Gradients	4.5
5.0 GROUNDWATER ANALYTICAL RESULTS	5.1
5.1 VOLATILE ORGANIC COMPOUNDS	5.2

TABLE OF CONTENTS (continued)

SECTION PAGE

5.2 SEMIVOLATILE ORGANIC COMPOUNDS 5.3
5.3 METALS 5.3
5.4 PESTICIDES AND PCBS 5.6
5.5 RADIONUCLIDES 5.6
5.6 ANIONS AND CATIONS 5.9
5.6.1 Stiff Diagrams 5.9
5.6.2 Nitrate 5.10
5.7 OTHER PARAMETERS 5.11
5.7.1 Formaldehyde 5.11
5.7.2 Total Dissolved Solids 5.12
5.7.3 Turbidity 5.12

6.0 SURFACE WATER AND STORM WATER ANALYTICAL RESULTS 6.1
6.1 VOLATILE ORGANIC COMPOUNDS 6.1
6.2 SEMIVOLATILE ORGANIC COMPOUNDS 6.2
6.3 METALS 6.2
6.4 PESTICIDES AND PCBS 6.3
6.5 RADIONUCLIDES 6.4
6.6 ANIONS AND CATIONS 6.4
6.7 OTHER PARAMETERS 6.6
6.7.1 Formaldehyde 6.6
6.7.2 Total Dissolved Solids 6.7
6.7.3 Turbidity 6.7

7.0 STATISTICAL ANALYSIS 7.1
7.1 PARAMETERS INCLUDED IN STATISTICAL ANALYSIS 7.2
7.2 STATISTICAL METHODS 7.2
7.3 RESULTS 7.3
7.3.1 Upper Tolerance Limit Calculations 7.3
7.3.2 Test of Proportions Calculations 7.4
7.4 DISCUSSION OF STATISTICAL ANALYSES 7.5

8.0 EVALUATION OF GROUNDWATER MONITORING SYSTEM 8.1
8.1 CHLOROFORM 8.1
8.2 HEXAVALENT CHROMIUM 8.2
8.3 TRITIUM 8.3
8.4 NITRATE 8.3
8.5 SUMMARY OF EVALUATION OF GROUNDWATER MONITORING SYSTEM . . 8.4

9.0 REFERENCES 9.1

1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION
UNIVERSITY OF CALIFORNIA AT DAVIS

LIST OF TABLES, FIGURES, AND APPENDICES

LIST OF TABLES

2.1 - SUMMARY OF QUARTERLY MONITORING ROUNDS, FEBRUARY THROUGH DECEMBER 1994
2.2 - ANALYTICAL CONSTITUENTS FOR GROUNDWATER SAMPLES
2.3 - ANALYTICAL CONSTITUENTS FOR SURFACE WATER SAMPLES
2.4 - ANALYTICAL CONSTITUENTS FOR STORM WATER RUNOFF SAMPLES
2.5 - WATER MONITORING CONSTITUENTS AND ANALYTICAL METHODS

3.1 - QUALITY CONTROL SAMPLE EVALUATION CRITERIA
3.2 - FIELD DUPLICATE DATA FOR GROUNDWATER, WINTER QUARTER 1994
3.3 - FIELD DUPLICATE DATA FOR GROUNDWATER, SPRING QUARTER 1994
3.4 - FIELD DUPLICATE DATA FOR GROUNDWATER, SUMMER QUARTER 1994
3.5 - FIELD DUPLICATE DATA FOR GROUNDWATER, FALL QUARTER 1994
3.6 - FIELD DUPLICATE DATA FOR SURFACE WATER, WINTER QUARTER 1994
3.7 - FIELD DUPLICATE DATA FOR SURFACE WATER, SPRING QUARTER 1994
3.8 - FIELD DUPLICATE DATA FOR SURFACE WATER, SUMMER QUARTER 1994
3.9 - FIELD DUPLICATE DATA FOR SURFACE WATER, FALL QUARTER 1994
3.10 - FIELD DUPLICATE DATA FOR STORM WATER, NOVEMBER 1994
3.11 - ANALYTICAL LABORATORY SAMPLE MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RESULTS, RANGES OF ACCURACY AND PRECISION
3.12 - ANALYTICAL LABORATORY CONTROL AND DUPLICATE CONTROL SAMPLE SPIKE RESULTS, RANGES OF ACCURACY AND PRECISION
3.13 - SUMMARY OF DETECTIONS IN TRIP BLANKS

5.1 - NUMBERS OF DETECTIONS AND POSITIVE RESULTS, AND MAXIMUM VALUES IN GROUNDWATER, 1994
5.2 - SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994 - VOLATILE ORGANICS
5.3 - SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994 - SEMIVOLATILE ORGANIC COMPOUNDS
5.4 - SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994 - PESTICIDES AND PCBS
5.5 - SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994 - METALS
5.6 - SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994 -RADIOCHEMICALS
5.7 - SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994 - ANIONS AND CATIONS
5.8 - SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994 - OTHER PARAMETERS

LIST OF TABLES, FIGURES, AND APPENDICES (continued)

LIST OF TABLES (CONTINUED)

6.1 - NUMBERS OF DETECTIONS AND POSITIVE RESULTS, AND MAXIMUM VALUES IN SURFACE WATER, 1994
6.2 - SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994 - VOLATILE ORGANICS
6.3 - SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994 - SEMIVOLATILE ORGANIC COMPOUNDS
6.4 - SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994 - PESTICIDES AND PCBS
6.5 - SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994 - METALS
6.6 - SUMMARY OF POSITIVE RESULTS IN SURFACE WATER, 1994 - RADIOCHEMICALS
6.7 - SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994 - ANIONS AND CATIONS
6.8 - SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994 - OTHER PARAMETERS

7.1 - PARAMETERS INCLUDED IN STATISTICAL ANALYSIS
7.2A - RESULTS OF UPGRADIENT VS. DOWNGRADIENT STATISTICAL COMPARISON BASED ON 95% UPPER TOLERANCE LIMIT TEST - METALS AND NITRATE
7.2B - RESULTS OF UPGRADIENT VS. DOWNGRADIENT STATISTICAL COMPARISON BASED ON 95% UPPER TOLERANCE LIMIT TEST - RADIONUCLIDES, GROSS ALPHA, GROSS BETA
7.3A - RESULTS OF UPGRADIENT VS. DOWNGRADIENT STATISTICAL COMPARISON USING TEST OF PROPORTIONS - METALS
7.3B - RESULTS OF UPGRADIENT VS. DOWNGRADIENT STATISTICAL COMPARISON USING TEST OF PROPORTIONS - ORGANIC COMPOUNDS

A.1 ANALYTICAL RESULTS FOR GROUNDWATER, 1994 - VOLATILE ORGANICS
A.2 ANALYTICAL RESULTS FOR GROUNDWATER, 1994 - SEMIVOLATILE ORGANICS
A.3 ANALYTICAL RESULTS FOR GROUNDWATER, 1994 - PESTICIDES AND PCBS
A.4 ANALYTICAL RESULTS FOR GROUNDWATER, 1994 - METALS
A.5 ANALYTICAL RESULTS FOR GROUNDWATER, 1994 - RADIOCHEMICALS
A.6 ANALYTICAL RESULTS FOR GROUNDWATER, 1994 - OTHER PARAMETERS
A.7 ANALYTICAL RESULTS FOR GROUNDWATER, 1994 - ANIONS AND CATIONS
A.8 ANALYTICAL RESULTS FOR TRIP BLANKS, 1994 - VOLATILE ORGANICS

B.1 ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994 - VOLATILE ORGANICS
B.2 ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994 - SEMIVOLATILE ORGANICS
B.3 ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994 - PESTICIDES AND PCBS
B.4 ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994 - METALS

LIST OF TABLES, FIGURES, AND APPENDICES (continued)

LIST OF TABLES (CONTINUED)

B.5 ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER RUNOFF, 1994 - RADIOCHEMICALS
B.6 ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER RUNOFF, 1994 - OTHER PARAMETERS
B.7 ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER RUNOFF, 1994 - ANIONS AND CATIONS

F.1 CUMULATIVE GROUNDWATER ELEVATION DATA

LIST OF FIGURES

1.1 - SITE VICINITY MAP
2.1 - LOCATION MAP, WATER MONITORING POINTS
2.2 - LOCATION MAP, FIRST HSU GROUNDWATER MONITORING WELLS
2.3 - LOCATION MAP, SECOND HSU GROUNDWATER MONITORING WELLS
2.4 - LOCATION MAP, SURFACE WATER MONITORING POINTS
2.5 - LOCATION MAP, STORM WATER COLLECTION SYSTEM, AND STORM WATER RUNOFF MONITORING POINTS
4.1 - CROSS SECTION, MONITORING WELL, AND CPT/HYDROPUNCH LOCATION MAP
4.2 - HYDROSTRATIGRAPHIC SECTION A-A'
4.3 - HYDROSTRATIGRAPHIC SECTION B-B'
4.4 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-20
4.5 - GROUNDWATER ELEVATION HYDROGRAPH - UCD2-7
4.6 - MONTHLY PRECIPITATION HYDROGRAPH, UC DAVIS STATION
4.7 - VERTICAL GRADIENT HYDROGRAPH, UCD1-4 AND UCD2-15
4.8 - VERTICAL GRADIENT HYDROGRAPH, UCD1-1 AND UCD2-16
4.9 - VERTICAL GRADIENT HYDROGRAPH, UCD1-20 AND UCD2-7
4.10 - VERTICAL GRADIENT HYDROGRAPH, UCD1-13 AND UCD2-14
5.1 - BAR GRAPH OF CHLOROFORM IN FIRST HSU
5.2 - BAR GRAPH OF BARIUM IN FIRST HSU
5.3 - BAR GRAPH OF HEXAVALENT CHROMIUM IN FIRST HSU
5.4 - BAR GRAPH OF SELENIUM IN FIRST HSU
5.5 - BAR GRAPH OF CARBON-14 IN FIRST HSU
5.6 - BAR GRAPH OF TRITIUM IN FIRST HSU
5.7 - BAR GRAPH OF NITRATE AS NITROGEN IN FIRST HSU
5.8 - BAR GRAPH OF TOTAL DISSOLVED SOLIDS IN FIRST HSU
5.9 - BAR GRAPH OF CHLOROFORM IN SECOND HSU
5.10 - BAR GRAPH OF BARIUM IN SECOND HSU
5.11 - BAR GRAPH OF HEXAVALENT CHROMIUM IN SECOND HSU
5.12 - BAR GRAPH OF SELENIUM IN SECOND HSU
5.13 - BAR GRAPH OF CARBON-14 IN SECOND HSU
5.14 - BAR GRAPH OF TRITIUM IN SECOND HSU
5.15 - BAR GRAPH OF NITRATE AS NITROGEN IN SECOND HSU
5.16 - BAR GRAPH OF TOTAL DISSOLVED SOLIDS IN SECOND HSU

LIST OF TABLES, FIGURES, AND APPENDICES (continued)

LIST OF FIGURES (CONTINUED)

5.17 - CONCENTRATION CONTOUR PLOT - CHLOROFORM IN FIRST HSU, FALL 1994
5.18 - CONCENTRATION CONTOUR PLOT - HEXAVALENT CHROMIUM IN FIRST HSU, FALL 1994
5.19 - CONCENTRATION CONTOUR PLOT - TRITIUM IN FIRST HSU, FALL 1994
5.20 - CONCENTRATION CONTOUR PLOT - NITRATE AS NITROGEN IN FIRST HSU, FALL 1994
5.21 - CONCENTRATION CONTOUR PLOT - CHLOROFORM IN SECOND HSU, FALL 1994
5.22 - CONCENTRATION CONTOUR PLOT - HEXAVALENT CHROMIUM IN SECOND HSU, FALL 1994
5.23 - CONCENTRATION CONTOUR PLOT - TRITIUM IN SECOND HSU, SUMMER 1994
5.24 - CONCENTRATION CONTOUR PLOT - NITRATE AS NITROGEN IN SECOND HSU, FALL 1994
5.25 - STIFF DIAGRAMS, FIRST HSU WELLS, WINTER QUARTER 1994
5.26 - STIFF DIAGRAMS,FIRST HSU WELLS, SPRING QUARTER 1994
5.27 - STIFF DIAGRAMS, FIRST HSU WELLS, SUMMER QUARTER 1994
5.28 - STIFF DIAGRAMS, FIRST HSU WELLS, FALL QUARTER 1994
5.29 - STIFF DIAGRAMS, SECOND HSU WELLS, WINTER AND SPRING QUARTERS 1994
5.30 - STIFF DIAGRAMS, SECOND HSU WELLS, SUMMER AND FALL QUARTERS 1994
6.1 - FLOW RATES, SOUTH FORK OF PUTAH CREEK AND SEWAGE TREATMENT PLANT OUTFALL, 1994
6.2 - BAR GRAPH OF CHLOROFORM IN SURFACE WATER
6.3 - BAR GRAPH OF BARIUM IN SURFACE WATER
6.4 - BAR GRAPH OF SELENIUM IN SURFACE WATER
6.5 - BAR GRAPH OF TRITIUM IN SURFACE WATER
6.6 - BAR GRAPH OF NITRATE AS NITROGEN IN SURFACE WATER
6.7 - BAR GRAPH OF TOTAL DISSOLVED SOLIDS IN SURFACE WATER
6.8 - STIFF DIAGRAMS, SURFACE WATER SAMPLING LOCATIONS, WINTER AND SUMMER QUARTERS 1994
6.9 - STIFF DIAGRAMS, SURFACE WATER SAMPLING LOCATIONS, SUMMER AND FALL QUARTERS 1994
7.1 - STATISTICAL TEST SELECTION FLOW CHART
8.1 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - CHLOROFORM IN FIRST HSU, FALL 1994
8.2 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - HEXAVALENT CHROMIUM IN FIRST HSU, FALL 1994
8.3 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - TRITIUM IN FIRST HSU, FALL 1994
8.4 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - NITRATE AS NITROGEN IN FIRST HSU, FALL 1994
8.5 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - CHLOROFORM IN SECOND HSU, FALL 1994
8.6 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - HEXAVALENT CHROMIUM IN SECOND HSU, FALL 1994
8.7 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - TRITIUM IN SECOND HSU, SUMMER AND FALL 1994
8.8 - CONCENTRATION CONTOUR PLOT, MONITORING WELLS AND HYDROPUNCH DATA - NITRATE AS NITROGEN IN SECOND HSU, FALL 1994

LIST OF TABLES, FIGURES, AND APPENDICES (continued)

LIST OF FIGURES (CONTINUED)

F.1 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-18
F.2 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-1
F.3 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-4
F.4 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-10
F.5 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-11
F.6 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-12
F.7 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-13
F.8 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-19
F.9 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-20
F.10 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-21
F.11 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-22
F.12 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-23
F.13 - GROUNDWATER ELEVATION HYDROGRAPH - UCD1-24
F.14 - GROUNDWATER ELEVATION HYDROGRAPH - UCD2-17
F.15 - GROUNDWATER ELEVATION HYDROGRAPH - UCD2-7
F.16 - GROUNDWATER ELEVATION HYDROGRAPH - UCD2-14
F.17 - GROUNDWATER ELEVATION HYDROGRAPH - UCD2-15
F.18 - GROUNDWATER ELEVATION HYDROGRAPH - UCD2-16
F.19 - GROUNDWATER ELEVATION CONTOURS, FIRST HSU, MARCH 2, 1994
F.20 - GROUNDWATER ELEVATION CONTOURS, FIRST HSU, MAY 25, 1994
F.21 - GROUNDWATER ELEVATION CONTOURS, FIRST HSU, AUGUST 19, 1994
F.22 - GROUNDWATER ELEVATION CONTOURS, FIRST HSU, NOVEMBER 18, 1994
F.23 - GROUNDWATER ELEVATION CONTOURS, SECOND HSU, MARCH 2, 1994
F.24 - GROUNDWATER ELEVATION CONTOURS, SECOND HSU, MAY 25, 1994
F.25 - GROUNDWATER ELEVATION CONTOURS, SECOND HSU, AUGUST 19 1994
F.26 - GROUNDWATER ELEVATION CONTOURS, SECOND HSU, NOVEMBER 18, 1994

LIST OF APPENDICES

APPENDIX A - GROUNDWATER AND TRIP BLANK ANALYTICAL RESULTS

APPENDIX B - SURFACE WATER AND STORM WATER ANALYTICAL RESULTS

APPENDIX C - TIME SERIES GRAPHS

APPENDIX D - STATISTICAL METHODS

APPENDIX E - FALL QUARTER WATER MONITORING

APPENDIX F - GROUNDWATER ELEVATION DATA

1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION
UNIVERSITY OF CALIFORNIA AT DAVIS

LIST OF ACRONYMS AND ABBREVIATIONS

as P	as phosphorus
as N	as nitrogen
bgs	below ground surface
CLP	(U.S. Environmental Protection Agency) Contract Laboratory Program
CLP SOW OLC	USEPA Contract Laboratory Program Statement of Work for Low Concentrations for Organic Analysis
CLP SOW OLM	USEPA Contract Laboratory Program Statement of Work for Organic Analysis Multi-media, Multi-concentration
CPT	cone penetrometer test
CQA	Coordinator of Quality
CRDL	contract required detection limit
DOE	(U.S.) Department of Energy
DQO	data quality objectives
DWR	(State of California) Department of Water Resources
EC	Electrical Conductivity
Eh	Redox Potential
FS	Feasibility Study
GC	gas chromatograph
GC/MS	gas chromatograph/mass spectrometer
HSU	hydrostratigraphic unit
IDL	instrument detection limit
ILC SOW	Statement of Work for Low Concentration Water Inorganics (USEPA Contract Laboratory Program)
LAS	Lockheed Analytical Services (Standard Operating Procedure)
LEHR	Laboratory for Energy-Related Health Research
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
mg/L	milligrams per liter
NIOSH	National Institute for Occupational Safety and Health
NTU	nephelometric turbidity unit
PARCC	precision, accuracy, representativeness, completeness, and comparability
PCB	polychlorinated biphenyls
PCD	Putah Creek Downstream
pCi/L	picocurie per liter
PCU	Putah Creek Upstream
PNL	Pacific Northwest Laboratory
PQL	practical quantitation limit
QA	quality assurance
QAPjP	Quality Assurance Project Plan
QAPP	Quality Assurance Program Plan
QC	quality control
RI/FS	Remedial Investigation/Feasibility Study
RPD	relative percent difference
SOW	Statement of Work
STPO	Wastewater treatment plan outfall
SVOC	semivolatile organic compound
SWAT	Solid Waste Assessment Test

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

TDS	total dissolved solids
TEM	transient electromagnetics
TIC	tentatively identified constituents
TKN	Total Kjeldahl Nitrogen
UC	University of California
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTL	upper tolerance limit
μg/L	micrograms per liter

1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION
UNIVERSITY OF CALIFORNIA AT DAVIS

EXECUTIVE SUMMARY

This 1994 Annual Water Monitoring Report presents analytical data collected between February 1994 and November 1994 at the Laboratory for Energy-Related Health Research (LEHR) located at the University of California (UC), Davis. This report has been prepared by the Pacific Northwest Laboratory[1] in compliance with the Water Monitoring Plan (PNL, 1994a) for the LEHR site. The Water Monitoring Plan presented the sample collection, analysis, and quality assurance/quality control (QA/QC) procedures and reporting requirements for the Water Monitoring Program. Water monitoring during 1994 was conducted under the Water Monitoring Plan and in conjunction with the Remedial Investigation/Feasibility Study (RI/FS) currently being implemented at the LEHR site as part of a U.S. Department of Energy (DOE) sponsored environmental restoration program. The Water Monitoring Plan and this report are intended to comply with DOE Order 5400.1, General Environmental Protection Program.

Groundwater elevation data were assessed by compiling groundwater elevation hydrographs and elevation contour plots to establish generalized flow conditions. This analysis supports previous conclusions that the uppermost water-bearing zone can be separated into the first and second hydrostratigraphic units (HSUs). During 1992 and 1993, the lateral gradient in the first HSU varied between northerly and easterly. During this same period, the lateral groundwater gradient in the second HSU was more consistent and was toward the east/northeast. During 1994, the lateral gradient in the first HSU was toward the east with a slight northerly component. The second HSU lateral gradient continues to be consistently toward the east, with a slight northerly component.

The geology in the vicinity of the LEHR site was characterized during the Phase II Site Characterization. More recently, several cone penetrometer tests (CPTs) were performed in support of the ongoing RI/FS investigation. The lithologic data collected this year are consistent with the hydrogeologic model developed during the Phase II Characterization.

The Pacific Northwest Laboratory is operated for the U.S. Department of Energy by Battelle Memorial Institute under Contract DE-AC06-76RLO 1930.

For this report, approximately 18,000 analytical values were reviewed with respect to data quality objectives stated in the Water Monitoring Plan (PNL, 1994a) for the LEHR site. The data were reviewed using validation procedures described in this plan. After evaluation of the quality, the data were accepted if they met the precision, accuracy, representativeness, and completeness goals stated in the Water Monitoring Plan (1994b).

A statistical analysis was conducted on analytical results from 1994 groundwater samples. The purpose of this analysis was to compare data from downgradient wells against data from upgradient wells to evaluate impacts to groundwater in the vicinity of the LEHR site. Based on the results of the statistical analyses, nitrate, total chromium, hexavalent chromium, and barium concentrations in samples from several downgradient wells were concluded to be significantly higher at the 95% confidence level than established upgradient concentrations. As a result, these four parameters appear to be elevated with respect to background groundwater beneath a large portion of the site. Other constituents, including selenium, chloroform (and several other volatile organic compounds), carbon-14, tritium, and the pesticides dieldrin and endrin were found at concentrations exceeding upgradient concentrations at the 95% confidence level in only a few wells. These parameters appear to be elevated beneath a small or localized portion of the site.

Chloroform and methylene chloride were reported in surface water samples collected at the LEHR site in 1994. The remaining volatile organic compounds were reported only sporadically in surface water. Acetone was the only volatile organic compound reported in storm water runoff. Acetone and methylene chloride are routinely found in laboratory samples as a result of laboratory contamination. There were no semivolatile organic compounds detected during 1994 surface water or storm water sampling. Several metals and three pesticide compounds were reported above detection limits in surface water and storm water samples. For radionuclides, only tritium was reported in downstream surface water in concentrations exceeding upstream levels. Tritium was not reported in storm water runoff samples.

An assessment of the groundwater monitoring network was conducted based on groundwater data presented in this 1994 Annual Water Monitoring Report, and Hydropunch sample results from 1991 and 1994. Data from the first HSU and the second HSU were assessed separately. Four site constituents, chromium, hexavalent chromium, nitrate, and tritium, were used for the purpose of this assessment.

In the first HSU, lateral migration of the site constituents assessed in this exercise was limited. For chloroform and tritium, samples collected at the LEHR site downgradient perimeter were reported as non-detect. For hexavalent chromium and nitrate, concentrations reported downgradient of source areas decrease rapidly to regional or background concentrations at the LEHR site perimeter. Although the extent of site constituents in the first HSU is laterally limited based on Hydropunch sampling and groundwater monitoring data, the current monitoring network should be supplemented to the east and northeast of the site to further evaluate downgradient extent of site constituents.

As expected, based on hydrogeologic information, lateral extent of site constituents assessed in this exercise in the second HSU is more extensive than the first HSU. As chloroform reaches the second HSU from the first HSU, it appears to migrate laterally from UCD1-12 downgradient toward the LEHR site perimeter. Concentrations of chloroform reported at the site perimeter are lower than the MCL, but present. Similarly, hexavalent chromium appears to have migrated from the first HSU to the second HSU, and then laterally downgradient from Landfill Unit No. 1 — an apparent source. Tritium appears to be migrating downgradient of well UCD1-14, where it is reported regularly. One apparently spurious detection of tritium in a single Hydropunch sample collected in the second HSU (HPL-17 at 2,650 pCi/L) does not correlate with other data downgradient of UCD1-14. Nitrate decreases rapidly downgradient of site source areas to generally regional concentrations at the LEHR site perimeter. Based on this analysis, the monitoring network should be supplemented to further evaluate downgradient migration of, at a minimum, chloroform, hexavalent chromium, and tritium in the second HSU.

1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION
UNIVERSITY OF CALIFORNIA AT DAVIS

1.0 INTRODUCTION

This 1994 Annual Water Monitoring Report presents analytical data collected between February 1994 and November 1994 at the Laboratory for Energy-Related Health Research (LEHR) located at the University of California (UC), Davis (Figure 1.1). This report has been prepared in compliance with the Water Monitoring Plan (PNL, 1994a) for the LEHR site. The Water Monitoring Plan presents the sample collection, analysis, and quality assurance/quality control (QA/QC) procedures and reporting requirements for the water monitoring program. Water monitoring during 1994 was conducted in conjunction with the Remedial Investigation/Feasibility Study currently being implemented at the LEHR site as part of a U.S. Department of Energy (DOE) sponsored environmental restoration program. A detailed description of the RI/FS program being conducted at the LEHR site is presented in the Final Draft RI/FS Work Plan (PNL, 1994b).

The Water Monitoring Plan (PNL, 1994a) and this report are intended to comply with the DOE General Environmental Protection Program presented in DOE Order 5400.1. This Order specifies the purpose, scope, policy, and responsibilities for environmental protection and includes environmental monitoring and surveillance programs at all DOE facilities. This Order also specifies that water monitoring programs conducted by the DOE will conform with Federal, state, and local regulations.

1.1 PURPOSE AND OBJECTIVES

The purpose of the water monitoring program at the LEHR site is to monitor the presence or absence of constituents of concern in groundwater and surface water and changes in their concentrations (or movement) with time. As stated in the Water Monitoring Plan (PNL, 1994a), the purpose of this 1994 Annual Water Monitoring Report is to present a more detailed analysis of the results presented in the 1994 quarterly data transmittals and a statistical evaluation of identified impacts. Specific objectives of this report are to:

- present an evaluation and discussion of water monitoring data for groundwater and surface water samples collected during 1994;
- discuss changes in the hydrogeological conceptual model;

- present data validation methods and results in relation to quality assurance criteria;
- identify data gaps and potential deficiencies in the water monitoring program;
- evaluate the presence of constituents of concern in downgradient wells in relation to background wells; and
- evaluate the presence of constituents of concern at surface water and storm water sampling locations.

This report is based on water monitoring data collected during the winter, spring, summer, and fall quarters of 1994.

1.2 ORGANIZATION OF REPORT

The organization of this report was developed based on the following documents:

- the Water Monitoring Plan (PNL, 1994a);
- the 1993 Annual Water Monitoring Report for the LEHR site (PNL, 1994c); and
- the guidance document entitled "Long Term Ground Water Monitoring Program Guidance" (The California Base Closure Environmental Committee, 1994).

Groundwater investigation background material, including the history, objectives, and results of site investigations and water monitoring, is described in the remainder of Section 1. Section 2 describes the development of groundwater, surface water, analytical, and quality assurance/quality control programs conducted during 1994. Data validation methods and results are presented and discussed in relation to quality assurance criteria in Section 3. Section 4 presents a discussion of the hydrogeologic setting and includes an update of the LEHR site conceptual hydrogeologic model. Section 4 also discusses horizontal and vertical groundwater gradients observed during 1994 including water level elevation contour maps and hydrographs of water level elevations and vertical gradients for well pairs.

Section 5 presents an evaluation and discussion of water monitoring data for groundwater samples collected during 1994 using summary tables and graphical illustrations, concentration versus time plots, and Stiff diagrams for major anions and cations. Similar tabular and graphical presentations support the discussion of surface water and storm water monitoring results presented in Section 6. Section 7 presents an

1994 DRAFT ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION
UNIVERSITY OF CALIFORNIA AT DAVIS

1.0 INTRODUCTION

This 1994 Annual Water Monitoring Report presents analytical data collected between February 1994 and November 1994 at the Laboratory for Energy-Related Health Research (LEHR) located at the University of California (UC), Davis (Figure 1.1). This report has been prepared in compliance with the Water Monitoring Plan for the LEHR site (PNL, 1994b). The Water Monitoring Plan presents the sample collection, analysis, and quality assurance/quality control (QA/QC) procedures and reporting requirements for the water monitoring program. Water monitoring during 1994 was conducted in conjunction with the Remedial Investigation/Feasibility Study currently being implemented at the LEHR site as part of a U.S. Department of Energy (DOE) sponsored environmental restoration program. A detailed description of the RI/FS program being conducted at the LEHR site is presented in the Final Draft RI/FS Work Plan (PNL, 1994a).

The Water Monitoring Plan and this report are intended to comply with the DOE General Environmental Protection Program presented in DOE Order 5400.1. This Order specifies the purpose, scope, policy, and responsibilities for environmental protection and includes environmental monitoring and surveillance programs at all DOE facilities. This Order also specifies that water monitoring programs conducted by the DOE will conform with Federal, state, and local regulations.

1.1 PURPOSE AND OBJECTIVES

The purpose of the water monitoring program at the LEHR site is to monitor the presence or absence of constituents of concern in groundwater and surface water and changes in their concentrations (or movement) with time. As stated in the Water Monitoring Plan, the purpose of the Annual Water Monitoring Report is to present a more detailed analysis of the results presented in the 1994 quarterly data transmittals and a statistical evaluation of identified impacts. Specific objectives of this report are:

- present an evaluation and discussion of water monitoring data for groundwater and surface water samples collected during 1994;
- discuss changes in the hydrogeological conceptual model;

- present data validation methods and results in relation to quality assurance criteria;
- identify data gaps and potential deficiencies in the water monitoring program; and
- evaluate the presence of constituents of concern in downgradient wells in relation to background wells.

This report is based on water monitoring data collected during the Winter, Spring, Summer, and Fall Quarters of 1994.

1.2 ORGANIZATION OF REPORT

The organization of this report was developed based on the following documents:

- the Water Monitoring Plan (PNL, 1994b);
- the 1993 Annual Water Monitoring Report for the LEHR site (PNL, 1994d); and
- the guidance document entitled "Long Term Ground Water Monitoring Program Guidance" (The California Base Closure Environmental Committee, 1994).

Groundwater investigation background, including the history, objectives, and results of site investigations and water monitoring, are described in the remainder of Chapter 1. Chapter 2 describes the development of groundwater, surface water, analytical, and quality assurance/quality control programs conducted during 1994. Data validation methods and results are presented and discussed in relation to quality assurance criteria in Chapter 3. Chapter 4 presents a discussion of the hydrogeologic setting and includes an update of the LEHR site conceptual hydrogeologic model. Chapter 4 also discusses horizontal and vertical groundwater gradients observed during 1994 including water level elevation contour maps and hydrographs of water level elevations and vertical gradients for well pairs.

Chapter 5 presents an evaluation and discussion of water monitoring data for groundwater samples collected during 1994 using summary tables and graphical illustrations, concentration versus time plots, and Stiff diagrams for major anions and cations. Similar tabular and graphical presentations support the discussion of surface water and storm water monitoring results presented in Chapter 6. Chapter 7 presents an

evaluation of the constituents of concern in downgradient wells in relation to background wells based on upper tolerance limit and test of proportions statistical comparisons. Chapter 8 presents an evaluation of data gaps and potential deficiencies in the monitoring program. References Cited are presented in Chapter 9.

Six appendices accompany this report. Appendix A presents tables of analytical data for groundwater samples collected during 1994. Appendix B presents tables of 1994 surface water and storm water analytical data. Appendix C presents concentration versus time plots for each well and each analyte with at least one reported detection. Appendix D presents a detailed description of statistical methods used in this report. Appendix E includes a presentation of the groundwater, surface water, analytical, and quality assurance/quality control programs conducted during the Fall Quarter 1994. Groundwater elevation data, presented as a cumulative table, hydrographs, and contour maps, are included in Appendix F.

1.3 PROJECT OVERVIEW

The DOE funded research on laboratory animals at the LEHR site from 1960 until 1985. As a result of these studies, a variety of laboratory wastes, including radioactive, organic, and inorganic materials were generated and disposed on-site. Portions of the site were previously used as the UC Davis landfill, which included two disposal units. A third disposal unit is located approximately 600 feet east of the site. These disposal units total approximately six acres (Dames & Moore, 1990a).

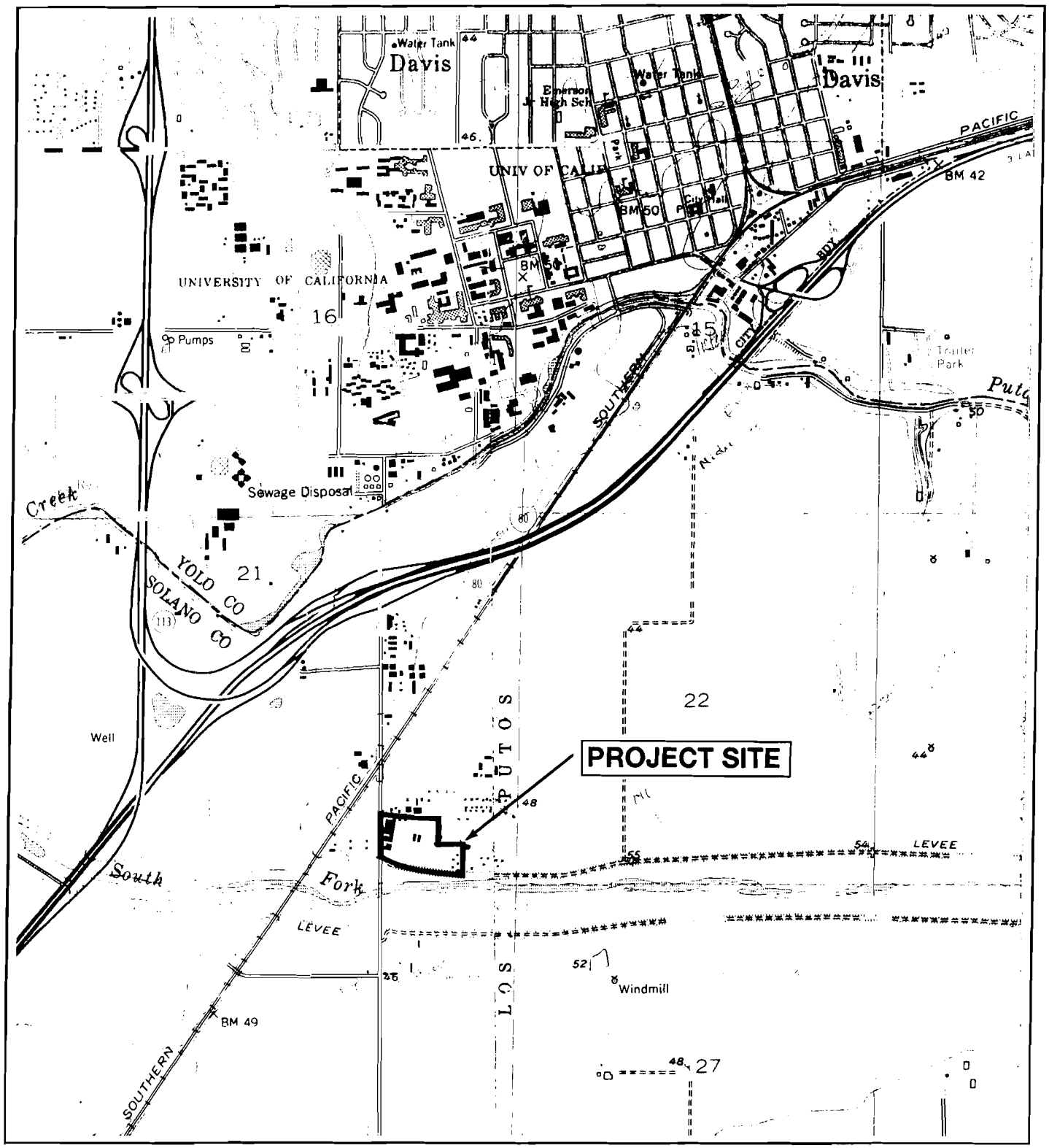
Additional waste management areas at the LEHR site include DOE and UC Davis disposal trenches, outdoor dog pens, domestic septic tanks, and radiologic effluent treatment systems. Impacts from these disposal and chemical dispensing areas have been evaluated during previous investigations or will be evaluated during the RI/FS program. Detailed descriptions of known waste-generating and disposal processes are included in the Environmental Survey Preliminary Report (DOE, 1988). A discussion of potential environmental impacts at the LEHR site is presented in the Phase II Site Characterization Report (Dames & Moore, 1993) and the Draft RI/FS Work Plan (PNL, 1994a).

The DOE and UC Davis have sponsored 14 environmental evaluations at the LEHR site and adjacent landfills. Two surveys, the initial Assessment Survey (Rockwell, 1984), and the Environmental Survey Preliminary Report (DOE, 1988) presented documentation of potential environmental impacts from past operations at the LEHR site. The Phase I

investigation (Wahler, 1988, and 1989) was an initial investigation of environmental impacts from past LEHR activities.

Two studies, the Solid Waste Assessment Test (SWAT) investigation (Dames & Moore, 1990a), and the Old UC Davis Landfill Additional Characterization (Dames & Moore, 1991a) addressed potential impacts from the former UC Davis landfill. A Contaminant Pathway Analysis (Dames & Moore, 1990b) was conducted to assess health risk exposure from the LEHR site on the main UC Davis Campus. Other environmental evaluations include; Evaluation of Potential Nitrate and Hexavalent Chromium Sources (Dames & Moore, 1990c); Waste Burial Trench Investigation (Dames & Moore, 1991b), sediment and surface water sampling in the South Fork of Putah Creek (Dames & Moore, 1990d); and, a CEQA Preliminary Study for Characterization (Dames & Moore, 1991c) which provided a summary of the previous investigations and presented results of additional soil and groundwater investigations at the LEHR site. A more comprehensive study for the LEHR site was presented in the Phase II Site Characterization (Dames & Moore, 1993b).

As stated above, an RI/FS program is currently being conducted at the LEHR site. The purpose of the RI/FS is to develop the appropriate amount of information to support an informed risk management decision regarding the most appropriate remedial actions to be implemented for areas at the LEHR site. This information includes data obtained from the Water Monitoring Program.



REFERENCE: USGS 7.5' Quadrangle Merritt CA, 1981,
Davis CA, 1982

N

0 2000

Scale in Feet

SITE VICINITY MAP

1994 Annual Groundwater Monitoring Report
LEHR Environmental Restoration

2.0 1994 WATER MONITORING PROGRAM

Groundwater and surface water monitoring at the LEHR site began under the Phase II Site Characterization in November 1990 and has consists of quarterly sampling and analysis of groundwater and surface water, and weekly groundwater level sounding. The Phase II water monitoring program was developed initially by UC Davis and DOE. Since November 1990, monitoring has been conducted under the management of Pacific Northwest Laboratories (PNL) for the DOE.

The following sections describe water monitoring activities conducted during the Winter through Fall Quarters of 1994. Water monitoring locations are shown on Figure 2.1. Section 2.1 presents a brief description of the groundwater monitoring program. The surface water monitoring program, including storm water monitoring, is described in Section 2.2. Section 2.3 presents a summary of the analytical program. A detailed description of groundwater and surface water monitoring procedures can be found in the Water Monitoring Plan (PNL, 1994b).

2.1 GROUNDWATER MONITORING

The water monitoring program at the LEHR site consists of quarterly sample collection, field measurements, and laboratory analysis of groundwater and surface water samples. The groundwater monitoring system currently includes 23 monitoring wells. These wells are completed within the uppermost aquifer which has been separated, based on lithologic characteristics (Phase II Site Characterization Report, Dames & Moore, 1993) into two hydrostratigraphic units (HSUs). The first HSU consists of fine-grained sediments from the water table to approximately 80 feet below ground surface (bgs). The second HSU consists of cobbles and gravels between approximately 80 and 135 feet bgs. The water table varies seasonally from about 35 feet to 70 feet bgs. Eighteen wells are screened in the first HSU and five wells are screened in the second HSU (Table 1.1). Wells completed in the first HSU are identified with a "1" (e.g., UCD*1*-10), and wells completed in the second HSU are identified with a "2" (e.g., UCD*2*-17). Figures 2.2 and 2.3 present these well locations. A detailed description of the site hydrogeology is presented in Chapter 4.

Because 5 wells (UCD1-3, UCD1-5, UCD1-6, UCD1-8, and UCD1-9) are typically dry, quarterly groundwater monitoring is conducted at only 18 of the 23 existing wells. The 18 wells currently included in the quarterly monitoring are: UCD1-1, UCD1-4, UCD1-10, UCD1-12, UCD1-13, UCD1-18, UCD1-19, UCD1-20, UCD1-21, UCD1-22,

UCD1-23, and UCD1-24 from the first HSU, and UCD2-7, UCD2-14, UCD2-15, UCD2-16, and UCD2-17 from the second HSU. One first HSU well, UCD1-18, and one second HSU well, UCD2-17, are located off-site and upgradient of the LEHR site (PNL, 1994); the other wells are located to assess groundwater quality downgradient of potential source areas. Table 2.1 presents information on the existing wells at the LEHR site. A summary of groundwater samples collected during 1994 monitoring is provided in Table 2.1.

2.2 SURFACE WATER AND STORM WATER MONITORING

The existing surface water monitoring program at the LEHR site began in November 1990 and is conducted at three locations along the South Fork of Putah Creek (see Figure 2.4). Surface water samples are collected quarterly in conjunction with groundwater monitoring from three sampling points: point PCU is located upstream of the LEHR site; point PCD is located downstream of the LEHR site; and point STPO is located at the outfall of the UC Davis wastewater treatment plant, which discharges into the South Fork of Putah Creek between points PCU and PCD. The outfall is located approximately 1 mile from the UC Davis treatment plant on the main campus. A listing of surface water samples collected during 1994 is provided in Table 2.1.

Storm water runoff monitoring at the LEHR site began in the fall of 1994. Therefore, the results of only one event are presented in this report. Storm water samples are scheduled to be collected two times each year — once at the beginning of the rainy season (fall or early winter), and once near the end of the rainy season (late winter or early spring). Samples are collected from two locations on-site during each event (Figure 2.5). One location, SWL-1, is the lift station located on the western edge of the site; the second location, SWL-2, consists of a storm drain located west of the western dog pens.

Storm water runoff at the site is collected in storm drains on the western portion of the site only. The runoff is directed to the lift station where it pumped across Old Davis Road and channeled to Putah Creek. Rain water that lands on the remaining portions of the site either ponds and infiltrates, or is directed to the UC Davis wastewater treatment plant.

2.3 ANALYTICAL PROGRAM

Tables 2.2, 2.3, and 2.4 summarize the requested chemical and radiologic analyses of groundwater, surface water, and storm water runoff samples (respectively) collected during 1994 from the water monitoring locations discussed above. Methods for each

analysis are listed in Table 2.5. Water samples were collected according to procedures described in the Water Monitoring Plan (PNL, 1994b). Samples (for all analytes except biochemical oxygen demand) were shipped daily via Federal Express for overnight delivery to Lockheed Analytical Services (Lockheed) in Las Vegas, Nevada. Immediately upon receipt of the sample shipment, Lockheed documented the condition of the sample containers on the chain-of-custody form and faxed a copy to the task manager. If the condition of the sample was acceptable, Lockheed was given approval to begin analyses. Storm water samples for biochemical oxygen demand were hand-delivered the same day they were collected, to Anlab in Sacramento, California.

2.4 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

The overall quality assurance (QA) objective is to sample and analyze water from the LEHR site in a manner that ensures that technical data generated during the monitoring program are accurate and representative, are able to withstand scientific and legal scrutiny, and are useful for evaluating site conditions and remedial alternatives. The criteria commonly used to specify QA goals are precision, accuracy, representativeness, completeness, and comparability (PARCC). Precision is determined by analyzing and evaluating sample duplicates. Accuracy is determined by analyzing spiked samples. Representativeness is determined by evaluating the results of trip blanks, laboratory method blanks, blind duplicate samples and laboratory duplicate samples. Comparability is achieved through the use of standard sampling procedures, analytical methods, and units of measurement. Completeness is defined as the percentage of valid data relative to the total number of analytes.

Evaluation of the PARCC parameters is accomplished through data validation. The purpose of the data validation is to verify that data meet data quality objectives and quality assurance criteria required for the water monitoring program and risk assessment, and objectives set forth in the Quality Assurance Project Plan (QAPjP). The QAPjP is presented as an appendix in both the Water Monitoring Plan (Rev. 0, 1/13/94) and the Final Draft RI/FS Work Plan (Rev. 0, September 1994). A summary of data validation results is presented in Chapter 3.

Two field surveillances and two laboratory audits were conducted by the QA staff to compare field activities and laboratory activities with requirements of the project controlling documents. Surveillances were conducted according to Procedure 15 of the Quality Assurance Program Plan (QAPP)(Dames & Moore, 1994). Audits were conducted

according to Procedure 16 of the QAPP. In summary, the field activities and laboratory procedures were found to be in compliance with the Water Monitoring Plan.

Each surveillance was conducted using a checklist prepared from various documents including laboratory standard operating procedures, the field sampling plan, and approved technical procedures. The Coordinator of Quality Assurance (CQA) or the assisting Dames & Moore auditor observes and checks compliance with the applicable procedures and guidelines. The following field surveillances were conducted during 1994:

Date	Company Audited	Activity	Dames & Moore Auditor(s)
2-22-94	Dames & Moore field sampling staff	Quarterly sampling	Phillip Leapley Lynda Kelly
5-23-94	Dames & Moore field sampling staff	Quarterly sampling	Phillip Leapley Lynda Kelly

Laboratory audits were conducted using checklists prepared from the QAPP, QAPjP, Battelle - Dames & Moore Master Agreement (Attachment 1, QA Requirements), Laboratory Quality Assurance Plan, and requirements from applicable analytical procedures, as found in Chapter 7 of the QAPjP. The following laboratory audits were conducted during 1994:

Date	Company Audited	Activity	Dames & Moore Auditor(s)
6-16-94	Anlab Laboratory Sacramento, CA	Pre-qualification laboratory audit	Phillip Leapley Bob Ciampi
11-29-94	Lockheed Analytical Las Vegas, NV	Annual compliance audit	Phillip Leapley Lynda Kelly Jere Millard

TABLE 2.1
SUMMARY OF WATER MONITORING ROUNDS — FEBRUARY THROUGH DECEMBER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Well or Sample Location	Total Depth (feet bgs)	Screened interval (feet bgs)	HSU	Date Completed	Winter 1994 2/22-3/2	Spring 1994 5/17-5/26	Summer 1994 8/24-8/31	Fall 1994 11/22-12/1
UCD1-1	56.5	46.5-56.5	First	10/09/87	S	S	DRY	S
UCD1-4	57.2	45-55	First	10/14/87	S	S	DRY	DRY
UCD2-7	90	80-90	Second	11/05/87	S	S	S	S
UCD1-10	70.0	54-69	First	10/11/89	S	S	S	S
UCD1-11	66.5	50-65	First	10/17/89	S	S[a]	DRY	S
UCD1-12	65.0	49.5-64.5	First	10/19/89	S	S	DRY	S
UCD1-13	65.0	50-65	First	10/26/89	S†	S	DRY	S[a]
UCD2-14	85	75-85	Second	11/15/89	S†	S	S[a]	S
UCD2-15	120.5	91-116	Second	03/28/90	S[a]	S	S	S
UCD2-16	122	92-117	Second	04/04/90	S	S[a]	S[a]	S
UCD2-17	143	88-113	Second	04/10/90	S	S	S	S[a]
UCD1-18	70	54-69	First	10/04/90	S	S	S	S
UCD1-19	74.5	56.5-71.5	First	10/01/90	S	S	S	S
UCD1-20	73	57-72	First	10/09/90	S	S	S	S
UCD1-21	73	57-72	First	10/11/90	S†	S	S	S
UCD1-22	73	57-72	First	10/25/90	S[a]	S	S	S
UCD1-23	73	56.5-71.5	First	10/17/90	S†	S	S	S

TABLE 2.1
SUMMARY OF WATER MONITORING ROUNDS — FEBRUARY THROUGH DECEMBER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Well or Sample Location	Total Depth (feet bgs)	Screened interval (feet bgs)	HSU	Date Completed	Winter 1994 2/22-3/2	Spring 1994 5/17-5/26	Summer 1994 8/24-8/31	Fall 1994 11/22-12/1
UCD1-24	73	57-72	First	10/22/90	S	S	S	S
PCU	-	-	-	-	G	G[a]	G	G
PCD	-	-	-	-	G	G	G[a]	G
STPO	-	-	-	-	G[a]	G	G	G[a]
SWL-1	-	-	-	-	-	-	-	G[a, b]
SWL-2	-	-	-	-	-	-	-	G[b]

S Well purged and sampled with dedicated submersible pump. A full suite of samples was obtained.
a Field duplicate sample collected.
b Storm water runoff samples collected 11/15/94.
DRY No water in well or insufficient water to collect sample; no sample obtained.
G Grab surface water or storm water sample.
- Not applicable.
† Unfiltered duplicate samples collected for radiological analyses to conduct a limited comparison of filtered and unfiltered results.
(1) Surface water sampling locations for Putah Creek: upstream location (PCU); downstream location (PCD); and wastewater treatment plant outfall (STPO).
(2) Storm water locations: SWL-1 is the lift station; SWL-2 is a storm drain.
Note: First HSU wells UCD1-3, UCD1-5, UCD1-6, UCD1-8, UCD1-9 are not sampled as part of the quarterly monitoring program.

TABLE 2.2
ANALYTICAL CONSTITUENTS FOR GROUNDWATER SAMPLES[1]
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Field	Laboratory	
pH Electrical Conductivity Temperature Turbidity Eh Water Level	Volatile Organic Compounds Semivolatile Organic Compounds Radiologic Analyses Tritium, Strontium-90, Gross Alpha, Gross Beta, Gamma Emitters, Carbon-14, Radium-226, Americium-241[2], and Plutonium-241[2] Pesticides and PCBs Metals Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc	Total Chromium Hexavalent Chromium Nitrate Ammonia TKN Alkalinity Cations Anions Total Dissolved Solids Turbidity Total Organic Carbon Chemical Oxygen Demand[2] Formaldehyde

(1) UCD1-1, UCD1-4, UCD2-7, UCD1-10, UCD1-11, UCD1-12, UCD1-13, UCD2-14, UCD2-15, UCD2-16, UCD2-17, UCD1-18, UCD1-19, UCD1-20, UCD1-21, UCD1-22, UCD1-23, UCD1-24.
(2) Parameter only included during Summer and Fall Quarter 1994 sampling.
(3) Parameter only included during Fall Quarter 1994 sampling.

TABLE 2.3
ANALYTICAL CONSTITUENTS FOR SURFACE WATER[1]
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Field	Laboratory	
pH Electrical Conductivity Temperature Turbidity Eh Approximate flow rate (obtained from Solano County Irrigation District)	Volatile Organic Compounds Semivolatile Organic Compounds Pesticides and PCBs Radiologic Analyses Tritium, Strontium-90, Gross Alpha, Gross Beta, Gamma Emitters, Carbon-14, Radium-226, Americium-241 [3], and Plutonium-241[3] Metals Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc,	Total Chromium Hexavalent Chromium Nitrate Ammonia TKN Alkalinity Cations Anions Total Dissolved Solids Turbidity Total Organic Carbon Chemical Oxygen Demand[2] Formaldehyde

(1) Collected at locations PCD, PCU, and STPO.
(2) Parameter only included in Fall Quarter 1994 sampling.
(3) Parameter only included in Summer Quarter and Spring Quarter 1994 sampling.

TABLE 2.4
ANALYTICAL CONSTITUENTS FOR STORM WATER RUNOFF SAMPLES[1]
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Field	Laboratory — Each Storm Event
To be collected during two storm events per year from two locations[1]	To be collected during two storm events per year from two locations[2]
pH Electrical Conductivity Temperature Turbidity Eh	Volatile Organic Compounds Semivolatile Organic Compounds Pesticides and PCBs Radiologic Analyses Tritium, Strontium-90, Gross Alpha, Gross Beta, Gamma Emitters, Carbon-14, Radium-226, Americium-241, and Plutonium-241 Metals Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc Total Chromium Hexavalent Chromium Nitrate Ammonia Alkalinity Cations Anions Turbidity Total Suspended Solids Total Dissolved Solids Total Organic Carbon Total Oil and Grease Formaldehyde

(1) SWL-1 and SWL-2

(2) After two years of monitoring (four events) parameters may be modified.

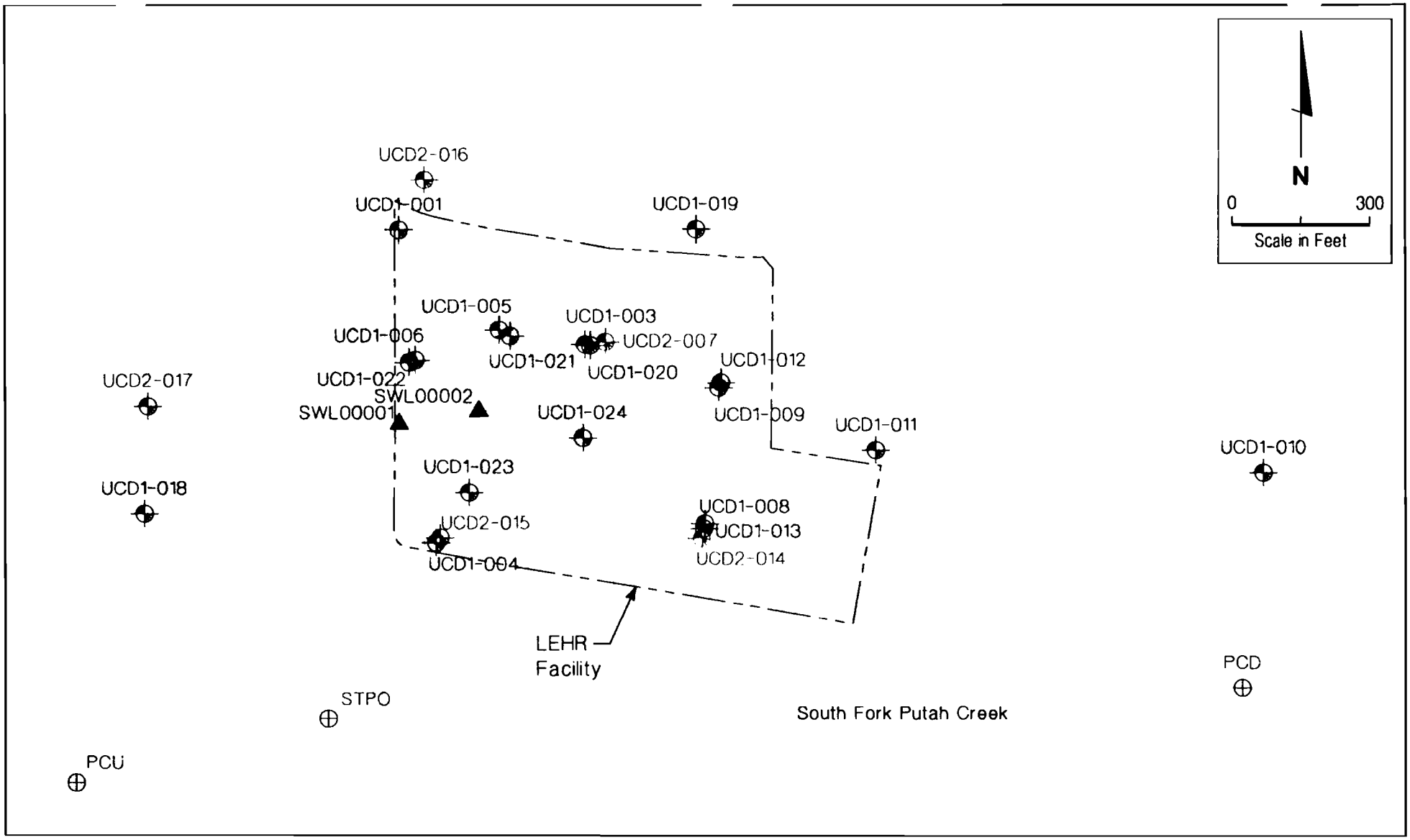
TABLE 2.5
WATER MONITORING CONSTITUENTS AND ANALYTICAL METHODS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Analyte Fraction	Analytical Parameter	Method Reference
VOCs	Target Compound List	CLP SOW OLC 02.0
SVOCs	Target Compound List	CLP SOW OLM 01.8
Pesticides/PCBs	Target Compound List	CLP SOW OLM 01.8
Metals	Antimony	ILC SOW 2.0
	Arsenic	ILC SOW 2.0
	Barium	ILC SOW 2.0
	Beryllium	ILC SOW 2.0
	Cadmium	ILC SOW 2.0
	Chromium (total)	ILC SOW 2.0
	Chromium^{6+} (Hexavalent)	EPA 7196
	Cobalt	ILC SOW 2.0
	Copper	ILC SOW 2.0
	Iron	ILC SOW 2.0
	Lead	ILC SOW 2.0
	Manganese	ILC SOW 2.0
	Mercury	ILC SOW 2.0
	Molybdenum	ILC SOW 2.0
	Nickel	ILC SOW 2.0
	Selenium	ILC SOW 2.0
	Silver	ILC SOW 2.0
	Thallium	ILC SOW 2.0
	Vanadium	ILC SOW 2.0
	Zinc	ILC SOW 2.0
Radiological	Tritium	EPA 906.0
	Strontium-90	EPA 905.0
	Gamma Spectral Analysis	EPA 901.1
	Gross Alpha	EPA 9310
	Gross Beta	EPA 9310
	Carbon-14	EPA C-01 M
	Radium-226	EPA 903.1
	Americium-241	LAS 108
	Plutonium-241	LAS 178
Miscellaneous Organics	Formaldehyde	Modified NIOSH 3500
	Total Organic Carbon	415.2 (9060)
	Total Oil and Grease	413.2

TABLE 2.5
WATER MONITORING CONSTITUENTS AND ANALYTICAL METHODS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Analyte Fraction	Analytical Parameter	Method Reference
Miscellaneous Inorganics	Alkalinity, as $CaCO_3$	EPA 310.1
	Ammonia-Nitrogen	EPA 350.1 (350.2)
	Anions	
	Chloride	EPA 300.0
	Nitrate, as N	EPA 300.0
	Phosphate, Total (as P)	EPA 365.2
	Sulfate	EPA 300.0
	Cations	
	Calcium	EPA 6010
	Magnesium	EPA 6010
	Sodium	EPA 6010
	Potassium	EPA 6010
	Chemical Oxygen Demand	EPA 410.1
	Total Dissolved Solids	EPA 160.1
	Total Suspended Solids	EPA 160.2
	Total Kjeldahl Nitrogen (TKN)	EPA 351.2
	Turbidity	EPA 180.1
Field Parameters	pH	SOP 2.0
	Turbidity	SOP 2.0
	Temperature	SOP 2.0
	Electrical Conductivity (EC)	SOP 2.0
	Redox Potential (Eh)	SOP 2.0

VOCs volatile organic compounds
SVOCs semivolatile organic compound
PCBs polychlorinated biphenyls



EXPLANATION

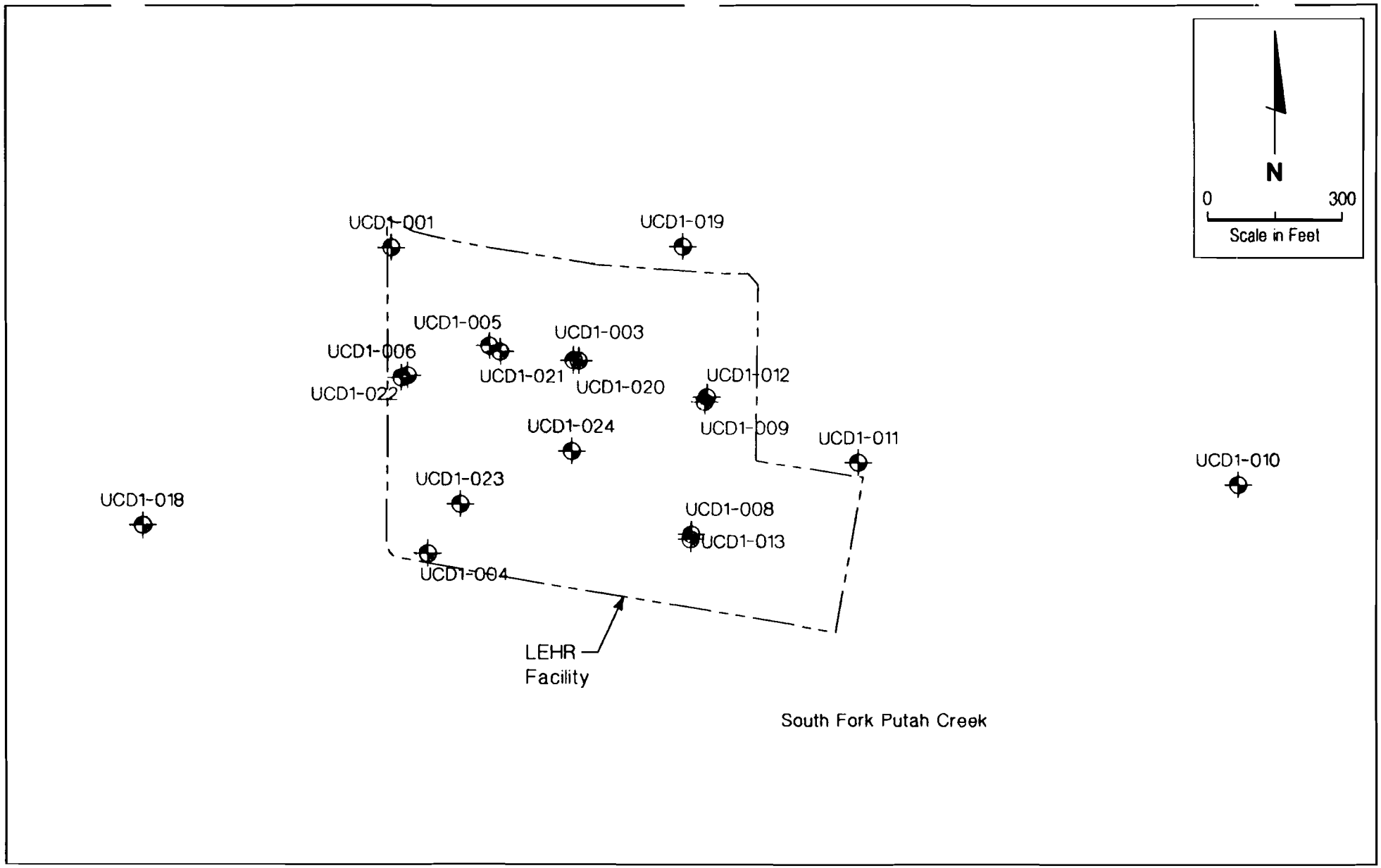
- First HSU Monitoring Well
- Second HSU Monitoring Well
- Surface Water Monitoring Point
- Storm Water Runoff Monitoring Point

LOCATION MAP
WATER MONITORING POINTS

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 2.1

10805-959-6303-044 sjr 6303A



EXPLANATION

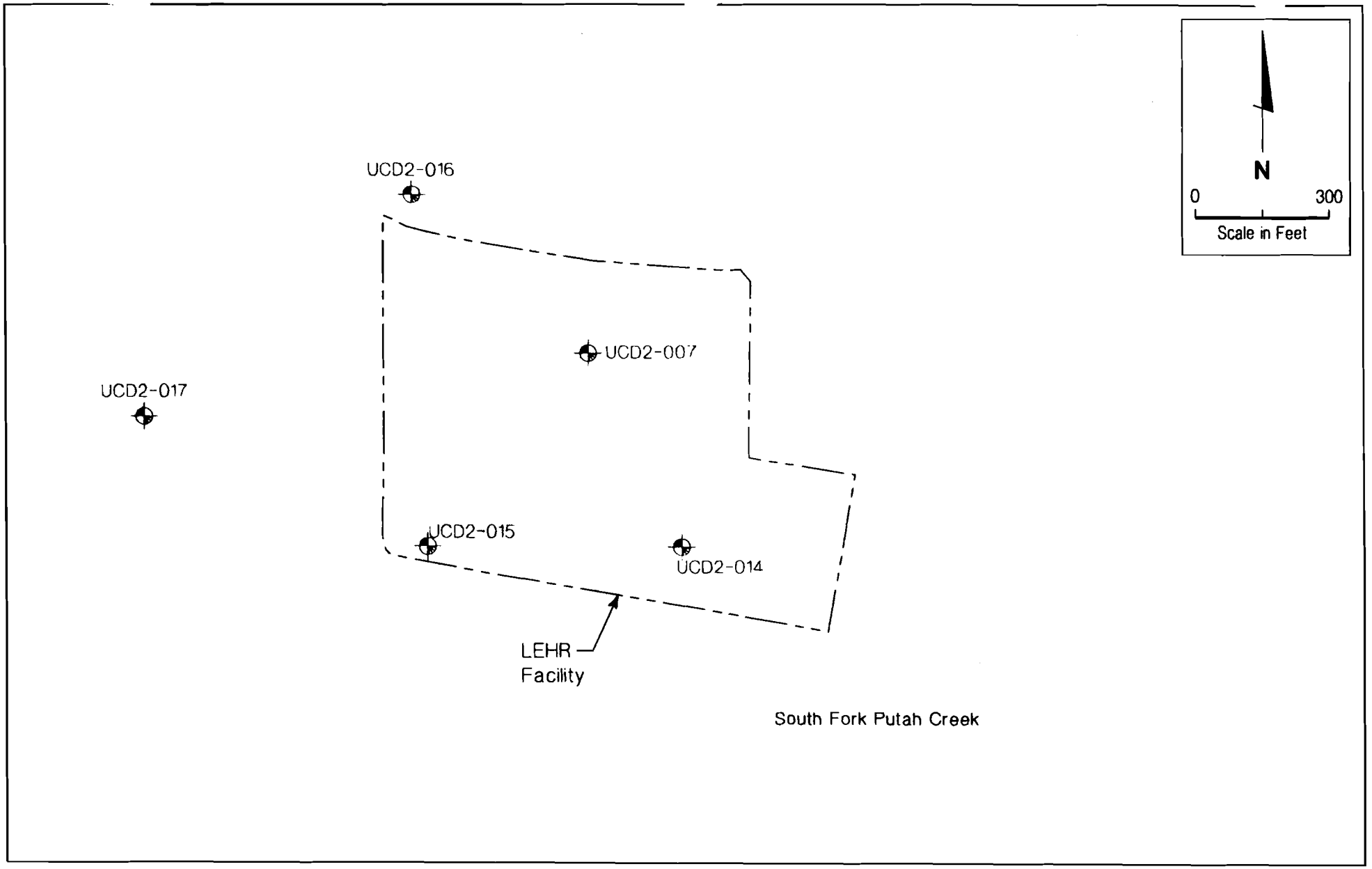
First HSU Monitoring Well

LOCATION MAP
FIRST HSU GROUNDWATER MONITORING WELLS

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10805-959-6303-044 sjr 6303b

FIGURE 2.2



EXPLANATION

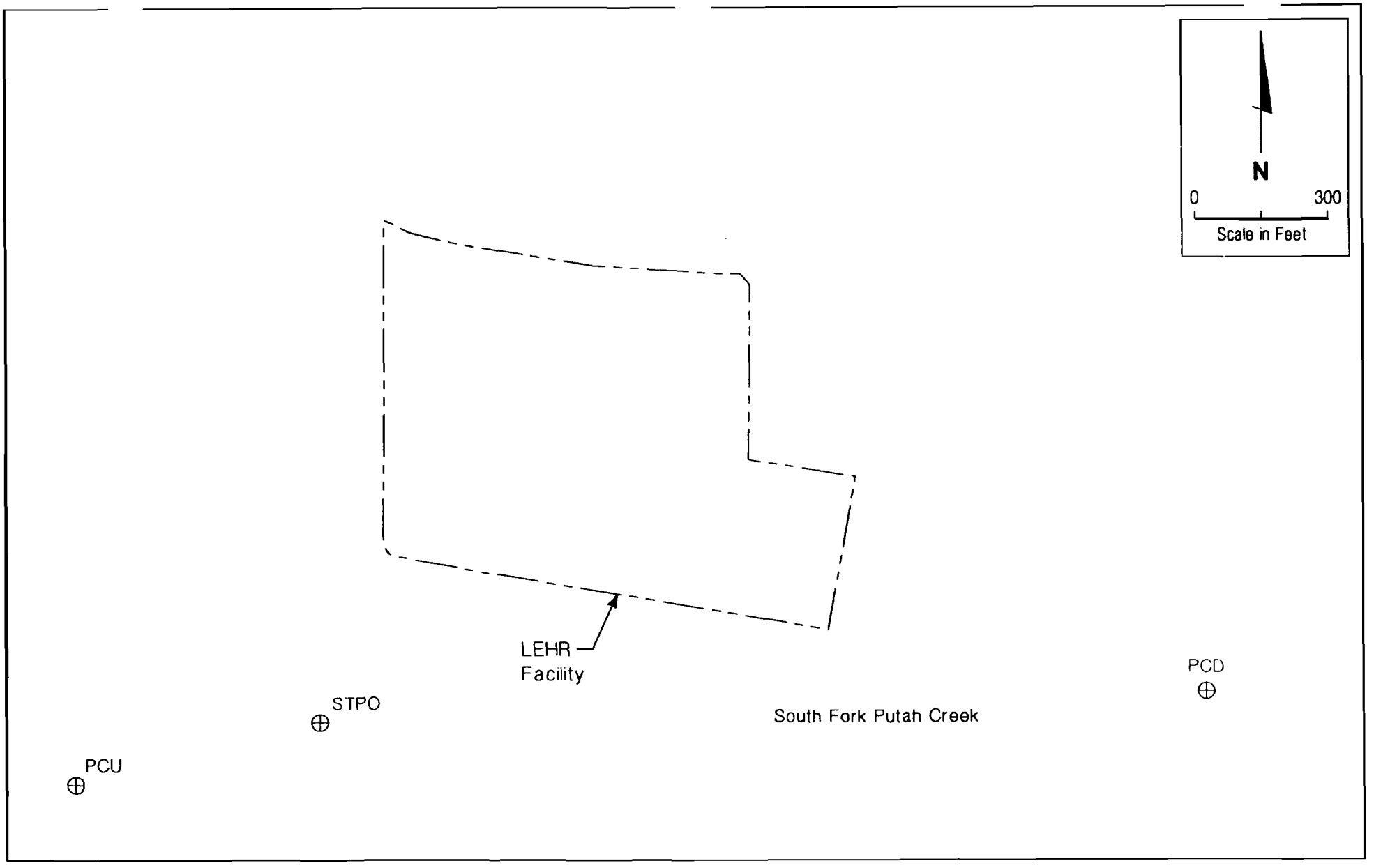
Second HSU Monitoring Well

LOCATION MAP
SECOND HSU GROUNDWATER MONITORING WELLS

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10805-959-6303-044 sjr 6303c

FIGURE 2.3



EXPLANATION

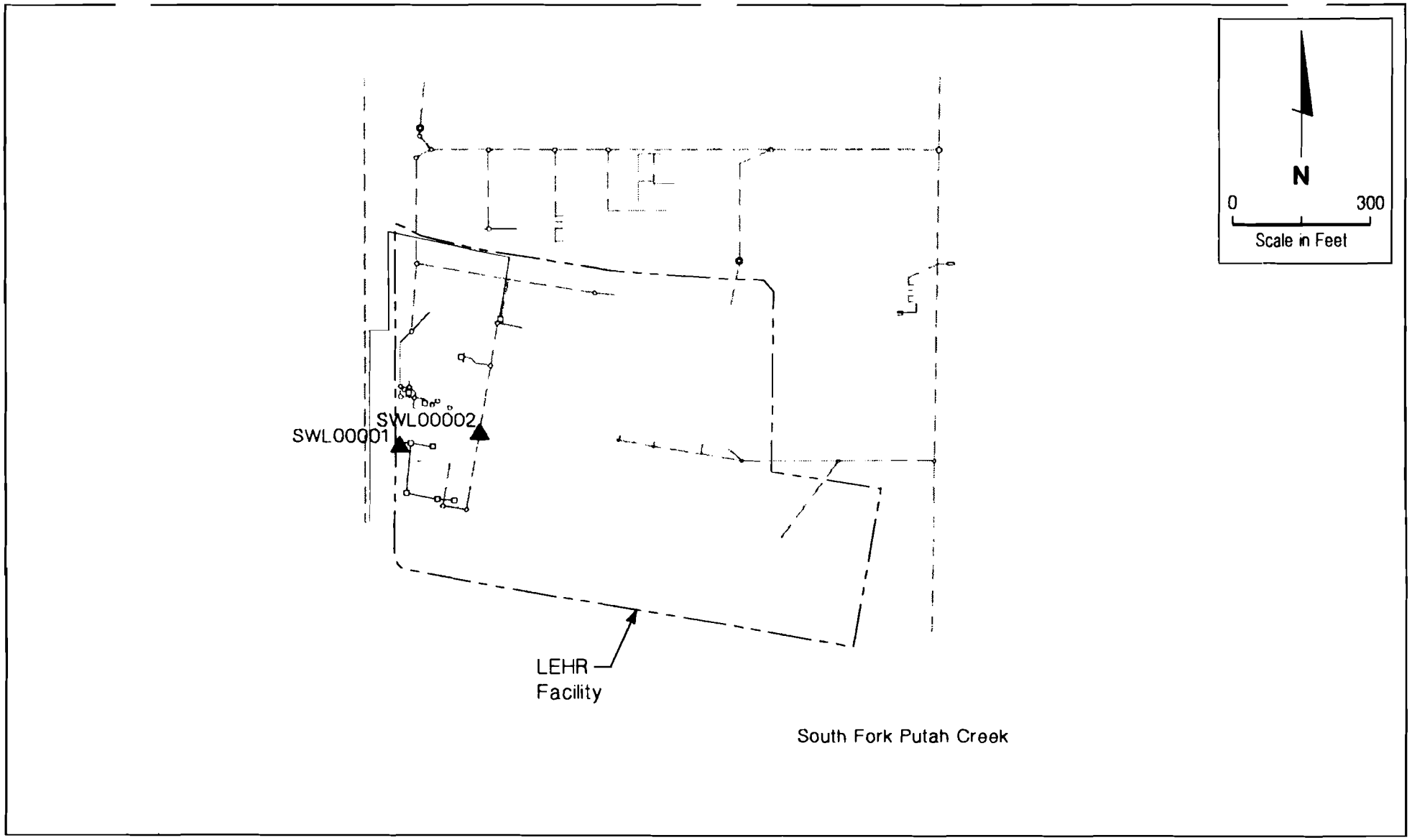
⊕ Surface Water Monitoring Point

LOCATION MAP
SURFACE WATER MONITORING POINTS

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 2.4

10805-959-6303-044 sjr 6303d



EXPLANATION

- ▲ Storm Water Runoff Monitoring Point
- — — — Sanitary Sewer
- ——— Storm Drain
- ● Lift Station
- ▫ Catch Basin
- ◦ Manhole

LOCATION MAP
LEHR SANITARY SEWERS, STORM WATER COLLECTION SYSTEM, AND STORM WATER RUNOFF MONITORING POINTS

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10805-959-6303-044 sjr 6303e

FIGURE 2.5

3.0 QUALITY ASSURANCE AND DATA VALIDATION SUMMARY

Data validation was performed on analytical results received from Lockheed Analytical Services in Las Vegas, Nevada for 1994 groundwater, surface water, and storm water runoff samples. As stated in Chapter 2, the purpose of the data validation is to verify that the data meet data quality objectives and quality assurance criteria required for the water monitoring program and risk assessment as set forth in the QAPjP.

This section describes the methods and presents the results of the data validation. Section 3.1 presents the criteria used to review the data quality objectives for each PARCC parameter. Section 3.2 summarizes the data validation procedures. Data validation results in relation to the PARCC parameters are discussed in Section 3.3, and summarized in Section 3.4.

3.1 QUALITY ASSURANCE CRITERIA

Samples collected during the 1994 water monitoring program were analyzed and validated according to criteria established in the program's QAPjP. Included in the QAPjP are sections identifying quality control sample collection requirements and specific quality assurance goals for the measurement data. These QA goals, or data quality objectives (DQO), are quantitative and qualitative statements that specify the quality of data used to support project decisions. They are expressed in terms of precision, accuracy, representativeness, comparability and completeness.

3.1.1 Precision

Precision measures the ability to reproduce measurements under a given set of conditions. Precision is expressed as the relative percent difference (RPD):

$$RPD = \frac{|A - B|}{\left[\frac{|A + B|}{2}\right]} \times 100$$

where: A = the measured concentration of the analyte in a sample.
B = the measured concentration of the analyte in a duplicate sample.

Blind duplicate samples are collected and analyzed to evaluate precision of the measurement systems and estimate variability in the sampling process. Relative percent difference has been calculated for those analyte pairs with at least one detection above the

reporting limit. If the relative percent difference between the duplicate sample result is greater than the one-hundred percent acceptance criteria as defined in the QAPjP, then the system is considered to be out of statistical control and further investigation is initiated. As outlined in the QAPjP, one blind duplicate is collected for every ten samples or matrix type. Thirteen blind duplicate samples were collected during 1994 from groundwater, surface water and storm water runoff locations and analyzed for the various constituents outlined in Tables 2.2, 2.3, and 2.4. A summary of the field duplicate results is presented in Tables 3.2 through 3.10.

Following recommended methodologies, sample duplicate and matrix spike duplicates are performed to estimate the precision in the analytical process. The required frequency for duplicate analysis is set forth in the analytical methods. Both sample and matrix spike duplicates assess matrix effects and analytical variability.

Specific acceptance criteria for each standard method and parameter measured have been established and outlined in the QAPjP. If the relative percent difference between duplicate results fall outside the acceptance criteria, then the analytical system is considered to be out of statistical control and other data quality results are reviewed to establish validity of the data. Laboratory duplicates were prepared and analyzed for the various constituents outlined in Tables 2.2 through 2.4. A summary of the sample duplicate and matrix spike duplicate results is presented in Table 3.11.

3.1.2 Accuracy

Accuracy is a measure of the bias of a method or the level or agreement of a measurement with a known true value. Accuracy is assessed using percent recovery which is calculated using the following equation:

$$\frac{A - B}{C} \times 100$$

where:
- A = the measured concentration of the spiked analyte in a spiked sample.
- B = the measured concentration of the spiked analyte in an unspiked sample.
- C = the concentration of the analyte used for spiking.

Analysis of matrix or surrogate spikes and laboratory control spike samples evaluates analytical accuracy. A matrix spike is a solution of method analytes (at known concentrations) that is spiked into a field sample before preparation for analysis.

Laboratory control spikes have the same function as matrix spikes analyses and differ only in that the spike solution is added to a laboratory blank sample as opposed to a field sample. The results of the analyses of these spike samples are used to measure the percent recovery of each spiked compound. This percent recovery is a measure of the accuracy of the method. Specific acceptance criteria for each standard method and parameter measured have been established and outlined in the QAPjP.

Surrogate spikes are a group of compounds, other than method analytes, selected for each organic compound analysis. The percent recovery is monitored to ensure adequate performance on a measurement-by-measurement basis. Surrogate spike recoveries are summarized for each sample analysis in the laboratory data packages. These recoveries are compared to specific acceptance criteria, which is outlined in the analytical methods. High surrogate recoveries would indicate that reported results are higher than the actual concentrations of analytes in field locations. Low surrogate recoveries may be an indication of false negative data.

The results of the sample matrix and surrogate recoveries and laboratory control spike samples are reviewed as part of the validation process. Results for sample matrix and laboratory control spike analyses are presented, respectively, in Tables 3.11 and 3.12. The results are compared to the acceptable ranges established in the QAPjP. This comparison provides an indication of laboratory analytical performance.

3.1.3 Representativeness

Representativeness is a qualitative parameter which evaluates how accurately the data represent the actual environmental conditions. Representativeness is determined by evaluating the results of trip blanks, laboratory method blanks, and blind duplicate samples.

Travel blanks were utilized to identify volatile organic compounds (VOCs), which may have been introduced during sample transit or during sample storage at the laboratory. The blanks were supplied by Lockheed Laboratory and returned each sampling day in the cooler used to transport samples for volatile analyses. Twenty-three trip blank samples were collected and analyzed during the 1994 water monitoring program. The results of the trip blank samples are presented in Table 3.13 and discussed in Section 3.3.1.

Laboratory method blanks are used to demonstrate that all glassware and reagents used in the analytical procedure are free of interferences and compounds of primary interest. Each method blank is subjected to all laboratory procedures, from sample

preparation to quantitation. If an analyte is detected in a method blank, either an interference or contamination in the laboratory process is indicated. The required frequency for analyzing method blanks is specified in the standard operation procedure for each analytical method consisting of at least one per day for each method/instrument and/or per sample preparation set. Laboratory method blanks are evaluated as part of the validation process. Identification of these compounds at similar concentrations in primary samples results in questionable data due to biases introduced by the analytical process.

Blind duplicate samples collected and analyzed for this program are evaluated to determine if results are similar in concentration to the primary sample data. Analyses of blind duplicate samples also function to estimate precision in the sampling and analytical process (Section 3.1.1).

3.1.4 Comparability

Comparability is an expression of the confidence with which one data set can be compared to another. Comparability is achieved through the use of standard sampling procedures, analytical methods and units of measurement. Reported methodologies and quantitation limits are compared to those outlined in the QAPjP.

3.1.5 Completeness

Completeness is defined as the percentage of valid data compared to the total number of samples collected for analysis. Completeness is determined after precision and accuracy are calculated and the results are compared to the DQOs. As outlined in the QAPjP, the objective for completeness for all measurements is 95-percent. The percentage of valid data is determined using the following equation:

$$\textit{Percent Valid Data} = \frac{\textit{number of valid data points}}{\textit{total number of measurements}} \times 100$$

Valid data are determined by comparing analytical results to a set of guidelines designed to establish defensibility and reliability of a given data result. Data which fall outside these criteria are labeled, or qualified, as rejected. Data which are determined to have limited usefulness, or that are indicative of bias, are qualified as estimated. Data which have been qualified as estimated are considered valid. Data which are qualified as rejected are excluded in the determination of completeness.

3.2 DATA VALIDATION METHODS

Table 6 presents the criteria used to review DQOs for each PARCC parameter. These criteria include review of quality control (QC) samples collected in the field, laboratory QC samples, and analytical method performance. The field QC samples and analytical data reports were reviewed in accordance with validation procedures established in the QAPjPs. Data validation procedures presented in the Water Monitoring Plan were applied to data collected during the water monitoring activities.

QC samples included field duplicates, trip blanks, and laboratory method blanks and control spikes. One field duplicate was collected for every 10 primary samples and evaluated to identify sources of error affecting the quality of the data. The locations of field duplicate samples are randomly selected during the planning stage for quarterly monitoring activities. Trip blanks were utilized to identify volatile organic compounds, which may have been introduced during sample transit (to and from the field) or during laboratory sample storage. One set of trip blanks were included in each shipment cooler containing samples for volatiles analysis. In addition, the laboratory analyzed a method blank and a method blank spike for each analytical batch to detect reagent contamination and proper instrument performance.

The three primary objectives of validation include; review of sampling, analytical, and data reduction protocols for correctness; quantitative assessment of the measurement data validity; and, assessment of data completeness. The project data validation procedures were designed to review each data set and identify biases inherent to the data including assessment of laboratory performance, overall precision and accuracy, representativeness and completeness.

A U.S. Environmental Protection Agency Contract Laboratory Program (CLP) or CLP-equivalent data package was obtained for samples collected during the 1994 quarters. A CLP data package includes raw data generated during the analytical process along with the sample results. At a minimum, ten percent of the laboratory data were randomly subjected to validation in accordance with the (Draft) *USEPA National Functional Guidelines for Laboratory Data Review, Organics* (USEPA, 1991) and *Inorganics* (USEPA, 1989). This level of validation included a detailed review of sample data and was performed along with a complete review of QC summary information provided by the laboratory. The remaining ninety percent of the laboratory data were reviewed using a subset of the National Functional Guidelines validation criteria described in the Water Monitoring Plan (PNL,

1994b). This review included an assessment of holding time violations, blank contamination, calibration, precision, and accuracy.

3.3 DATA VALIDATION RESULTS

The following sections present a summary of data validation results and their impact on the established DQOs in relation to the PARCC parameters. Analytical results for groundwater, surface water and storm water samples collected during the 1994 water monitoring program are tabulated in Appendices A and B. Data validation flags have been applied to those sample results which fall outside of specified tolerance limits, and, therefore, did not meet the program's DQOs. An explanation of the data flags is provided as a key to Appendix A and Appendix B.

3.3.1 Volatile Organic Compounds (EPA CLP OLC2.0)

The following sections discuss the results of the VOC analyses (CLP SOW OLC2.0) and provide an evaluation of the PARCC goals.

Completeness of Scheduled Analyses

One hundred twenty field samples were collected and submitted to the laboratory for VOC analyses. Data results were received from the laboratory for all samples scheduled for analyses. More than 95 percent of the results reported for VOC analyses are valid. There were few qualifications identified in the quality control data for VOC analyses. Out of approximately 5,082 individual analytical results (both detected and nondetected), 323 results were qualified. Of those data qualified, only 227 results were qualified as rejected. The completeness objectives for VOC analyses for this program were achieved.

Precision

Blind duplicate samples were collected from thirteen locations during the annual water monitoring program. All of the blind duplicates were analyzed for VOCs, yielding five duplicate pairs containing at least one positive analyte detection. These sample locations include STPO collected in the Winter Quarter, UCD2-14, PCD collected in the Summer Quarter, UCD1-13, and STPO collected in the Fall Quarter, storm water runoff locations (SWL-1 and SWL-2) collected in Fall Quarter 1994. For the 13 analyte pairs reported with positive detections, all had RPDs of less than 100 percent, satisfying the DQOs. The results of the blind duplicate analyses are shown in Tables 3.2 through 3.10.

Accuracy

Laboratory control spikes were performed at the required frequency using the concentrations and conditions specified for the analytical method for VOCs. Method EPA CLP SOW OLC2.0 also specifies the recovery criteria for each spiked compound.

Table 3.12 presents a summary of laboratory control spike samples. The percent recovery of each spiking compound was calculated and compared to the laboratory QC limits. Evaluation of the results for laboratory control spikes show the laboratory analytical system to be in control.

Surrogate spikes were performed for compounds analyzed for VOCs in accordance with the method. All recoveries were within the QC acceptance criteria. This evaluation indicates acceptable laboratory performance.

Representativeness

Twenty-three trip blank samples were collected and analyzed during the annual water monitoring program. Twenty-one of these twenty-three blanks were found to be free of analyte contamination. Chloroform was reported at a concentration of 12 μg/L in a single trip blank sample (TB94Q1-4) collected during the Winter Quarter. Chloroform was not reported in samples directly associated with this trip blank. Reported detections of methylene chloride and acetone were qualified as rejected (R) due to laboratory error. The analytical results for the travel blank samples are presented in Table 3.13.

Laboratory method blanks were analyzed at the required frequency for the analytical method for VOCs. Methylene chloride and acetone are solvents commonly used in laboratory environments during extraction of water, soil, or solid waste for organic compounds. As such, these compounds can be detected in the VOC analyses. No corrective action is taken if these contaminants are detected in reagent blanks at less than five times the detection limit.

Low levels of acetone were reported in some method blanks and identified as a laboratory contaminant. Data associated with these blanks have been appropriately qualified as not detected (U) to indicate bias introduced by the analytical process (see Tables A-2 and B-2).

Comparability

The analyses for VOCs were conducted in accordance with the procedures outlined in the QAPjP. Laboratory reporting limits met the guidelines established in the workplan for those parameters not detected in the samples.

3.3.2 Semivolatile Organic Compounds (EPA CLP OLM1.8)

The following sections discuss the results of the semivolatile organic compounds (SVOC) analyses (CLP SOW OLM1.8) and provide an evaluation of the PARCC goals.

Completeness of Scheduled Analyses

Ninety-three field samples were collected and submitted to the laboratory for SVOC analyses. Data results were received from the laboratory for all samples scheduled for analyses. One hundred percent of the results reported for SVOC analyses are valid. There were few qualifications identified in the quality control data. Out of a total of approximately 5696 individual analytical results (both detected and nondetected), 67 results were qualified. Of those data qualified, no results were qualified as rejected. The completeness objectives for SVOC analyses for this program were achieved.

Precision

No detectable levels of SVOCs were reported in the 13 duplicate samples collected and analyzed by method EPA CLP OLM1.8. No RPDs were calculated since there were no compounds reported in the duplicate samples.

Accuracy

Sample matrix spikes were performed for the Fall Quarter sampling using concentrations and conditions specified for the analytical method for SVOCs. Method EPA CLP SOW OLM1.8 also specifies the recovery criteria for each spiked compound.

Table 3.11 presents a summary of matrix spike samples. The percent recovery of each spiking compound was calculated and compared to the acceptance limits outlined in the QAPjP. In addition, the RPD between recoveries was calculated. Evaluation of the results for sample matrix spikes show the laboratory analytical system to be in control.

Laboratory control spikes were performed at the required frequency using the concentrations and conditions specified for the analytical method for SVOCs. Method EPA CLP SOW OLM1.8 also specifies the recovery criteria for each spiked compound.

Table 3.12 presents a summary of laboratory control spike samples. The percent recovery of each spiking compound was calculated and compared to the laboratory QC limits. Evaluation of the results for laboratory control spikes show the laboratory analytical system to be in control.

Surrogate spikes were performed for compounds analyzed for SVOCs in accordance with the method. All recoveries were within the QC acceptance criteria. This evaluation indicates acceptable laboratory performance.

Representativeness

Laboratory method blanks were analyzed at the required frequency for the analytical method for SVOCs. Common laboratory SVOCs include bis(2-ethylhexyl)phthalate and di-n-butylphthalate. No corrective action is taken if these contaminants are detected in reagent blanks at less than five times the detection limit.

Random occurrences of contamination associated with these blanks were identified, however, concentrations reported were below the contract required quantitation limit. These detections could result from a number of factors including laboratory glassware, sample preparation procedures or carry-over during analyses. Sample results associated with these blank contaminants have been flagged not detected (U) to indicate bias introduced by the analytical process (see Tables A-3 and B-3).

Comparability

The analyses for SVOCs were conducted in accordance with the procedures outlined in the QAPjP. Laboratory reporting limits met the guidelines established in the workplan for those parameters not detected in the samples.

3.3.3 Pesticides/Polychlorinated Biphenyls (EPA CLP OLM1.8)

The following sections discuss the results of the pesticides and polychlorinated biphenyls (PCBs) analyses (CLP SOW OLM1.8) and provide an evaluation of the PARCC goals.

Completeness of Scheduled Analyses

Ninety-three field samples were collected and submitted to the laboratory for pesticides and PCB analyses. Data results were received from the laboratory for all samples scheduled for analyses. One hundred percent of the results reported for pesticides and PCB analyses are valid. Out of approximately 2,520 individual analytical results (both detected and nondetected), 1,262 results were qualified (please see section titled "Accuracy" below for further explanation). Of those data qualified, no results were qualified as rejected. The completeness objectives for pesticides and PCBs for this program were achieved.

Precision

No detectable levels of pesticides or PCBs were reported in the thirteen field duplicate samples analyzed by Method EPA CLPOLM1.8. No RPDs were calculated since there were no pesticides or PCB compounds reported for these locations.

Accuracy

Sample matrix spikes were performed for the Fall Quarter sampling using concentrations and conditions specified for the analytical method for pesticides and PCBs. Method EPA CLP SOW OLM1.8 also specifies the recovery criteria for each spiked compound.

Table 3.11 presents a summary of matrix spike samples. The percent recovery of each spiking compound was calculated and compared to the acceptance limits outlined in the QAPjP. In addition, the relative percent difference between recoveries was calculated. Evaluation of the results for sample matrix spikes show the laboratory analytical system to be in control.

Laboratory control spikes were performed at the required frequency using the concentrations and conditions specified for the analytical method for pesticides and PCBs. Method EPA CLP SOW OLM1.8 also specifies the recovery criteria for each spiked compound.

Table 3.12 presents a summary of laboratory control spike samples. The percent recovery of each spiking compound was calculated and compared to the laboratory QC

limits. Evaluation of the results for laboratory control spikes show the laboratory analytical system to be in control.

Surrogate spikes were performed for compounds analyzed for pesticides and PCBs in accordance with the method. Some pesticide and PCB data were qualified as estimated due to low surrogate recovery in some samples. However, acceptance criteria for pesticide surrogates are advisory only and resulted in no impact on the technical quality of the data. Surrogate failures were limited to only one of two surrogates applicable to this method. These results are consistent with historical data. This evaluation indicates acceptable laboratory performance.

Representativeness

Laboratory method blanks were prepared and analyzed using identical reagents, technique, and instrumentation as for field samples. Laboratory method blanks were reviewed as part of the validation process. No target analytes were reported for the laboratory method blanks above the contract detection limits.

Comparability

The analyses for pesticides and PCBs were conducted in accordance with the procedures outlined in the QAPjP. Laboratory reporting limits met the guidelines established in the workplan for those parameters not detected in the samples.

3.3.4 Metals (EPA CLP ILC2.0 and EPA 7196)

The following sections discuss the results of the metals analyses (CLP SOW ILC2.0 and 7196) and provide an evaluation of the PARCC goals.

Completeness of Scheduled Analyses

Ninety-three field samples were collected and submitted to the laboratory for metal analyses. Data results were received from the laboratory for all samples scheduled for analyses. One hundred percent of the results reported for metal analyses are valid. Out of approximately 1,665 individual analytical results (both detected and nondetected), 164 results were qualified. Of those data qualified, no results were qualified as rejected. The completeness objectives for metal analyses for this program were achieved.

Precision

For metal analyses by methods EPA CLP ILC2.0 and EPA 7196, all thirteen duplicate pairs were reported with positive detections of metal analytes, yielding fifty analyte pairs with at least one detection above the reporting limit. One duplicate analyte pair, STPO collected in the Winter Quarter, resulted in a calculated RPD outside the acceptance criteria. Evaluation of replicate laboratory analysis confirm the reported concentration of barium (26 μg/L) in the duplicate sample. Therefore, it appears that laboratory variability is the cause of not meeting the precision requirements for the field duplicate sample from this location. The reported results for barium for this sample are qualified.

Field duplicate samples were again collected and submitted to the laboratory from location STPO in the Fall Quarter resulting in supporting detections of barium and good RPDs. The remaining analyte pairs reported with positive detections, all had RPDs of less than the data quality objective of one hundred percent. A summary of blind duplicate data is presented in Tables 3.2 through 3.10

Accuracy

Sample matrix spikes were performed at the required frequency for all sampling events using the concentrations and conditions specified for the analytical method for metals. The recovery criteria for each spiked compound is specified in the QAPjP.

Table 3.11 presents a summary of matrix spike samples. The percent recovery of each spiking compound was calculated and compared to the acceptance limits outlined in the QAPjP. Evaluation of the results for sample matrix spikes show the laboratory analytical system to be in control.

Laboratory control spikes were performed at the required frequency using the concentrations and conditions specified for the analytical method for metals. Method EPA CLP SOW ILC2.0 also specifies the recovery criteria for each spiked compound.

Table 3.12 presents a summary of laboratory control spike samples. The percent recovery of each spiking compound was calculated and compared to the laboratory QC limits. In addition, the relative percent difference between recoveries was calculated. Evaluation of the results for laboratory control spikes show the laboratory analytical system to be in control.

Representativeness

Laboratory method blanks were analyzed at the required frequency for the analytical methods for metals. No corrective action is taken if these constituents are detected in reagent blanks at less than five times the detection limit.

Random occurrences of contamination associated with these blanks were identified, however, concentrations reported were below the contract required quantitation limit. These detections, which were associated frequently with copper and zinc, could result from a number of factors including laboratory glassware, sample preparation procedures or carry-over during analyses. Sample results associated with these blank contaminants have been flagged not detected (U) to indicate bias introduced by the analytical process (see Tables A-1 and B-1).

Comparability

The analyses for metals were conducted in accordance with the procedures outlined in the QAPjP. Laboratory reporting limits met the guidelines established in the workplan for those parameters not detected in the samples.

Sample UCD1-11 (Winter Quarter) was analyzed by both Inductively Coupled Plasma (ICP) and Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) instruments. The reported concentration for chromium (152 mg/L) is taken from the ICP/MS data set. Replicate analysis by the ICP resulted in a total chromium concentration of 360 mg/L. This value is consistent with the hexavalent chromium concentration detected in this sample (310 mg/L) and with historical data for this location. The reported data for UCD1-11, using the ICP/MS instrument, is considered inaccurate.

3.3.5 Radionuclides

The following sections discuss the results of the radionuclides analyses and provide an evaluation of the PARCC goals. Various methodologies are utilized to perform these analyses. These methods are outlined in Tables 2.2 through 2.4.

Completeness of Scheduled Analyses

Ninety-seven field samples were collected and submitted to the laboratory for radionuclide analyses. Data results were received from the laboratory for all samples

scheduled for analyses except americium-241 for UCD1-18 collected in the Summer Quarter. This was due to lack of adequate chemical recovery required to quantitate americium-241. One hundred percent of the results reported for radionuclides analyses are valid. Out of approximately 1,671 individual analytical results (both detected and nondetected), 62 results were qualified. Of those data qualified, no results were qualified as rejected. The completeness objectives for this program were achieved.

Precision

For radionuclide analyses, all thirteen duplicate pairs were reported with positive detections of various radionuclides, yielding 51 analyte pairs with at least one detection above the associated uncertainty. The RPDs associated with radionuclides analyses are not calculated as described for other methods. Rather, the range of detection is compared between the primary and duplicate sample. This allows for variable uncertainties associated with the respective sample analyses. The difference between the results of field duplicate pairs for radionuclides was evaluated during the validation process. No data were indicative of extreme bias, and no data were qualified. The results of the blind duplicate analyses are shown in Tables 3.2 through 3.10; however, as discussed above, no RPDs are shown.

Accuracy

Sample matrix spikes were performed at the required frequency for all sampling events using the concentrations and conditions specified for the analytical method for radionuclides. The recovery criteria for each spiked compound is specified in the QAPjP.

Table 3.11 presents a summary of matrix spike samples. The percent recovery of each spiking compound was calculated and compared to the acceptance limits outlined in the QAPjP. Evaluation of the results for sample matrix spikes show the laboratory analytical system to be in control.

Laboratory control spikes were performed at the required frequency using the concentrations and conditions specified for the analytical methods for radionuclides. Analytical methods also specify the recovery criteria for each spiked compound.

Table 3.12 presents a summary of laboratory control spike samples. The percent recovery of each spiking compound was calculated and compared to the laboratory QC

limits. Evaluation of the results for laboratory control spikes show the laboratory analytical system to be in control.

Representativeness

Laboratory method blanks were analyzed at the required frequency for the analytical method for radionuclides. No corrective action is taken if these contaminants are detected in reagent blanks at less than five times the detection limit.

For gross beta analysis, background contamination of beta particles were identified for a single laboratory method blank analyzed in the Spring Quarter. This random detection could result from a number of factors including laboratory glassware, sample preparation procedures or carry-over during analyses. The associated sample result for location STPO collected in the Spring Quarter has been flagged not detected (UP) to indicate bias introduced by the analytical process (see Table B-5).

Comparability

The analyses for radionuclides were conducted in accordance with the procedures outlined in the QAPjP. Laboratory reporting limits met the guidelines established in the workplan for those parameters not detected in the samples.

3.3.6 General Chemicals

The following sections discuss the results of the analyses for general chemicals and provide an evaluation of the PARCC goals. Various methodologies are utilized to perform these analyses. These methods are outlined in Tables 2.2 through 2.4.

Completeness of Scheduled Analyses

Ninety-three field samples were collected and submitted to the laboratory for general chemical analyses. Data results were received from the laboratory for all samples scheduled for analyses. One hundred percent of the results reported for general chemical analyses are valid. Sample results which were qualified as estimated

The values of chloride, nitrate and sulfate were incorrectly reported for sample UCD1-18 (Winter Quarter) due to a laboratory error. Data validation revealed these values to be the result of the analysis of a different sample. UCD1-18 was not originally analyzed

by the laboratory for these anions. Upon request, the original sample for UCD1-18 was analyzed outside the recommended holding time for chloride, nitrate, and sulfate. A missed holding time suggests that a loss of analyte may have occurred; however, the data for these anions in UCD1-18 are comparable to historical values.

There were few qualifications identified in the quality control data. Out of approximately 1,477 individual analytical results (both detected and nondetected), 55 results were qualified. Of those data qualified, no results were qualified as rejected. The completeness objectives for general chemical analyses for this program were achieved.

Precision

For general chemical analyses, all 13 duplicate pairs were reported with positive detections of various constituents yielding 137 analyte pairs with at least one detection above the reporting limit. Four duplicate analyte pairs had calculated RPDs outside the acceptance criteria: nitrate in UCD2-16 (Summer Quarter), turbidity in UCD1-11 (Spring Quarter) and in UCD1-13 (Fall Quarter), and total organic carbon in UCD2-17 (Fall Quarter). The cause of imprecision in these turbidity and total organic carbon data is uncertain, but may be random analytical error. The results of the blind duplicate pairs are presented in Tables 3.2 through 3.10.

The nitrate concentration reported for UCD2-16 (Summer Quarter) is inconsistent with the field (blind) duplicate result and with historical data. This reported value of nitrate for UCD2-16 was qualified as estimated (J) due to poor duplicate precision and is not considered representative of actual field conditions. Nitrate data associated with the field duplicate sample are comparable to historical data.

Accuracy

Sample matrix spikes were performed at the required frequency for all sampling events using the concentrations and conditions specified for the analytical method for general chemicals. The recovery criteria for each spiked compound is specified in the QAPjP.

Table 3.11 presents a summary of matrix spike samples. The percent recovery of each spiking compound was calculated and compared to the acceptance limits outlined in the QAPjP. Evaluation of the results for sample matrix spikes show the laboratory analytical system to be in control.

Laboratory control spikes were performed at the required frequency using the concentrations and conditions specified for the analytical method for general chemicals. these methods also specify the recovery criteria for each spiked compound.

Table 3.12 presents a summary of laboratory control spike samples. The percent recovery of each spiking compound was calculated and compared to the laboratory QC limits. In addition, the relative percent difference between recoveries was calculated. Evaluation of the results for laboratory control spikes show the laboratory analytical system to be in control.

Representativeness

Laboratory method blanks were prepared and analyzed using identical reagents, technique, and instrumentation as for field samples. Laboratory method blanks were reviewed as part of the validation process. No target analytes were reported above the contract detection limits for the laboratory method blanks.

Comparability

The analyses for general chemicals were conducted in accordance with the procedures outlined in the QAPjP. Laboratory reporting limits met the guidelines established in the workplan for those parameters not detected in the samples.

3.4 SUMMARY

Samples collected during the 1994 water monitoring program were analyzed and validated according to criteria established in the program QAPjP. Included in the QAPjP are sections identifying quality control sample collection requirements and specific DQOs for the measurement data. Data are evaluated and compared to these quality goals through data validation.

Validation discrepancies identified during the 1994 water monitoring program included equipment calibration failure, surrogate recovery problems, matrix biases and holding time violations. The majority of the data associated with these anomalies have been flagged as estimated or not detected. Generally, such flags do not render the data unusable for their intended purpose. For samples analyzed outside of the required holding time, data have been evaluated with respect to historical data. A missed holding time

suggests that a loss of analyte may have occurred; however, the finding for the affected samples are consistent with historical data.

There were few qualifications identified in the quality control data. More than 99 percent of the data were valid, satisfying the data quality objectives established for this program. The data collected during the 1994 rounds of groundwater, surface water, and storm water runoff sampling are considered valid as qualified and representative of actual conditions.

TABLE 3.1
QUALITY CONTROL SAMPLE EVALUATION CRITERIA
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION — DAVIS, CALIFORNIA

Objective	QC Program	Evaluation Criteria
Precision	— Field duplicate pairs — Matrix spike — Matrix spike duplicate	Relative percent difference
Accuracy	— Matrix spike — Matrix spike duplicate — Surrogate spikes	Percent recovery
Representativeness	— Trip blanks — Field duplicates — Method blanks	Qualitative degree of confidence
Completeness	— Holding time — Valid data	Percent valid data
Comparability	— Analytical methods — Field duplicates	Qualitative degree of confidence

TABLE 3.2
FIELD DUPLICATE DATA FOR GROUNDWATER, WINTER QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS	DUPLICATE	RPD (1)
UCD1-022	Arsenic	ug/L	< 2 |B	2.4	18
	Barium	ug/L	73.2	77.4	5.6
	Calcium	mg/L	36.8	36.6	0.5
	Iron	mg/L	0.39	0.417	6.7
	Magnesium	mg/L	71.5	71.3	0.3
	Chloride	mg/L	41	41	0.0
	Sodium	mg/L	89.7	88.7	1.1
	Sulfate	mg/L	33	33	0.0
	Nitrogen, Nitrate (as N)	mg/L	5	5.1	2.0
	Alkalinity Total(as CaCO3)	mg/L	390	390	0.0
	Total Dissolved Solids	mg/L	570	570	0.0
	Total Organic Carbon	mg/L	1	< 1	0.0
	Bismuth-214	pCi/L	24.1±3.3	25.9±6.3	NC
	Lead-210	pCi/L	-0.9±1.4	3.5±3	NC
	Lead-214	pCi/L	27.5±3	17.5±5	NC
UCD2-015	Arsenic	ug/L	2.5	< 2 |B	22
	Barium	ug/L	156	151	3.3
	Chromium	ug/L	11.5 Jk|	11 Jk|	4.4
	Chromium, Hexavalent (+6)	ug/L	11	12	8.7
	Calcium	mg/L	40.8	41	0.5
	Iron	mg/L	0.464	0.437	6.0
	Magnesium	mg/L	67.5	68.5	1.5
	Chloride	mg/L	19	19	0.0
	Sodium	mg/L	31.1	31.8	2.2
	Sulfate	mg/L	36	36	0.0
	Nitrogen, Nitrate (as N)	mg/L	2.3	2.2	4.4
	Alkalinity Total(as CaCO3)	mg/L	300	320	6.5
	Total Dissolved Solids	mg/L	410	420	2.4
	Bismuth-212	pCi/L	-1±31	43±41	NC
	Bismuth-214	pCi/L	-3.6±4.6	8.7±5.5	NC
	Lead-214	pCi/L	14.1±5.2	5.7±4.7	NC
	Thorium-234	pCi/L	47±28	22±27	NC
	Radium-226	pCi/L	0.113±0.09	0±0.1	NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

TABLE 3.3
FIELD DUPLICATE DATA FOR GROUNDWATER, SPRING QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS	DUPLICATE	RPD (1)
UCD1-011	Arsenic	ug/L	2.7	3.1	14
	Barium	ug/L	285 Jk|E	284 Jk|E	0.4
	Chromium	ug/L	296	298	0.7
	Chromium, Hexavalent (+6)	ug/L	310	310	0.0
	Selenium	ug/L	11.6	10.8	7.1
	Calcium	mg/L	47.3	47.9	1.3
	Magnesium	mg/L	121	122	0.8
	Chloride	mg/L	65	64	1.6
	Sodium	mg/L	79.5	79.5	0.0
	Sulfate	mg/L	44	44	0.0
	Nitrogen, Nitrate (as N)	mg/L	25	25	0.0
	Alkalinity Total(as CaCO3)	mg/L	530	530	0.0
	Total Dissolved Solids	mg/L	800	800	0.0
	Total Organic Carbon	mg/L	1.1	1.3	17
	Bismuth-214	pCi/L	8±12	21±12	NC
	Radium-226	pCi/L	0.33±0.19	0.06±0.17	NC
	Strontium-90	pCi/L	0.66±0.48	0.29±0.48	NC
UCD2-016	Barium	ug/L	144	145	0.7
	Chromium	ug/L	26.6	29.4	10
	Chromium, Hexavalent (+6)	ug/L	28	29	3.5
	Selenium	ug/L	16.6	17.9	7.5
	Calcium	mg/L	36.4	36.2	0.6
	Magnesium	mg/L	66.1	65.6	0.8
	Chloride	mg/L	19	19	0.0
	Sodium	mg/L	47.4	46.9	1.1
	Sulfate	mg/L	39	39	0.0
	Nitrogen, Nitrate (as N)	mg/L	4.7	4.7	0.0
	Alkalinity Total(as CaCO3)	mg/L	370	360	2.7
	Total Dissolved Solids	mg/L	460	460	0.0
	Total Organic Carbon	mg/L	1	1.1	9.5
	Bismuth-214	pCi/L	8.2±5.5	6.7±5.4	NC
	Lead-214	pCi/L	9.8±5.1	6±4.8	NC
	Strontium-90	pCi/L	0.55±0.48	0.27±0.54	NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

TABLE 3.4
FIELD DUPLICATE DATA FOR GROUNDWATER, SUMMER QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS		DUPLICATE		RPD (1)
UCD2-014	Chloroform	ug/L	4.1		4.1		0.0
	Barium	ug/L	222		220		0.9
	Chromium	ug/L	41.4		39.4		5.0
	Chromium, Hexavalent (+6)	ug/L	38		42		10
	Calcium	mg/L	46.4		49.2		5.9
	Magnesium	mg/L	121		128		5.6
	Chloride	mg/L	37		38		2.7
	Sodium	mg/L	43.2		45.4		5.0
	Sulfate	mg/L	71		71		0.0
	Nitrogen, Nitrate (as N)	mg/L	8.4		8.3		1.2
	Alkalinity Total(as CaCO3)	mg/L	540		510		5.7
	Total Dissolved Solids	mg/L	760		760		0.0
	Total Organic Carbon	mg/L	1.2		1.2		0.0
	Bismuth-214	pCi/L	19±13		39±16		NC
	Lead-214	pCi/L	0±11		35±14		NC
	Potassium-40	pCi/L	44±72		73±63		NC
	Thallium-208	pCi/L	7.4±7.8		9.9±8		NC
	Carbon-14	pCi/L	641±43		491±38		NC
	Tritium	pCi/L	2500±360		2550±370		NC
UCD2-016	Barium	ug/L	128		129		0.8
	Chromium	ug/L	27.5		27.4		0.4
	Chromium, Hexavalent (+6)	ug/L	31		33		6.3
	Calcium	mg/L	36.6		35.6		2.8
	Magnesium	mg/L	64.3		62.1		3.5
	Chloride	mg/L	17		16		6.1
	Sodium	mg/L	46		43.9		4.7
	Sulfate	mg/L	39		39		0.0
	Ammonia-Nitrogen	mg/L	0.3		0.37		21
	Nitrogen, Nitrate (as N)	mg/L	15	Jf|	4.3	Jf|	111
	Alkalinity Total(as CaCO3)	mg/L	310		340		9.2
	Total Dissolved Solids	mg/L	460		430		6.7
	Bismuth-214	pCi/L	23±15		0.2±5.9		NC
	Lead-214	pCi/L	14±12		2.2±5.5		NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

04/27/95 Rpd94x.dbf. Rpd94.Frx

TABLE 3.5
FIELD DUPLICATE DATA FOR GROUNDWATER, FALL QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS		DUPLICATE		RPD (1)
UCD1-013	Chloroform	ug/L	1.5		1.6		6.5
	Dieldrin	ug/L	0.094	Js|	0.04	Js|	81
	Endrin	ug/L	0.035	Js|	< 0.022	Js|J	46
	Arsenic	ug/L	2.3	Jd|	2.6	Jd|	12
	Barium	ug/L	249		283		13
	Chromium	ug/L	75.7		87.2		14
	Chromium, Hexavalent (+6)	ug/L	73	|H	75	|H	2.7
	Calcium	mg/L	77.1		76.6		0.7
	Magnesium	mg/L	195		194		0.5
	Potassium	mg/L	< 2	|B	2.07		3.4
	Chloride	mg/L	38.		38.		0.0
	Sodium	mg/L	59.1		59.4		0.5
	Sulfate	mg/L	74.		75.		1.3
	Nitrogen, Nitrate (as N)	mg/L	17.		17.		0.0
	Alkalinity Total(as CaCO3)	mg/L	830		870		4.7
	Total Dissolved Solids	mg/L	1100		1000		9.5
	Total Organic Carbon	mg/L	1.7		1.5		13
	Bismuth-214	pCi/L	-0.4±8.9		11.1±9.7		NC
	Lead-212	pCi/L	11.4±7.1		0.2±6.9		NC
	Lead-214	pCi/L	3.2±7.5		8.5±8.1		NC
	Carbon-14	pCi/L	1970±220		1980±220		NC
	Tritium	pCi/L	16600±1100		16900±1100		NC
UCD2-017	Arsenic	ug/L	3.1		2.9		6.7
	Barium	ug/L	124		126		1.6
	Chromium	ug/L	17.1		16.6		3.0
	Chromium, Hexavalent (+6)	ug/L	17		20		16
	Selenium	ug/L	3.1		3.1		0.0
	Calcium	mg/L	36.8		36.9		0.3
	Magnesium	mg/L	60.9		61.4		0.8
	Chloride	mg/L	17.		17.		0.0
	Sodium	mg/L	29.9		30.6		2.3
	Sulfate	mg/L	37.		37.		0.0
	Ammonia-Nitrogen	mg/L	0.081		< 0.05		47
	Nitrogen, Nitrate (as N)	mg/L	3.0		3.0		0.0
	Total Kjeldahl Nitrogen	mg/L	0.86		< 0.5		53
	Alkalinity Total(as CaCO3)	mg/L	300		310		3.3
	Total Dissolved Solids	mg/L	390		400		2.5
	Total Organic Carbon	mg/L	6.3		< 1		145
	Chemical Oxygen Demand	mg/L	16.		< 10		46
	Bismuth-214	pCi/L	19.±11.		3.9±9.0		NC
	Radium-226	pCi/L	0.12±0.30		0.37±0.34		NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

TABLE 3.6
FIELD DUPLICATE DATA FOR SURFACE WATER , WINTER QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS		DUPLICATE		RPD (1)
STPO	Bromodichloromethane	ug/L	< 1	|J	1.1		9.5
	Chloroform	ug/L	4		3.9		2.5
	Methylene Chloride	ug/L	7.2		6.8		5.7
	Gamma-BHC	ug/L	0.015		0.02	|P	29
	Alpha-Chlordane	ug/L	0.017		0.014		19
	Arsenic	ug/L	3.4		4.4		26
	Barium	ug/L	147	Jf|	26.1	Jf|	140
	Chromium	ug/L	21.6		< 10	|B	73
	Molybdenum	ug/L	29.3		56.1		63
	Vanadium	ug/L	11.1		12.3		10
	Zinc	ug/L	25.6		33.1		26
	Calcium	mg/L	19.5		19.7		1.0
	Iron	mg/L	0.506		0.284		56
	Magnesium	mg/L	20.3		21.1		3.9
	Potassium	mg/L	12.9		14.3		10
	Chloride	mg/L	140		150		6.9
	Sodium	mg/L	155		164		5.6
	Sulfate	mg/L	56		56		0.0
	Ammonia-Nitrogen	mg/L	5.3		4.9		7.8
	Nitrogen, Nitrate (as N)	mg/L	8.5		6.7		24
	Total Kjeldahl Nitrogen	mg/L	6.5		6.2		4.7
	Alkalinity Total(as CaCO3)	mg/L	180		200		11
	Total Dissolved Solids	mg/L	600	|*	600	|*	0.0
	Total Organic Carbon	mg/L	8.4		8.4		0.0
	Gross Beta	pCi/L	0.9±3.5		17.2±4.5		NC
	Bismuth-214	pCi/L	0.8±2.6		17.2±6.1		NC
	Lead-214	pCi/L	0.7±2.4		12.9±4.9		NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

04/27/95 Rpd94x.dbf. Rpd94.Frx

TABLE 3.7
FIELD DUPLICATE DATA FOR SURFACE WATER , SPRING QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS	DUPLICATE	RPD (1)
PCU	Antimony	ug/L	< 5 |B	5.2	3.9
	Barium	ug/L	82.4	88.7	7.4
	Calcium	mg/L	24.6	24.2	1.6
	Magnesium	mg/L	38.6	38	1.6
	Chloride	mg/L	17	17	0.0
	Sodium	mg/L	21.9	21.6	1.4
	Sulfate	mg/L	28	28	0.0
	Ammonia-Nitrogen	mg/L	0.068	0.053	25
	Alkalinity Total(as CaCO3)	mg/L	210	200	4.9
	Total Dissolved Solids	mg/L	260	260	0.0
	Total Organic Carbon	mg/L	5.1	4.9	4.0
	Gross Beta	pCi/L	1.7±1.4	2.1±2.1	NC
	Actinium-228	pCi/L	17.8±7	-7.1±7.4	NC
	Cesium-137	pCi/L	2.7±1.9	0±1.8	NC
	Bismuth-214	pCi/L	20±5.5	2.5±5.2	NC
	Cobalt-60	pCi/L	1.09±0.93	-0.2±1.2	NC
	Lead-212	pCi/L	9.2±4.7	4.6±4.9	NC
	Lead-214	pCi/L	15±4.9	2.9±4.5	NC
	Potassium-40	pCi/L	49±26	-2±28	NC
	Thallium-208	pCi/L	6.3±2.7	0.3±2.9	NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

04/27/95 Rpd94x.dbf. Rpd94.Frx

TABLE 3.8
FIELD DUPLICATE DATA FOR SURFACE WATER , SUMMER QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS	DUPLICATE	RPD (1)
PCD	Acetone	ug/L	2.9 Rc|B	2 Rc|B	37
	Bromodichloromethane	ug/L	1.1	1.4	24
	Chloroform	ug/L	4.4	5.6	24
	Toluene	ug/L	1.7	< 1	52
	Antimony	ug/L	< 5	6.2	21
	Arsenic	ug/L	5.3	5.3	0.0
	Barium	ug/L	36.7	35.2	4.2
	Molybdenum	ug/L	27.6	26.8	2.9
	Calcium	mg/L	18.6	20.4	9.2
	Magnesium	mg/L	20.7	22.6	8.8
	Potassium	mg/L	4.24	4.56	7.3
	Chloride	mg/L	120	120	0.0
	Sodium	mg/L	134	148	9.9
	Sulfate	mg/L	68	68	0.0
	Ammonia-Nitrogen	mg/L	0.077	0.072	6.7
	Nitrogen, Nitrate (as N)	mg/L	1.5	1.5	0.0
	Total Kjeldahl Nitrogen	mg/L	0.66	0.58	13
	Alkalinity Total(as CaCO3)	mg/L	190	180	5.4
	Total Dissolved Solids	mg/L	540	540	0.0
	Total Organic Carbon	mg/L	4.8	4.5	6.5
	Gross Beta	pCi/L	22±3	30.1±6 |C	NC
	Radium-226	pCi/L	0.05±0.099	0.16±0.13	NC
	Strontium-90	pCi/L	2.1±1.1 Je|	0.7±1 UJe|	NC
	Tritium	pCi/L	570±210	620±220	NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

TABLE 3.9
FIELD DUPLICATE DATA FOR SURFACE WATER, FALL QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS		DUPLICATE		RPD (1)
STPO	Bromodichloromethane	ug/L	< 1		1		0.0
	Chloroform	ug/L	3.8		3.9		2.6
	Methylene Chloride	ug/L	5.3		5.4		1.9
	Gamma-BHC	ug/L	0.013	Js|P	0.014	Js|P	7.4
	Arsenic	ug/L	5.0	Jd|	4.7	Jd|	6.2
	Barium	ug/L	25.2		24.4		3.2
	Molybdenum	ug/L	14.3		14.6		2.1
	Zinc	ug/L	41.0	Jd|	40.5	Jd|	1.2
	Calcium	mg/L	19.3		19.1		1.0
	Magnesium	mg/L	19.5		19.1		2.1
	Potassium	mg/L	12.3		11.5		6.7
	Chloride	mg/L	160		160		0.0
	Sodium	mg/L	164		158		3.7
	Sulfate	mg/L	65.		64.		1.6
	Ammonia-Nitrogen	mg/L	5.8		5.7		1.7
	Nitrogen, Nitrate (as N)	mg/L	3.6		3.6		0.0
	Total Kjeldahl Nitrogen	mg/L	6.1		6.0		1.7
	Alkalinity Total(as CaCO3)	mg/L	180		190		5.4
	Total Dissolved Solids	mg/L	590		580		1.7
	Total Organic Carbon	mg/L	6.5		6.6		1.5
	Chemical Oxygen Demand	mg/L	25.		24.		4.1
	Gross Alpha	pCi/L	13.9±5.5	|C	2.2±3.2	|C	NC
	Gross Beta	pCi/L	17.1±4.3	|C	17.6±4.3	|C	NC
	Radium-226	pCi/L	0.26±0.24		0.36±0.26		NC
	Tritium	pCi/L	480±250		80±200		NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

TABLE 3.10
FIELD DUPLICATE DATA FOR STORM WATER RUNOFF, FALL QUARTER 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

LOCATION	PARAMETER	UNITS	RESULTS		DUPLICATE		RPD (1)
SWL00001	Acetone	ug/L	17	Jc|	17	Jc|	0.0
	Antimony	ug/L	50.1		51.7		3.1
	Lead	ug/L	14.5		15.2		4.7
	Zinc	ug/L	92.6		83.9		9.9
	Chloride	mg/L	1.7		1.6		6.1
	Sulfate	mg/L	1.2		1.3		8.0
	Ammonia-Nitrogen	mg/L	0.54		0.68		23
	Nitrogen, Nitrate (as N)	mg/L	0.29		0.28		3.5
	Total Organic Carbon	mg/L	11.		11.		0.0
	Chemical Oxygen Demand	mg/L	26.		28.		7.4
	Gross Beta	pCi/L	2.1±1.3		2.6±1.3		NC
	Radium-226	pCi/L	0.40±0.32		0.21±0.25		NC

(1) Relative Percent Difference (RPD) = 100*((A-B)/((A+B)/2))
Analytes included with at least one detection above reporting limit or positive value for radionuclide).
If results were below reporting limit then limit was used for RPD calculation.
NC= Not calcualted (See Section 3.3.5 for discussion).

TABLE 3.11
SAMPLE MATRIX SPIKE AND DUPLICATE RESULTS
RANGES OF ACCURACY AND PRECISION
1994 ANNUAL MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Percent Recovery Reported Range			RPD (2)	
	Matrix Spike	Duplicate Matrix Spike	Control Range (1)	Range of Results	Limit
Semivolatile Organic Compounds					
Phenol	87	52	12 - 89	50	42
2-Chlorophenol	91	72	27 - 123	23	40
1,4-Dichlorobenzene	68	58	36 - 97	16	28
N-Nitroso-di-n-propylamine	114	84	41 - 116	30	38
1,2,4-Trichlorobenzene	76	64	39 - 98	17	28
4-Chloro-3-methylphenol	84	63	23 - 97	29	42
Acenaphthene	100	54	46 - 118	60	31
4-Nitrophenol	99	61	10 - 80	47	50
2,4-Dinitrotoluene	104	82	24 - 96	24	38
Pentachlorophenol	108	87	9 - 103	22	50
Pyrene	112	6	26 - 127	180	31
Pesticides/PCBs					
gamma-BHC (Lindane)	105	105	56 - 123	0	15
Heptachlor	91	91	40 - 131	0	20
Aldrin	91	95	40 - 120	5	18
Dieldrin	107	109	52 - 126	2	18
Endrin	95	107	56 - 121	11	21
4,4'-DDT	95	98	38 - 127	2	27

(1) Control range for spike recovery and RPD duplicate precision as defined in the QAPjP.
(2) Relative percent difference.
\- Analysis not performed in accordance with methodology.

TABLE 3.11
SAMPLE MATRIX SPIKE AND DUPLICATE RESULTS
RANGES OF ACCURACY AND PRECISION
1994 ANNUAL MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Percent Recovery Reported Range			RPD (2)	
	Matrix Spike	Duplicate Matrix Spike	Control Range (1)	Range of RPD Results	Limit
Metals					
Antimony	96 - 119	-	80 - 120	0	25
Arsenic	82 - 108	-	80 - 120	0.2 - 17	25
Barium	92 - 103	-	80 - 120	0.3 - 7.3	25
Beryllium	94 - 109	-	80 - 120	0	25
Cadmium	96 - 106	-	80 - 120	0	25
Chromium	92 - 101	-	80 - 120	0.1 - 15	25
Hexavalent Chromium	89 - 114	-	80 - 120	0 - 6	25
Cobalt	88 - 97	-	80 - 120	0	25
Copper	81 - 97	-	80 - 120	0.3 - 11	25
Iron	84 - 97	-	80 - 120	0 - 41.2	25
Lead	88 - 103	-	80 - 120	0	25
Manganese	91 - 100	-	80 - 120	0	25
Mercury	85 - 117	-	80 - 120	0	25
Nickel	87 - 95	-	80 - 120	0.6 - 25	25
Selenium	82 - 113	-	80 - 120	0 - 8.5	25
Silver	78 - 101	-	80 - 120	0	25
Thallium	87 - 105	-	80 - 120	0	25
Vanadium	88 - 103	-	80 - 120	0.8 - 7.3	25
Zinc	93 - 104	-	80 - 120	7.6 - 49	25
Molybdenum	81 - 108	-	80 - 120	0 - 7.5	25

(1) Control range for spike recovery and RPD duplicate precision as defined in the QAPjP.
(2) Relative percent difference.
\- Analysis not performed in accordance with methodology.

TABLE 3.11
SAMPLE MATRIX SPIKE AND DUPLICATE RESULTS
RANGES OF ACCURACY AND PRECISION
1994 ANNUAL MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

	Percent Recovery Reported Range			RPD (2)	
Parameter	**Matrix Spike**	**Duplicate Matrix Spike**	**Control Range (1)**	**Range of Results**	**Limit**
General Water Quality Parameters					
Alkalinity	-	-	-	0.1 - 7.9	25
Chemical Oxygen Demand	86 - 113	-	80 - 120	0.4 - 5	25
Formaldehyde	53 - 141	-	80 - 120	0 - 32	25
Total Kjeldahl Nitrogen	78 - 106	-	80 - 120	0 - 0.1	25
Total Dissolved Solids	-	-	-	0.5 - 59	25
Total Organic Carbon	90 - 104	-	80 - 120	1.4 - 8	25
Turbidity	78 - 109	-	80 - 120	0 - 12	25
Radionuclides					
Radium-226	82 - 120	-	80 - 120	-	-
Strontium-90	70 - 110	-	75 - 125	-	-
Carbon-14	74 - 106	-	75 - 125	-	-
Gross Alpha	72 - 138	-	70 - 130	-	-
Gross Beta	84 - 145	-	70 - 130	-	-
Americium-241	79 - 87	-	80 - 120	-	-
Plutonium-241	76 - 83	-	80 - 120	-	-
Tritium	80 - 102	-	80 - 120	-	-

(1) Control range for spike recovery and RPD duplicate precision as defined in the QAPjP.
(2) Relative percent difference.
\- Analysis not performed in accordance with methodology.

TABLE 3.11
SAMPLE MATRIX SPIKE AND DUPLICATE RESULTS
RANGES OF ACCURACY AND PRECISION
1994 ANNUAL MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Percent Recovery Reported Range			RPD (2)	
	Matrix Spike	Duplicate Matrix Spike	Control Range (1)	Range of RPD Results	Limit
Anions & Cations					
Ammonia-Nitrogen	105 - 112	-	80 - 120	0	25
Calcium	96 - 107	-	80 - 120	0.6 - 4.5	25
Chloride	89 - 104	-	80 - 120	0.2 - 8	25
Potassium	95 - 108	-	80 - 120	0 - 69	25
Magnesium	92 - 104	-	80 - 120	0.1 - 4.5	25
Nitrate as Nitrogen	93 - 123	-	80 - 120	0.1 - 2	25
Sodium	96 - 107	-	80 - 120	0.1 - 4.5	25
Sulfate	95 - 104	-	80 - 120	0.1 - 2.6	25

(1) Control range for spike recovery and RPD duplicate precision as defined in the QAPjP.
(2) Relative percent difference.
\- Analysis not performed in accordance with methodology.

TABLE 3.12
ANALYTICAL LABORATORY CONTROL SAMPLE SPIKE RESULTS
RANGES OF ACCURACY
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

		Accuracy (1)	
Method	**Chemical**	**Laboratory LCS Percent Recovery Reported Range (2)**	**Acceptable Range (3)**
Volatile Organic Compounds	Vinyl chloride	86 - 106	60 - 140
	1,2-Dichloroethane	86 - 120	60 - 140
	Carbon tetrachloride	80 - 116	60 - 140
	1,2-Dichloropropane	86 - 112	60 - 140
	cis-1,3-Dichloropropene	85 - 110	60 - 140
	Trichloroethene	83 - 116	60 - 140
	1,1,2-Trichloroehtane	80 - 121	60 - 140
	Benzene	80 - 104	60 - 140
	Bromoform	75 - 111	60 - 140
	Tetrachloroethene	84 - 121	60 - 140
	1,2-Dichlorobenzene	80 - 112	60 - 140
	1,4-Dichlorobenzene	79 - 99	60 - 140
Semivolatile Organic Compounds	4-Nitrophenol	73 - 115	10 - 80
	2,4-Dinitrotoluene	60 - 92	24 - 96
	Pentachlorophenol	67 - 124	9 - 103
	Pyrene	60 - 92	26 - 127
	Phenol	55 - 92	12 - 89
	2-Chlorophenol	56 - 97	27 - 123
	1,4-Dichlorobenzene	42 - 60	36 - 97

(1) Accuracy expressed as percent recovery
(2) Range of Laboratory Control Sample (LCS) spike recoveries from all laboratory reported included in this annual monitoring.
(3) Acceptable range for percent recovery as defined by the QAPjP.

TABLE 3.12
ANALYTICAL LABORATORY CONTROL SAMPLE SPIKE RESULTS
RANGES OF ACCURACY
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

		Accuracy (1)	
Method	**Chemical**	**Laboratory LCS Percent Recovery Reported Range (2)**	**Acceptable Range (3)**
Semivolatile Organic Compounds (cont.)	N-Nitroso-di-n-propylamine	42 - 120	41 - 116
	1,2,4-Trichlorobenzene	50 - 74	39 - 98
	4-Chloro-3-methylphenol	72 - 105	23 - 97
	Acenaphthene	56 - 80	46 - 118
Pesticides/PCBs	gamma-BHC	75 - 110	56 - 123
	Heptachlor	44 - 95	40 - 131
	Dieldrin	28 - 95	40 - 120
	Endrin	75 - 98	52 - 126
	4,4'-DDT	58 - 108	56 - 121
	Aldrin	70 - 102	38 - 127
Radionuclides	Gross Alpha	80 - 129	70 - 130
	Gross Beta	92 - 110	70 - 130
	Carbon-14	74 - 107	75 - 125
	Radium-226	90 - 113	80 - 120
	Strontium-90	70 - 113	75 - 127
	Tritium	80 - 102	80 - 120
	Americium-241	79 - 87	80 - 120
	Plutonium-241	76 - 83	80 - 120
	Gamma Analysis: Cesium-137 Cobalt-60	91 - 101 89 - 103	80 - 120 80 - 120

(1) Accuracy expressed as percent recovery
(2) Range of Laboratory Control Sample (LCS) spike recoveries from all laboratory reported included in this annual monitoring.
(3) Acceptable range for percent recovery as defined by the QAPjP.

TABLE 3.12
ANALYTICAL LABORATORY CONTROL SAMPLE SPIKE RESULTS
RANGES OF ACCURACY
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

		Accuracy (1)	
Method	**Chemical**	**Laboratory LCS Percent Recovery Reported Range (2)**	**Acceptable Range (3)**
Metals	Antimony	101 - 115	75 - 125
	Arsenic	86 - 115	75 - 125
	Barium	92 - 103	75 - 125
	Beryllium	96 - 109	75 - 125
	Cadmium	103 - 112	75 - 125
	Chromium	96 - 105	75 - 125
	Hexavalent Chromium	99 - 115	75 - 125
	Cobalt	93 - 107	75 - 125
	Copper	96 - 106	75 -125
	Iron	92 - 100	75 - 125
	Lead	92 - 111	75 - 125
	Manganese	100 - 102	75 - 125
	Mercury	79 - 124	75 - 125
	Nickel	95 - 109	75 - 125
	Selenium	91 - 116	75 - 125
	Silver	76 - 106	75 - 125
	Thallium	92 - 112	75 - 125
	Vanadium	93 - 105	75 - 125
	Zinc	98 - 116	75 - 125
	Molybdenum	88 - 108	75 - 125

(1) Accuracy expressed as percent recovery
(2) Range of Laboratory Control Sample (LCS) spike recoveries from all laboratory reported included in this annual monitoring.
(3) Acceptable range for percent recovery as defined by the QAPjP.

TABLE 3.12
ANALYTICAL LABORATORY CONTROL SAMPLE SPIKE RESULTS
RANGES OF ACCURACY
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

		Accuracy (1)	
Method	**Chemical**	**Laboratory LCS Percent Recovery Reported Range (2)**	**Acceptable Range (3)**
Anions and Cations	Ammonia as Nitrogen	98 - 109	75 - 125
	Calcium	101 - 107	75 - 125
	Chloride	94 - 106	75 - 125
	Nitrate	97 - 108	75 - 125
	Potassium	96 - 105	75 - 125
	Magnesium	98 - 106	75 - 125
	Sodium	101 - 108	75 - 125
	Sulfate	97 - 108	75 - 125
	Total Phosphorous	94 - 109	75 - 125
General Water Quality Parameters	Alkalinity	96 - 103	75 - 125
	Chemical Oxygen Demand	93 - 110	75 - 125
	Formaldehyde	87 - 108	75 - 125
	Total Kjeldahl Nitrogen	89 - 105	75 - 125
	Total Dissolved Solids	98 - 101	75 - 125
	Total Organic Carbon	92 - 97	75 - 125
	Turbidity	83 - 105	75 - 125

(1) Accuracy expressed as percent recovery
(2) Range of Laboratory Control Sample (LCS) spike recoveries from all laboratory reported included in this annual monitoring.
(3) Acceptable range for percent recovery as defined by the QAPjP.

TABLE 3.13
SUMMARY OF DETECTIONS IN TRIP BLANKS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Quarter	Blank	Method	Parameter	Results		Units
WINTER	TB94Q1-1	VOACLP	All Analytes	ND		
WINTER	TB94Q1-2	VOACLP	All Analytes	ND		
WINTER	TB94Q1-3	VOACLP	All Analytes	ND		
WINTER	TB94Q1-4	VOACLP	Chloroform	12		ug/L
WINTER	TB94Q1-5	VOACLP	All Analytes	ND		
WINTER	TB94Q1-6	VOACLP	All Analytes	ND		
SPRING	TB94Q2-1	VOACLP	All Analytes	ND		
SPRING	TB94Q2-2	VOACLP	All Analytes	ND		
SPRING	TB94Q2-3	VOACLP	All Analytes	ND		
SPRING	TB94Q2-4	VOACLP	All Analytes	ND		
SPRING	TB94Q2-5	VOACLP	All Analytes	ND		
SPRING	TB94Q2-6	VOACLP	All Analytes	ND		
SUMMER	TB94Q3-1	VOACLP	Methylene Chloride	0.6	Rc|B	ug/L
SUMMER	TB94Q3-2	VOACLP	Acetone	3.6	Rc|B	ug/L
SUMMER	TB94Q3-3	VOACLP	All Analytes	ND		
SUMMER	TB94Q3-4	VOACLP	All Analytes	ND		
SUMMER	TB94Q3-5	VOACLP	All Analytes	ND		
FALL	TBGW0006	CLPVOA	All Analytes	ND		
FALL	TBGW0008	CLPVOA	All Analytes	ND		
FALL	TBGW0010	CLPVOA	All Analytes	ND		
FALL	TBGW0012	CLPVOA	All Analytes	ND		
FALL	TBGW0015	CLPVOA	All Analytes	ND		
FALL	TBSW0001	CLPVOA	All Analytes	ND		

ND = Not Detected

See footnotes at end of table
BLANK94X.XLS on 4/28/95 at 6:04 AM

4.0 HYDROGEOLOGY

The geology in the vicinity of the LEHR site was characterized during the Phase II Site Characterization (Dames & Moore, 1993b). No additional monitoring wells have been installed at the LEHR site since submittal of this document. However, several additional Cone Penetrometer Tests (CPT) have been performed recently as part of the RI/FS program. This section summarizes the hydrogeology for the LEHR site and presents an updated interpretation based on recently completed CPT logs. In addition, a discussion of the groundwater flow direction and the vertical and horizontal groundwater gradients observed during 1994 is also presented.

The CPT logs discussed in this section are summarized on the cross sections. The locations of these cross sections, together with monitoring well borings and CPT data points, are shown on Figure 4.1. The cross sections are presented in Figures 4.1 and 4.2. The actual CPT logs completed during the RI/FS will be presented in a separate report. The geologic boring logs for existing monitoring wells and CPT logs completed during previous investigations are presented in Appendix C of the Phase II Site Characterization Report (Dames & Moore, 1993b). Hydrogeologic cross sections constructed from these existing data points are presented as Figures 6.4 through 6.7 of the Phase II Site Characterization Report (Dames & Moore, 1993).

4.1 REGIONAL SETTING

The LEHR site and the surrounding area are located on the geomorphic unit termed "low-alluvial plains and fans" (California Department of Water Resources (DWR), 1978), specifically the Putah Plain. This surface represents distal portions of alluvial fan deposits associated with Putah Creek and are referred to as the Putah Creek Fan (Mann, 1992). Sediments that form these alluvial fan deposits consist primarily of silts and clays with coarse-grained sediments occurring locally. The Putah Creek Fan was formed by a creek whose course changed many times throughout this area. The sands and gravels were deposited during high velocity flows at times of floods. Outside the ribbon-like strips of coarse channel deposits, lower velocity waters deposited silts and clays. The age of these deposits ranges from late Pleistocene to Recent. The thickness of the alluvial fan deposits is reported to be between 140 feet (Mann, 1992) and 180 feet (DWR, 1978).

Underlying the Putah Creek Fan is the Plio-Pleistocene Tehama Formation which was folded or tilted and then eroded prior to the deposition of the alluvial material of the Putah Creek Fan (Mann, 1992). The Tehama Formation consists of fine grained sands and

silts with discontinuous lenses of coarse sand and gravels. This unit is thought to be coeval with the Laguna Formation located on the east side of the Sacramento Valley.

4.2 LEHR SITE STRATIGRAPHY

The subsurface stratigraphy for the LEHR site is described from the geologic well logs and CPT logs produced during the Phase II Site Investigation (Dames & Moore, 1993b) and the CPT logs produced during the RI/FS. The maximum depth intercepted during these investigations is approximately 93.4 feet below mean sea level in the soil boring drilled for monitoring well UCD2-17. The location of monitoring well borings and CPT data points are shown on Figure 4.1.

As stated above, Figures 4.2 and 4.3 represent the hydrogeologic cross sections constructed using CPT logs produced in November 1994 as part of the on-going RI/FS program. These new data points were collected in areas north and east of areas previously investigated (see Figure 4.1). As seen on Figures 4.2 and 4.3, the stratigraphic data collected during the RI/FS program is consistent with the stratigraphy supporting the hydrogeologic model developed during the Phase II Site Characterization. A summary of the stratigraphy is presented in the following paragraphs.

The surface unit identified at all drilling and CPT locations at the LEHR site is the Putah Creek Fan. Only the soil borings for monitoring wells UCD2-15, UCD2-16, and UCD2-17 fully penetrated this unit (see Dames & Moore, 1993b). At these locations, the Putah Creek Fan ranges in thickness from 118 feet (UCD2-15) to 138 feet (UCD2-17) and is composed of two units: an upper unit consisting of interbedded silts, clays, fine sands, and some coarse sand and gravel deposits; and, a lower unit consisting predominantly of coarse sands and gravels. The upper unit ranges in thickness from 57 feet (HP-44) to 107 feet (HP-26) and, where fully penetrated, the lower unit ranges in thickness from 31 feet (UCD2-16) to 52 feet (UCD2-17).

As reported by Mann (1992), in the vicinity of the LEHR site, the lower sand and gravel unit of the Putah Creek Fan is directly underlain by the Tehama Formation. This formation was only partially penetrated in the soil borings for monitoring wells UCD2-15, UCD2-16, and UCD2-17. Depth of penetration ranged from 2.5 feet (UCD2-15) to 5 feet (UCD2-17). This unit consists of brown soft to medium stiff silty to sandy clay with some fine silty sands.

4.3 LEHR SITE HYDROGEOLOGY

As reported by Mann (1992), the main aquifer of the Putah Creek Fan is the lower unit. This aquifer is very permeable and shallow wells completed in this unit are reported to have high specific capacities. As described above, the Putah Creek upper unit consists predominantly of low permeability silts, clays, and fine sands and is not used as a source of water in the vicinity of the LEHR site. At greater depths beneath the Putah Creek Fan, Mann (1992) indicates that there are sand and gravel aquifers within the Tehama Formation. These aquifers are reported to be less permeable than the lower unit of the Putah Creek Fan. In addition, wells reported to penetrate these aquifers have lower specific capacities than wells completed in the lower unit of the Putah Creek Fan.

For the purposes of the Phase II Site Investigation (Dames & Moore, 1993b), the saturated zones beneath the LEHR site were divided into separate hydrostratigraphic units (HSUs). Two HSUs, referred to as the first HSU and second HSU, have been identified. The first HSU consists of the saturated fine-grained sediments of the upper unit and the second HSU consists of the coarse sands and gravels of the lower unit of the Putah Creek Fan described above. These HSUs are illustrated on the hydrogeologic cross sections presented on Figures 4.1 and 4.2. Regional data from drillers' logs show the presence of a gravel unit approximately 90 feet below the base of the Putah Creek Fan (or base of the second HSU). In the Final Draft RI/FS Work Plan for the LEHR site (PNL, 1994b), this gravel unit is identified as a third HSU. If present, the third HSU represents a gravel lens of the Tehama Formation described above and is separated from the base of the second HSU by a relatively thick (up to 90 feet) aquitard composed of clays and silts.

Further evaluation of the second and third HSUs, if present, is currently being conducted as part of the RI/FS program for the LEHR site. This evaluation consists of conducting a geophysical survey using transient electromagnetics (TEM). The TEM survey will provide additional detail on the hydrogeology within and below the second HSU and will allow the construction of detailed structure contour maps of these units.

4.4 GROUNDWATER ELEVATIONS AND GRADIENTS

This section presents a discussion of groundwater elevations observed during 1994. Groundwater elevations measured during 1994 are discussed in terms of seasonal fluctuations and vertical and horizontal gradients.

4.4.1 Groundwater Elevations During 1994

Cumulative groundwater elevation data for the period from 1990 through 1994 is presented by well in tabular form in Appendix F. In addition, hydrographs of this data are shown in Appendix F as Figures F.1 through F.18. Monitoring well screen intervals are shown in Table 2.1. Based on a review of these hydrographs, the following observations can be made:

- The pattern of groundwater elevation fluctuation in the first and second HSUs is similar in shape and magnitude of change.
- Seasonal fluctuations in 1994 groundwater levels ranged from 31 to 34 feet in both first and second HSU wells.
- The lowest levels during 1994 were observed in July and August and the highest levels in March.
- The most rapid decline of water levels during 1994 was observed during March, and the maximum rate of water level recovery was observed during September.

Figures 4.4 and 4.5 show hydrographs for monitoring wells UCD1-20 and UCD2-7. UCD1-20 is screened in the first HSU and UCD2-7 is screened in the second HSU. These two hydrographs represent typical elevation fluctuations in the first and second HSUs.

The observed pattern of water level fluctuations indicates that groundwater withdrawal during the irrigation season is the dominant factor influencing the seasonal pattern. The amount by which water levels recover during the winter rainy season is probably dependent on the amount of annual precipitation. Figure 4.6 shows the hydrograph for monthly precipitation data for the Davis area. This hydrograph was constructed using data collected monthly from October 1992 through December 1994 from a station at UC Davis.

4.4.2 Lateral Groundwater Gradients during 1994

Figures F-19 through F-26 show water level elevation contours for monitoring wells in the first and second HSUs for the four quarters of 1994. The first HSU is present at depths ranging from 30 to 70 feet bgs and consists of fine grained sediments, primarily

silts and clays with rare sand and gravel lenses. During May and August (Figures F.23 and F.24) the gradient in the first HSU is toward the east with a slight northerly component. During the periods of rapid water level change in March and November, the piezometric surface is more irregular possibly as the result of local variations in hydraulic conductivity which react differently to transient events, such as extreme rainfall or sporadic pumping. Average lateral groundwater gradients in the first HSU during 1994 ranged from approximately 0.0009 feet/foot (Fall 1994) to 0.0022 feet/foot (Spring 1994).

The second HSU is present at depths ranging from approximately 80 to 135 feet bgs and consists of coarse grained material. The lateral groundwater gradient in the second HSU during 1994 is more consistently toward the east, with a very slight northerly component. Average lateral groundwater gradients in the second HSU during 1994 ranged from approximately 0.0007 feet/foot (Winter 1994) to 0.0018 feet/foot (Spring 1994).

4.4.3 Vertical Groundwater Gradients during 1994

Four well pairs consisting of a monitoring well completed in the first HSU adjacent to a monitoring well completed in the second HSU exist at the LEHR site. These well pairs are listed in the table below. This table includes the screened intervals, mid-screen elevation, and the elevation differential between mid-screen elevations for each well pair.

Screened Intervals for Well Pairs

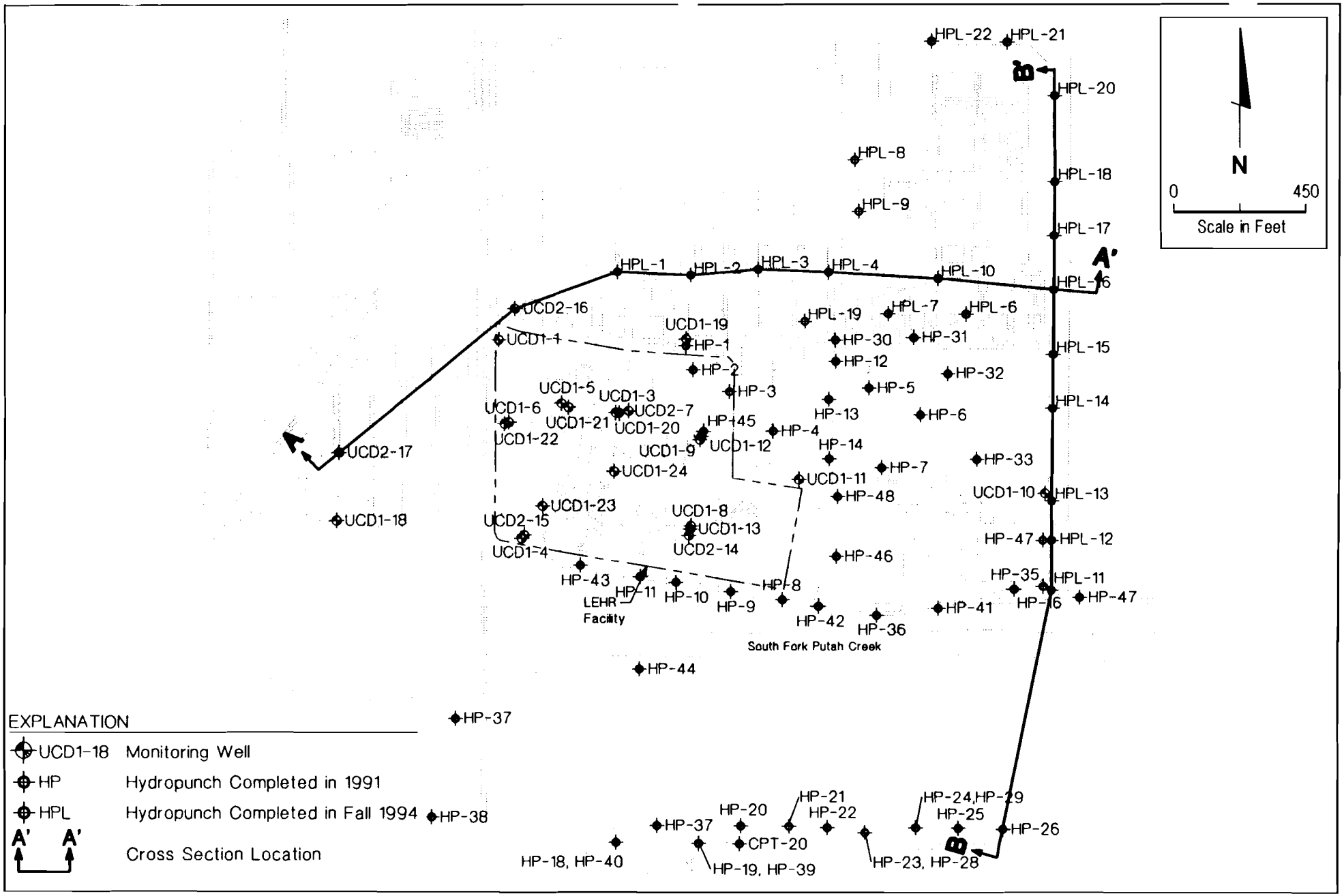
Monitoring Well Pairs	Screened Interval (feet bgs)	Midscreen Depth (feet bgs)	Differential (feet bgs)
UCD1-4	45-55	50	-
UCD2-15	91-116	103.5	53.5
UCD1-1	46.5-56.5	51.5	-
UCD2-16	92-117	104.5	53
UCD1-20	57-72	64.5	-
UCD2-7	80-90	85	20.5
UCD1-13	50-65	57.5	-
UCD2-14	75-85	80	22.5

The vertical gradient is expressed as the difference in water levels between the wells in a pair (second HSU water level minus first HSU water level), divided by the vertical differential in feet between the mid points of the respective screened intervals. For a downward vertical gradient (i.e., first HSU water level is greater than second HSU water level) the result will be a negative number, and for an upward vertical gradient the result will be a positive number.

Based on a review of hydrographs for the wells in a pair plotted together (Figures 4.7 to 4.10), during the winter months of January, February, and early March the water levels match fairly closely. At the onset of the irrigation season in March, the water level decline in the first HSU lags the steep decline shown on the hydrographs for second HSU wells. As water levels in second HSU wells begin to rise in the Fall as the irrigation season comes to a close, first HSU water levels also begin to rise, and again lag the second HSU levels somewhat.

Plots of vertical gradient are also shown in Figures 4.7 to 4.10 for each well pair. These plots show that negative vertical gradients occur in all four well pairs as the water levels in the second HSU wells begin to decline. The negative gradient increases during second HSU water level decline are steep, stabilizes as the rate of decline slows, then decreases and reverses to a positive vertical gradient as water levels in second HSU wells begin to recover.

This pattern of seasonal changes in vertical gradients between well pairs indicates that groundwater moves downward from the first HSU into the second HSU during water level declines occurring in Spring and Summer. In the Fall and early Winter, groundwater moves from the second HSU into the first HSU. The lag in water level change in the first HSU relative to the second HSU is due to the lower hydraulic conductivity of the first HSU relative to the second HSU.

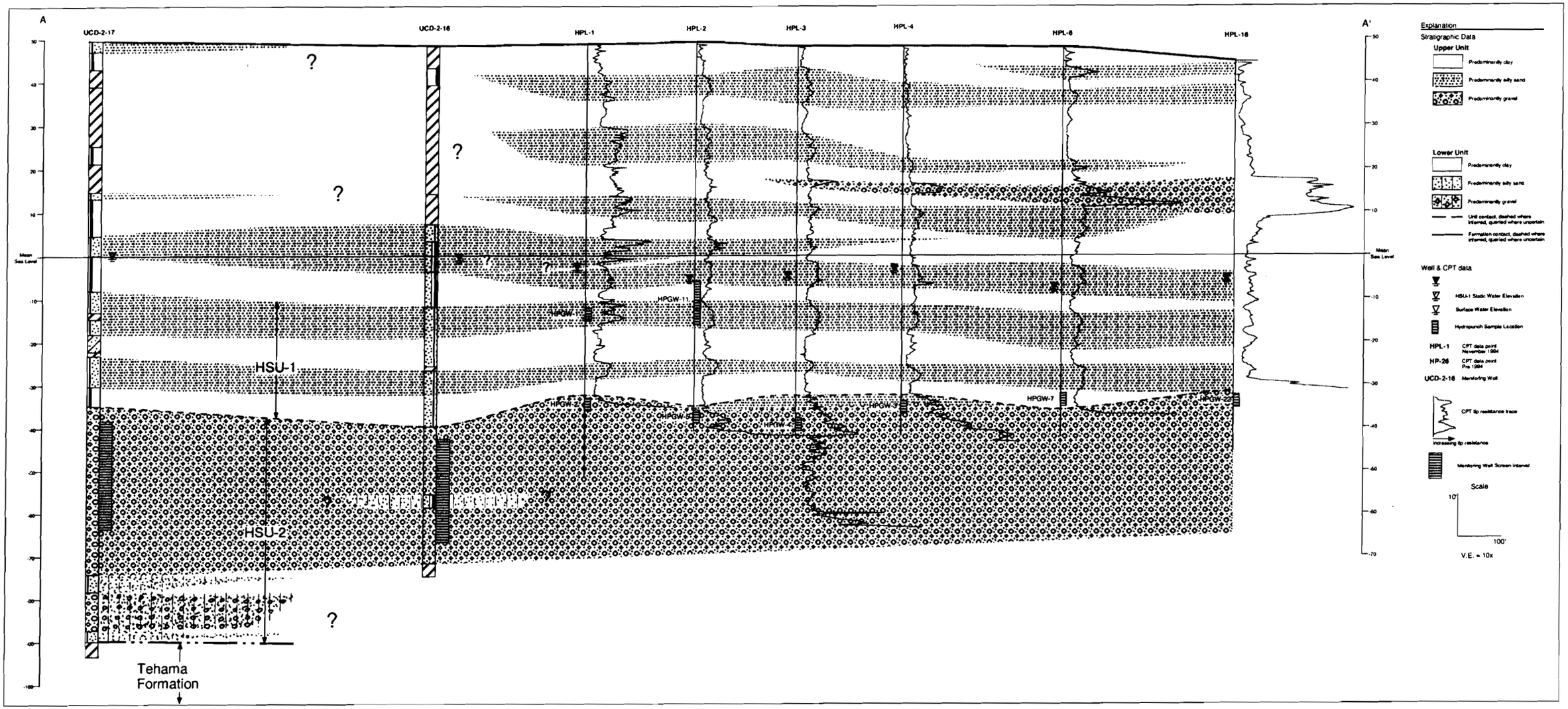


CROSS SECTION, MONITORING WELL, AND CPT/HYDROPUNCH LOCATION MAP

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10805-959-6303-044 sjr 6303AV

FIGURE 4.1

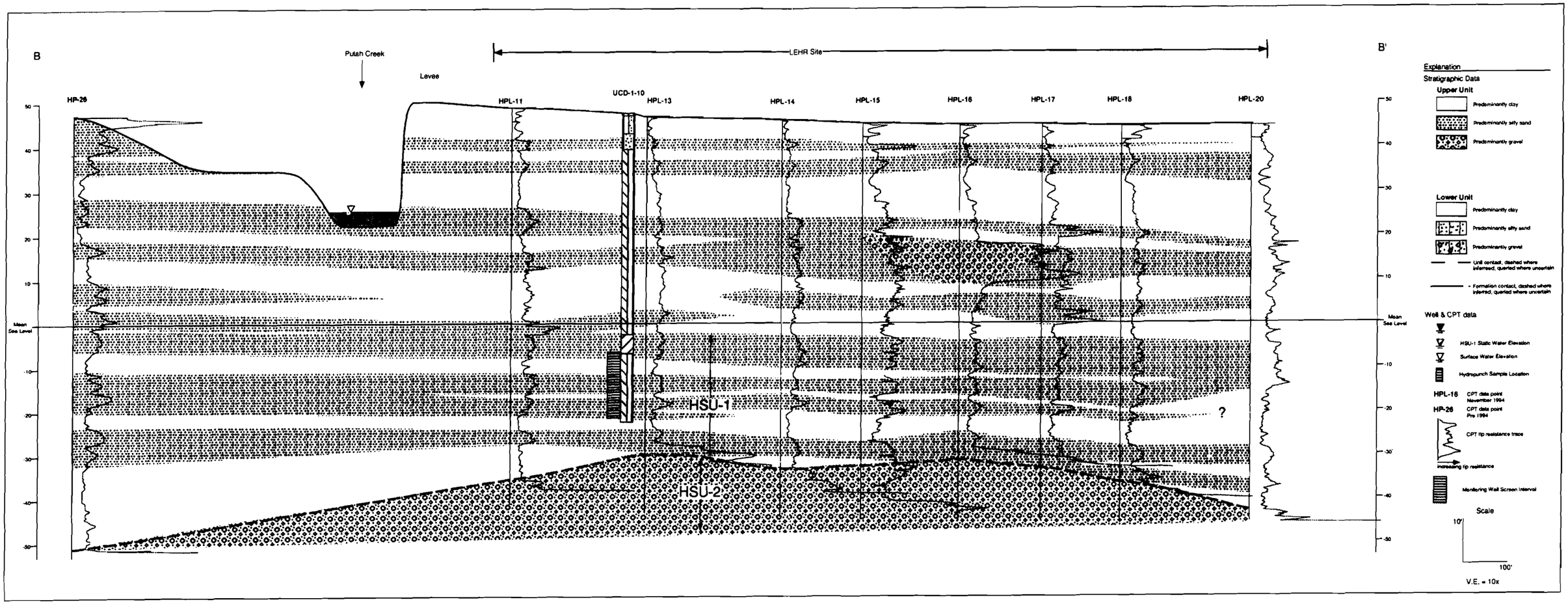


HYDROSTRATIGRAPHIC SECTION A-A'

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 4.2

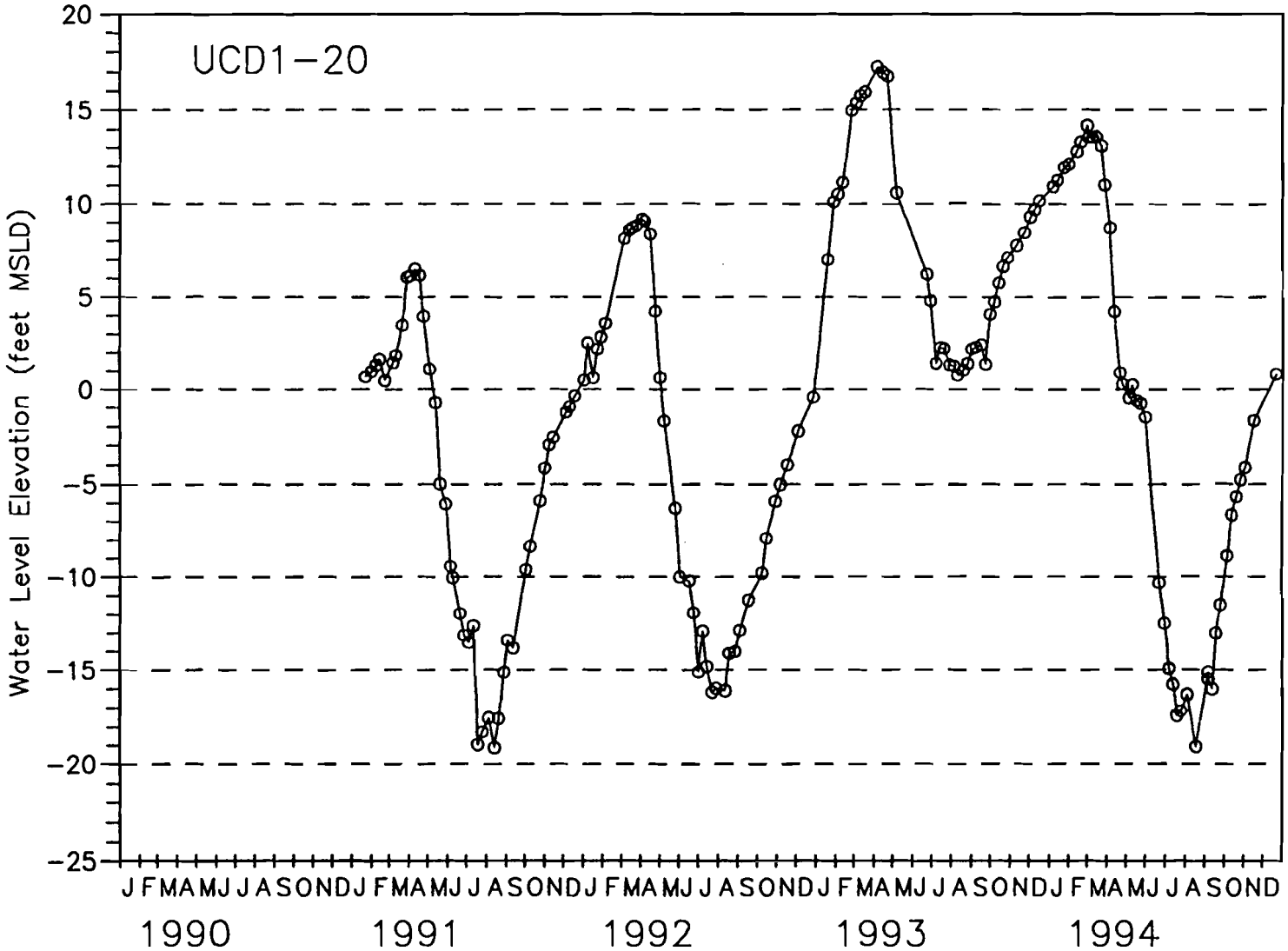
10886-084-044 TRC 4/26/05 12:15 PM Lehr Section A-A'



HYDROSTRATIGRAPHIC SECTION B-B'

1994 Annual Water Monitoring Report
LEHR Environmental Restoration
Davis, California

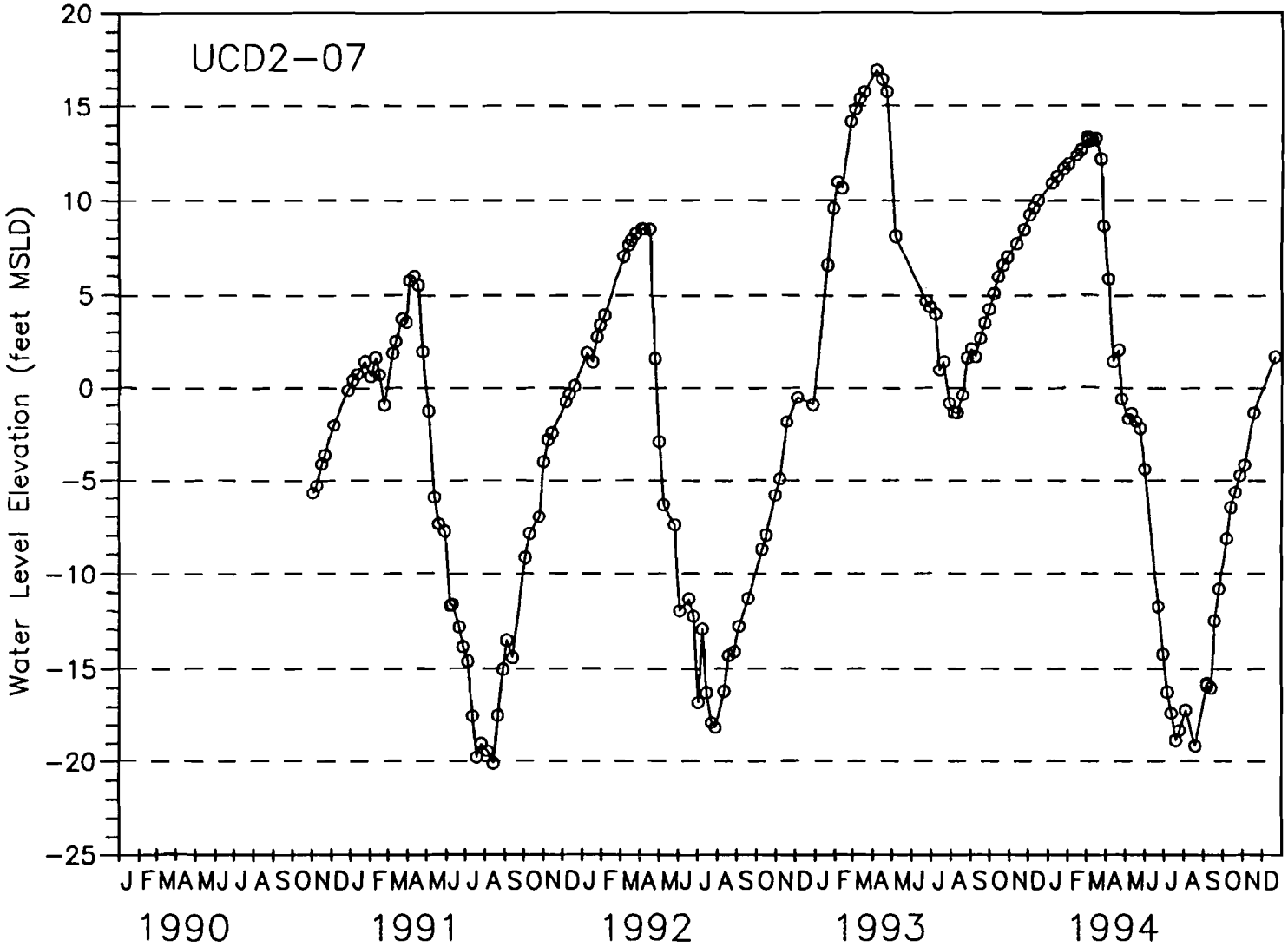
FIGURE 4.3



GROUNDWATER ELEVATION HYDROGRAPH
UCD1-20

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

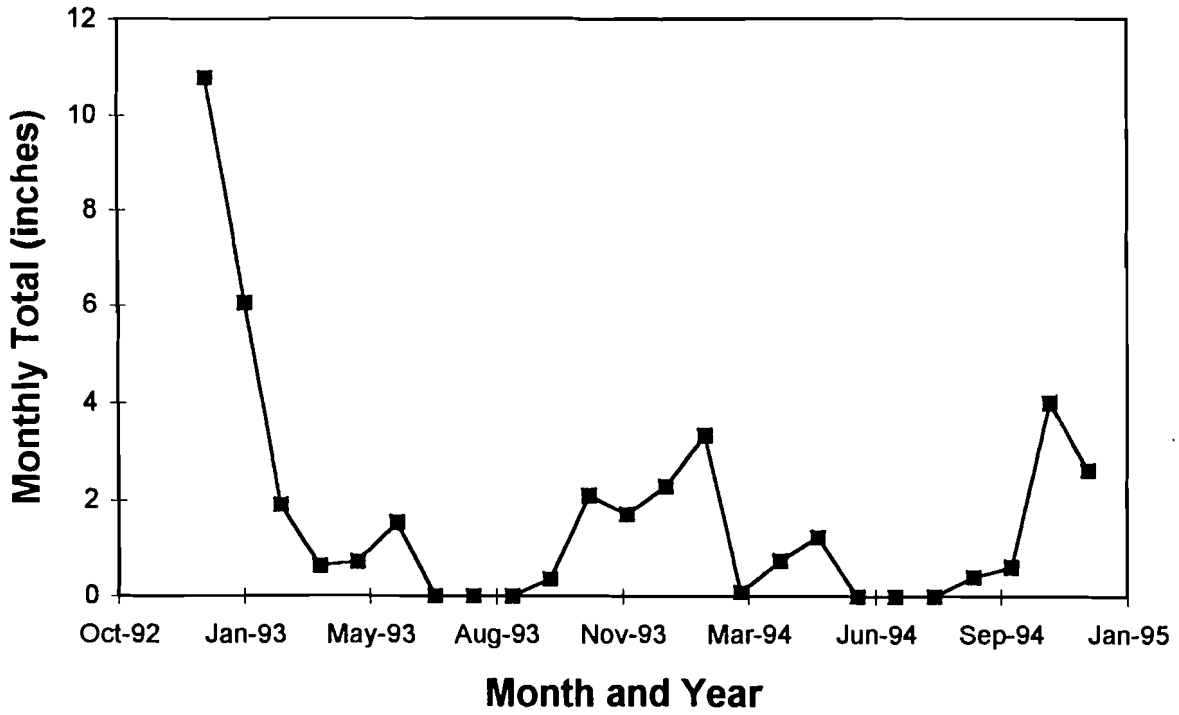
FIGURE 4.4



GROUNDWATER ELEVATION HYDROGRAPH
UCD2-7

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 4.5



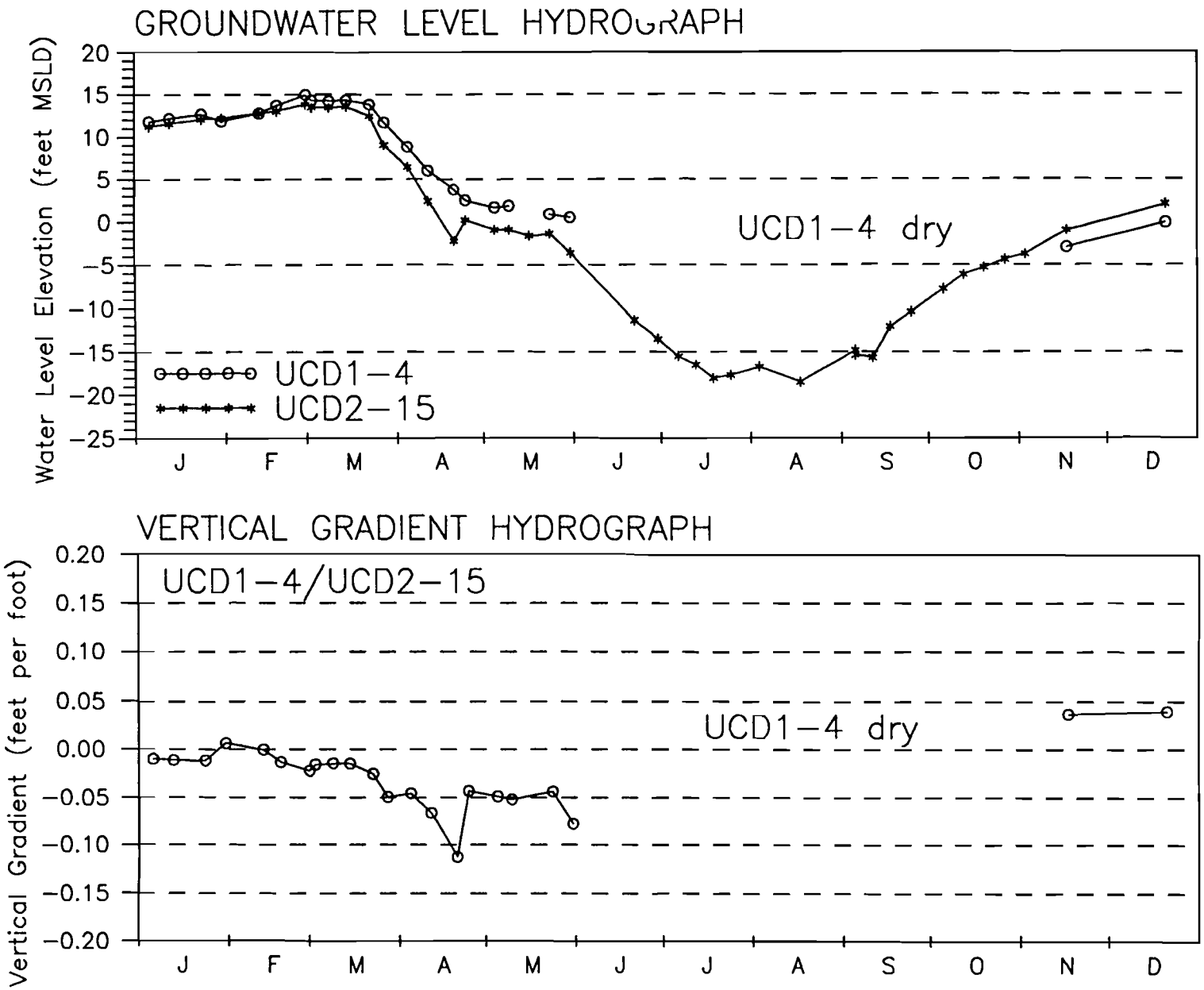
UC Davis station located approximately 1 1/2 miles northwest of LEHR facility.

Source: NOAA Climatological Data, California

MONTHLY PRECIPITATION HYDROGRAPH
UC DAVIS STATION

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

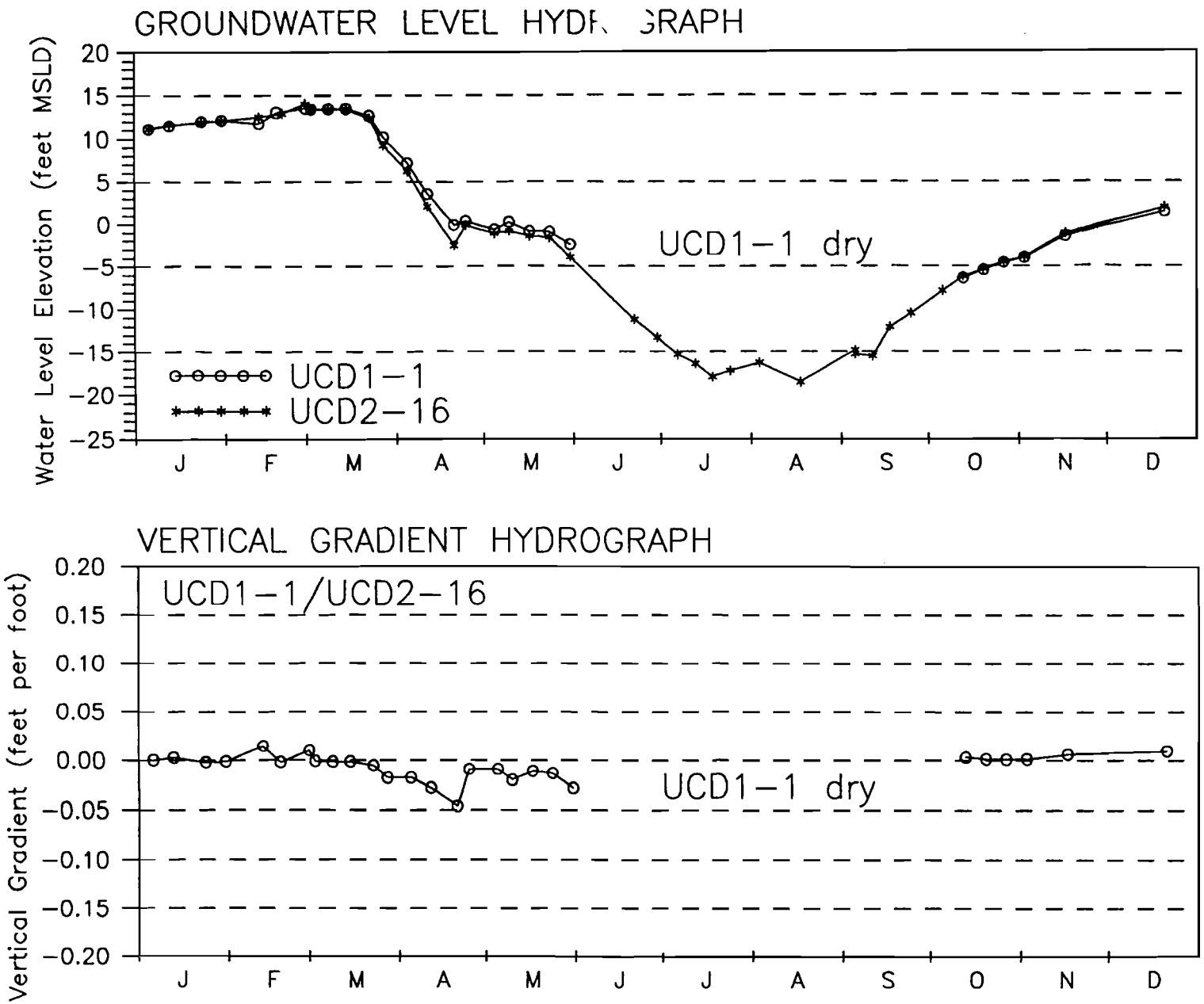
FIGURE 4.6



VERTICAL GRADIENT HYDROGRAPH
UCD1-4 AND UCD2-15

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

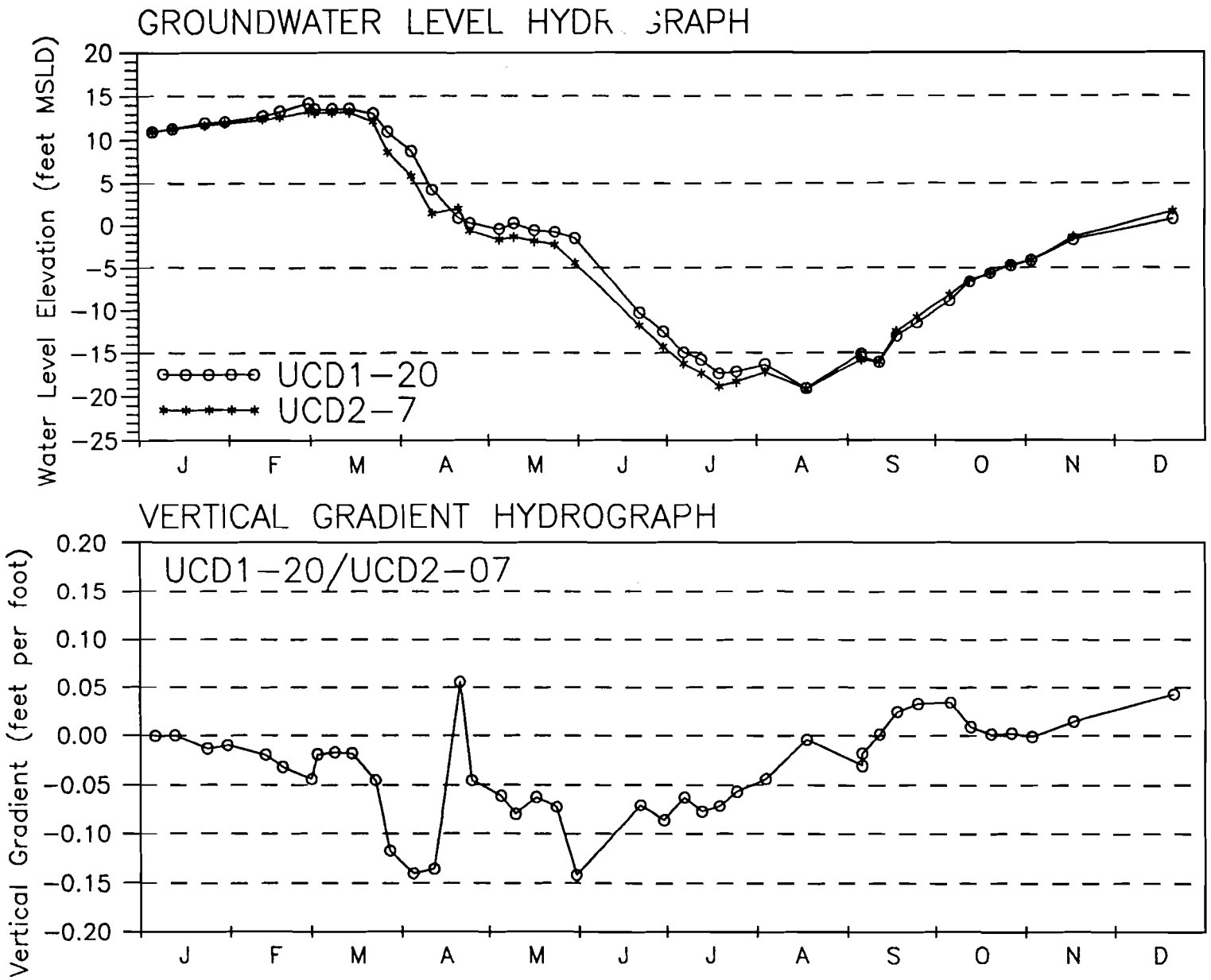
FIGURE 4.7



VERTICAL GRADIENT HYDROGRAPH
UCD1-1 AND UCD2-16

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

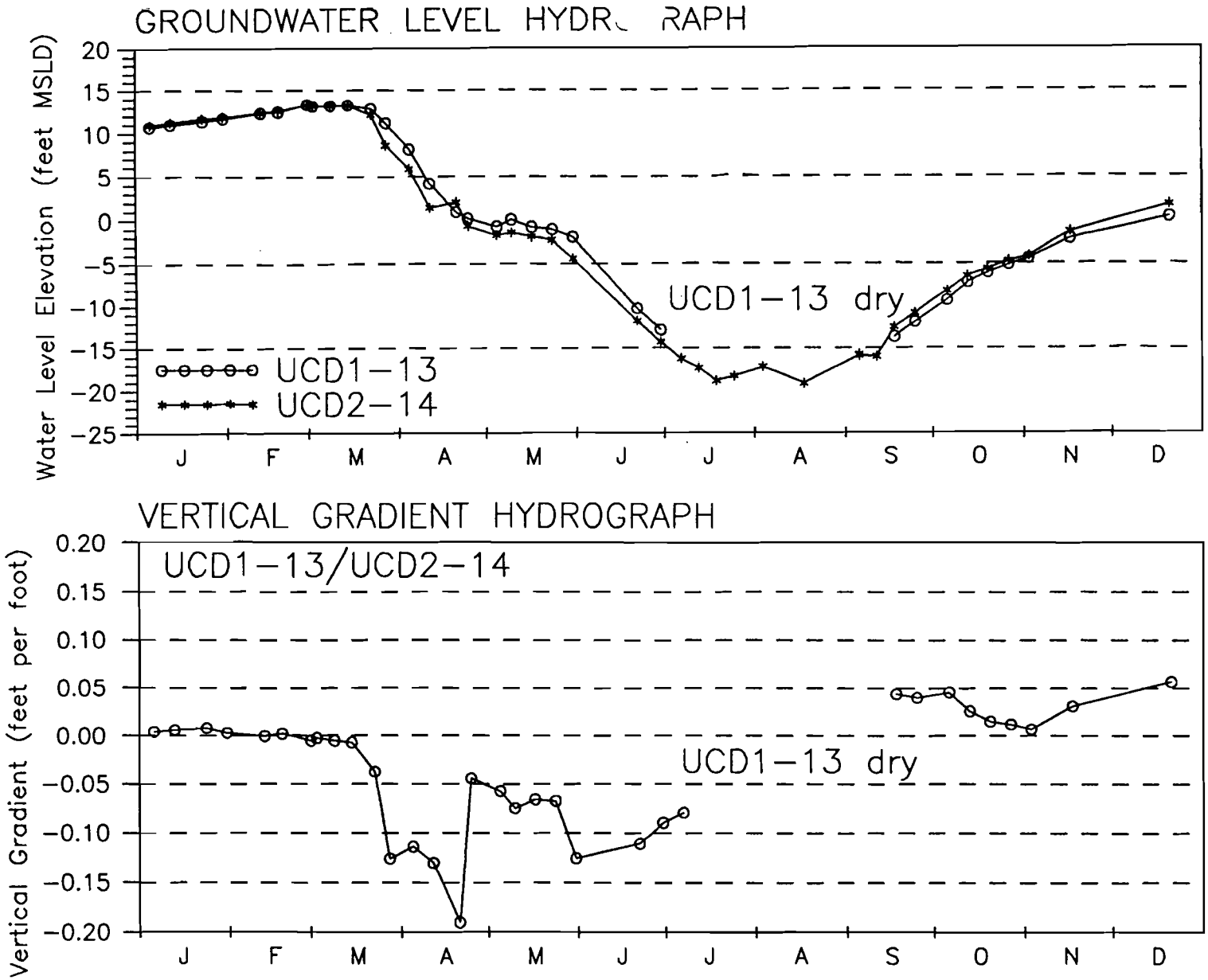
FIGURE 4.8



VERTICAL GRADIENT HYDROGRAPH
UCD1-20 AND UCD2-7

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 4.9



VERTICAL GRADIENT HYDROGRAPH
UCD1-13 AND UCD2-14

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 4.10

5.0 GROUNDWATER ANALYTICAL RESULTS

This chapter presents a summary of the analytical results from the 1994 groundwater monitoring program. Groundwater data are presented in a series of tables and figures and are discussed in the following sections. Groundwater data tables are organized into summary tables of detected site constituents and complete data tables. Tables 5.1 through 5.8 present constituents that were detected in groundwater during the four quarters of the 1994 monitoring program, with results presented by well and by quarter. The entire groundwater monitoring results for 1994 with both detections and non-detections for each of the analytical groups are presented in Appendix A.

Groundwater analytical results for selected parameters are also presented in a series of figures that illustrate the distribution of various parameters across the site and over time. Figures 5.1 through 5.16 present bar graphs of parameter concentrations by well location. When applicable, these graphs also note the appropriate maximum contaminant level (MCL) values for regulatory evaluation.

Figures 5.17 through 5.24 present concentration contour plots of various analytical parameters. These plots use data from Fall Quarter 1994 monitoring to illustrate how concentrations of various parameters vary in monitoring wells across the site. As discussed in Chapter 8, the Fall 1994 Quarter was used for construction of these diagrams for comparison with Hydropunch data collected during the same period as part of the ongoing RI/FS program. The concentration contour plots are separated by HSU and include data for constituents with the highest reported values above the UTL (Chapter 7), which include chloroform, hexavalent chromium, total chromium, nitrate, and tritium.

Appendix C presents time series graphs that plot the concentrations of site parameters over time for those parameters that have had at least one detection. These graphs cover data collected from Fall Quarter 1990 through Fall Quarter 1994 and illustrate the distribution of results over time. A detailed description of the format for the time series graphs is presented in Appendix C.

The analytical results of major cations and anions for 1994 groundwater samples are presented on Figures 5.25 through 5.30 in the form of Stiff diagrams. Stiff diagrams plot the concentrations of major cations and anions in milliequivalents per liter. Cations (positively-charged ions) are plotted on the left-hand side of the diagram, and anions (negatively-charged ions) are plotted on the right-hand side.

The following sections discuss the 1994 groundwater monitoring results using the tables and figures discussed above. A discussion is presented for each analytical group that includes the location and magnitude of detections, a comparison to regulatory MCLs, and a review of overall trends.

5.1 VOLATILE ORGANIC COMPOUNDS

A summary of VOCs detected in 1994 groundwater samples is presented in Table 5.2. Each 1994 quarterly groundwater sample was analyzed for the target compound list identified on Table 2.5. Seven VOCs were reported in groundwater samples collected during 1994; chloroform, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,1-dichloroethane, acetone, and bromodichloroethane. Chloroform was the most frequently reported compound in several wells that included; UCD1-4 (1 of 2 quarters), UCD1-12 (3 of 3 quarters), UCD1-13 (3 of 3 quarters), UCD1-21 (1 of 4 quarters), UCD1-24 (2 of 4 quarters), and, UCD2-14 (4 of 4 quarters). The remaining VOCs reported during 1994 (except acetone) were only in well UCD1-12. Acetone was reported one time in well UCD1-10 (Table 5.2).

The highest concentrations of VOCs were consistently reported in samples analyzed from well UCD1-12. Detections of chloroform (ranging from 2,300 μg/L to 11,000 μg/L), 1,1-dichloroethane (ranging from 8.5 μg/L to 15 μg/L), 1,1-dichloroethene (ranging from 16μg/L to 33 μg/L), and 1,2-dichloroethane (ranging from 4.2 μg/L to 8.8 μg/L), exceeded their respective MCLs in samples from well UCD1-12. The MCLs for each of these parameters are 100 μg/L for chloroform; 5 μg/L for 1,1-dichloroethane; 6 μg/L for 1,1-dichloroethene; and 0.5 μg/L for 1,2-dichloroethane.

Chloroform concentrations in groundwater are depicted in Figures 5.1, 5.9, 5.17, and 5.22. Figure 5.1 is a bar graph of reported chloroform values in first HSU groundwater samples. As shown on this figure, the highest reported chloroform values are consistently reported in samples from UCD1-12. Figure 5.9 is a bar graph of reported chloroform values in second HSU groundwater samples. As shown in this figure, chloroform was only reported in samples collected from UCD2-14. Figures 5.17 and 5.21 depict concentration contour plots for chloroform in the first HSU and second HSU, respectively. Both concentration contour plots of chloroform show that chloroform is primarily reported in wells located near the central portion of the site. Chloroform was not detected in the first and second HSU upgradient wells UCD1-18 and UCD2-17.

Time series graphs for VOCs are presented in Appendix C. These graphs show that chloroform has been reported in several wells across the site, and confirms that the highest concentrations and most consistent detections are in samples from well UCD1-12. Chloroform has also been consistently reported in wells UCD1-13 and UCD1-24. The remaining time series graphs show that the VOCs, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, and 1,1,2-trichloroethane, have been reported at relatively consistent concentrations in well UCD1-12 also.

5.2 SEMIVOLATILE ORGANIC COMPOUNDS

A summary of SVOCs detected in 1994 groundwater samples is presented in Table 5.3. Each 1994 quarterly groundwater sample was analyzed for the target compound list identified on Table 2.5. One SVOC, bis(2-ethylhexyl)phthalate, was reported in 1994 groundwater samples (Table 5.3). Bis(2-ethylhexyl)phthalate was reported in samples from well UCD1-21, at 32 μg/L for the Fall Quarter. Bis(2-ethylhexyl)phthalate is commonly the result of sample contamination during the analytical process, and has been attributed to laboratory contamination in previous LEHR site samples (PNL, 1994b). Time series graphs for SVOCs show that bis(2-ethylhexyl)phthalate has been reported sporadically in groundwater samples throughout the groundwater monitoring program. These reported detections were not confirmed upon subsequent sampling and are, therefore, the likely result of laboratory contamination.

5.3 METALS

A summary of metals detected in 1994 groundwater samples is presented in Table 5.5. Each 1994 quarterly groundwater sample was analyzed for 17 metals (see Table 2.2) and hexavalent chromium. Samples collected for the Spring 1994 and Summer 1994 Quarters were also analyzed for manganese. The metals antimony, cadmium, cobalt, copper, lead, molybdenum, silver, and thallium were not reported in any 1994 groundwater samples analyzed. Beryllium and manganese were reported only one time during 1994 in wells UCD1-1 (1.4 μg/L) and UCD1-23 (124 μg/L), respectively. Mercury was reported one time each in wells UCD1-10 (0.90 μg/L) and UCD1-22 (1.0 μg/L). The remaining metals analyzed were reported above detection limits in at least four different wells during the year and are discussed in more detail below.

- <u>Arsenic</u> was reported at least one time above detection limits in all 18 wells during 1994 (Table 5.5). Reported concentrations range from 2.3 μg/L to 3.8 μg/L. No arsenic values were reported above the MCL of 50 μg/L.

Arsenic has only been reported above detection limits since the Summer Quarter 1993, when the analytical method was changed and the detection limit was lowered to 3.0 μg/L. Based on an interpretation of reported arsenic results, arsenic values are consistent between wells, and occur at concentrations near the detection limit (Appendix C).

- Barium was reported above detection limits in each 1994 LEHR groundwater sample (Table 5.5). Reported concentrations range from 26.2 μg/L to 388 μg/L. In general, the highest concentrations of barium are reported in wells UCD1-4, UCD1-11, UCD1-12, and UCD1-13 in the first HSU, and in UCD2-14 in the second HSU. The lowest values for barium are consistently reported for first HSU well UCD1-10. No barium concentrations were reported above the MCL of 1,000 μg/L.

  Bar graphs for barium (Figures 5.2 and 5.10) show that 1994 results are generally consistent within each well, with highest values typically reported during the Winter or Spring Quarters 1994, and lowest values reported for the Summer Quarter 1994. Time series graphs for barium show that concentrations in several first HSU wells appear to be increasing over time. These wells include UCD1-10, UCD1-11, UCD1-19, UCD1-22, UCD1-23, UCD1-24, and upgradient well UCD1-18. Barium concentrations in the remaining first HSU wells and in second HSU wells appear to be relatively stable over the same time period (see time series graphs in Appendix C).

- Total chromium was reported above detection limits in each 1994 LEHR groundwater sample, with the exception of one sample each from UCD1-22 and UCD2-17, and three samples from UCD2-15 (see Table 5.5). Reported concentrations range from 10.2 μg/L to 296 μg/L. The highest total chromium values are consistently reported for first HSU wells UCD1-11, UCD1-12, and UCD1-19. The lowest values are generally reported for upgradient wells UCD1-18 and UCD2-17, and downgradient wells UCD1-22 and UCD2-15. Values that exceed the chromium MCL of 50 μg/L were reported for six first HSU wells; UCD1-10, UCD1-11, UCD1-12, UCD1-13, UCD1-19, and UCD1-21. Only one sample from the second HSU (well UCD2-7) had a reported concentration of chromium that exceeded the MCL.

- Hexavalent chromium was reported above detection limits at least one time in 17 of 18 wells during 1994 groundwater monitoring (Table 5.5). Reported concentrations range from 11 μg/L to 310 μg/L. In general, hexavalent chromium results are similar to total chromium results, with the highest concentrations typically reported for first HSU wells UCD1-11, UCD1-12, and UCD1-19. There is no specific MCL for hexavalent chromium; however, values from six wells exceed the MCL of 50 μg/L for total chromium during 1994.

  Bar graphs for hexavalent chromium (Figures 5.3 and 5.11) show that 1994 results are consistent within each well throughout the year. Bar graphs for both first and second HSU wells and concentration contour plots (Figures 5.18 and 5.22) wells also show that the highest values were typically reported for downgradient wells. Values for chromium and hexavalent

chromium show similar trends across the site, with values generally consistent over time (see time series graphs in Appendix C). The correlation between chromium and hexavalent chromium is consistent with past conclusions from this monitoring program that most chromium in solution in groundwater is in the hexavalent form (Dames & Moore, 1993; PNL, 1994b).

- Nickel was reported above detection limits at least one time in four wells during 1994. Nickel was reported in all four quarters for upgradient well UCD1-18 and downgradient well UCD1-23. Nickel was also reported one time each in wells UCD1-12 and UCD1-22. Reported concentrations range from 20.6 μg/L to 117 μg/L. Only one reported detection, 117 μg/L in UCD1-23 (Spring 1994 Quarter), exceeded the MCL of 100 μg/L.

  Nickel detections in wells have been sporadic and at concentrations near the detection limit throughout the monitoring program, except for wells UCD1-18 and UCD1-23. Nickel has been reported frequently in these two wells, but at variable concentrations.

- Selenium was reported above the detection limit at least one time in 11 wells during 1994. Selenium was reported most frequently in wells; UCD1-10 (4 of 4 quarters), UCD1-11 (3 of 3 quarters), UCD1-12 (3 of 3 quarters), and UCD1-19 (4 of 4 quarters) (see Figures 5.4 and 5.12). Reported concentrations range from 3.1 μg/L to 25.1 μg/L. At least one reported value from each of the wells UCD1-10, UCD1-11, UCD1-12, and UCD1-19 exceeded the MCL of 10 μg/L at least one time during 1994.

  Time series graphs (Appendix C) show that frequent detections in wells UCD1-10, UCD1-11, UCD1-12, and UCD1-19 are consistent with monitoring results from previous years.

- Vanadium was reported above the detection limit in nine wells during 1994. Consistent detections, however, were only reported in wells UCD1-20 and UCD1-24, in which vanadium was reported at concentrations near the detection limit of 10 μg/L for all four quarters. Reported concentrations during 1994 range from 10.3 μg/L to 12.6 μg/L. There is no MCL for vanadium.

- Zinc was reported above detection limits four times during 1994 groundwater monitoring. These detections were reported from wells UCD1-19, UCD1-21, UCD1-22, and UCD2-17, and ranged in concentration from 20.3 μg/L to 26.2 μg/L. There is no MCL for zinc.

5.4 PESTICIDES AND PCBS

A summary of pesticides and PCBs detected in 1994 groundwater samples is presented in Table 5.4. Each 1994 quarterly groundwater sample was analyzed for the target compound list identified on Table 2.5. Four pesticide compounds were reported

above detection limits in 1994 groundwater samples (Table 5.4). The pesticides are alpha chlordane, gamma chlordane, dieldrin, and endrin, and were reported only in first HSU well UCD1-13. Dieldrin (3 detections) and endrin (2 detections) were reported most frequently, whereas alpha chlordane and gamma chlordane were reported one time each. No reported pesticide value exceeded an MCL. Time series graphs for pesticides show that UCD1-13 is the only well with consistent pesticide detections (see Appendix C). No PCB compounds were reported in 1994 groundwater samples.

5.5 RADIONUCLIDES

This section presents the unique format required for presentation of radionuclide data, and the summary of analytical results. Section 5.5.2 presents the results of the radionuclide analyses for the 1994 groundwater monitoring program. A summary of radionuclides detected in 1994 groundwater samples is presented in Table 5.6. Nine analyses were performed for each 1994 quarterly groundwater sample which are identified on Table 2.5.

5.5.1 Data Presentation Format

The presentation of radionuclide data for this report continues the format presented in the Spring and Summer Quarter data transmittals (PNL, 1995a and 1995b). Previously, radionuclide data were presented as a "value" if the results from the analyses were greater than the Minimum Detectable Activity (MDA), and less than (<) if the value was less than the MDA. However, the MDA only describes quantitatively the sensitivity of the analytical procedures utilized, and represents a minimum detectable radionuclide activity in a sample medium at the time of analysis. Variables including; decay rate, sample counting time, sample volume and density, chemical recovery, background counts, and detector efficiency all effect the resulting MDA for a given sample.

To express the quantitative results of the actual analyses, the current reporting method presents the actual value and its associated counting error or uncertainty. The counting error represents the total statistical uncertainty resulting from measurement of all random processes involved in the analytical procedures utilized. Individual errors associated with these processes are propagated to estimate the total uncertainty.

The uncertainty value is reported as a two-sigma (two standard deviations) error for each sample analysis result. This uncertainty, therefore, approximates a 95-percent confidence interval about the reported value. Non-random systematic errors will not be

reported since they cannot be accurately quantified. Good laboratory practices, QA/QC programs/procedures, and frequent instrument calibrations minimize any incurred systematic errors.

Radionuclide results are reported as the calculated value (V) followed by the total uncertainty (T). The format follows the convention (V ± T). The significance of the radionuclide results may be evaluated by comparing the reported value to the reported uncertainty that is calculated for each sample. Although gross alpha and gross beta analyses are not performed for specific radionuclides (i.e., they measure total alpha or beta energy released in a sample), they are included in the radionuclide analytical results tables for consistency in reporting radionuclide characteristics.

Radionuclide concentrations reported in groundwater that exceed the corresponding uncertainty are highlighted on Table 5.6. These values represent a 95-percent level of confidence that measurable radioactivity above zero is present for a given radionuclide, and the result is referred to as a "positive value." It should be emphasized, however, that despite being statistically detectable on the basis of total uncertainty, a given sample result may not be significant in terms of health risk, presence of site contamination, or regional background concentrations.

1994 radionuclide results indicate that for groundwater sampling locations, the only observable impact due to radionuclides was located in wells UCD1-13 and UCD2-14 for tritium and carbon-14. A consistent downward trend was noted for tritium concentrations in UCD1-13. No other spatial or temporal trends were noted for radionuclides.

A summary of reported analytical results for detected radionuclide constituents in groundwater samples is presented in Table 5.6. Complete analytical results for groundwater samples, including data validation flags and reason codes, are presented in Appendix A, Table A-5.

Uranium-238 is a naturally occurring radionuclide found in most soils, including soils at the LEHR site. Uranium-238 decays into daughter products (progeny) such as bismuth-212, bismuth-214, thorium-232, thorium-234, thallium-208, lead-212, and lead-214. Because this parent radionuclide is found in soils and groundwater, its progeny are also expected to be found in soil and groundwater analyses results.

Significant radionuclide concentrations were reported in groundwater during 1994 for tritium (UCD1-13 and UCD2-14) and carbon-14 (UCD1-12, UCD1-13, and UCD2-14).

All other radionuclide concentrations were below upgradient well results (UCD2-17 and UCD1-18) or below detections limits as determined by associated counting uncertainties. There was no observable impact from site constituents on groundwater with the exception of tritium and carbon-14.

Both gross alpha and gross beta results at all sampling locations and times were low enough to meet stringent Federal and state drinking water standards with the possible exception of tritium and carbon-14. No spatial or temporal trends were observed for any radionuclides detected in groundwater during 1994, with the exception of tritium concentrations reported in well UCD1-13. A noticeable downward trend is apparent in the time series plots. This trend is most likely due to a combination of tritium decay and dispersion over time. Additional graphs are presented in Appendix C which show uncertainty ranges for select radionuclides.

The tritium and carbon-14 detections reported are predominantly localized in wells UCD1-13 and UCD2-14 (see Figures 5.5, 5.6, 5.13, and 5.14). Low levels (less than 300 pCi/L) of carbon-14 were also reported in first HSU wells UCD-12 and UCD1-23 (Figure 5.5) and in second HSU well UCD2-7 (Figure 5.13). The maximum reported detections occurred in well UCD1-13 (Winter Quarter 1994) for both tritium (21,490 ± 990 pCi/L) and carbon-14 (2,150 ± 180 pCi/L). The MCL for tritium is 20,000 pCi/L, and carbon-14 has no MCL. Tritium contours for first HSU wells (Fall Quarter 1994) and second HSU wells (Summer Quarter 1994) are shown in Figures 5.19 and 5.23, respectively. The Summer Quarter was used for the second HSU well UCD2-14 because the Fall Quarter 1994 result was anomalously low compared to historical results. In well UCD2-14, the first three quarters show reported detections that range from 2,500 to 8,320 pCi/L, with a Fall Quarter 1994 result of 10 ± 210 pCi/L. A consistent downward trend was noted for tritium concentrations in UCD1-13. No other spatial or temporal trends were noted for radionuclides.

Both gross alpha and gross beta results at all sampling locations and times were low enough to meet stringent Federal and state drinking water standards with the possible exception of tritium and carbon-14. No spatial or temporal trends were observed for any radionuclides reported in groundwater during 1994, with the exception of tritium concentrations reported in well UCD1-13. A noticeable downward trend is apparent in the time series plots (Appendix C). This trend is most likely due to a combination of tritium decay and dispersion over time. All gross beta detections reported were less than the maximum contaminant level (MCL) with a maximum detection of 23.4 ± 5.9 pCi/L (well UCD1-4, Winter Quarter).

Five 1994 Winter Quarter groundwater samples were duplicated in the field to evaluate the potential difference between filtered and unfiltered sample results for radionuclide parameters. As was reported in the Winter Quarter data transmittal, in general, there was very little difference between the results reported for filtered and unfiltered samples. As a result, field procedures for subsequent monitoring rounds will include filtering radionuclide samples to be consistent with procedures used during previous quarters.

5.6 ANIONS AND CATIONS

This section presents a summary of analytical results for anions and cations in groundwater in both the first and second HSU. Analytical results for anion and cation analyses for groundwater are summarized in Table 5.7. Complete analytical results for anions and cations reported in groundwater are presented in Appendix A, Table A-7. Groundwater data for anions and cations are also presented in several figures and graphs. These figures and graphs have been used to compare general water quality trends over time, by well or by location. As discussed in the introduction to this chapter, nitrates have been consistently reported within monitoring wells at the LEHR site at levels above background. Therefore, additional figures and graphs depicting nitrate (as nitrogen) have also been included to illustrate relationships between upgradient and downgradient wells for this parameter.

5.6.1 Stiff Diagrams

Stiff diagrams were prepared for all first and second HSU wells to evaluate and compare the general water types present at the LEHR Site. Stiff diagrams for first HSU wells from each 1994 quarterly round of water sampling are presented in Figures 5.25 through 5.28. Upgradient well UCD1-18 is plotted at the top of each figure for comparison to downgradient monitoring wells, which are plotted from west to east, in order to evaluate progressively more downgradient general water quality.

In general, most downgradient first HSU wells consistently show similar patterns of major cation and anion concentrations compared to samples from upgradient well UCD1-18. Apparent differences consistently occur in wells UCD1-10 with greater sodium, sulfate and magnesium, UCD1-12 with higher sodium, chloride, bicarbonate and magnesium concentrations, UCD1-13 with higher calcium and bicarbonate concentrations, and UCD1-1 and UCD1-19 both with higher magnesium and bicarbonate. Stiff diagrams

for each first HSU well are very consistent for all four quarters of 1994 and are also consistent with data from 1993 water monitoring (PNL, 1994b).

Stiff diagrams for second HSU wells from each 1994 quarterly round of water sampling are presented in Figures 5.29 and 5.30. Upgradient well UCD2-17 is plotted at the top of each figure for comparison to downgradient monitoring wells. Downgradient monitoring wells are plotted in order of increasing distance downgradient from well UCD2-17. Stiff diagrams exhibit less variability for second HSU wells than for first HSU wells. Second HSU wells consistently show similar patterns of major cation and anion concentrations compared to upgradient well UCD2-17. Well UCD2-14 had higher concentrations of magnesium and bicarbonate during Winter, Spring and Summer Quarters 1994 than upgradient well UCD2-17.

In general, groundwater samples from both the first HSU and second HSU are predominantly of the magnesium-bicarbonate type. Groundwater samples from first HSU wells generally exhibit higher concentrations of magnesium and bicarbonate than second HSU wells.

5.6.2 Nitrate

Reported nitrate concentrations show a great deal of variability across the site. Reported concentrations in first HSU samples from several wells are consistently above concentrations reported for upgradient well UCD1-18 (Figure 5.7). The highest nitrate concentrations are consistently reported in first HSU wells; UCD1-21, UCD1-24, UCD1-12, UCD1-11, and UCD1-10. Reported nitrate concentrations in several of the on-site monitoring wells and in upgradient well UCD1-18 exceed the MCL for nitrate (as nitrogen) of 10 mg/L during one or more quarters during 1994. The highest nitrate concentrations were consistently reported in wells; UCD1-21, UCD1-24 and UCD1-12 (Figures 5.7 and 5.20). Nitrate concentrations over time have remained generally consistent in each well, as illustrated by the time series graphs presented in Appendix C.

As shown on Figures 5.15 and 5.24, reported nitrate concentrations in the second HSU were consistently higher in downgradient wells UCD2-7 and UCD2-14 than in upgradient well UCD2-17 throughout 1994. Reported nitrate concentrations in downgradient wells UCD2-15 and UCD2-16 were higher than upgradient well UCD2-17 during the Summer Quarter 1994 monitoring round only. Although nitrate concentrations appear to be elevated in several second HSU wells with respect to the upgradient well, nitrate was consistently detected at concentrations above the MCL of 10 mg/L in only one

second HSU well UCD2-7. Nitrate concentrations greater than the MCL were only reported in wells UCD2-16 and UCD2-14 during the Summer and Spring Quarters 1994, respectively. Nitrate concentrations reported in each second HSU well have been consistent through time, as shown on the time series graphs included in Appendix C.

5.7 OTHER PARAMETERS

This section presents a summary of analytical results for other parameters in groundwater not discussed in the above sections. These parameters include; formaldehyde, total dissolved solids (TDS), and turbidity. Analytical results for general parameter analyses for groundwater are summarized in Table 5.8. Complete analytical results for general parameters in groundwater are presented in Appendix A, Table A-6.

5.7.1 Formaldehyde

Formaldehyde was reported in three first HSU wells during the Summer Quarter of groundwater monitoring. Levels of formaldehyde reported in samples from wells UCD1-10, UCD1-18, and UCD1-21 ranged from 1.2 to 3.5 μg/L (Table 5.8). Reported formaldehyde concentrations over time for all first HSU wells are shown on the time series graphs included in Appendix C. Review of these graphs shows that formaldehyde has historically been reported sporadically in many first HSU wells at concentrations similar to those reported during the Summer Quarter 1994. Formaldehyde also was reported at a comparatively low level (1.2 μg/L) in second HSU well UCD2-7 during the Summer Quarter 1994. As shown on the time series graphs, formaldehyde has a similar, sporadic history of low-level detection in second HSU wells as in first HSU wells.

5.7.2 Total Dissolved Solids

Reported TDS concentrations vary across the site, but are generally higher in first HSU wells than in second HSU wells. Concentrations of TDS reported in first HSU wells are consistent for all four quarters of 1994, as shown in Figure 5.8. TDS concentrations reported in first HSU wells are highest in wells UCD1-13, UCD1-12, and UCD1-10. TDS concentrations reported in second HSU wells increase in the downgradient direction, as shown on Figure 5.16. Wells UCD2-7 and UCD2-14 consistently have had the highest concentrations of TDS reported in the second HSU (see time series graphs in Appendix C).

5.7.3 Turbidity

Turbidity values measured are consistently less than 20 Nephelometric Turbidity Units (NTUs) across the site, with the exception of first HSU wells UCD1-1 and UCD1-4 (Table 5.8). As shown in the time series graphs presented in Appendix C, turbidity values measured for both first and second HSU wells have been generally consistent during 1993 and 1994 with the exception of wells UCD1-1, UCD1-4, and UCD1-23. Turbidity values measured in these wells ranged from less than 20 NTU to 53.2 NTU.

TABLE 5.1
NUMBER OF DETECTIONS, POSITIVE RESULTS AND MAXIMUM VALUES IN GROUNDWATER, 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

			Upgradient Wells						Downgradient Wells					
	Parameter	MCL	Number of Results	Number of Detections	Number > MCL	Maximum Value	Date of Maximum	Location of Maximum	Number of Results	Number of Detections	Number > MCL	Maximum Value	Date of Maximum	Location of Maximum
Volatile Organics (ug/L)	Acetone		9	0	0	-	-	-	65	1	0	6.4	8/25/94	UCD1-010
	Bromodichloromethane	100	9	0	0	-	-	-	65	3	0	2.6	5/17/94	UCD1-012
	Chloroform	100	9	0	0	-	-	-	65	16	3	11000	12/1/94	UCD1-012
	1,1-Dichloroethane	5	9	0	0	-	-	-	65	3	3	15	12/1/94	UCD1-012
	1,2-Dichloroethane	0.5	9	0	0	-	-	-	65	3	3	8.8	5/17/94	UCD1-012
	1,1-Dichloroethene	6	9	0	0	-	-	-	65	3	3	33	12/1/94	UCD1-012
	1,1,2-Trichloroethane	5	9	0	0	-	-	-	65	1	0	2.7	12/1/94	UCD1-012
Semivolatile Organics (ug/L)	Bis(2-Ethylhexyl)phthalate	4	9	0	0	-	-	-	65	1	2	32	11/28/94	UCD1-020
Pesticides & PCBs (ug/L)	Alpha-Chlordane		9	0	0	-	-	-	65	1	0	0.011	5/17/94	UCD1-013
	Gamma-Chlordane		9	0	0	-	-	-	65	1	0	0.012	5/17/94	UCD1-013
	Dieldrin		9	0	0	-	-	-	65	4	0	0.094	11/30/94	UCD1-013
	Endrin	0.2	9	0	0	-	-	-	65	2	0	0.035	11/30/94	UCD1-013
Metals (ug/L)	Arsenic	50	9	5	0	3.1	12/1/94	UCD2-017	65	35	0	3.8	11/28/94	UCD1-019
	Barium	1000	9	9	0	168	5/26/94	UCD1-018	65	65	0	388	5/17/94	UCD1-012
	Beryllium	4	9	0	0	-	-	-	65	1	0	1.4	2/22/94	UCD1-001
	Chromium	50	9	8	0	17.1	12/1/94	UCD2-017	65	60	23	298	5/18/94	UCD1-011
	Chromium, Hexavalent (+6)		9	7	0	27	8/25/94	UCD2-017	65	56	0	310	2/23/94	UCD1-011
	Manganese		4	0	0	-	-	-	31	1	0	12.4	5/19/94	UCD1-023
	Mercury	2	9	0	0	-	-	-	65	2	0	1.0	11/29/94	UCD1-022
	Nickel	100	9	4	0	96	8/25/94	UCD1-018	65	6	1	117	5/19/94	UCD1-023
	Selenium	10	9	3	0	4.6	5/26/94	UCD1-018	65	24	12	25.1	5/18/94	UCD1-010
	Vanadium		9	1	0	10.6	2/24/94	UCD1-018	65	17	0	12.6	3/2/94	UCD1-024
	Zinc		9	1	0	21.3	2/28/94	UCD2-017	65	3	0	26.2	5/26/94	UCD1-021
Radionuclides (pCi/L)	Gross Alpha	15 **	9	0	0	-	-	-	69	5	0	15±8.7	3/1/94	UCD1-021
	Gross Beta	50	9	0	0	-	-	-	69	6	0	23.4±5.9	2/22/94	UCD1-004
	Actinium-228		9	1	0	19.8±9.4	2/28/94	UCD2-017	69	2	0	16.8±9.3	2/23/94	UCD2-014
	Bismuth-212		9	1	0	16±15	2/24/94	UCD1-018	69	4	0	46±28	2/22/94	UCD1-004
	Cesium-137		9	1	0	7.5±5.7	5/26/94	UCD1-018	69	0	0	-	-	-
	Bismuth-214		9	4	0	35±14	5/26/94	UCD1-018	69	36	0	45±7.4	2/23/94	UCD1-013
	Cobalt-60		9	0	0	-	-	-	69	4	0	4.8±4.6	8/24/94	UCD2-007
	Lead-210		9	0	0	-	-	-	69	1	0	3.5±3	3/1/94	UCD1-022
	Lead-212		9	0	0	-	-	-	69	2	0	11.4±7.1	11/30/94	UCD1-013
	Lead-214		9	4	0	31.3±3.3	2/24/94	UCD1-018	69	32	0	35±14	8/25/94	UCD2-014
	Potassium-40		9	0	0	-	-	-	69	2	0	73±63	8/25/94	UCD2-014
	Thallium-208		9	0	0	-	-	-	69	4	0	13±11	8/24/94	UCD2-007
	Uranium-235		9	0	0	-	-	-	69	2	0	13±12	2/23/94	UCD1-013
	Thorium-234		9	0	0	-	-	-	69	2	0	47±28	2/28/94	UCD2-015
	Radium-226	5	6	1	0	0.066±0.065	2/28/94	UCD2-017	57	10	1	0.56±0.29	5/17/94	UCD1-004
	Americium-241		4	0	0	-	-	-	29	1	0	0.063±0.041	11/22/94	UCD1-010
	Carbon-14		9	0	0	-	-	-	69	17	0	2150±180	2/23/94	UCD1-013
	Radium-226	5	3	1	0	0.37±0.34	12/1/94	UCD2-017	16	4	0	2.14±0.72	11/30/94	UCD2-014
	Strontium-90	8	9	3	0	0.72±0.48	5/23/94	UCD2-017	69	7	0	1.01±0.81	5/18/94	UCD1-001
	Tritium	20000 *	9	0	0	-	-	-	69	10	2	21490±990	2/23/94	UCD1-013
Cations and Anions (mg/L)	Calcium (mg/L)		9	9	0	41.2	2/24/94	UCD1-018	65	65	0	85.7	12/1/94	UCD1-012
	Iron (mg/L)		9	2	0	0.502	2/24/94	UCD1-018	65	18	0	0.921	2/23/94	UCD1-013
	Magnesium (mg/L)		9	9	0	105	5/26/94	UCD1-018	65	65	0	269	12/1/94	UCD1-012
	Potassium (mg/L)		9	1	0	2.2	2/24/94	UCD1-018	65	10	0	4.54	2/23/94	UCD1-012
	Chloride (mg/L)		9	9	0	41.5	2/24/94	UCD1-018	65	65	0	350	12/1/94	UCD1-012

TABLE 5.1
NUMBER OF DETECTIONS, POSITIVE RESULTS AND MAXIMUM VALUES IN GROUNDWATER, 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

			Upgradient Wells						Downgradient Wells					
	Parameter	MCL	Number of Results	Number of Detections	Number > MCL	Maximum Value	Date of Maximum	Location of Maximum	Number of Results	Number of Detections	Number > MCL	Maximum Value	Date of Maximum	Location of Maximum
	Sodium (mg/L)		9	9	0	41.4	5/26/94	UCD1-018	65	65	0	175	5/18/94	UCD1-010
	Sulfate (mg/L)	400 #	9	9	0	38	5/26/94	UCD1-018	65	65	0	340	11/22/94	UCD1-010
	Ammonia-Nitrogen (mg/L)		9	1	0	0.081	12/1/94	UCD2-017	65	10	0	0.44	8/31/94	UCD1-024
	Nitrogen, Nitrate (as N) (mg/L)	10 #	9	9	3	20	5/26/94	UCD1-018	65	65	36	78.	12/1/94	UCD1-012
	Total Kjeldahl Nitrogen (mg/L)		9	1	0	0.86	12/1/94	UCD2-017	65	1	0	2.2	11/22/94	UCD1-010
	Alkalinity Total(as CaCO3) (mg/L)		9	9	0	470	5/26/94	UCD1-018	65	65	0	870	11/30/94	UCD1-013
General Chemical Parameters	Total Dissolved Solids (mg/L)		9	9	0	650	5/26/94	UCD1-018	65	65	0	1700	12/1/94	UCD1-012
	Turbidity (NTU)		9	9	0	29	8/25/94	UCD1-018	65	65	0	2800	5/18/94	UCD1-001
	Turbidity-F (NTU)		9	9	0	11.14	2/24/94	UCD1-018	57	57	0	53.2	5/18/94	UCD1-001
	Total Organic Carbon (mg/L)		9	5	0	6.3	12/1/94	UCD2-017	65	36	0	4.8	12/1/94	UCD1-012
	Chemical Oxygen Demand (mg/L)		3	1	0	16.	12/1/94	UCD2-017	16	5	0	11.	11/28/94	UCD1-019
	Specific Conductance(EC-F) (umhos)		9	9	0	1012	5/26/94	UCD1-018	57	57	0	2560	12/1/94	UCD1-012
	EH-F (mvolt)		8	8	0	237	8/25/94	UCD1-018	56	56	0	251	8/30/94	UCD1-020
	pH-F		9	9	0	7.89	5/23/94	UCD2-017	57	57	0	7.59	8/30/94	UCD1-020
	Temperature-F (deg C)		9	9	0	19.2	8/25/94	UCD2-017	57	57	0	21.3	8/30/94	UCD1-020
	Formaldehyde (mg/L)		9	1	0	1.2	8/25/94	UCD1-018	65	3	0	3.5	8/31/94	UCD1-021

- Not Applicable

MCL = Maximum Contamination Level (primary), Title 22, Division 4, Chapter 15.

C = California State Action Level, Department of Health Services. * = Proposed US EPA MCL. # = US EPA MCL.

** = MCL for Gross Alpha does not include analysis for Uranium or Radon, however reported Gross Alpha values on this table include all Alpha emitters.

Maxima were computed from among detected values and positive results only.

TABLE 5.2
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Acetone	WINTER	ug/L		<5	<5	<5	<5	<5	-	<5 |J
	SPRING	ug/L		<5 Uz|JB	<5 Uz|JB	<5 Rc|	<5 Uz|JB	<5 Uz|JB	<5 Rc|	<5 Rc|
	SUMMER	ug/L		<5 Rc|	-	-	6.4 Jc|B	-	-	-
	FALL	ug/L		<5 Rc|	<5 Rc|	-	<5 Rc|	<5	-	<5 Rc|
Bromodichloromethane	WINTER	ug/L	100	<1	<1	<1	<1	<1	-	1.6
	SPRING	ug/L	100	<1	<1	<1	<1	<1	<1	2.6
	SUMMER	ug/L	100	<1	-	-	<1	-	-	-
	FALL	ug/L	100	<1	<1	-	<1	<1	-	1.3
Chloroform	WINTER	ug/L	100	<1	<1	<1	<1	<1 |J	-	2300 |DE
	SPRING	ug/L	100	<1	<1	4.4	<1	<1 |J	<1 |J	11000 |D
	SUMMER	ug/L	100	<1	-	-	<1	-	-	-
	FALL	ug/L	100	<1	<1	-	<1	<1 |J	-	11000 JQ|E
1,1-Dichloroethane	WINTER	ug/L	5	<1	<1	<1	<1	<1	-	8.5
	SPRING	ug/L	5	<1	<1	<1	<1	<1	<1	12
	SUMMER	ug/L	5	<1	-	-	<1	-	-	-
	FALL	ug/L	5	<1 UJc|	<1	-	<1	<1	-	15
1,2-Dichloroethane	WINTER	ug/L	0.5	<1	<1	<1	<1	<1	-	4.1
	SPRING	ug/L	0.5	<1	<1	<1	<1	<1	<1	8.8
	SUMMER	ug/L	0.5	<1	-	-	<1	-	-	-
	FALL	ug/L	0.5	<1	<1	-	<1	<1	-	8.4
1,1-Dichloroethene	WINTER	ug/L	6	<1	<1	<1	<1	<1	-	16
	SPRING	ug/L	6	<1	<1	<1	<1	<1	<1	23
	SUMMER	ug/L	6	<1	-	-	<1	-	-	-
	FALL	ug/L	6	<1	<1	-	<1	<1	-	33 |E
1,1,2-Trichloroethane	WINTER	ug/L	5	<1	<1	<1	<1	<1	-	<1
	SPRING	ug/L	5	<1	<1	<1	<1	<1	<1	<1 |J
	SUMMER	ug/L	5	<1	-	-	<1	-	-	-
	FALL	ug/L	5	<1	<1	-	<1	<1	-	2.7

See footnotes at end of table

TABLE 5.2
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-022	UCD1-022 D1
Acetone	WINTER	ug/L		<5	-	<5	<5	<5	<5	<5
	SPRING	ug/L		<5 Rc|	-	<5 Uz|JB	<5 Uz|JB	<5 Uz|JB	<5 Rc|	-
	SUMMER	ug/L		-	-	<5 Rc|J	<5 Rc|	<5 Rc|	<5 Rc|	-
	FALL	ug/L		<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	-
Bromodichloromethane	WINTER	ug/L	100	<1	-	<1	<1	<1	<1	<1
	SPRING	ug/L	100	<1	-	<1	<1	<1	<1	-
	SUMMER	ug/L	100	-	-	<1	<1	<1	<1	-
	FALL	ug/L	100	<1	<1	<1	<1	<1	<1	-
Chloroform	WINTER	ug/L	100	2	-	<1	<1	<1 |J	<1 |J	<1 |J
	SPRING	ug/L	100	1.8	-	<1	<1	<1 |J	<1	-
	SUMMER	ug/L	100	-	-	<1	<1	<1 |J	<1	-
	FALL	ug/L	100	1.5	1.6	<1	<1	1.1	<1	-
1,1-Dichloroethane	WINTER	ug/L	5	<1	-	<1	<1	<1	<1	<1
	SPRING	ug/L	5	<1	-	<1	<1	<1	<1	-
	SUMMER	ug/L	5	-	-	<1	<1	<1	<1	-
	FALL	ug/L	5	<1	<1	<1	<1	<1	<1	-
1,2-Dichloroethane	WINTER	ug/L	0.5	<1	-	<1	<1	<1	<1	<1
	SPRING	ug/L	0.5	<1	-	<1	<1	<1	<1	-
	SUMMER	ug/L	0.5	-	-	<1	<1	<1	<1	-
	FALL	ug/L	0.5	<1	<1	<1	<1	<1	<1	-
1,1-Dichloroethene	WINTER	ug/L	6	<1	-	<1	<1	<1	<1	<1
	SPRING	ug/L	6	<1	-	<1	<1	<1	<1	-
	SUMMER	ug/L	6	-	-	<1	<1	<1	<1	-
	FALL	ug/L	6	<1	<1	<1	<1	<1	<1	-
1,1,2-Trichloroethane	WINTER	ug/L	5	<1	-	<1	<1	<1	<1	<1
	SPRING	ug/L	5	<1	-	<1	<1	<1	<1	-
	SUMMER	ug/L	5	-	-	<1	<1	<1	<1	-
	FALL	ug/L	5	<1	<1	<1	<1	<1	<1	-

See footnotes at end of table

TABLE 5.2
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 D1	UCD2-007	UCD2-014	UCD2-014 D1
Acetone	WINTER	ug/L		<5	<5	<5	-	<5	<5 |J	-
	SPRING	ug/L		<5 Uz|JB	<5 Rc|	<5 Uz|JB	-	<5 Rc|	<5 Rc|	-
	SUMMER	ug/L		<5 Rc|	<5 Rc|	<5 Rc|	-	<5 Rc|	<5 Rc|	<5 Rc|
	FALL	ug/L		<5 Rc|J	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	-
Bromodichloromethane	WINTER	ug/L	100	<1	<1	<1	-	<1	<1	-
	SPRING	ug/L	100	<1	<1	<1	-	<1	<1	-
	SUMMER	ug/L	100	<1	<1	<1	-	<1	<1	<1
	FALL	ug/L	100	<1	<1	<1	<1	<1	<1	-
Chloroform	WINTER	ug/L	100	<1 |J	1.2	<1 |J	-	<1	2.2	-
	SPRING	ug/L	100	<1 |J	1.3	<1	-	<1	2.5	-
	SUMMER	ug/L	100	<1 |J	<1 |J	<1	-	<1	4.1	4.1
	FALL	ug/L	100	<1 |J	<1 |J	<1	<1	<1	3.5	-
1,1-Dichloroethane	WINTER	ug/L	5	<1	<1	<1	-	<1	<1	-
	SPRING	ug/L	5	<1	<1	<1	-	<1	<1	-
	SUMMER	ug/L	5	<1	<1	<1	-	<1	<1	<1
	FALL	ug/L	5	<1	<1	<1	<1	<1	<1	-
1,2-Dichloroethane	WINTER	ug/L	0.5	<1	<1	<1	-	<1	<1	-
	SPRING	ug/L	0.5	<1	<1	<1	-	<1	<1	-
	SUMMER	ug/L	0.5	<1	<1	<1	-	<1	<1	<1
	FALL	ug/L	0.5	<1	<1	<1	<1	<1	<1	-
1,1-Dichloroethene	WINTER	ug/L	6	<1	<1	<1	-	<1	<1	-
	SPRING	ug/L	6	<1	<1	<1	-	<1	<1	-
	SUMMER	ug/L	6	<1	<1	<1	-	<1	<1	<1
	FALL	ug/L	6	<1	<1	<1	<1	<1	<1	-
1,1,2-Trichloroethane	WINTER	ug/L	5	<1	<1	<1	-	<1	<1	-
	SPRING	ug/L	5	<1	<1	<1	-	<1	<1	-
	SUMMER	ug/L	5	<1	<1	<1	-	<1	<1	<1
	FALL	ug/L	5	<1	<1	<1	<1	<1	<1	-

See footnotes at end of table

TABLE 5.2
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015	UCD2-015 D1	UCD2-016	UCD2-016 D1
Acetone	WINTER	ug/L		<5	<5	<5	-
	SPRING	ug/L		<5 Uz|JB	-	<5 Uz|JB	<4.8 Uz|B
	SUMMER	ug/L		<5 Rc|J	-	<5 Rc|	<5 Rc|
	FALL	ug/L		<5 Rc|	-	<5 Rc|	-
Bromodichloromethane	WINTER	ug/L	100	<1	<1	<1	-
	SPRING	ug/L	100	<1	-	<1	<1
	SUMMER	ug/L	100	<1	-	<1	<1
	FALL	ug/L	100	<1	-	<1	-
Chloroform	WINTER	ug/L	100	<1	<1	<1	-
	SPRING	ug/L	100	<1	-	<1	<1
	SUMMER	ug/L	100	<1	-	<1	<1
	FALL	ug/L	100	<1 |J	-	<1	-
1,1-Dichloroethane	WINTER	ug/L	5	<1	<1	<1	-
	SPRING	ug/L	5	<1	-	<1	<1
	SUMMER	ug/L	5	<1	-	<1	<1
	FALL	ug/L	5	<1	-	<1	-
1,2-Dichloroethane	WINTER	ug/L	0.5	<1	<1	<1	-
	SPRING	ug/L	0.5	<1	-	<1	<1
	SUMMER	ug/L	0.5	<1	-	<1	<1
	FALL	ug/L	0.5	<1	-	<1	-
1,1-Dichloroethene	WINTER	ug/L	6	<1	<1	<1	-
	SPRING	ug/L	6	<1	-	<1	<1
	SUMMER	ug/L	6	<1	-	<1	<1
	FALL	ug/L	6	<1	-	<1	-
1,1,2-Trichloroethane	WINTER	ug/L	5	<1	<1	<1	-
	SPRING	ug/L	5	<1	-	<1	<1
	SUMMER	ug/L	5	<1	-	<1	<1
	FALL	ug/L	5	<1	-	<1	-

See footnotes at end of table

TABLE 5.2
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER,1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

DI = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE 5.3
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Bis(2-Ethylhexyl)phthalate	WINTER	ug/L	4	<11	<11	<10	<11	<10	-	<11
	SPRING	ug/L	4	<10	<10	<10	<11	<11 UzJB	<10	<11
	SUMMER	ug/L	4	<11	-	-	<11	-	-	-
	FALL	ug/L	4	<10	<10	-	<10	<10	-	<10 UJ

See footnotes at end of table

TABLE 5.3
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-022	UCD1-022 D1
Bis(2-Ethylhexyl)phthalate	WINTER	ug/L	4	<11	-	<11	<11	<11	<11	<11
	SPRING	ug/L	4	<10	-	<10	<10	<10	<11	-
	SUMMER	ug/L	4	-	-	<11 UzJ	<11 UzJ	<11 UzJ	<11	-
	FALL	ug/L	4	<10 UJc	<10 UJc	<10	32	<10	<10	-

See footnotes at end of table

TABLE 5.3
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 D1	UCD2-007	UCD2-014	UCD2-014 D1
Bis(2-Ethylhexyl)phthalate	WINTER	ug/L	4	<11	<11	<11	-	<10	<10	-
	SPRING	ug/L	4	<10	<11 Uz|JB	<10 Uz|JB	-	<10	<10	-
	SUMMER	ug/L	4	<11	<11 Uz|J	<10 |J	-	<11	<11	<11
	FALL	ug/L	4	<10	<10	<11 UJc|	<10 UJc|	<11	<10 UJc|	-

See footnotes at end of table

TABLE 5.3
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015	UCD2-015 D1	UCD2-016	UCD2-016 D1
Bis(2-Ethylhexyl)phthalate	WINTER	ug/L	4	<11	<10	<10 |J	-
	SPRING	ug/L	4	<10 UzJB	-	<10	<10 UzJB
	SUMMER	ug/L	4	<11	-	<11 UzJ	<11
	FALL	ug/L	4	<11 UJc|	-	<11 UJc|	-

See footnotes at end of table

TABLE 5.3
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER,1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE 5.4
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018		UCD1-001		UCD1-004		UCD1-010		UCD1-011		UCD1-011 D1	UCD1-012	
Alpha-Chlordane	WINTER	ug/L		<0.01		<0.011		<0.01		<0.01		<0.011		-	<0.01	
	SPRING	ug/L		<0.01		<0.01	UJs|	<0.011	UJs|	<0.011	UJs|	<0.011	UJs|	<0.011	<0.01	UJs|
	SUMMER	ug/L		<0.011		-		-		<0.011		-		-	-	
	FALL	ug/L		<0.01	UJs|	<0.01	UJs|	-		<0.011	UJs|	<0.01	UJs|	-	<0.011	UJs|
Gamma-Chlordane	WINTER	ug/L		<0.01		<0.011		<0.01		<0.01		<0.011		-	<0.01	
	SPRING	ug/L		<0.01		<0.01	UJs|	<0.011	UJs|	<0.011	UJs|	<0.011	UJs|	<0.011	<0.01	UJs|
	SUMMER	ug/L		<0.011		-		-		<0.011		-		-	-	
	FALL	ug/L		<0.01	UJs|	<0.01	UJs|	-		<0.011	UJs|	<0.01	UJs|	-	<0.011	UJs|
Dieldrin	WINTER	ug/L		<0.021		<0.021		<0.021		<0.02		<0.022		-	<0.021	
	SPRING	ug/L		<0.02		<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	<0.021	<0.02	UJs|
	SUMMER	ug/L		<0.022		-		-		<0.021		-		-	-	
	FALL	ug/L		<0.021	UJs|	<0.02	UJs|	-		<0.022	UJs|	<0.021	UJs|	-	<0.022	UJs|
Endrin	WINTER	ug/L	0.2	<0.021		<0.021		<0.021		<0.02		<0.022		-	<0.021	
	SPRING	ug/L	0.2	<0.02		<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	<0.021	<0.02	UJs|
	SUMMER	ug/L	0.2	<0.022		-		-		<0.021		-		-	-	
	FALL	ug/L	0.2	<0.021	UJs|	<0.02	UJs|	-		<0.022	UJs|	<0.021	UJs|	-	<0.022	UJs|

See footnotes at end of table

TABLE 5.4
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013		UCD1-013 D1		UCD1-019		UCD1-020		UCD1-021		UCD1-022		UCD1-022 D1
Alpha-Chlordane	WINTER	ug/L		<0.011		-		<0.011		<0.011		<0.011		<0.011		<0.011
	SPRING	ug/L		0.011	Js|P	-		<0.01	UJs|	<0.01	UJs|	<0.01		<0.011		-
	SUMMER	ug/L		-		-		<0.01		<0.01		<0.01	UJs|	<0.01		-
	FALL	ug/L		<0.011	Js|J	<0.011	Js|JP	<0.01	UJs|	<0.01	UJs|	<0.01	UJs|	<0.01	UJs|	-
Gamma-Chlordane	WINTER	ug/L		<0.011		-		<0.011		<0.011		<0.011		<0.011		<0.011
	SPRING	ug/L		0.012	Js|	-		<0.01	UJs|	<0.01	UJs|	<0.01		<0.011		-
	SUMMER	ug/L		-		-		<0.01		<0.01		<0.01	UJs|	<0.01		-
	FALL	ug/L		<0.011	Js|J	<0.011	Js|J	<0.01	UJs|	<0.01	UJs|	<0.01	UJs|	<0.01	UJs|	-
Dieldrin	WINTER	ug/L		0.048		-		<0.022		<0.022		<0.023		<0.022		<0.022
	SPRING	ug/L		0.076	Js|	-		<0.02	UJs|	<0.021	UJs|	<0.02		<0.021		-
	SUMMER	ug/L		-		-		<0.02		<0.02		<0.02	UJs|	<0.02		-
	FALL	ug/L		0.094	Js|	0.04	Js|	<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	-
Endrin	WINTER	ug/L	0.2	<0.021	|JP	-		<0.022		<0.022		<0.023		<0.022		<0.022
	SPRING	ug/L	0.2	0.031	Js|P	-		<0.02	UJs|	<0.021	UJs|	<0.02		<0.021		-
	SUMMER	ug/L	0.2	-		-		<0.02		<0.02		<0.02	UJs|	<0.02		-
	FALL	ug/L	0.2	0.035	Js|	<0.022	Js|J	<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	<0.021	UJs|	-

See footnotes at end of table

TABLE 5.4
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 D1	UCD2-007	UCD2-014	UCD2-014 D1
Alpha-Chlordane	WINTER	ug/L		<0.012	<0.011	<0.011	-	<0.01	<0.011	-
	SPRING	ug/L		<0.011	<0.011	<0.01 UJs|	-	<0.011 UJs|	<0.01	-
	SUMMER	ug/L		<0.01	<0.01	<0.011	-	<0.011 UJs|	<0.011	<0.011
	FALL	ug/L		<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|	-
Gamma-Chlordane	WINTER	ug/L		<0.012	<0.011	<0.011	-	<0.01	<0.011	-
	SPRING	ug/L		<0.011	<0.011	<0.01 UJs|	-	<0.011 UJs|	<0.01	-
	SUMMER	ug/L		<0.01	<0.01	<0.011	-	<0.011 UJs|	<0.011	<0.011
	FALL	ug/L		<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|	-
Dieldrin	WINTER	ug/L		<0.024	<0.022	<0.021	-	<0.021	<0.021	-
	SPRING	ug/L		<0.022	<0.021	<0.02 UJs|	-	<0.021 UJs|	<0.021	-
	SUMMER	ug/L		<0.02	<0.02	<0.021	-	<0.021 UJs|	<0.022	<0.021
	FALL	ug/L		<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.02 UJs|	<0.022 UJs|	-
Endrin	WINTER	ug/L	0.2	<0.024	<0.022	<0.021	-	<0.021	<0.021	-
	SPRING	ug/L	0.2	<0.022	<0.021	<0.02 UJs|	-	<0.021 UJs|	<0.021	-
	SUMMER	ug/L	0.2	<0.02	<0.02	<0.021	-	<0.021 UJs|	<0.022	<0.021
	FALL	ug/L	0.2	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.02 UJs|	<0.022 UJs|	-

See footnotes at end of table

TABLE 5.4
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015		UCD2-015 D1	UCD2-016		UCD2-016 D1	
Alpha-Chlordane	WINTER	ug/L		<0.011		<0.011	<0.01		-	
	SPRING	ug/L		<0.01	UJs|	-	<0.01	UJs|	<0.01	UJs|
	SUMMER	ug/L		<0.01		-	<0.01		<0.01	
	FALL	ug/L		<0.011	UJs|	-	<0.011	UJs|	-	
Gamma-Chlordane	WINTER	ug/L		<0.011		<0.011	<0.01		-	
	SPRING	ug/L		<0.01	UJs|	-	<0.01	UJs|	<0.01	UJs|
	SUMMER	ug/L		<0.01		-	<0.01		<0.01	
	FALL	ug/L		<0.011	UJs|	-	<0.011	UJs|	-	
Dieldrin	WINTER	ug/L		<0.022		<0.022	<0.021		-	
	SPRING	ug/L		<0.021	UJs|	-	<0.02	UJs|	<0.021	UJs|
	SUMMER	ug/L		<0.02		-	<0.02		<0.02	
	FALL	ug/L		<0.021	UJs|	-	<0.022	UJs|	-	
Endrin	WINTER	ug/L	0.2	<0.022		<0.022	<0.021		-	
	SPRING	ug/L	0.2	<0.021	UJs|	-	<0.02	UJs|	<0.021	UJs|
	SUMMER	ug/L	0.2	<0.02		-	<0.02		<0.02	
	FALL	ug/L	0.2	<0.021	UJs|	-	<0.022	UJs|	-	

See footnotes at end of table

TABLE 5.4
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER,1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Arsenic	WINTER	ug/L	50	3.1	2.3	2.3	3.5	<2	-	<2
	SPRING	ug/L	50	<5.8 Uo|	<2 |B	<2 |B	2.5	2.7	3.1	2.4
	SUMMER	ug/L	50	<2	-	-	<2	-	-	-
	FALL	ug/L	50	2.9 Jd|	2.4 Jd|	-	3.1 Jd|	3.2 Jd|	-	2.6
Barium	WINTER	ug/L	1000	161	226	278	30.1	141	-	169
	SPRING	ug/L	1000	168	195 Jk|E	306 Jk|E	28.2 Jk|E	285 Jk|E	284 Jk|E	388 Jk|E
	SUMMER	ug/L	1000	151	-	-	26.2	-	-	-
	FALL	ug/L	1000	131	188	-	28.2	239	-	339
Beryllium	WINTER	ug/L	4	<1	1.4	<1	<1	<1	-	<1
	SPRING	ug/L	4	<1	<1	<1	<1	<1	<1	<1
	SUMMER	ug/L	4	<1	-	-	<1	-	-	-
	FALL	ug/L	4	<1	<1	-	<1	<1	-	<1
Chromium	WINTER	ug/L	50	15.5	30.5	19.1	53.6	152 Jz|	-	92.9
	SPRING	ug/L	50	16.7	27.2	23.6	62.2	296	298	185
	SUMMER	ug/L	50	16.8	-	-	59.8	-	-	-
	FALL	ug/L	50	13.1	30.4	-	60.7	285	-	167
Chromium, Hexavalent (+6)	WINTER	ug/L		11	27	16	62	310 Jz|	-	110
	SPRING	ug/L		18	27	21	65	310	310	190
	SUMMER	ug/L		14	-	-	68	-	-	-
	FALL	ug/L		14	26	-	59	300	-	180
Manganese	SPRING	ug/L		<10	<10 |B	<10 |B	<10	<10	<10	<10
	SUMMER	ug/L		<10 |B	-	-	<10	-	-	-
Mercury	WINTER	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
	SPRING	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	SUMMER	ug/L	2	<0.2	-	-	<0.2	-	-	-
	FALL	ug/L	2	<0.2	<0.2	-	0.90	<0.2	-	<0.2
Nickel	WINTER	ug/L	100	36.4	<20 |B	<20 |B	<20 |B	<20	-	<20 |B
	SPRING	ug/L	100	43.1	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	20.6
	SUMMER	ug/L	100	96	-	-	<20 |B	-	-	-
	FALL	ug/L	100	32.9 Jd|	<20 |B	-	<20 |B	<20 |B	-	<20 |B
Selenium	WINTER	ug/L	10	<3	<3	<3	21.4	3.7	-	5.8
	SPRING	ug/L	10	4.6	<3	4.3	25.1	11.6	10.8	9.7
	SUMMER	ug/L	10	<3	-	-	16.1	-	-	-
	FALL	ug/L	10	<3	<3	-	20.3	11.3 Jd|	-	12.5

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-022	UCD1-022 D1
Arsenic	WINTER	ug/L	50	2.3	-	2.8	2.6	2.4	<2 |B	2.4
	SPRING	ug/L	50	<2	-	<4.2 Uo|	<3.3 Uo|	<9.8 Uo|	3.3	-
	SUMMER	ug/L	50	-	-	<2	<2 UJc|	<2 UJc|	<2 UJc|	-
	FALL	ug/L	50	2.3 Jd|	2.6 Jd|	3.8 Jd|	3.5 Jd|	2.6 Jd|	3.1 Jd|	-
Barium	WINTER	ug/L	1000	304	-	96.1	103	142	73.2	77.4
	SPRING	ug/L	1000	304 Jk|E	-	60.1	90.2	137	68.8 Jk|E	-
	SUMMER	ug/L	1000	-	-	58.1	72	120	47.2	-
	FALL	ug/L	1000	249	283	66.0	97.1	146	70.5	-
Beryllium	WINTER	ug/L	4	<1	-	<1	<1	<1	<1	<1
	SPRING	ug/L	4	<1	-	<1	<1	<1	<1	-
	SUMMER	ug/L	4	-	-	<1	<1	<1	<1	-
	FALL	ug/L	4	<1	<1	<1	<1	<1	<1	-
Chromium	WINTER	ug/L	50	82.6 Jz|	-	170 Jk|	40.2 Jk|	58.1 Jk|	<10 Jk|B	<10 Jk|B
	SPRING	ug/L	50	80.7	-	194	39.6	46.9	11.3	-
	SUMMER	ug/L	50	-	-	183	40.2	52	10.2	-
	FALL	ug/L	50	75.7	87.2	179	41.6	59.5	11.2	-
Chromium, Hexavalent (+6)	WINTER	ug/L		<10 UJz|	-	180	39	58	<10	<10
	SPRING	ug/L		84	-	200	39	55	<10	-
	SUMMER	ug/L		-	-	110	38	57	<10	-
	FALL	ug/L		73 |H	75 |H	180	46	61	<10	-
Manganese	SPRING	ug/L		<10	-	<10	<10	<10	<10	-
	SUMMER	ug/L		-	-	<10	<10	<10	<10	-
Mercury	WINTER	ug/L	2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
	SPRING	ug/L	2	<0.2	-	<0.2	<0.2	<0.2	<0.2	-
	SUMMER	ug/L	2	-	-	<0.2	<0.2	<0.2	<0.2	-
	FALL	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	1.0	-
Nickel	WINTER	ug/L	100	<20 |B	-	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B
	SPRING	ug/L	100	<20 |B	-	<20 Uo|B	<20 Uo|B	<20 Uo|B	<20 |B	-
	SUMMER	ug/L	100	-	-	<20 |B	<20 |B	<20 |B	<20 |B	-
	FALL	ug/L	100	<20 |B	<20 |B	<20 |B	<20	<20 |B	22.4 Jd|	-
Selenium	WINTER	ug/L	10	<3	-	9.9	<3	<3	<3	<3
	SPRING	ug/L	10	<3	-	12.8	<3	5.8	<3	-
	SUMMER	ug/L	10	-	-	8.5	<3	<3	<3	-
	FALL	ug/L	10	<3 |B	<3 |B	10.4 Jd|	<3 |B	4.6 Jd|	<3	-

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 DI	UCD2-007	UCD2-014	UCD2-014 DI
Arsenic	WINTER	ug/L	50	2.4	2.7	2.7	-	<2	<2	-
	SPRING	ug/L	50	3.4	3.7	<2.8 Uo|	-	<2 |B	<2	-
	SUMMER	ug/L	50	<2	<2 UJc|	<2	-	<2	<2	<2
	FALL	ug/L	50	2.9 Jd|	2.6 Jd|	3.1	2.9	3.3 Jd|	2.7 Jd|	-
Barium	WINTER	ug/L	1000	129	208	132	-	92.2	260	-
	SPRING	ug/L	1000	143 Jk|E	227 Jk|E	127	-	210 Jk|E	338 Jk|E	-
	SUMMER	ug/L	1000	99.1	190	119	-	176	222	220
	FALL	ug/L	1000	123	196	124	126	184	153	-
Beryllium	WINTER	ug/L	4	<1	<1	<1	-	<1	<1	-
	SPRING	ug/L	4	<1	<1	<1	-	<1	<1	-
	SUMMER	ug/L	4	<1	<1	<1	-	<1	<1	<1
	FALL	ug/L	4	<1	<1	<1	<1	<1	<1	-
Chromium	WINTER	ug/L	50	22.2 Jk|	32.5 Jk|	<10 Jk|B	-	20.1	39.7	-
	SPRING	ug/L	50	20.1	28.2	10.4	-	69.8	48.5	-
	SUMMER	ug/L	50	20.1	29	14.6	-	29.6	41.4	39.4
	FALL	ug/L	50	19.8	30.5	17.1	16.6	35.3	19.4	-
Chromium, Hexavalent (+6)	WINTER	ug/L		21	31	<10	-	40	27	-
	SPRING	ug/L		14	28	<10	-	73	48	-
	SUMMER	ug/L		17	29	27	-	27	38	42
	FALL	ug/L		16	28	17	20	35	20 |H	-
Manganese	SPRING	ug/L		12.4	<10	<10	-	<10	<10	-
	SUMMER	ug/L		<10 |B	<10	<10	-	<10	<10	<10
Mercury	WINTER	ug/L	2	<0.2	<0.2	<0.2	-	<0.2	<0.2	-
	SPRING	ug/L	2	<0.2	<0.2	<0.2	-	<0.2	<0.2	-
	SUMMER	ug/L	2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2
	FALL	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
Nickel	WINTER	ug/L	100	36.4	<20 |B	<20 |B	-	<20	<20 |B	-
	SPRING	ug/L	100	117	<20 |B	<20 Uo|B	-	<20 |B	<20 |B	-
	SUMMER	ug/L	100	59.5	<20 |B	<20	-	<20 |B	<20 |B	<20 |B
	FALL	ug/L	100	60.9 Jd|	<20 Jd|B	<20 |B	<20 |B	<20 |B	<20 |B	-
Selenium	WINTER	ug/L	10	<3	<3	<3	-	<3	<3	-
	SPRING	ug/L	10	<3	<3	<3	-	4.5	<3	-
	SUMMER	ug/L	10	<3	<3	<3	-	3.2	<3	<3
	FALL	ug/L	10	<3	3.3	3.1	3.1	<3 |B	<3	-

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015	UCD2-015 D1	UCD2-016	UCD2-016 D1
Arsenic	WINTER	ug/L	50	2.5	<2 |B	2.6	-
	SPRING	ug/L	50	<2 Uo|B	-	<3.3 Uo|	<2.7 Uo|
	SUMMER	ug/L	50	<2	-	<2	<2 UJc|
	FALL	ug/L	50	3.0	-	2.7	-
Barium	WINTER	ug/L	1000	156	151	141	-
	SPRING	ug/L	1000	145	-	144	145
	SUMMER	ug/L	1000	127	-	128	129
	FALL	ug/L	1000	124	-	128	-
Beryllium	WINTER	ug/L	4	<1	<1	<1	-
	SPRING	ug/L	4	<1	-	<1	<1
	SUMMER	ug/L	4	<1	-	<1	<1
	FALL	ug/L	4	<1	-	<1	-
Chromium	WINTER	ug/L	50	11.5 Jk|	11 Jk|	24.5 Jk|	-
	SPRING	ug/L	50	<10 |B	-	26.6	29.4
	SUMMER	ug/L	50	<10 Up|B	-	27.5	27.4
	FALL	ug/L	50	<10 |B	-	22.8	-
Chromium, Hexavalent (+6)	WINTER	ug/L		11	12	25	-
	SPRING	ug/L		<10	-	28	29
	SUMMER	ug/L		<10	-	31	33
	FALL	ug/L		<10	-	27	-
Manganese	SPRING	ug/L		<10	-	<10	<10
	SUMMER	ug/L		<10	-	<10	<10
Mercury	WINTER	ug/L	2	<0.2	<0.2	<0.2	-
	SPRING	ug/L	2	<0.2	-	<0.2	<0.2
	SUMMER	ug/L	2	<0.2	-	<0.2	<0.2
	FALL	ug/L	2	<0.2	-	<0.2	-
Nickel	WINTER	ug/L	100	<20 |B	<20 |B	<20 |B	-
	SPRING	ug/L	100	<20 Uo|B	-	<20 Uo|B	<20 Uo|B
	SUMMER	ug/L	100	<20	-	<20	<20
	FALL	ug/L	100	<20 |B	-	<20	-
Selenium	WINTER	ug/L	10	<3	<3	<3	-
	SPRING	ug/L	10	<3	-	16.6	17.9
	SUMMER	ug/L	10	<3	-	<3	<3
	FALL	ug/L	10	<3 |B	-	4.6	-

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Vanadium	WINTER	ug/L		10.6	<10 |B	<10 |B	11.3	<10 |B	-	<10 |B
	SPRING	ug/L		<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B
	SUMMER	ug/L		<10 |B	-	-	10.7	-	-	-
	FALL	ug/L		<10 |B	<10 |B	-	<10 |B	<10 |B	-	<10 |B
Zinc	WINTER	ug/L		<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	-	<20 |B
	SPRING	ug/L		<20 Up|B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B
	SUMMER	ug/L		<20 Up|B	-	-	<20 Up|B	-	-	-
	FALL	ug/L		<20 |B	<20 |B	-	<20 |B	<20 |B	-	<20 |B

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-022	UCD1-022 D1
Vanadium	WINTER	ug/L		10.6	-	12.1 Jk|	12.1 Jk|	10.8 Jk|	<10 Jk|B	<10 Jk|B
	SPRING	ug/L		<10 |B	-	<10 |B	10.7	<10 |B	<10 |B	-
	SUMMER	ug/L		-	-	<10 |B	10.9	<10 |B	<10 |B	-
	FALL	ug/L		<10 |B	<10 |B	<10 |B	10.6	<10 |B	<10 |B	-
Zinc	WINTER	ug/L		<20 |B	-	21.1	<20 |B	<20 |B	<20 |B	<20 |B
	SPRING	ug/L		<20 |B	-	<20 Up|B	<20 Up|B	26.2	20.3	-
	SUMMER	ug/L		-	-	<20 Up|B	<20 Up|B	<20 Up|B	<20 Up|B	-
	FALL	ug/L		<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	-

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 D1	UCD2-007	UCD2-014	UCD2-014 D1
Vanadium	WINTER	ug/L		10.8 Jk|	12.6 Jk|	<10 Jk|B	-	<10 |B	10.1	-
	SPRING	ug/L		10.3	12	<10 |B	-	<10 |B	10.6	-
	SUMMER	ug/L		<10 |B	10.5	<10 |B	-	<10 |B	<10 |B	<10 |B
	FALL	ug/L		<10 |B	10.3	<10 |B	<10 |B	<10 |B	<10 |B	-
Zinc	WINTER	ug/L		<20 |B	<20 |B	21.3	-	<20 |B	<20 |B	-
	SPRING	ug/L		<20 |B	<20 |B	<20 Up|B	-	<20 |B	<20 |B	-
	SUMMER	ug/L		<20 Up|B	<20 Up|B	<20 Up|B	-	<20 Up|B	<20 Up|B	<20 Up|B
	FALL	ug/L		<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	-

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015		UCD2-015 D1		UCD2-016		UCD2-016 D1	
Vanadium	WINTER	ug/L		<10	Jk|B	<10	Jk|B	<10	Jk|B	-	
	SPRING	ug/L		<10	|B	-		<10	|B	<10	|B
	SUMMER	ug/L		<10	|B	-		<10	|B	<10	|B
	FALL	ug/L		<10	|B	-		<10	|B	-	
Zinc	WINTER	ug/L		<20	|B	<20	|B	<20	|B	-	
	SPRING	ug/L		<20	Up|B	-		<20	Up|B	<20	Up|B
	SUMMER	ug/L		<20	Up|B	-		<20	Up|B	<20	Up|B
	FALL	ug/L		<20	|B	-		<20	|B	-	

See footnotes at end of table

TABLE 5.5
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER,1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 DI	UCD1-012
Gross Alpha	WINTER	pCi/L	15**	9310	0±3.2	-0.1±5.3	-0.8±3.3	8.4±9.3	0.4±4.1	-	12±11
	SPRING	pCi/L	15**	9310	2.3±3.8	-3±3.3	1.3±4.1	4.4±7.8	1.8±3.9	3±5.6	-1.4±5.6
	SUMMER	pCi/L	15**	9310	0.1±3.2 |C	-	-	-0.3±4.9 |C	-	-	-
	FALL	pCi/L	15**	9310	2.2±3.3 Jm|C	0.2±3.9 |C	-	6.5±8.2 Jm|C	4.0±4.5 Jm|C	-	10.±10. |C
Gross Beta	WINTER	pCi/L	50	9310	1.6±4.2	-2.1±5.9	23.4±5.9	1.3±7.6	1.2±5.2	-	5±10
	SPRING	pCi/L	50	9310	0.9±3.8	-1.8±5.5	3.6±4.8	6.7±8.4	-0.1±5.6	1.4±5.6	-1±10
	SUMMER	pCi/L	50	9310	2.2±3.2 |C	-	-	3.2±7.9 |C	-	-	-
	FALL	pCi/L	50	9310	0.0±3.3 |BC	-2.3±5.9 |BC	-	3.1±6.4 |C	1.8±3.2 |C	-	2.±10. |BC
Actinium-228	WINTER	pCi/L		901.1	2.1±3.9	-11.1±4.8	0.2±8.9	5.9±9.6	3±4	-	-4±3.8
	SPRING	pCi/L		901.1	4±18	8±19	-24.7±7.8	-5±18	-1±19	0±19	-1±18
	SUMMER	pCi/L		901.1	10±17	-	-	0±88	-	-	-
	FALL	pCi/L		901.1	-9.±14.	0.4±8.8	-	-2.1±8.8	-11.±13.	-	-17.7±8.4
Bismuth-212	WINTER	pCi/L		901.1	16±15	15±30	46±28	-12±31	2±16	-	18±17
	SPRING	pCi/L		901.1	-11±29	20±46	11±40	-15±17	-17±44	5±43	-17±19
	SUMMER	pCi/L		901.1	-4.45±38.51	-	-	20.88±170.76	-	-	-
	FALL	pCi/L		901.1	-24.12±8.12	2.70±20.27	-	-4.38±17.80	9.33±42.87	-	-6.44±31.77
Cesium-137	WINTER	pCi/L		901.1	0.4±1.9	-0.7±5.4	-1.6±5.1	3.1±5.2	0.1±1.8	-	1.4±1.9
	SPRING	pCi/L		901.1	7.5±5.7	-1.6±5.2	-1.6±5.2	-1.7±5.1	3.5±5.4	3.6±5.6	-1.9±5
	SUMMER	pCi/L		901.1	2.7±5.4	-	-	-6±19	-	-	-
	FALL	pCi/L		901.1	-0.4±3.9	-1.1±1.4	-	0.9±1.6	-2.0±4.4	-	-1.3±4.0
Bismuth-214	WINTER	pCi/L		901.1	33.7±3.8	-5.8±4.8	0±5.4	5.6±5.5	6.4±2.7	-	38.8±3.9
	SPRING	pCi/L		901.1	35±14	18±12	-3±11	-1.5±9.7	8±12	21±12	14±11
	SUMMER	pCi/L		901.1	8±11	-	-	7±53	-	-	-
	FALL	pCi/L		901.1	-2.7±9.0	9.1±6.3	-	8.7±6.7	14.±14.	-	12.±10.
Cobalt-60	WINTER	pCi/L		901.1	0.37±0.6	1.7±1.8	0.9±1.8	-3.24±0.67	0.95±0.65	-	0.45±0.63
	SPRING	pCi/L		901.1	0.4±3.5	-1.4±3.1	1.3±3.6	-0.1±3.4	0±3.3	0.9±3.2	1.1±3.5
	SUMMER	pCi/L		901.1	-0.9±1.4	-	-	3±13	-	-	-
	FALL	pCi/L		901.1	0.6±2.3	-1.16±0.79	-	-0.99±0.83	0.3±2.6	-	-1.7±1.3
Lead-210	WINTER	pCi/L		901.1	-0.4±1.5	0.4±3	1.4±2.9	-0.7±2.9	-0.2±1.4	-	-1.3±1.5
	SPRING	pCi/L		901.1	0±110	70±110	-30±110	-12±97	19±109	-30±110	10±100
	SUMMER	pCi/L		901.1	-27.92±89.16	-	-	1487.46±6582.82	-	-	-
	FALL	pCi/L		901.1	-13.50±70.22	-83.81±293.30	-	-73.93±121.52	5.68±108.21	-	-.0.35±75.09
Lead-212	WINTER	pCi/L		901.1	5.1±5.2	1.8±8.8	7.7±9	-0.4±8.6	0.7±4.8	-	5.8±5.3
	SPRING	pCi/L		901.1	7.6±9.2	8.7±9.3	5.7±8.5	7±9.1	-0.5±8.7	4.7±9.2	5.1±9
	SUMMER	pCi/L		901.1	-1.2±8.3	-	-	-2±44	-	-	-
	FALL	pCi/L		901.1	-0.6±6.8	0.7±5.2	-	2.1±5.7	8.±10.	-	-1.7±7.1

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD1-013	UCD1-013 UF	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-021 UF
Gross Alpha	WINTER	pCi/L	15**	9310	6.2±8.4	0.9±6.4	-	3.2±5.9	3.2±3.5	0.5±5	15±8.7
	SPRING	pCi/L	15**	9310	1.6±6.4	-	-	-0.3±5.7	1.1±3.2	3±5.4	-
	SUMMER	pCi/L	15**	9310	-	-	-	4.5±5.5 |C	2.2±2.9 |C	0.1±4.9 |C	-
	FALL	pCi/L	15**	9310	-0.6±6.1 |C	-	2.6±5.4 |C	7.1±6.3 |C	0.1±2.4 |C	5.5±6.2 |C	-
Gross Beta	WINTER	pCi/L	50	9310	1.8±7.7	-0.4±7.7	-	-0.7±5.2	3.9±2.8	-0.7±4.8	1.9±5.1
	SPRING	pCi/L	50	9310	3.6±8.2	-	-	5.5±6.8	5.5±3.6	1.9±6	-
	SUMMER	pCi/L	50	9310	-	-	-	3.7±4 |C	2.7±2.2	2.9±4.6 |C	-
	FALL	pCi/L	50	9310	1.5±6.8 |BC	-	1.8±6.4 |BC	1.8±5.0 |BC	0.8±3.1 |BC	-0.8±5.8 |BC	-
Actinium-228	WINTER	pCi/L		901.1	8.8±9.1	0	-	-7.5±5.2	-8.7±4.7	7.5±9.7	0
	SPRING	pCi/L		901.1	-14.1±8.7	-	-	-2±7.9	-2±14	0.6±9.6	-
	SUMMER	pCi/L		901.1	-	-	-	-5.2±8.8	-2±21	-13.3±7.4	-
	FALL	pCi/L		901.1	5.±15.	-	-2.±15.	6.±15.	0.00±15.	-2.±14.	-
Bismuth-212	WINTER	pCi/L		901.1	-16±17	16±28	-	12±24	26±27	-36±17	29±28
	SPRING	pCi/L		901.1	-6±38	-	-	-14.1±7	-4.58±45	24±40	-
	SUMMER	pCi/L		901.1	-	-	-	11.87±17.56	17.50±49.07	-18.13±17.17	-
	FALL	pCi/L		901.1	-13.66±32.50	-	-17.50±12.86	-5.71±33.57	-3.88±31.31	7.47±30.02	-
Cesium-137	WINTER	pCi/L		901.1	1.2±4.9	3.9±5.4	-	1±5.2	-1.9±4.9	0.6±5.1	-0.4±5.1
	SPRING	pCi/L		901.1	-4.1±1.8	-	-	1±1.8	0±4.9	1.6±5.6	-
	SUMMER	pCi/L		901.1	-	-	-	-0.7±2.2	-2.8±2.7	-1.3±6.3	-
	FALL	pCi/L		901.1	-1.1±3.9	-	-1.3±4.0	-0.1±2.1	0.2±2.1	-1.1±3.9	-
Bismuth-214	WINTER	pCi/L		901.1	45±7.4	19.2±6.4	-	20±6	22.8±6.2	16.6±6.1	17.8±6.3
	SPRING	pCi/L		901.1	10±12	-	-	7.8±5.6	18±12	38±14	-
	SUMMER	pCi/L		901.1	-	-	-	3.2±5.9	6±12	2±12	-
	FALL	pCi/L		901.1	-0.4±8.9	-	11.1±9.7	-4.5±8.9	-5.3±9.3	-9.0±5.8	-
Cobalt-60	WINTER	pCi/L		901.1	0.8±1.8	-1±1.5	-	0.8±1.7	1.7±1.8	-1.4±1.7	-0.4±1.7
	SPRING	pCi/L		901.1	-0.3±3.5	-	-	-0.2±1.2	-0.4±3.6	2±3.5	-
	SUMMER	pCi/L		901.1	-	-	-	-0.3±1.3	1.8±3.2	-2.1±2.6	-
	FALL	pCi/L		901.1	0.4±2.4	-	-0.2±1.5	-1.2±1.2	3.1±2.3	-2.1±1.2	-
Lead-210	WINTER	pCi/L		901.1	-1.4±3.1	-1.7±2.9	-	-1.7±2.8	-0.5±2.9	-0.4±3	1.4±3
	SPRING	pCi/L		901.1	-20±100	-	-	-180±310	28±109	20±100	-
	SUMMER	pCi/L		901.1	-	-	-	-80.44±270.21	40.06±101.33	75.70±109.68	-
	FALL	pCi/L		901.1	-21.27±69.66	-	-23.15±73.30	-5.10±73.77	18.57±75.83	3.76±72.18	-
Lead-212	WINTER	pCi/L		901.1	2.3±9.3	2.3±9.1	-	-3.4±8.3	2.9±8.6	1.3±9.2	-8.1±8.2
	SPRING	pCi/L		901.1	1.8±9	-	-	-1.5±4.7	8.4±9	7±9.6	-
	SUMMER	pCi/L		901.1	-	-	-	0±5.6	3±10	-1±10	-
	FALL	pCi/L		901.1	11.4±7.1	-	0.2±6.9	1.6±6.7	4.2±7.1	-2.3±6.5	-

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD1-022	UCD1-022 D1	UCD1-023	UCD1-023 UF	UCD1-024	UCD2-017	UCD2-017 D1
Gross Alpha	WINTER	pCi/L	15**	9310	3.8±4.8	0±2.8	1.5±4.6	3.9±5.3	0.9±5.1	1.2±2.2	-
	SPRING	pCi/L	15**	9310	1±3.8	-	1.3±4.2	-	5.1±6.3	2.2±3	-
	SUMMER	pCi/L	15**	9310	-2.1±2.2 |C	-	1.8±3.2 |C	-	3.4±5.4 |C	1.2±2.6 |C	-
	FALL	pCi/L	15**	9310	-0.5±2.7 |C	-	1.8±4.2 |C	-	1.4±4.3 |C	1.3±2.4 |C	0.4±2.3 |C
Gross Beta	WINTER	pCi/L	50	9310	1.7±3.2	1.7±3.3	1.7±3.7	-1.3±3.4	2.3±4.6	0.3±2.1	-
	SPRING	pCi/L	50	9310	-0.8±4	-	-1.1±4.5	-	1.4±6.5	-0.2±3.1	-
	SUMMER	pCi/L	50	9310	5.4±3.7 |C	-	11.6±4.2 |C	-	2.4±4.4 |C	1.7±2.3	-
	FALL	pCi/L	50	9310	-0.2±3.9 |BC	-	0.9±3.8 |BC	-	0.3±6.2 |BC	-0.9±2.6 |BC	0.5±3.1 |BC
Actinium-228	WINTER	pCi/L		901.1	0.6±3.8	4.6±8.6	0±3.7	2.7±3.6	2.9±3.9	19.8±9.4	-
	SPRING	pCi/L		901.1	0±20	-	-15±12	-	-4±19	2.9±7.8	-
	SUMMER	pCi/L		901.1	17±20	-	-4±13	-	10±21	-16±92	-
	FALL	pCi/L		901.1	-2.±15.	-	1.±15.	-	-14.5±7.0	2.±15.	-2.±15.
Bismuth-212	WINTER	pCi/L		901.1	2±14	-21±18	6±15	12±15	0±15	12±32	-
	SPRING	pCi/L		901.1	-20±20	-	-8±39	-	7±41	5±15	-
	SUMMER	pCi/L		901.1	23.82±44.33	-	2.70±17.96	-	-2.62±48.86	48.24±180.93	-
	FALL	pCi/L		901.1	-0.78±32.65	-	-25.96±9.82	-	3.92±32.69	0.44±36.69	-4.86±32.50
Cesium-137	WINTER	pCi/L		901.1	-0.6±1.7	0.8±5	0±1.7	0.6±1.8	-0.3±1.8	0.6±5	-
	SPRING	pCi/L		901.1	-0.8±5.1	-	-2.5±5.1	-	-0.7±5.3	0.6±1.9	-
	SUMMER	pCi/L		901.1	0.5±5.8	-	-0.6±2.1	-	4.4±6.1	-4±22	-
	FALL	pCi/L		901.1	-1.86±0.61	-	1.±2.2	-	0.6±2.3	1.9±2.2	0.0±2.2
Bismuth-214	WINTER	pCi/L		901.1	24.1±3.3	25.9±6.3	21.7±3.2	30±3.4	30.4±3.5	2.8±5.2	-
	SPRING	pCi/L		901.1	2±11	-	-2.7±9.8	-	9±11	6.8±5.7	-
	SUMMER	pCi/L		901.1	-15±12	-	3±5.6	-	4±12	41±56	-
	FALL	pCi/L		901.1	-11.8±6.5	-	15.±11.	-	-5.7±8.8	19.±11.	3.9±9.0
Cobalt-60	WINTER	pCi/L		901.1	-0.23±0.55	1±1.7	0.23±0.53	0.31±0.53	0.57±0.61	0.4±1.7	-
	SPRING	pCi/L		901.1	-2.1±1.9	-	1.9±3.7	-	-1.4±3.1	0.1±1.2	-
	SUMMER	pCi/L		901.1	0.9±4.5	-	0±2.2	-	2.1±3.7	0±14	-
	FALL	pCi/L		901.1	-0.4±2.3	-	-1.4±1.3	-	-0.8±1.3	-0.2±2.7	0.8±2.4
Lead-210	WINTER	pCi/L		901.1	-0.9±1.4	3.5±3	-1.7±1.4	-0.1±1.4	-0.3±1.5	1.7±3	-
	SPRING	pCi/L		901.1	-20±100	-	-100±100	-	0±110	-270±310	-
	SUMMER	pCi/L		901.1	-33.53±109.11	-	194.23±281.24	-	-14.92±103.98	-1919.46±6839.03	-
	FALL	pCi/L		901.1	-48.72±72.85	-	-1.80±77.49	-	0.36±74.19	-34.00±78.63	-16.93±74.81
Lead-212	WINTER	pCi/L		901.1	-0.3±4.7	-5.8±8.3	-2.1±4.5	1±4.6	1.6±4.8	2.8±8.7	-
	SPRING	pCi/L		901.1	2.5±8.5	-	-0.6±8.5	-	3.2±8.5	2.3±5.1	-
	SUMMER	pCi/L		901.1	7±10	-	-0.4±5.6	-	9±10	-28±46	-
	FALL	pCi/L		901.1	-2.3±7.1	-	1.3±7.2	-	2.7±6.8	0.0±7.4	1.4±6.9

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD2-007	UCD2-014	UCD2-014 UF	UCD2-014 DI	UCD2-015	UCD2-015 DI	UCD2-016
Gross Alpha	WINTER	pCi/L	15**	9310	1.6±3.3	2.6±5.7	7.7±7.3	-	-1±1.6	1.7±2.6	0±2.1
	SPRING	pCi/L	15**	9310	1.4±4.3	1.1±5.7	-	-	1.5±2.5	-	1.9±2.9
	SUMMER	pCi/L	15**	9310	1.3±3.1 |C	0±3.9 |C	-	2.4±5.3 |C	0.4±2.1 |C	-	0.5±2.5 |C
	FALL	pCi/L	15**	9310	2.3±3.3 |C	0.5±2.9 |C	-	-	4.4±3.3 |C	-	-2.1±2.6 |C
Gross Beta	WINTER	pCi/L	50	9310	3.7±4.3	0.9±6	0.3±6.1	-	1.4±2.3	-0.5±2.1	-0.8±2.2
	SPRING	pCi/L	50	9310	1.3±4	2.2±6.2	-	-	0.6±3.2	-	1±3.2
	SUMMER	pCi/L	50	9310	2.6±3.3 |C	2.3±3.9 |C	-	-0.8±5.1 |C	0.6±2.1	-	1.4±2.3
	FALL	pCi/L	50	9310	0.3±2.8 |C	0.8±3.1 |BC	-	-	0.2±3.1 |BC	-	2.±10. |BC
Actinium-228	WINTER	pCi/L		901.1	1.5±3.9	9.5±9.2	16.8±9.3	-	-16.8±5.7	-6.9±5.3	3.9±9.4
	SPRING	pCi/L		901.1	9±18	-6±14	-	-	0.7±7.8	-	-2.4±7.9
	SUMMER	pCi/L		901.1	-29±16	-13.2±9	-	-2±20	0±130	-	-10.8±8.9
	FALL	pCi/L		901.1	-11.±11.	4.±15.	-	-	1.±20.	-	9.±15.
Bismuth-212	WINTER	pCi/L		901.1	1±15	-7±30	22±23	-	-1±31	43±41	-14±17
	SPRING	pCi/L		901.1	-19±16	-13±41	-	-	8±15	-	13±15
	SUMMER	pCi/L		901.1	-5.47±62.47	16.81±47.37	-	18.52±44.51	100.82±296.38	-	-15.57±17.73
	FALL	pCi/L		901.1	-42.38±28.10	-16.39±8.05	-	-	29.13±48.08	-	7.12±31.13
Cesium-137	WINTER	pCi/L		901.1	0.1±1.9	0.7±5.3	-1.4±4.6	-	1.1±4.7	-1±4.7	-1.1±5.1
	SPRING	pCi/L		901.1	-1.5±4.6	-2.6±5	-	-	-0.8±1.8	-	0.6±1.9
	SUMMER	pCi/L		901.1	-2.5±8.1	-0.5±5.6	-	4.1±6.8	-7±35	-	-1.1±6.1
	FALL	pCi/L		901.1	0.8±4.4	-0.7±3.9	-	-	2.2±3.7	-	-0.9±2.0
Bismuth-214	WINTER	pCi/L		901.1	6.6±2.7	5.5±5.7	11.8±6.1	-	-3.6±4.6	8.7±5.5	7±5.7
	SPRING	pCi/L		901.1	-2.6±7.7	3±11	-	-	12.6±5.8	-	8.2±5.5
	SUMMER	pCi/L		901.1	-3±16	19±13	-	39±16	-12±79	-	23±15
	FALL	pCi/L		901.1	21.±14.	-2.5±8.5	-	-	3.±13.	-	-6.4±8.9
Cobalt-60	WINTER	pCi/L		901.1	1.02±0.62	0.6±1.7	-3.07±0.72	-	1.2±1.8	0.4±1.6	0±1.7
	SPRING	pCi/L		901.1	-1.5±3.4	1.1±3.5	-	-	0.7±1.2	-	0.2±1.2
	SUMMER	pCi/L		901.1	4.8±4.6	-2.5±2.1	-	-0.8±2.6	-15±12	-	1.3±3.6
	FALL	pCi/L		901.1	-1.6±3.0	-2.0±1.1	-	-	-2.7±3.0	-	-1.8±1.2
Lead-210	WINTER	pCi/L		901.1	-1±1.4	0±3	1.3±2.9	-	-3.3±2.9	0.2±2.9	-0.5±3
	SPRING	pCi/L		901.1	-60±110	30±110	-	-	-210±300	-	-80±310
	SUMMER	pCi/L		901.1	26.53±144.89	-23.39±105.07	-	26.52±109.00	-562.27±1391.08	-	-27.87±109.17
	FALL	pCi/L		901.1	-45.48±105.21	10.67±71.61	-	-	18.61±111.82	-	-13.29±73.81
Lead-212	WINTER	pCi/L		901.1	1.9±4.8	7.1±8.9	-1.9±8.8	-	3.7±8.6	3.9±8.6	-1±8.7
	SPRING	pCi/L		901.1	6.7±8.7	-5.4±8.4	-	-	3.2±4.8	-	1.5±4.8
	SUMMER	pCi/L		901.1	-7±13	5±10	-	8±11	-69±58	-	4±10
	FALL	pCi/L		901.1	-0.6±9.9	-2.3±6.7	-	-	-3.4±9.9	-	4.7±7.0

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD2-016 D1
Gross Alpha	WINTER	pCi/L	15**	9310	-
	SPRING	pCi/L	15**	9310	0.5±2.7
	SUMMER	pCi/L	15**	9310	1.4±2.6 |C
	FALL	pCi/L	15**	9310	-
Gross Beta	WINTER	pCi/L	50	9310	-
	SPRING	pCi/L	50	9310	2.5±3.7
	SUMMER	pCi/L	50	9310	1.6±2.6 |C
	FALL	pCi/L	50	9310	-
Actinium-228	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	-2.3±7.7
	SUMMER	pCi/L		901.1	-3±9.4
	FALL	pCi/L		901.1	-
Bismuth-212	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	-1.33±16
	SUMMER	pCi/L		901.1	5.31±19.69
	FALL	pCi/L		901.1	-
Cesium-137	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	-0.7±1.8
	SUMMER	pCi/L		901.1	-1.65±0.97
	FALL	pCi/L		901.1	-
Bismuth-214	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	6.7±5.4
	SUMMER	pCi/L		901.1	0.2±5.9
	FALL	pCi/L		901.1	-
Cobalt-60	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	0±1.2
	SUMMER	pCi/L		901.1	0.4±1.4
	FALL	pCi/L		901.1	-
Lead-210	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	-169±300
	SUMMER	pCi/L		901.1	-6.49±265.24
	FALL	pCi/L		901.1	-
Lead-212	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	1.7±4.7
	SUMMER	pCi/L		901.1	-0.8±5.3
	FALL	pCi/L		901.1	-

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Lead-214	WINTER	pCi/L		901.1	31.3±3.3	5.5±4.7	-4.9±3.3	5.8±4.7	4.1±2.4	-	24.4±3.1
	SPRING	pCi/L		901.1	14±10	13.4±9.8	1.4±9.1	-4.5±6.1	-2±6.4	5.2±9.9	5.2±9.9
	SUMMER	pCi/L		901.1	1.2±9.5	-	-	0±45	-	-	-
	FALL	pCi/L		901.1	-2.8±7.4	1.1±5.8	-	7.6±6.1	16.±12.	-	4.2±8.1
Potassium-40	WINTER	pCi/L		901.1	-8±27	-15±55	-41±64	-15±56	-7±28	-	2±29
	SPRING	pCi/L		901.1	15±56	6±62	9±60	22±62	2±57	4±56	4±55
	SUMMER	pCi/L		901.1	37±52	-	-	-20±310	-	-	-
	FALL	pCi/L		901.1	-23.±48.	-3.±28.	-	14.±36.	3.±74.	-	-20.±49.
Thallium-208	WINTER	pCi/L		901.1	0.6±3.1	-3.1±6.7	-2.8±6.5	-2.5±6.6	2±3	-	2.2±3.2
	SPRING	pCi/L		901.1	4.4±6.7	-1.4±7.3	-0.3±6.7	-2.3±6.6	0.5±6.8	6.7±7.2	7.2±7.1
	SUMMER	pCi/L		901.1	3.1±6.2	-	-	18±31	-	-	-
	FALL	pCi/L		901.1	-2.3±4.7	1.8±3.2	-	-1.±3.1	0.0±6.4	-	1.2±5.0
Uranium-235	WINTER	pCi/L		901.1	2.2±6.4	-5±12	-17.4±9.2	-2±11	3.3±6.2	-	-8.5±3.4
	SPRING	pCi/L		901.1	0±19	13±24	3±23	-12±17	-16±17	6±23	10±23
	SUMMER	pCi/L		901.1	-6±23	-	-	90±120	-	-	-
	FALL	pCi/L		901.1	-5.±18.	-3.±14.	-	11.±15.	4.±28.	-	-16.±19.
Thorium-234	WINTER	pCi/L		901.1	-2±19	-10±28	0±28	8±28	-12±19	-	-18±19
	SPRING	pCi/L		901.1	19±55	39±56	40±56	0±54	18±55	-3±55	-21±55
	SUMMER	pCi/L		901.1	5±54	-	-	0±270	-	-	-
	FALL	pCi/L		901.1	7.48±44.7	-15.71±44.92	-	2.74±43.7	19.6±68.2	-	-7.92±47.19
Americium-241	SUMMER	pCi/L		LAL-0108	-	-	-	0.025±0.047 UJl|	-	-	-
	FALL	pCi/L		LAL-0108	-0.006±0.01	0.005±0.068	-	0.063±0.041	0.008±0.036	-	0.035±0.035
Carbon-14	WINTER	pCi/L		LSC	-20±60	-31±59	-17±61	20±65	-17±61	-	179±80
	SPRING	pCi/L		LSC	-44±46	21±62	35±63 UJd|	64±66	-19±57	-1±59	278±86 UJd|
	SUMMER	pCi/L		LSC	25±51	-	-	45±53	-	-	-
	FALL	pCi/L		LSC	50±100	15.±97.	-	20.±98.	-4.±95.	-	270±120
Radium-226	WINTER	pCi/L	5	903.1M	0.05±0.072	0±0.13	-0.02±0.1	0±0.11	0.09±0.11	-	0.07±0.08
	SPRING	pCi/L	5	903.1M	0.11±0.18	0±0.16	0.56±0.29	0±0.14	0.33±0.19	0.06±0.17	0.31±0.24
	SUMMER	pCi/L	5	903.1M	0.16±0.16	-	-	0.03±0.13	-	-	-
	FALL	pCi/L	5	903.1M	-0.06±0.29	0.25±0.38	-	0.31±0.32	0.15±0.17	-	0.16±0.34
Strontium-90	WINTER	pCi/L	8	905.0	-0.28±0.63	0.2±0.56	0.44±0.61	0.59±0.65	0.54±0.74	-	-0.07±0.91
	SPRING	pCi/L	8	905.0	0.62±0.52	1.01±0.81	-0.08±0.56	0.45±0.54	0.66±0.48	0.29±0.48	0.39±0.59
	SUMMER	pCi/L	8	905.0	0.55±0.61 Je|	-	-	-0.27±0.62	-	-	-
	FALL	pCi/L	8	905.0	0.69±0.46	0.29±0.51	-	0.24±0.43	0.19±0.44	-	-0.05±0.49
Tritium	WINTER	pCi/L	20000*	906.0	-20±130	-60±120	10±140	0±140	-100±120	-	50±150
	SPRING	pCi/L	20000*	906.0	-90±120	-70±120	70±140	-70±120	-60±120	-90±110	0±130
	SUMMER	pCi/L	20000*	906.0	10±130	-	-	-40±130	-	-	-
	FALL	pCi/L	20000*	906.0	100±190	20±200	-	140±200	-40±180	-	-20±190

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD1-013	UCD1-013 UF	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-021 UF
Lead-214	WINTER	pCi/L		901.1	34.7±5.8	13.8±5.2	-	13.3±5	32.2±5.6	30.2±5.5	23.3±5.4
	SPRING	pCi/L		901.1	3.1±9.5	-	-	5±4.8	9.6±9.8	12±10	-
	SUMMER	pCi/L		901.1	-	-	-	-0.1±5.3	4±11	3±11	-
	FALL	pCi/L		901.1	3.2±7.5	-	8.5±8.1	-19.7±4.2	-4.1±7.8	-3.1±7.5	-
Potassium-40	WINTER	pCi/L		901.1	-11±63	-8±56	-	10±59	-53±27	7±57	0±52
	SPRING	pCi/L		901.1	11±59	-	-	-8±28	-5±61	-14±61	-
	SUMMER	pCi/L		901.1	-	-	-	6±31	59±57	24±69	-
	FALL	pCi/L		901.1	-3.±45.	-	-24.±44.	32.±49.	0.00±46.	-16.±46.	-
Thallium-208	WINTER	pCi/L		901.1	2.8±6.9	-0.4±6.2	-	-3.2±6.5	-2±6.3	-0.2±6.6	-3.1±6.4
	SPRING	pCi/L		901.1	4.7±6.9	-	-	2.3±3	-3.1±7	3.5±6.7	-
	SUMMER	pCi/L		901.1	-	-	-	0.5±3.2	4.5±7.4	-2.6±7.4	-
	FALL	pCi/L		901.1	2.5±4.8	-	-0.5±5.1	-3.5±4.7	-1.1±5.0	-0.7±4.6	-
Uranium-235	WINTER	pCi/L		901.1	2±12	13±12	-	10±11	5±11	2±12	-5±11
	SPRING	pCi/L		901.1	3±23	-	-	9±13	-2±23	-14.3±7.2	-
	SUMMER	pCi/L		901.1	-	-	-	0±12	-1±21	2±27	-
	FALL	pCi/L		901.1	-7.±18.	-	-27.±11.	3.±18.	-4.±18.	-20.±11.	-
Thorium-234	WINTER	pCi/L		901.1	22±28	-7±28	-	8±27	44±27	-52±28	28±28
	SPRING	pCi/L		901.1	-10±55	-	-	14±36	43±56	-8±55	-
	SUMMER	pCi/L		901.1	-	-	-	29±43	9±63	21±64	-
	FALL	pCi/L		901.1	-7.48±45.15	-	-3.79±46.60	29.45±46.14	-9.89±45.36	10.19±44.35	-
Americium-241	SUMMER	pCi/L		LAL-0108	-	-	-	0.01±0.019 UJI|	0.021±0.027 UJI|	0.04±0.15 UJI|Y	-
	FALL	pCi/L		LAL-0108	-0.015±0.03	-	0.016±0.061	0.002±0.046	0.025±0.055	-0.014±0.03	-
Carbon-14	WINTER	pCi/L		LSC	2150±180	2000±180	-	2±63	16±64	5±63	16±64
	SPRING	pCi/L		LSC	1380±140 Jd|	-	-	17±61	3±60	0±51	-
	SUMMER	pCi/L		LSC	-	-	-	-8±68	-3±68	-3±68	-
	FALL	pCi/L		LSC	1970±220	-	1980±220	10.±97.	50±100	-19.±94.	-
Radium-226	WINTER	pCi/L	5	903.1M	0.02±0.059	0.09±0.1	-	0.07±0.1	-0.02±0.099	0.05±0.12	0.1±0.12
	SPRING	pCi/L	5	903.1M	0.1±0.17	-	-	0±0.14	0±0.13	0.11±0.13	-
	SUMMER	pCi/L	5	903.1M	-	-	-	0.03±0.065	0±0.085	0±0.069	-
	FALL	pCi/L	5	903.1M	0.34±0.42	-	0.06±0.37	0.22±0.34	0.31±0.27	0.00±0.22	-
Strontium-90	WINTER	pCi/L	8	905.0	-0.5±1.1	-1.3±1.3	-	-0.13±0.5	0.23±0.56	0±0.52	-0.03±0.49
	SPRING	pCi/L	8	905.0	0.67±0.62	-	-	1.5±0.7 Uz|	1.38±0.57 Uz|	0.33±0.57	-
	SUMMER	pCi/L	8	905.0	-	-	-	-1.43±0.84 UJe|	-0.2±0.95 UJe|	-0.56±0.86 UJe|	-
	FALL	pCi/L	8	905.0	-0.05±0.46	-	0.32±0.50	0.57±0.47	0.23±0.48	0.05±0.47	-
Tritium	WINTER	pCi/L	20000*	906.0	21490±990	20820±980	-	-120±110	50±130	90±140	-80±120
	SPRING	pCi/L	20000*	906.0	19250±910	-	-	0±130	0±120	-20±130	-
	SUMMER	pCi/L	20000*	906.0	-	-	-	-40±130	-70±130	-50±130	-
	FALL	pCi/L	20000*	906.0	16600±1100	-	16900±1100	-20±180	80±190	10±180	-

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD1-022	UCD1-022 D1	UCD1-023	UCD1-023 UF	UCD1-024	UCD2-017	UCD2-017 D1
Lead-214	WINTER	pCi/L		901.1	27.5±3	17.5±5	26.1±3	31.2±3.1	33.9±3.2	12.3±5	-
	SPRING	pCi/L		901.1	5.3±9.6	-	0±9.7	-	3.6±9.5	6.4±5	-
	SUMMER	pCi/L		901.1	4±11	-	0.2±5.7	-	1±11	0±47	-
	FALL	pCi/L		901.1	1.9±7.9	-	6.0±8.4	-	-4.4±7.7	2.7±8.6	-2.3±7.8
Potassium-40	WINTER	pCi/L		901.1	5±27	-11±53	-1±27	-11±24	22±28	0±61	-
	SPRING	pCi/L		901.1	29±57	-	26±65	-	-45±18	-18±26	-
	SUMMER	pCi/L		901.1	35±76	-	3±32	-	24±47	160±350	-
	FALL	pCi/L		901.1	0.00±48.	-	6.±53.	-	14.±47.	3.±54.	-8.±49.
Thallium-208	WINTER	pCi/L		901.1	0.3±2.8	1.1±6.3	0.1±2.6	3.2±2.9	2.9±3	-4±6.8	-
	SPRING	pCi/L		901.1	0.7±6.5	-	-1.8±6.2	-	3.6±7	1.1±2.8	-
	SUMMER	pCi/L		901.1	0.6±6.8	-	0.9±3.1	-	3.9±7.9	-16±32	-
	FALL	pCi/L		901.1	0.9±5.1	-	-1.8±4.9	-	-0.3±4.7	-1.7±4.9	-0.4±4.9
Uranium-235	WINTER	pCi/L		901.1	5.5±6.2	-8±12	3.1±5.9	-4.2±3.2	8.3±6.3	6±11	-
	SPRING	pCi/L		901.1	4±23	-	-8±23	-	-3±24	-13.8±6.6	-
	SUMMER	pCi/L		901.1	17±27	-	0±15	-	0±26	-24±95	-
	FALL	pCi/L		901.1	-6.±19.	-	3.±19.	-	4.±18.	4.±20.	0.00±18.
Thorium-234	WINTER	pCi/L		901.1	14±18	19±27	-20±18	4±18	-47±19	20±29	-
	SPRING	pCi/L		901.1	-28±54	-	-18±55	-	32±56	11±36	-
	SUMMER	pCi/L		901.1	-33±64	-	6±43	-	20±64	-180±290	-
	FALL	pCi/L		901.1	-3.64±47.17	-	19.21±47.63	-	-9.80±45.88	-7.52±47.68	10.67±44.91
Americium-241	SUMMER	pCi/L		LAL-0108	0.014±0.02 UJl|	-	-0.003±0.01 UJl|	-	0.006±0.017 UJl|	-0.0026±0.0 UJl|	-
	FALL	pCi/L		LAL-0108	-0.030±0.09	-	0.004±0.022	-	-0.002±0.04	0.00±0.039	0.00±0.026
Carbon-14	WINTER	pCi/L		LSC	-12±61	5±63	197±82	168±79	27±66	2±63	-
	SPRING	pCi/L		LSC	6±60	-	137±73	-	-16±57	-5±59	-
	SUMMER	pCi/L		LSC	-52±61	-	50±75	-	25±72	40±52	-
	FALL	pCi/L		LSC	-14.±94.	-	130±110	-	10.±97.	70±100	90±100
Radium-226	WINTER	pCi/L	5	903.1M	0.07±0.12	0±0.079	0.04±0.069	0±0.078	0±0.1	0.066±0.065	-
	SPRING	pCi/L	5	903.1M	0.1±0.12	-	0.22±0.16	-	0.24±0.17	0.05±0.14	-
	SUMMER	pCi/L	5	903.1M	0.11±0.11	-	0.08±0.11	-	0.11±0.13	0.12±0.17	-
	FALL	pCi/L	5	903.1M	0.73±0.45	-	0.29±0.33	-	0.25±0.30	0.12±0.30	0.37±0.34
Strontium-90	WINTER	pCi/L	8	905.0	-0.36±0.46	-0.03±0.46	0.19±0.48	-0.42±0.45	0.24±0.43	0.25±0.45	-
	SPRING	pCi/L	8	905.0	0.62±0.5	-	0.34±0.5	-	0.31±0.52	0.72±0.48	-
	SUMMER	pCi/L	8	905.0	0.61±0.86 Je|	-	0.28±0.89 Je|	-	-0.85±0.79 UJe|	0.02±0.59	-
	FALL	pCi/L	8	905.0	0.17±0.43	-	0.23±0.47	-	0.40±0.46	0.03±0.51	0.31±0.53
Tritium	WINTER	pCi/L	20000*	906.0	-20±120	-30±120	-60±120	-30±120	-20±120	-50±120	-
	SPRING	pCi/L	20000*	906.0	-50±120	-	-20±130	-	-100±110	-150±99	-
	SUMMER	pCi/L	20000*	906.0	30±150	-	-50±130	-	10±140	0±130	-
	FALL	pCi/L	20000*	906.0	-100±180	-	0.000±190	-	-180±170	200±220	-90±180

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD2-007	UCD2-014	UCD2-014 UF	UCD2-014 D1	UCD2-015	UCD2-015 D1	UCD2-016
Lead-214	WINTER	pCi/L		901.1	4.1±2.4	13.1±5.2	12.1±5.1	-	14.1±5.2	5.7±4.7	8.1±5.1
	SPRING	pCi/L		901.1	-5.1±7.1	0.2±8.9	-	-	10.7±5.3	-	9.8±5.1
	SUMMER	pCi/L		901.1	-10.9±4.2	0±11	-	35±14	-18±64	-	14±12
	FALL	pCi/L		901.1	7.±12.	-0.8±7.5	-	-	-5.±12.	-	-7.5±7.7
Potassium-40	WINTER	pCi/L		901.1	6±27	-4±62	7±58	-	-30±50	10±53	21±63
	SPRING	pCi/L		901.1	-2±55	-9±63	-	-	0±28	-	-14±28
	SUMMER	pCi/L		901.1	64±74	44±72	-	73±63	-50±420	-	40±63
	FALL	pCi/L		901.1	-11.±66.	-12.±47.	-	-	1.±59.	-	-3.±47.
Thallium-208	WINTER	pCi/L		901.1	1.9±3.1	-1.4±6.8	-4±6.7	-	1.9±6.7	1.1±6.4	4.2±6.5
	SPRING	pCi/L		901.1	-5.7±6.4	1.2±6.7	-	-	1.6±2.9	-	-0.5±3
	SUMMER	pCi/L		901.1	13±11	7.4±7.8	-	9.9±8	16±45	-	-4±7.7
	FALL	pCi/L		901.1	-6.7±3.3	0.0±4.6	-	-	5.2±7.9	-	-0.2±4.9
Uranium-235	WINTER	pCi/L		901.1	-4.5±3.1	-10±12	3±12	-	-9±11	-2±11	-3±12
	SPRING	pCi/L		901.1	2±22	-23±18	-	-	-1±14	-	-7±14
	SUMMER	pCi/L		901.1	-2±34	3±26	-	12±29	110±150	-	-8±27
	FALL	pCi/L		901.1	-3.±27.	-6.±18.	-	-	-10.±28.	-	0.00±18.
Thorium-234	WINTER	pCi/L		901.1	14±18	0±28	-6±28	-	47±28	22±27	-31±27
	SPRING	pCi/L		901.1	-8±56	46±56	-	-	36±37	-	-3±37
	SUMMER	pCi/L		901.1	46±84	41±62	-	-22±64	-140±340	-	-45±65
	FALL	pCi/L		901.1	-17.6±102	-8.62±44.68	-	-	-9.60±65.53	-	7.62±46.26
Americium-241	SUMMER	pCi/L		LAL-0108	-0.0051±0.0 UJl|	-0.0091±0.0 UJl|	-	-0.0025±0.0 UJl|	0.0023±0.01 UJl|	-	0.01±0.014 UJl|
	FALL	pCi/L		LAL-0108	0.008±0.036	-0.004±0.04	-	-	-0.004±0.03	-	-0.006±0.05
Carbon-14	WINTER	pCi/L		LSC	-56±56	810±120	800±120	-	-20±60	16±64	-45±57
	SPRING	pCi/L		LSC	-1±59	750±110 Jd|	-	-	3±60	-	-44±54
	SUMMER	pCi/L		LSC	64±54	641±43	-	491±38	-8±68	-	-28±65
	FALL	pCi/L		LSC	25.±98.	80±100	-	-	6.±96.	-	60±100
Radium-226	WINTER	pCi/L	5	903.1M	0.06±0.099	0.1±0.1	0.124±0.092	-	0.113±0.09	0±0.1	0.13±0.12
	SPRING	pCi/L	5	903.1M	0.11±0.11	0±0.15	-	-	0.11±0.13	-	0±0.13
	SUMMER	pCi/L	5	903.1M	0.27±0.23	0.09±0.16	-	0.07±0.12	0.16±0.12	-	0.06±0.14
	FALL	pCi/L	5	903.1M	0.19±0.33	2.14±0.72	-	-	0.52±0.40	-	0.19±0.45
Strontium-90	WINTER	pCi/L	8	905.0	0.36±0.62	0.04±0.74	0.06±0.64	-	0.12±0.44	-0.07±0.45	0.27±0.45
	SPRING	pCi/L	8	905.0	0.59±0.66	0.12±0.68	-	-	0.07±0.44	-	0.55±0.48
	SUMMER	pCi/L	8	905.0	0.57±0.66	0±0.64	-	0.25±0.56	0.81±0.89 Je|	-	-0.24±0.91 UJe|
	FALL	pCi/L	8	905.0	0.23±0.45	0.79±0.57	-	-	-0.37±0.48	-	0.28±0.51
Tritium	WINTER	pCi/L	20000*	906.0	30±140	5440±520	5280±500	-	10±130	70±140	-30±120
	SPRING	pCi/L	20000*	906.0	-60±120	8320±600	-	-	40±130	-	80±140
	SUMMER	pCi/L	20000*	906.0	20±140	2500±360	-	2550±370	-30±140	-	-40±130
	FALL	pCi/L	20000*	906.0	50±190	10±210	-	-	0.000±190	-	110±210

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMETAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	Method	UCD2-016 D1
Lead-214	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	6±4.8
	SUMMER	pCi/L		901.1	2.2±5.5
	FALL	pCi/L		901.1	-
Potassium-40	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	-4±27
	SUMMER	pCi/L		901.1	13±34
	FALL	pCi/L		901.1	-
Thallium-208	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	0.9±2.9
	SUMMER	pCi/L		901.1	0±3.1
	FALL	pCi/L		901.1	-
Uranium-235	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	-12.9±6.7
	SUMMER	pCi/L		901.1	3±15
	FALL	pCi/L		901.1	-
Thorium-234	WINTER	pCi/L		901.1	-
	SPRING	pCi/L		901.1	23±37
	SUMMER	pCi/L		901.1	0±43
	FALL	pCi/L		901.1	-
Americium-241	SUMMER	pCi/L		LAL-0108	0±0.33 UJ||
	FALL	pCi/L		LAL-0108	-
Carbon-14	WINTER	pCi/L		LSC	-
	SPRING	pCi/L		LSC	-30±56
	SUMMER	pCi/L		LSC	16±71
	FALL	pCi/L		LSC	-
Radium-226	WINTER	pCi/L	5	903.1M	-
	SPRING	pCi/L	5	903.1M	0.07±0.15
	SUMMER	pCi/L	5	903.1M	0.02±0.082
	FALL	pCi/L	5	903.1M	-
Strontium-90	WINTER	pCi/L	8	905.0	-
	SPRING	pCi/L	8	905.0	0.27±0.54
	SUMMER	pCi/L	8	905.0	0.88±0.91 Je|
	FALL	pCi/L	8	905.0	-
Tritium	WINTER	pCi/L	20000*	906.0	-
	SPRING	pCi/L	20000*	906.0	-40±120
	SUMMER	pCi/L	20000*	906.0	-70±130
	FALL	pCi/L	20000*	906.0	-

See footnotes at end of table

TABLE 5.6
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

D1 = Duplicate sample
UF = Unfiltered Sample
- = Not analyzed. Wells UCD1-001, UCD1-004,UCD1011, UCD1-012 AND UCD1-013 were dry in summer quarter. UCD1-004 dry in fall quarter.
MCL = Maximum Contaminant Level (primary), Title 22, Division 4, Chapter 15.
C = California State Action Level, Department of Health Services. * = Proposed MCL. # = US EPA
** = MCL for Gross Alpha does not include anaylsis for Uranium or Radon, however reported Gross Alpha values on this talbe include all Alpha emitters.

Note: Radionuclide results are reported as calculated value, V, followed by the total uncertainty, T, in the format V±T. A calculated value tht equals or exceeds the uncertainty ("positive value") represents 95% level of confidence that measurable radioactivity above zero is present for a given radiounuclide.

Note: Americium-241 and Plutonium-241 analyses were not requested to be performed until the summer quarter. Americium-241 analysis for summer quarter in UCD1-18 was not analyzed due to matrix interference resulting in low precent recovery.

See footnotes at end of table
5/1/9512.15 AMGWSM20R.XLS

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Calcium	WINTER	mg/L		41.2	62.1	52.5	50.3	47.5	-	79.3
	SPRING	mg/L		41.1	58.8	59.2	49.7	47.3	47.9	83.1
	SUMMER	mg/L		39.7	-	-	44.6	-	-	-
	FALL	mg/L		35.6	57.8	-	48.5	42.5	-	85.7
Iron	WINTER	mg/L		0.502	0.73	0.642	0.633	0.228	-	0.433
	SPRING	mg/L		<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B
	SUMMER	mg/L		<0.1	-	-	<0.1	-	-	-
	FALL	mg/L		<0.1	<0.1	-	<0.1	<0.1	-	<0.1
Magnesium	WINTER	mg/L		101	153	96.4	185	120	-	242
	SPRING	mg/L		105	147	100	188	121	122	260
	SUMMER	mg/L		99.2	-	-	173	-	-	-
	FALL	mg/L		88.3	147	-	183	113	-	269
Potassium	WINTER	mg/L		2.2	<2 |B	2.01	2.63	2.14	-	4.54
	SPRING	mg/L		<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	2.43
	SUMMER	mg/L		<2 |B	-	-	<2 |B	-	-	-
	FALL	mg/L		<2 |B	<2 |B	-	<2 |B	<2	-	<2 |B
Chloride	WINTER	mg/L		41.5 Jh|	5.8	37	43	68	-	220
	SPRING	mg/L		39	5.4	35	51	65	64	230
	SUMMER	mg/L		33	-	-	43	-	-	-
	FALL	mg/L		34.	6.5	-	46.	63.	-	350
Sodium	WINTER	mg/L		39.2	33.8	35.3	169	74.3	-	102
	SPRING	mg/L		41.4	35.7	37.8	175	79.5	79.5	103
	SUMMER	mg/L		35.9	-	-	159	-	-	-
	FALL	mg/L		39.5	37.4	-	173	73	-	103
Sulfate	WINTER	mg/L	400#	36.5 Jh|	26	36	280	43	-	77
	SPRING	mg/L	400#	38	25	37	330	44	44	76
	SUMMER	mg/L	400#	35	-	-	340	-	-	-
	FALL	mg/L	400#	34.	26.	-	340	44.	-	100
Ammonia-Nitrogen	WINTER	mg/L		<0.05	0.051	<0.05	<0.05	<0.05	-	<0.05
	SPRING	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	SUMMER	mg/L		<0.05	-	-	<0.05	-	-	-
	FALL	mg/L		<0.05	<0.05	-	<0.05	<0.05	-	<0.05
Nitrogen, Nitrate (as N)	WINTER	mg/L	10#	12 Jh|	16	2.4	35	26	-	60
	SPRING	mg/L	10#	20	15	3.4	37	25	25	68
	SUMMER	mg/L	10#	15	-	-	34	-	-	-
	FALL	mg/L	10#	9.5	15.	-	35.	26.	-	78.
Total Kjeldahl Nitrogen	WINTER	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
	SPRING	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	SUMMER	mg/L		<0.1	-	-	<0.1	-	-	-
	FALL	mg/L		<0.5	<0.5	-	2.2	<0.5	-	<0.5

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-022	UCD1-022 D1
Calcium	WINTER	mg/L		77.2	-	64.3	30.1	55.5	36.8	36.6
	SPRING	mg/L		78.1	-	49.8	27.1	51.4	38.2	-
	SUMMER	mg/L		-	-	46.5	27.7	53.7	39.3	-
	FALL	mg/L		77.1	76.6	56.2	29.3	57.2	38.9	-
Iron	WINTER	mg/L		0.921	-	0.762	0.344	0.667	0.39	0.417
	SPRING	mg/L		<0.1 Uo|B	-	<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B	<0.1	-
	SUMMER	mg/L		-	-	<0.1	<0.1	<0.1	<0.1	-
	FALL	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Magnesium	WINTER	mg/L		188	-	175	74.2	134	71.5	71.3
	SPRING	mg/L		197	-	131	73.6	129	76.3	-
	SUMMER	mg/L		-	-	132	75.5	133	80.2	-
	FALL	mg/L		195	194	157	78.7	148	79	-
Potassium	WINTER	mg/L		3.45	-	<2 |B	<2	<2 |B	<2 |B	<2 |B
	SPRING	mg/L		2.14	-	<2 |B	<2	<2 |B	<2 |B	-
	SUMMER	mg/L		-	-	<2 |B	<2	<2 |B	<2 |B	-
	FALL	mg/L		<2 |B	2.07	<2 |B	<2 |B	<2 |B	<2 |B	-
Chloride	WINTER	mg/L		37	-	16	3.8	19	41	41
	SPRING	mg/L		39	-	15	3.1	16	42	-
	SUMMER	mg/L		-	-	13	3.1	18	39	-
	FALL	mg/L		38.	38.	15.	3.4	22.	37.	-
Sodium	WINTER	mg/L		56.3	-	73	40.2	98.2	89.7	88.7
	SPRING	mg/L		64.3	-	71.2	38.2	93.7	98.3	-
	SUMMER	mg/L		-	-	68.8	38	102	95	-
	FALL	mg/L		59.1	59.4	75.8	40	99.2	97.1	-
Sulfate	WINTER	mg/L	400#	76	-	58	30	61	33	33
	SPRING	mg/L	400#	75	-	63	29	57	33	-
	SUMMER	mg/L	400#	-	-	59	29	59	32	-
	FALL	mg/L	400#	74.	75.	60.	30.	60.	32.	-
Ammonia-Nitrogen	WINTER	mg/L		<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
	SPRING	mg/L		<0.05	-	<0.05	<0.05	<0.05	0.25	-
	SUMMER	mg/L		-	-	0.17	0.19	<0.05	0.056	-
	FALL	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-
Nitrogen, Nitrate (as N)	WINTER	mg/L	10#	17	-	12	8.4	51	5	5.1
	SPRING	mg/L	10#	19	-	14	8.2	56	8.7	-
	SUMMER	mg/L	10#	-	-	20	8.6	51	9.2	-
	FALL	mg/L	10#	17.	17.	14.	9.3	57.	8.3	-
Total Kjeldahl Nitrogen	WINTER	mg/L		<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
	SPRING	mg/L		<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	SUMMER	mg/L		-	-	<0.5	<0.5	<0.5	<0.5	-
	FALL	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 D1	UCD2-007	UCD2-014	UCD2-014 D1
Calcium	WINTER	mg/L		49.9	53.6	36.3	-	39.7	60.8	-
	SPRING	mg/L		46.5	54.3	34.9	-	37.4	67.1	-
	SUMMER	mg/L		47.6	50.7	33.7	-	37.7	46.4	49.2
	FALL	mg/L		47.6	53.1	36.8	36.9	42.5	38.8	-
Iron	WINTER	mg/L		0.574	0.636	0.403	-	0.173	0.716	-
	SPRING	mg/L		<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B	-	<0.1	<0.1 Uo|B	-
	SUMMER	mg/L		<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1 |B
	FALL	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Magnesium	WINTER	mg/L		115	133	59.2	-	81.5	142	-
	SPRING	mg/L		113	139	59.5	-	90.2	171	-
	SUMMER	mg/L		119	136	57.2	-	76.9	121	128
	FALL	mg/L		116	138	60.9	61.4	82.7	86.6	-
Potassium	WINTER	mg/L		<2 |B	<2	<2 |B	-	2.5	2.42	-
	SPRING	mg/L		<2 |B	<2 |B	<2 |B	-	<2 |B	<2 |B	-
	SUMMER	mg/L		<2 |B	<2 |B	<2 |B	-	<2 |B	<2 |B	<2 |B
	FALL	mg/L		<2 |B	<2 |B	<2	<2	<2	<2 |B	-
Chloride	WINTER	mg/L		33	25	16	-	24	38	-
	SPRING	mg/L		38	30	18	-	23	40	-
	SUMMER	mg/L		31	28	16	-	26	37	38
	FALL	mg/L		29.	27.	17.	17.	24.	38.	-
Sodium	WINTER	mg/L		44.9	77.4	29.5	-	53.4	47.2	-
	SPRING	mg/L		45.6	82.3	29	-	59.9	53.3	-
	SUMMER	mg/L		47.3	77.3	28.9	-	40.2	43.2	45.4
	FALL	mg/L		47.1	80.8	29.9	30.6	41	43.2	-
Sulfate	WINTER	mg/L	400#	30	46	33	-	38	71	-
	SPRING	mg/L	400#	32	43	34	-	42	75	-
	SUMMER	mg/L	400#	30	43	35	-	40	71	71
	FALL	mg/L	400#	30.	45.	37.	37.	43.	49.	-
Ammonia-Nitrogen	WINTER	mg/L		<0.05	<0.05	<0.05	-	<0.05	<0.05	-
	SPRING	mg/L		<0.05	<0.05	<0.05	-	<0.05	<0.05	-
	SUMMER	mg/L		<0.05	0.44	<0.05	-	0.073	<0.05	<0.05
	FALL	mg/L		<0.05	<0.05	0.081	<0.05	0.076	<0.05	-
Nitrogen, Nitrate (as N)	WINTER	mg/L	10#	6.5	52	1.5	-	14	9.1	-
	SPRING	mg/L	10#	5	65	1.5	-	22	13	-
	SUMMER	mg/L	10#	6.9	60	2.4	-	17	8.4	8.3
	FALL	mg/L	10#	7.1	58.	3.0	3.0	17.	4.6	-
Total Kjeldahl Nitrogen	WINTER	mg/L		<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	SPRING	mg/L		<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	SUMMER	mg/L		<0.5	<0.5	<0.1	-	<0.1	<0.1	<0.1
	FALL	mg/L		<0.5	<0.5	0.86	<0.5	<0.5	<0.5	-

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015	UCD2-015 D1	UCD2-016	UCD2-016 D1
Calcium	WINTER	mg/L		40.8	41	35.7	-
	SPRING	mg/L		37.6	-	36.4	36.2
	SUMMER	mg/L		36.1	-	36.6	35.6
	FALL	mg/L		35.4	-	35.9	-
Iron	WINTER	mg/L		0.464	0.437	0.406	-
	SPRING	mg/L		<0.1 Uo|B	-	<0.1 Uo|B	<0.1 Uo|B
	SUMMER	mg/L		<0.1	-	<0.1	<0.1
	FALL	mg/L		<0.1	-	<0.1	-
Magnesium	WINTER	mg/L		67.5	68.5	61.1	-
	SPRING	mg/L		64.2	-	66.1	65.6
	SUMMER	mg/L		60.8	-	64.3	62.1
	FALL	mg/L		60.5	-	60.7	-
Potassium	WINTER	mg/L		<2 |B	<2 |B	<2	-
	SPRING	mg/L		<2	-	<2	<2 |B
	SUMMER	mg/L		<2 |B	-	<2	<2 |B
	FALL	mg/L		<2	-	<2	-
Chloride	WINTER	mg/L		19	19	16	-
	SPRING	mg/L		22	-	19	19
	SUMMER	mg/L		18	-	17	16
	FALL	mg/L		20.	-	19.	-
Sodium	WINTER	mg/L		31.1	31.8	42.7	-
	SPRING	mg/L		28.9	-	47.4	46.9
	SUMMER	mg/L		29.1	-	46	43.9
	FALL	mg/L		29	-	41.5	-
Sulfate	WINTER	mg/L	400#	36	36	36	-
	SPRING	mg/L	400#	36	-	39	39
	SUMMER	mg/L	400#	34	-	39	39
	FALL	mg/L	400#	37.	-	41.	-
Ammonia-Nitrogen	WINTER	mg/L		<0.05	<0.05	<0.05	-
	SPRING	mg/L		<0.05	-	<0.05	<0.05
	SUMMER	mg/L		<0.05	-	0.3	0.37
	FALL	mg/L		<0.05	-	<0.05	-
Nitrogen, Nitrate (as N)	WINTER	mg/L	10#	2.3	2.2	3.1	-
	SPRING	mg/L	10#	2.1	-	4.7	4.7
	SUMMER	mg/L	10#	9.1	-	15 Jf|	4.3 Jf|
	FALL	mg/L	10#	1.9	-	3.6	-
Total Kjeldahl Nitrogen	WINTER	mg/L		<0.5	<0.5	<0.5	-
	SPRING	mg/L		<0.5	-	<0.5	<0.5
	SUMMER	mg/L		<0.5	-	<0.5	<0.5
	FALL	mg/L		<0.5	-	<0.5	-

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Alkalinity Total(as CaCO3)	WINTER	mg/L		410	650	470	600	450	-	620
	SPRING	mg/L		470	670	470	670	530	530	670
	SUMMER	mg/L		410	-	-	660	-	-	-
	FALL	mg/L		380	720	-	660	490	-	730

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-022	UCD1-022 D1
Alkalinity Total(as CaCO3)	WINTER	mg/L		780	-	800	320	520	390	390
	SPRING	mg/L		860	-	690	370	570	420	-
	SUMMER	mg/L		-	-	610	390	590	510	-
	FALL	mg/L		830	870	730	380	560	450	-

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 D1	UCD2-007	UCD2-014	UCD2-014 D1
Alkalinity Total(as CaCO3)	WINTER	mg/L		470	460	270	-	380	600	-
	SPRING	mg/L		530	540	310	-	390	740	-
	SUMMER	mg/L		570	540	300	-	360	540	510
	FALL	mg/L		500	510	300	310	370	370	-

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015	UCD2-015 D1	UCD2-016	UCD2-016 D1
Alkalinity Total(as CaCO3)	WINTER	mg/L		300	320	310	-
	SPRING	mg/L		300	-	370	360
	SUMMER	mg/L		270	-	310	340
	FALL	mg/L		310	-	330	-

See footnotes at end of table

TABLE 5.7
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER,1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE 5.8
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
OTHER PARAMETERS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-018	UCD1-001	UCD1-004	UCD1-010	UCD1-011	UCD1-011 D1	UCD1-012
Total Dissolved Solids	WINTER	mg/L		590 |*	830 |*	600 |*	1400 |*	820 |*	-	1500 |*
	SPRING	mg/L		650	770	600	1400	800	800	1500
	SUMMER	mg/L		620	-	-	1400	-	-	-
	FALL	mg/L		540	800	-	1300 |C	730 |C	-	1700
Turbidity	WINTER	NTU		1.2	9.8	23	0.38	0.15	-	0.65
	SPRING	NTU		11	2800	53	4.1	0.1	0.53	2.9
	SUMMER	NTU		29	-	-	3.8	-	-	-
	FALL	NTU		5.1	11.	-	1.5	0.14	-	3.4
Turbidity-F	WINTER	NTU		11.14	2.39	8.75	2.13	2.45	-	3.47
	SPRING	NTU		9.33	53.2	49.7	5.33	3.46	-	3.19
	SUMMER	NTU		10.66	-	-	1.47	-	-	-
	FALL	NTU		5.77	-	-	3.39	0.20	-	5.57
Total Organic Carbon	WINTER	mg/L		1	1.2	<1	2	<1	-	2.8
	SPRING	mg/L		1.4	1.2	1	1.9	1.1	1.3	4
	SUMMER	mg/L		1	-	-	3.1	-	-	-
	FALL	mg/L		1.1	1.8	-	2.2	1.2	-	4.8
Chemical Oxygen Demand	FALL	mg/L		<10	<10	-	<10	<10	-	<10
Specific Conductance(EC-F)	WINTER	umhos		880	1202	899	1503	1099	-	2070
	SPRING	umhos		1012	1195	865	1829	1013	-	2320
	SUMMER	umhos		908	-	-	1859	-	-	-
	FALL	umhos		812	-	-	1620	992	-	2560
EH-F	WINTER	mvolt		170	231	79	125	181	-	197
	SPRING	mvolt		113	118	138	126	114	-	143
	SUMMER	mvolt		237	-	-	186	-	-	-
	FALL	mvolt		176	-	-	218	224	-	169
pH-F	WINTER			7.29	6.91	7.03	7.06	7.22	-	6.98
	SPRING			7.46	6.82	7.05	7.05	7.19	-	7.24
	SUMMER			7.27	-	-	7.24	-	-	-
	FALL			7.48	-	-	7.35	7.47	-	7.18
Temperature-F	WINTER	deg C		18.1	19.9	19.2	18.8	18.9	-	19.4
	SPRING	deg C		18.6	20.5	19.4	18.8	18.8	-	19.3
	SUMMER	deg C		18.7	-	-	20.1	-	-	-
	FALL	deg C		18.6	-	-	19.1	18.8	-	19.7
Formaldehyde	WINTER	mg/L		<1 |N	<1 |N	<1 |N	<1 |N	<1 |N	-	<1 |N
	SPRING	mg/L		<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N
	SUMMER	mg/L		1.2 |N	-	-	3.2 |N	-	-	-
	FALL	mg/L		<1 |N	<1 |N	-	<1 |N	<1 |N	-	<1 |N

See footnotes at end of table

TABLE 5.8
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
OTHER PARAMETERS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-013	UCD1-013 D1	UCD1-019	UCD1-020	UCD1-021	UCD1-022	UCD1-022 D1
Total Dissolved Solids	WINTER	mg/L		1100 |*	-	980	450	970	570	570
	SPRING	mg/L		1100	-	870	440	930	610	-
	SUMMER	mg/L		-	-	830	470	990	570	-
	FALL	mg/L		1100	1000	890	460	1000	590	-
Turbidity	WINTER	NTU		0.48	-	0.56	0.23	0.62	3.3	3.5
	SPRING	NTU		4.6	-	1.3	0.52	3.3	5.5	-
	SUMMER	NTU		-	-	4.2	23	2.1	34	-
	FALL	NTU		2.6	0.54	0.26	0.18	0.28	0.12	-
Turbidity-F	WINTER	NTU		3.81	-	0.49	0.05	0.39	10.62	-
	SPRING	NTU		5.42	-	5.44	4.27	5.02	8.58	-
	SUMMER	NTU		-	-	6.12	19.19	12.71	9.04	-
	FALL	NTU		4.26	4.26	0.22	0.31	0.32	0.26	-
Total Organic Carbon	WINTER	mg/L		1.4	-	1.1	<1	<1	1	<1
	SPRING	mg/L		1.5	-	1	<1	1.2	<1	-
	SUMMER	mg/L		-	-	<1	<1	1.1	<1	-
	FALL	mg/L		1.7	1.5	1.2	<1	1.2	1.1	-
Chemical Oxygen Demand	FALL	mg/L		<10	<10	11.	10.	<10	10.	-
Specific Conductance(EC-F)	WINTER	umhos		1119	-	1408	717	1391	909	-
	SPRING	umhos		1326	-	1287	713	1226	957	-
	SUMMER	umhos		-	-	1051	767	1419	1016	-
	FALL	umhos		1463	1463	1270	742	1382	738	-
EH-F	WINTER	mvolt		116	-	124	137	142	75	-
	SPRING	mvolt		119	-	131	154	95	123	-
	SUMMER	mvolt		-	-	183	251	210	163	-
	FALL	mvolt		206	206	206	228	247	104	-
pH-F	WINTER			6.84	-	7.08	7.4	7.24	7.32	-
	SPRING			7.17	-	7.37	7.43	7.43	7.25	-
	SUMMER			-	-	7.45	7.59	7.22	7.29	-
	FALL			6.51	6.51	7.25	7.48	7.22	7.36	-
Temperature-F	WINTER	deg C		19.3	-	19.9	20	20.9	19.8	-
	SPRING	deg C		19.1	-	19.7	19.8	20.3	20.4	-
	SUMMER	deg C		-	-	19.9	21.3	20.5	20.8	-
	FALL	deg C		19.2	19.2	19.6	19.6	20	19.8	-
Formaldehyde	WINTER	mg/L		<1 |N	-	<1	<1	<1	<1	<1
	SPRING	mg/L		<0.05 UJm|N	-	<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N	-
	SUMMER	mg/L		-	-	<1 |N	<1 |N	3.5 |N	<1 |N	-
	FALL	mg/L		<1 |N	<1 |N	<1 |N	<1 |N	<1 |N	<1 |N	-

See footnotes at end of table

TABLE 5.8
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
OTHER PARAMETERS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD1-023	UCD1-024	UCD2-017	UCD2-017 D1	UCD2-007	UCD2-014	UCD2-014 D1
Total Dissolved Solids	WINTER	mg/L		670	940	390	-	560 |*	780 |*	-
	SPRING	mg/L		620	970	380	-	600	930	-
	SUMMER	mg/L		610	920	410	-	580	760	760
	FALL	mg/L		610	880	390	400	540 |C	510	-
Turbidity	WINTER	NTU		0.88	0.73	0.19	-	0.72	0.14	-
	SPRING	NTU		2.1	0.6	2	-	0.5	2.5	-
	SUMMER	NTU		25	28	0.63	-	0.86	2.7	2.3
	FALL	NTU		0.27	0.00	0.00	0.00	0.00	0.050	-
Turbidity-F	WINTER	NTU		0.63	2.49	0.24	-	1.29	0.94	-
	SPRING	NTU		4.99	0.87	0.7	-	1.1	0.32	-
	SUMMER	NTU		47.21	13.28	0.25	-	1.27	0.66	-
	FALL	NTU		0.06	-	0.11	0.11	0.16	0.14	-
Total Organic Carbon	WINTER	mg/L		<1	1	<1	-	<1	1	-
	SPRING	mg/L		<1	<1	<1	-	<1	1.3	-
	SUMMER	mg/L		<1	<1	<1	-	<1	1.2	1.2
	FALL	mg/L		1.2	<1	6.3	<1	2.1	<1	-
Chemical Oxygen Demand	FALL	mg/L		10.	11.	16.	<10	<10	<10	-
Specific Conductance(EC-F)	WINTER	umhos		1026	1013	449	-	773	912	-
	SPRING	umhos		994	1408	556	-	612	1384	-
	SUMMER	umhos		942	1415	472	-	747	1049	-
	FALL	umhos		1003	-	561	561	855	747	-
EH-F	WINTER	mvolt		113	98	98	-	156	157	-
	SPRING	mvolt		46	144	-	-	140	114	-
	SUMMER	mvolt		100	184	225	-	223	205	-
	FALL	mvolt		203	-	192	192	219	163	-
pH-F	WINTER			7.15	7.03	7.37	-	7.3	7.24	-
	SPRING			7.18	7.04	7.89	-	7.24	7.24	-
	SUMMER			7.46	7.21	7.51	-	7.41	7.02	-
	FALL			7.3	-	7.43	7.43	7.57	6.97	-
Temperature-F	WINTER	deg C		20.1	20	18.6	-	19.2	18.8	-
	SPRING	deg C		19.8	20.5	18.5	-	19.1	19.5	-
	SUMMER	deg C		20.7	21.3	19.2	-	19.2	19.4	-
	FALL	deg C		19.2	-	18.4	18.4	18.7	18.8	-
Formaldehyde	WINTER	mg/L		<1	<1	<1	-	<1 |N	<1 |N	-
	SPRING	mg/L		<0.05 UJm|N	<0.05 UJm|N	<0.05 UJm|N	-	<0.05 UJm|N	<0.05 UJm|N	-
	SUMMER	mg/L		<1 |N	<1 |N	<1 |N	-	1.2 |N	<1 |N	<1 |N
	FALL	mg/L		<1 |N	<1 |N	<1 |N	<1 |N	<1 |N	<1 |N	-

See footnotes at end of table

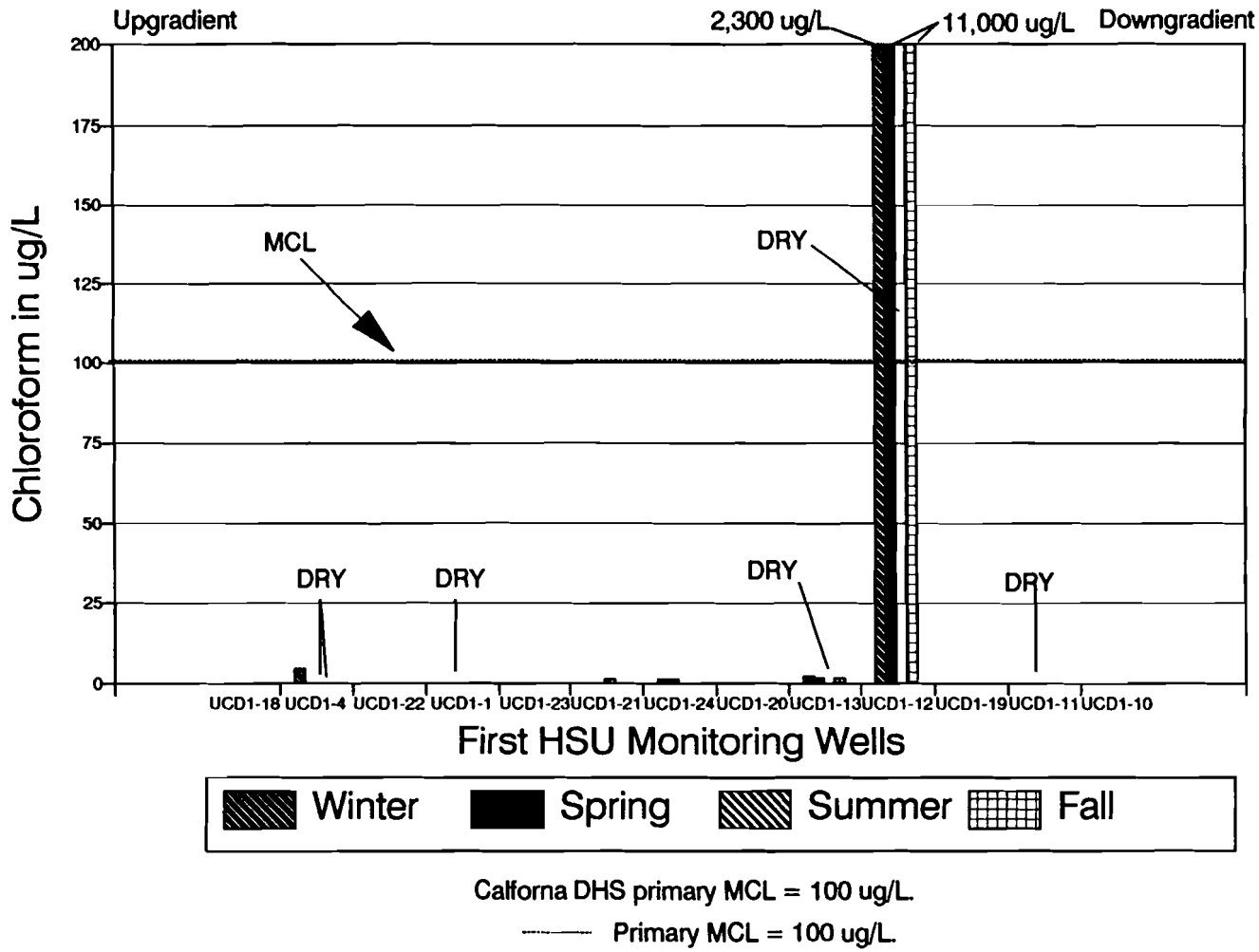
TABLE 5.8
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER, 1994
OTHER PARAMETERS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Quarter	Units	MCL	UCD2-015	UCD2-015 D1	UCD2-016	UCD2-016 D1
Total Dissolved Solids	WINTER	mg/L		410	420	420	-
	SPRING	mg/L		410	-	460	460
	SUMMER	mg/L		380	-	460	430
	FALL	mg/L		390	-	440	-
Turbidity	WINTER	NTU		0.36	0.42	0.07	-
	SPRING	NTU		3.5	-	1.2	2.7
	SUMMER	NTU		0.22	-	0.47	0.39
	FALL	NTU		0.00	-	0.00	-
Turbidity-F	WINTER	NTU		0.31	-	0.07	-
	SPRING	NTU		2.12	-	1.79	-
	SUMMER	NTU		1.71	-	1.17	-
	FALL	NTU		0.32	-	0.32	-
Total Organic Carbon	WINTER	mg/L		<1	<1	<1	-
	SPRING	mg/L		1	-	1	1.1
	SUMMER	mg/L		<1	-	<1	<1
	FALL	mg/L		<1	-	<1	-
Chemical Oxygen Demand	FALL	mg/L		<10	-	<10	-
Specific Conductance(EC-F)	WINTER	umhos		584	-	650	-
	SPRING	umhos		645	-	703	-
	SUMMER	umhos		480	-	594	-
	FALL	umhos		617	-	587	-
EH-F	WINTER	mvolt		88	-	74	-
	SPRING	mvolt		-	-	67	-
	SUMMER	mvolt		180	-	192	-
	FALL	mvolt		167	-	171	-
pH-F	WINTER			7.49	-	7.44	-
	SPRING			7.36	-	7.46	-
	SUMMER			7.57	-	7.56	-
	FALL			7.58	-	7.50	-
Temperature-F	WINTER	deg C		18.5	-	19.2	-
	SPRING	deg C		18.5	-	18.7	-
	SUMMER	deg C		18.5	-	18.8	-
	FALL	deg C		18.4	-	18.4	-
Formaldehyde	WINTER	mg/L		<1	<1	<1	-
	SPRING	mg/L		<0.05 UJm|N	-	<0.05 UJm|N	<0.05 UJm|N
	SUMMER	mg/L		<1 |N	-	<1 |N	<1 |N
	FALL	mg/L		<1 |N	-	<1 |N	-

See footnotes at end of table

TABLE 5.8
SUMMARY OF DETECTED CONSTITUENTS IN GROUNDWATER,1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.



Calforna DHS primary MCL = 100 ug/L.

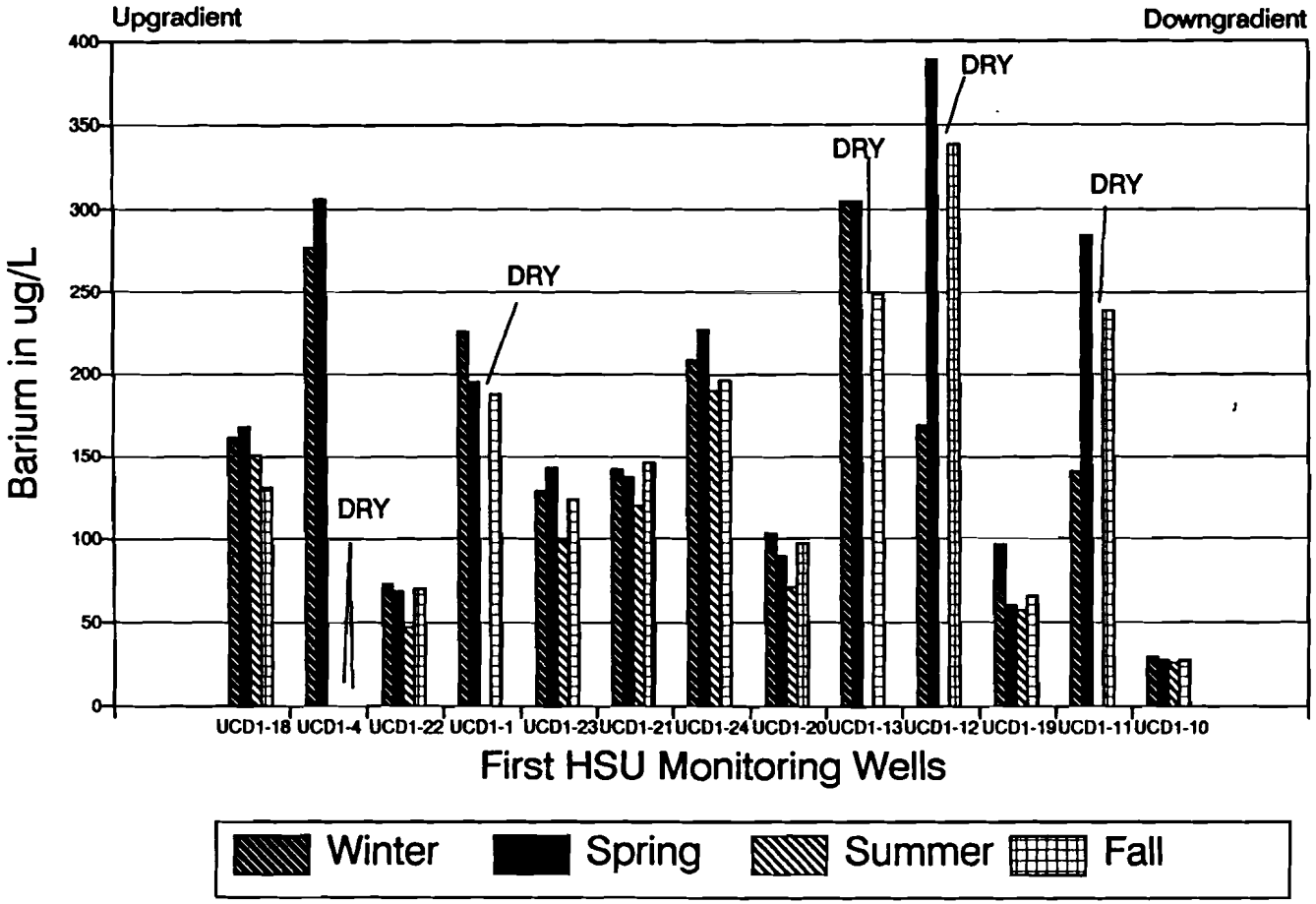
Primary MCL = 100 ug/L.

BAR GRAPH OF CHLOROFORM IN FIRST HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.1

10805-959-6303-044 RDM 6303

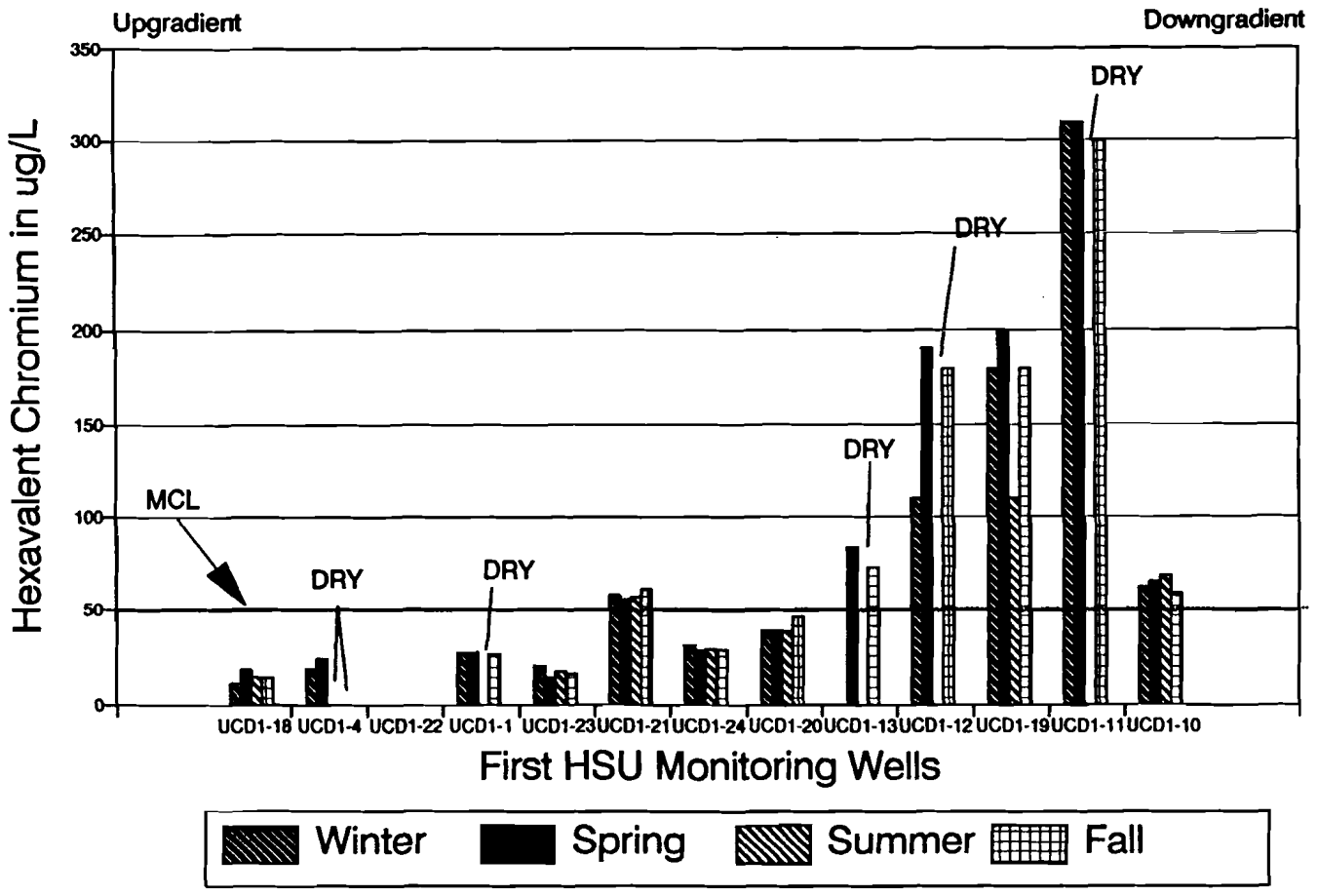


California DHS primary MCL = 1000 ug/L.

BAR GRAPH OF BARIUM IN FIRST HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.2



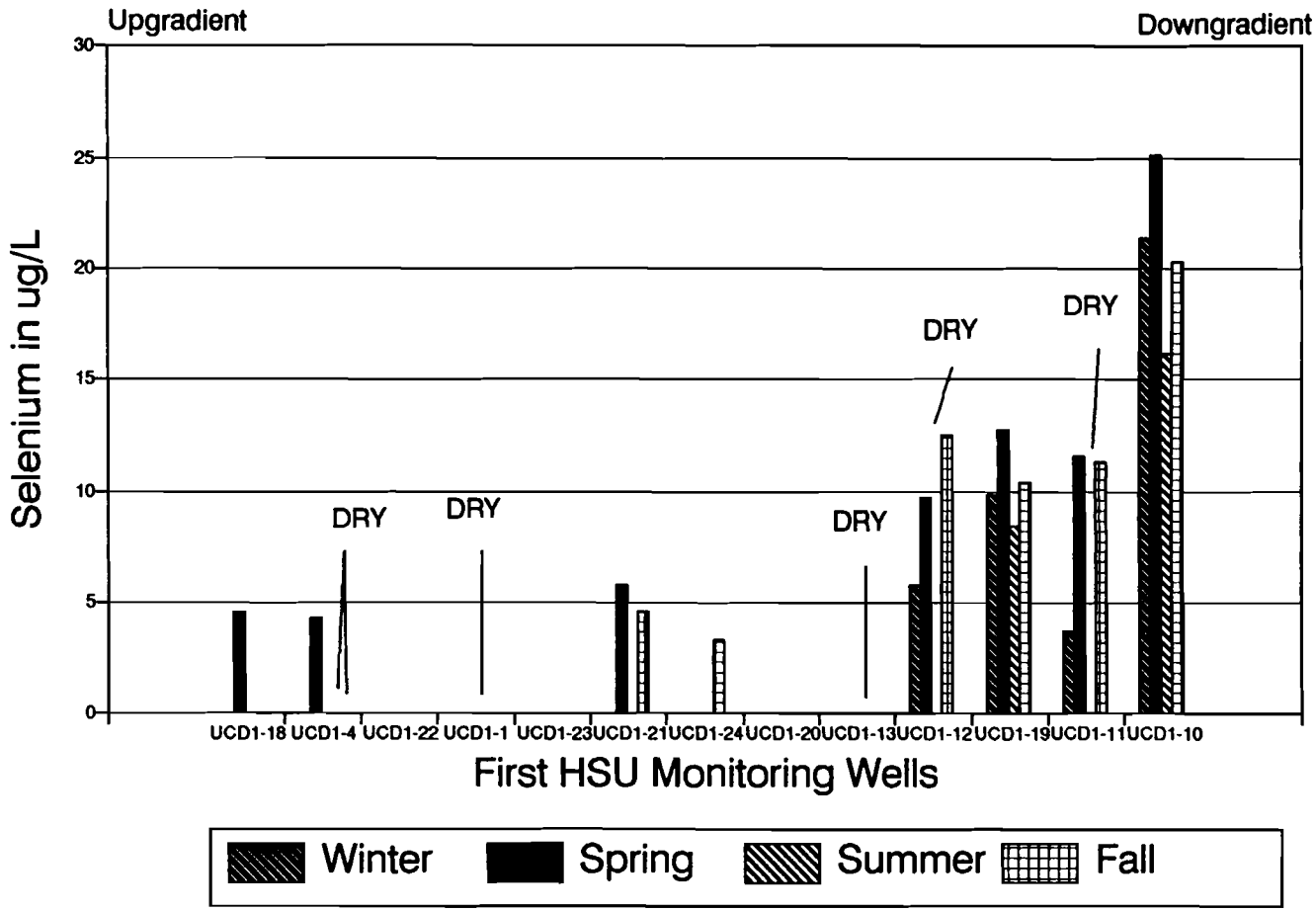
California DHS primary MCL = 50 ug/L for Total Chromium (Hexavalent and Trivalent).

——— Total Chromium MCL = 50 ug/L.

BAR GRAPH OF HEXAVALENT CHROMIUM IN FIRST HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.3

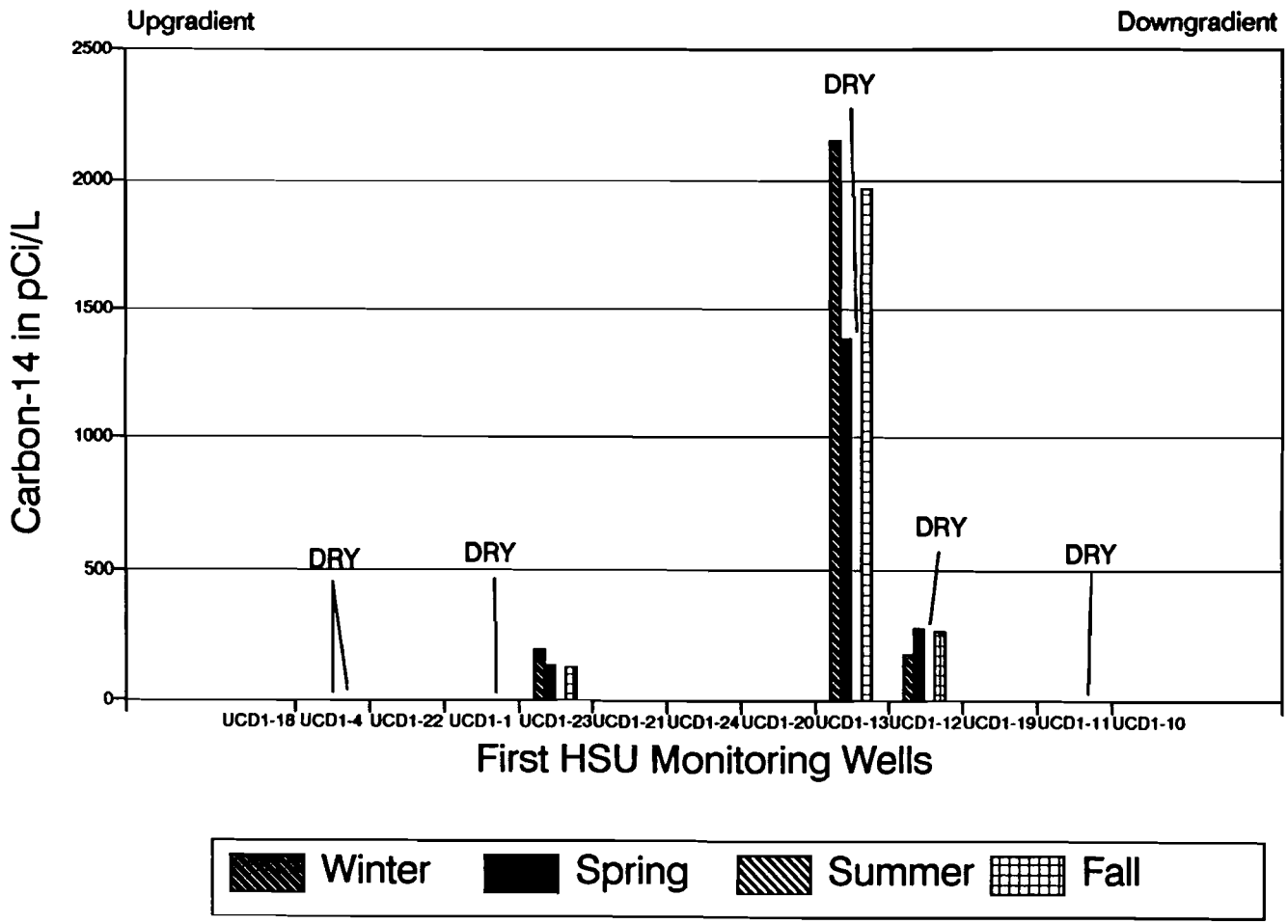


USEPA Primary MCL = 10 ug/L

BAR GRAPH OF SELENIUM IN FIRST HSU

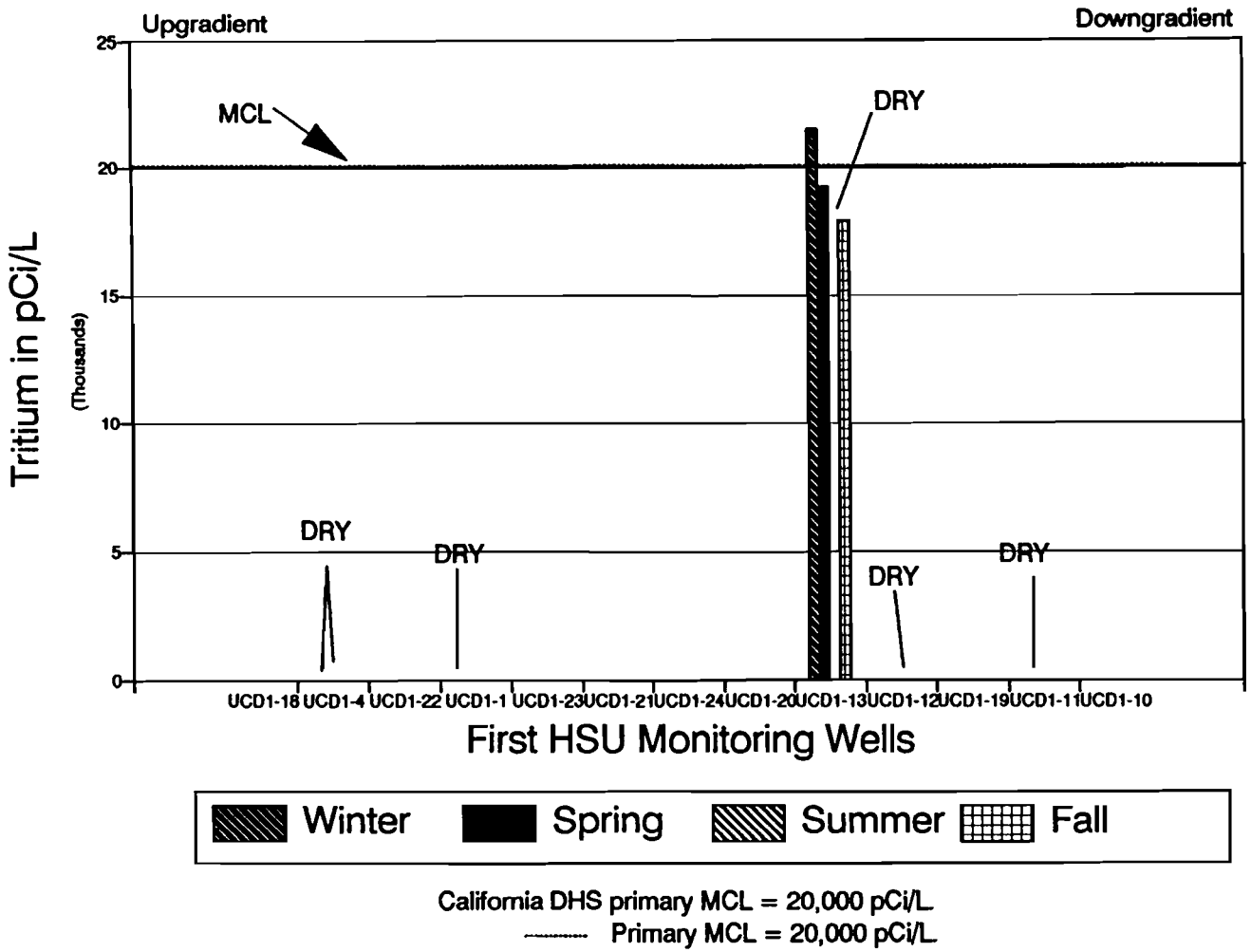
1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.4



BAR GRAPH OF CARBON-14 IN FIRST HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



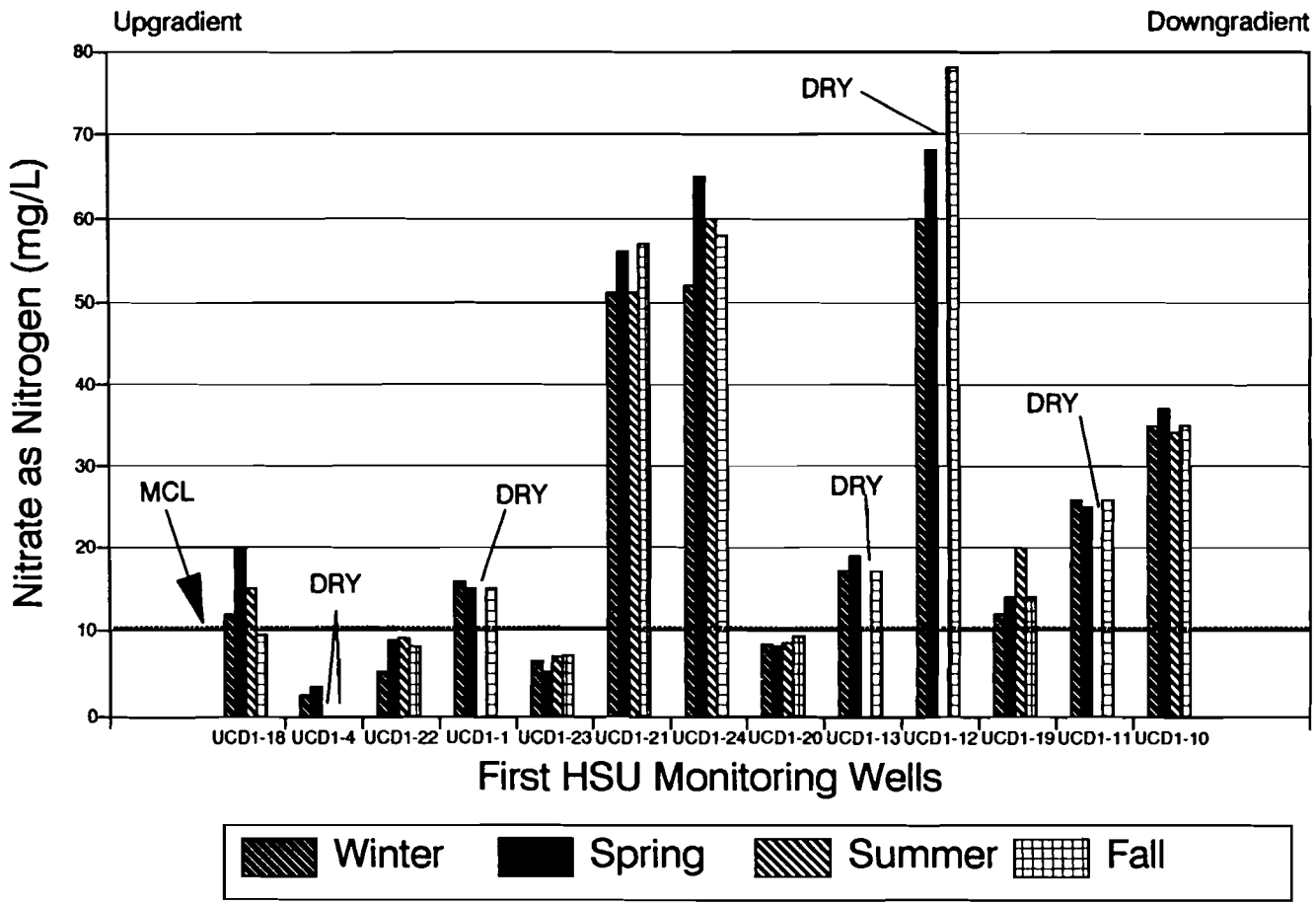
California DHS primary MCL = 20,000 pCi/L
Primary MCL = 20,000 pCi/L

BAR GRAPH OF TRITIUM IN FIRST HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10805-959-6303-044 RDM 6303

FIGURE 5.6



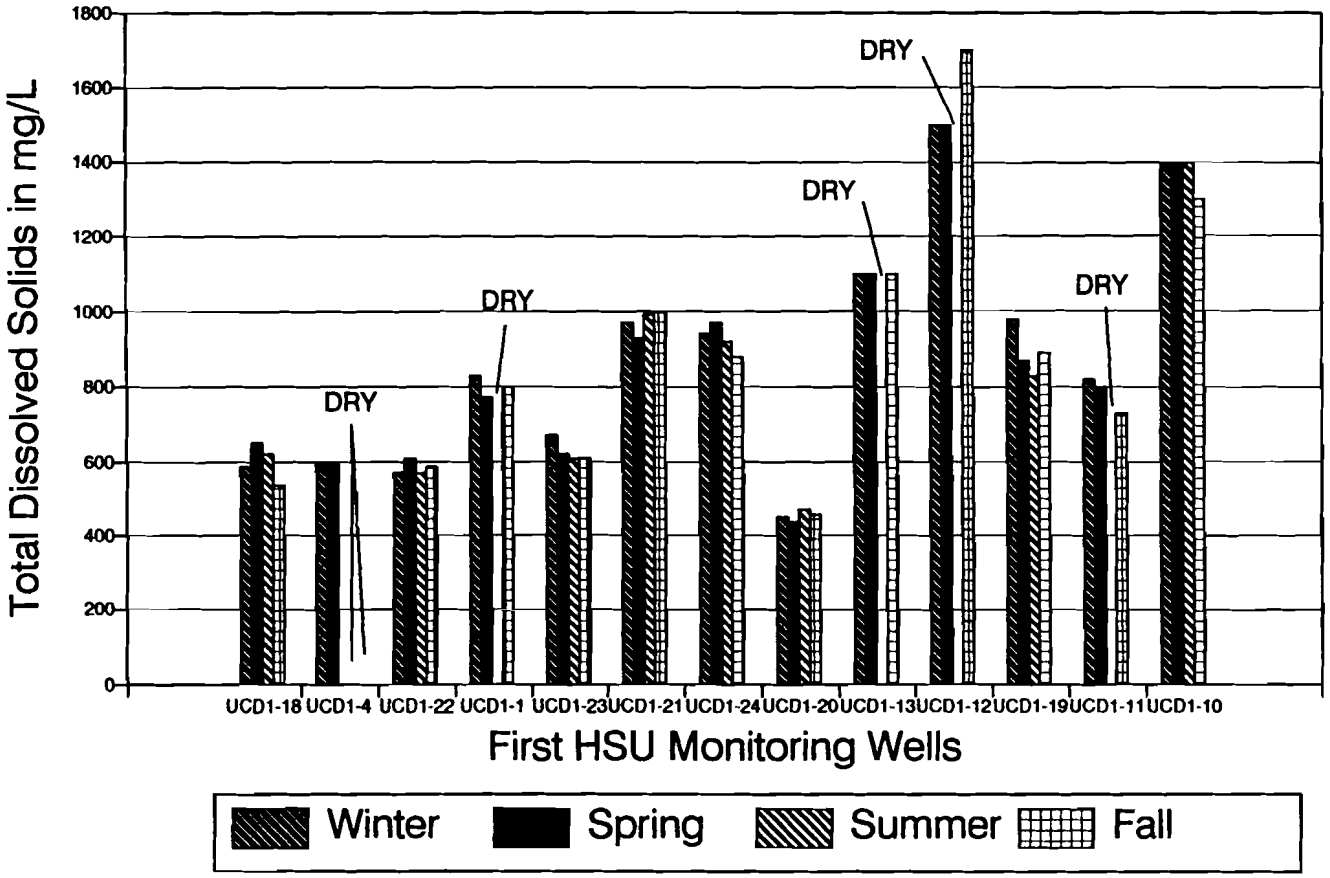
USEPA primary MCL = 10 mg/L for Nitrate as Nitrogen.

---------- Primary MCL = 10 mg/L

BAR GRAPH OF
NITRATE AS NITROGEN IN FIRST HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

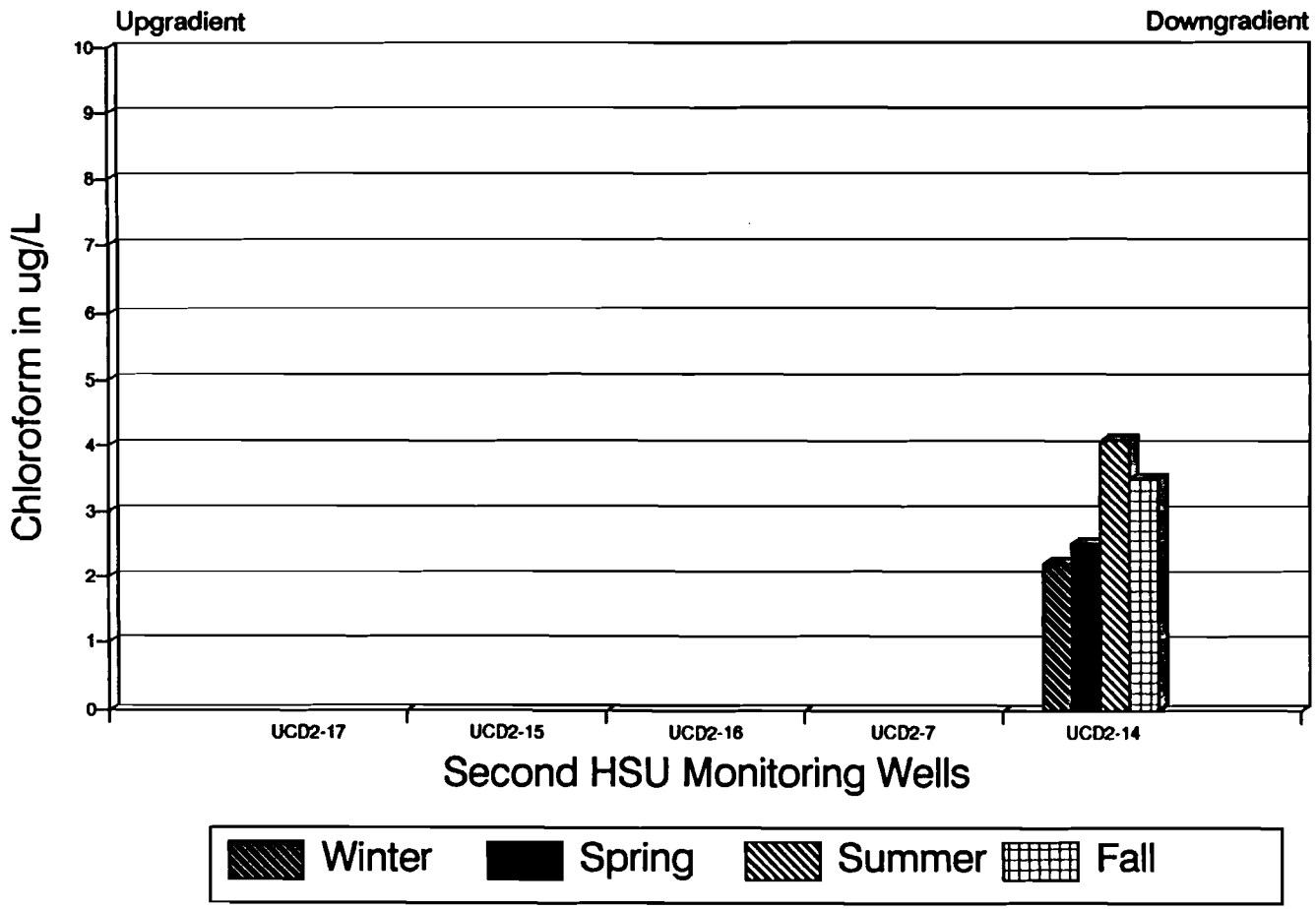
FIGURE 5.7



BAR GRAPH OF
TOTAL DISSOLVED SOLIDS IN FIRST HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.8



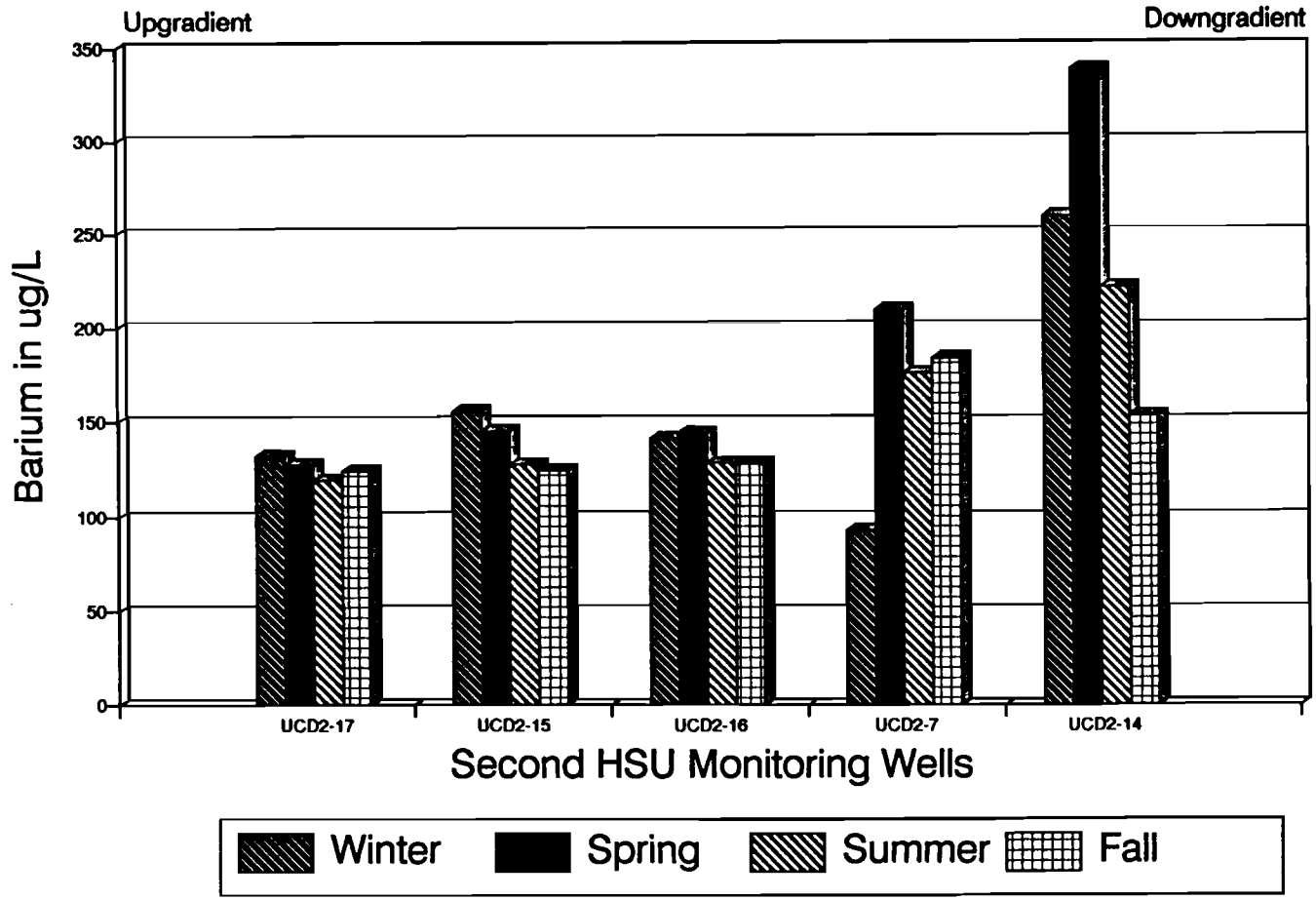
California DHS primary MCL = 100 ug/L

BAR GRAPH OF CHLOROFORM IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.9

10805-959-6303-044 RDM 6303



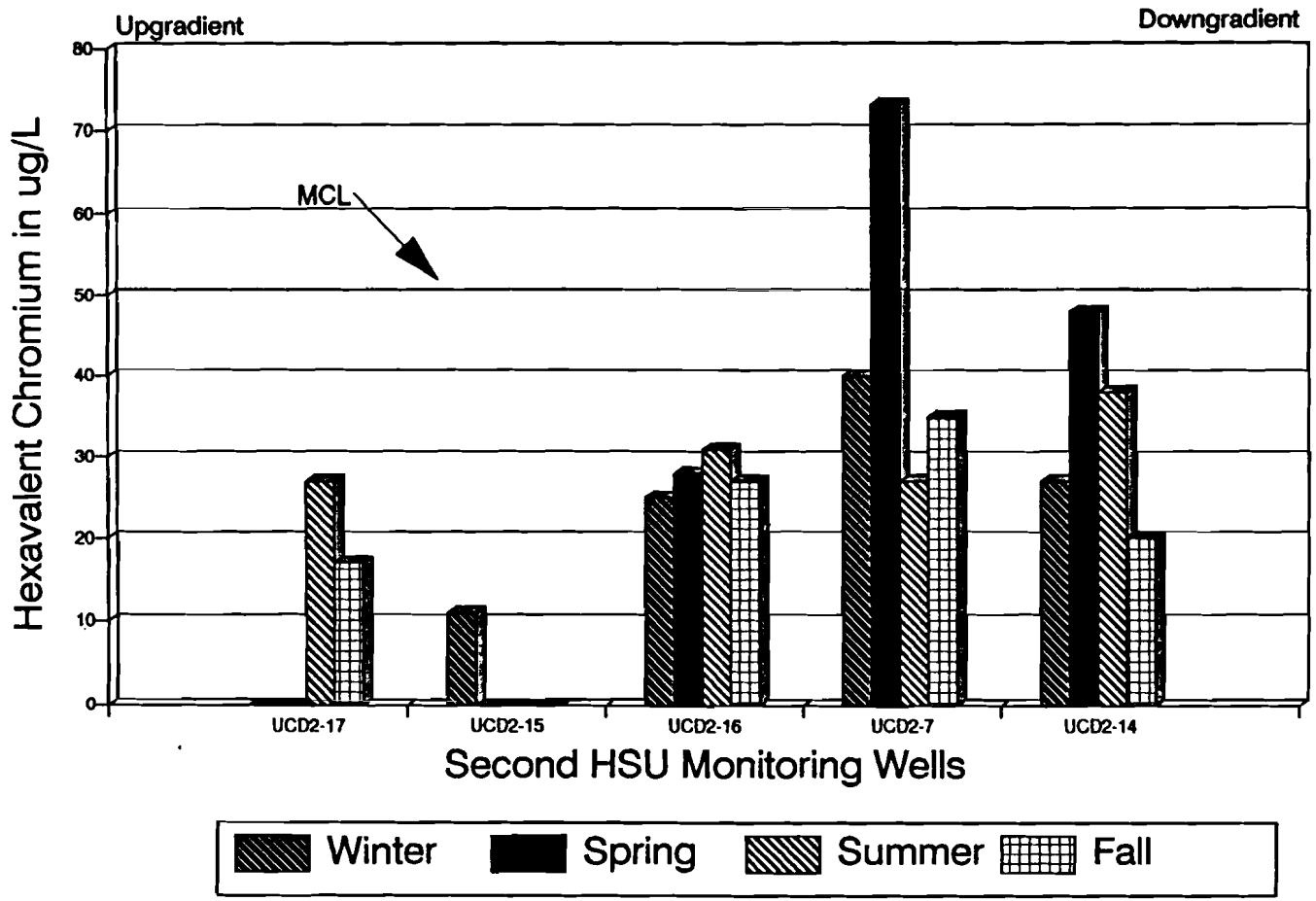
California DHS primary MCL = 1000 ug/L

BAR GRAPH OF BARIUM IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.10

10805-959-6303-044 RDM 6303



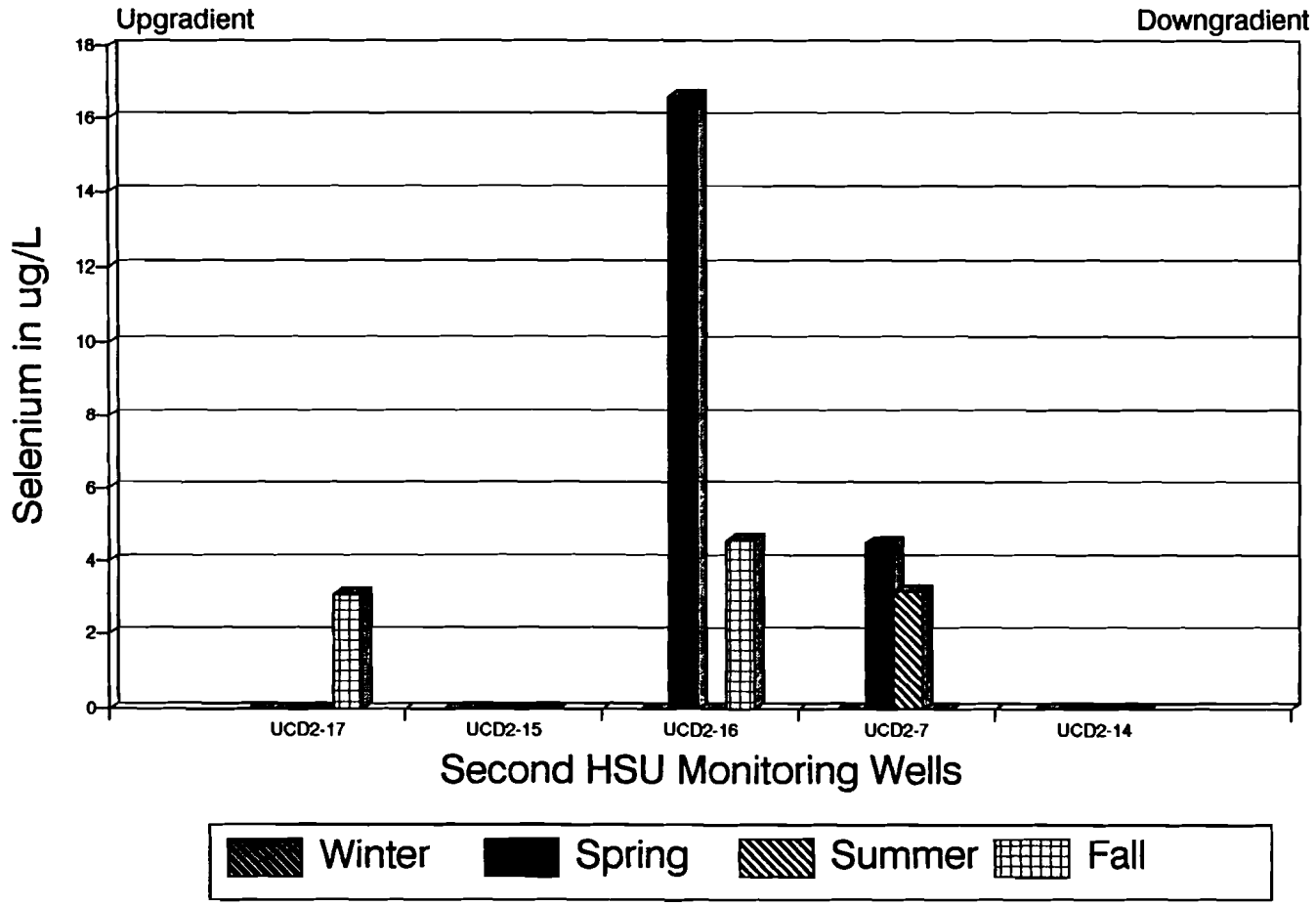
California DHS primary MCL = 50 ug/L for Total Chromium (Hexavalent and Trivalent).

Total Chromium MCL = 50 ug/L

BAR GRAPH OF HEXAVALENT CHROMIUM IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.11

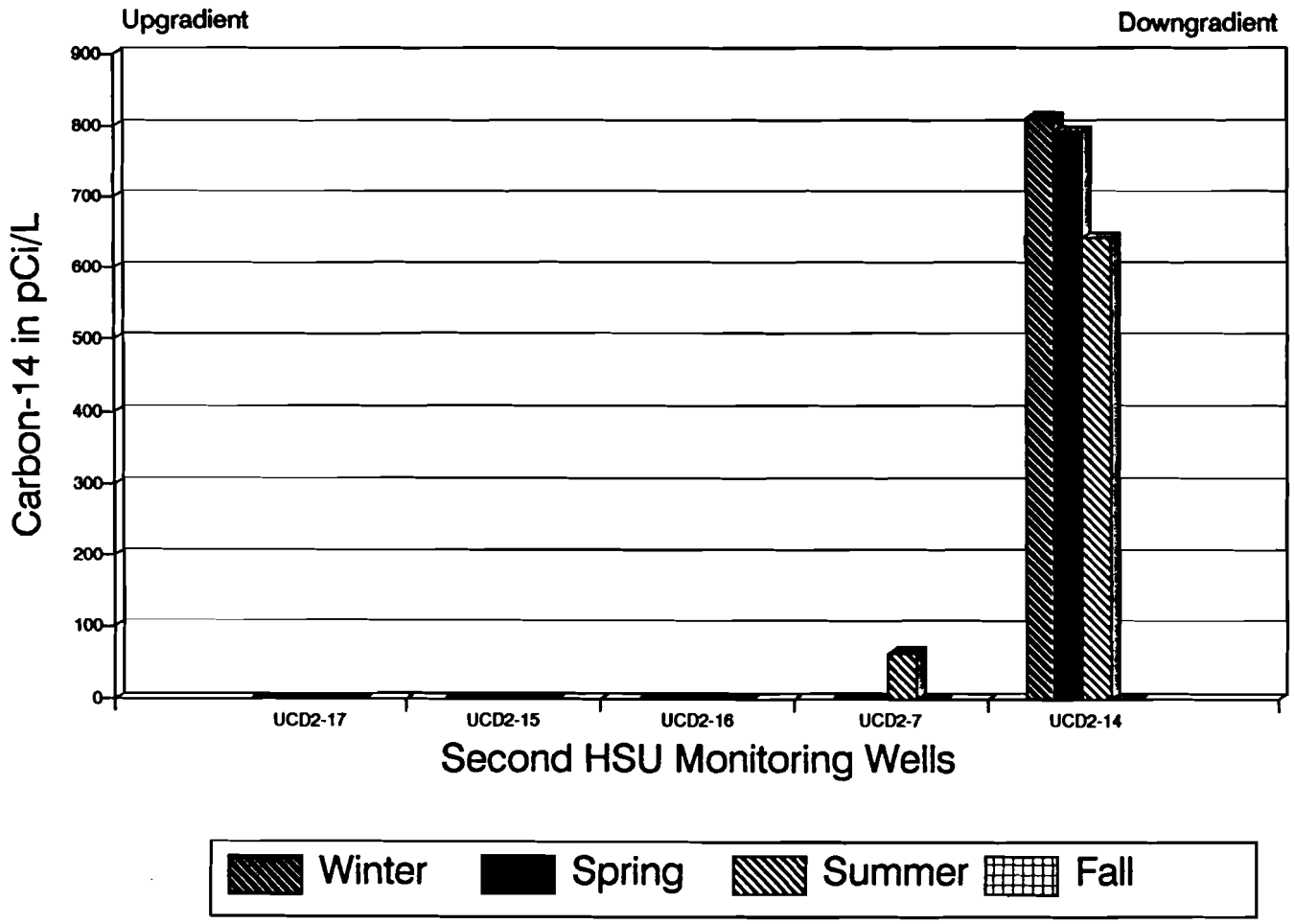


USEPA Primary MCL = 10 ug/L

BAR GRAPH OF SELENIUM IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.12

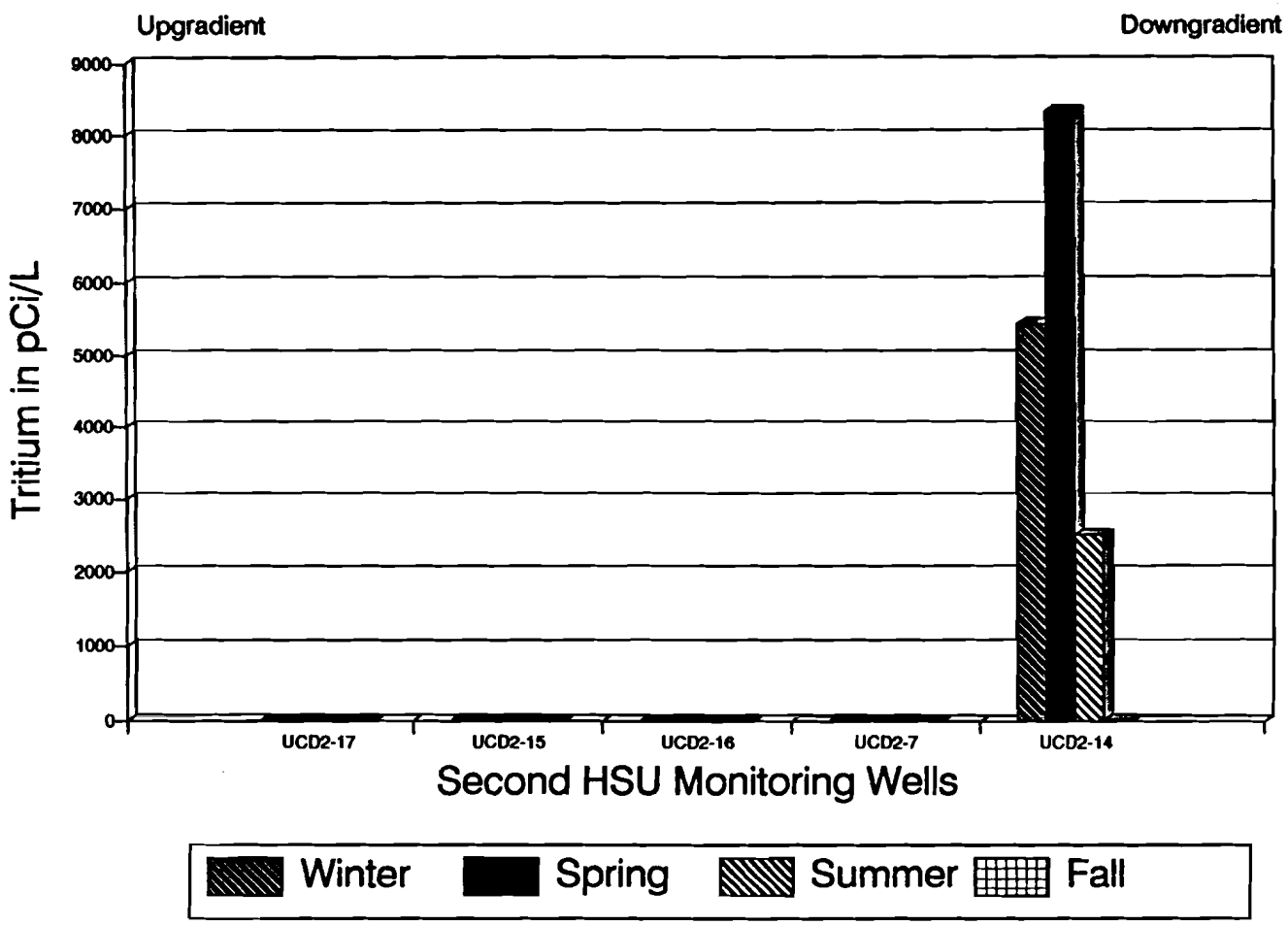


BAR GRAPH OF CARBON-14 IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.13

10805-959-6303-044 RDM 6303

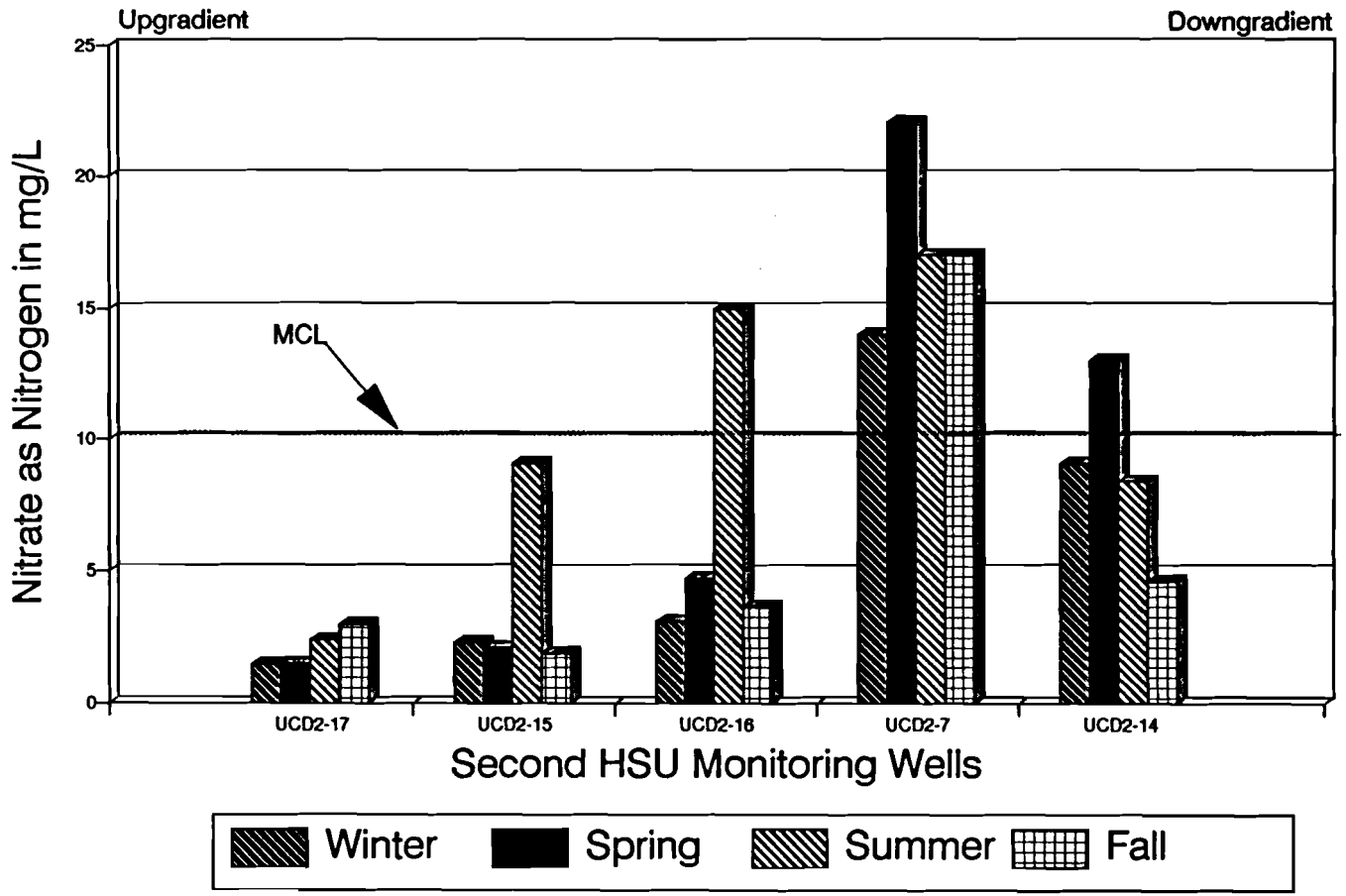


California DHS primary MCL = 20,000 pCi/L

BAR GRAPH OF TRITIUM IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.14



USEPA primary MCL = 10 mg/L for Nitrate as Nitrogen.

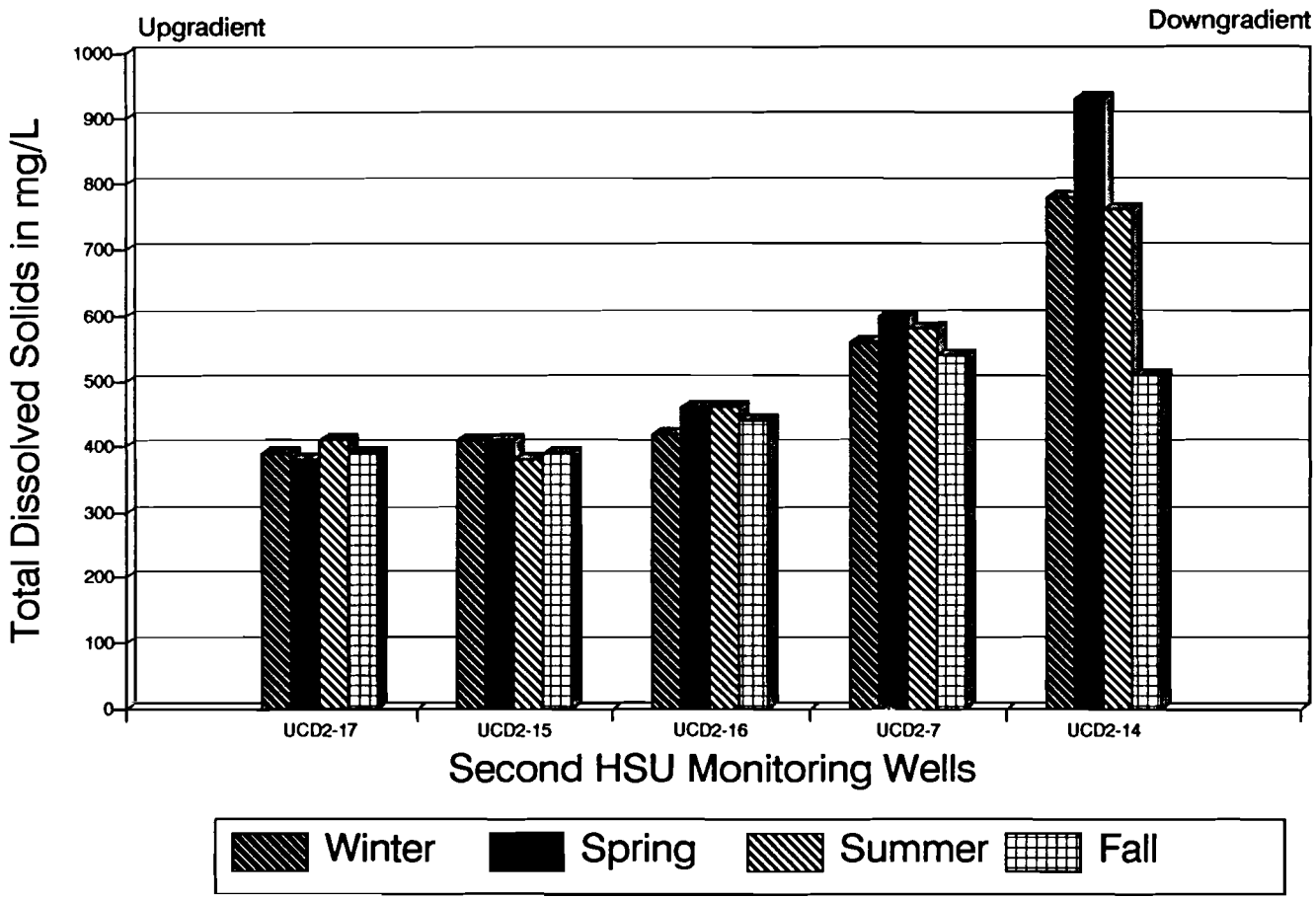
Primary MCL

BAR GRAPH OF
NITRATE AS NITROGEN IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10805-959-6303-044 RDM 6303

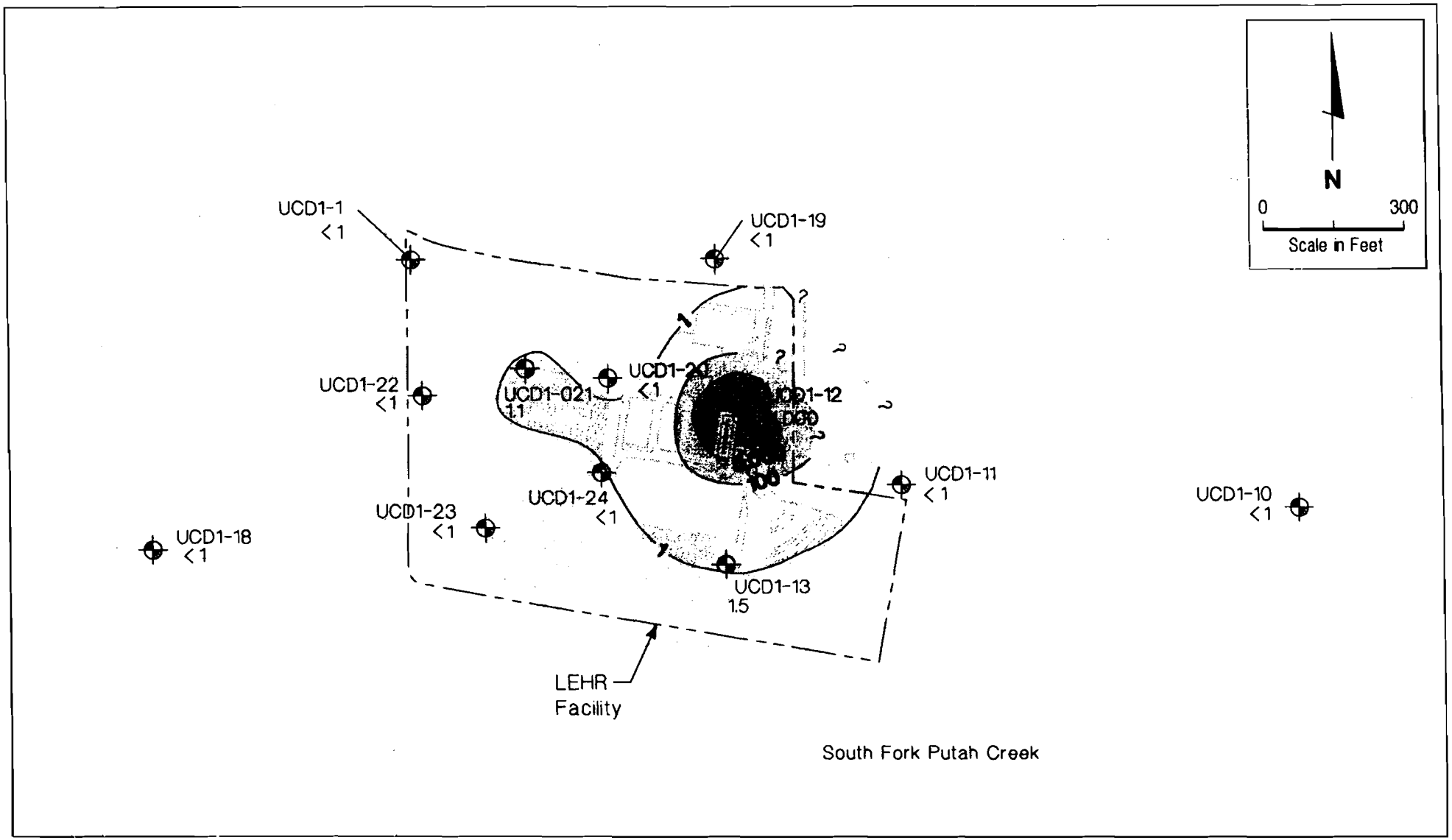
FIGURE 5.15



BAR GRAPH OF
TOTAL DISSOLVED SOLIDS IN SECOND HSU

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.16

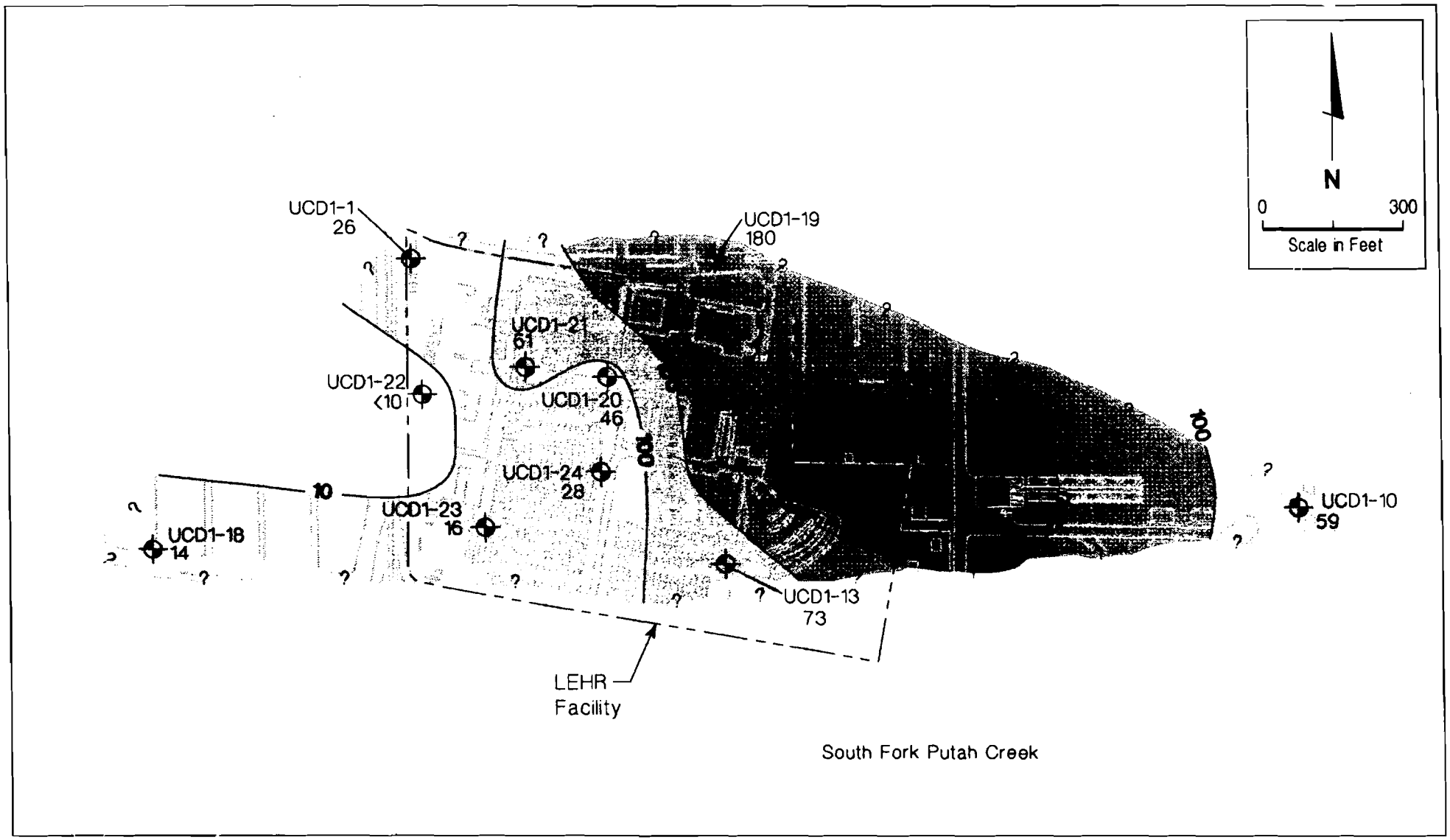


EXPLANATION

1.1	First HSU Monitoring Well Showing Concentrations of Chloroform in ug/L		1-100 ug/L
			100-5,000 ug/L
< 1	Not Detected At or Above Posted Detection Limit		> 5,000 ug/L
— 0 —	Concentration Contour for Chloroform in ug/L		
?	Data Limit		

CONCENTRATION CONTOUR PLOT
CHLOROFORM IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

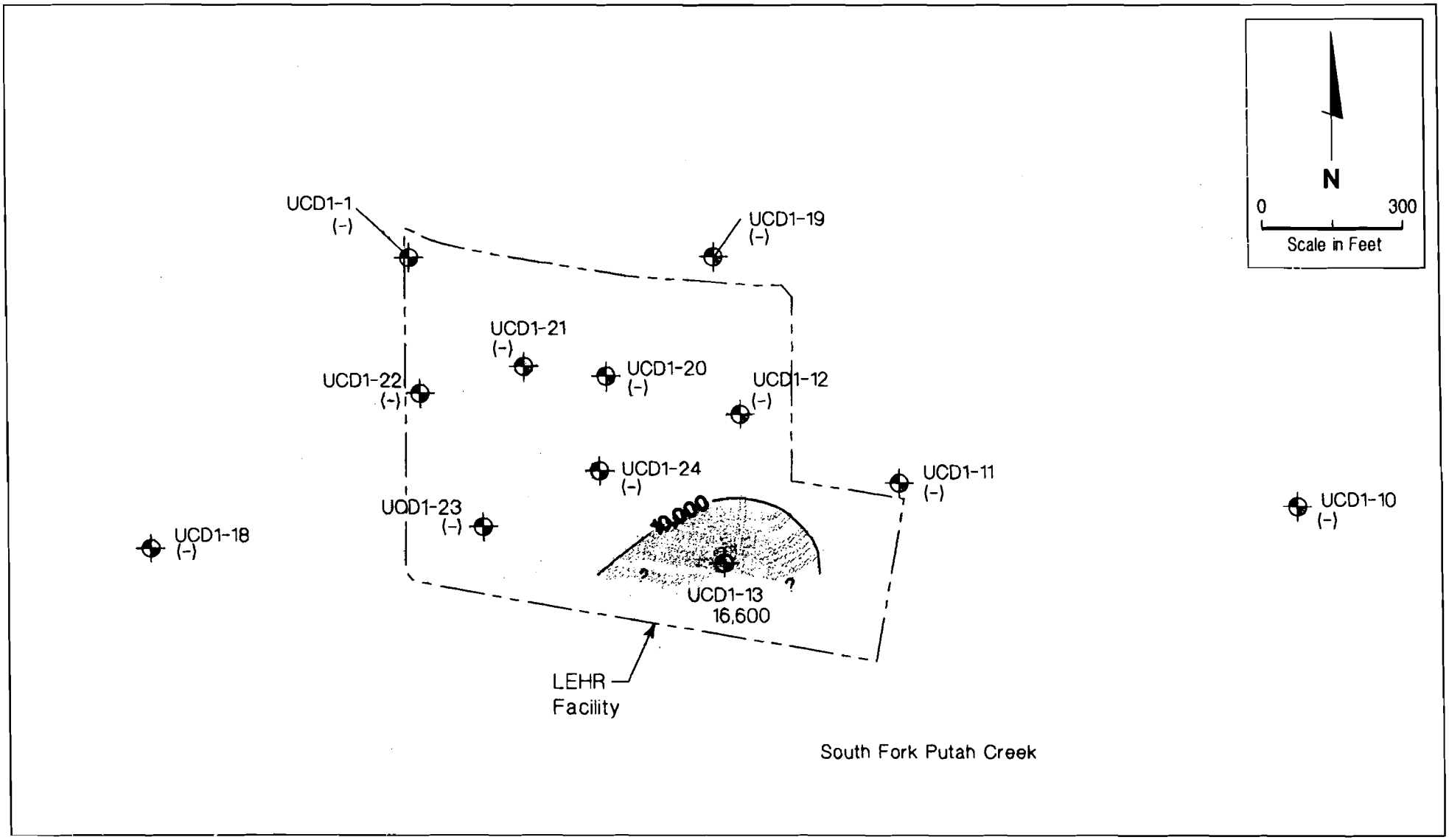


EXPLANATION

61	First HSU Monitoring Well Showing Concentration of Hexavalent Chromium in ug/L	10-50 ug/L
— 25 —	Concentration Contour for Hexavalent Chromium in ug/L	50-100 ug/L
?	Data Limit	100-200 ug/L
<10	Not Detected At or Above Posted Detection Limit	>200 ug/L

CONCENTRATION CONTOUR PLOT HEXAVALENT CHROMIUM IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



EXPLANATION

First HSU Monitoring Well Showing Concentration of Tritium in pCi/L >10,000 pCi/L

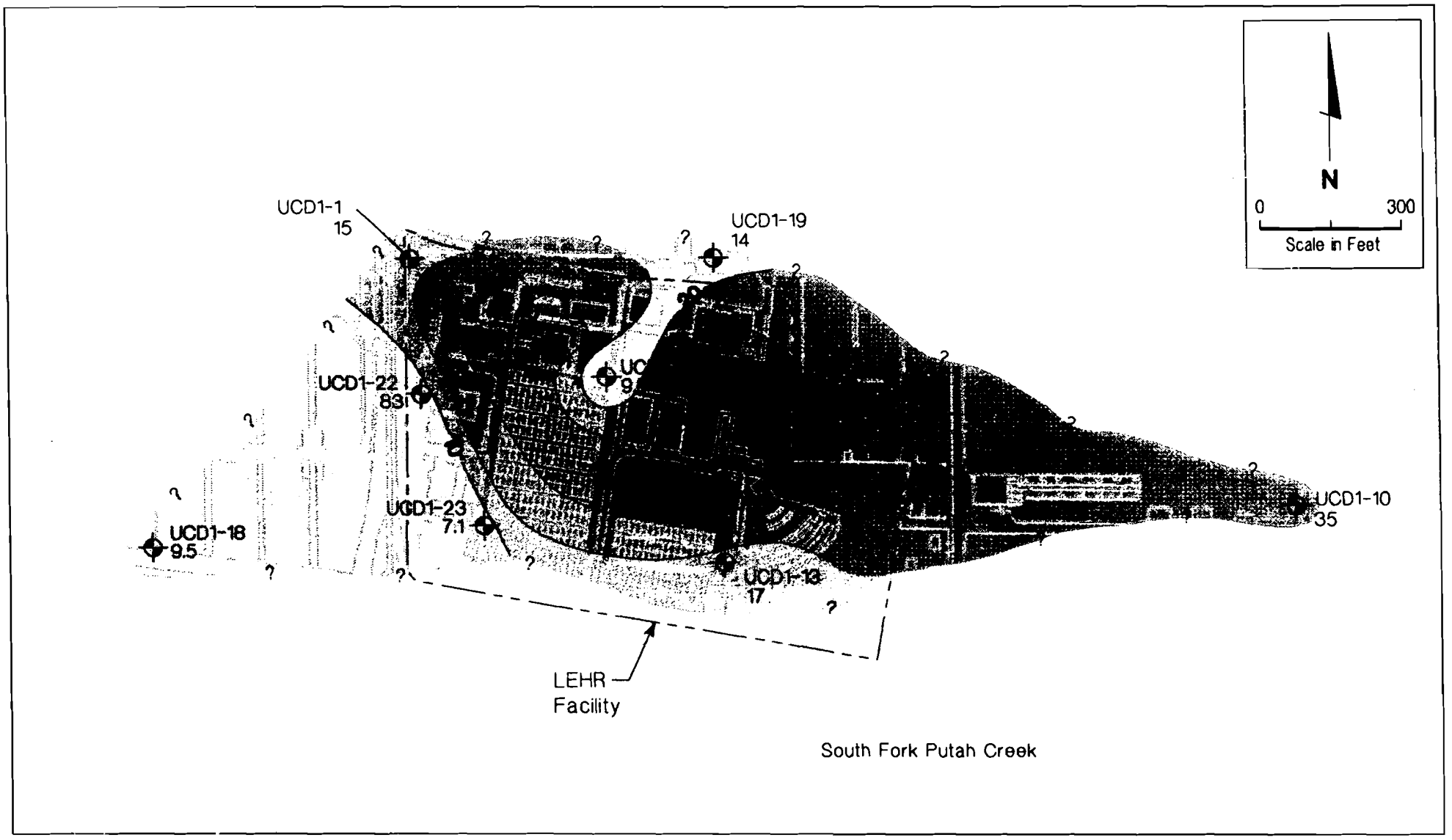
—20— Concentration Contour for Tritium in pCi/L

? Data Limit

(-) Not Detected

CONCENTRATION CONTOUR PLOT
TRITIUM IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



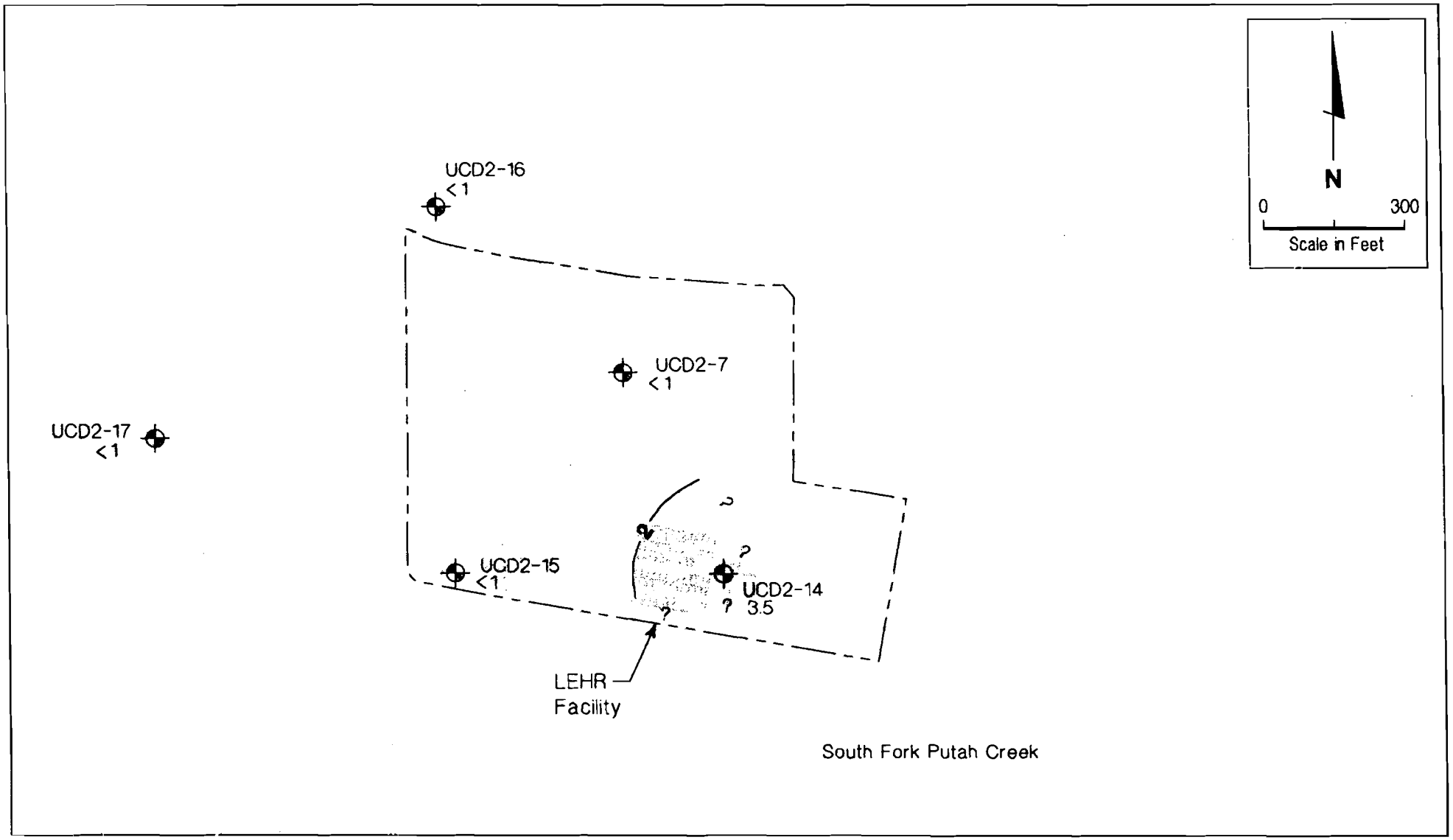
EXPLANATION

- 9.5 First HSU Monitoring Well Showing Concentration Nitrate as Nitrogen in mg/L
- 20 Concentration Contour for Nitrate as Nitrogen in mg/L
- ? Data Limit

- <10 mg/L
- 10-20 mg/L
- 20-40 mg/L
- 40-60 mg/L
- >60 mg/L

CONCENTRATION CONTOUR PLOT
NITRATE AS NITROGEN IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

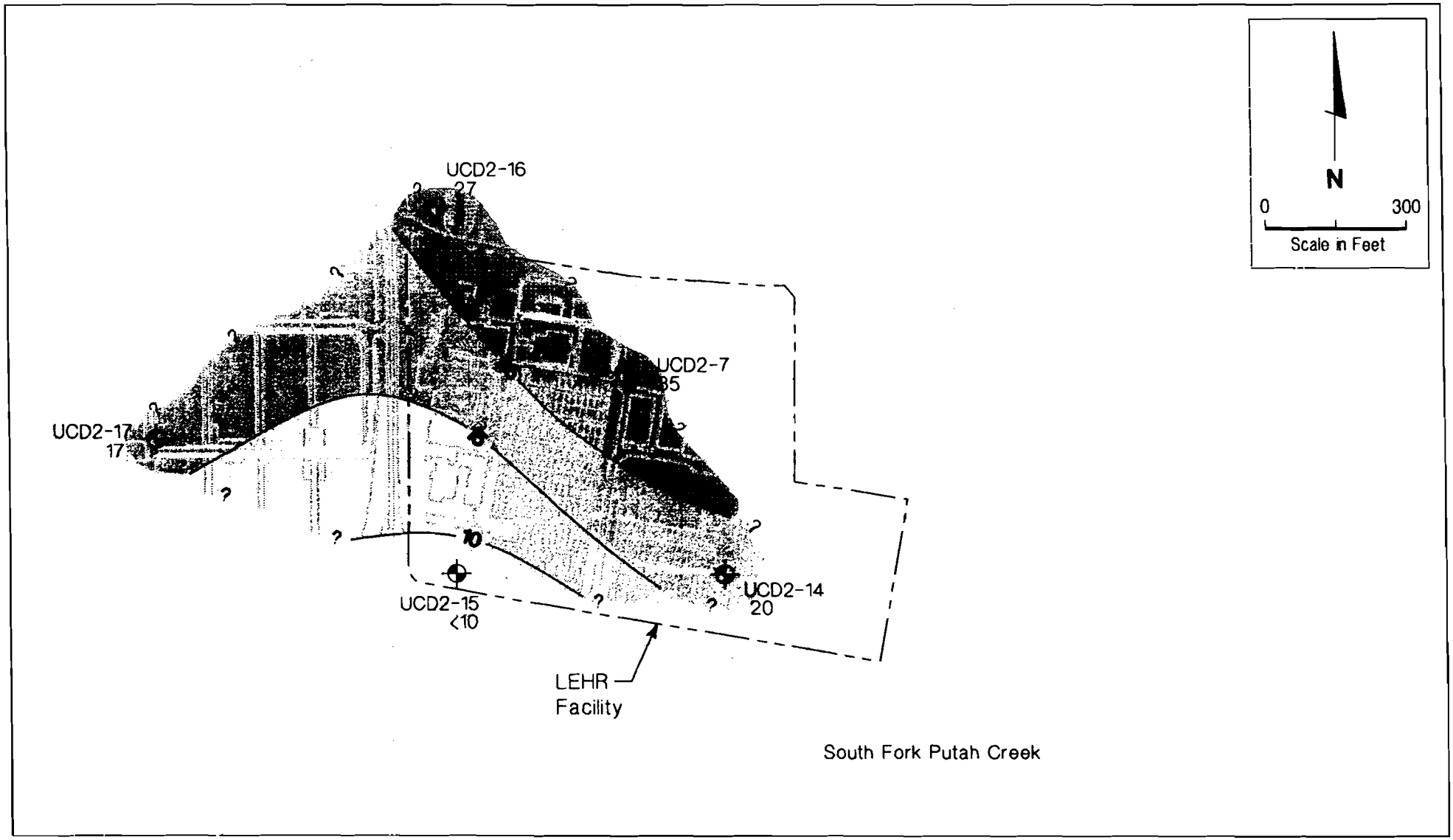


EXPLANATION

3.5	Second HSU Monitoring Well Showing Concentration of Chloroform in ug/L	>2 ug/L
<1	Not Detected At or Above Posted Detection Limits	
—12—	Concentration Contour for Chloroform in ug/L	
?	Data Limit	

CONCENTRATION CONTOUR PLOT CHLOROFORM IN SECOND HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

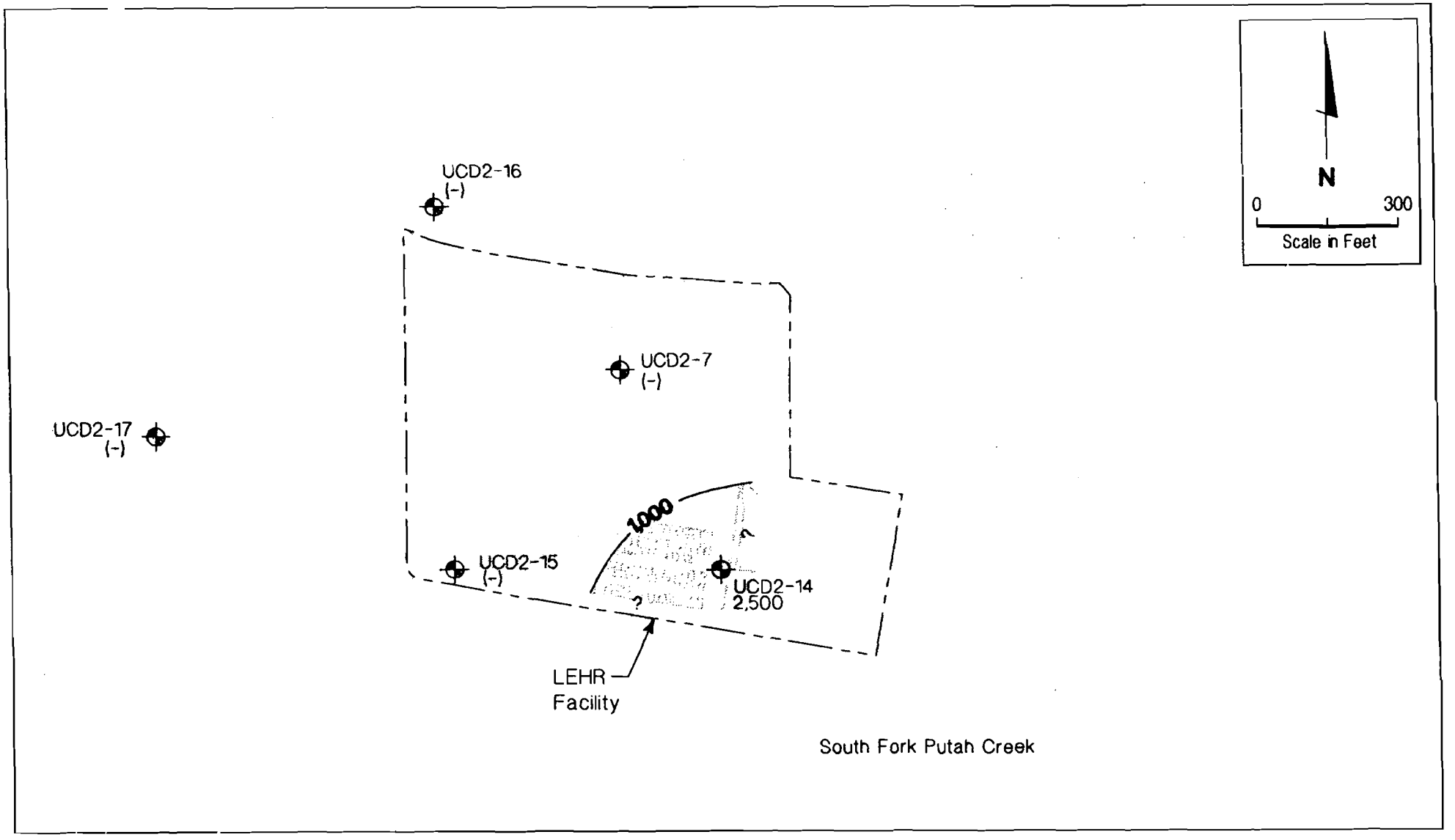


EXPLANATION

20	Second HSU Monitoring Well Showing Concentration of Hexavalent Chromium in ug/L		>10 ug/L
			10-25 ug/L
15	Concentration Contour for Hexavalent Chromium in ug/L		>25 ug/L
?	Data Limit		
<10	Not Detected At or Above Posted Detection Limit		

CONCENTRATION CONTOUR PLOT
HEXAVALENT CHROMIUM IN SECOND HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



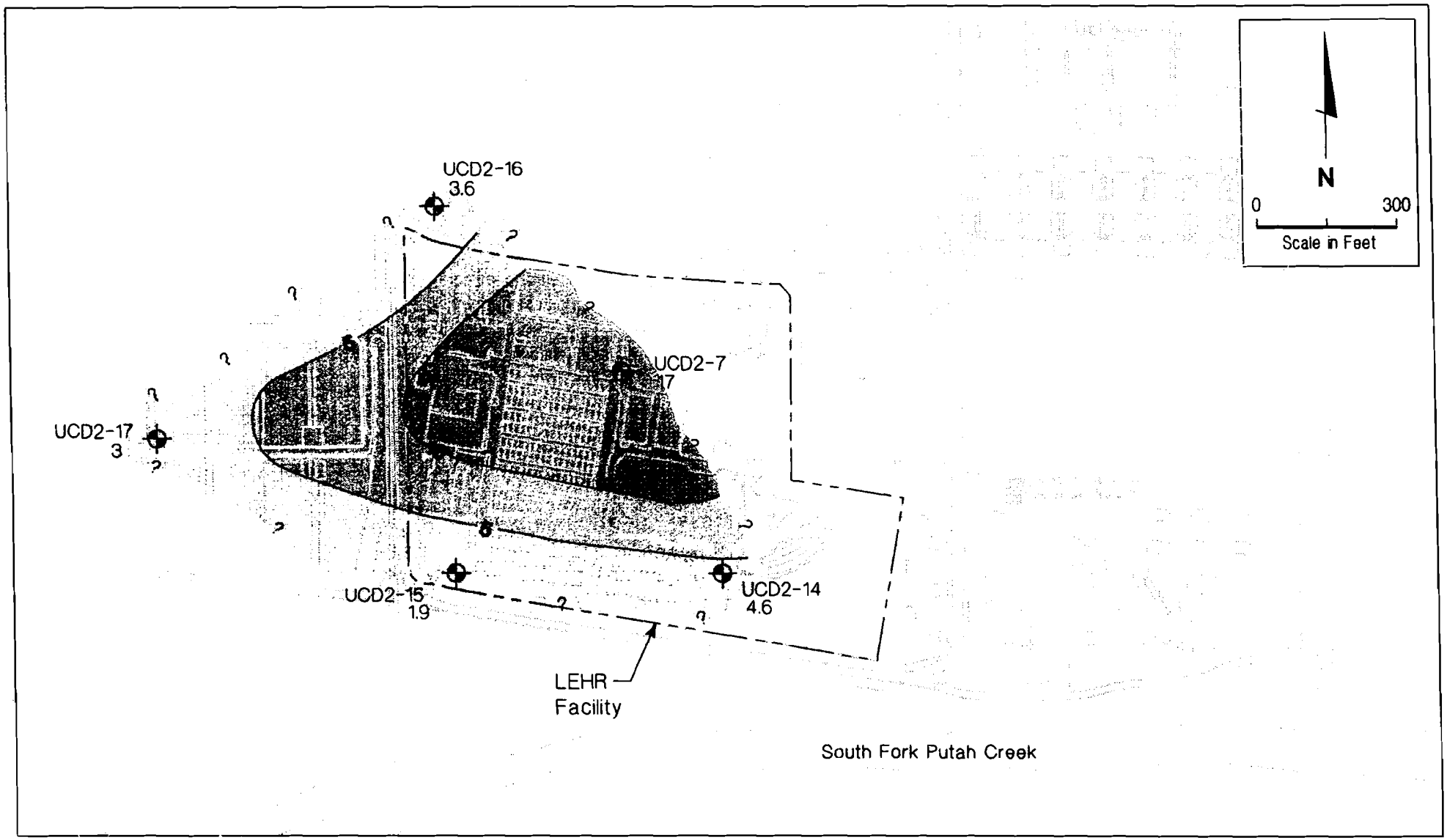
EXPLANATION

⊕	Second HSU Monitoring Well	>1000 pCi/L
— 15 —	Concentration Contour for Tritium in pCi/L	
(-)	Not Detected	
?	Data Limit	

CONCENTRATION CONTOUR PLOT
TRITIUM IN SECOND HSU, SUMMER 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10805-959-6303-044 sk 6303W



EXPLANATION

UCD2-015 3 — Second HSU Monitoring Well Showing Concentration of Nitrates as Nitrogen in mg/L

— 10 — Concentration Contour for Nitrate as Nitrogen in mg/L

? Data Limit

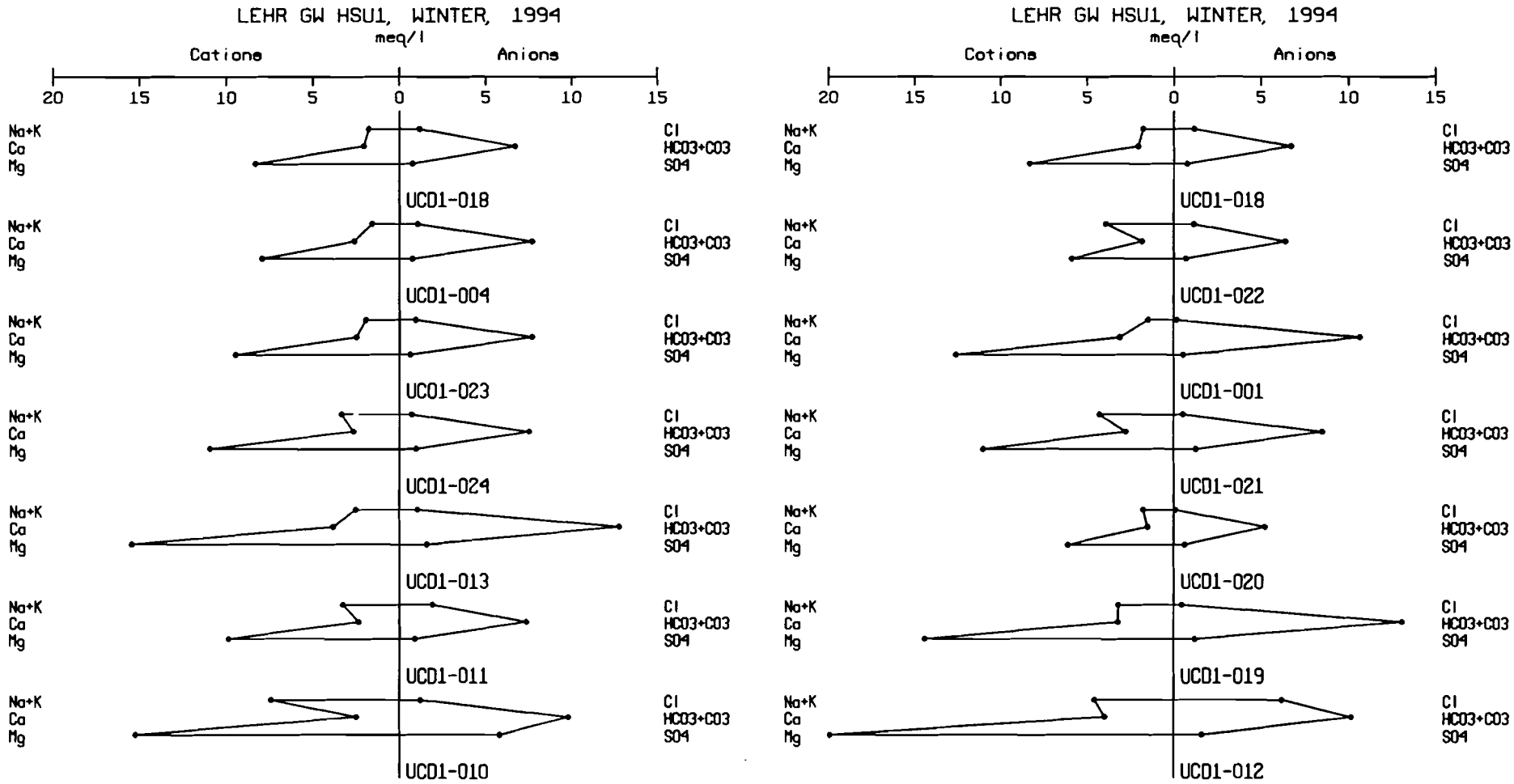
< 5.0 mg/L

5-10 mg/L

> 10 mg/L

CONCENTRATION CONTOUR PLOT
NITRATE AS NITROGEN IN SECOND HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

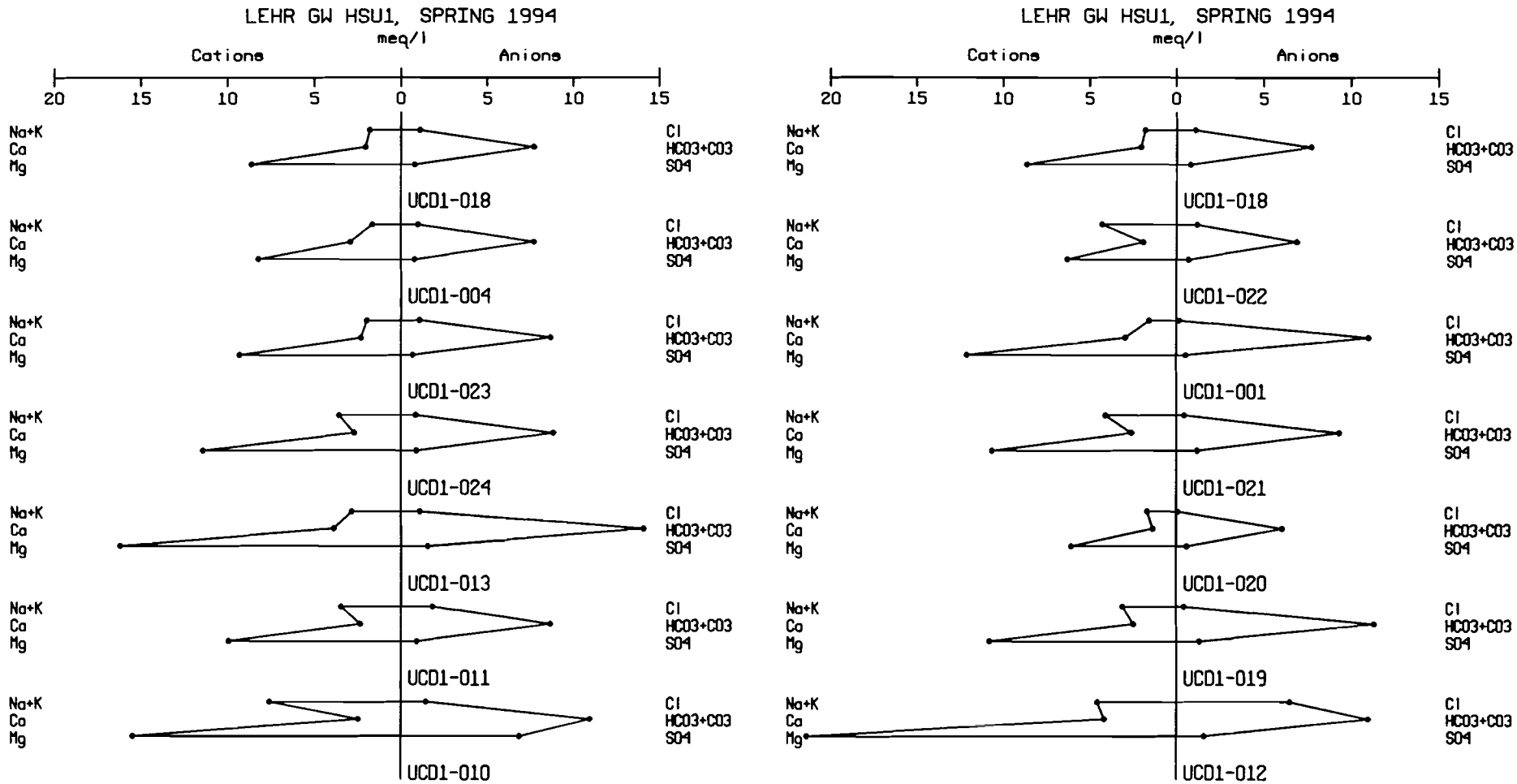


STIFF DIAGRAMS
FIRST HSU WELLS
WINTER QUARTER 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.25

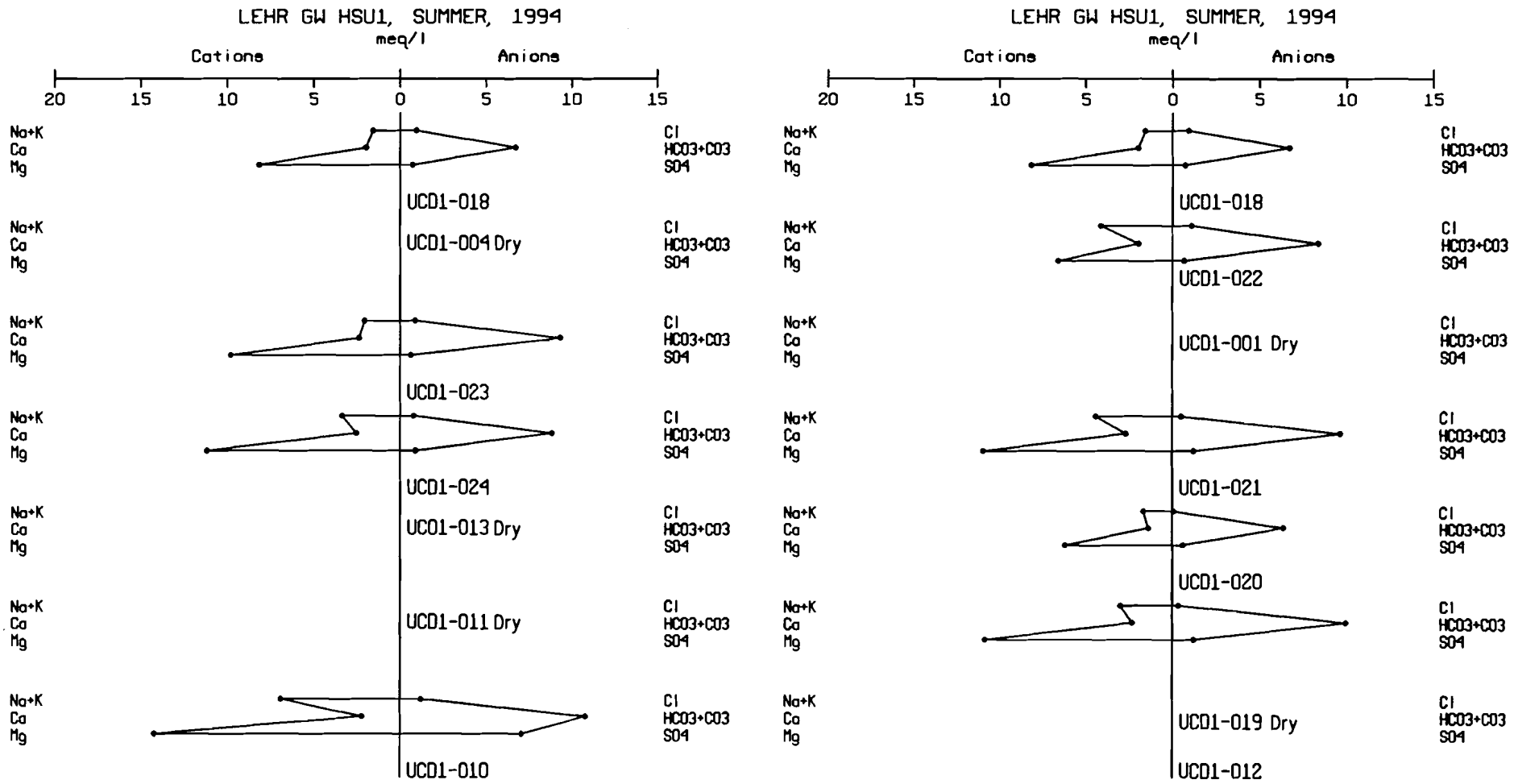
10805-959-6303-044 RDM 6303AM



STIFF DIAGRAMS
FIRST HSU WELLS
SPRING QUARTER 1994

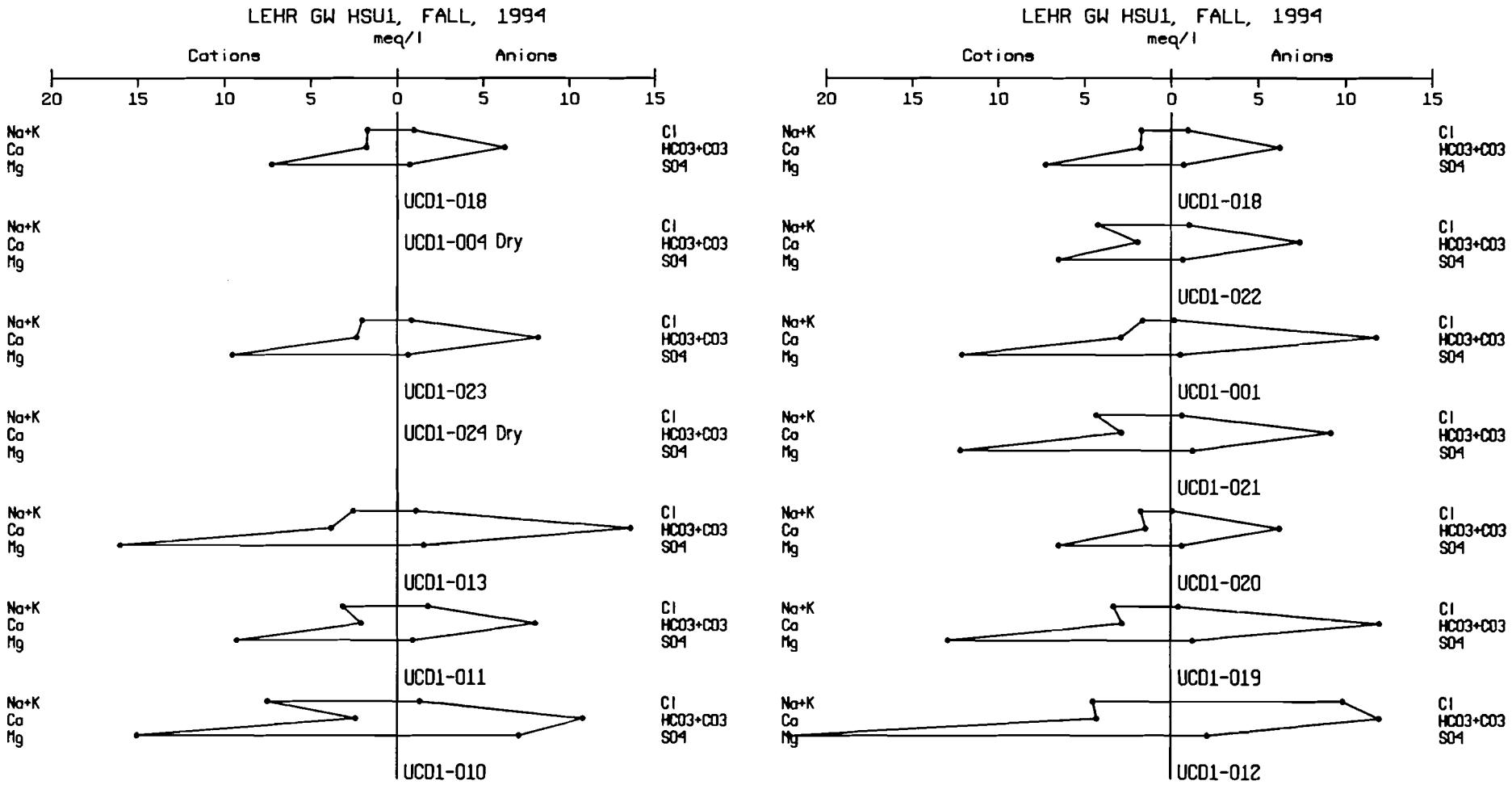
1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.26



STIFF DIAGRAMS
FIRST HSU WELLS
SUMMER QUARTER 1994

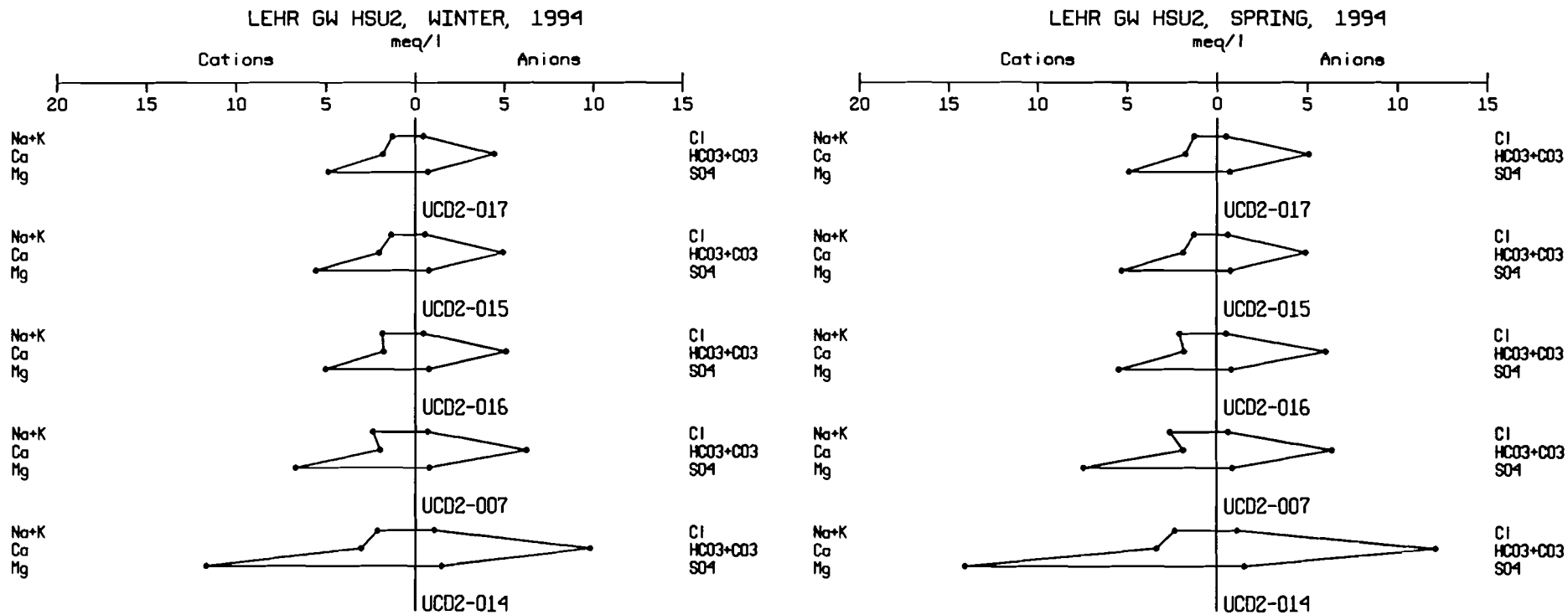
1994 Annual Water Monitoring Report
LEHR Environmental Restoration



STIFF DIAGRAMS
FIRST HSU WELLS
FALL QUARTER 1994

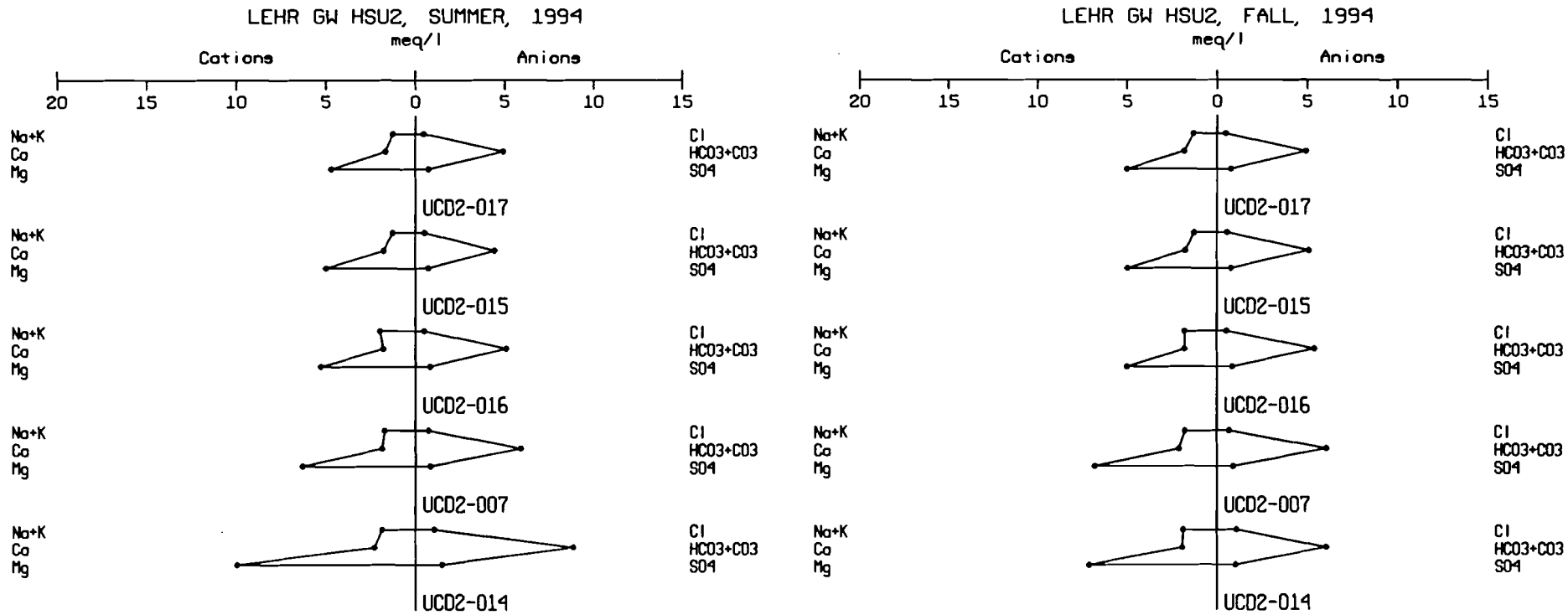
1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.28



STIFF DIAGRAMS
SECOND HSU WELLS
WINTER AND SPRING QUARTERS 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



STIFF DIAGRAMS
SECOND HSU WELLS
SUMMER AND FALL QUARTERS 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 5.30

6.0 SURFACE WATER AND STORM WATER ANALYTICAL RESULTS

This chapter presents a summary of the analytical results from the 1994 surface water and storm water monitoring programs. Surface water samples were collected quarterly from three locations along Putah Creek; upstream of the site (PCU), downstream of the site (PCD), and from the UC Davis wastewater treatment plant outfall (STPO) (Figure 2.4). During the 1994 water monitoring program, storm water samples were collected once from two on-site locations (SWL-1 and SWL-2), during November 1994 (Figure 2.5).

Surface water and storm water data are presented in a series of tables and figures similar to those prepared for groundwater analytical results. Tables 6.1 through 6.8 present constituents that were detected in surface water and storm water during the 1994 monitoring program, with results presented by location and by quarter. Appendix B presents data tables that include the entire 1994 surface water and storm water results, including detections and non-detections.

Surface water data have also been presented in a series of figures that include bar graphs of surface water discharge and selected parameters in Figures 6.1 through 6.7. Stiff diagrams are shown in Figures 6.8 and 6.9. Appendix C presents time series graphs for parameters detected in surface water. Time series graphs include data from Fall 1990 through Fall 1994. No figures are presented for storm water results because only three samples were collected one event.

Sections 6.1 through 6.7 discuss the 1994 surface water and storm water results according to analytical group. Each discussion presents the location and magnitude of detections for the analytical group, a comparison to regulatory MCLs, and a review of overall trends.

6.1 VOLATILE ORGANIC COMPOUNDS

A summary of VOCs detected in 1994 surface water and storm water samples is presented in Table 6.2. Each 1994 quarterly surface water and storm water sample was analyzed for the target compound list identified on Table 2.5. Five VOCs were reported in surface water samples collected during 1994; acetone, bromodichloromethane, chloroform, methylene chloride, and toluene. Chloroform was the most frequently reported compound at PCU (1 of 4 quarters), PCD (3 of 4 quarters) and at STPO (4 of 4 quarters). The highest reported concentrations of VOCs in surface water were for acetone reported for Winter

Quarter at PCD (18 μg/L). Acetone was also reported in storm water samples at 17 μg/L at location SWL-1, and at 9 μg/L at location SWL-2. No other VOC was reported in storm water samples. Reported detections of methylene chloride at STPO exceed the MCL of 5 μg/L for 3 of 4 quarters. No other VOCs exceed an MCL in 1994 for surface water or storm water samples.

Figure 6.2 is a bar graph depicting chloroform concentrations in surface waters at stations PCU, PCD, and STPO. Concentrations from downstream samples are greater and more frequent than those upstream.

Time series graphs for VOCs are presented in Appendix C. These graphs show that chloroform has been consistently reported at STPO and PCD, but reported only sporadically at upstream location PCU. These graphs also show that methylene chloride has been reported consistently at STPO. Acetone has only been reported since Summer Quarter 1994, therefore, there are no long-term data for this parameter. Time series graphs show that for the remainder of the VOCs, detections are sporadic.

6.2 SEMIVOLATILE ORGANIC COMPOUNDS

A summary of SVOCs detected in 1994 surface water and storm water samples is presented in Table 6.3. Each 1994 quarterly groundwater sample was analyzed for the target compound list identified on Table 2.5. There were no SVOCs reported during 1994 surface water or storm water sampling. Time series graphs show that SVOCs have been detected sporadically in the past but with no apparent pattern. The compounds reported were various phthalate compounds which are typically laboratory contaminants.

6.3 METALS

A summary of metals reported in 1994 surface samples is presented in Table 6.5. Each quarterly surface water sample was analyzed for 17 metals (Table 2.3) and hexavalent chromium. Beryllium, cadmium, hexavalent chromium, mercury, nickel, and thallium were not reported in any 1994 surface water samples. Total chromium, copper, and manganese were reported in surface water and storm water samples only one time each during 1994. Selenium was reported one time each at surface water locations PCD and STPO. Lead was reported in storm water samples SWL-1 and SWL-2 and was reported above its MCL of 15 μg/L at SWL-2. The remaining metals were reported above detection limits in at least four different surface water and storm water samples and are discussed in more detail below.

- Antimony was reported three times above the detection limit and once at the detection limit. Reported detections were 5 μg/L in STPO, 9.1 μg/L in PCD, 50.1 μg/L in SWL-1, and 124 μg/L in SWL-2. Three of these detections were reported above the MCL of 6 μg/L.

- Arsenic was reported at least one time above detection limits in samples from PCD, PCU and STPO during 1994. Arsenic was not reported in the storm water sampling. Reported detections ranged in concentration from 2.6 μg/L (PCD) to 6.5 μg/L (PCU). No arsenic values were reported above the MCL of 50 μg/L.

  Arsenic has only been reported above detection limits since the Summer Quarter of 1993, when the analytical method was changed and the detection limit was lowered to 3.0 μg/L (see time series graphs in Appendix C). In general, reported arsenic values occur at concentrations near the detection limit.

- Barium was reported above detection limits in each 1994 surface water sample, but was not reported in either storm water sample. Reported concentrations range from 20.6 μg/L (STPO) to 147 μg/L (STPO). No barium concentrations were reported above the MCL of 1000 μg/L.

  A bar graph (Figure 6.3) and time series graphs (Appendix C) for barium show that barium concentrations are typically highest in samples from the upstream location (PCU). Concentrations in samples from all three locations tend to be consistent over time.

- Vanadium was reported above the detection limit 4 times in 1994 surface water samples. Vanadium was not reported in storm water samples. Surface water detections were reported from PCU, PCD, and STPO and ranged in concentration from 11.1 μg/L (STPO) to 13.4 μg/L (PCU). There is no MCL for vanadium.

- Zinc was reported above the detection limit 5 times in 1994 surface water and storm water samples. Three detections were reported from STPO at 23.4 μg/L, 25.6 μg/L, and 41.0 μg/L. Two detections were reported in storm water samples at 92.6 μg/L in SWL-1 and 96.5 μg/L in SWL-2. There is no MCL for zinc.

6.4 PESTICIDES AND PCBS

A summary of pesticides and PCBs detected in 1994 surface water and storm water samples is presented in Table 6.4. Each 1994 quarterly surface water and storm water sample was analyzed for the target compound list identified on Table 2.5. Three pesticide compounds were reported above detection limits in 1994 surface water and storm water samples (Table 6.4): beta-BHC, gamma-BHC and alpha-chlordane. Alpha-chlordane was reported only once above the detection limit from STPO. There is no MCL for Alpha-

Chlordane. Beta-BHC was also reported only once above the detection limit but below the MCL of 0.3 μg/L from STPO. Gamma-BHC was reported six times above the detection limit but never above the MCL of 0.2 μg/L. Reported detections of gamma-BHC included one from PCD, two from PCU, and three from STPO. No PCB compounds were reported in 1994 surface water and storm water samples.

6.5 RADIONUCLIDES

A summary of analytical results for reported radionuclide constituents in surface water and storm water runoff samples are presented in Tables 6.6 and 6.9, respectively. Complete analytical results for surface water and storm water runoff samples are presented in Appendix B, Table B-5. The presentation of radionuclide data for these analyses continues the format presented in Section 5.5.1.

Tritium was the only radionuclide reported in surface water in concentrations exceeding upstream or natural background levels. Tritium was not reported in detectable concentrations in storm water runoff samples. Tritium was reported at both STPO and the downgradient PCD sample locations (see Figure 2.4) with maximum reported values of 2,030 ± 320 pCi/L (Spring Quarter 1994) and 480 ± 250 pCi/L (Fall Quarter 1994), respectively. All reported tritium concentrations in surface water were below the MCL of 20,000 pCi/L. Tritium was the only radionuclide reported in downstream or on-site storm water in concentrations exceeding upstream or natural background levels. Tritium was not reported in surface water runoff samples. A bar graph of surface water monitoring results for tritium is presented in Figure 6.5.

All gross beta detections were reported less than the MCL with a maximum detection of 30.1 ± 6 pCi/L (PCD, Summer Quarter 1994, duplicate sample). Reported gross alpha detections were also found to be insignificant and typical of background concentrations with a maximum value of 13.9 ± 5.5 pCi/L (location STPO, Fall Quarter 1994). Appendix C provides additional graphs showing sample analyses results with the associated uncertainty range for selected radionuclides.

6.6 ANIONS AND CATIONS

This section presents a summary of analytical results reported for anions and cations in surface water and storm water. Surface water locations are shown on Figure 2.4. Analytical results for anion and cation are summarized in Table 6.7. Complete

analytical results for anions and cations in surface water and storm water samples are presented in Appendix B, Table B-7.

Surface water data reported for anions and cations are also presented in several types of figures and graphs. These figures and graphs have been selected to allow visual comparison of general water quality, trends over time, and trends by location. Figures presented in this report include: bar graphs showing concentrations of selected constituents over time, bar graphs showing discharge rates for Putah Creek and STPO, and Stiff diagrams illustrating the concentrations of major anions and cations. Results reported for storm water samples are not presented on specific graphs or figures because the concentrations of the major cations and anions were either very-low or non-detected.

Results reported for the major anions and cations are described below using Stiff diagrams, followed by a discussion of nitrate (as nitrogen). Discharge information for the south fork of Putah Creek and the wastewater treatment plant outfall (STPO) were obtained from the Solano County Irrigation District and are presented on a bar graph in Figure 6.1.

Stiff Diagrams

Stiff diagrams were prepared for surface water sampling locations over the four quarters of 1994 in order to evaluate and compare the general water types present at these sampling locations (Figures 6.8 and 6.9). Upgradient location PCU is plotted at the top of each figure for comparison to the sewage treatment plant outfall (STPO) and downstream monitoring point PCD.

In general, surface water samples both upstream and downstream of STPO show similar concentration patterns of major cations and anions during periods of high flow in Putah Creek (Figure 6.1). Samples from STPO have greater reported concentrations of sodium and chloride and slightly higher reported concentrations of bicarbonate than samples from PCU and PCD during periods of high flow in Putah Creek.

Surface water samples from both PCU and PCD look very similar in the Winter Quarter 1994, when there was significant flow in Putah Creek (approximately 15 cubic feet per second (cfs) at the I-80 bridge), compared to discharge from STPO (approximately 2.5 cfs) (Figure 6.1). During Spring Quarter 1994, discharge measured at the I-80 bridge had dropped to approximately 11 cfs and discharge from STPO remained at approximately 2.5 cfs. Reported results of Spring Quarter samples show higher concentrations of sodium

and chloride than PCU. During the Summer 1994 Quarter, Putah Creek was dry at the I-80 bridge and discharge measured from STPO was approximately 3 cfs (Figure 6.1). As shown on Figure 6.9, the water quality at both PCU and PCD are almost identical to the water quality at STPO. Results of Fall Quarter 1994 samples, when discharge in Putah Creek had increased, show that PCD is similar to PCU, and significantly different from sample STPO. These general trends for anions and cations in surface water are very similar to those reported during the 1993 Annual Water Report (PNL, 1994d).

Nitrate

Nitrate concentrations reported for surface water samples during 1994 are illustrated on the bar graph presented as Figure 6.6. As shown on this figure, reported nitrate concentrations in surface water samples did not exceed the MCL of 10 mg/L in any of the 1994 samples. Reported concentrations of nitrate in STPO were higher than in the upstream and downstream samples with the exception of the Summer Quarter 1994, when they were similar to concentrations in PCU and PCD. As shown on the time series graphs presented in Appendix C, concentrations of nitrate in surface water samples are variable through time, but appear to stay within the same general ranges. Nitrate concentrations in location STPO appear to drop slightly over time. Reported nitrate concentrations for storm water samples were 0.29 mg/L (SWL-1), and 0.16 mg/L (SWL-2).

6.7 OTHER PARAMETERS

This section presents a summary of analytical results for general chemical and field parameters in surface water and storm water samples. Reported results for detected other parameters for surface water samples are summarized in Table 6.8. Complete analytical results reported for these other parameters in surface water and storm water samples are presented in Appendix B, Table B-6.

6.7.1 Formaldehyde

Formaldehyde was not reported in any of the surface water samples or storm water samples collected on-site during 1994.

6.7.2 Total Dissolved Solids

As illustrated on Figure 6.7, reported concentrations of TDS were generally higher in the STPO samples than in the Putah Creek samples, except in the Summer Quarter 1994

samples when Putah Creek was dry and STPO was contributing the bulk of the water present at the sampling locations. During the dry Summer Quarter, TDS in PCU and PCD were approximately the same as the STPO sample. Concentrations of TDS in samples from STPO have been consistent over time, as shown on the time series graphs included in Appendix C. TDS was not reported in the storm water samples.

6.7.3 Turbidity

Turbidity values measured for surface water samples were less than 20 NTU in 1994 surface water samples. The highest values were reported for STPO during the Winter Quarter 1994 and for storm water runoff sample SWL-1 collected at the lift station location.

TABLE 6.1
NUMBER OF DETECTIONS, POSITIVE RESULTS AND MAXIMUM VALUES IN SURFACE WATER, 1994
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

	Parameter	MCL	Number of Results	Number of Detections	Number > MCL	Maximum Value	Date of Maximum	Location of Maximum
Volatile Organics	Acetone		16	2	0	18	2/24/94	PCD
(ug/L)	Bromodichloromethane	100	16	5	0	1.6	5/25/94	PCD
	Chloroform	100	16	11	0	8.4	5/25/94	PCD
	Methylene Chloride	5	16	6	5	13	8/29/94	STPO
	Toluene	1000 #	16	1	0	1.7	8/29/94	PCD
Pesticides & PCBs	Beta-BHC	0.3 C	16	1	0	0.042	5/25/94	STPO
(ug/L)	Gamma-BHC	0.2	16	8	0	0.066	8/29/94	STPO
	Alpha-Chlordane		16	2	0	0.017	2/24/94	STPO
Metals	Antimony	6	16	4	2	9.1	2/24/94	PCD
(ug/L)	Arsenic	50	16	9	0	6.5	8/29/94	PCU
	Barium	1000	16	16	0	147	2/24/94	STPO
	Chromium	50	16	1	0	21.6	2/24/94	STPO
	Copper	1300 #	16	1	0	10.1	5/25/94	STPO
	Manganese		8	1	0	21.8	8/29/94	STPO
	Molybdenum		16	9	0	56.1	2/24/94	STPO
	Selenium	10	16	2	0	4.3	5/25/94	STPO
	Vanadium		16	5	0	13.4	8/29/94	PCU
	Zinc		16	5	0	41.0	11/30/94	STPO
Radionuclides	Gross Alpha	15 **	16	1	0	13.9±5.5	11/30/94	STPO
(pCi/L)	Gross Beta	50	16	11	0	30.1±6	8/29/94	PCD
	Actinium-228		16	1	0	17.8±7	5/25/94	PCU
	Bismuth-212		16	1	0	51.33±48.98	8/29/94	PCD
	Cesium-137		16	1	0	2.7±1.9	5/25/94	PCU
	Bismuth-214		16	6	0	25.4±6.2	2/24/94	PCD
	Cobalt-60		16	1	0	1.09±0.93	5/25/94	PCU
	Lead-212		16	2	0	9.2±4.7	5/25/94	PCU
	Lead-214		16	4	0	17.5±5.3	2/24/94	PCD
	Potassium-40		16	1	0	49±26	5/25/94	PCU
	Thallium-208		16	1	0	6.3±2.7	5/25/94	PCU
	Radium-226	5	12	1	0	0.16±0.13	8/29/94	PCD
	Carbon-14		16	1	0	68±56	5/25/94	PCD
	Radium-226	5	4	3	0	0.36±0.30	11/30/94	PCD
	Strontium-90	8	16	1	0	2.1±1.1	8/29/94	PCD
	Tritium	20000 *	16	5	0	2030±320	5/25/94	PCD
Cations and Anions	Calcium (mg/L)		16	16	0	24.9	11/30/94	PCD
(mg/L)	Iron (mg/L)		16	4	0	0.506	2/24/94	STPO
	Magnesium (mg/L)		16	16	0	38.6	5/25/94	PCU
	Potassium (mg/L)		16	13	0	14.3	2/24/94	STPO
	Chloride (mg/L)		16	16	0	160	11/30/94	STPO
	Sodium (mg/L)		16	16	0	164	11/30/94	STPO
	Sulfate (mg/L)	400 #	16	16	0	93	8/29/94	PCU
	Phosphate, Total (as P) (mg/L)		16	1	0	2.9	5/25/94	STPO
	Ammonia-Nitrogen (mg/L)		16	15	0	5.8	11/30/94	STPO
	Nitrogen, Nitrate (as N) (mg/L)	10 #	16	14	0	8.5	2/24/94	STPO
	Total Kjeldahl Nitrogen (mg/L)		16	12	0	6.7	5/25/94	STPO
	Alkalinity Total(as CaCO3) (mg/L)		16	16	0	230	8/29/94	PCU
General Chemical	Total Dissolved Solids (mg/L)		16	16	0	600	2/24/94	STPO
Parameters	Turbidity (NTU)		16	16	0	130	2/24/94	PCU
	Turbidity-F (NTU)		14	14	0	200	2/24/94	PCD
	Total Organic Carbon (mg/L)		16	16	0	9.4	2/24/94	PCU
	Chemical Oxygen Demand (mg/L)		4	4	0	25.	11/30/94	STPO
	Specific Conductance(EC-F) (umhos)		15	15	0	1001	11/30/94	STPO
	EH-F (mvolt)		14	14	0	192	8/29/94	STPO
	pH-F		15	15	0	8.4	5/25/94	PCU

- Not Applicable

MCL = Maximum Contamination Level (primary), Title 22, Division 4, Chapter 15.

C = California State Action Level, Department of Health Services. * = Proposed US EPA MCL. # = US EPA MCL.

** = MCL for Gross Alpha does not include analysis for Uranium or Radon, however reported Gross Alpha values on this table include

Maxima were computed from among detected values and positive results only.

TABLE 6.2
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD	PCD D1	PCU	PCU D1	STPO	STPO D1	SWL00001	SWL00001 D1	SWL00002
Acetone	WINTER	ug/L		18	-	<5	-	<5 |J	<5 |J	-	-	-
	SPRING	ug/L		<5.7 Uz|B	-	<5 Uz|JB	<5 Uz|JB	<4.9 Uz|B	-	-	-	-
	SUMMER	ug/L		<2.9 Uz|B	<2 Uz|B	<3.3 Uz|B	-	<5 Rc|	-	-	-	-
	FALL	ug/L		5 Rc|	-	<5 Rc|	-	<5 Rc|	<5 Rc|	17 Jc|	17 Jc|	9 Rc|
Bromodichloromethane	WINTER	ug/L	100	<1	-	<1	-	<1 |J	1.1	-	-	-
	SPRING	ug/L	100	1.6	-	<1	<1	<1 |J	-	-	-	-
	SUMMER	ug/L	100	1.1	1.4	<1	-	<1 |J	-	-	-	-
	FALL	ug/L	100	<1	-	<1	-	<1	1	<1	<1	<1
Chloroform	WINTER	ug/L	100	<1 |J	-	<1	-	4	3.9	-	-	-
	SPRING	ug/L	100	8.4	-	<1	<1	5.6	-	-	-	-
	SUMMER	ug/L	100	4.4	5.6	2.2	-	3.7	-	-	-	-
	FALL	ug/L	100	2.8	-	<1	-	3.8	3.9	<1	<1	<1
Methylene Chloride	WINTER	ug/L	5	<2 |J	-	<2	-	7.2	6.8	-	-	-
	SPRING	ug/L	5	<2 |J	-	<2	<2	2.5	-	-	-	-
	SUMMER	ug/L	5	<2 Rc|J	<2 Rc|J	<2 Rc|J	-	13 Jc|	-	-	-	-
	FALL	ug/L	5	<2	-	<2	-	5.3	5.4	<2 UJc|	<2 UJr|	<2 UJr|
Toluene	WINTER	ug/L	1000#	<1	-	<1	-	<1	<1	-	-	-
	SPRING	ug/L	1000#	<1	-	<1	<1	<1	-	-	-	-
	SUMMER	ug/L	1000#	1.7	<1	<1	-	<1	-	-	-	-
	FALL	ug/L	1000#	<1	-	<1	-	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE 6.2
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER,1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE 6.3
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

NO SUMMARY OF DETECTED PARAMETERS FOUND FOR SURFACE WATER

TABLE 6.4
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
PESTICIDES AND PCBS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD		PCD D1		PCU		PCU D1		STPO		STPO D1		SWL00001	
Beta-BHC	WINTER	ug/L	0.3C	<0.01		-		<0.01		-		<0.011		<0.011		-	
	SPRING	ug/L	0.3C	<0.01	UJs|	-		<0.01	UJs|	<0.01	UJs|	0.042	Js|	-		-	
	SUMMER	ug/L	0.3C	<0.011		<0.011	UJs|	<0.01	UJs|	-		<0.011	UJs|	-		-	
	FALL	ug/L	0.3C	<0.011	UJs|	-		<0.011	UJs|	-		<0.011	UJs|	<0.011	UJs|	<0.01	UJs|
Gamma-BHC	WINTER	ug/L	0.2	0.011	|P	-		0.01		-		0.015		0.02	|P	-	
	SPRING	ug/L	0.2	<0.01	UJs|	-		<0.01	UJs|	<0.01	UJs|	<0.01	UJs|	-		-	
	SUMMER	ug/L	0.2	<0.011		<0.011	UJs|	0.026	Js|P	-		0.066	Js|P	-		-	
	FALL	ug/L	0.2	<0.011	UJs|	-		<0.011	UJs|	-		0.013	Js|P	0.014	Js|P	<0.01	UJs|
Alpha-Chlordane	WINTER	ug/L		<0.01		-		<0.01		-		0.017		0.014		-	
	SPRING	ug/L		<0.01	UJs|	-		<0.01	UJs|	<0.01	UJs|	<0.01	UJs|	-		-	
	SUMMER	ug/L		<0.011		<0.011	UJs|	<0.01	UJs|	-		<0.011	UJs|	-		-	
	FALL	ug/L		<0.011	UJs|	-		<0.011	UJs|	-		<0.011	UJs|	<0.011	UJs|	<0.01	UJs|

See footnotes at end of table

TABLE 6.4
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
PESTICIDES AND PCBS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	SWL00001 D1		SWL00002	
Beta-BHC	WINTER	ug/L	0.3C	-		-	
	SPRING	ug/L	0.3C	-		-	
	SUMMER	ug/L	0.3C	-		-	
	FALL	ug/L	0.3C	<0.011	UJs|	<0.01	UJs|
Gamma-BHC	WINTER	ug/L	0.2	-		-	
	SPRING	ug/L	0.2	-		-	
	SUMMER	ug/L	0.2	-		-	
	FALL	ug/L	0.2	<0.011	UJs|	<0.01	UJs|
Alpha-Chlordane	WINTER	ug/L		-		-	
	SPRING	ug/L		-		-	
	SUMMER	ug/L		-		-	
	FALL	ug/L		<0.011	UJs|	<0.01	UJs|

See footnotes at end of table

TABLE 6.4
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
PESTICIDES AND PCBS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE 6.5
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD	PCD D1	PCU	PCU D1	STPO	STPO D1	SWL00001
Antimony	WINTER	ug/L	6	9.1	-	<5	-	<5	<5	-
	SPRING	ug/L	6	<5 |B	-	<5 |B	5.2	5	-	-
	SUMMER	ug/L	6	<5	6.2	<5	-	<5	-	-
	FALL	ug/L	6	<5	-	<5	-	<5	<5	50.1
Arsenic	WINTER	ug/L	50	<2	-	<2	-	3.4	4.4	-
	SPRING	ug/L	50	<7.4 Uo|	-	<3.5 Uo|	<3.3 Uo|	<7.4 Uo|	-	-
	SUMMER	ug/L	50	5.3	5.3	6.5	-	4	-	-
	FALL	ug/L	50	2.6 Jd|	-	<2 |B	-	5.0 Jd|	4.7 Jd|	<2 Uo|B
Barium	WINTER	ug/L	1000	60.3	-	62.5	-	147 Jf|	26.1 Jf|	-
	SPRING	ug/L	1000	55	-	82.4	88.7	20.6	-	-
	SUMMER	ug/L	1000	36.7	35.2	55.4	-	23.8	-	-
	FALL	ug/L	1000	62.0	-	67.5	-	25.2	24.4	<20 |B
Chromium	WINTER	ug/L	50	<10 |B	-	<10 |B	-	21.6	<10 |B	-
	SPRING	ug/L	50	<10 |B	-	<10	<10 |B	<10 |B	-	-
	SUMMER	ug/L	50	<10 Up|B	<10	<10	-	<10 Up|B	-	-
	FALL	ug/L	50	<10 |B	-	<10 |B	-	<10 |B	<10 |B	<10 Up|B
Copper	WINTER	ug/L	1300#	<10 |B	-	<10 |B	-	<10 |B	<10 |B	-
	SPRING	ug/L	1300#	<10 Up|B	-	<10 Up|B	<10 Up|B	10.1	-	-
	SUMMER	ug/L	1300#	<10 Up|B	<10 Up|B	<10 Up|B	-	<10 Up|B	-	-
	FALL	ug/L	1300#	<10 |B	-	<10 |B	-	<10 |B	<10 |B	<10 |B
Lead	WINTER	ug/L	15	<2	-	<2	-	<2	<2	-
	SPRING	ug/L	15	<2	-	<2	<2	<2 |B	-	-
	SUMMER	ug/L	15	<2	<2	<2	-	<2	-	-
	FALL	ug/L	15	<2	-	<2	-	<2	<2	14.5
Manganese	SPRING	ug/L		<10 |B	-	<10 |B	<10 |B	<10 |B	-	-
	SUMMER	ug/L		<10 |B	<10 |B	<10 |B	-	21.8	-	-
Molybdenum	WINTER	ug/L		<10 |B	-	<10	-	29.3	56.1	-
	SPRING	ug/L		<10 |B	-	<10 |B	<10 |B	34.9	-	-
	SUMMER	ug/L		27.6	26.8	39.9	-	28.3	-	-
	FALL	ug/L		<10 |B	-	<10	-	14.3	14.6	<5
Selenium	WINTER	ug/L	10	<3	-	<3	-	<3	<3	-
	SPRING	ug/L	10	3.8	-	<3	<3	4.3	-	-
	SUMMER	ug/L	10	<3	<3	<3	-	<3	-	-
	FALL	ug/L	10	<3	-	<3	-	<3	<3	<1
Vanadium	WINTER	ug/L		<10 |B	-	<10 |B	-	11.1	12.3	-
	SPRING	ug/L		12	-	<10 |B	<10 |B	12	-	-
	SUMMER	ug/L		<10 |B	<10 |B	13.4	-	<10 |B	-	-
	FALL	ug/L		<10 |B	-	<10 |B	-	<10 |B	<10 |B	<10 |B
Zinc	WINTER	ug/L		<20 |B	-	<20 |B	-	25.6	33.1	-
	SPRING	ug/L		<20 Up|B	-	<20 Up|B	<20 Up|B	23.4	-	-
	SUMMER	ug/L		<20 Up|B	<20 Up|B	<20 Up|B	-	<20 Up|B	-	-
	FALL	ug/L		<20 |B	-	<20 |B	-	41.0 Jd|	40.5 Jd|	92.6

See footnotes at end of table

TABLE 6.5
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
METALS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	SWL00001 D1	SWL00002
Antimony	WINTER	ug/L	6	-	-
	SPRING	ug/L	6	-	-
	SUMMER	ug/L	6	-	-
	FALL	ug/L	6	51.7	124
Arsenic	WINTER	ug/L	50	-	-
	SPRING	ug/L	50	-	-
	SUMMER	ug/L	50	-	-
	FALL	ug/L	50	<2 Uo|B	<1
Barium	WINTER	ug/L	1000	-	-
	SPRING	ug/L	1000	-	-
	SUMMER	ug/L	1000	-	-
	FALL	ug/L	1000	<20 |B	<20 |B
Chromium	WINTER	ug/L	50	-	-
	SPRING	ug/L	50	-	-
	SUMMER	ug/L	50	-	-
	FALL	ug/L	50	<10 Up|B	<10 Up|B
Copper	WINTER	ug/L	1300#	-	-
	SPRING	ug/L	1300#	-	-
	SUMMER	ug/L	1300#	-	-
	FALL	ug/L	1300#	<10 |B	<10 |B
Lead	WINTER	ug/L	15	-	-
	SPRING	ug/L	15	-	-
	SUMMER	ug/L	15	-	-
	FALL	ug/L	15	15.2	35.6
Manganese	SPRING	ug/L		-	-
	SUMMER	ug/L		-	-
Molybdenum	WINTER	ug/L		-	-
	SPRING	ug/L		-	-
	SUMMER	ug/L		-	-
	FALL	ug/L		<5	<5
Selenium	WINTER	ug/L	10	-	-
	SPRING	ug/L	10	-	-
	SUMMER	ug/L	10	-	-
	FALL	ug/L	10	<1	<1
Vanadium	WINTER	ug/L		-	-
	SPRING	ug/L		-	-
	SUMMER	ug/L		-	-
	FALL	ug/L		<10 |B	<1
Zinc	WINTER	ug/L		-	-
	SPRING	ug/L		-	-
	SUMMER	ug/L		-	-
	FALL	ug/L		83.9	96.5

See footnotes at end of table

TABLE 6.5
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER,1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE 6.6
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	Method	PCD	PCD D1	PCU	PCU D1	STPO	STPO D1	SWL00001
Gross Alpha	WINTER	pCi/L	15**	9310	-0.2±1.1	-	0.8±1.1	-	1.7±3.8	1.4±2.6	-
	SPRING	pCi/L	15**	9310	0.1±2.3	-	0.2±1.3	0±1.5	1.1±2.4	-	-
	SUMMER	pCi/L	15**	9310	1.4±2.1 |C	-0.9±2.1 |C	1.2±2.5 |C	-	0.3±1.7 |C	-	-
	FALL	pCi/L	15**	9310	0.5±1.8 |C	-	0.6±1.2 |C	-	13.9±5.5 |C	2.2±3.2 |C	0.62±0.70
Gross Beta	WINTER	pCi/L	50	9310	3.3±1.7	-	0.9±1.4	-	0.9±3.5	17.2±4.5	-
	SPRING	pCi/L	50	9310	8.8±2.5 Uz|	-	1.7±1.4	2.1±2.1	11.9±2.9 Uz|	-	-
	SUMMER	pCi/L	50	9310	22±3	30.1±6 |C	13.8±3.2 |C	-	14.5±2.7	-	-
	FALL	pCi/L	50	9310	3.9±2.1 |B	-	1.9±1.7 |B	-	17.1±4.3 |C	17.6±4.3 |C	2.1±1.3
Actinium-228	WINTER	pCi/L		901.1	4.6±8.6	-	-1.2±4	-	-4±3.9	7.4±9.6	-
	SPRING	pCi/L		901.1	8±19	-	17.8±7	-7.1±7.4	-2.2±7.7	-	-
	SUMMER	pCi/L		901.1	4±22	10±23	5±9.1	-	-4±17	-	-
	FALL	pCi/L		901.1	12.±22.	-	11.±21.	-	1.7±8.3	1.8±9.1	18.±21.
Bismuth-212	WINTER	pCi/L		901.1	-16±17	-	14±16	-	5±16	5±38	-
	SPRING	pCi/L		901.1	3±26	-	-12.4±6.1	3.96±15	2±15	-	-
	SUMMER	pCi/L		901.1	-49.27±26.23	51.33±48.98	6.13±16.34	-	-19.02±22.10	-	-
	FALL	pCi/L		901.1	14.18±48.36	-	9.41±49.06	-	10.86±17.51	-6.88±17.83	-35±30
Cesium-137	WINTER	pCi/L		901.1	1.5±5.5	-	1.3±1.7	-	1.2±1.9	2.6±5.1	-
	SPRING	pCi/L		901.1	2.2±5.1	-	2.7±1.9	0±1.8	-0.5±1.9	-	-
	SUMMER	pCi/L		901.1	-0.1±6.1	-2±6.3	0.9±2	-	-0.2±5.8	-	-
	FALL	pCi/L		901.1	-2.0±3.2	-	2.3±6.6	-	-0.9±1.7	1.1±1.7	0.2±5.1
Bismuth-214	WINTER	pCi/L		901.1	25.4±6.2	-	5±2.9	-	0.8±2.6	17.2±6.1	-
	SPRING	pCi/L		901.1	13±12	-	20±5.5	2.5±5.2	-0.6±5.1	-	-
	SUMMER	pCi/L		901.1	9±12	5±13	3.2±5.6	-	-3±13	-	-
	FALL	pCi/L		901.1	15.±14.	-	4.±13.	-	0.2±5.6	5.2±6.0	-1.±12.
Cobalt-60	WINTER	pCi/L		901.1	-1.3±1.6	-	0.26±0.58	-	0.53±0.6	-1.1±1.8	-
	SPRING	pCi/L		901.1	-0.4±3.2	-	1.09±0.93	-0.2±1.2	-0.7±1.1	-	-
	SUMMER	pCi/L		901.1	2.5±3.9	-1.4±3.9	0.1±1.3	-	0.9±4.2	-	-
	FALL	pCi/L		901.1	-4.4±2.2	-	1.7±3.9	-	-1.24±0.82	-0.85±0.69	-0.6±2.8
Lead-212	WINTER	pCi/L		901.1	4.2±9.1	-	5.7±4.9	-	4.4±5.1	3.4±8.7	-
	SPRING	pCi/L		901.1	-1.5±9.2	-	9.2±4.7	4.6±4.9	-0.5±4.6	-	-
	SUMMER	pCi/L		901.1	6±11	-3.2±9.9	-2.6±5.2	-	-4±10	-	-
	FALL	pCi/L		901.1	6.±11.	-	3.±10.	-	1.5±5.3	4.8±5.3	6.6±9.5
Lead-214	WINTER	pCi/L		901.1	17.5±5.3	-	8.7±2.5	-	0.7±2.4	12.9±4.9	-
	SPRING	pCi/L		901.1	3.7±9.4	-	15±4.9	2.9±4.5	0.2±4.6	-	-
	SUMMER	pCi/L		901.1	-4.6±8.3	-2±11	-1.1±5.3	-	0±11	-	-
	FALL	pCi/L		901.1	7.±11.	-	5.±11.	-	2.1±5.4	1.7±5.5	7.±11.
Potassium-40	WINTER	pCi/L		901.1	-26±55	-	6±28	-	24±29	14±69	-
	SPRING	pCi/L		901.1	-4±61	-	49±26	-2±28	-4±28	-	-
	SUMMER	pCi/L		901.1	25±51	8±75	6±33	-	-24±67	-	-
	FALL	pCi/L		901.1	-12.±69.	-	15.±72.	-	3.±32.	1.±33.	22.±72.
Thallium-208	WINTER	pCi/L		901.1	1.1±7.2	-	2.7±3	-	1.5±3.1	1.9±6.7	-
	SPRING	pCi/L		901.1	3±6.7	-	6.3±2.7	0.3±2.9	-0.6±2.8	-	-
	SUMMER	pCi/L		901.1	5.2±7.2	3±7.7	-0.8±3.2	-	4.5±8.4	-	-
	FALL	pCi/L		901.1	-1.2±6.9	-	5.4±6.8	-	1.1±3.0	2.9±3.4	1.4±6.8

See footnotes at end of table

TABLE 6.6
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	Method	SWL00001 D1	SWL00002
Gross Alpha	WINTER	pCi/L	15**	9310	-	-
	SPRING	pCi/L	15**	9310	-	-
	SUMMER	pCi/L	15**	9310	-	-
	FALL	pCi/L	15**	9310	0.27±0.62	0.20±0.52
Gross Beta	WINTER	pCi/L	50	9310	-	-
	SPRING	pCi/L	50	9310	-	-
	SUMMER	pCi/L	50	9310	-	-
	FALL	pCi/L	50	9310	2.6±1.3	0.9±1.2
Actinium-228	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	0.0±9.2	11.±20.
Bismuth-212	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	-9±20	32±48
Cesium-137	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	-0.5±1.7	-3.8±5.0
Bismuth-214	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	-2.9±6.0	0.00±13.
Cobalt-60	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	-0.3±1.5	2.7±3.9
Lead-212	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	3.4±5.1	6.1±9.5
Lead-214	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	-1.4±5.4	4.±11.
Potassium-40	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	-13.±29.	-8.±71.
Thallium-208	WINTER	pCi/L		901.1	-	-
	SPRING	pCi/L		901.1	-	-
	SUMMER	pCi/L		901.1	-	-
	FALL	pCi/L		901.1	-0.5±2.9	2.9±6.6

See footnotes at end of table

TABLE 6.6
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	Method	PCD	PCD D1	PCU	PCU D1	STPO	STPO D1	SWL00001
Carbon-14	WINTER	pCi/L		LSC	-9±62	-	-24±60	-	23±65	-20±60	-
	SPRING	pCi/L		LSC	68±56	-	-39±47	6±60	21±53	-	-
	SUMMER	pCi/L		LSC	60±76	16±71	-18±66	-	-18±66	-	-
	FALL	pCi/L		LSC	-21.±94.	-	18.±98.	-	50±100	8.±97.	-24.±64.
Radium-226	WINTER	pCi/L	5	903.1M	0.02±0.12	-	-0.02±0.082	-	0.02±0.11	0±0.046	-
	SPRING	pCi/L	5	903.1M	0±0.16	-	0±0.15	0±0.17	0.07±0.1	-	-
	SUMMER	pCi/L	5	903.1M	0.05±0.099	0.16±0.13	0.03±0.1	-	0.03±0.076	-	-
	FALL	pCi/L	5	903.1M	0.36±0.30	-	0.00±0.28	-	0.26±0.24	0.36±0.26	0.40±0.32
Strontium-90	WINTER	pCi/L	8	905.0	0.2±0.69	-	0.07±0.66	-	0.16±0.68	0.06±0.67	-
	SPRING	pCi/L	8	905.0	0.25±0.59	-	-0.03±0.59	0.25±0.44	0.18±0.94	-	-
	SUMMER	pCi/L	8	905.0	2.1±1.1 Je|	0.7±1 UJe|	-0.49±0.95 UJe|	-	1±1 Je|	-	-
	FALL	pCi/L	8	905.0	0.04±0.45	-	-0.24±0.39	-	-0.59±0.54	-0.06±0.56	0.03±0.93
Tritium	WINTER	pCi/L	20000*	906.0	30±140	-	0±140	-	0±140	0±130	-
	SPRING	pCi/L	20000*	906.0	2630±320	-	-100±110	0±130	320±170	-	-
	SUMMER	pCi/L	20000*	906.0	570±210	620±220	120±160	-	10±140	-	-
	FALL	pCi/L	20000*	906.0	20±200	-	-30±190	-	480±250	80±200	-10±180

See footnotes at end of table

TABLE 6.6
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	Method	SWL00001 D1	SWL00002
Carbon-14	WINTER	pCi/L		LSC	-	-
	SPRING	pCi/L		LSC	-	-
	SUMMER	pCi/L		LSC	-	-
	FALL	pCi/L		LSC	6.±68.	-9.±66.
Radium-226	WINTER	pCi/L	5	903.1M	-	-
	SPRING	pCi/L	5	903.1M	-	-
	SUMMER	pCi/L	5	903.1M	-	-
	FALL	pCi/L	5	903.1M	0.21±0.25	0.30±0.34
Strontium-90	WINTER	pCi/L	8	905.0	-	-
	SPRING	pCi/L	8	905.0	-	-
	SUMMER	pCi/L	8	905.0	-	-
	FALL	pCi/L	8	905.0	-0.09±0.92	-0.16±0.70
Tritium	WINTER	pCi/L	20000*	906.0	-	-
	SPRING	pCi/L	20000*	906.0	-	-
	SUMMER	pCi/L	20000*	906.0	-	-
	FALL	pCi/L	20000*	906.0	-10±180	70±190

See footnotes at end of table

TABLE 6.6
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

D1 = Duplicate sample
UF = Unfiltered Sample
- = Not analyzed. Wells UCD1-001, UCD1-004,UCD1011, UCD1-012 AND UCD1-013 were dry in summer quarter. UCD1-004 dry in fall quarter.
MCL = Maximum Contaminant Level (primary), Title 22, Division 4, Chapter 15.
C = California State Action Level, Department of Health Services. * = Proposed MCL. # = US EPA
** = MCL for Gross Alpha does not include anaylsis for Uranium or Radon, however reported Gross Alpha values on this talbe include all Alpha emitters.

Note: Radionuclide results are reported as calculated value, V, followed by the total uncertainty, T, in the format V±T. A calculated value tht equals or exceeds the uncertainty ("positive value") represents 95% level of confidence that measurable radioactivity above zero is present for a given radiounuclide.

Note: Americium-241 and Plutonium-241 were not requested to be performed until the summer quarter.

See footnotes at end of table
5/1/951:10 AMGWSM20R.XLS

TABLE 6.7
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD	PCD DI	PCU	PCU DI	STPO	STPO DI	SWL00001
Calcium	WINTER	mg/L		22.5	-	23.9	-	19.5	19.7	-
	SPRING	mg/L		20.4	-	24.6	24.2	18.7	-	-
	SUMMER	mg/L		18.6	20.4	22.4	-	18.7	-	-
	FALL	mg/L		24.9	-	22.1	-	19.3	19.1	<2 |B
Iron	WINTER	mg/L		0.317	-	0.301	-	0.506	0.284	-
	SPRING	mg/L		<0.1 Uo|B	-	<0.1 Uo|B	<0.1 Uo|B	<0.1 Uo|B	-	-
	SUMMER	mg/L		<0.1 |B	<0.1 |B	<0.1	-	<0.1	-	-
	FALL	mg/L		<0.1	-	<0.1	-	<0.1 |B	<0.1 |B	<0.1 Up|B
Magnesium	WINTER	mg/L		22.5	-	24	-	20.3	21.1	-
	SPRING	mg/L		28.5	-	38.6	38	21.6	-	-
	SUMMER	mg/L		20.7	22.6	26.3	-	19.9	-	-
	FALL	mg/L		33.4	-	32	-	19.5	19.1	<2 |B
Potassium	WINTER	mg/L		4.54	-	3.51	-	12.9	14.3	-
	SPRING	mg/L		5.48	-	<2 |B	<2 |B	10	-	-
	SUMMER	mg/L		4.24	4.56	6.79	-	5.77	-	-
	FALL	mg/L		5.2	-	<2 |B	-	12.3	11.5	<0.62 |B
Chloride	WINTER	mg/L		23	-	12	-	140	150	-
	SPRING	mg/L		85	-	17	17	100	-	-
	SUMMER	mg/L		120	120	100	-	130	-	-
	FALL	mg/L		57.	-	12.	-	160	160	1.7
Sodium	WINTER	mg/L		30.6	-	18.7	-	155	164	-
	SPRING	mg/L		87.3	-	21.9	21.6	129	-	-
	SUMMER	mg/L		134	148	140	-	156	-	-
	FALL	mg/L		59.6	-	14.4	-	164	158	<2 |BE
Sulfate	WINTER	mg/L	400#	30	-	28	-	56	56	-
	SPRING	mg/L	400#	47	-	28	28	58	-	-
	SUMMER	mg/L	400#	68	68	93	-	56	-	-
	FALL	mg/L	400#	38.	-	24.	-	65.	64.	1.2
Phosphate, Total (as P)	WINTER	mg/L		<1	-	<1	-	<2	<2	-
	SPRING	mg/L		<1	-	<1	<1	2.9	-	-
	SUMMER	mg/L		<2	<2	<2	-	<2	-	-
	FALL	mg/L		<1	-	<1	-	<4	<4	<1
Ammonia-Nitrogen	WINTER	mg/L		0.29	-	0.097	-	5.3	4.9	-
	SPRING	mg/L		0.6	-	0.068	0.053	4.8	-	-
	SUMMER	mg/L		0.077	0.072	1.5	-	3.3	-	-
	FALL	mg/L		0.35	-	<0.05	-	5.8	5.7	0.54
Nitrogen, Nitrate (as N)	WINTER	mg/L	10#	1.6	-	4.3	-	8.5	6.7	-
	SPRING	mg/L	10#	3.7	-	<0.1	<0.1	6.1	-	-
	SUMMER	mg/L	10#	1.5	1.5	1.1	-	0.89	-	-
	FALL	mg/L	10#	3.6	-	0.29	-	3.6	3.6	0.29
Total Kjeldahl Nitrogen	WINTER	mg/L		0.93	-	<0.5	-	6.5	6.2	-
	SPRING	mg/L		1.5	-	<0.5	<0.5	6.7	-	-
	SUMMER	mg/L		0.66	0.58	2.2	-	3.5	-	-
	FALL	mg/L		0.72	-	<0.5	-	6.1	6.0	-

See footnotes at end of table

TABLE 6.7
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD	SWL00001 D1	SWL00002
Calcium	WINTER	mg/L		22.5	-	-
	SPRING	mg/L		20.4	-	-
	SUMMER	mg/L		18.6	-	-
	FALL	mg/L		24.9	<2 |B	<2 |B
Iron	WINTER	mg/L		0.317	-	-
	SPRING	mg/L		<0.1	-	-
	SUMMER	mg/L		<0.1	-	-
	FALL	mg/L		<0.1	<0.1 Up|B	<0.1 Up|B
Magnesium	WINTER	mg/L		22.5	-	-
	SPRING	mg/L		28.5	-	-
	SUMMER	mg/L		20.7	-	-
	FALL	mg/L		33.4	<2 |B	<2 |B
Potassium	WINTER	mg/L		4.54	-	-
	SPRING	mg/L		5.48	-	-
	SUMMER	mg/L		4.24	-	-
	FALL	mg/L		5.2	<0.62 |B	<2
Chloride	WINTER	mg/L		23	-	-
	SPRING	mg/L		85	-	-
	SUMMER	mg/L		120	-	-
	FALL	mg/L		57.	1.6	1.1
Sodium	WINTER	mg/L		30.6	-	-
	SPRING	mg/L		87.3	-	-
	SUMMER	mg/L		134	-	-
	FALL	mg/L		59.6	<2 Up|BE	<2 |BE
Sulfate	WINTER	mg/L	400#	30	-	-
	SPRING	mg/L	400#	47	-	-
	SUMMER	mg/L	400#	68	-	-
	FALL	mg/L	400#	38.	1.3	<1
Phosphate, Total (as P)	WINTER	mg/L		<1	-	-
	SPRING	mg/L		<1	-	-
	SUMMER	mg/L		<2	-	-
	FALL	mg/L		<1	<1	<1
Ammonia-Nitrogen	WINTER	mg/L		0.29	-	-
	SPRING	mg/L		0.6	-	-
	SUMMER	mg/L		0.077	-	-
	FALL	mg/L		0.35	0.68	0.43
Nitrogen, Nitrate (as N)	WINTER	mg/L	10#	1.6	-	-
	SPRING	mg/L	10#	3.7	-	-
	SUMMER	mg/L	10#	1.5	-	-
	FALL	mg/L	10#	3.6	0.28	0.16
Total Kjeldahl Nitrogen	WINTER	mg/L		0.93	-	-
	SPRING	mg/L		1.5	-	-
	SUMMER	mg/L		0.66	-	-
	FALL	mg/L		0.72	-	-

See footnotes at end of table

TABLE 6.7
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD	PCD D1	PCU	PCU D1	STPO	STPO D1	SWL00001
Alkalinity Total(as CaCO3)	WINTER	mg/L		130	-	100	-	180	200	-
	SPRING	mg/L		160	-	210	200	200	-	-
	SUMMER	mg/L		190	180	230	-	200	-	-
	FALL	mg/L		190	-	170	-	180	190	<10

See footnotes at end of table

TABLE 6.7
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
ANIONS AND CATIONS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD	SWL00001 D1	SWL00002
Alkalinity Total(as CaCO3)	WINTER	mg/L		130	-	-
	SPRING	mg/L		160	-	-
	SUMMER	mg/L		190	-	-
	FALL	mg/L		190	<10	<10

See footnotes at end of table

TABLE 6.7
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER,1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE 6.8
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
OTHER PARAMETERS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	PCD	PCD D1	PCU	PCU D1	STPO	STPO D1	SWL00001
Total Dissolved Solids	WINTER	mg/L		250 |*	-	220 |*	-	600 |*	600 |*	-
	SPRING	mg/L		410	-	260	260	500	-	-
	SUMMER	mg/L		540	540	570	-	560	-	-
	FALL	mg/L		330	-	220	-	590	580	<38. Uz|C
Turbidity	WINTER	NTU		120	-	130	-	6.3	5.5	-
	SPRING	NTU		17	-	18	19	6.9	-	-
	SUMMER	NTU		2.8	3	59	-	6.9	-	-
	FALL	NTU		4.7	-	10.	-	4.6	4.2	31.
Turbidity-F	WINTER	NTU		>200	-	>200	-	88.4	88.4	-
	SPRING	NTU		14.39	-	19.72	-	8.17	-	-
	SUMMER	NTU		4.44	4.44	-	-	10.36	-	-
	FALL	NTU		6.20	-	5.10	-	5.29	5.29	-
Total Organic Carbon	WINTER	mg/L		6.5	-	9.4	-	8.4	8.4	-
	SPRING	mg/L		6.7	-	5.1	4.9	8.7	-	-
	SUMMER	mg/L		4.8	4.5	6	-	4.2	-	-
	FALL	mg/L		4.6	-	3.[illegible]	-	6.5	6.6	11.
Chemical Oxygen Demand	FALL	mg/L		19.	-	19.	-	25.	24.	26.
Specific Conductance(EC-F)	WINTER	umhos		349	-	263	-	506	506	-
	SPRING	umhos		766	-	446	-	917	-	-
	SUMMER	umhos		882	882	933	-	577	-	-
	FALL	umhos		409	-	283	-	1001	1001	56
EH-F	WINTER	mvolt		133	-	127	-	132	-	-
	SPRING	mvolt		81	-	108	-	88	-	-
	SUMMER	mvolt		167	167	164	-	192	-	-
	FALL	mvolt		181	-	148	-	174	174	-
pH-F	WINTER			7.69	-	7.85	-	7	7	-
	SPRING			7.68	-	8.4	-	7.15	-	-
	SUMMER			6.86	6.86	7.6	-	7.07	-	-
	FALL			7.47	-	8.20	-	7.02	7.02	-
Temperature-F	WINTER	deg C		14.1	-	10.9	-	20.2	20.2	-
	SPRING	deg C		25.4	-	19.8	-	25.2	-	-
	SUMMER	deg C		21	21	22	-	25.9	-	-
	FALL	deg C		9.2	-	6.8	-	22.2	22.2	51

See footnotes at end of table

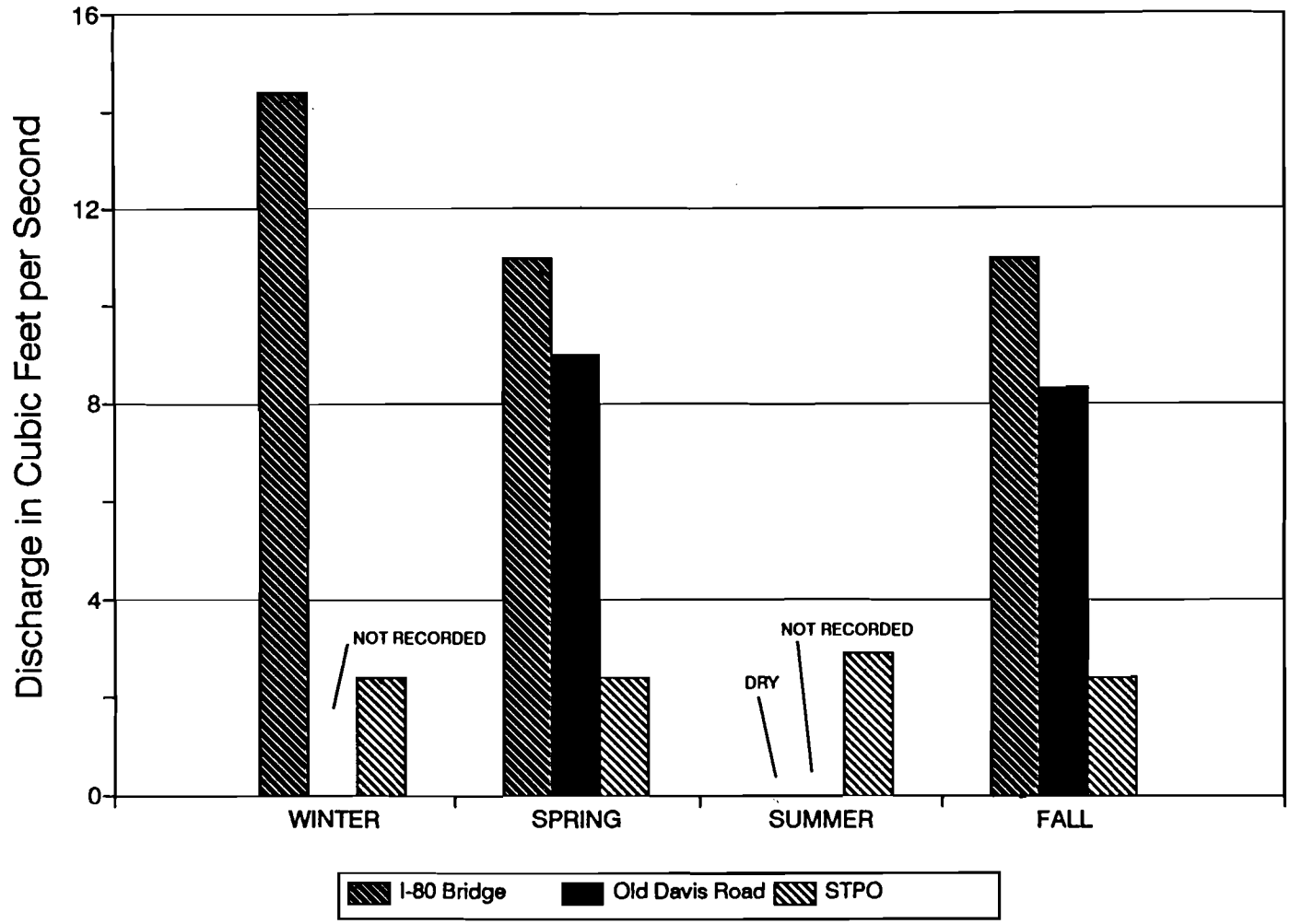
TABLE 6.8
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER, 1994
OTHER PARAMETERS
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter	Quarter	Units	MCL	SWL00001 D1	SWL00002
Total Dissolved Solids	WINTER	mg/L		-	-
	SPRING	mg/L		-	-
	SUMMER	mg/L		-	-
	FALL	mg/L		<70. UzJC	<32. UzJC
Turbidity	WINTER	NTU		-	-
	SPRING	NTU		-	-
	SUMMER	NTU		-	-
	FALL	NTU		28.	9.8
Turbidity-F	WINTER	NTU		-	-
	SPRING	NTU		-	-
	SUMMER	NTU		-	-
	FALL	NTU		-	-
Total Organic Carbon	WINTER	mg/L		-	-
	SPRING	mg/L		-	-
	SUMMER	mg/L		-	-
	FALL	mg/L		11.	5.3
Chemical Oxygen Demand	FALL	mg/L		28.	10.
Specific Conductance(EC-F)	WINTER	umhos		-	-
	SPRING	umhos		-	-
	SUMMER	umhos		-	-
	FALL	umhos		56	36
EH-F	WINTER	mvolt		-	-
	SPRING	mvolt		-	-
	SUMMER	mvolt		-	-
	FALL	mvolt		-	-
pH-F	WINTER			-	-
	SPRING			-	-
	SUMMER			-	-
	FALL			-	-
Temperature-F	WINTER	deg C		-	-
	SPRING	deg C		-	-
	SUMMER	deg C		-	-
	FALL	deg C		51	53

See footnotes at end of table

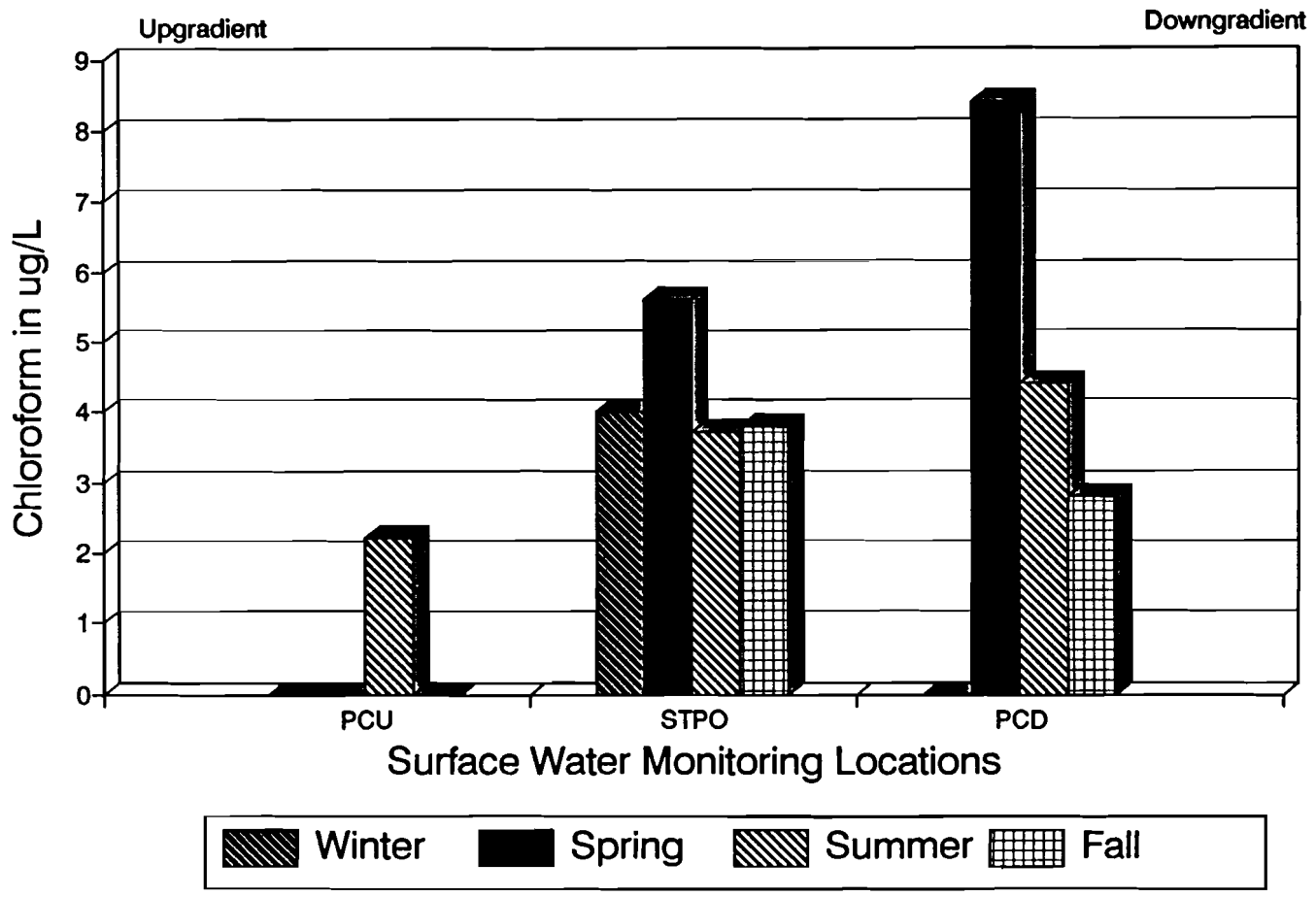
TABLE 6.8
SUMMARY OF DETECTED CONSTITUENTS IN SURFACE WATER AND STORM WATER,1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers



DISCHARGE OBSERVATIONS
SOUTH FORK OF PUTAH CREEK AND
SEWAGE TREATMENT PLANT OUTFALL, 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

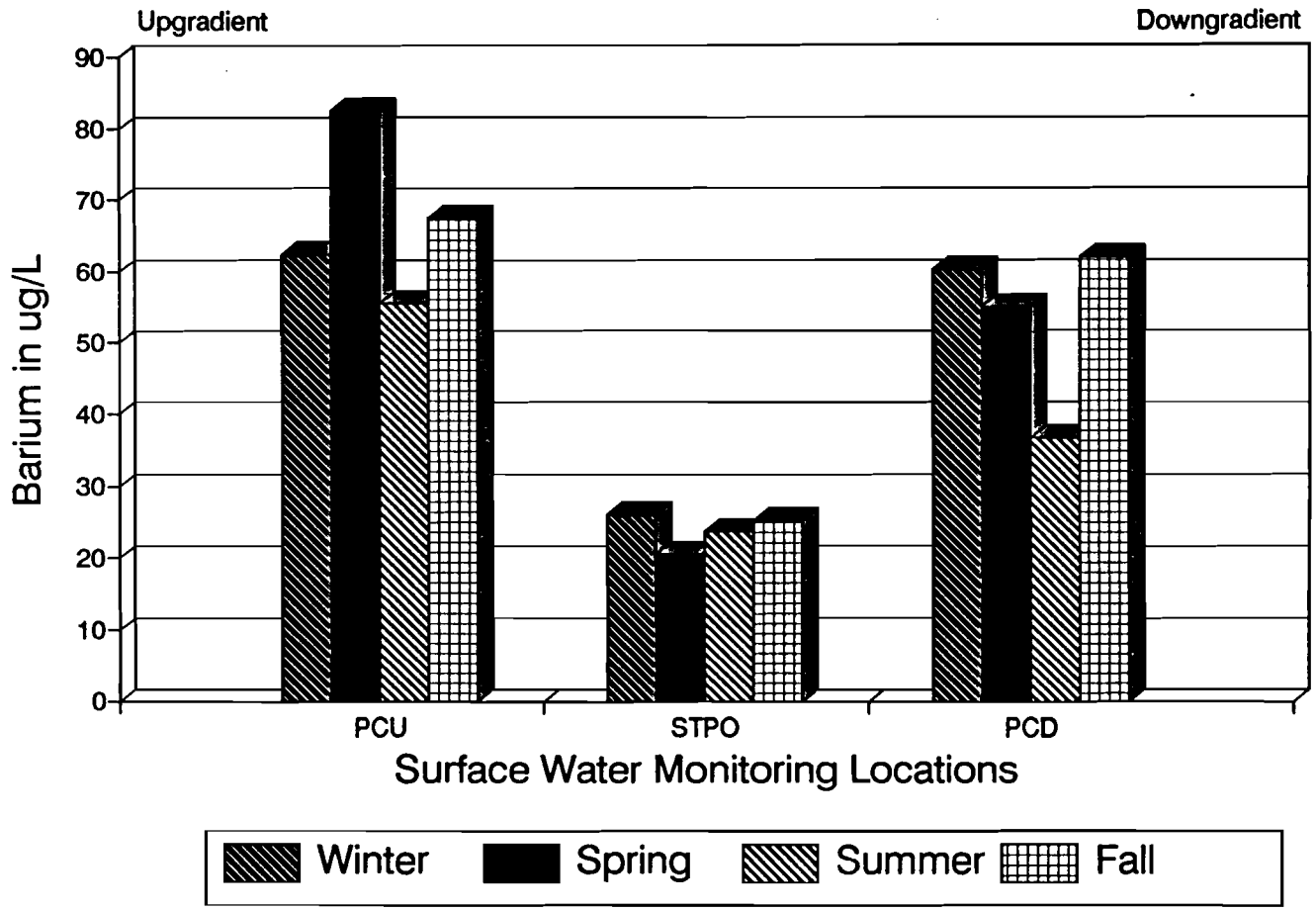


California DHS primary MCL = 100 ug/L

BAR GRAPH OF CHLOROFORM IN SURFACE WATER

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 6.2



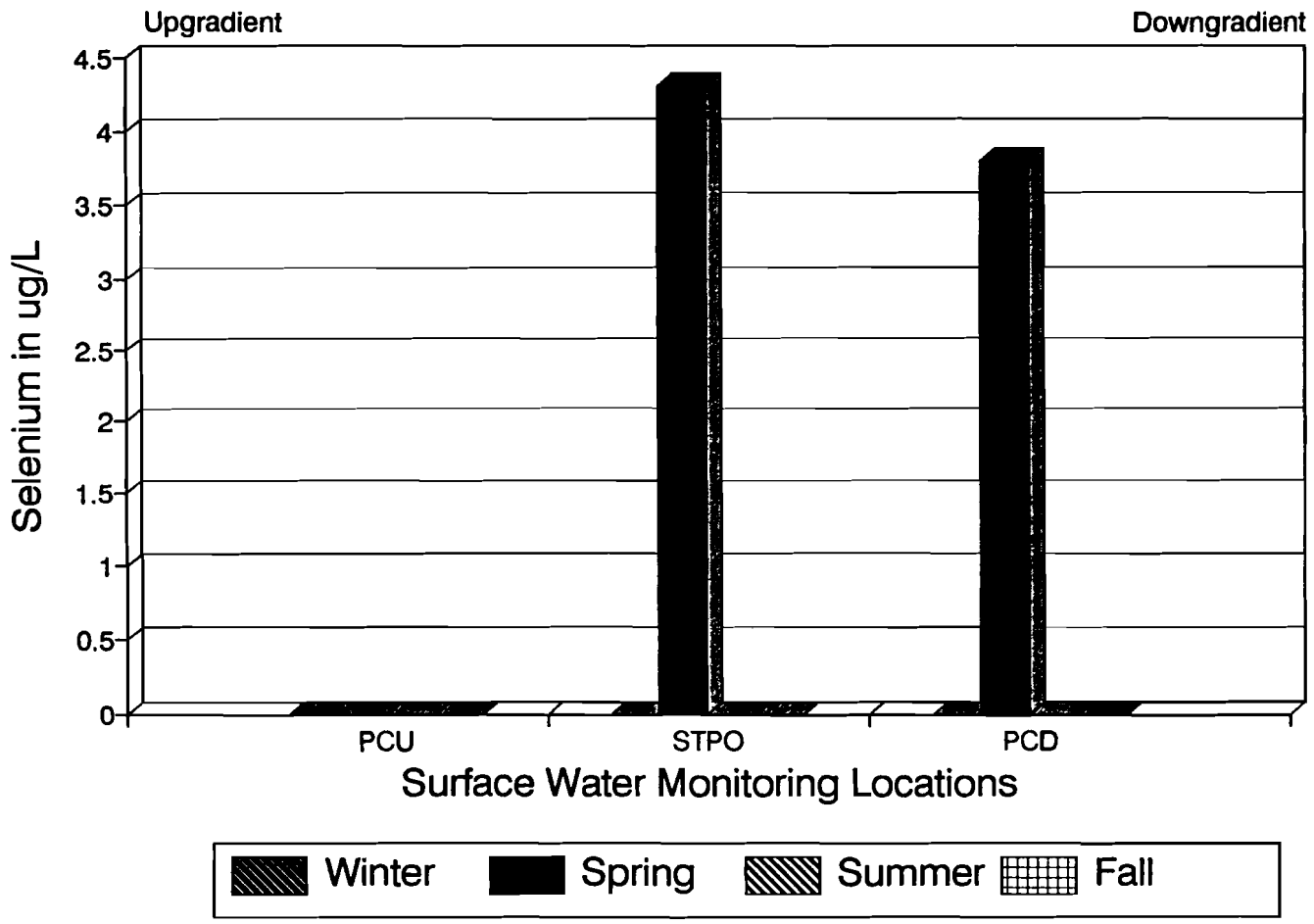
California DHS primary MCL = 1000 ug/L.

BAR GRAPH OF BARIUM IN SURFACE WATER

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 6.3

10805-959-6303-044 RDM 6303

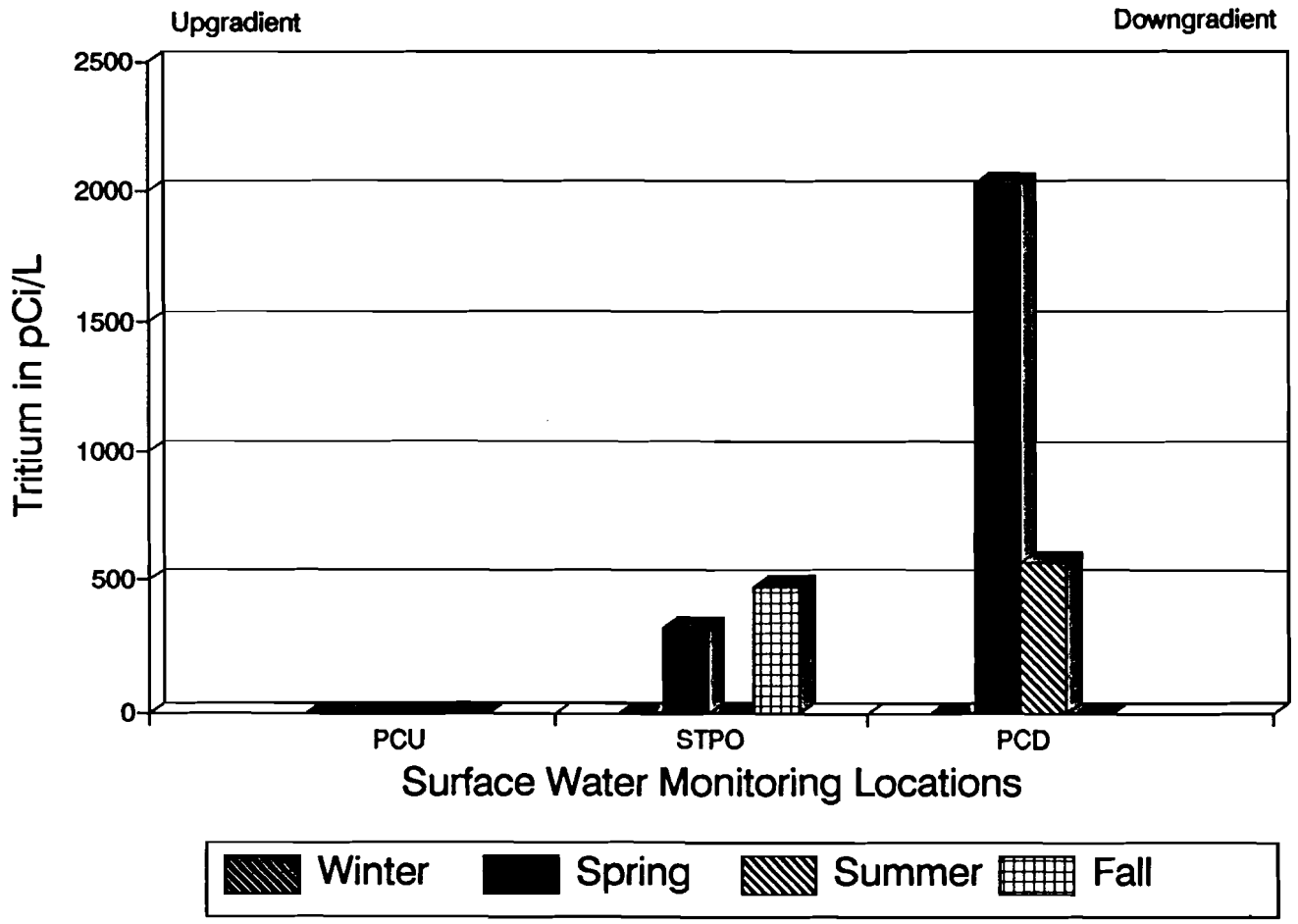


USEPA Primary MCL = 10 ug/L

BAR GRAPH OF SELENIUM IN SURFACE WATER

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 6.4



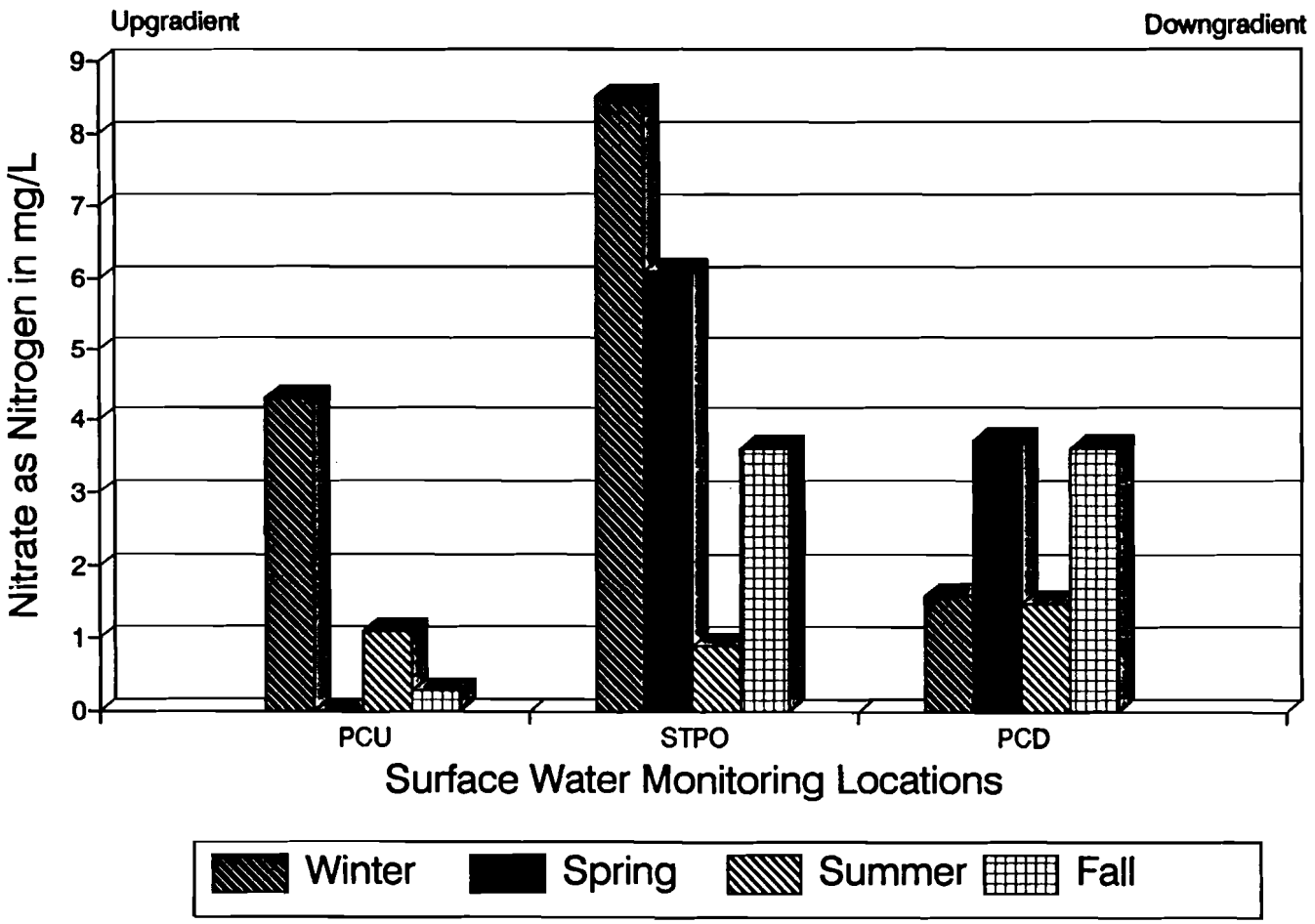
California DHS primary MCL = 20,000 pCi/L

BAR GRAPH OF TRITIUM IN SURFACE WATER

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 6.5

10805-959-6303-044 RDM 6303



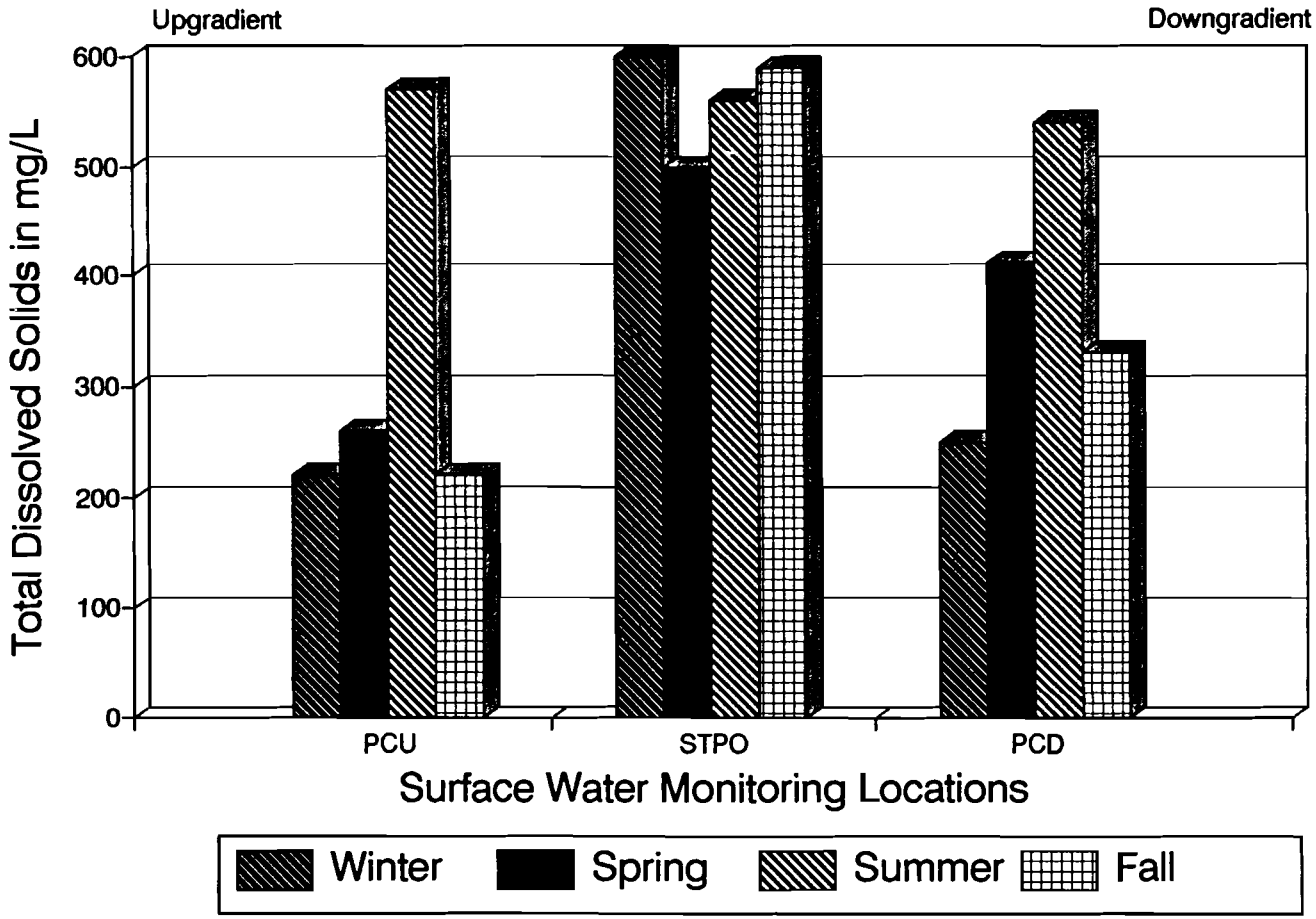
USEPA primary MCL = 10 mg/L for Nitrate as Nitrogen.

BAR GRAPH OF
NITRATE AS NITROGEN IN SURFACE WATER

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 6.6

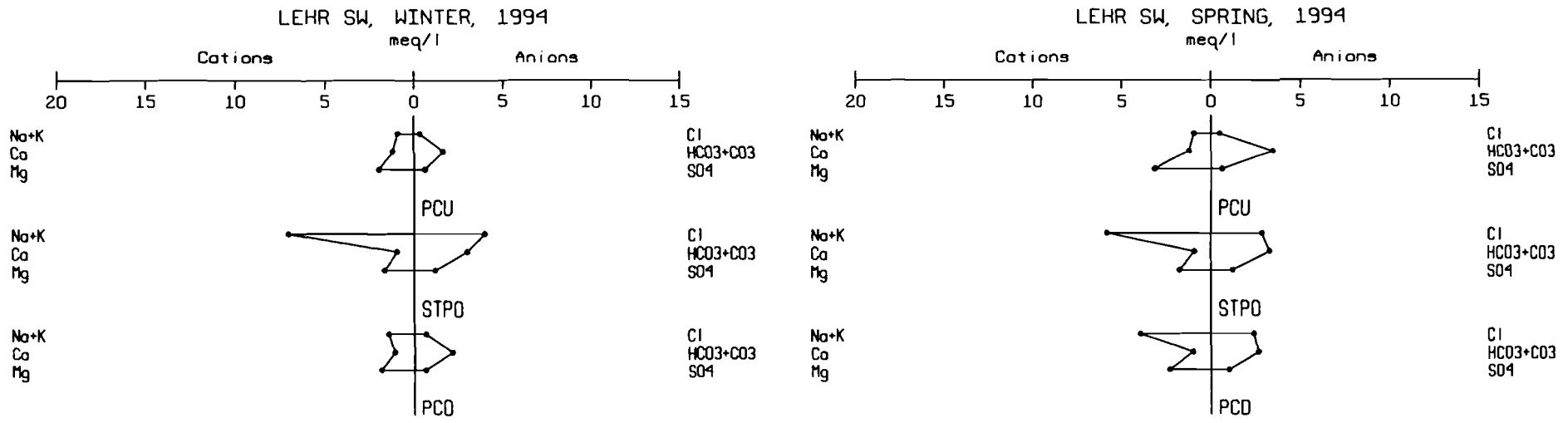
10805-959-6303-044 RDM 6303



BAR GRAPH OF
TOTAL DISSOLVED SOLIDS IN SURFACE WATER

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

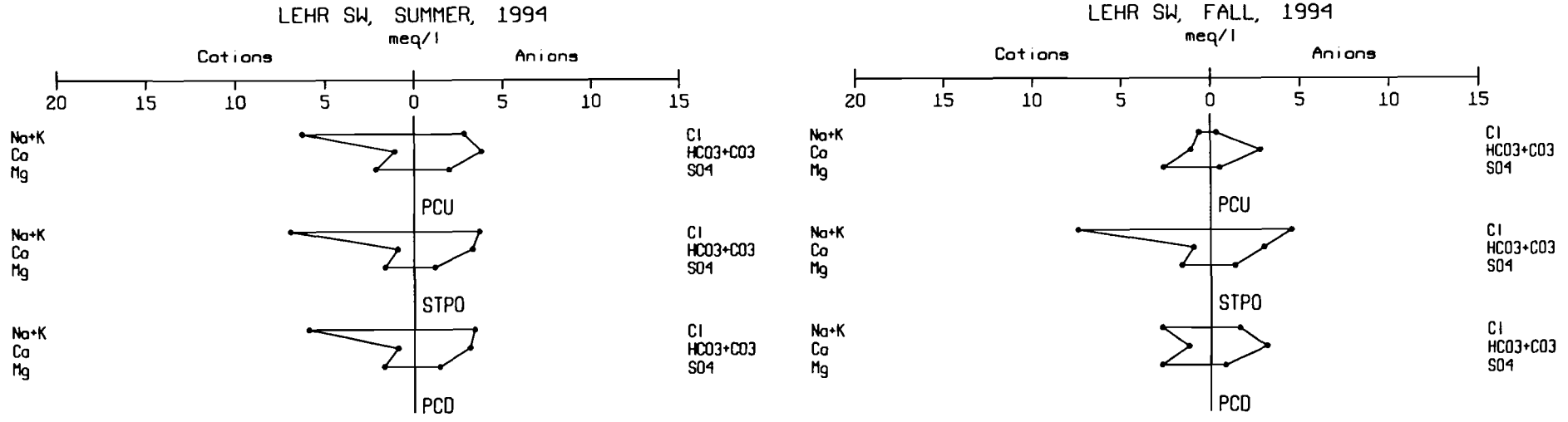
FIGURE 6.7



STIFF DIAGRAMS
SURFACE WATER SAMPLING LOCATIONS
WINTER AND SPRING QUARTERS 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

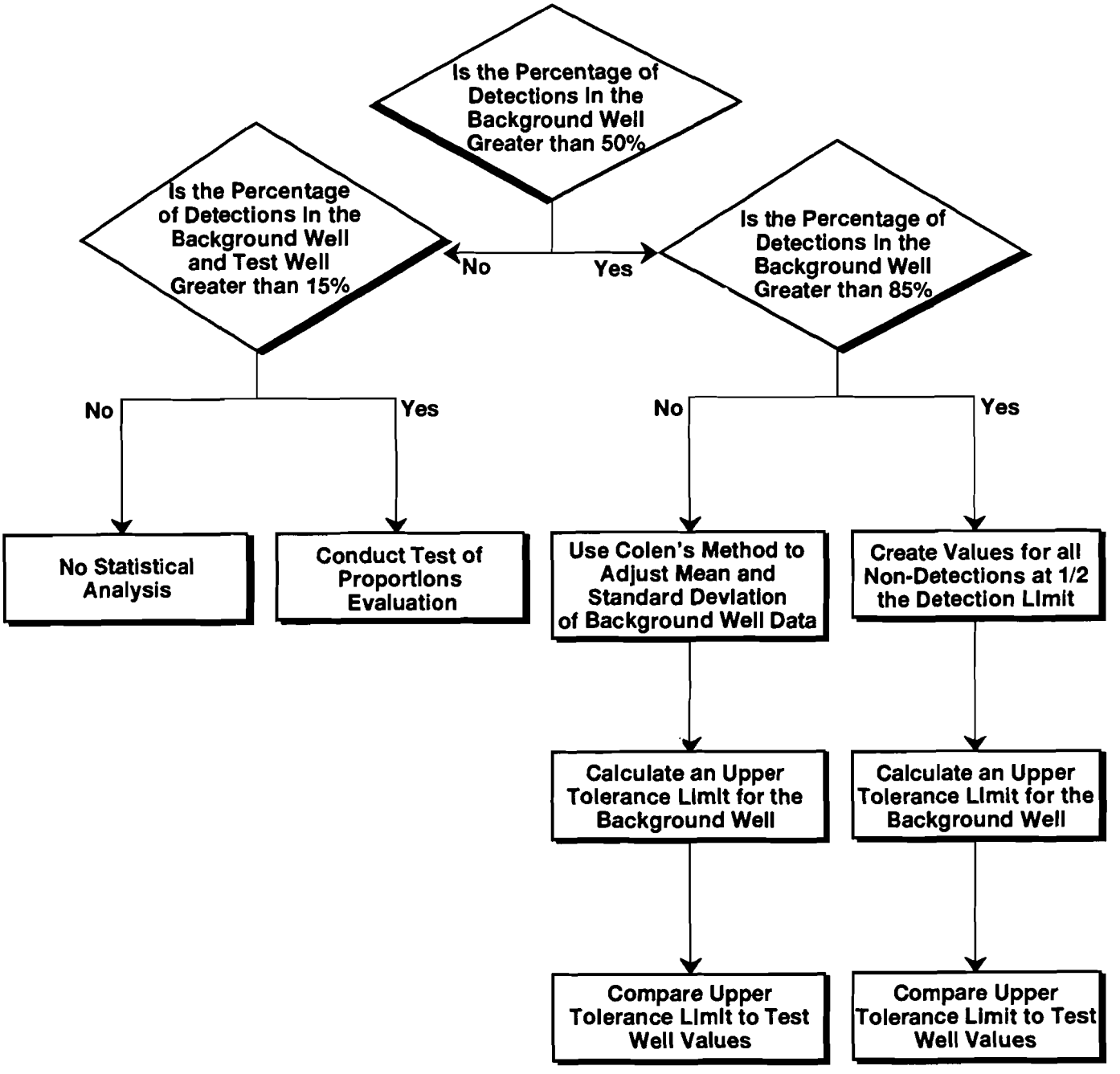
FIGURE 6.8



STIFF DIAGRAMS
SURFACE WATER SAMPLING LOCATIONS
SUMMER AND FALL QUARTERS 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 6.9



STATISTICAL TEST SELECTION FLOW CHART

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 7.1

7.0 STATISTICAL ANALYSIS

Statistical analyses were conducted on reported analytical results from 1994 groundwater samples. The purpose of these analyses were to compare data from downgradient wells with data from upgradient wells to evaluate impacts to groundwater in the vicinity of the LEHR Site. Guidance for the statistical approach is based on "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities" (EPA, 1989). Figure 7.1, redrawn and modified from that document, presents the types of analyses conducted, based on the characteristics of the data. Similar statistical analyses of surface water results were not presented because the upstream sample location, PCU, is too similar to downgradient sample PCD during the Winter months. Therefore, there are insufficient data to evaluate upgradient or background samples for surface water. A qualitative discussion of surface water analytical results is presented in Chapter 6.

Data from both groundwater HSUs were included in the statistical analysis. However, the two HSUs were evaluated separately because of their different physical and hydraulic properties (see Chapter 4). Analytical results from upgradient well UCD1-18 were used in the background calculations for the first HSU, and results for upgradient well UCD2-17 were used in the background calculations for the second HSU. First HSU downgradient wells included in this analysis are: UCD1-1, UCD1-4, UCD1-10, UCD1-11, UCD1-12, UCD1-13, UCD1-14, UCD1-19, UCD1-20, UCD1-21, UCD1-22, UCD1-23, UCD1-24. Downgradient wells from the second HSU included in this analysis are: UCD2-7, UCD2-14, UCD2-15, and UCD2-16.

For this report, data from both 1993 and 1994 were combined to evaluate upgradient or background groundwater conditions. This two-year data set includes results from the most recent eight quarters of sampling and was chosen for the following reasons.

- The EPA (1989) recommends the most recent six to eight data points from upgradient monitoring wells for statistical evaluation of background groundwater quality. This results in a reduction of potential bias toward the most recent sample events of 1994.

- Calculating background concentrations from a smaller data set (for example, from 1994 data only) overestimates background concentrations which underestimates potential impacts to groundwater.

- Using two years of data for the background evaluation is consistent with the statistical evaluation presented in the 1993 Annual Report (PNL, October 1994).

Because of changes in methodology, differences in data reporting methods, and increases in sampling parameters over the most recent two years, the size of the background data set for each parameter varies between four and eight data points. Analytes with fewer than four quarters of valid data are not considered for statistical analysis (EPA, 1989).

7.1 PARAMETERS INCLUDED IN STATISTICAL ANALYSIS

Data from both HSUs were screened for inclusion in the statistical analysis based on their importance to the site as potential contaminants — only potential site constituents were considered for statistical analysis. Potential Site constituents include materials that may have been disposed within or may be derived from site waste disposal units and include; VOCs, SVOCs, pesticides and PCBs, metals, radionuclides, and nitrate.

Field parameters, cations, and anions (with the exception of nitrate), and general chemical parameters such as TDS, were not considered for statistical analysis. In addition, parameters that were evaluated to have been the result of laboratory contamination such as methylene chloride or bis-2-ethylhexylphthalate, were not considered (see Chapter 3 for further QA/QC considerations). The purpose of evaluating this broad list of parameters is to narrow the focus of attention to specific analytes consistently reported above background. Future statistical analysis and monitoring can then be eliminated for parameters that are rarely detected or are consistently reported at or below background concentrations.

7.2 STATISTICAL METHODS

Once parameters were selected for statistical analysis, the process shown in Figure 7.1 was used to select the appropriate statistical method to evaluate each parameter. This process uses an initial survey of the percentage of detected and non-detected values for selected parameters in each well. Based on the number of detected and non-detected values in the upgradient and downgradient wells, one of several statistical methods was used to evaluate the data. These methods include: calculation of an Upper Tolerance Limit with 95-percent confidence (UTL); adjustment of sample mean and standard deviation by Cohen's Method and calculation of a UTL; a test of proportions evaluation; or no statistical analysis. The methods and the selection process are described briefly below. A detailed description of this process and example calculations are presented in Appendix D.

The test selected for each comparison is dependent on the percentage of detections in upgradient and downgradient wells. Parameters with less than 15 percent detections (for example, formaldehyde and numerous volatile organic, semivolatile organic, pesticide, and PCB compounds) were eliminated from consideration because statistical analyses cannot be conducted with so few reported detections (EPA, 1989). Parameters with greater than 15 percent detections in upgradient and downgradient wells and less than or equal to 50 percent detections in the upgradient well are analyzed by the Test of Proportions. This test compares the frequency or proportion of detections in upgradient wells, to the proportion of detections in each downgradient well.

When greater than 50 percent detections are present for an analytical parameter in the upgradient well, more detailed statistics are possible. For this report, parameters that satisfy this criteria were evaluated by calculating a 95-percent Upper Tolerance Limit (UTL). The UTL calculation provides an upper limit concentration for the parameter in the upgradient well. If the percentage of detections in the upgradient well is less than 85 percent, but greater than 50 percent, the mean and standard deviation must first be adjusted using Cohen's method (Cohen, 1959) before calculating the UTL. If the percentage of detections is greater than 85 percent, the UTL can be calculated using values of one-half the detection limit for non-detections. Once this UTL concentration is established for the sample results of the upgradient well, each downgradient result is compared to the UTL value. For more discussion and details of these UTL calculations, see Appendix D.

7.3 RESULTS

This section presents the results of the statistical comparison of upgradient and downgradient groundwater data. The specific parameters and the selected statistical method are presented in Table 7.1. Tables 7.2a, 7.2b, 7.3a, and 7.3b present a summary of the results of the statistical analysis of groundwater data. A discussion of the results of the statistical analysis is presented below.

7.3.1 Upper Tolerance Limit Calculations

Tables 7.2A and 7.2B present a summary of the statistical analysis for parameters that were evaluated by an Upper Tolerance Limit (UTL) calculation. These parameters include: barium, total chromium, hexavalent chromium, nickel, nitrate, carbon-14, gross alpha, gross beta, radium-226, strontium-90, tritium, cesium-137, cobalt-60, potassium-40, and uranium-235 in the first HSU. In the second HSU, a UTL calculation was

performed on barium, total chromium, nitrate, carbon-14, gross alpha, gross beta, radium-226, strontium-90, tritium, cesium-137, cobalt-60, potassium-40, and uranium-235.

After calculation of the UTL, analytical results from the downgradient wells were compared to the UTL value. A downgradient result that exceeds the UTL is considered to be elevated with respect to background at the 95 percent confidence level. Results that are below the UTL value are considered to be at background levels. Tables 7.2A and 7.2B list the percentage of 1994 samples in each well that exceeded a UTL. Radiological values from downgradient wells were not considered to have exceeded a UTL unless the analytical value was positive (see Section 5.5 for a discussion of positive radionuclide values). Downgradient wells with one or more samples above a UTL are denoted in Tables 7.2A and 7.2B by shaded areas.

Several analytical parameters from several downgradient wells reported concentrations in excess of the background UTL on a consistent (>50%) basis. These parameters are barium, chromium, hexavalent chromium, nitrate, and carbon-14 in the first HSU and barium, chromium, and nitrate in the second HSU. Tritium consistently exceeds the UTL in only one first HSU and one second HSU well (UCD1-13 and UCD2-14 respectively), while carbon-14 consistently exceeds the UTL in only one second HSU well (UCD-14). In both first and second HSUs, sporadic results above the calculated UTL were reported for gross alpha, gross beta, radium-226, and strontium-90, however, there are no consistent patterns to these values.

7.3.2 Test of Proportions Calculations

Tables 7.3A and 7.3B present a summary of the results for parameters evaluated by the test of proportions. These parameters include; arsenic, beryllium, selenium, vanadium, chloroform, 1,1 dichloroethane, 1,2 dichloroethane, 1,1-dichloroethene, 1,1,2-trichloroethane, alpha chlordane, gamma chlordane, dieldrin, and endrin in the first and second HSUs. Hexavalent chromium and nickel were also evaluated by the test of proportions for the second HSU.

Results presented in Tables 7.3A and 7.3B show that selenium, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethane, chloroform, dieldrin, and endrin are reported above background in the first HSU. The highest proportion of reported detections in downgradient wells compared to upgradient wells was observed for selenium and chloroform (both above background in 4 wells). The remaining VOCs exceed reported background concentrations in UCD1-12 only. The two pesticide compounds exceed

background only in UCD1-13. In the second HSU, statistically higher proportions of detections were shown for hexavalent chromium (3 wells), and chloroform (1 well). A more detailed discussion of the test of proportions and UTL results is presented below in Section 7.4.

7.4 DISCUSSION OF STATISTICAL ANALYSES

Based on the results of the statistical analyses, nitrate, total chromium, hexavalent chromium, and barium concentrations reported in several downgradient wells were higher at the 95-percent confidence level than established upgradient concentrations. Based on these statistical analyses, these four parameters appear to be elevated with respect to background groundwater beneath a large portion of the site. Other constituents, including; selenium, chloroform (and several other VOCs), carbon-14, tritium, dieldrin, and endrin were reported at concentrations which exceed reported upgradient concentrations at the 95-percent confidence level in only a few wells. These parameters appear to be consistently elevated beneath small or localized portions of the site. These results are discussed further below.

- Nitrate concentrations are reported consistently above the upgradient UTL value in seven downgradient wells during 1994 monitoring. These wells include; UCD1-10, UCD1-11, UCD1-12, UCD1-21, and UCD1-24 in the first HSU and UCD2-7 and UCD2-14 in the second HSU. These results are consistent with previous statistical evaluations (PNL, 1994).

- Chromium and hexavalent chromium exhibit similar patterns as both parameters are reported consistently higher than background in six first HSU wells UCD1-10, UCD1-11, UCD1-12, UCD1-13, UCD1-19, and UCD1-21, and in well UCD2-7 in the second HSU. Hexavalent chromium rather than total chromium also is reported above background in second HSU wells UCD2-14 and UCD2-16. These results are similar to previous results (PNL, 1994) and show that chromium and hexavalent chromium are elevated with respect to background over a large portion of the site.

- Barium is consistently reported above the background UTL in wells UCD1-4, UCD1-11, UCD1-12, UCD1-13, UCD2-7, and UCD2-14. These wells are located predominantly in the center portion of the site near Landfill Units #1 and #2, and the UC Davis disposal trenches.

- Several parameters are consistently reported above background, but in fewer wells and over smaller areas than parameters described above. Tritium concentrations reported were evaluated to be above background in wells UCD1-13 and UCD2-14. Carbon-14 was reported above the background UTLs in wells UCD1-12, UCD1-13, UCD1-23, and UCD2-14. Chloroform was reported above background levels in wells UCD1-12, UCD1-13, UCD1-

24, and UCD2-14. Selenium was reported above background in wells UCD1-10, UCD1-11, UCD1-12, and UCD1-19. Dieldrin and endrin were reported above background only in UCD1-13.

In general, the results of the statistical evaluation are supported by the graphs and tables presented in Chapter 5, and are consistent with the statistical analysis conducted for the 1993 Annual Water Monitoring Report (PNL, 1994). These results show that potential site constituents most consistently reported above background include; nitrate, chromium/hexavalent chromium, chloroform, tritium, carbon-14, barium, selenium, dieldrin, and endrin.

TABLE 7.1
PARAMETERS INCLUDED IN STATISTICAL ANALYSIS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter[1]	Statistical Tests - First HSU	Statistical Tests - Second HSU
Arsenic	Test of proportions	Test of Proportions
Barium	UTL Calculation	UTL Calculation
Hexavalent Chromium	Cohen's Method/UTL Calculation	Test of Proportions
Total Chromium	UTL Calculation	UTL Calculation
Nickel	Cohen's Method/UTL Calculation	Test of Proportions
Selenium	Test of Proportions	Test of Proportions
Vanadium	Test of Proportions	Test of Proportions
Nitrate	UTL Calculation	UTL Calculation
Chloroform	Test of Proportions	Test of Proportions
1,1 Dichloroethane	Test of Proportions	Test of Proportions
1,2 Dichloroethane	Test of Proportions	Test of Proportions
1,1 Dichloroethene	Test of Proportions	Test of Proportions
1,1,2 Trichloroethane	Test of Proportions	Test of Proportions
Alpha chlordane	Test of Proportions	Test of Proportions
Gamma chlordane	Test of Proportions	Test of Proportions
Dieldrin	Test of Proportions	Test of Proportions
Endrin	Test of Proportions	Test of Proportions
Carbon-14[2]	UTL Calculation	UTL Calculation
Tritium[2]	UTL Calculation	UTL Calculation
Gross alpha[2]	UTL Calculation	UTL Calculation
Gross beta[2]	UTL Calculation	UTL Calculation
Radium-226[2]	UTL Calculation	UTL Calculation
Strontium-90[2]	UTL Calculation	UTL Calculation

TABLE 7.1
PARAMETERS INCLUDED IN STATISTICAL ANALYSIS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

Parameter[1]	Statistical Tests - First HSU	Statistical Tests - Second HSU
Cobalt-60[2]	UTL Calculation	UTL Calculation
Uranium-235[2]	UTL Calculation	UTL Calculation
Cesium-137[2]	UTL Calculation	UTL Calculation
Potassium-40[2]	UTL Calculation	UTL Calculation

(1) Metals, volatile organic compounds, semivolatile organic compounds, pesticides, and PCBs not listed in this table did not have enough detections to conduct a statistical analysis.

(2) UTL values for radionuclides were calculated using the analytical values; counting error was not incorporated into the calculation.

TABLE 7.2A
UPGRADIENT VERSUS DOWNGRADIENT WELL COMPARISONS
95% UPPER TOLERANCE LIMIT (UTL)
METALS AND NITRATE
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

	First HSU				
	Percentage of Sample Results that Exceed the UTL Value				
Well	Barium	Chromium	Hexavalent Chromium	Nickel	Nitrate as N
UCD1-1	33.3	0	0	0	0
UCD1-4	100	0	0	0	0
UCD1-10	0	100	100	0	100
UCD1-11	67.7	100	100	0	67.7
UCD1-12	67.7	100	100	0	100
UCD1-13	100	100	67.7	0	0
UCD1-19	0	100	100	0	0
UCD1-20	0	0	25	0	0
UCD1-21	0	75	100	0	100
UCD1-22	0	0	0	0	0
UCD1-23	0	0	0	0	0
UCD1-24	50	0	0	0	100
95% UTL Value Calculated for UCD1-18	202.0	50.86	39.73	131.97	25.92

	Second HSU		
	Percentage of Sample Results that Exceed the UTL Value		
Well	Barium	Chromium	Nitrate as N
UCD2-7	75	50	100
UCD2-14	100	75	100
UCD2-15	50	0	25
UCD2-16	25	0	25
95% UTL Value Calculated for UCD2-17	141.86	33.89	3.63

SAC148.06 Shaded areas denote one or more samples that exceeded the UTL.

TABLE 7.2B
UPGRADIENT VERSUS DOWNGRADIENT WELL COMPARISONS
95% UPPER TOLERANCE LIMIT (UTL)
RADIONUCLIDES, GROSS ALPHA, GROSS BETA
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

	Percentage of Sample Results that Exceed the UTL Value									
Well	C-14	Gross α	Gross β	Ra-226	Sr-90	Tritium	Cs-137	Co-60	K-40	U-235
UCD1-1	0	0	0	0	0	0	0	0	0	0
UCD1-4	0	0	50	0	0	0	0	0	0	0
UCD1-10	0	0	0	0	0	0	0	0	0	0
UCD1-11	0	0	0	0	0	0	0	0	0	0
UCD1-12	100	33.3	0	0	0	0	0	0	0	0
UCD1-13	100	0	0	0	0	100	0	0	0	0
UCD1-19	0	0	0	0	0	0	0	0	0	0
UCD1-20	0	0	50	0	0	0	0	0	0	0
UCD1-21	0	0	0	0	0	0	0	0	0	0
UCD1-22	0	0	25	25	0	0	0	0	0	0
UCD1-23	75	0	0	0	0	0	0	0	0	0
UCD1-24	0	0	0	0	0	0	0	0	0	0
95% UTL Value Calculated for UCD1-18	108.26	5.21	3.54	0.56	1.72	207.81	20.83	3.65	140.62	18.05

Second HSU

	Percentage of Sample Results that Exceed the UTL Value									
Well	C-14	Gross α	Gross β	Ra-226	Sr-90	Tritium	Cs-137	Co-60	K-40	U-235
UCD2-7	0	0	0	25	0	0	0	25	0	0
UCD2-14	75	0	0	0	0	100	0	0	0	0
UCD2-15	0	0	0	25	0	0	0	0	0	0
UCD2-16	0	0	0	0	0	0	0	0	0	0
95% UTL Value Calculated for UCD2-17	226.47	3.88	4.59	0.20	1.46	369.58	13.10	1.36	3.21	463.39

SAC148.06 Shaded areas denote one or more samples that exceeded the UTL.

TABLE 7.3A
UPGRADIENT VERSUS DOWNGRADIENT WELL COMPARISONS
SUMMARY OF TEST OF PROPORTIONS (*Z* VALUES)
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

First HSU			
	Z Values		
Well	**Arsenic**	**Selenium**	**Vanadium**
UCD1-1	0.28	–	0.85
UCD1-4	0.62	0.94	0.62
UCD1-10	0.00	3.53	0.50
UCD1-11	0.28	3.39	0.85
UCD1-12	0.28	3.39	0.85
UCD1-13	0.28	–	0.28
UCD1-19	0.00	3.00	0.00
UCD1-20	0.00	–	1.62
UCD1-21	0.00	1.15	0.5
UCD1-22	0.50	–	1.03
UCD1-23	0.00	–	1.03
UCD1-24	0.00	–	0.24

Second HSU					
	Z Values				
Well	**Arsenic**	**Hexavalent Chromium**	**Nickel**	**Selenium**	**Vanadium**
UCD2-7	1.03	2.31	–	0.64	0.64
UCD2-14	1.03	2.31	–	0.64	0.54
UCD2-15	0.50	0.50	0.64	0.64	0.00
UCD2-16	0.00	2.31	–	1.15	0.00

Note: Shaded areas note Z values greater than 1.96, a significant difference between upgradeint and downgradient wells at the 95% confidence interval. This is an indication of a statistical impact.

SAC148.06– Not applicable; nsufficient detections.

TABLE 7.3B
UPGRADIENT VERSUS DOWNGRADIENT WELL COMPARISONS
SUMMARY OF TEST OF PROPORTIONS (*Z* VALUES)
ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

	First HSU								
	Z Values								
Well	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-ethane	Alpha Chlordane	Chloro-form	Dieldrin	Endrin	Gamma Chlordane
UCD1-1	–	–	–	–	–	–	–	–	–
UCD1-4	–	–	–	–	–	–	–	–	–
UCD1-10	–	–	–	–	–	–	–	–	–
UCD1-11	–	–	–	–	–	–	–	–	–
UCD1-12	–	3.87	3.87	3.87	–	3.87	–	–	–
UCD1-13	–	–	–	–	–	3.38	3.38	3.38	–
UCD1-19	–	–	–	–	–	–	–	–	–
UCD1-20	–	–	–	–	–	–	–	–	–
UCD1-21	–	–	–	–	–	–	–	–	–
UCD1-22	–	–	–	–	–	–	–	–	–
UCD1-23	–	–	–	–	–	–	–	–	–
UCD1-24	–	–	–	–	–	2.70	–	–	–

	Second HSU								
	Z Values								
Well	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,2-Dichloro-ethane	Alpha Chlordane	Chloro-form	Dieldrin	Endrin	Gamma Chlordane
UCD2-7	–	–	–	–	–	–	–	–	–
UCD2-14	–	–	–	–	–	4.00	–	–	–
UCD2-15	–	–	–	–	–	–	–	–	–
UCD2-16	–	–	–	–	–	–	–	–	–

Note: Shaded areas note Z values greater than 1.96, a significant difference between upgradeint and downgradient wells at the 95% confidence interval. This is an indication of a statistical impact.

SAC148.06– Not applicable; nsufficient detections.

8.0 EVALUATION OF GROUNDWATER MONITORING SYSTEM

Guidance for Long-Term Groundwater Monitoring (The California Base Closure Environmental Committee, 1994) recommends that data gaps and potential deficiencies in the monitoring network be identified based on data presented in the annual report. This section presents an assessment of the groundwater monitoring network using selected analytical results from the 1994 water monitoring program, and from Hydropunch groundwater sampling results, and is intended to be used in conjunction with other evaluations currently being conducted to modify the design of the groundwater monitoring program.

Concentration contour plots of November 1994 groundwater analytical results (Figures 5.17 through 5.24) have previously been presented and discussed in Chapter 5. Figures 8.1 through 8.8 show concentration contour plots based on these same results, supplemented with available Hydropunch data. Results from two Hydropunch programs are included on these figures. Locations indicated with the prefix "HPL" represent Hydropunch samples collected during November 1994. Locations with the prefix "HP" represent Hydropunch locations collected in April and September 1991. Although these data were collected at different times and are somewhat qualitative, they are considered to be appropriate and useful in the context of fully evaluating the extent of impacts and effectiveness of the groundwater monitoring network. The Hydropunch data collected in April and September 1991 have been previously presented in the Phase II Site Characterization Report (Dames & Moore, 1993). The November 1994 Hydropunch data will be presented in the RI/FS report.

Concentration contour plots were prepared for chloroform, hexavalent chromium, nitrate (as nitrogen), and tritium as indicator parameters for other constituents of concern. As previously discussed in Chapter 5, these site constituents have consistently been reported in monitoring wells at the LEHR site at levels above background. Other VOCs reported at the LEHR site, such as 1,1 dichloroethene, were not used in this evaluation because they are reported in the same areas as chloroform, but at lower concentrations. Similarly, carbon-14 was not used in this evaluation because it occurs in the same general area as tritium, but at lower concentrations.

8.1 CHLOROFORM

The concentration contour plot for chloroform in the first HSU based on groundwater monitoring data alone (Figure 5.17), demonstrates a need for additional data

northeast and downgradient of UCD1-12. However, Figure 8.1, which combines reported Hydropunch with the groundwater monitoring data, shows a single reported chloroform detection of 35 μg/L northeast of UCD1-12, while the remainder of the downgradient Hydropunch results are reported as non-detect. This figure supports previous analyses that conclude that lateral migration of site constituents in the first HSU is limited.

In the second HSU, data on chloroform, downgradient of UCD2-14 is limited, based on groundwater monitoring data alone (Figure 5.21). Second HSU Hydropunch data, with groundwater monitoring results are shown on Figure 8.5. Here, 1991 Hydropunch data show reported chloroform concentrations up to 5.9 μg/L downgradient of Landfill Units 1 and 2, and November 1994 Hydropunch data have reported concentrations of chloroform of up to 12 μg/L on the eastern LEHR site boundary downgradient of Landfill Unit 3. Although the reported detection of 12 μg/L of chloroform is at the LEHR site boundary, this concentration is well below the MCL for chloroform of 100 μg/L. Based on evaluation of the contour plots of chloroform concentrations prepared from groundwater monitoring and Hydropunch data, the monitoring network needs to be supplemented downgradient of Landfill Units 1 and 2 in the second HSU.

8.2 HEXAVALENT CHROMIUM

Groundwater monitoring data reported for hexavalent chromium in the first HSU demonstrates a need for additional data to the northeast, downgradient of UCD1-11, which has a concentration of 300 μg/L of hexavalent chromium (Figure 5.18). Hydropunch data show reported concentrations in excess of 100 μg/L of hexavalent chromium downgradient of UCD1-11 and Landfill Units 1 and 2, decreasing to between 15 μg/L and 40 μg/L at the LEHR site boundary (Figure 8.2). Reported concentrations of hexavalent chromium, between 15 μg/L to 40 μg/L, are similar to hexavalent chromium concentrations seen regionally.

Groundwater monitoring data reported for hexavalent chromium in the second HSU (Figure 5.22) show the need for additional information downgradient of UCD2-16, UCD2-7, and UCD2-14. Combined with Hydropunch data reported for hexavalent chromium in the second HSU, this information shows non-detects downgradient of UCD2-16 (Figure 8.6). However, downgradient of UCD2-7 and UCD2-14 and Landfill Units 1 and 2, a concentration of 340 μg/L is reported from older Hydropunch data at HP-33. Downgradient of HP-33, lower concentrations of hexavalent chromium were reported in HP-16 at 110 μg/L, from the 1991 Hydropunch sampling. These data were not confirmed in 1994, where all downgradient Hydropunch sample results were non-detect, with the

exception of HPL-14 reported at 29 μg/L. A review of groundwater monitoring and Hydropunch data would suggest that the lateral limits of hexavalent chromium-impacted groundwater in the second HSU have not reached the LEHR site boundary, and that the monitoring network should be supplemented in this area.

8.3 TRITIUM

Tritium results reported for first HSU groundwater monitoring are shown in Figure 5.19. A single tritium positive result of 16,600 pCi/L is shown at UCD1-13. Wells downgradient of this location are all reported as non-detect. Figure 8.3 presents tritium groundwater data and Hydropunch data. As shown on this figure, a detection of 2,220 pCi/L was reported; however, all other downgradient Hydropunch samples were reported at non-detect, suggesting again that lateral migration in the first HSU is limited.

Second HSU monitoring results reported for tritium are shown on Figure 5.23. The result of 2,500 pCi/L reported in UCD2-14 shows the need for additional data downgradient of UCD2-14. However, second HSU Hydropunch results were all non-detect with the exception of HPL-17 (2,650 pCi/L) (Figure 8.7). This one detection at HPL-17 does not correlate well with upgradient data; however, it further supports the need to supplement the monitoring network in the second HSU in this area.

8.4 NITRATE AS NITROGEN

Groundwater monitoring data reported for nitrate in the first HSU shows the highest concentrations at UCD1-12, downgradient of the Dog Pen Area (Figure 5.20). Nitrate concentrations of 26 mg/L and 35 mg/L at UCD1-11 and UCD1-12, respectively, suggest the need for additional data downgradient of all three of these locations. Monitoring data supplemented with Hydropunch data for nitrate in the first HSU show localized areas of reported concentrations greater than 20 mg/L in the area downgradient of UCD1-11, decreasing downgradient to between 0.61 mg/L to 20 mg/L along the LEHR site boundary. These concentrations are similar to upgradient and regional concentrations of nitrate (Figure 8.4).

Reported second HSU nitrate concentrations are lower than first HSU concentrations (Figure 5.24). The nitrate concentration reported at UCD2-7 of 17 mg/L exceeds the background concentration at UCD2-17 of 3 mg/L, suggesting the need for additional data in the second HSU downgradient of the Dog Pen Area and UCD2-17.

Hydropunch data for the second HSU show concentrations increasing downgradient of the Dog Pen Area and the Landfill Units to slightly greater than 20 mg/L (Figure 8.8).

The MCL for nitrate is 10 mg/L. Nitrate concentrations reported in the shallow groundwater system in the Davis area range from less than 10 mg/L to greater than 40 mg/L, with the majority of the concentrations falling in the range between 10 mg/L to 20 mg/L. Concentrations of nitrate reported in the first and second HSU at the downgradient perimeter of the LEHR site are similar to concentrations reported in the Davis area.

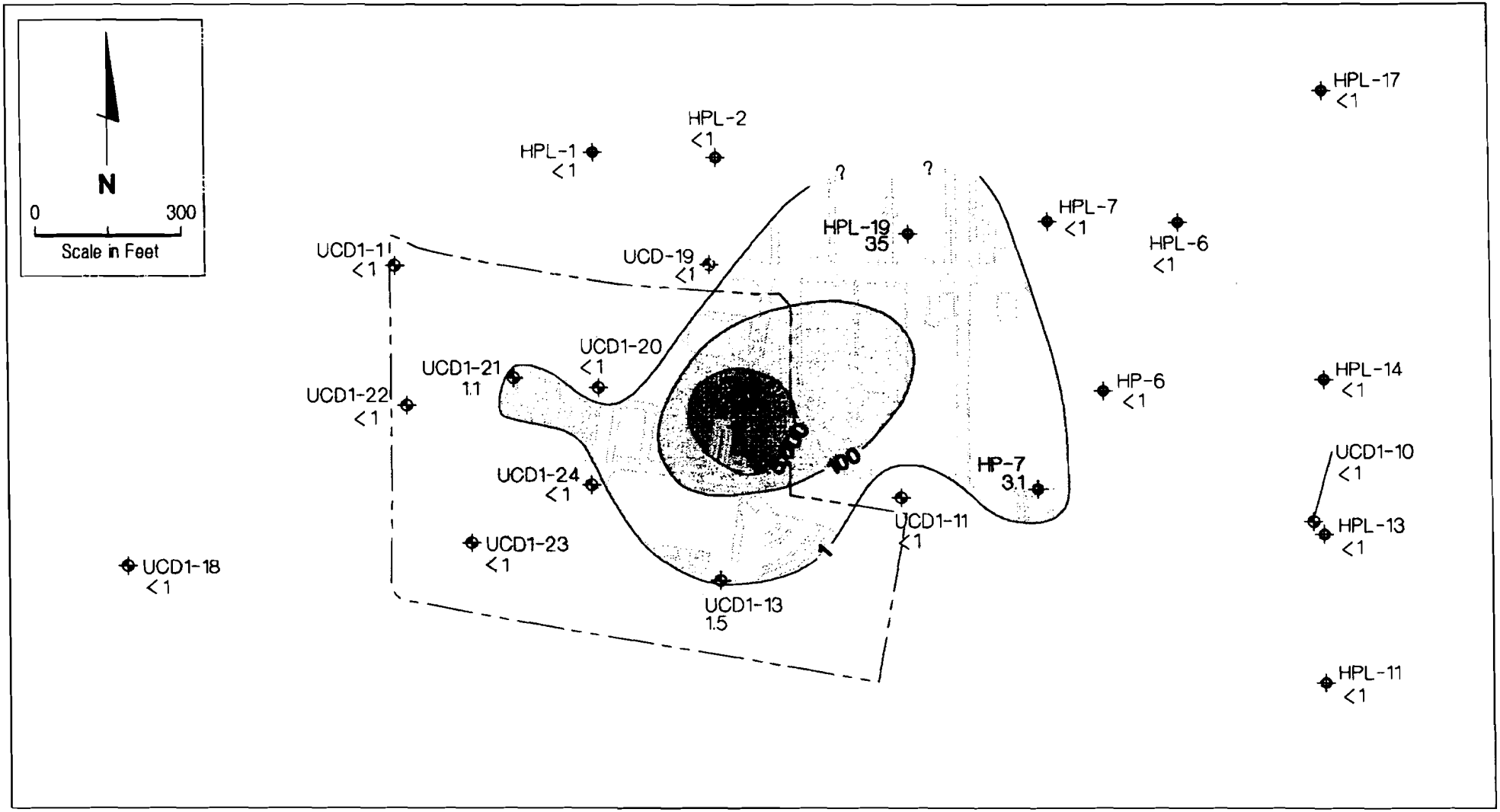
8.5 SUMMARY OF EVALUATION OF GROUNDWATER MONITORING SYSTEM

An assessment of the groundwater monitoring network was conducted based on groundwater data presented in this 1994 Annual Water Monitoring Report, and Hydropunch sample results from 1991 and 1994. Data from the first HSU and the second HSU were assessed separately. Four site constituents, chromium, hexavalent chromium, nitrate (as nitrogen), and tritium, were used for the purpose of this assessment.

In the first HSU, lateral migration of the site constituents assessed in this exercise was limited. For chloroform and tritium, samples collected at the LEHR site downgradient perimeter were reported as non-detect. For hexavalent chromium and nitrate, concentrations reported downgradient of source areas decreases rapidly to regional or background concentrations at the LEHR site perimeter. Considering that migration of site constituents in the first HSU is laterally limited based on Hydropunch and groundwater monitoring data, the current monitoring network appears adequate at this time.

As expected, based on hydrogeologic information, lateral migration of site constituents assessed in this exercise in the second HSU is more extensive than the first HSU. As chloroform reaches the second HSU from the first HSU, it appears to migrate laterally from UCD1-12 downgradient toward the LEHR site perimeter. Concentrations of chloroform reported at the site perimeter are lower than the MCL, but present. Similarly, hexavalent chromium appears to have migrated from the first HSU to the second HSU, and then laterally downgradient from Landfill Unit No. 1 — an apparent source. Tritium appears to be migrating downgradient of well UCD1-14, where it is reported regularly. One apparently spurious detection of tritium in a single Hydropunch sample collected in the second HSU (HPL-17 at 2,650 pCi/L), does not correlate with other data downgradient of UCD1-14. Nitrate, decreases rapidly downgradient of site source areas to generally regional concentrations at the LEHR site perimeter. Based on this analysis, the monitoring

network should be supplemented to further evaluate downgradient migration of, at a minimum, chloroform, hexavalent chromium, and tritium in the second HSU.

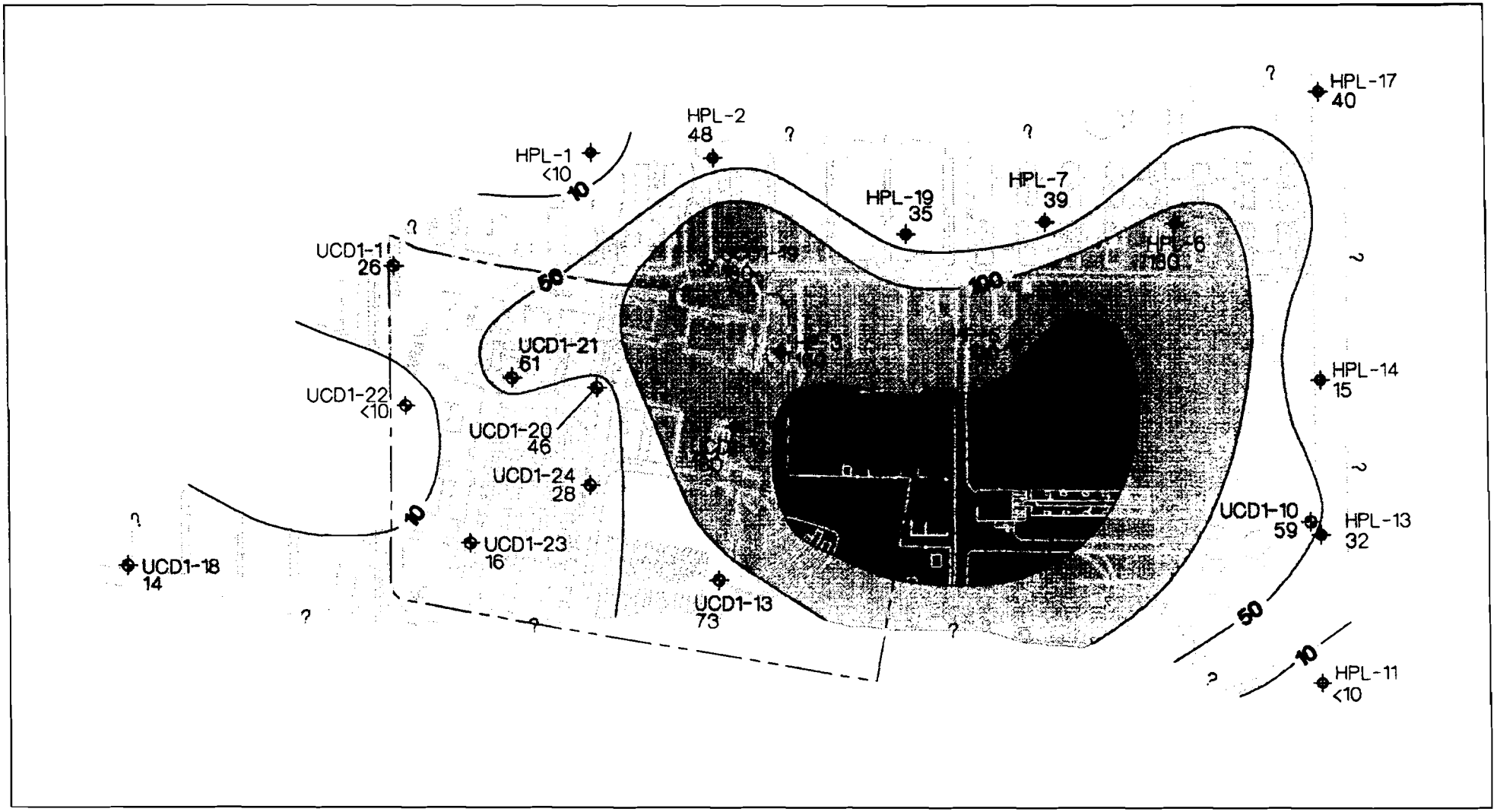


EXPLANATION

UCD1-23	First HSU Monitoring Well	1-100 ug/L
HP	First HSU Hydropunch Completed 1991	100-5,000 ug/L
HPL	First HSU Hydropunch Completed Fall 1994	>5,000 ug/L
<1	Not Detected At or Above Posted Detection Limit	
—25—	Concentration Contour for Chloroform in ug/L	
?	Data Limits	

CONCENTRATION CONTOUR PLOT MONITORING WELLS AND HYDROPUNCH DATA CHLOROFORM IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

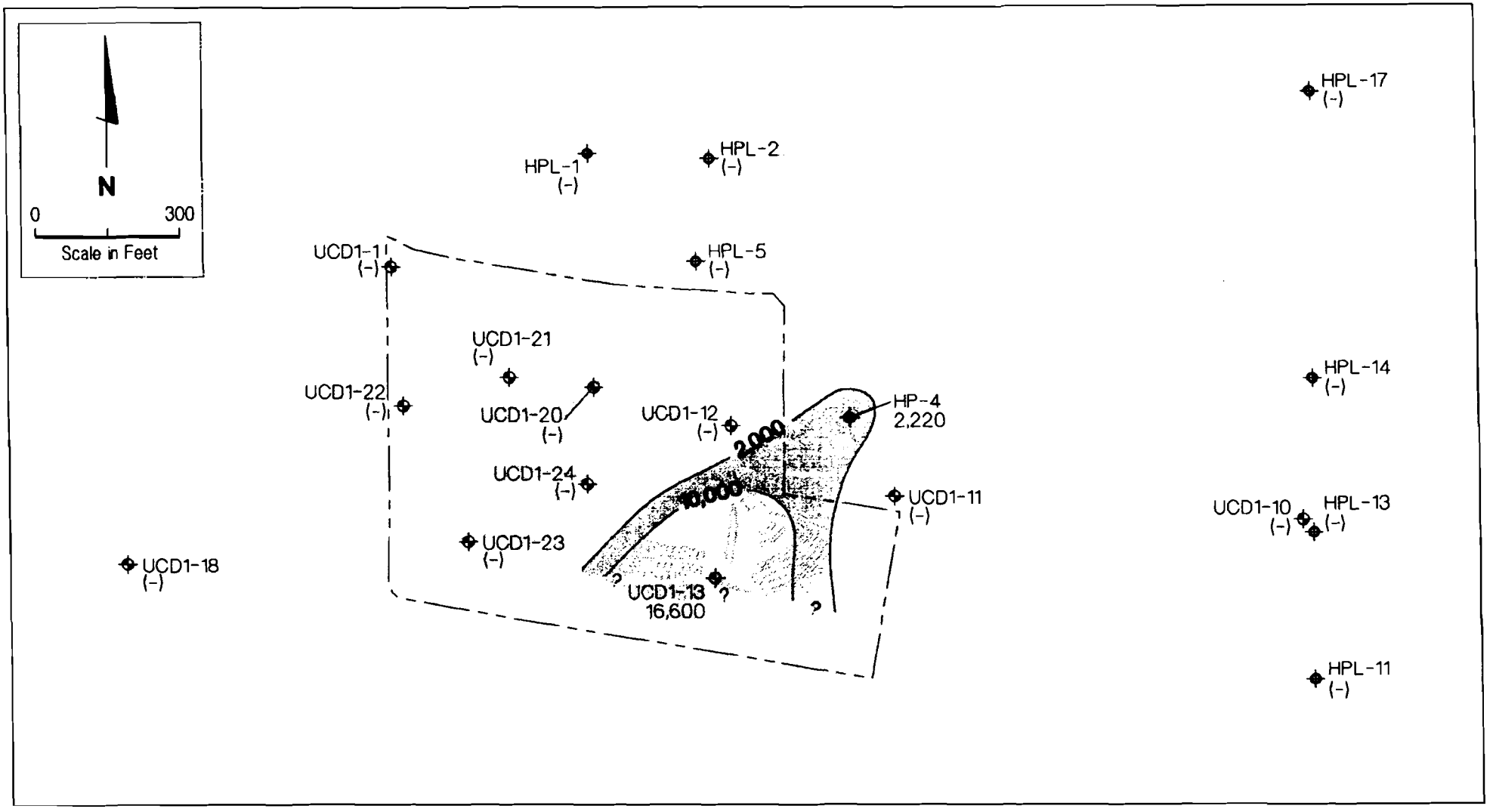


EXPLANATION

UCD1-1	First HSU Monitoring Well	10-50 ug/L
HP	First HSU Hydropunch Completed 1991	50-100 ug/L
HPL	First HSU Hydropunch Completed 1994	100-200 ug/L
—25—	Concentration Contour for Fall Hexavalent Chromium in ug/L	>200 ug/L
?	Data Limits	
<10	Not Detected At or Above Posted Detection Limit	

CONCENTRATION CONTOUR PLOT MONITORING WELLS AND HYDROPUNCH DATA HEXAVALENT CHROMIUM IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

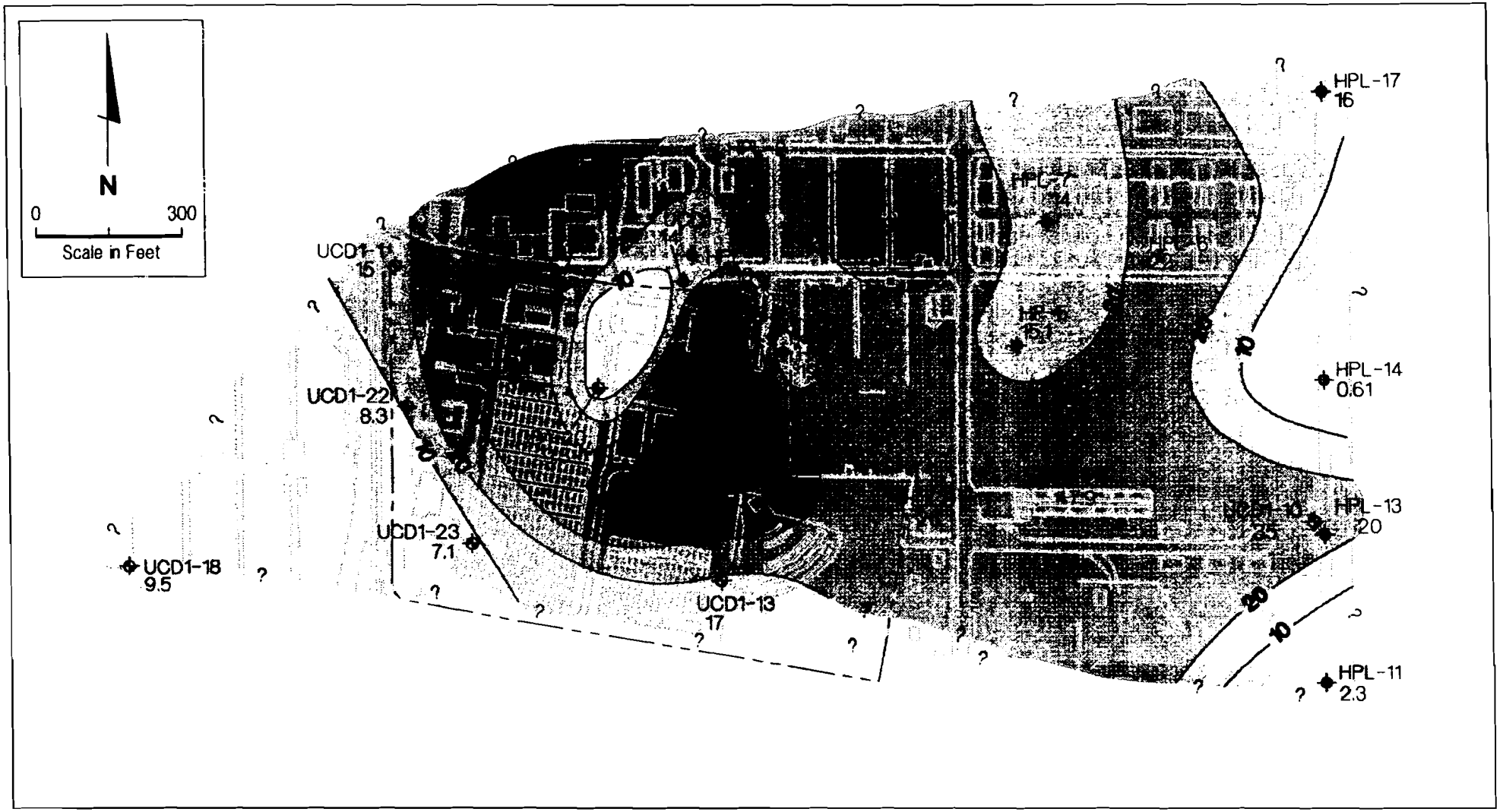


EXPLANATION

UCD1-1	First HSU Monitoring Well	2,000-10,000 pCi/L
HP	First HSU Hydropunch Completed 1991	>10,000 pCi/L
HPL	First HSU Hydropunch Completed Fall 1994	
—25—	Concentration Contour for Tritium in pCi/L	
?	Data Limits	
(-)	Not Detected	

CONCENTRATION CONTOUR PLOT MONITORING WELLS AND HYDROPUNCH DATA TRITIUM IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

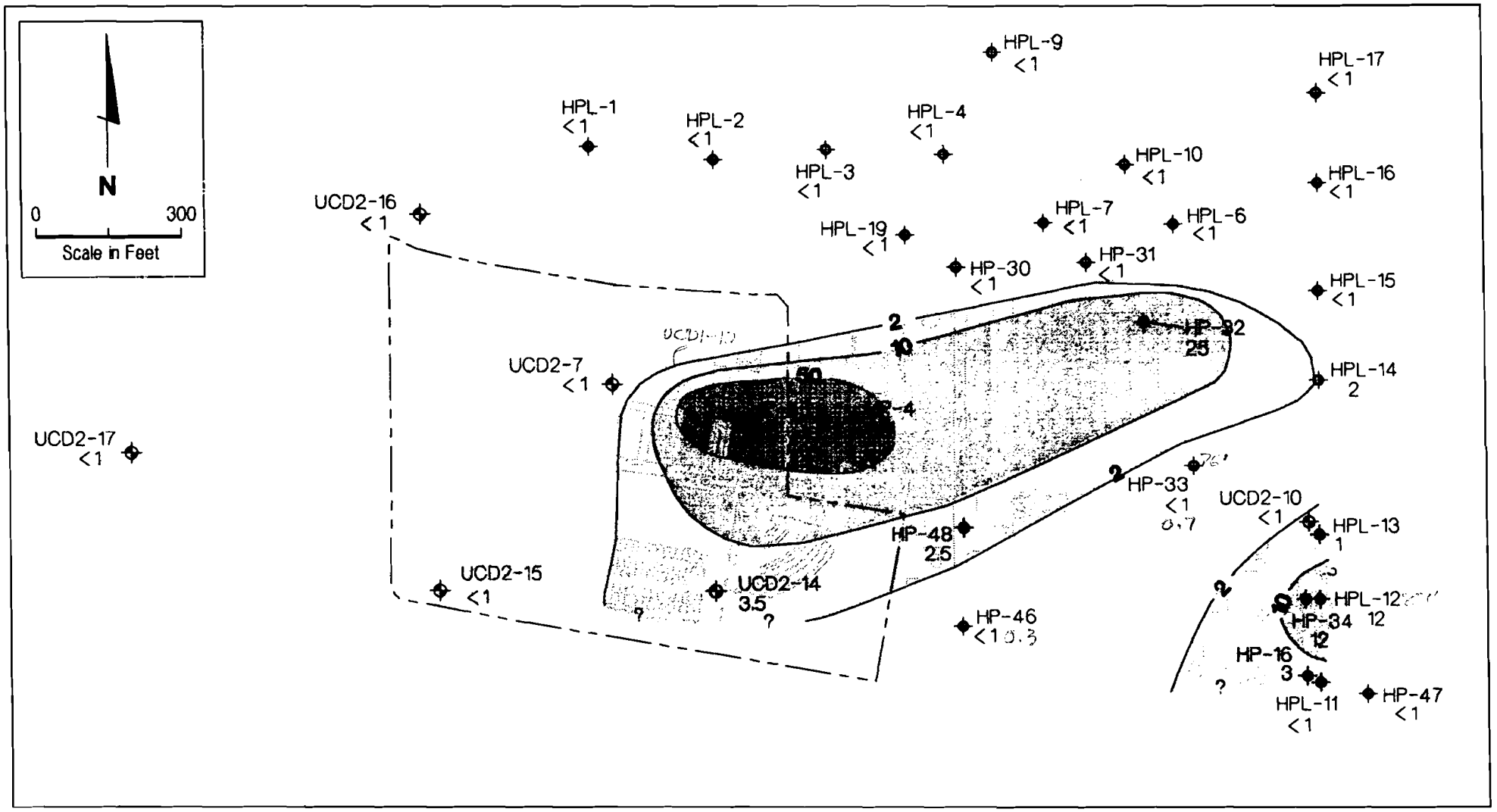


EXPLANATION

UCD1-18	First HSU Monitoring Well	<10 mg/L
HP	First HSU Hydropunch Completed in 1991	10-20 mg/L
HPL	First HSU Hydropunch Completed in Fall 1994	20-40 mg/L
25	Concentration Contour for Nitrate as Nitrogen in mg/L	40-60 mg/L
?	Data Limits	>60 mg/L

CONCENTRATION CONTOUR PLOT MONITORING WELLS AND HYDROPUNCH DATA NITRATE AS NITROGEN IN FIRST HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



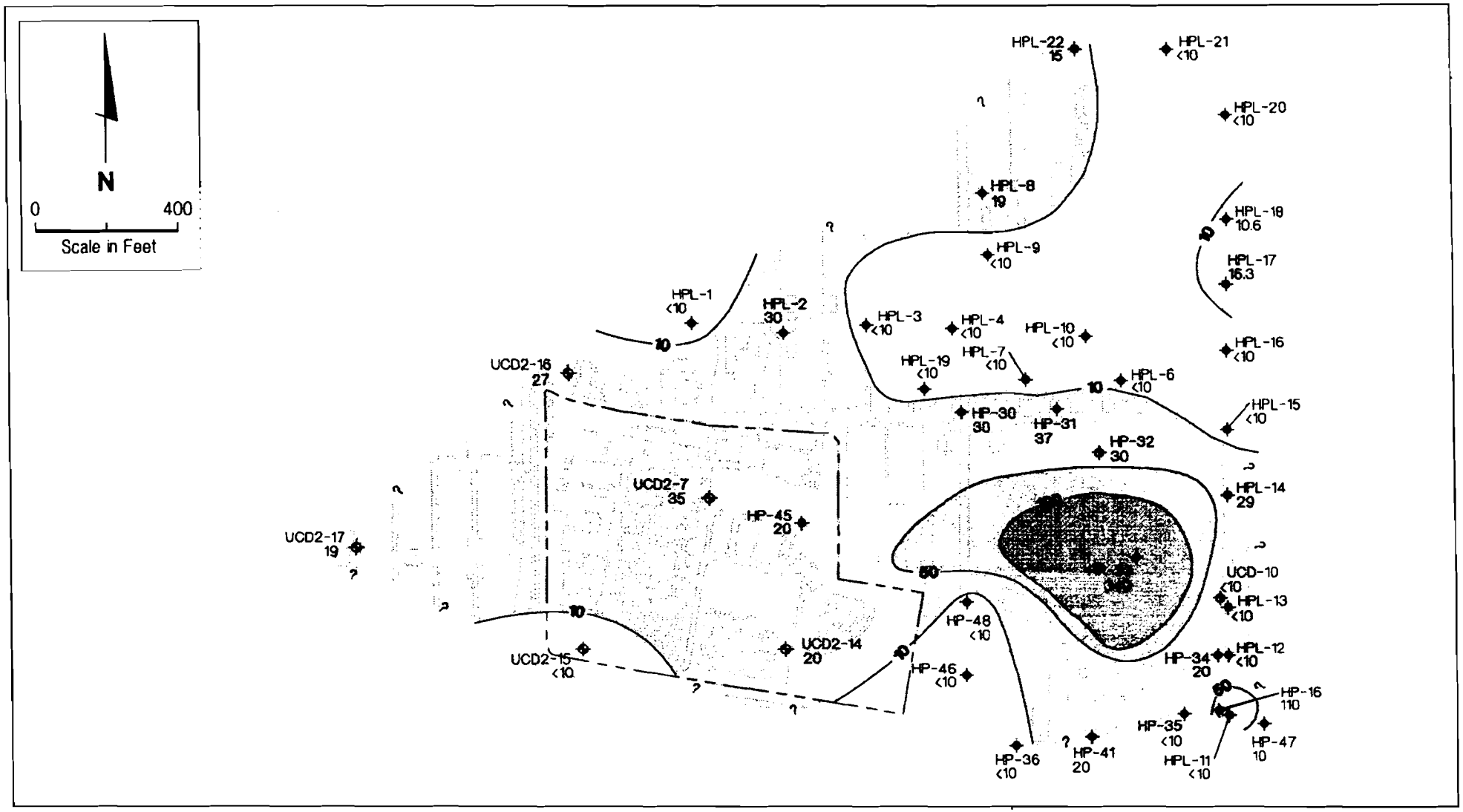
EXPLANATION

UCD2-15	Second HSU Monitoring Well	2-10 ug/L
HP	Second HSU Hydropunch Completed in 1991	10-50 ug/L
HPL	Second HSU Hydropunch Completed in 1994	>50 ug/L
<1	Not Detected At or Above Posted Detection Limit	
—25—	Concentration Contour for Chloroform in ug/L	
?	Data Limits	

CONCENTRATION CONTOUR PLOT MONITORING WELLS AND HYDROPUNCH DATA CHLOROFORM IN SECOND HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

10806-959-6202-044 ak 5203AH

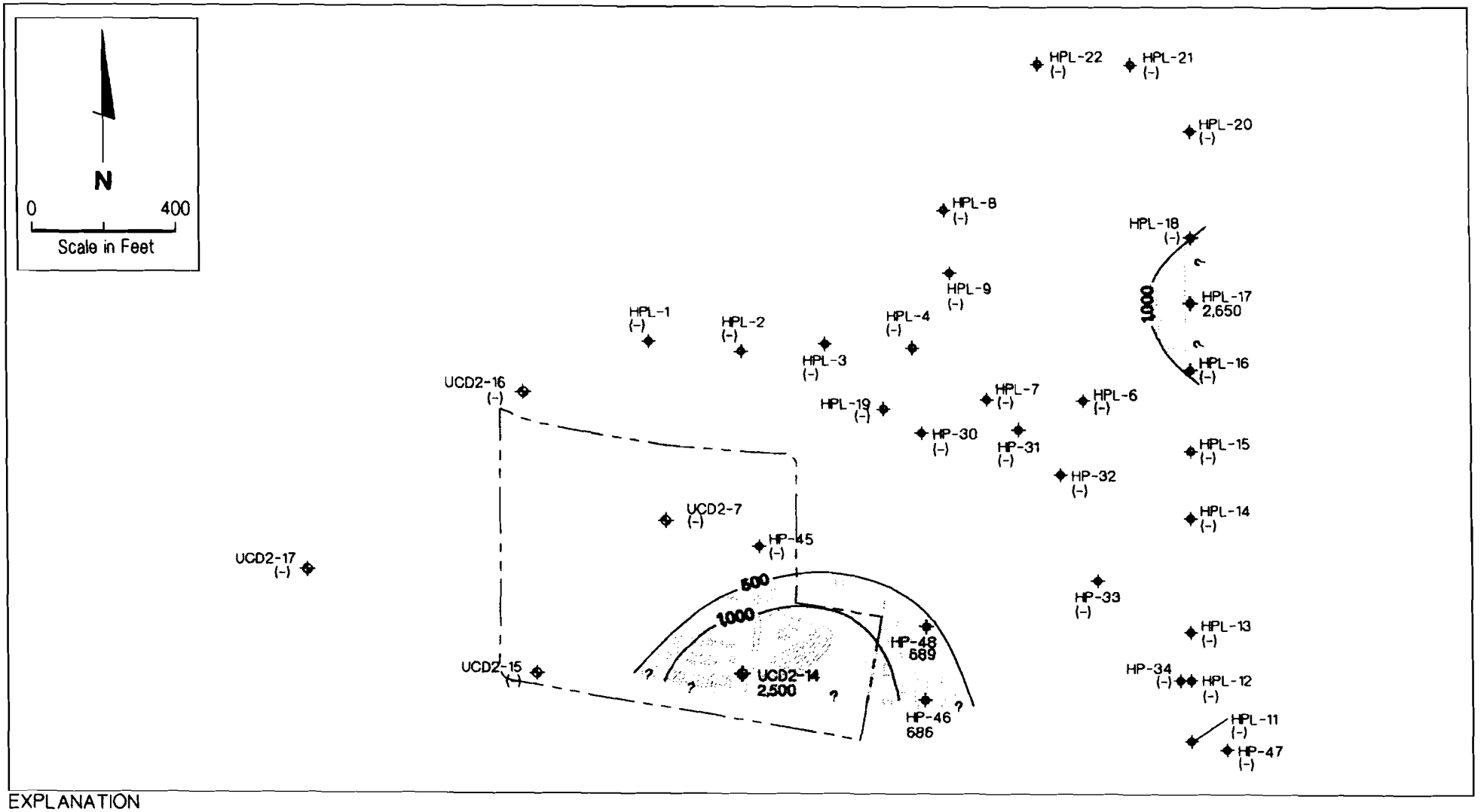


EXPLANATION

UCD2-16	Second HSU Monitoring Well	10-50 ug/L
HP	Second HSU Hydropunch Completed in 1991	50-100 ug/L
HPL	Second HSU Hydropunch Completed in Fall 1994	>100 ug/L
—25—	Concentration Contour for Hexavalent Chromium in ug/L	
?	Data Limits	
<10	Not Detected At or Above Posted Detection Limit	

CONCENTRATION CONTOUR PLOT
MONITORING WELLS AND HYDROPUNCH DATA
HEXAVALENT CHROMIUM IN SECOND HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



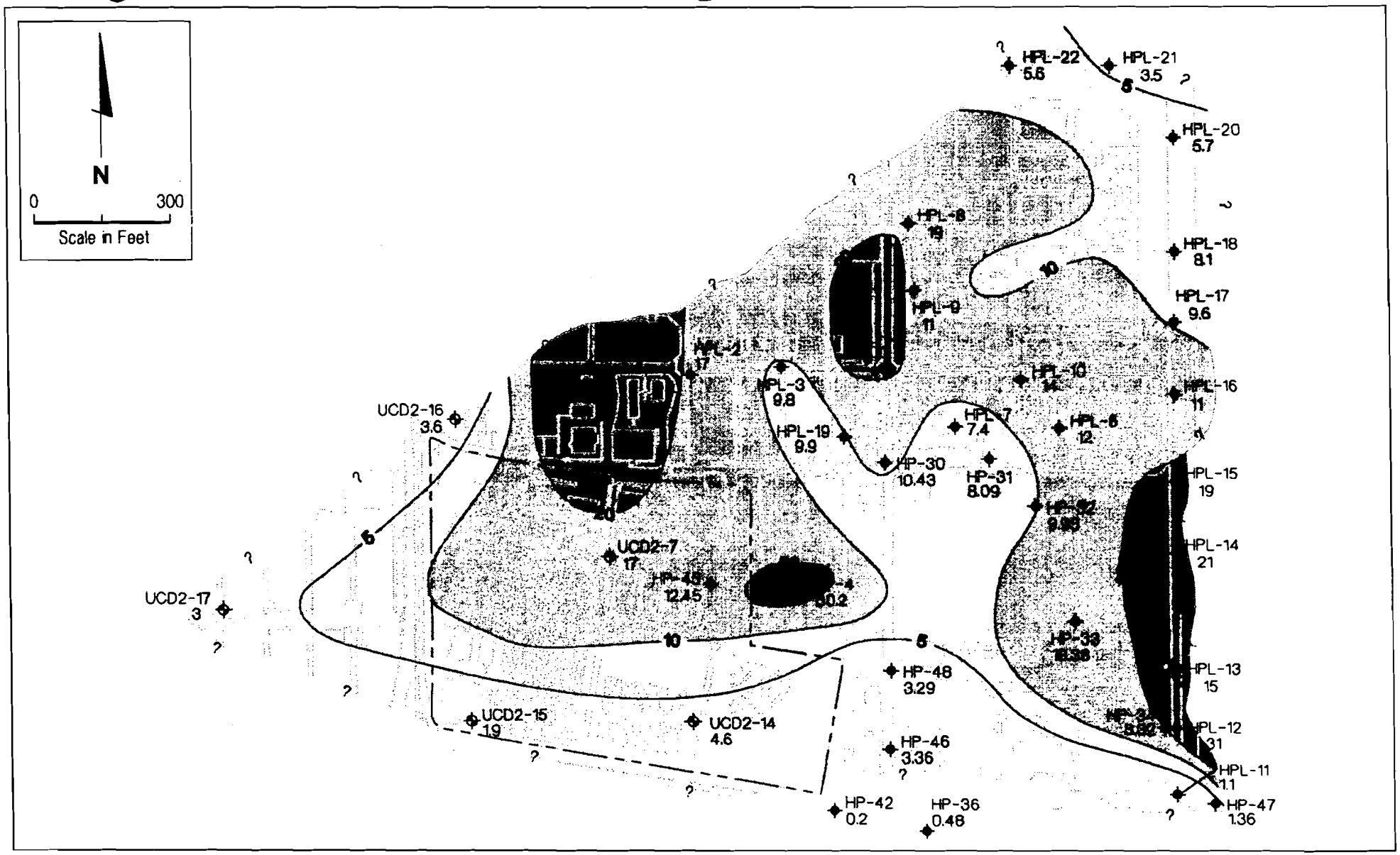
EXPLANATION

UCD2-7	Second HSU Monitoring Well	?	Data Limits
HP	Second HSU Hydropunch Completed in 1991		500-1,000 pCi/L
HPL	Second HSU Hydropunch Completed in Fall 1994		>1,000 pCi/L
—25—	Concentration Contour for Tritium in pCi/L		
(-)	Not Detected		

NOTE:
Tritium at UCD2 locations show summer quarter monitoring data.

CONCENTRATION CONTOUR PLOT MONITORING WELLS AND HYDROPUNCH DATA TRITIUM IN SECOND HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration



EXPLANATION

UCD2-17	Second HSU Monitoring Well	<5 mg/L
HP	Second HSU Hydropunch Completed in 1991	5 - 10 mg/L
HPL	Second HSU Hydropunch Completed in Fall 1994	10 - 20 mg/L
—25—	Concentration Contour for Nitrate as Nitrogen in mg/L	>20 mg/L
?	Data Limits	

CONCENTRATION CONTOUR PLOT MONITORING WELLS AND HYDROPUNCH DATA NITRATE AS NITROGEN IN SECOND HSU, FALL 1994

1994 Annual Water Monitoring Report
LEHR Environmental Restoration

FIGURE 8.8

10805-959-6303-044 sjr 6303AG

9.0 REFERENCES

California Department of Water Resources, 1955. Report to the California State Legislature on Putah Creek Cone Investigation.

California Department of Water Resources, 1992. Historical Ground Water Levels in Solano County, 529 pp., December, 1992.

California Department of Water Resources, 1994. Historical Ground Water Levels in Solano County, 385 pp., March 1994.

Cohen, A. C., Jr. 1959. "Simplified Estimators for the Normal Distribution When Samples Are Singly Censored or Truncated." Biometrics Vol.1, No.3, p 217-237.

Davisson, M.L., and R.E. Criss, 1993. Stable Isotope Imaging of a Dynamic Groundwater System in the Southwestern Sacramento Valley, California, USA, J. Hydrol., 144: 213-246.

Dames & Moore, 1990a. Final SWAT Report, Old UCD Landfill, for the University of California, Davis.

Dames & Moore, 1990b. Contaminant Pathway Analysis for the U.C. Davis Campus from the LEHR Study Site, for the University of California.

Dames & Moore, 1990c. Evaluation of Potential Nitrate and Hexavalent Chromium Sources in the Vicinity of the UCD LEHR Facility for the University of California, Davis.

Dames & Moore, 1990d. Putah Creek Sediment and Water Sampling for the University of California, Davis.

Dames & Moore, 1991a. Old UCD Landfill Additional Characterization - CPT and Hydropunch Investigation - UCD South Campus Inactive Disposal Sites for the University of California, Davis.

Dames & Moore, 1991b. Waste Burial Trench Investigation LEHR Facility for the University of California, Davis.

Dames & Moore, 1991c. CEQA Preliminary Environmental Study for Site characterization Work at the Inactive UCD Landfill for the University of California, Davis.

Dames & Moore, 1993. Phase II Characterization Report for the LEHR Environmental Restoration, University of California, Davis.

Dames & Moore, 1994. Quality Assurance Program Plan, LEHR Environmental Restoration, Davis, California, September 1994.

Department of Water Resources, 1978. Evaluation of Groundwater Resources: Sacramento Valley, Bulletin 118-6, 136 pp.

Mann, J.T., 1992. "Hydrogeology of Lower Putah Creek - Preliminary Discussion", for Solano County Water Agency, January 17, 1992.

PNL, 1994a. Final Draft Remedial Investigation/Feasibility Study Work Plan, LEHR Environmental Restoration, Davis California.

PNL, 1994b. Water Monitoring Plan, LEHR Environmental Restoration, Davis California, January 1994.

PNL, 1994c. Draft Quarterly Groundwater and Surface Water Monitoring Results, Summer Quarter 1994, August 1994.

PNL, 1994d. 1993 Annual Water Monitoring Report, Water Monitoring Program, LEHR Environmental Restoration, Davis, California, November.

PNL 1995a. Quarterly Groundwater and Surface Water Monitoring Results, Spring Quarter 1994. January 1995.

PNL 1995b. Draft Quarterly Groundwater and Surface Water Monitoring Results, Summer Quarter 1994, February 1995.

Rockwell International, 1984. Initial Assessment Survey of the DOE LEHR Site of University of California, Davis, Contract No. DE-AT03-845F15160.

Rolsten, D.E., G.E. Fogg, M.E. Grismer, A. Benjamin, D. Decker, and D. Louie, 1994. Identification and Evaluation of Methods for Determining Sources of Nitrate Contamination in Groundwater: Final Project Report, Department of Land, Air and Water Resources, University of California, Davis, June.

Site Characterization Process Action Team, March 1994. Long-Term Ground Water Monitoring Program Guidance, prepared for the California Base Closure Environmental Committee.

Thomasson, H.G., F.H. Olmsted, and E.F. LaRoux, 1960. Geology, Water Resources, and Usable Groundwater Storage Capacity of Part of Solano County, California, U.S.G.S. Water Supply Paper 1464, 693 pp.

United States Department of Energy, 1988. Environmental Survey Preliminary Report Laboratory for Energy-Related Health Research, Davis, California.

United States Environmental Protection Agency (EPA), 1989. Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis, Office of Emergency and Remedial Response.

United States Environmental Protection Agency (EPA), 1991. Laboratory Data Validation Functional Guidelines for Evaluating Organics Analysis, Office of Emergency and Remedial Response.

Wahler Associates, 1988. Groundwater and Soils Investigation, U.C. Davis LEHR Facility, Davis, California.

Wahler Associates, 1989. Groundwater and Soils Investigation, U.C. Davis LEHR Facility, Davis, California.

APPENDIX A

GROUNDWATER AND TRIP BLANK ANALYSIS RESULTS

HOW TO READ APPENDIX A DATA QUALIFIERS

The key below defines the relationship between a given result and the associated data qualifiers, as presented in the tables of analytical results in Appendix A.

KEY →	A	B	C	D
Example Data →	<	5.200	Uz	JB

A < Signifies that analyte level is less than indicated value.
B Indicated value in units as noted in table footnote.
C Data qualifier(s)* assigned by Consultant's data review team.
D Data qualifier(s)* assigned by reporting laboratory.

In the example above, the chemical was analyzed for, but qualified as not detected due to the bias introduced by contamination in the method blank associated with this analysis. Presence of the analyte in the method blank is noted by the laboratory qualifier, "B." The Consultants qualifier, Uz," indicates that the analyte concentration is considered to be below the adjusted detection limit (quantitation limit) gives the level of contamination in the method blank.

DATA VALIDATION QUALIFIERS
Assigned by Consultants Data Review Team

The following definitions provide brief explanations of the qualifiers assigned in the data review process. Validation reason codes for GC/MS Organics, GC Organics, and Metals are recorded by the data reviewers and retained in review support documentation for the data review process.

FLAG	DATA QUALIFIER DEFINITION
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
c	Calibration failure; poor or unstable response.
d	Laboratory duplicate imprecision.
e	Laboratory duplicate control sample imprecision.
f	Field duplicate imprecision.
h	Holding time violation.
k	Serial dilution imprecision.
l	Laboratory control sample recovery failure.
m	Matrix spike/matrix spike duplicate recovery failure.
o	Calibration blank contamination (metals/inorganics only).
p	Preparation blank contamination (metals/inorganics only).
r	Linearity failure in initial calibration.
s	Surrogate spike recovery failure (GC organics and GC/MS organics only).
z	Method blank contamination.

LOCKHEED ANALYTICAL SERVICES
DATA QUALIFIERS FOR ORGANIC ANALYSES
(REVISED 01/19/1994)

For Use On the Analytical Data Reporting Forms	
A	***For CLP analyses only*** — The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL).
C	Constituent confirmed by GS/MS analysis *[pesticide/PCB analyses only].*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to *surrogates* being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* — (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(for CLP reporting only)***
N	***For CLP reporting only*** — Tentatively identified constituents (TICs) identified based on mass spectral library search.
P	***For CLP reporting only*** — The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only].*
U	***For CLP reporting only*** — Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an *"as received"* basis. A value in the % moisture cell indicates that data are reported based on a *"dry weight"* basis. ***For non-CLP work,*** RDLs are not adjusted for % moisture even when data are reported on a *"dry weight"* basis.
For Use On the QC Data Reporting Forms	
*****	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

1 Used as footnote designations on the QC summary form.

LOCKHEED ANALYTICAL SERVICES
DATA QUALIFIERS FOR INORGANIC ANALYSES
[REVISED 08/28/92]

For Use On the Analytical Data Reporting Forms	
B	***For CLP analyses only*** — Reported value is less than the contract required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).
C	***For Routine, Non-CLP analyses only*** — Any constituent that was also detected in the associated blank whose concentration was greater than the reporting detection limit (RDL).
D	Presence of high levels of interfering constituents required dilution of sample which increased the RDL by the dilution factor.
E	Estimated value due to presence of interference.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
M	***For CLP analyses only*** — Duplicate injection precision criterion was not met.
N	Matrix spike recovery exceeded acceptance limits.
S	Reported value was determined from the method of standard addition.
U	***For CLP reporting only*** — Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
W	***For AAS only*** — Post-digestion spike for Furnace AAS did not meet acceptance criteria and sample absorbance is less than 50% of spike absorbance.
X, Y, or Z	Analyst-defined qualifier.
*****	Relative Percent difference (RPD) for duplicate analysis exceeded acceptance limits.
+	Correlation coefficient *(r)* for the MSA is less than 0.995.
For Use On the QC Data Reporting Forms.	
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

1 Used as footnote designations on the QC summary form.

LOCKHEED ANALYTICAL SERVICES
DATA QUALIFIERS FOR RADIOCHEMICAL ANALYSES
(REVISED 08/28/92)

For Use On the Analytical Data Reporting Forms	
B	Any constituent that was also detected in the associated blank whose concentration was greater than the reporting detection limit (RDL) and/or minimum detectable activity (MDA).
C	Presence of high TDS in sample required reduction of sample size which increased the MDA.
D	Constituent detected in the diluted sample.
E	Constituent concentration exceeded the calibration or attenuation curve range.
F	***For Alpha Spectrometry Only*** — FWHM exceed acceptance limits.
H	Sample analysis performed outside of method-specified maximum holding time requirement.
Y	Chemical yield exceeded acceptance limits.
For Use on the QC Data Reporting Forms	
*****	QC data (i.e., percent recovery data for laboratory control standard and matrix spike; and RPD for replicate analyses) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the MDA.

1 Used as footnote designations on the QC summary form.

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER	UCD1-004 SPRING	UCD1-010 WINTER	UCD1-010 SPRING
Acetone	ug/L		<5	<5 Uz|JB	<5 Rc|	<5 Rc|	<5	<5 Uz|JB	<5 Rc|	<5	<5 Rc|	<5	<5 Uz|JB
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5	<5 Rc|
Carbon Disulfide	ug/L		<1	<1	<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	4.4	<1	<1
Chloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1	<1 Rc|	<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|	<1	<1 Rc|	<1	<1 Rc|
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5	<5	<5 UJc|	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2	<2	<2	<2 UJr|	<2	<2	<2	<2	<2	<2	<2
Styrene	ug/L	100#	<1	<1 UJh|	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING D1	UCD1-011 FALL	UCD1-012 WINTER	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 SPRING
Acetone	ug/L		6.4 Jc|B	<5 Rc|	<5	<5 Uz|JB	<5 Rc|	<5	<5 |J	<5 Rc|	<5 Rc|	<5	<5 Rc|
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	1.6	2.6	1.3	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5	<5	<5 Rc|	<5 Rc|	<5	<5 Rc|
Carbon Disulfide	ug/L		<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	<1	<1	<1 |J	<1 |J	<1 |J	<1 |J	2300 |DE	11000 |D	11000 JQ|E	2	1.8
Chloromethane	ug/L		<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|	<1	<1	<1 Rc|	<1 Rc|	<1	<1 Rc|
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	8.5	12	15	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	4.2	8.8	8.4	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	16	23	33 |E	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1	<1	<1	<1 |J	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5 UJc|	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2	<2 UJr|	<2	<2	<2	<2	<2	<2	<2	<2	<2
Styrene	ug/L	100#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1 |J	2.7	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-013 FALL	UCD1-013 FALL D1	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER	UCD1-020 FALL	UCD1-021 WINTER
Acetone	ug/L		<5 Rc|	<5 Rc|	<5	<5 Uz|JB	<5 Rc|J	<5 Rc|	<5	<5 Uz|JB	<5 Rc|	<5	<5
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5
Carbon Disulfide	ug/L		<1	<1	<1	<1	<1	<1 UJc|	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	1.5	1.6	<1	<1	<1	<1	<1	<1	<1	<1	<1 |J
Chloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1 UJc|	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5	<5	<5	<5	<5 UJc|	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2	<2	<2	<2	<2	<2 UJc|	<2	<2	<2	<2	<2
Styrene	ug/L	100#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL	UCD1-022 WINTER	UCD1-022 WINTER D1	UCD1-022 SPRING	UCD1-022 SUMMER	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 SPRING	UCD1-023 SUMMER
Acetone	ug/L		<5 Uz|JB	<5 Rc|	<5 Rc|	<5	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Uz|JB	<5 Rc|
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5 Rc|	<5 Rc|	<5 Rc|	<5	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|
Carbon Disulfide	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	<1 |J	<1 |J	1.1	<1 |J	<1 |J	<1	<1	<1	<1 |J	<1 |J	<1 |J
Chloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1 Rc|	<1 Rc|	<1 Rc|	<1	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Styrene	ug/L	100#	<1 UJh|	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-023 FALL	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL	UCD2-017 FALL D1	UCD2-007 WINTER
Acetone	ug/L		<5 Rc|J	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Uz|JB	<5 Rc|	<5 Rc|	<5 Rc|	<5
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5 Rc|	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5
Carbon Disulfide	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	<1 |J	1.2	1.3	<1 |J	<1 |J	<1 |J	<1	<1	<1	<1	<1
Chloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1 Rc|	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Styrene	ug/L	100#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1 |J	<1 |J	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-007 SPRING	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 SPRING	UCD2-014 SUMMER	UCD2-014 SUMMER D1	UCD2-014 FALL	UCD2-015 WINTER	UCD2-015 WINTER D1	UCD2-015 SPRING
Acetone	ug/L		<5 Rc|	<5 Rc|	<5 Rc|	<5 |J	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5	<5 Uz|JB
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5	<5 Rc|
Carbon Disulfide	ug/L		<1	<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	<1	<1	<1	2.2	2.5	4.1	4.1	3.5	<1	<1	<1
Chloromethane	ug/L		<1	<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1 Rc|	<1 Rc|	<1	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1	<1	<1 Rc|
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5	<5 UJc|	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5 |J	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2	<2	<2 UJr|	<2	<2	<2	<2	<2	<2	<2	<2
Styrene	ug/L	100#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1	<1 UJc|	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-015 SUMMER	UCD2-015 FALL	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING D1	UCD2-016 SUMMER	UCD2-016 SUMMER D1	UCD2-016 FALL
Acetone	ug/L		<5 Rc|J	<5 Rc|	<5	<5 Uz|JB	<4.8 Uz|B	<5 Rc|	<5 Rc|	<5 Rc|
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|
Carbon Disulfide	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	<1	<1 |J	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2	<2	<2	<2	<2	<2	<2	<2
Styrene	ug/L	100#	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE A.1
ANALYTICAL RESULTS FOR GROUNDWATER,1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER	UCD1-004 SPRING	UCD1-010 WINTER	UCD1-010 SPRING
Acenaphthene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Acenaphthylene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Anthracene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Benzo(a)anthracene	ug/L	0.1*	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Benzo(a)pyrene	ug/L	0.2	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Benzo(b)fluoranthene	ug/L	0.2*	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Benzo(g,h,i)perylene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Benzo(k)fluoranthene	ug/L	0.2*	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Benzyl Butyl Phthalate	ug/L	100#	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
4-Bromophenyl Phenyl Ether	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Carbazole	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
4-Chloro-3-Methylphenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
4-Chloroaniline	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Bis(2-Chloroethoxy)methane	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Bis(2-Chloroethyl)ether	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2-Chloronaphthalene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2-Chlorophenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
4-Chlorophenyl Phenyl Ether	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Chrysene	ug/L	0.2*	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Di-n-Butylphthalate	ug/L		<11 UzJB	<10	<11 UzJ	<10 UzJB	<11	<10	<10 UzJB	<10	<10 JJ	<11	<11 JJ
Di-n-Octylphthalate	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Dibenzo(a,h)anthracene	ug/L	0.3*	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Dibenzofuran	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
1,2-Dichlorobenzene	ug/L	600#	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
1,3-Dichlorobenzene	ug/L	600#	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
1,4-Dichlorobenzene	ug/L	5	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
3,3'-Dichlorobenzidine	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2,4-Dichlorophenol	ug/L	100	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Diethyl Phthalate	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Dimethyl Phthalate	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2,4-Dimethylphenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2,4-Dinitrophenol	ug/L		<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
2,4-Dinitrotoluene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2,6-Dinitrotoluene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Bis(2-Ethylhexyl)phthalate	ug/L	4	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Fluoranthene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Fluorene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Hexachlorobenzene	ug/L	1	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Hexachlorobutadiene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Hexachlorocyclopentadiene	ug/L	50	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Hexachloroethane	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING D1	UCD1-011 FALL	UCD1-012 WINTER	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 SPRING
Acenaphthene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Acenaphthylene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Anthracene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Benzo(a)anthracene	ug/L	0.1*	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Benzo(a)pyrene	ug/L	0.2	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Benzo(b)fluoranthene	ug/L	0.2*	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Benzo(g,h,i)perylene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Benzo(k)fluoranthene	ug/L	0.2*	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Benzyl Butyl Phthalate	ug/L	100#	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
4-Bromophenyl Phenyl Ether	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Carbazole	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
4-Chloro-3-Methylphenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
4-Chloroaniline	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Bis(2-Chloroethoxy)methane	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Bis(2-Chloroethyl)ether	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2-Chloronaphthalene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2-Chlorophenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
4-Chlorophenyl Phenyl Ether	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Chrysene	ug/L	0.2*	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Di-n-Butylphthalate	ug/L		<11 Uz|J	<10	<10	<11 |J	<10	<10 Uz|J	<11	<11	<10 Uz|JB	<11	<10
Di-n-Octylphthalate	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Dibenzo(a,h)anthracene	ug/L	0.3*	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Dibenzofuran	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
1,2-Dichlorobenzene	ug/L	600#	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
1,3-Dichlorobenzene	ug/L	600#	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
1,4-Dichlorobenzene	ug/L	5	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
3,3'-Dichlorobenzidine	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2,4-Dichlorophenol	ug/L	100	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Diethyl Phthalate	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Dimethyl Phthalate	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2,4-Dimethylphenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2,4-Dinitrophenol	ug/L		<27	<25	<26	<26	<26	<26	<26	<26	<25	<26	<26
2,4-Dinitrotoluene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2,6-Dinitrotoluene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Bis(2-Ethylhexyl)phthalate	ug/L	4	<11	<10	<10	<11 Uz|JB	<10	<10	<11	<11	<10 |J	<11	<10
Fluoranthene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Fluorene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Hexachlorobenzene	ug/L	1	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Hexachlorobutadiene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Hexachlorocyclopentadiene	ug/L	50	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Hexachloroethane	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-013 FALL	UCD1-013 FALL D1	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER	UCD1-020 FALL	UCD1-021 WINTER
Acenaphthene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Acenaphthylene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Anthracene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Benzo(a)anthracene	ug/L	0.1*	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Benzo(a)pyrene	ug/L	0.2	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Benzo(b)fluoranthene	ug/L	0.2*	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Benzo(g,h,i)perylene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Benzo(k)fluoranthene	ug/L	0.2*	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Benzyl Butyl Phthalate	ug/L	100#	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
4-Bromophenyl Phenyl Ether	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Carbazole	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
4-Chloro-3-Methylphenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
4-Chloroaniline	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Bis(2-Chloroethoxy)methane	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Bis(2-Chloroethyl)ether	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2-Chloronaphthalene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2-Chlorophenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
4-Chlorophenyl Phenyl Ether	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Chrysene	ug/L	0.2*	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Di-n-Butylphthalate	ug/L		<10 UzJB	<10	<11 UzJ	<10	<11 JJ	<10 UzJB	<11	<10	<11 JJ	<10 UzJB	<11
Di-n-Octylphthalate	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Dibenzo(a,h)anthracene	ug/L	0.3*	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Dibenzofuran	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
1,2-Dichlorobenzene	ug/L	600#	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
1,3-Dichlorobenzene	ug/L	600#	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
1,4-Dichlorobenzene	ug/L	5	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
3,3'-Dichlorobenzidine	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2,4-Dichlorophenol	ug/L	100	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Diethyl Phthalate	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Dimethyl Phthalate	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2,4-Dimethylphenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2,4-Dinitrophenol	ug/L		<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
2,4-Dinitrotoluene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2,6-Dinitrotoluene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Bis(2-Ethylhexyl)phthalate	ug/L	4	<10 UJc|	<10 UJc|	<11	<10	<11 UzJ	<10	<11	<10	<11 UzJ	32	<11
Fluoranthene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Fluorene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Hexachlorobenzene	ug/L	1	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Hexachlorobutadiene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Hexachlorocyclopentadiene	ug/L	50	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Hexachloroethane	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL	UCD1-022 WINTER	UCD1-022 WINTER D1	UCD1-022 SPRING	UCD1-022 SUMMER	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 SPRING	UCD1-023 SUMMER
Acenaphthene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Acenaphthylene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Anthracene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Benzo(a)anthracene	ug/L	0.1*	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Benzo(a)pyrene	ug/L	0.2	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Benzo(b)fluoranthene	ug/L	0.2*	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Benzo(g,h,i)perylene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Benzo(k)fluoranthene	ug/L	0.2*	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Benzyl Butyl Phthalate	ug/L	100#	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
4-Bromophenyl Phenyl Ether	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Carbazole	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
4-Chloro-3-Methylphenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
4-Chloroaniline	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Bis(2-Chloroethoxy)methane	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Bis(2-Chloroethyl)ether	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2-Chloronaphthalene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2-Chlorophenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
4-Chlorophenyl Phenyl Ether	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Chrysene	ug/L	0.2*	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Di-n-Butylphthalate	ug/L		<10 |J	<11 Uz|J	<10 Uz|JB	<11	<11	<11	<11 Uz|J	<10 Uz|JB	<11 Uz|J	<10 Uz|JB	<11 |J
Di-n-Octylphthalate	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Dibenzo(a,h)anthracene	ug/L	0.3*	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Dibenzofuran	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
1,2-Dichlorobenzene	ug/L	600#	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
1,3-Dichlorobenzene	ug/L	600#	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
1,4-Dichlorobenzene	ug/L	5	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
3,3'-Dichlorobenzidine	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2,4-Dichlorophenol	ug/L	100	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Diethyl Phthalate	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Dimethyl Phthalate	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2,4-Dimethylphenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2,4-Dinitrophenol	ug/L		<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
2,4-Dinitrotoluene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2,6-Dinitrotoluene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Bis(2-Ethylhexyl)phthalate	ug/L	4	<10	<11 Uz|J	<10	<11	<11	<11	<11	<10	<11	<10	<11
Fluoranthene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Fluorene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Hexachlorobenzene	ug/L	1	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Hexachlorobutadiene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Hexachlorocyclopentadiene	ug/L	50	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Hexachloroethane	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-023 FALL	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL	UCD2-017 FALL D1	UCD2-007 WINTER
Acenaphthene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Acenaphthylene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Anthracene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Benzo(a)anthracene	ug/L	0.1*	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Benzo(a)pyrene	ug/L	0.2	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Benzo(b)fluoranthene	ug/L	0.2*	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Benzo(g,h,i)perylene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Benzo(k)fluoranthene	ug/L	0.2*	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Benzyl Butyl Phthalate	ug/L	100#	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
4-Bromophenyl Phenyl Ether	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Carbazole	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
4-Chloro-3-Methylphenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
4-Chloroaniline	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Bis(2-Chloroethoxy)methane	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Bis(2-Chloroethyl)ether	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2-Chloronaphthalene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2-Chlorophenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
4-Chlorophenyl Phenyl Ether	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Chrysene	ug/L	0.2*	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Di-n-Butylphthalate	ug/L		<10 UzJB	<11 UzJ	<11 UzJB	<11 UzJ	<10 UzJB	<11 UzJB	<10	<10 UzJ	<11 UzJB	<10 UzJB	<10
Di-n-Octylphthalate	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Dibenzo(a,h)anthracene	ug/L	0.3*	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Dibenzofuran	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
1,2-Dichlorobenzene	ug/L	600#	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
1,3-Dichlorobenzene	ug/L	600#	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
1,4-Dichlorobenzene	ug/L	5	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
3,3'-Dichlorobenzidine	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2,4-Dichlorophenol	ug/L	100	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Diethyl Phthalate	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Dimethyl Phthalate	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2,4-Dimethylphenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2,4-Dinitrophenol	ug/L		<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
2,4-Dinitrotoluene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2,6-Dinitrotoluene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Bis(2-Ethylhexyl)phthalate	ug/L	4	<10	<11	<11 UzJB	<11 UzJ	<10	<11	<10 UzJB	<10 JJ	<11 UJc	<10 UJc	<10
Fluoranthene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Fluorene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Hexachlorobenzene	ug/L	1	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Hexachlorobutadiene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Hexachlorocyclopentadiene	ug/L	50	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Hexachloroethane	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-007 SPRING	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 SPRING	UCD2-014 SUMMER	UCD2-014 SUMMER DI	UCD2-014 FALL	UCD2-015 WINTER	UCD2-015 WINTER DI	UCD2-015 SPRING
Acenaphthene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Acenaphthylene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Anthracene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Benzo(a)anthracene	ug/L	0.1*	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Benzo(a)pyrene	ug/L	0.2	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Benzo(b)fluoranthene	ug/L	0.2*	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Benzo(g,h,i)perylene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Benzo(k)fluoranthene	ug/L	0.2*	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Benzyl Butyl Phthalate	ug/L	100#	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
4-Bromophenyl Phenyl Ether	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Carbazole	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
4-Chloro-3-Methylphenol	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
4-Chloroaniline	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Bis(2-Chloroethoxy)methane	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Bis(2-Chloroethyl)ether	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2-Chloronaphthalene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2-Chlorophenol	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
4-Chlorophenyl Phenyl Ether	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Chrysene	ug/L	0.2*	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Di-n-Butylphthalate	ug/L		<10 |J	<11 Uz|J	<11 Uz|J	<10	<10	<11 Uz|J	<11 Uz|J	<10	<11 Uz|JB	<10	<10 |J
Di-n-Octylphthalate	ug/L		<10 |J	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Dibenzo(a,h)anthracene	ug/L	0.3*	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Dibenzofuran	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
1,2-Dichlorobenzene	ug/L	600#	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
1,3-Dichlorobenzene	ug/L	600#	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
1,4-Dichlorobenzene	ug/L	5	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
3,3'-Dichlorobenzidine	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2,4-Dichlorophenol	ug/L	100	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Diethyl Phthalate	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Dimethyl Phthalate	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2,4-Dimethylphenol	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2,4-Dinitrophenol	ug/L		<26	<26	<28	<26	<26	<27	<27	<25	<27	<26	<26
2,4-Dinitrotoluene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2,6-Dinitrotoluene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Bis(2-Ethylhexyl)phthalate	ug/L	4	<10	<11	<11	<10	<10	<11	<11	<10 UJc|	<11	<10	<10 Uz|JB
Fluoranthene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Fluorene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Hexachlorobenzene	ug/L	1	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Hexachlorobutadiene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Hexachlorocyclopentadiene	ug/L	50	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Hexachloroethane	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-015 SUMMER	UCD2-015 FALL	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING D1	UCD2-016 SUMMER	UCD2-016 SUMMER D1
Acenaphthene	ug/L		<11	<11	<10	<10	<10	<11	<11
Acenaphthylene	ug/L		<11	<11	<10	<10	<10	<11	<11
Anthracene	ug/L		<11	<11	<10	<10	<10	<11	<11
Benzo(a)anthracene	ug/L	0.1*	<11	<11	<10	<10	<10	<11	<11
Benzo(a)pyrene	ug/L	0.2	<11	<11	<10	<10	<10	<11	<11
Benzo(b)fluoranthene	ug/L	0.2*	<11	<11	<10	<10	<10	<11	<11
Benzo(g,h,i)perylene	ug/L		<11	<11	<10	<10	<10	<11	<11
Benzo(k)fluoranthene	ug/L	0.2*	<11	<11	<10	<10	<10	<11	<11
Benzyl Butyl Phthalate	ug/L	100#	<11	<11	<10	<10	<10	<11	<11
4-Bromophenyl Phenyl Ether	ug/L		<11	<11	<10	<10	<10	<11	<11
Carbazole	ug/L		<11	<11	<10	<10	<10	<11	<11
4-Chloro-3-Methylphenol	ug/L		<11	<11	<10	<10	<10	<11	<11
4-Chloroaniline	ug/L		<11	<11	<10	<10	<10	<11	<11
Bis(2-Chloroethoxy)methane	ug/L		<11	<11	<10	<10	<10	<11	<11
Bis(2-Chloroethyl)ether	ug/L		<11	<11	<10	<10	<10	<11	<11
2-Chloronaphthalene	ug/L		<11	<11	<10	<10	<10	<11	<11
2-Chlorophenol	ug/L		<11	<11	<10	<10	<10	<11	<11
4-Chlorophenyl Phenyl Ether	ug/L		<11	<11	<10	<10	<10	<11	<11
Chrysene	ug/L	0.2*	<11	<11	<10	<10	<10	<11	<11
Di-n-Butylphthalate	ug/L		<11 |J	<11 Uz|JB	<10 Uz|JB	<10	<10	<11 |J	<11 |J
Di-n-Octylphthalate	ug/L		<11	<11	<10	<10	<10	<11	<11
Dibenzo(a,h)anthracene	ug/L	0.3*	<11	<11	<10	<10	<10	<11	<11
Dibenzofuran	ug/L		<11	<11	<10	<10	<10	<11	<11
1,2-Dichlorobenzene	ug/L	600#	<11	<11	<10	<10	<10	<11	<11
1,3-Dichlorobenzene	ug/L	600#	<11	<11	<10	<10	<10	<11	<11
1,4-Dichlorobenzene	ug/L	5	<11	<11	<10	<10	<10	<11	<11
3,3'-Dichlorobenzidine	ug/L		<11	<11	<10	<10	<10	<11	<11
2,4-Dichlorophenol	ug/L	100	<11	<11	<10	<10	<10	<11	<11
Diethyl Phthalate	ug/L		<11	<11	<10	<10	<10	<11	<11
Dimethyl Phthalate	ug/L		<11	<11	<10	<10	<10	<11	<11
2,4-Dimethylphenol	ug/L		<11	<11	<10	<10	<10	<11	<11
2,4-Dinitrophenol	ug/L		<27	<27	<26	<26	<26	<26	<26
2,4-Dinitrotoluene	ug/L		<11	<11	<10	<10	<10	<11	<11
2,6-Dinitrotoluene	ug/L		<11	<11	<10	<10	<10	<11	<11
Bis(2-Ethylhexyl)phthalate	ug/L	4	<11	<11 UJc|	<10 |J	<10	<10 Uz|JB	<11 Uz|J	<11
Fluoranthene	ug/L		<11	<11	<10	<10	<10	<11	<11
Fluorene	ug/L		<11	<11	<10	<10	<10	<11	<11
Hexachlorobenzene	ug/L	1	<11	<11	<10	<10	<10	<11	<11
Hexachlorobutadiene	ug/L		<11	<11	<10	<10	<10	<11	<11
Hexachlorocyclopentadiene	ug/L	50	<11	<11	<10	<10	<10	<11	<11
Hexachloroethane	ug/L		<11	<11	<10	<10	<10	<11	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER	UCD1-004 SPRING	UCD1-010 WINTER	UCD1-010 SPRING
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Isophorone	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2-Methyl-4,6-dinitrophenol	ug/L		<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
2-Methylnaphthalene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2-Methylphenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
4-Methylphenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Naphthalene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2-Nitroaniline	ug/L		<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
3-Nitroaniline	ug/L		<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
4-Nitroaniline	ug/L		<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
Nitrobenzene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2-Nitrophenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
4-Nitrophenol	ug/L		<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
N-Nitrosodi-n-propylamine	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
N-Nitrosodiphenylamine	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2,2'-oxybis(1-Chloropropane)	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Pentachlorophenol	ug/L	1#	<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
Phenanthrene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Phenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
Pyrene	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
1,2,4-Trichlorobenzene	ug/L	70	<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11
2,4,5-Trichlorophenol	ug/L		<28	<26	<27	<25	<26	<26	<25	<26	<26	<26	<26
2,4,6-Trichlorophenol	ug/L		<11	<10	<11	<10	<11	<10	<10	<10	<10	<11	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING D1	UCD1-011 FALL	UCD1-012 WINTER	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 SPRING
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Isophorone	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2-Methyl-4,6-dinitrophenol	ug/L		<27	<25	<26	<26	<26	<26	<26	<26	<25	<26	<26
2-Methylnaphthalene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2-Methylphenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
4-Methylphenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Naphthalene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2-Nitroaniline	ug/L		<27	<25	<26	<26	<26	<26	<26	<26	<25	<26	<26
3-Nitroaniline	ug/L		<27	<25	<26	<26	<26	<26	<26	<26	<25	<26	<26
4-Nitroaniline	ug/L		<27	<25 UJc|	<26	<26	<26	<26 UJc|	<26	<26	<25	<26	<26
Nitrobenzene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2-Nitrophenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
4-Nitrophenol	ug/L		<27	<25	<26	<26	<26	<26	<26	<26	<25	<26	<26
N-Nitrosodi-n-propylamine	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
N-Nitrosodiphenylamine	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2,2'-oxybis(1-Chloropropane)	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Pentachlorophenol	ug/L	1#	<27	<25	<26	<26	<26	<26	<26	<26	<25	<26	<26
Phenanthrene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Phenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
Pyrene	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
1,2,4-Trichlorobenzene	ug/L	70	<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10
2,4,5-Trichlorophenol	ug/L		<27	<25	<26	<26	<26	<26	<26	<26	<25	<26	<26
2,4,6-Trichlorophenol	ug/L		<11	<10	<10	<11	<10	<10	<11	<11	<10	<11	<10

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-013 FALL	UCD1-013 FALL D1	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER	UCD1-020 FALL	UCD1-021 WINTER
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Isophorone	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2-Methyl-4,6-dinitrophenol	ug/L		<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
2-Methylnaphthalene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2-Methylphenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
4-Methylphenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Naphthalene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2-Nitroaniline	ug/L		<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
3-Nitroaniline	ug/L		<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
4-Nitroaniline	ug/L		<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
Nitrobenzene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2-Nitrophenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
4-Nitrophenol	ug/L		<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
N-Nitrosodi-n-propylamine	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
N-Nitrosodiphenylamine	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2,2'-oxybis(1-Chloropropane)	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Pentachlorophenol	ug/L	1#	<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
Phenanthrene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Phenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
Pyrene	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
1,2,4-Trichlorobenzene	ug/L	70	<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11
2,4,5-Trichlorophenol	ug/L		<25	<25	<26	<26	<27	<25	<26	<26	<27	<25	<26
2,4,6-Trichlorophenol	ug/L		<10	<10	<11	<10	<11	<10	<11	<10	<11	<10	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL	UCD1-022 WINTER	UCD1-022 WINTER D1	UCD1-022 SPRING	UCD1-022 SUMMER	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 SPRING	UCD1-023 SUMMER
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Isophorone	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2-Methyl-4,6-dinitrophenol	ug/L		<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
2-Methylnaphthalene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2-Methylphenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
4-Methylphenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Naphthalene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2-Nitroaniline	ug/L		<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
3-Nitroaniline	ug/L		<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
4-Nitroaniline	ug/L		<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
Nitrobenzene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2-Nitrophenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
4-Nitrophenol	ug/L		<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
N-Nitrosodi-n-propylamine	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
N-Nitrosodiphenylamine	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2,2'-oxybis(1-Chloropropane)	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Pentachlorophenol	ug/L	1#	<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
Phenanthrene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Phenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
Pyrene	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
1,2,4-Trichlorobenzene	ug/L	70	<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11
2,4,5-Trichlorophenol	ug/L		<26	<27	<25	<26	<28	<27	<27	<25	<26	<26	<27
2,4,6-Trichlorophenol	ug/L		<10	<11	<10	<11	<11	<11	<11	<10	<11	<10	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-023 FALL	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL	UCD2-017 FALL D1	UCD2-007 WINTER
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Isophorone	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2-Methyl-4,6-dinitrophenol	ug/L		<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
2-Methylnaphthalene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2-Methylphenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
4-Methylphenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Naphthalene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2-Nitroaniline	ug/L		<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
3-Nitroaniline	ug/L		<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
4-Nitroaniline	ug/L		<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
Nitrobenzene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2-Nitrophenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
4-Nitrophenol	ug/L		<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
N-Nitrosodi-n-propylamine	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
N-Nitrosodiphenylamine	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2,2'-oxybis(1-Chloropropane)	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Pentachlorophenol	ug/L	1#	<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
Phenanthrene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Phenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
Pyrene	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
1,2,4-Trichlorobenzene	ug/L	70	<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10
2,4,5-Trichlorophenol	ug/L		<25	<26	<27	<26	<25	<27	<26	<26	<27	<25	<26
2,4,6-Trichlorophenol	ug/L		<10	<11	<11	<11	<10	<11	<10	<10	<11	<10	<10

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-007 SPRING	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 SPRING	UCD2-014 SUMMER	UCD2-014 SUMMER D1	UCD2-014 FALL	UCD2-015 WINTER	UCD2-015 WINTER D1	UCD2-015 SPRING
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Isophorone	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2-Methyl-4,6-dinitrophenol	ug/L		<26	<26	<28	<26	<26	<27	<27	<25	<27	<26	<26
2-Methylnaphthalene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2-Methylphenol	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
4-Methylphenol	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Naphthalene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2-Nitroaniline	ug/L		<26	<26	<28	<26	<26	<27	<27	<25	<27	<26	<26
3-Nitroaniline	ug/L		<26	<26	<28	<26	<26	<27	<27	<25	<27	<26	<26
4-Nitroaniline	ug/L		<26	<26	<28 UJc|	<26	<26	<27	<27	<25	<27	<26	<26
Nitrobenzene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2-Nitrophenol	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
4-Nitrophenol	ug/L		<26	<26	<28	<26	<26	<27	<27	<25	<27	<26	<26
N-Nitrosodi-n-propylamine	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
N-Nitrosodiphenylamine	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2,2'-oxybis(1-Chloropropane)	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Pentachlorophenol	ug/L	1#	<26	<26	<28	<26	<26	<27	<27	<25	<27	<26	<26
Phenanthrene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
Phenol	ug/L		<10	<11	<11	<10	<10	<11 |J	<11	<10	<11	<10	<10
Pyrene	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
1,2,4-Trichlorobenzene	ug/L	70	<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10
2,4,5-Trichlorophenol	ug/L		<26	<26	<28	<26	<26	<27	<27	<25	<27	<26	<26
2,4,6-Trichlorophenol	ug/L		<10	<11	<11	<10	<10	<11	<11	<10	<11	<10	<10

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-015 SUMMER	UCD2-015 FALL	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING D1	UCD2-016 SUMMER	UCD2-016 SUMMER D1
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<11	<11	<10	<10	<10	<11	<11
Isophorone	ug/L		<11	<11	<10	<10	<10	<11	<11
2-Methyl-4,6-dinitrophenol	ug/L		<27	<27	<26	<26	<26	<26	<26
2-Methylnaphthalene	ug/L		<11	<11	<10	<10	<10	<11	<11
2-Methylphenol	ug/L		<11	<11	<10	<10	<10	<11	<11
4-Methylphenol	ug/L		<11	<11	<10	<10	<10	<11	<11
Naphthalene	ug/L		<11	<11	<10	<10	<10	<11	<11
2-Nitroaniline	ug/L		<27	<27	<26	<26	<26	<26	<26
3-Nitroaniline	ug/L		<27	<27	<26	<26	<26	<26	<26
4-Nitroaniline	ug/L		<27	<27	<26	<26	<26	<26	<26
Nitrobenzene	ug/L		<11	<11	<10	<10	<10	<11	<11
2-Nitrophenol	ug/L		<11	<11	<10	<10	<10	<11	<11
4-Nitrophenol	ug/L		<27	<27	<26	<26	<26	<26	<26
N-Nitrosodi-n-propylamine	ug/L		<11	<11	<10	<10	<10	<11	<11
N-Nitrosodiphenylamine	ug/L		<11	<11	<10	<10	<10	<11	<11
2,2'-oxybis(1-Chloropropane)	ug/L		<11	<11	<10	<10	<10	<11	<11
Pentachlorophenol	ug/L	1#	<27	<27	<26	<26	<26	<26	<26
Phenanthrene	ug/L		<11	<11	<10	<10	<10	<11	<11
Phenol	ug/L		<11	<11	<10	<10	<10	<11	<11
Pyrene	ug/L		<11	<11	<10	<10	<10	<11	<11
1,2,4-Trichlorobenzene	ug/L	70	<11	<11	<10	<10	<10	<11	<11
2,4,5-Trichlorophenol	ug/L		<27	<27	<26	<26	<26	<26	<26
2,4,6-Trichlorophenol	ug/L		<11	<11	<10	<10	<10	<11	<11

See footnotes at end of table

TABLE A.2
ANALYTICAL RESULTS FOR GROUNDWATER,1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER	UCD1-004 SPRING
Aldrin	ug/L	0.05C	<0.01	<0.01 UJl|	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Alpha-BHC	ug/L	0.7C	<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Beta-BHC	ug/L	0.3C	<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Delta-BHC	ug/L		<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Gamma-BHC	ug/L	0.2	<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Alpha-Chlordane	ug/L		<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Gamma-Chlordane	ug/L		<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
4,4'-DDD	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
4,4'-DDE	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
4,4'-DDT	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
Dieldrin	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
Endosulfan I	ug/L		<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Endosulfan II	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
Endosulfan Sulfate	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
Endrin	ug/L	0.2	<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
Endrin Aldehyde	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
Endrin Ketone	ug/L		<0.021	<0.02	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021 UJs|
Heptachlor	ug/L	0.01	<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.01	<0.01	<0.011	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01 UJs|	<0.01	<0.011 UJs|
Methoxychlor	ug/L	40	<0.1	<0.1	<0.11	<0.1 UJs|	<0.11	<0.1 UJs|	<0.1 UJs|	<0.1	<0.11 UJs|
Toxaphene	ug/L	3	<1	<1	<1.1	<1 UJs|	<1.1	<1 UJs|	<1 UJs|	<1	<1.1 UJs|
Aroclor-1016	ug/L	0.5	<0.21	<0.2	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21 UJs|
Aroclor-1221	ug/L	0.5	<0.41	<0.41	<0.44	<0.41 UJs|	<0.42	<0.41 UJs|	<0.41 UJs|	<0.41	<0.42 UJs|
Aroclor-1232	ug/L	0.5	<0.21	<0.2	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21 UJs|
Aroclor-1242	ug/L	0.5	<0.21	<0.2	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21 UJs|
Aroclor-1248	ug/L	0.5	<0.21	<0.2	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21 UJs|
Aroclor-1254	ug/L	0.5	<0.21	<0.2	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21 UJs|
Aroclor-1260	ug/L	0.5	<0.21	<0.2	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21 UJs|

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-010 WINTER	UCD1-010 SPRING	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING D1	UCD1-011 FALL	UCD1-012 WINTER
Aldrin	ug/L	0.05C	<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Alpha-BHC	ug/L	0.7C	<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Beta-BHC	ug/L	0.3C	<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Delta-BHC	ug/L		<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Gamma-BHC	ug/L	0.2	<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Alpha-Chlordane	ug/L		<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Gamma-Chlordane	ug/L		<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
4,4'-DDD	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
4,4'-DDE	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
4,4'-DDT	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
Dieldrin	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
Endosulfan I	ug/L		<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Endosulfan II	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
Endosulfan Sulfate	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
Endrin	ug/L	0.2	<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
Endrin Aldehyde	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
Endrin Ketone	ug/L		<0.02	<0.021 UJs|	<0.021	<0.022 UJs|	<0.022	<0.021 UJs|	<0.021	<0.021 UJs|	<0.021
Heptachlor	ug/L	0.01	<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Heptachlor Epoxide	ug/L	0.01	<0.01	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Methoxychlor	ug/L	40	<0.1	<0.11 UJs|	<0.11	<0.11 UzJB	<0.11	<0.11 UJs|	<0.11	<0.1 UzJB	<0.1
Toxaphene	ug/L	3	<1	<1.1 UJs|	<1.1	<1.1 UJs|	<1.1	<1.1 UJs|	<1.1	<1 UJs|	<1
Aroclor-1016	ug/L	0.5	<0.2	<0.21 UJs|	<0.21	<0.22 UJs|	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.21
Aroclor-1221	ug/L	0.5	<0.41	<0.42 UJs|	<0.42	<0.44 UJs|	<0.43	<0.42 UJs|	<0.42	<0.42 UJs|	<0.42
Aroclor-1232	ug/L	0.5	<0.2	<0.21 UJs|	<0.21	<0.22 UJs|	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.21
Aroclor-1242	ug/L	0.5	<0.2	<0.21 UJs|	<0.21	<0.22 UJs|	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.21
Aroclor-1248	ug/L	0.5	<0.2	<0.21 UJs|	<0.21	<0.22 UJs|	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.21
Aroclor-1254	ug/L	0.5	<0.2	<0.21 UJs|	<0.21	<0.22 UJs|	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.21
Aroclor-1260	ug/L	0.5	<0.2	<0.21 UJs|	<0.21	<0.22 UJs|	<0.22	<0.21 UJs|	<0.21	<0.21 UJs|	<0.21

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 SPRING	UCD1-013 FALL	UCD1-013 FALL D1	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER
Aldrin	ug/L	0.05C	<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Alpha-BHC	ug/L	0.7C	<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Beta-BHC	ug/L	0.3C	<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Delta-BHC	ug/L		<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Gamma-BHC	ug/L	0.2	<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Alpha-Chlordane	ug/L		<0.01 UJs|	<0.011 UJs|	<0.011	0.011 Js|P	<0.011 Js|J	<0.011 Js|JP	<0.011	<0.01 UJs|	<0.01
Gamma-Chlordane	ug/L		<0.01 UJs|	<0.011 UJs|	<0.011	0.012 Js|	<0.011 Js|J	<0.011 Js|J	<0.011	<0.01 UJs|	<0.01
4,4'-DDD	ug/L		<0.02 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.022	<0.02 UJs|	<0.02
4,4'-DDE	ug/L		<0.02 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.022	<0.02 UJs|	<0.02
4,4'-DDT	ug/L		<0.02 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.022	<0.02 UJs|	<0.02
Dieldrin	ug/L		<0.02 UJs|	<0.022 UJs|	0.048	0.076 Js|	0.094 Js|	0.04 Js|	<0.022	<0.02 UJs|	<0.02
Endosulfan I	ug/L		<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Endosulfan II	ug/L		<0.02 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.022	<0.02 UJs|	<0.02
Endosulfan Sulfate	ug/L		<0.02 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.022	<0.02 UJs|	<0.02
Endrin	ug/L	0.2	<0.02 UJs|	<0.022 UJs|	<0.021 |JP	0.031 Js|P	0.035 Js|	<0.022 Js|J	<0.022	<0.02 UJs|	<0.02
Endrin Aldehyde	ug/L		<0.02 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.022	<0.02 UJs|	<0.02
Endrin Ketone	ug/L		<0.02 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.022 Js|JP	<0.022 Js|JP	<0.022	<0.02 UJs|	<0.02
Heptachlor	ug/L	0.01	<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Heptachlor Epoxide	ug/L	0.01	<0.01 UJs|	<0.011 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011	<0.01 UJs|	<0.01
Methoxychlor	ug/L	40	<0.1 UJs|	<0.11 UJs|	<0.11	<0.11 UJs|	<0.11 UJs|	<0.11 UJs|	<0.11	<0.1 UJs|	<0.1
Toxaphene	ug/L	3	<1 UJs|	<1.1 UJs|	<1.1	<1.1 UJs|	<1.1 UJs|	<1.1 UJs|	<1.1	<1 UJs|	<1
Aroclor-1016	ug/L	0.5	<0.2 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.22	<0.2 UJs|	<0.2
Aroclor-1221	ug/L	0.5	<0.41 UJs|	<0.43 UJs|	<0.43	<0.42 UJs|	<0.43 UJs|	<0.43 UJs|	<0.43	<0.4 UJs|	<0.4
Aroclor-1232	ug/L	0.5	<0.2 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.22	<0.2 UJs|	<0.2
Aroclor-1242	ug/L	0.5	<0.2 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.22	<0.2 UJs|	<0.2
Aroclor-1248	ug/L	0.5	<0.2 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.22	<0.2 UJs|	<0.2
Aroclor-1254	ug/L	0.5	<0.2 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.22	<0.2 UJs|	<0.2
Aroclor-1260	ug/L	0.5	<0.2 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.22	<0.2 UJs|	<0.2

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER	UCD1-020 FALL	UCD1-021 WINTER	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL
Aldrin	ug/L	0.05C	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01 UJl|	<0.01 UJs|	<0.01 UJs|
Alpha-BHC	ug/L	0.7C	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Beta-BHC	ug/L	0.3C	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Delta-BHC	ug/L		<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Gamma-BHC	ug/L	0.2	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Alpha-Chlordane	ug/L		<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Gamma-Chlordane	ug/L		<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
4,4'-DDD	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
4,4'-DDE	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
4,4'-DDT	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
Dieldrin	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
Endosulfan I	ug/L		<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Endosulfan II	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
Endosulfan Sulfate	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
Endrin	ug/L	0.2	<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
Endrin Aldehyde	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
Endrin Ketone	ug/L		<0.021 UJs|	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.023	<0.02	<0.02 UJs|	<0.021 UJs|
Heptachlor	ug/L	0.01	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.01 UJs|	<0.011	<0.01 UJs|	<0.01	<0.01 UJs|	<0.011	<0.01	<0.01 UJs|	<0.01 UJs|
Methoxychlor	ug/L	40	<0.1 UJs|	<0.11	<0.1 UJs|	<0.1	<0.1 UJs|	<0.11	<0.1	<0.1 UJs|	<0.1 UJs|
Toxaphene	ug/L	3	<1 UJs|	<1.1	<1 UJs|	<1	<1 UJs|	<1.1	<1	<1 UJs|	<1 UJs|
Aroclor-1016	ug/L	0.5	<0.21 UJs|	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.23	<0.2	<0.2 UJs|	<0.21 UJs|
Aroclor-1221	ug/L	0.5	<0.41 UJs|	<0.43	<0.41 UJs|	<0.4	<0.41 UJs|	<0.45	<0.4	<0.4 UJs|	<0.41 UJs|
Aroclor-1232	ug/L	0.5	<0.21 UJs|	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.23	<0.2	<0.2 UJs|	<0.21 UJs|
Aroclor-1242	ug/L	0.5	<0.21 UJs|	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.23	<0.2	<0.2 UJs|	<0.21 UJs|
Aroclor-1248	ug/L	0.5	<0.21 UJs|	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.23	<0.2	<0.2 UJs|	<0.21 UJs|
Aroclor-1254	ug/L	0.5	<0.21 UJs|	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.23	<0.2	<0.2 UJs|	<0.21 UJs|
Aroclor-1260	ug/L	0.5	<0.21 UJs|	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.23	<0.2	<0.2 UJs|	<0.21 UJs|

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-022 WINTER	UCD1-022 WINTER D1	UCD1-022 SPRING	UCD1-022 SUMMER	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 SPRING	UCD1-023 SUMMER	UCD1-023 FALL
Aldrin	ug/L	0.05C	<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Alpha-BHC	ug/L	0.7C	<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Beta-BHC	ug/L	0.3C	<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Delta-BHC	ug/L		<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Gamma-BHC	ug/L	0.2	<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Alpha-Chlordane	ug/L		<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Gamma-Chlordane	ug/L		<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
4,4'-DDD	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
4,4'-DDE	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
4,4'-DDT	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
Dieldrin	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
Endosulfan I	ug/L		<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Endosulfan II	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
Endosulfan Sulfate	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
Endrin	ug/L	0.2	<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
Endrin Aldehyde	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
Endrin Ketone	ug/L		<0.022	<0.022	<0.021	<0.02	<0.021 UJs|	<0.024	<0.022	<0.02	<0.021 UJs|
Heptachlor	ug/L	0.01	<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.011	<0.011	<0.011	<0.01	<0.01 UJs|	<0.012	<0.011	<0.01	<0.011 UJs|
Methoxychlor	ug/L	40	<0.11	<0.11	<0.11	<0.1	<0.1 UJs|	<0.12	<0.11	<0.1	<0.11 UJs|
Toxaphene	ug/L	3	<1.1	<1.1	<1.1	<1	<1 UJs|	<1.2	<1.1	<1	<1.1 UJs|
Aroclor-1016	ug/L	0.5	<0.22	<0.22	<0.21	<0.2	<0.21 UJs|	<0.24	<0.22	<0.2	<0.21 UJs|
Aroclor-1221	ug/L	0.5	<0.43	<0.43	<0.42	<0.4	<0.41 UJs|	<0.48	<0.44	<0.4	<0.43 UJs|
Aroclor-1232	ug/L	0.5	<0.22	<0.22	<0.21	<0.2	<0.21 UJs|	<0.24	<0.22	<0.2	<0.21 UJs|
Aroclor-1242	ug/L	0.5	<0.22	<0.22	<0.21	<0.2	<0.21 UJs|	<0.24	<0.22	<0.2	<0.21 UJs|
Aroclor-1248	ug/L	0.5	<0.22	<0.22	<0.21	<0.2	<0.21 UJs|	<0.24	<0.22	<0.2	<0.21 UJs|
Aroclor-1254	ug/L	0.5	<0.22	<0.22	<0.21	<0.2	<0.21 UJs|	<0.24	<0.22	<0.2	<0.21 UJs|
Aroclor-1260	ug/L	0.5	<0.22	<0.22	<0.21	<0.2	<0.21 UJs|	<0.24	<0.22	<0.2	<0.21 UJs|

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL	UCD2-017 FALL D1
Aldrin	ug/L	0.05C	<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Alpha-BHC	ug/L	0.7C	<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Beta-BHC	ug/L	0.3C	<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Delta-BHC	ug/L		<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Gamma-BHC	ug/L	0.2	<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Alpha-Chlordane	ug/L		<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Gamma-Chlordane	ug/L		<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
4,4'-DDD	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
4,4'-DDE	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
4,4'-DDT	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
Dieldrin	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
Endosulfan I	ug/L		<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Endosulfan II	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
Endosulfan Sulfate	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
Endrin	ug/L	0.2	<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
Endrin Aldehyde	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
Endrin Ketone	ug/L		<0.022	<0.021	<0.02	<0.022 UJs|	<0.021	<0.02 UJs|	<0.021	<0.022 UJs|	<0.021 UJs|
Heptachlor	ug/L	0.01	<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.011	<0.011	<0.01	<0.011 UJs|	<0.011	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|
Methoxychlor	ug/L	40	<0.11	<0.11	<0.1	<0.11 UJs|	<0.11	<0.1 UJs|	<0.11	<0.11 UJs|	<0.11 UJs|
Toxaphene	ug/L	3	<1.1	<1.1	<1	<1.1 UJs|	<1.1	<1 UJs|	<1.1	<1.1 UJs|	<1.1 UJs|
Aroclor-1016	ug/L	0.5	<0.22	<0.21	<0.2	<0.22 UJs|	<0.21	<0.2 UJs|	<0.21	<0.22 UJs|	<0.21 UJs|
Aroclor-1221	ug/L	0.5	<0.44	<0.42	<0.4	<0.43 UJs|	<0.43	<0.41 UJs|	<0.42	<0.44 UJs|	<0.43 UJs|
Aroclor-1232	ug/L	0.5	<0.22	<0.21	<0.2	<0.22 UJs|	<0.21	<0.2 UJs|	<0.21	<0.22 UJs|	<0.21 UJs|
Aroclor-1242	ug/L	0.5	<0.22	<0.21	<0.2	<0.22 UJs|	<0.21	<0.2 UJs|	<0.21	<0.22 UJs|	<0.21 UJs|
Aroclor-1248	ug/L	0.5	<0.22	<0.21	<0.2	<0.22 UJs|	<0.21	<0.2 UJs|	<0.21	<0.22 UJs|	<0.21 UJs|
Aroclor-1254	ug/L	0.5	<0.22	<0.21	<0.2	<0.22 UJs|	<0.21	<0.2 UJs|	<0.21	<0.22 UJs|	<0.21 UJs|
Aroclor-1260	ug/L	0.5	<0.22	<0.21	<0.2	<0.22 UJs|	<0.21	<0.2 UJs|	<0.21	<0.22 UJs|	<0.21 UJs|

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-007 WINTER	UCD2-007 SPRING	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 SPRING	UCD2-014 SUMMER	UCD2-014 SUMMER D1	UCD2-014 FALL
Aldrin	ug/L	0.05C	<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Alpha-BHC	ug/L	0.7C	<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Beta-BHC	ug/L	0.3C	<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Delta-BHC	ug/L		<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Gamma-BHC	ug/L	0.2	<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Alpha-Chlordane	ug/L		<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Gamma-Chlordane	ug/L		<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
4,4'-DDD	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
4,4'-DDE	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
4,4'-DDT	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
Dieldrin	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
Endosulfan I	ug/L		<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Endosulfan II	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
Endosulfan Sulfate	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
Endrin	ug/L	0.2	<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
Endrin Aldehyde	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
Endrin Ketone	ug/L		<0.021	<0.021 UJs|	<0.021 UJs|	<0.02 UJs|	<0.021	<0.021	<0.022	<0.021	<0.022 UJs|
Heptachlor	ug/L	0.01	<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.01	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011	<0.01	<0.011	<0.011	<0.011 UJs|
Methoxychlor	ug/L	40	<0.1	<0.11 UJs|	<0.11 UJs|	<0.1 UzJB	<0.11	<0.1	<0.11	<0.11	<0.11 UJs|
Toxaphene	ug/L	3	<1	<1.1 UJs|	<1.1 UJs|	<1 UJs|	<1.1	<1	<1.1	<1.1	<1.1 UJs|
Aroclor-1016	ug/L	0.5	<0.21	<0.21 UJs|	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21	<0.22	<0.21	<0.22 UJs|
Aroclor-1221	ug/L	0.5	<0.41	<0.42 UJs|	<0.42 UJs|	<0.41 UJs|	<0.42	<0.41	<0.43	<0.42	<0.43 UJs|
Aroclor-1232	ug/L	0.5	<0.21	<0.21 UJs|	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21	<0.22	<0.21	<0.22 UJs|
Aroclor-1242	ug/L	0.5	<0.21	<0.21 UJs|	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21	<0.22	<0.21	<0.22 UJs|
Aroclor-1248	ug/L	0.5	<0.21	<0.21 UJs|	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21	<0.22	<0.21	<0.22 UJs|
Aroclor-1254	ug/L	0.5	<0.21	<0.21 UJs|	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21	<0.22	<0.21	<0.22 UJs|
Aroclor-1260	ug/L	0.5	<0.21	<0.21 UJs|	<0.21 UJs|	<0.2 UJs|	<0.21	<0.21	<0.22	<0.21	<0.22 UJs|

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-015 WINTER	UCD2-015 WINTER DI	UCD2-015 SPRING	UCD2-015 SUMMER	UCD2-015 FALL	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING DI	UCD2-016 SUMMER
Aldrin	ug/L	0.05C	<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Alpha-BHC	ug/L	0.7C	<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Beta-BHC	ug/L	0.3C	<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Delta-BHC	ug/L		<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Gamma-BHC	ug/L	0.2	<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Alpha-Chlordane	ug/L		<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Gamma-Chlordane	ug/L		<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
4,4'-DDD	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
4,4'-DDE	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
4,4'-DDT	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
Dieldrin	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
Endosulfan I	ug/L		<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Endosulfan II	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
Endosulfan Sulfate	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
Endrin	ug/L	0.2	<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
Endrin Aldehyde	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
Endrin Ketone	ug/L		<0.022	<0.022	<0.021 UJs|	<0.02	<0.021 UJs|	<0.021	<0.02 UJs|	<0.021 UJs|	<0.02
Heptachlor	ug/L	0.01	<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Heptachlor Epoxide	ug/L	0.01	<0.011	<0.011	<0.01 UJs|	<0.01	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01
Methoxychlor	ug/L	40	<0.11	<0.11	<0.1 UJs|	<0.1	<0.11 UJs|	<0.1	<0.1 UJs|	<0.1 UJs|	<0.1
Toxaphene	ug/L	3	<1.1	<1.1	<1 UJs|	<1	<1.1 UJs|	<1	<1 UJs|	<1 UJs|	<1
Aroclor-1016	ug/L	0.5	<0.22	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.21	<0.2 UJs|	<0.21 UJs|	<0.2
Aroclor-1221	ug/L	0.5	<0.43	<0.43	<0.41 UJs|	<0.4	<0.43 UJs|	<0.42	<0.4 UJs|	<0.41 UJs|	<0.4
Aroclor-1232	ug/L	0.5	<0.22	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.21	<0.2 UJs|	<0.21 UJs|	<0.2
Aroclor-1242	ug/L	0.5	<0.22	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.21	<0.2 UJs|	<0.21 UJs|	<0.2
Aroclor-1248	ug/L	0.5	<0.22	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.21	<0.2 UJs|	<0.21 UJs|	<0.2
Aroclor-1254	ug/L	0.5	<0.22	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.21	<0.2 UJs|	<0.21 UJs|	<0.2
Aroclor-1260	ug/L	0.5	<0.22	<0.22	<0.21 UJs|	<0.2	<0.21 UJs|	<0.21	<0.2 UJs|	<0.21 UJs|	<0.2

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-016 SUMMER D1
Aldrin	ug/L	0.05C	<0.01
Alpha-BHC	ug/L	0.7C	<0.01
Beta-BHC	ug/L	0.3C	<0.01
Delta-BHC	ug/L		<0.01
Gamma-BHC	ug/L	0.2	<0.01
Alpha-Chlordane	ug/L		<0.01
Gamma-Chlordane	ug/L		<0.01
4,4'-DDD	ug/L		<0.02
4,4'-DDE	ug/L		<0.02
4,4'-DDT	ug/L		<0.02
Dieldrin	ug/L		<0.02
Endosulfan I	ug/L		<0.01
Endosulfan II	ug/L		<0.02
Endosulfan Sulfate	ug/L		<0.02
Endrin	ug/L	0.2	<0.02
Endrin Aldehyde	ug/L		<0.02
[illegible] Ketone	ug/L		<0.02
[illegible]	ug/L	0.01	<0.01
H[illegible]	ug/L	0.01	<0.01
Met[illegible] ch[illegible]	ug/L	40	<0.1
Toxaphene	ug/L	3	<1
Aroclor-1016	ug/L	0.5	<0.2
Aroclor-1221	ug/L	0.5	<0.4
Aroclor-1232	ug/L	0.5	<0.2
Aroclor-1242	ug/L	0.5	<0.2
Aroclor-1248	ug/L	0.5	<0.2
Aroclor-1254	ug/L	0.5	<0.2
Aroclor-1260	ug/L	0.5	<0.2

See footnotes at end of table

TABLE A.3
ANALYTICAL RESULTS FOR GROUNDWATER,1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER	UCD1-004 SPRING
Antimony	ug/L	6	<5	<5	<5 |B	<5 |B	<5	<5	<5 |B	<5	<5 |B
Arsenic	ug/L	50	3.1	<5.8 Uo|	<2	2.9 Jd|	2.3	<2 |B	2.4 Jd|	2.3	<2 |B
Barium	ug/L	1000	161	168	151	131	226	195 Jk|E	188	278	306 Jk|E
Beryllium	ug/L	4	<1	<1	<1	<1	1.4	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	15.5	16.7	16.8	13.1	30.5	27.2	30.4	19.1	23.6
Chromium, Hexavalent (+6)	ug/L		11	18	14	14	27	27	26	16	21
Cobalt	ug/L		<10	<10 Uo|	<10	<10	<10	<10	<10	<10	<10
Copper	ug/L	1300#	<10 |B	<10 Up|B	<10 Up|B	<10	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	<10	<10 |B	-	-	<10 |B	-	-	<10 |B
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10 |B	<10 |B	<10	<10	<10	<10	<10	<10 |B	<10 |B
Nickel	ug/L	100	36.5	43.1	96	32.9 Jd|	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B
Selenium	ug/L	10	<3	4.6	<3	<3	<3	<3	<3	<3	4.3
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		10.6	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 Up|B	<20 Up|B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-010 WINTER	UCD1-010 SPRING	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING D1	UCD1-011 FALL	UCD1-012 WINTER
Antimony	ug/L	6	<5	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic	ug/L	50	3.5	2.5	<2	3.1 Jd|	<2	2.7	3.1	3.2 Jd|	<2
Barium	ug/L	1000	30.1	28.2 Jk|E	26.2	28.2	141	285 Jk|E	284 Jk|E	239	169
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	63.6	62.2	59.8	60.7	152 Jz|	296	298	285	92.9
Chromium, Hexavalent (+6)	ug/L		62	65	68	59	310 Jz|	310	310	300	110
Cobalt	ug/L		<10	<10	<10	<10	<10	<10	<10	<10	<10
Copper	ug/L	1300#	<10 |B	<10 |B	<10 Up|B	<10 |B	<10	<10 |B	<10 |B	<10	<10
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	<10	<10	-	-	<10	<10	-	-
Mercury	ug/L	2	<0.2	<0.2	<0.2	0.90	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10 |B	<10	<10	<10	<10	<10 |B	<10 |B	<10	<10
Nickel	ug/L	100	<20 |B	<20 |B	<20 |B	<20 |B	<20	<20 |B	<20 |B	<20 |B	<20 |B
Selenium	ug/L	10	21.4	25.1	16.1	20.3	3.7	11.6	10.8	11.3 Jd|	5.8
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		11.3	<10 |B	10.7	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 |B	<20 Up|B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 SPRING	UCD1-013 FALL	UCD1-013 FALL DI	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER
Antimony	ug/L	6	<5 |B	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic	ug/L	50	2.4	2.6	2.3	<2	2.3 Jd|	2.6 Jd|	2.8	<4.2 Uo|	<2
Barium	ug/L	1000	388 Jk|E	339	304	304 Jk|E	249	283	96.1	60.1	58.1
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	185	167	82.6 Jz|	80.7	75.7	87.2	170 Jk|	194	183
Chromium, Hexavalent (+6)	ug/L		190	180	<10 UJz|	84	73 |H	75 |H	180	200	110
Cobalt	ug/L		<10	<10	<10	<10	<10	<10	<10	<10 Uo|	<10
Copper	ug/L	1300#	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 Up|B	<10 Up|B
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		<10	-	-	<10	-	-	-	<10	<10
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10	<10	<10	<10	<10	<10	<10 |B	<10 |B	<10
Nickel	ug/L	100	20.6	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 Uo|B	<20 |B
Selenium	ug/L	10	9.7	12.5	<3	<3	<3 |B	<3 |B	9.9	12.8	8.5
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		<10 |B	<10 |B	10.6	<10 |B	<10 |B	<10 |B	12.1 Jk|	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	21.1	<20 Up|B	<20 Up|B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER	UCD1-020 FALL	UCD1-021 WINTER	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL
Antimony	ug/L	6	<5	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic	ug/L	50	3.8 Jd|	2.6	<3.3 Uo|	<2 UJc|	3.5 Jd|	2.4	<9.8 Uo|	<2 UJc|	2.6 Jd|
Barium	ug/L	1000	66.0	103	90.2	72	97.1	142	137	120	146
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	179	40.2 Jk|	39.6	40.2	41.6	58.1 Jk|	46.9	52	59.5
Chromium, Hexavalent (+6)	ug/L		180	39	39	38	46	58	55	57	61
Cobalt	ug/L		<10	<10	<10 Uo|B	<10	<10	<10	<10 Uo|B	<10	<10
Copper	ug/L	1300#	<10	<10 |B	<10 Up|B	<10 Up|B	<10	<10 |B	<10 Up|B	<10 Up|B	<10 |B
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	-	<10	<10	-	-	<10	<10	-
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10 |B	<10 |B	<10 |B	<10	<10	<10 |B	<10 |B	<10	<10
Nickel	ug/L	100	<20 |B	<20 |B	<20 Uo|B	<20 |B	<20	<20 |B	<20 Uo|B	<20 |B	<20 |B
Selenium	ug/L	10	10.4 Jd|	<3	<3	<3	<3 |B	<3	5.8	<3	4.6 Jd|
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		<10 |B	12.1 Jk|	10.7	10.9	10.6	10.8 Jk|	<10 |B	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 |B	<20 Up|B	<20 Up|B	<20 |B	<20 |B	26.2	<20 Up|B	<20 |B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-022 WINTER	UCD1-022 WINTER D1	UCD1-022 SPRING	UCD1-022 SUMMER	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 SPRING	UCD1-023 SUMMER	UCD1-023 FALL
Antimony	ug/L	6	<5	<5	<5 |B	<5	<5	<5	<5	<5	<5
Arsenic	ug/L	50	<2 |B	2.4	3.3	<2 UJc|	3.1 Jd|	2.4	3.4	<2	2.9 Jd|
Barium	ug/L	1000	73.2	77.4	68.8 Jk|E	47.2	70.5	129	143 Jk|E	99.1	123
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	<10 Jk|B	<10 Jk|B	11.3	10.2	11.2	22.2 Jk|	20.1	20.1	19.8
Chromium, Hexavalent (+6)	ug/L		<10	<10	<10	<10	<10	21	14	17	16
Cobalt	ug/L		<10	<10	<10	<10	<10	<10	<10	<10	<10
Copper	ug/L	1300#	<10 |B	<10 |B	<10 |B	<10 Up|B	<10	<10 |B	<10 |B	<10 Up|B	<10 |B
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	-	<10	<10	-	-	12.4	<10 |B	-
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	1.0	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10 |B	<10 |B	<10 |B	<10	<10	<10 |B	<10 |B	<10	<10
Nickel	ug/L	100	<20 |B	<20 |B	<20 |B	<20 |B	22.4 Jd|	36.4	117	59.5	60.9 Jd|
Selenium	ug/L	10	<3	<3	<3	<3	<3	<3	<3	<3	<3
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		<10 Jk|B	<10 Jk|B	<10 |B	<10 |B	<10 |B	10.8 Jk|	10.3	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 |B	20.3	<20 Up|B	<20 |B	<20 |B	<20 |B	<20 Up|B	<20 |B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL	UCD2-017 FALL DI
Antimony	ug/L	6	<5	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic	ug/L	50	2.7	3.7	<2 UJc|	2.6 Jd|	2.7	<2.8 Uo|	<2	3.1	2.9
Barium	ug/L	1000	208	227 Jk|E	190	196	132	127	119	124	126
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	32.5 Jk|	28.2	29	30.5	<10 Jk|B	10.4	14.6	17.1	16.6
Chromium, Hexavalent (+6)	ug/L		31	28	29	28	<10	<10	27	17	20
Cobalt	ug/L		<10	<10	<10	<10	<10	<10 Uo|	<10	<10	<10
Copper	ug/L	1300#	<10 |B	<10 |B	<10 Up|B	<10 |B	<10 |B	<10 Up|B	<10 Up|B	<10	<10
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	<10	<10	-	-	<10	<10	-	-
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10 |B	<10 |B	<10	<10	<10 |B	<10 |B	<10	<10	<10
Nickel	ug/L	100	<20 |B	<20 |B	<20 |B	<20 Jd|B	<20 |B	<20 Uo|B	<20	<20 |B	<20 |B
Selenium	ug/L	10	<3	<3	<3	3.3	<3	<3	<3	3.1	3.1
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		12.6 Jk|	12	10.5	10.3	<10 Jk|B	<10 |B	<10 |B	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 |B	<20 Up|B	<20 |B	21.3	<20 Up|B	<20 Up|B	<20 |B	<20 |B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-007 WINTER	UCD2-007 SPRING	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 SPRING	UCD2-014 SUMMER	UCD2-014 SUMMER DI	UCD2-014 FALL
Antimony	ug/L	6	<5	<5	<5	<5 |B	<5	<5	<5	<5	<5
Arsenic	ug/L	50	<2	<2 |B	<2	3.3 Jd|	<2	<2	<2	<2	2.7 Jd|
Barium	ug/L	1000	92.2	210 Jk|E	176	184	260	338 Jk|E	222	220	153
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	20.1	69.8	29.6	35.3	39.7	48.5	41.4	39.4	19.4
Chromium, Hexavalent (+6)	ug/L		40	73	27	35	27	48	38	42	20 |H
Cobalt	ug/L		<10	<10	<10	<10	<10	<10	<10	<10	<10
Copper	ug/L	1300#	<10	<10 |B	<10 Up|B	<10 |B	<10 |B	<10 |B	<10 Up|B	<10 Up|B	<10
Lead	ug/L	15	<2	<2	<2 |B	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	<10	<10	-	-	<10	<10	<10	-
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10	<10 |B	<10	<10 |B	<10 |B	<10	<10	<10	<10
Nickel	ug/L	100	<20	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B	<20 |B
Selenium	ug/L	10	<3	4.5	3.2	<3 |B	<3	<3	<3	<3	<3
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		<10 |B	<10 |B	<10 |B	<10 |B	10.1	10.6	<10 |B	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 |B	<20 Up|B	<20 |B	<20 |B	<20 |B	<20 Up|B	<20 Up|B	<20 |B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-015 WINTER	UCD2-015 WINTER D1	UCD2-015 SPRING	UCD2-015 SUMMER	UCD2-015 FALL	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING D1	UCD2-016 SUMMER
Antimony	ug/L	6	<5	<5	<5	<5	<5	<5	<5	<5 |B	<5
Arsenic	ug/L	50	2.5	<2 |B	<2 Uo|B	<2	3.0	2.6	<3.3 Uo|	<2.7 Uo|	<2
Barium	ug/L	1000	156	151	145	127	124	141	144	145	128
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	11.5 Jk|	11 Jk|	<10 |B	<10 Up|B	<10 |B	24.5 Jk|	26.6	29.4	27.5
Chromium, Hexavalent (+6)	ug/L		11	12	<10	<10	<10	25	28	29	31
Cobalt	ug/L		<10	<10	<10 Uo|	<10	<10	<10	<10 Uo|	<10 Uo|B	<10
Copper	ug/L	1300#	<10 |B	<10 |B	<10 Up|B	<10	<10	<10 |B	<10 Up|B	<10 Up|B	<10
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	-	<10	<10	-	-	<10	<10	<10
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10 |B	<10 |B	<10 |B	<10	<10	<10 |B	<10 |B	<10 |B	<10
Nickel	ug/L	100	<20 |B	<20 |B	<20 Uo|B	<20	<20 |B	<20 |B	<20 Uo|B	<20 Uo|B	<20
Selenium	ug/L	10	<3	<3	<3	<3	<3 |B	<3	16.6	17.9	<3
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		<10 Jk|B	<10 Jk|B	<10 |B	<10 |B	<10 |B	<10 Jk|B	<10 |B	<10 |B	<10 |B
Zinc	ug/L		<20 |B	<20 |B	<20 Up|B	<20 Up|B	<20 |B	<20 |B	<20 Up|B	<20 Up|B	<20 Up|B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-016 SUMMER D1
Antimony	ug/L	6	<5
Arsenic	ug/L	50	<2 |UJc|
Barium	ug/L	1000	129
Beryllium	ug/L	4	<1
Cadmium	ug/L	5	<1
Chromium	ug/L	50	27.4
Chromium, Hexavalent (+6)	ug/L		33
Cobalt	ug/L		<10
Copper	ug/L	1300#	<10
Lead	ug/L	15	<2
Manganese	ug/L		<10
Mercury	ug/L	2	<0.2
Molybdenum	ug/L		<10
Nickel	ug/L	100	<20
Selenium	ug/L	10	<3
Silver	ug/L	50	<10
Thallium	ug/L	2	<10
Vanadium	ug/L		<10 |B
Zinc	ug/L		<20 Up|B

See footnotes at end of table

TABLE A.4
ANALYTICAL RESULTS FOR GROUNDWATER,1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER
Gross Alpha	pCi/L	15**	9310	0±3.2	2.3±3.8	0.1±3.2 |C	2.2±3.3 Jm|C	-0.1±5.3	-3±3.3	0.2±3.9 |C	-0.8±3.3
Gross Beta	pCi/L	50	9310	1.6±4.2	0.9±3.8	2.2±3.2 |C	0.0±3.3 |BC	-2.1±5.9	-1.8±5.5	-2.3±5.9 |BC	23.4±5.9
Actinium-228	pCi/L		901.1	2.1±3.9	4±18	10±17	-9.±14.	-11.1±4.8	8±19	0.4±8.8	0.2±8.9
Bismuth-212	pCi/L		901.1	16±15	-11±29	-4.45±38.51	-24.12±8.12	15±30	20±46	2.70±20.27	46±28
Cesium-137	pCi/L		901.1	0.4±1.9	7.5±5.7	2.7±5.4	-0.4±3.9	-0.7±5.4	-1.6±5.2	-1.1±1.4	-1.6±5.1
Bismuth-214	pCi/L		901.1	33.2±3.8	35±14	8±11	-2.7±9.0	-5.8±4.8	18±12	9.1±6.3	0±5.4
Cobalt-60	pCi/L		901.1	0.37±0.6	0.4±3.5	-0.9±1.4	0.6±2.3	1.7±1.8	-1.4±3.1	-1.16±0.79	0.9±1.8
Lead-210	pCi/L		901.1	-0.4±1.5	0±110	-27.92±89.16	-13.50±70.22	0.4±3	70±110	-83.81±293.30	1.4±2.9
Lead-212	pCi/L		901.1	5.1±5.2	7.6±9.2	-1.2±8.3	-0.6±6.8	1.8±8.8	8.7±9.3	0.7±5.2	7.7±9
Lead-214	pCi/L		901.1	31.3±3.3	14±10	1.2±9.5	-2.8±7.4	5.5±4.7	13.4±9.8	1.1±5.8	-4.9±3.3
Potassium-40	pCi/L		901.1	-8±27	15±56	37±52	-23.±48.	-15±55	6±62	-3.±28.	-41±64
Thallium-208	pCi/L		901.1	0.6±3.1	4.4±6.7	3.1±6.2	-2.3±4.7	-3.1±6.7	-1.4±7.3	1.8±3.2	-2.8±6.5
Uranium-235	pCi/L		901.1	2.2±6.4	0±19	-6±23	-5.±18.	-5±12	13±24	-3.±14.	-17.4±9.2
Thorium-234	pCi/L		901.1	-2±19	19±55	5±54	7.48±44.7	-10±28	39±56	-15.71±44.92	0±28
Americium-241	pCi/L		LAL-0108	-	-	-	-0.006±0.01	-	-	0.005±0.068	-
Carbon-14	pCi/L		LSC	-20±60	-44±46	25±51	50±100	-31±59	21±62	15.±97.	-17±61
Plutonium-241	pCi/L		LAL-0178	-	-	-2.4±2.5 UJm|	0.00±16.	-	-	-1.±1.3	-
Radium-226	pCi/L	5	903.1M	0.05±0.072	0.11±0.18	0.16±0.16	-0.06±0.29	0±0.13	0±0.16	0.25±0.38	-0.02±0.1
Strontium-90	pCi/L	8	905.0	-0.28±0.63	0.62±0.52	0.55±0.61 Je|	0.69±0.46	0.2±0.56	1.01±0.81	0.29±0.51	0.44±0.61
Tritium	pCi/L	20000*	906.0	-20±130	-90±120	10±130	100±190	-60±120	-70±120	20±200	10±140

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD1-004 SPRING	UCD1-010 WINTER	UCD1-010 SPRING	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING D1
Gross Alpha	pCi/L	15**	9310	1.3±4.1	8.4±9.3	4.4±7.8	-0.3±4.9 |C	6.5±8.2 Jm|C	0.4±4.1	1.8±3.9	3±5.6
Gross Beta	pCi/L	50	9310	3.6±4.8	1.3±7.6	6.7±8.4	3.2±7.9 |C	3.1±6.4 |C	1.2±5.2	-0.1±5.6	1.4±5.6
Actinium-228	pCi/L		901.1	-24.7±7.8	5.9±9.6	-5±18	0±88	-2.1±8.8	3±4	-1±19	0±19
Bismuth-212	pCi/L		901.1	11±40	-12±31	-15±17	20.88±170.76	-4.38±17.80	2±16	-17±44	5±43
Cesium-137	pCi/L		901.1	-1.6±5.2	3.1±5.2	-1.7±5.1	-6±19	0.9±1.6	0.1±1.8	3.5±5.4	3.6±5.6
Bismuth-214	pCi/L		901.1	-3±11	5.6±5.5	-1.5±9.7	7±53	8.7±6.7	6.4±2.7	8±12	21±12
Cobalt-60	pCi/L		901.1	1.3±3.6	-3.24±0.67	-0.1±3.4	3±13	-0.99±0.83	0.95±0.65	0±3.3	0.9±3.2
Lead-210	pCi/L		901.1	-30±110	-0.7±2.9	-12±97	1487.46±6582.82	-73.93±121.52	-0.2±1.4	19±109	-30±110
Lead-212	pCi/L		901.1	5.7±8.5	-0.4±8.6	7±9.1	-2±44	2.1±5.7	0.7±4.8	-0.5±8.7	4.7±9.2
Lead-214	pCi/L		901.1	1.4±9.1	5.8±4.7	-4.5±6.1	0±45	7.6±6.1	4.1±2.4	-2±6.4	5.2±9.9
Potassium-40	pCi/L		901.1	9±60	-15±56	22±62	-20±310	14.±36.	-7±28	2±57	4±56
Thallium-208	pCi/L		901.1	-0.3±6.7	-2.5±6.6	-2.3±6.6	18±31	-1.±3.1	2±3	0.5±6.8	6.7±7.2
Uranium-235	pCi/L		901.1	3±23	-2±11	-12±17	90±120	11.±15.	3.3±6.2	-16±17	6±23
Thorium-234	pCi/L		901.1	40±56	8±28	0±54	0±270	2.74±43.7	-12±19	18±55	-3±55
Americium-241	pCi/L		LAL-0108	-	-	-	0.025±0.047 UJl|	0.063±0.041	-	-	-
Carbon-14	pCi/L		LSC	35±63 UJd|	20±65	64±66	45±53	20.±98.	-17±61	-19±57	-1±59
Plutonium-241	pCi/L		LAL-0178	-	-	-	-0.3±3.1 UJm|	0.0±8.0	-	-	-
Radium-226	pCi/L	5	903.1M	0.56±0.29	0±0.11	0±0.14	0.03±0.13	0.31±0.32	0.09±0.11	0.33±0.19	0.06±0.17
Strontium-90	pCi/L	8	905.0	-0.08±0.56	0.59±0.65	0.45±0.54	-0.27±0.62	0.24±0.43	0.54±0.74	0.66±0.48	0.29±0.48
Tritium	pCi/L	20000*	906.0	70±140	0±140	-70±120	-40±130	140±200	-100±120	-60±120	-90±110

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD1-011 FALL	UCD1-012 WINTER	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 WINTER UF	UCD1-013 SPRING	UCD1-013 FALL
Gross Alpha	pCi/L	15**	9310	4.0±4.5 Jm|C	12±11	-1.4±5.6	10.±10. |C	6.2±8.4	0.9±6.4	1.6±6.4	-0.6±6.1 |C
Gross Beta	pCi/L	50	9310	1.8±3.2 |C	5±10	-1±10	2.±10. |BC	1.8±7.7	-0.4±7.7	3.6±8.2	1.5±6.8 |BC
Actinium-228	pCi/L		901.1	-11.±13.	-4±3.8	-1±18	-17.7±8.4	8.8±9.1	0	-14.1±8.7	5.±15.
Bismuth-212	pCi/L		901.1	9.33±42.87	18±17	-17±19	-6.44±31.77	-16±17	16±28	-6±38	-13.66±32.50
Cesium-137	pCi/L		901.1	-2.0±4.4	1.4±1.9	-1.9±5	-1.3±4.0	1.2±4.9	3.9±5.4	-4.1±1.8	-1.1±3.9
Bismuth-214	pCi/L		901.1	14.±14.	38.8±3.9	14±11	12.±10.	45±7.4	19.2±6.4	10±12	-0.4±8.9
Cobalt-60	pCi/L		901.1	0.3±2.6	0.45±0.63	1.1±3.5	-1.7±1.3	0.8±1.8	-1±1.5	-0.3±3.5	0.4±2.4
Lead-210	pCi/L		901.1	5.68±108.21	-1.3±1.5	10±100	-.0.35±75.09	-1.4±3.1	-1.7±2.9	-20±100	-21.27±69.66
Lead-212	pCi/L		901.1	8.±10.	5.8±5.3	5.1±9	-1.7±7.1	2.3±9.3	2.3±9.1	1.8±9	11.4±7.1
Lead-214	pCi/L		901.1	16.±12.	24.4±3.1	5.2±9.9	4.2±8.1	34.7±5.8	13.8±5.2	3.1±9.5	3.2±7.5
Potassium-40	pCi/L		901.1	3.±74.	2±29	4±55	-20.±49.	-11±63	-8±56	11±59	-3.±45.
Thallium-208	pCi/L		901.1	0.0±6.4	2.2±3.2	7.2±7.1	1.2±5.0	2.8±6.9	-0.4±6.2	4.7±6.9	2.5±4.8
Uranium-235	pCi/L		901.1	4.±28.	-8.5±3.4	10±23	-16.±19.	2±12	13±12	3±23	-7.±18.
Thorium-234	pCi/L		901.1	19.6±68.2	-18±19	-21±55	-7.92±47.19	22±28	-7±28	-10±55	-7.48±45.15
Americium-241	pCi/L		LAL-0108	0.008±0.036	-	-	0.035±0.035	-	-	-	-0.015±0.03
Carbon-14	pCi/L		LSC	-4.±95.	179±80	278±86 UJd|	270±120	2150±180	2000±180	1380±140 Jd|	1970±220
Plutonium-241	pCi/L		LAL-0178	-0.5±1.0	-	-	-0.3±4.2	-	-	-	-0.3±3.1
Radium-226	pCi/L	5	903.1M	0.15±0.17	0.07±0.08	0.31±0.24	0.16±0.34	0.02±0.059	0.09±0.1	0.1±0.17	0.34±0.42
Strontium-90	pCi/L	8	905.0	0.19±0.44	-0.07±0.91	0.39±0.59	-0.05±0.49	-0.5±1.1	-1.3±1.3	0.67±0.62	-0.05±0.46
Tritium	pCi/L	20000*	906.0	-40±180	50±150	0±130	-20±190	21490±990	20820±980	19250±910	16600±1100

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD1-013 FALL D1	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER
Gross Alpha	pCi/L	15**	9310	2.6±5.4 |C	3.2±5.9	-0.3±5.7	4.5±5.5 |C	7.1±6.3 |C	3.2±3.5	1.1±3.2	2.2±2.9 |C
Gross Beta	pCi/L	50	9310	1.8±6.4 |BC	-0.7±5.2	5.5±6.8	3.7±4 |C	1.8±5.0 |BC	3.9±2.8	5.5±3.6	2.7±2.2
Actinium-228	pCi/L		901.1	-2.±15.	-7.5±5.2	-2±7.9	-5.2±8.8	6.±15.	-8.7±4.7	-2±14	-2±21
Bismuth-212	pCi/L		901.1	-17.50±12.86	12±24	-14.1±7	11.87±17.56	-5.71±33.57	26±27	-4.58±45	17.50±49.07
Cesium-137	pCi/L		901.1	-1.3±4.0	1±5.2	1±1.8	-0.7±2.2	-0.1±2.1	-1.9±4.9	0±4.9	-2.8±2.7
Bismuth-214	pCi/L		901.1	11.1±9.7	20±6	7.8±5.6	3.2±5.9	-4.5±8.9	22.8±6.2	18±12	6±12
Cobalt-60	pCi/L		901.1	-0.2±1.5	0.8±1.7	-0.2±1.2	-0.3±1.3	-1.2±1.2	1.7±1.8	-0.4±3.6	1.8±3.2
Lead-210	pCi/L		901.1	-23.15±73.30	-1.7±2.8	-180±310	-80.44±270.21	-5.10±73.77	-0.5±2.9	28±109	40.06±101.33
Lead-212	pCi/L		901.1	0.2±6.9	-3.4±8.3	-1.5±4.7	0±5.6	1.6±6.7	2.9±8.6	8.4±9	3±10
Lead-214	pCi/L		901.1	8.5±8.1	13.3±5	5±4.8	-0.1±5.3	-19.7±4.2	32.2±5.6	9.6±9.8	4±11
Potassium-40	pCi/L		901.1	-24.±44.	10±59	-8±28	6±31	32.±49.	-53±27	-5±61	59±57
Thallium-208	pCi/L		901.1	-0.5±5.1	-3.2±6.5	2.3±3	0.5±3.2 -	-3.5±4.7	-2±6.3	-3.1±7	4.5±7.4
Uranium-235	pCi/L		901.1	-27.±11.	10±11	9±13	0±12	3.±18.	5±11	-2±23	-1±21
Thorium-234	pCi/L		901.1	-3.79±46.60	8±27	14±36	29±43	29.45±46.14	44±27	43±56	9±63
Americium-241	pCi/L		LAL-0108	0.016±0.061	-	-	0.01±0.019 UJI|	0.002±0.046	-	-	0.021±0.027 UJI|
Carbon-14	pCi/L		LSC	1980±220	2±63	17±61	-8±68	10.±97.	16±64	3±60	-3±68
Plutonium-241	pCi/L		LAL-0178	0.4±3.8	-	-	-0.6±2.4 UJm|	0.00±10.	-	-	-1±2.4 UJm|
Radium-226	pCi/L	5	903.1M	0.06±0.37	0.07±0.1	0±0.14	0.03±0.065	0.22±0.34	-0.02±0.099	0±0.13	0±0.085
Strontium-90	pCi/L	8	905.0	0.32±0.50	-0.13±0.5	1.5±0.7 Uz|	-1.43±0.84 UJe|	0.57±0.47	0.23±0.56	1.38±0.57 Uz|	-0.2±0.95 UJe|
Tritium	pCi/L	20000*	906.0	16900±1100	-120±110	0±130	-40±130	-20±180	50±130	0±120	-70±130

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD1-020 FALL	UCD1-021 WINTER	UCD1-021 WINTER UF	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL	UCD1-022 WINTER	UCD1-022 WINTER DI
Gross Alpha	pCi/L	15**	9310	0.1±2.4 |C	0.5±5	15±8.7	3±5.4	0.1±4.9 |C	5.5±6.2 |C	3.8±4.8	0±2.8
Gross Beta	pCi/L	50	9310	0.8±3.1 |BC	-0.7±4.8	1.9±5.1	1.9±6	2.9±4.6 |C	-0.8±5.8 |BC	1.7±3.2	1.7±3.3
Actinium-228	pCi/L		901.1	0.00±15.	7.5±9.7	0	0.6±9.6	-13.3±7.4	-2.±14.	0.6±3.8	4.6±8.6
Bismuth-212	pCi/L		901.1	-3.88±31.31	-36±17	29±28	24±40	-18.13±17.17	7.47±30.02	2±14	-21±18
Cesium-137	pCi/L		901.1	0.2±2.1	0.6±5.1	-0.4±5.1	1.6±5.6	-1.3±6.3	-1.1±3.9	-0.6±1.7	0.8±5
Bismuth-214	pCi/L		901.1	-5.3±9.3	16.6±6.1	17.8±6.3	38±14	2±12	-9.0±5.8	24.1±3.3	25.9±6.3
Cobalt-60	pCi/L		901.1	3.1±2.3	-1.4±1.7	-0.4±1.7	2±3.5	-2.1±2.6	-2.1±1.2	-0.23±0.55	1±1.7
Lead-210	pCi/L		901.1	18.57±75.83	-0.4±3	1.4±3	20±100	75.70±109.68	3.76±72.18	-0.9±1.4	3.5±3
Lead-212	pCi/L		901.1	4.2±7.1	1.3±9.2	-8.1±8.2	7±9.6	-1±10	-2.3±6.5	-0.3±4.7	-5.8±8.3
Lead-214	pCi/L		901.1	-4.1±7.8	30.2±5.5	23.3±5.4	12±10	3±11	-3.1±7.5	27.5±3	17.5±5
Potassium-40	pCi/L		901.1	0.00±46.	7±57	0±52	-14±61	24±69	-16.±46.	5±27	-11±53
Thallium-208	pCi/L		901.1	-1.1±5.0	-0.2±6.6	-3.1±6.4	3.5±6.7	-2.6±7.4	-0.7±4.6	0.3±2.8	1.1±6.3
Uranium-235	pCi/L		901.1	-4.±18.	2±12	-5±11	-14.3±7.2	2±27	-20.±11.	5.5±6.2	-8±12
Thorium-234	pCi/L		901.1	-9.89±45.36	-52±28	28±28	-8±55	21±64	10.19±44.35	14±18	19±27
Americium-241	pCi/L		LAL-0108	0.025±0.055	-	-	-	0.04±0.15 UJI|Y	-0.014±0.03	-	-
Carbon-14	pCi/L		LSC	50±100	5±63	16±64	0±51	-3±68	-19.±94.	-12±61	5±63
Plutonium-241	pCi/L		LAL-0178	0.3±4.1	-	-	-	-1.5±5.2 UJm|Y	-0.6±1.6	-	-
Radium-226	pCi/L	5	903.1M	0.31±0.27	0.05±0.12	0.1±0.12	0.11±0.13	0±0.069	0.00±0.22	0.07±0.12	0±0.079
Strontium-90	pCi/L	8	905.0	0.23±0.48	0±0.52	-0.03±0.49	0.33±0.57	-0.56±0.86 UJe|	0.05±0.47	-0.36±0.46	-0.03±0.46
Tritium	pCi/L	20000*	906.0	80±190	90±140	-80±120	-20±130	-50±130	10±180	-20±120	-30±120

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD1-022 SPRING	UCD1-022 SUMMER	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 WINTER UF	UCD1-023 SPRING	UCD1-023 SUMMER	UCD1-023 FALL
Gross Alpha	pCi/L	15**	9310	1±3.8	-2.1±2.2 |C	-0.5±2.7 |C	1.5±4.6	3.9±5.3	1.3±4.2	1.8±3.2 |C	1.8±4.2 |C
Gross Beta	pCi/L	50	9310	-0.8±4	5.4±3.7 |C	-0.2±3.9 |BC	1.7±3.7	-1.3±3.4	-1.1±4.5	11.6±4.2 |C	0.9±3.8 |BC
Actinium-228	pCi/L		901.1	0±20	17±20	-2.±15.	0±3.7	2.7±3.6	-15±12	-4±13	1.±15.
Bismuth-212	pCi/L		901.1	-20±20	23.82±44.33	-0.78±32.65	6±15	12±15	-8±39	2.70±17.96	-25.96±9.82
Cesium-137	pCi/L		901.1	-0.8±5.1	0.5±5.8	-1.86±0.61	0±1.7	0.6±1.8	-2.5±5.1	-0.6±2.1	1.±2.2
Bismuth-214	pCi/L		901.1	2±11	-15±12	-11.8±6.5	21.7±3.2	30±3.4	-2.7±9.8	3±5.6	15.±11.
Cobalt-60	pCi/L		901.1	-2.1±1.9	0.9±4.5	-0.4±2.3	0.23±0.53	0.31±0.53	1.9±3.7	0±2.2	-1.4±1.3
Lead-210	pCi/L		901.1	-20±100	-33.53±109.11	-48.72±72.85	-1.7±1.4	-0.1±1.4	-100±100	194.23±281.24	-1.80±77.49
Lead-212	pCi/L		901.1	2.5±8.5	7±10	-2.3±7.1	-2.1±4.5	1±4.6	-0.6±8.5	-0.4±5.6	1.3±7.2
Lead-214	pCi/L		901.1	5.3±9.6	4±11	1.9±7.9	26.1±3	31.2±3.1	0±9.7	0.2±5.7	6.0±8.4
Potassium-40	pCi/L		901.1	29±57	35±76	0.00±48.	-1±27	-11±24	26±65	3±32	6.±53.
Thallium-208	pCi/L		901.1	0.7±6.5	0.6±6.8	0.9±5.1	0.1±2.6	3.2±2.9	-1.8±6.2	0.9±3.1	-1.8±4.9
Uranium-235	pCi/L		901.1	4±23	17±27	-6.±19.	3.1±5.9	-4.2±3.2	-8±23	0±15	3.±19.
Thorium-234	pCi/L		901.1	-28±54	-33±64	-3.64±47.17	-20±18	4±18	-18±55	6±43	19.21±47.63
Americium-241	pCi/L		LAL-0108	-	0.014±0.02 UJI|	-0.030±0.09	-	-	-	-0.003±0.01 UJI|	0.004±0.022
Carbon-14	pCi/L		LSC	6±60	-52±61	-14.±94.	197±82	168±79	137±73	50±75	130±110
Plutonium-241	pCi/L		LAL-0178	-	0.3±5.3 UJm|	-0.4±2.4	-	-	-	-0.6±2.4 UJm|	-0.1±8.5
Radium-226	pCi/L	5	903.1M	0.1±0.12	0.11±0.11	0.73±0.45	0.04±0.069	0±0.078	0.22±0.16	0.08±0.11	0.29±0.33
Strontium-90	pCi/L	8	905.0	0.62±0.5	0.61±0.86 Je|	0.17±0.43	0.19±0.48	-0.42±0.45	0.34±0.5	0.28±0.89 Je|	0.23±0.47
Tritium	pCi/L	20000*	906.0	-50±120	30±150	-100±180	-60±120	-30±120	-20±130	-50±130	0.000±190

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL
Gross Alpha	pCi/L	15**	9310	0.9±5.1	5.1±6.3	3.4±5.4 |C	1.4±4.3 |C	1.2±2.2	2.2±3	1.2±2.6 |C	1.3±2.4 |C
Gross Beta	pCi/L	50	9310	2.3±4.6	1.4±6.5	2.4±4.4 |C	0.3±6.2 |BC	0.3±2.1	-0.2±3.1	1.7±2.3	-0.9±2.6 |BC
Actinium-228	pCi/L		901.1	2.9±3.9	-4±19	10±21	-14.5±7.0	19.8±9.4	2.9±7.8	-16±92	2.±15.
Bismuth-212	pCi/L		901.1	0±15	7±41	-2.62±48.86	3.92±32.69	12±32	5±15	48.24±180.93	0.44±36.69
Cesium-137	pCi/L		901.1	-0.3±1.8	-0.7±5.3	4.4±6.1	0.6±2.3	0.6±5	0.6±1.9	-4±22	1.9±2.2
Bismuth-214	pCi/L		901.1	30.4±3.5	9±11	4±12	-5.7±8.8	2.8±5.2	6.8±5.7	41±56	19.±11.
Cobalt-60	pCi/L		901.1	0.57±0.61	-1.4±3.1	2.1±3.7	-0.8±1.3	0.4±1.7	0.1±1.2	0±14	-0.2±2.7
Lead-210	pCi/L		901.1	-0.3±1.5	0±110	-14.92±103.98	0.36±74.19	1.7±3	-270±310	-1919.46±6839.03	-34.00±78.63
Lead-212	pCi/L		901.1	1.6±4.8	3.2±8.5	9±10	2.7±6.8	2.8±8.7	2.3±5.1	-28±46	0.0±7.4
Lead-214	pCi/L		901.1	33.9±3.2	3.6±9.5	1±11	-4.4±7.7	12.3±5	6.4±5	0±47	2.7±8.6
Potassium-40	pCi/L		901.1	22±28	-45±18	24±47	14.±47.	0±61	-18±26	160±350	3.±54.
Thallium-208	pCi/L		901.1	2.9±3	3.6±7	3.9±7.9	-0.3±4.7	-4±6.8	1.1±2.8	-16±32	-1.7±4.9
Uranium-235	pCi/L		901.1	8.3±6.3	-3±24	0±26	4.±18.	6±11	-13.8±6.6	-24±95	4.±20.
Thorium-234	pCi/L		901.1	-47±19	32±56	20±64	-9.80±45.88	20±29	11±36	-180±290	-7.52±47.68
Americium-241	pCi/L		LAL-0108	-	-	0.006±0.017 UJl|	-0.002±0.04	-	-	-0.0026±0.0 UJl|	0.00±0.039
Carbon-14	pCi/L		LSC	27±66	-16±57	25±72	10.±97.	2±63	-5±59	40±52	70±100
Plutonium-241	pCi/L		LAL-0178	-	-	-1.1±2.7 UJm|	1.0±2.3	-	-	0.6±3.2 UJm|	0.00±76.
Radium-226	pCi/L	5	903.1M	0±0.1	0.24±0.17	0.11±0.13	0.25±0.30	0.066±0.065	0.05±0.14	0.12±0.17	0.12±0.30
Strontium-90	pCi/L	8	905.0	0.24±0.43	0.31±0.52	-0.85±0.79 UJe|	0.40±0.46	0.25±0.45	0.72±0.48	0.02±0.59	0.03±0.51
Tritium	pCi/L	20000*	906.0	-20±120	-100±110	10±140	-180±170	-50±120	-150±99	0±130	200±220

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD2-017 FALL D1	UCD2-007 WINTER	UCD2-007 SPRING	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 WINTER UF	UCD2-014 SPRING
Gross Alpha	pCi/L	15**	9310	0.4±2.3 |C	1.6±3.3	1.4±4.3	1.3±3.1 |C	2.3±3.3 |C	2.6±5.7	7.7±7.3	1.1±5.7
Gross Beta	pCi/L	50	9310	0.5±3.1 |BC	3.7±4.3	1.3±4	2.6±3.3 |C	0.3±2.8 |C	0.9±6	0.3±6.1	2.2±6.2
Actinium-228	pCi/L		901.1	-2.±15.	1.5±3.9	9±18	-29±16	-11.±11.	9.5±9.2	16.8±9.3	-6±14
Bismuth-212	pCi/L		901.1	-4.86±32.50	1±15	-19±16	-5.47±62.47	-42.38±28.10	-7±30	22±23	-13±41
Cesium-137	pCi/L		901.1	0.0±2.2	0.1±1.9	-1.5±4.6	-2.5±8.1	0.8±4.4	0.7±5.3	-1.4±4.6	-2.6±5
Bismuth-214	pCi/L		901.1	3.9±9.0	6.6±2.7	-2.6±7.7	-3±16	21.±14.	5.5±5.7	11.8±6.1	3±11
Cobalt-60	pCi/L		901.1	0.8±2.4	1.02±0.62	-1.5±3.4	4.8±4.6	-1.6±3.0	0.6±1.7	-3.07±0.72	1.1±3.5
Lead-210	pCi/L		901.1	-16.93±74.81	-1±1.4	-60±110	26.53±144.89	-45.48±105.21	0±3	1.3±2.9	30±110
Lead-212	pCi/L		901.1	1.4±6.9	1.9±4.8	6.7±8.7	-7±13	-0.6±9.9	7.1±8.9	-1.9±8.8	-5.4±8.4
Lead-214	pCi/L		901.1	-2.3±7.8	4.1±2.4	-5.1±7.1	-10.9±4.2	7.±12.	13.1±5.2	12.1±5.1	0.2±8.9
Potassium-40	pCi/L		901.1	-8.±49.	6±27	-2±55	64±74	-11.±66.	-4±62	7±58	-9±63
Thallium-208	pCi/L		901.1	-0.4±4.9	1.9±3.1	-5.7±6.4	13±11	-6.7±3.3	-1.4±6.8	-4±6.7	1.2±6.7
Uranium-235	pCi/L		901.1	0.00±18.	-4.5±3.1	2±22	-2±34	-3.±27.	-10±12	3±12	-23±18
Thorium-234	pCi/L		901.1	10.67±44.91	14±18	-8±56	46±84	-17.6±102	0±28	-6±28	46±56
Americium-241	pCi/L		LAL-0108	0.00±0.026	-	-	-0.0051±0.0 UJ|	0.008±0.036	-	-	-
Carbon-14	pCi/L		LSC	90±100	-56±56	-1±59	64±54	25.±98.	810±120	800±120	790±110 Jd|
Plutonium-241	pCi/L		LAL-0178	0.00±10.	-	-	0.3±5.7 UJm|	-0.7±1.1	-	-	-
Radium-226	pCi/L	5	903.1M	0.37±0.34	0.06±0.099	0.11±0.11	0.27±0.23	0.19±0.33	0.1±0.1	0.124±0.092	0±0.15
Strontium-90	pCi/L	8	905.0	0.31±0.53	0.36±0.62	0.59±0.66	0.57±0.66	0.23±0.45	0.04±0.74	0.06±0.64	0.12±0.68
Tritium	pCi/L	20000*	906.0	-90±180	30±140	-60±120	20±140	50±190	5440±520	5280±500	8320±600

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD2-014 SUMMER	UCD2-014 SUMMER DI	UCD2-014 FALL	UCD2-015 WINTER	UCD2-015 WINTER DI	UCD2-015 SPRING	UCD2-015 SUMMER	UCD2-015 FALL
Gross Alpha	pCi/L	15**	9310	0±3.9 |C	2.4±5.3 |C	0.5±2.9 |C	-1±1.6	1.7±2.6	1.5±2.5	0.4±2.1 |C	4.4±3.3 |C
Gross Beta	pCi/L	50	9310	2.3±3.9 |C	-0.8±5.1 |C	0.8±3.1 |BC	1.4±2.3	-0.5±2.1	0.6±3.2	0.6±2.1	0.2±3.1 |BC
Actinium-228	pCi/L		901.1	-13.2±9	-2±20	4.±15.	-16.8±5.7	-6.9±5.3	0.7±7.8	0±130	1.±20.
Bismuth-212	pCi/L		901.1	16.81±47.37	18.52±44.51	-16.39±8.05	-1±31	43±41	8±15	100.82±296.38	29.13±48.08
Cesium-137	pCi/L		901.1	-0.5±5.6	4.1±6.8	-0.7±3.9	1.1±4.7	-1±4.7	-0.8±1.8	-7±35	2.2±3.7
Bismuth-214	pCi/L		901.1	19±13	39±16	-2.5±8.5	-3.6±4.6	8.7±5.5	12.6±5.8	-12±79	3.±13.
Cobalt-60	pCi/L		901.1	-2.5±2.1	-0.8±2.6	-2.0±1.1	1.2±1.8	0.4±1.6	0.7±1.2	-15±12	-2.7±3.0
Lead-210	pCi/L		901.1	-23.39±105.07	26.52±109.00	10.67±71.61	-3.3±2.9	0.2±2.9	-210±300	-562.27±1391.08	18.61±111.82
Lead-212	pCi/L		901.1	5±10	8±11	-2.3±6.7	3.7±8.6	3.9±8.6	3.2±4.8	-69±58	-3.4±9.9
Lead-214	pCi/L		901.1	0±11	35±14	-0.8±7.5	14.1±5.2	5.7±4.7	10.7±5.2	-18±64	-5.±12.
Potassium-40	pCi/L		901.1	44±72	73±63	-12.±47.	-30±50	10±53	0±28	-50±420	1.±59.
Thallium-208	pCi/L		901.1	7.4±7.8	9.9±8	0.0±4.6	1.9±6.7	1.1±6.4	1.6±2.9	16±45	5.2±7.9
Uranium-235	pCi/L		901.1	3±26	12±29	-6.±18.	-9±11	-2±11	-1±14	110±150	-10.±28.
Thorium-234	pCi/L		901.1	41±62	-22±64	-8.62±44.68	47±28	22±27	36±37	-140±340	-9.60±65.53
Americium-241	pCi/L		LAL-0108	-0.0091±0.0 UJ||	-0.0025±0.0 UJ||	-0.004±0.04	-	-	-	0.0023±0.01 UJ||	-0.004±0.03
Carbon-14	pCi/L		LSC	641±43	491±38	80±100	-20±60	16±64	3±60	-8±68	6.±96.
Plutonium-241	pCi/L		LAL-0178	0.4±3.8 UJm|	-0.4±3.1 UJm|	-0.6±1.8	-	-	-	-0.8±2.1 UJm|	-0.3±4.2
Radium-226	pCi/L	5	903.1M	0.09±0.16	0.07±0.12	2.14±0.72	0.113±0.09	0±0.1	0.11±0.13	0.16±0.12	0.52±0.40
Strontium-90	pCi/L	8	905.0	0±0.64	0.25±0.56	0.79±0.57	0.12±0.44	-0.07±0.45	0.07±0.44	0.81±0.89 Je|	-0.37±0.48
Tritium	pCi/L	20000*	906.0	2500±360	2550±370	10±210	10±130	70±140	40±130	-30±140	0.000±190

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	Location Date QA METHOD	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING D1	UCD2-016 SUMMER	UCD2-016 SUMMER D1	UCD2-016 FALL
Gross Alpha	pCi/L	15**	9310	0±2.1	1.9±2.9	0.5±2.7	0.5±2.5 |C	1.4±2.6 |C	-2.1±2.6 |C
Gross Beta	pCi/L	50	9310	-0.8±2.2	1±3.2	2.5±3.7	1.4±2.3	1.6±2.6 |C	2.±10. |BC
Actinium-228	pCi/L		901.1	3.9±9.4	-2.4±7.9	-2.3±7.7	-10.8±8.9	-3±9.4	9.±15.
Bismuth-212	pCi/L		901.1	-14±17	13±15	-1.33±16	-15.57±17.73	5.31±19.69	7.12±31.13
Cesium-137	pCi/L		901.1	-1.1±5.1	0.6±1.9	-0.7±1.8	-1.1±6.1	-1.65±0.97	-0.9±2.0
Bismuth-214	pCi/L		901.1	7±5.7	8.2±5.5	6.7±5.4	23±15	0.2±5.9	-6.4±8.9
Cobalt-60	pCi/L		901.1	0±1.7	0.2±1.2	0±1.2	1.3±3.6	0.4±1.4	-1.8±1.2
Lead-210	pCi/L		901.1	-0.5±3	-80±310	-169±300	-27.87±109.17	-6.49±265.24	-13.29±73.81
Lead-212	pCi/L		901.1	-1±8.7	1.5±4.8	1.7±4.7	4±10	-0.8±5.3	4.7±7.0
Lead-214	pCi/L		901.1	8.1±5.1	9.8±5.1	6±4.8	14±12	2.2±5.5	-7.5±7.7
Potassium-40	pCi/L		901.1	21±63	-14±28	-4±27	40±63	13±34	-3.±47.
Thallium-208	pCi/L		901.1	4.2±6.5	-0.5±3	0.9±2.9	-4±7.7	0±3.1	-0.2±4.9
Uranium-235	pCi/L		901.1	-3±12	-7±14	-12.9±6.7	-8±27	3±15	0.00±18.
Thorium-234	pCi/L		901.1	-31±27	-3±37	23±37	-45±65	0±43	7.62±46.26
Americium-241	pCi/L		LAL-0108	-	-	-	0.01±0.014 UJ||	0±0.33 UJ||	-0.006±0.05
Carbon-14	pCi/L		LSC	-45±57	-44±54	-30±56	-28±65	16±71	60±100
Plutonium-241	pCi/L		LAL-0178	-	-	-	-1.6±2.2 UJm|	0±26 UJm|	-0.5±2.7
Radium-226	pCi/L	5	903.1M	0.13±0.12	0±0.13	0.07±0.15	0.06±0.14	0.02±0.082	0.19±0.45
Strontium-90	pCi/L	8	905.0	0.27±0.45	0.55±0.48	0.27±0.54	-0.24±0.91 UJe|	0.88±0.91 Je|	0.28±0.51
Tritium	pCi/L	20000*	906.0	-30±120	80±140	-40±120	-40±130	-70±130	110±210

See footnotes at end of table

TABLE A.5
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Not analyzed. Wells UCD1-001, UCD1-004,UCD1011, UCD1-012 AND UCD1-013 were dry in summer quarter. UCD1-004 dry in fall quarter.
MCL = Maximum Contaminant Level (primary), Title 22, Division 4, Chapter 15.
C = California State Action Level, Department of Health Services. * = Proposed MCL. # = USEPA
** = MCL for Gross Alpha does not include anaylsis for Uranium or Radon, however reported Gross Alpha values on this table include all Alpha emitters.

Note: Radionuclide results are reported as calculated value, V, followed by the total uncertainty, T, in the format V±T. A calculated value that exceeds the uncertainty ("positive value") represents 95% level of confidence that measurable radioactivity above zero is present for a given radiounuclide.

Note: Americium-241 and Plutonium-241 analyses were not requested to be performed until the summer quarter. Americium-241 analysis for summer quarter in UCD1-18 was not analyzed due to matrix interference resulting in low precent recovery.

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER	UCD1-004 SPRING
Calcium	mg/L		41.2	41.1	39.7	35.6	62.1	58.8	57.8	52.5	59.2
Iron	mg/L		0.502	<0.1 Uo|B	<0.1	<0.1	0.73	<0.1 Uo|B	<0.1	0.642	<0.1 Uo|B
Magnesium	mg/L		101	105	99.2	88.3	153	147	147	96.4	100
Potassium	mg/L		2.2	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	2.01	<2 |B
Chloride	mg/L		41.5 Jh|	39	33	34.	5.8	5.4	6.5	37	35
Sodium	mg/L		39.2	41.4	35.9	39.5	33.8	35.7	37.4	35.3	37.8
Sulfate	mg/L	400*	36.5 Jh|	38	35	34.	26	25	26.	36	37
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	<0.05	<0.05	0.051	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate (as N)	mg/L	10#	12 Jh|	20	15	9.5	16	15	15.	2.4	3.4
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Alkalinity Total(as CaCO3)	mg/L		410	470	410	380	650	670	720	470	470

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-010 WINTER	UCD1-010 SPRING	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING DI	UCD1-011 FALL	UCD1-012 WINTER
Calcium	mg/L		50.3	49.7	44.6	48.5	47.5	47.3	47.9	42.5	79.3
Iron	mg/L		0.633	<0.1 Uo|B	<0.1	<0.1	0.228	<0.1 Uo|B	<0.1 Uo|B	<0.1	0.433
Magnesium	mg/L		185	188	173	183	120	121	122	113	242
Potassium	mg/L		2.63	<2 |B	<2 |B	<2 |B	2.14	<2 |B	<2 |B	<2	4.54
Chloride	mg/L		43	51	43	46.	68	65	64	63.	220
Sodium	mg/L		169	175	159	173	74.3	79.5	79.5	73	102
Sulfate	mg/L	400*	280	330	340	340	43	44	44	44.	77
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate (as N)	mg/L	10#	35	37	34	35.	26	25	25	26.	60
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.1	2.2	<0.5	<0.5	<0.5	<0.5	<0.5
Alkalinity Total(as CaCO3)	mg/L		600	670	660	660	450	530	530	490	620

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 SPRING	UCD1-013 FALL	UCD1-013 FALL D1	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER
Calcium	mg/L		83.1	85.7	77.2	78.1	77.1	76.6	64.3	49.8	46.5
Iron	mg/L		<0.1 Uo|B	<0.1	0.921	<0.1 Uo|B	<0.1	<0.1	0.762	<0.1 Uo|B	<0.1
Magnesium	mg/L		260	269	188	197	195	194	175	131	132
Potassium	mg/L		2.43	<2 |B	3.45	2.14	<2 |B	2.07	<2 |B	<2 |B	<2 |B
Chloride	mg/L		230	350	37	39	38.	38.	16	15	13
Sodium	mg/L		103	103	56.3	64.3	59.1	59.4	73	71.2	68.8
Sulfate	mg/L	400*	76	100	76	75	74.	75.	58	63	59
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.17
Nitrogen, Nitrate (as N)	mg/L	10#	68	78.	17	19	17.	17.	12	14	20
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Alkalinity Total(as CaCO3)	mg/L		670	730	780	860	830	870	800	690	610

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER	UCD1-020 FALL	UCD1-021 WINTER	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL
Calcium	mg/L		56.2	30.1	27.1	27.7	29.3	55.5	51.4	53.7	57.2
Iron	mg/L		<0.1	0.344	<0.1 Uo|B	<0.1	<0.1	0.667	<0.1 Uo|B	<0.1	<0.1
Magnesium	mg/L		157	74.2	73.6	75.5	78.7	134	129	133	148
Potassium	mg/L		<2 |B	<2	<2	<2	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B
Chloride	mg/L		15.	3.8	3.1	3.1	3.4	19	16	18	22.
Sodium	mg/L		75.8	40.2	38.2	38	40	98.2	93.7	102	99.2
Sulfate	mg/L	400*	60.	30	29	29	30.	61	57	59	60.
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	<0.05	0.19	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate (as N)	mg/L	10#	14.	8.4	8.2	8.6	9.3	51	56	51	57.
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Alkalinity Total(as CaCO3)	mg/L		730	320	370	390	380	520	570	590	560

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-022 WINTER	UCD1-022 WINTER D1	UCD1-022 SPRING	UCD1-022 SUMMER	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 SPRING	UCD1-023 SUMMER	UCD1-023 FALL
Calcium	mg/L		36.8	36.6	38.2	39.3	38.9	49.9	46.5	47.6	47.6
Iron	mg/L		0.39	0.417	<0.1	<0.1	<0.1	0.574	<0.1 Uo|B	<0.1	<0.1
Magnesium	mg/L		71.5	71.3	76.3	80.2	79	115	113	119	116
Potassium	mg/L		<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B
Chloride	mg/L		41	41	42	39	37.	33	38	31	29.
Sodium	mg/L		89.7	88.7	98.3	95	97.1	44.9	45.6	47.3	47.1
Sulfate	mg/L	400*	33	33	33	32	32.	30	32	30	30.
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	0.25	0.056	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate (as N)	mg/L	10#	5	5.1	8.7	9.2	8.3	6.5	5	6.9	7.1
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Alkalinity Total(as CaCO3)	mg/L		390	390	420	510	450	470	530	570	500

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL	UCD2-017 FALL DI
Calcium	mg/L		53.6	54.3	50.7	53.1	36.3	34.9	33.7	36.8	36.9
Iron	mg/L		0.636	<0.1 Uo|B	<0.1	<0.1	0.403	<0.1 Uo|B	<0.1	<0.1	<0.1
Magnesium	mg/L		133	139	136	138	59.2	59.5	57.2	60.9	61.4
Potassium	mg/L		<2	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2 |B	<2	<2
Chloride	mg/L		25	30	28	27.	16	18	16	17.	17.
Sodium	mg/L		77.4	82.3	77.3	80.8	29.5	29	28.9	29.9	30.6
Sulfate	mg/L	400*	46	43	43	45.	33	34	35	37.	37.
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	0.44	<0.05	<0.05	<0.05	<0.05	0.081	<0.05
Nitrogen, Nitrate (as N)	mg/L	10#	52	65	60	58.	1.5	1.5	2.4	3.0	3.0
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	0.86	<0.5
Alkalinity Total(as CaCO3)	mg/L		460	540	540	510	270	310	300	300	310

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-007 WINTER	UCD2-007 SPRING	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 SPRING	UCD2-014 SUMMER	UCD2-014 SUMMER D1	UCD2-014 FALL
Calcium	mg/L		39.7	37.4	37.7	42.5	60.8	67.1	46.4	49.2	38.8
Iron	mg/L		0.173	<0.1	<0.1	<0.1	0.716	<0.1 Uo|B	<0.1	<0.1 |B	<0.1
Magnesium	mg/L		81.5	90.2	76.9	82.7	142	171	121	128	86.6
Potassium	mg/L		2.5	<2 |B	<2 |B	<2	2.42	<2 |B	<2 |B	<2 |B	<2 |B
Chloride	mg/L		24	23	26	24.	38	40	37	38	38.
Sodium	mg/L		53.4	59.9	40.2	41	47.2	53.3	43.2	45.4	43.2
Sulfate	mg/L	400*	38	42	40	43.	71	75	71	71	49.
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	0.073	0.076	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate (as N)	mg/L	10#	14	22	17	17.	9.1	13	8.4	8.3	4.6
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.5
Alkalinity Total(as CaCO3)	mg/L		380	390	360	370	600	740	540	510	370

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-015 WINTER	UCD2-015 WINTER D1	UCD2-015 SPRING	UCD2-015 SUMMER	UCD2-015 FALL	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING D1	UCD2-016 SUMMER
Calcium	mg/L		40.8	41	37.6	36.1	35.5	35.7	36.4	36.2	36.6
Iron	mg/L		0.464	0.437	<0.1 Uo|B	<0.1	<0.1	0.406	<0.1 Uo|B	<0.1 Uo|B	<0.1
Magnesium	mg/L		67.5	68.5	64.2	60.8	60.5	61.1	66.1	65.6	64.3
Potassium	mg/L		<2 |B	<2 |B	<2	<2 |B	<2	<2	<2	<2 |B	<2
Chloride	mg/L		19	19	22	18	20.	16	19	19	17
Sodium	mg/L		31.1	31.8	28.9	29.1	29	42.7	47.4	46.9	46
Sulfate	mg/L	400*	36	36	36	34	37.	36	39	39	39
Phosphate, Total (as P)	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.3
Nitrogen, Nitrate (as N)	mg/L	10#	2.3	2.2	2.1	9.1	1.9	3.1	4.7	4.7	15 Jf|
Total Kjeldahl Nitrogen	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Alkalinity Total(as CaCO3)	mg/L		300	320	300	270	310	310	370	360	310

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-016 SUMMER D1
Calcium	mg/L		35.6
Iron	mg/L		<0.1
Magnesium	mg/L		62.1
Potassium	mg/L		<2 |B
Chloride	mg/L		16
Sodium	mg/L		43.9
Sulfate	mg/L	400*	39
Phosphate, Total (as P)	mg/L		<1
Ammonia-Nitrogen	mg/L		0.37
Nitrogen, Nitrate (as N)	mg/L	10#	4.3 Jf|
Total Kjeldahl Nitrogen	mg/L		<0.5
Alkalinity Total(as CaCO3)	mg/L		340

See footnotes at end of table

TABLE A.6
ANALYTICAL RESULTS FOR GROUNDWATER,1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-018 WINTER	UCD1-018 SPRING	UCD1-018 SUMMER	UCD1-018 FALL	UCD1-001 WINTER	UCD1-001 SPRING	UCD1-001 FALL	UCD1-004 WINTER
Total Dissolved Solids	mg/L		590 |*	650	620	540	830 |*	770	800	600 |*
Turbidity	NTU		1.2	11	29	5.1	9.8	2800	11.	23
Turbidity-F	NTU		11.14	9.33	10.66	5.77	2.39	53.2	-	8.75
Total Organic Carbon	mg/L		1	1.4	1	1.1	1.2	1.2	1.8	<1
Chemical Oxygen Demand	mg/L					<10			<10	
Specific Conductance(EC-F)	umhos		880	1012	908	812	1202	1195	-	899
EH-F	mvolt		170	113	237	176	231	118	-	79
pH-F			7.29	7.46	7.27	7.48	6.91	6.82	-	7.03
Temperature-F	deg C		18.1	18.6	18.7	18.6	19.9	20.5	-	19.2
Formaldehyde	mg/L		<1 |N	<0.05 UJm|N	1.2 |N	<1 |N	<1 |N	<0.05 UJm|N	<1 |N	<1 |N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-004 SPRING	UCD1-010 WINTER	UCD1-010 SPRING	UCD1-010 SUMMER	UCD1-010 FALL	UCD1-011 WINTER	UCD1-011 SPRING	UCD1-011 SPRING D1
Total Dissolved Solids	mg/L		600	1400 |*	1400	1400	1300 |C	820 |*	800	800
Turbidity	NTU		53	0.38	4.1	3.8	1.5	0.15	0.1	0.53
Turbidity-F	NTU		49.7	2.13	5.33	1.47	3.39	2.45	3.46	-
Total Organic Carbon	mg/L		1	2	1.9	3.1	2.2	<1	1.1	1.3
Chemical Oxygen Demand	mg/L						<10			
Specific Conductance(EC-F)	umhos		865	1503	1829	1859	1620	1099	1013	-
EH-F	mvolt		138	125	126	186	218	181	114	-
pH-F			7.05	7.06	7.05	7.24	7.35	7.22	7.19	-
Temperature-F	deg C		19.4	18.8	18.8	20.1	19.1	18.9	18.8	-
Formaldehyde	mg/L		<0.05 UJm|N	<1 |N	<0.05 UJm|N	3.2 |N	<1 |N	<1 |N	<0.05 UJm|N	<0.05 UJm|N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-011 FALL	UCD1-012 WINTER	UCD1-012 SPRING	UCD1-012 FALL	UCD1-013 WINTER	UCD1-013 SPRING	UCD1-013 FALL	UCD1-013 FALL D1
Total Dissolved Solids	mg/L		730 |C	1500 |*	1500	1700	1100 |*	1100	1100	1000
Turbidity	NTU		0.14	0.65	2.9	3.4	0.48	4.6	2.6	0.54
Turbidity-F	NTU		0.20	3.47	3.19	5.57	3.81	5.42	4.26	4.26
Total Organic Carbon	mg/L		1.2	2.8	4	4.8	1.4	1.5	1.7	1.5
Chemical Oxygen Demand	mg/L		<10			<10			<10	<10
Specific Conductance(EC-F)	umhos		992	2070	2320	2560	1119	1326	1463	1463
EH-F	mvolt		224	197	143	169	116	119	206	206
pH-F			7.47	6.98	7.24	7.18	6.84	7.17	6.51	6.51
Temperature-F	deg C		18.8	19.4	19.3	19.7	19.3	19.1	19.2	19.2
Formaldehyde	mg/L		<1 |N	<1 |N	<0.05 UJm|N	<1 |N	<1 |N	<0.05 UJm|N	<1 |N	<1 |N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-019 WINTER	UCD1-019 SPRING	UCD1-019 SUMMER	UCD1-019 FALL	UCD1-020 WINTER	UCD1-020 SPRING	UCD1-020 SUMMER	UCD1-020 FALL
Total Dissolved Solids	mg/L		980	870	830	890	450	440	470	460
Turbidity	NTU		0.56	1.3	4.2	0.26	0.23	0.52	23	0.18
Turbidity-F	NTU		0.49	5.44	6.12	0.22	0.05	4.27	19.19	0.31
Total Organic Carbon	mg/L		1.1	1	<1	1.2	<1	<1	<1	<1
Chemical Oxygen Demand	mg/L					11.				10.
Specific Conductance(EC-F)	umhos		1408	1287	1051	1270	717	713	767	742
EH-F	mvolt		124	131	183	206	137	154	251	228
pH-F			7.08	7.37	7.45	7.25	7.4	7.43	7.59	7.48
Temperature-F	deg C		19.9	19.7	19.9	19.6	20	19.8	21.3	19.6
Formaldehyde	mg/L		<1	<0.05 UJm|N	<1 |N	<1 |N	<1	<0.05 UJm|N	<1 |N	<1 |N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-021 WINTER	UCD1-021 SPRING	UCD1-021 SUMMER	UCD1-021 FALL	UCD1-022 WINTER	UCD1-022 WINTER D1	UCD1-022 SPRING	UCD1-022 SUMMER
Total Dissolved Solids	mg/L		970	930	990	1000	570	570	610	570
Turbidity	NTU		0.62	3.3	2.1	0.28	3.3	3.5	5.5	34
Turbidity-F	NTU		0.39	5.02	12.71	0.32	10.62	-	8.58	9.04
Total Organic Carbon	mg/L		<1	1.2	1.1	1.2	1	<1	<1	<1
Chemical Oxygen Demand	mg/L					<10				
Specific Conductance(EC-F)	umhos		1391	1226	1419	1382	909	-	957	1016
EH-F	mvolt		142	95	210	247	75	-	123	163
pH-F			7.24	7.43	7.22	7.22	7.32	-	7.25	7.29
Temperature-F	deg C		20.9	20.3	20.5	20	19.8	-	20.4	20.8
Formaldehyde	mg/L		<1	<0.05 UJm|N	3.5 |N	<1 |N	<1	<1	<0.05 UJm|N	<1 |N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-022 FALL	UCD1-023 WINTER	UCD1-023 SPRING	UCD1-023 SUMMER	UCD1-023 FALL	UCD1-024 WINTER	UCD1-024 SPRING	UCD1-024 SUMMER
Total Dissolved Solids	mg/L		590	670	620	610	610	940	970	920
Turbidity	NTU		0.12	0.88	2.1	25	0.27	0.73	0.6	28
Turbidity-F	NTU		0.26	0.63	4.99	47.21	0.06	2.49	0.87	13.28
Total Organic Carbon	mg/L		1.1	<1	<1	<1	1.2	1	<1	<1
Chemical Oxygen Demand	mg/L		10.				10.			
Specific Conductance(EC-F)	umhos		738	1026	994	942	1003	1013	1408	1415
EH-F	mvolt		104	113	46	100	203	98	144	184
pH-F			7.36	7.15	7.18	7.46	7.3	7.03	7.04	7.21
Temperature-F	deg C		19.8	20.1	19.8	20.7	19.2	20	20.5	21.3
Formaldehyde	mg/L		<1 |N	<1	<0.05 UJm|N	<1 |N	<1 |N	<1	<0.05 UJm|N	<1 |N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD1-024 FALL	UCD2-017 WINTER	UCD2-017 SPRING	UCD2-017 SUMMER	UCD2-017 FALL	UCD2-017 FALL D1	UCD2-007 WINTER	UCD2-007 SPRING
Total Dissolved Solids	mg/L		880	390	380	410	390	400	560 |*	600
Turbidity	NTU		0.00	0.19	2	0.63	0.00	0.00	0.72	0.5
Turbidity-F	NTU		-	0.24	0.7	0.25	0.11	0.11	1.29	1.1
Total Organic Carbon	mg/L		<1	<1	<1	<1	6.3	<1	<1	<1
Chemical Oxygen Demand	mg/L		11.				16.	<10		
Specific Conductance(EC-F)	umhos		-	449	556	472	561	561	773	612
EH-F	mvolt		-	98	-	225	192	192	156	140
pH-F			-	7.37	7.89	7.51	7.43	7.43	7.3	7.24
Temperature-F	deg C		-	18.6	18.5	19.2	18.4	18.4	19.2	19.1
Formaldehyde	mg/L		<1 |N	<1	<0.05 UJm|N	<1 |N	<1 |N	<1 |N	<1 |N	<0.05 UJm|N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-007 SUMMER	UCD2-007 FALL	UCD2-014 WINTER	UCD2-014 SPRING	UCD2-014 SUMMER	UCD2-014 SUMMER D1	UCD2-014 FALL	UCD2-015 WINTER
Total Dissolved Solids	mg/L		580	540 |C	780 |*	930	760	760	510	410
Turbidity	NTU		0.86	0.00	0.14	2.5	2.7	2.3	0.050	0.36
Turbidity-F	NTU		1.27	0.16	0.94	0.32	0.66	-	0.14	0.31
Total Organic Carbon	mg/L		<1	2.1	1	1.3	1.2	1.2	<1	<1
Chemical Oxygen Demand	mg/L			<10					<10	
Specific Conductance(EC-F)	umhos		747	855	912	1384	1049	-	747	584
EH-F	mvolt		223	219	157	114	205	-	163	88
pH-F			7.41	7.57	7.24	7.24	7.02	-	6.97	7.49
Temperature-F	deg C		19.2	18.7	18.8	19.5	19.4	-	18.8	18.5
Formaldehyde	mg/L		1.2 |N	<1 |N	<1 |N	<0.05 UJm|N	<1 |N	<1 |N	<1 |N	<1

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-015 WINTER D1	UCD2-015 SPRING	UCD2-015 SUMMER	UCD2-015 FALL	UCD2-016 WINTER	UCD2-016 SPRING	UCD2-016 SPRING D1
Total Dissolved Solids	mg/L		420	410	380	390	420	460	460
Turbidity	NTU		0.42	3.5	0.22	0.00	0.07	1.2	2.7
Turbidity-F	NTU		-	2.12	1.71	0.32	0.07	1.79	-
Total Organic Carbon	mg/L		<1	1	<1	<1	<1	1	1.1
Chemical Oxygen Demand	mg/L					<10			
Specific Conductance(EC-F)	umhos		-	645	480	617	650	703	-
EH-F	mvolt		-	-	180	167	74	67	-
pH-F			-	7.36	7.57	7.58	7.44	7.46	-
Temperature-F	deg C		-	18.5	18.5	18.4	19.2	18.7	-
Formaldehyde	mg/L		<1	<0.05 UJm|N	<1 |N	<1 |N	<1	<0.05 UJm|N	<0.05 UJm|N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	UCD2-016 SUMMER	UCD2-016 SUMMER DI	UCD2-016 FALL
Total Dissolved Solids	mg/L		460	430	440
Turbidity	NTU		0.47	0.39	0.00
Turbidity-F	NTU		1.17	-	0.32
Total Organic Carbon	mg/L		<1	<1	<1
Chemical Oxygen Demand	mg/L				<10
Specific Conductance(EC-F)	umhos		594	-	587
EH-F	mvolt		192	-	171
pH-F			7.56	-	7.50
Temperature-F	deg C		18.8	-	18.4
Formaldehyde	mg/L		<1 |N	<1 |N	<1 |N

See footnotes at end of table

TABLE A.7
ANALYTICAL RESULTS FOR GROUNDWATER,1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Wells UCD1-1, UCD1-4, UCD1-12 and UCD1-13 were dry in summer quarter. UCD1-4 was dry in fall quarter.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix A for explanation of data qualifiers.

APPENDIX B

SURFACE WATER ANALYTICAL RESULTS

HOW TO READ APPENDIX B DATA QUALIFIERS

The key below defines the relationship between a given result and the associated data qualifiers, as presented in the tables of analytical results in Appendix B.

KEY →	A	B	C	D
Example Data →	<	5.200	Uz	JB

A < Signifies that analyte level is less than indicated value.
B Indicated value in units as noted in table footnote.
C Data qualifier(s)* assigned by Consultant's data review team.
D Data qualifier(s)* assigned by reporting laboratory.

In the example above, the chemical was analyzed for, but qualified as not detected due to the bias introduced by contamination in the method blank associated with this analysis. Presence of the analyte in the method blank is noted by the laboratory qualifier, "B." The Consultants qualifier, Uz," indicates that the analyte concentration is considered to be below the adjusted detection limit (quantitation limit) gives the level of contamination in the method blank.

DATA VALIDATION QUALIFIERS
Assigned by Consultants Data Review Team

The following definitions provide brief explanations of the qualifiers assigned in the data review process. Validation reason codes for GC/MS Organics, GC Organics, and Metals are recorded by the data reviewers and retained in review support documentation for the data review process.

FLAG	DATA QUALIFIER DEFINITION
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
c	Calibration failure; poor or unstable response.
d	Laboratory duplicate imprecision.
e	Laboratory duplicate control sample imprecision.
f	Field duplicate imprecision.
h	Holding time violation.
k	Serial dilution imprecision.
l	Laboratory control sample recovery failure.
m	Matrix spike/matrix spike duplicate recovery failure.
o	Calibration blank contamination (metals/inorganics only).
p	Preparation blank contamination (metals/inorganics only).
r	Linearity failure in initial calibration.
s	Surrogate spike recovery failure (GC organics and GC/MS organics only).
z	Method blank contamination.

LOCKHEED ANALYTICAL SERVICES
DATA QUALIFIERS FOR ORGANIC ANALYSES
(REVISED 01/19/1994)

For Use On the Analytical Data Reporting Forms	
A	***For CLP analyses only*** — The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL).
C	Constituent confirmed by GS/MS analysis *[pesticide/PCB analyses only].*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to *surrogates* being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* — (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(for CLP reporting only)***
N	***For CLP reporting only*** — Tentatively identified constituents (TICs) identified based on mass spectral library search.
P	***For CLP reporting only*** — The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only].*
U	***For CLP reporting only*** — Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an *"as received"* basis. A value in the % moisture cell indicates that data are reported based on a *"dry weight"* basis. ***For non-CLP work,*** RDLs are not adjusted for % moisture even when data are reported on a *"dry weight"* basis.
For Use On the QC Data Reporting Forms	
*****	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

1 Used as footnote designations on the QC summary form.

LOCKHEED ANALYTICAL SERVICES
DATA QUALIFIERS FOR INORGANIC ANALYSES
[REVISED 08/28/92]

For Use On the Analytical Data Reporting Forms	
B	***For CLP analyses only*** — Reported value is less than the contract required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).
C	***For Routine, Non-CLP analyses only*** — Any constituent that was also detected in the associated blank whose concentration was greater than the reporting detection limit (RDL).
D	Presence of high levels of interfering constituents required dilution of sample which increased the RDL by the dilution factor.
E	Estimated value due to presence of interference.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
M	***For CLP analyses only*** — Duplicate injection precision criterion was not met.
N	Matrix spike recovery exceeded acceptance limits.
S	Reported value was determined from the method of standard addition.
U	***For CLP reporting only*** — Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
W	***For AAS only*** — Post-digestion spike for Furnace AAS did not meet acceptance criteria and sample absorbance is less than 50% of spike absorbance.
X, Y, or Z	Analyst-defined qualifier.
*****	Relative Percent difference (RPD) for duplicate analysis exceeded acceptance limits.
+	Correlation coefficient *(r)* for the MSA is less than 0.995.
For Use On the QC Data Reporting Forms.	
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

1 Used as footnote designations on the QC summary form.

LOCKHEED ANALYTICAL SERVICES
DATA QUALIFIERS FOR RADIOCHEMICAL ANALYSES
(REVISED 08/28/92)

For Use On the Analytical Data Reporting Forms	
B	Any constituent that was also detected in the associated blank whose concentration was greater than the reporting detection limit (RDL) and/or minimum detectable activity (MDA).
C	Presence of high TDS in sample required reduction of sample size which increased the MDA.
D	Constituent detected in the diluted sample.
E	Constituent concentration exceeded the calibration or attenuation curve range.
F	***For Alpha Spectrometry Only*** — FWHM exceed acceptance limits.
H	Sample analysis performed outside of method-specified maximum holding time requirement.
Y	Chemical yield exceeded acceptance limits.
For Use on the QC Data Reporting Forms	
*****	QC data (i.e., percent recovery data for laboratory control standard and matrix spike; and RPD for replicate analyses) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the MDA.

1 Used as footnote designations on the QC summary form.

TABLE B.1
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CA

Parameter	Units	MCL	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER D1	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING D1	PCU SUMMER	PCU FALL	STPO WINTER
Acetone	ug/L		18	<5.7 Uz|B	<2.9 Uz|B	<2 Uz|B	5 Rc|	<5	<5 Uz|JB	<5 Uz|JB	<3.3 Uz|B	<5 Rc|	<5 |J
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	<1	1.6	1.1	1.4	<1	<1	<1	<1	<1	<1	<1 |J
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5
Carbon Disulfide	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	<1 |J	8.4	4.4	5.6	2.8	<1	<1	<1	2.2	<1	4
Chloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene Chloride	ug/L	5	<2 |J	<2 |J	<2 Rc|J	<2 Rc|J	<2	<2	<2	<2	<2 Rc|J	<2	7.2
Styrene	ug/L	100#	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	1.7	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE B.1
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CA

Parameter	Units	MCL	STPO WINTER D1	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL D1	SWL00001 FALL	SWL00001 FALL D1	SWL00002 FALL
Acetone	ug/L		<5 |J	<4.9 Uz|B	<5 Rc|	<5 Rc|	<5 Rc|	17 Jc|	17 Jc|	9 Rc|
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L		<1	<1	<1	<1 |J	<1	<1	<1	<1
Bromodichloromethane	ug/L	100	1.1	<1 |J	<1 |J	<1	1	<1	<1	<1
Bromoform	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	ug/L		<5	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|	<5 Rc|
Carbon Disulfide	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	30	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	100	3.9	5.6	3.7	3.8	3.9	<1	<1	<1
Chloromethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L		<1	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|	<1 Rc|
Dibromochloromethane	ug/L	100	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	600#	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	6	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	10	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	ug/L		<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Benzene	ug/L	680	<1	<1	<1	<1	<1	<5 UJc|	<5 UJc|	<5 UJc|
2-Hexanone	ug/L		<5	<5	<5	<5	<5	<5 UJc|	<5 UJc|	<5 UJc|
4-Methyl-2-Pentanone	ug/L		<5	<5	<5	<5	<5	<5 UJc|	<5 UJc|	<5 UJc|
Methylene Chloride	ug/L	5	6.8	2.5	13 Jc|	5.3	5.4	<2 UJc|	<2 UJr|	<2 UJr|
Styrene	ug/L	100#	<1	<1	<1	<1	<1	<5	<5	<5
1,1,2,2-Tetrachloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	1000#	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	200	<1 |J	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1 UJc|	<1 UJc|	<1 UJc|
Vinyl Chloride	ug/L	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes (Total)	ug/L	1750	<1	<1	<1	<1	<1	<1	<1	<1

See footnotes at end of table

TABLE B.1
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER,1994
VOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE B.2
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER D1	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING D1	PCU SUMMER	PCU FALL	STPO WINTER
Acenaphthene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Acenaphthylene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Anthracene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Benzo(a)anthracene	ug/L	0.1*	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Benzo(a)pyrene	ug/L	0.2	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Benzo(b)fluoranthene	ug/L	0.2*	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Benzo(g,h,i)perylene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Benzo(k)fluoranthene	ug/L	0.2*	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Benzyl Butyl Phthalate	ug/L	100#	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
4-Bromophenyl Phenyl Ether	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Carbazole	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
4-Chloro-3-Methylphenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
4-Chloroaniline	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Bis(2-Chloroethoxy)methane	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Bis(2-Chloroethyl)ether	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2-Chloronaphthalene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2-Chlorophenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
4-Chlorophenyl Phenyl Ether	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Chrysene	ug/L	0.2*	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Di-n-Butylphthalate	ug/L		<10 Uz|JB	<10	<10	<10 |J	<11 Uz|JB	<11	<11	<10 |J	<10 |J	<10 Uz|JB	<11 Uz|JB
Di-n-Octylphthalate	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Dibenzo(a,h)anthracene	ug/L	0.3*	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Dibenzofuran	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
1,2-Dichlorobenzene	ug/L	600#	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
1,3-Dichlorobenzene	ug/L	600#	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
1,4-Dichlorobenzene	ug/L	5	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
3,3'-Dichlorobenzidine	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2,4-Dichlorophenol	ug/L	100	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Diethyl Phthalate	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Dimethyl Phthalate	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2,4-Dimethylphenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2,4-Dinitrophenol	ug/L		<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
2,4-Dinitrotoluene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2,6-Dinitrotoluene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Bis(2-Ethylhexyl)phthalate	ug/L	4	<10	<10	<10 Uz|J	<10	<11	<11	<11 Uz|JB	<10 Uz|JB	<10 Uz|J	<10	<11

See footnotes at end of table

TABLE B.2
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	STPO WINTER D1	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL D1	SWL00001 FALL	SWL00001 FALL D1	SWL00002 FALL
Acenaphthene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Acenaphthylene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Anthracene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Benzo(a)anthracene	ug/L	0.1*	<10	<10	<11	<10	<10	<10	<10	<10
Benzo(a)pyrene	ug/L	0.2	<10	<10	<11	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	ug/L	0.2*	<10	<10	<11	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	ug/L	0.2*	<10	<10	<11	<10	<10	<10	<10	<10
Benzyl Butyl Phthalate	ug/L	100#	<10	<10	<11	<10	<10	<10 |J	<10 |J	<10 |J
4-Bromophenyl Phenyl Ether	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Carbazole	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
4-Chloro-3-Methylphenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
4-Chloroaniline	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Bis(2-Chloroethoxy)methane	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Bis(2-Chloroethyl)ether	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2-Chloronaphthalene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2-Chlorophenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
4-Chlorophenyl Phenyl Ether	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Chrysene	ug/L	0.2*	<10	<10	<11	<10	<10	<10	<10	<10
Di-n-Butylphthalate	ug/L		<10 Uz|JB	<10 |J	<11	<10 Uz|JB	<10 Uz|JB	<10 Uz|BJ	<10 Uz|BJ	<10 Uz|BJ
Di-n-Octylphthalate	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	ug/L	0.3*	<10	<10	<11	<10	<10	<10	<10	<10
Dibenzofuran	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	ug/L	600#	<10	<10	<11	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	ug/L	600#	<10	<10	<11	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	ug/L	5	<10	<10	<11	<10	<10	<10	<10	<10
3,3'-Dichlorobenzidine	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2,4-Dichlorophenol	ug/L	100	<10	<10	<11	<10	<10	<10	<10	<10
Diethyl Phthalate	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Dimethyl Phthalate	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2,4-Dimethylphenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2,4-Dinitrophenol	ug/L		<26	<26	<27	<25	<26	<26	<26	<26
2,4-Dinitrotoluene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Bis(2-Ethylhexyl)phthalate	ug/L	4	<10	<10	<11 Uz|J	<10 UJc|	<10	<10 Uz|BJ	<10 Uz|BJ	<10 Uz|BJ

See footnotes at end of table

TABLE B.2
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER D1	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING D1	PCU SUMMER	PCU FALL	STPO WINTER
Fluoranthene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Fluorene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Hexachlorobenzene	ug/L	1	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Hexachlorobutadiene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Hexachlorocyclopentadiene	ug/L	50	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Hexachloroethane	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Isophorone	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2-Methyl-4,6-dinitrophenol	ug/L		<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
2-Methylnaphthalene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2-Methylphenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
4-Methylphenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Naphthalene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2-Nitroaniline	ug/L		<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
3-Nitroaniline	ug/L		<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
4-Nitroaniline	ug/L		<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
Nitrobenzene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2-Nitrophenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
4-Nitrophenol	ug/L		<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
N-Nitrosodi-n-propylamine	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
N-Nitrosodiphenylamine	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2,2'-oxybis(1-Chloropropane)	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Pentachlorophenol	ug/L	1#	<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
Phenanthrene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Phenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
Pyrene	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11
2,4,5-Trichlorophenol	ug/L		<26	<26	<26	<25	<26	<27	<27	<26	<26	<26	<27
2,4,6-Trichlorophenol	ug/L		<10	<10	<10	<10	<11	<11	<11	<10	<10	<10	<11

See footnotes at end of table

TABLE B.2
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	STPO WINTER D1	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL D1	SWL00001 FALL	SWL00001 FALL D1	SWL00002 FALL
Fluoranthene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Fluorene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Hexachlorobenzene	ug/L	1	<10	<10	<11	<10	<10	<10	<10	<10
Hexachlorobutadiene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	ug/L	50	<10	<10	<11	<10	<10	<10	<10	<10
Hexachloroethane	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	ug/L	0.4*	<10	<10	<11	<10	<10	<10	<10	<10
Isophorone	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2-Methyl-4,6-dinitrophenol	ug/L		<26	<26	<27	<25	<26	<26	<26	<26
2-Methylnaphthalene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2-Methylphenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
4-Methylphenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Naphthalene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2-Nitroaniline	ug/L		<26	<26	<27	<25	<26	<26	<26	<26
3-Nitroaniline	ug/L		<26	<26	<27	<25	<26	<26	<26	<26
4-Nitroaniline	ug/L		<26	<26	<27	<25	<26	<26	<26	<26
Nitrobenzene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2-Nitrophenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
4-Nitrophenol	ug/L		<26	<26	<27	<25	<26	<26 |J	<26	<26
N-Nitrosodi-n-propylamine	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
2,2'-oxybis(1-Chloropropane)	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Pentachlorophenol	ug/L	1#	<26	<26	<27	<25	<26	<26	<26	<26
Phenanthrene	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Phenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10
Pyrene	ug/L		<10	<10	<11	<10	<10	<10 |J	<10	<10
2,4,5-Trichlorophenol	ug/L		<26	<26	<27	<25	<26	<26	<26	<26
2,4,6-Trichlorophenol	ug/L		<10	<10	<11	<10	<10	<10	<10	<10

See footnotes at end of table

TABLE B.2
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER,1994
SEMIVOLATILE ORGANIC COMPOUNDS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE B.3
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER D1	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING D1	PCU SUMMER
Aldrin	ug/L	0.05C	<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Alpha-BHC	ug/L	0.7C	<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Beta-BHC	ug/L	0.3C	<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Delta-BHC	ug/L		<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Gamma-BHC	ug/L	0.2	0.011 |P	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	0.01	<0.01 UJs|	<0.01 UJs|	0.026 Js|P
Alpha-Chlordane	ug/L		<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Gamma-Chlordane	ug/L		<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
4,4'-DDD	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
4,4'-DDE	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
4,4'-DDT	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
Dieldrin	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
Endosulfan I	ug/L		<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Endosulfan II	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
Endosulfan Sulfate	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
Endrin	ug/L	0.2	<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
Endrin Aldehyde	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
Endrin Ketone	ug/L		<0.021	<0.02 UJs|	<0.021	<0.021 UJs|	<0.022 UJs|	<0.021	<0.021 UJs|	<0.02 UJs|	<0.021 UJs|
Heptachlor	ug/L	0.01	<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.01	<0.01 UJs|	<0.011	<0.011 UJs|	<0.011 UJs|	<0.01	<0.01 UJs|	<0.01 UJs|	<0.01 UJs|
Methoxychlor	ug/L	40	<0.1	<0.1 UJs|	<0.11	<0.11 UJs|	<0.11 UJs|	<0.1	<0.1 UJs|	<0.1 UJs|	<0.1 UJs|
Toxaphene	ug/L	3	<1	<1 UJs|	<1.1	<1.1 UJs|	<1.1 UJs|	<1	<1 UJs|	<1 UJs|	<1 UJs|
Aroclor-1016	ug/L	0.5	<0.21	<0.2 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21 UJs|
Aroclor-1221	ug/L	0.5	<0.41	<0.4 UJs|	<0.43	<0.43 UJs|	<0.43 UJs|	<0.41	<0.41 UJs|	<0.41 UJs|	<0.42 UJs|
Aroclor-1232	ug/L	0.5	<0.21	<0.2 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21 UJs|
Aroclor-1242	ug/L	0.5	<0.21	<0.2 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21 UJs|
Aroclor-1248	ug/L	0.5	<0.21	<0.2 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21 UJs|
Aroclor-1254	ug/L	0.5	<0.21	<0.2 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21 UJs|
Aroclor-1260	ug/L	0.5	<0.21	<0.2 UJs|	<0.21	<0.21 UJs|	<0.22 UJs|	<0.21	<0.21 UJs|	<0.2 UJs|	<0.21 UJs|

See footnotes at end of table

TABLE B.3
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCU FALL	STPO WINTER	STPO WINTER D1	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL D1	SWL00001 FALL	SWL00001 FALL D1
Aldrin	ug/L	0.05C	<0.011 UJs|	<0.011	<0.011	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Alpha-BHC	ug/L	0.7C	<0.011 UJs|	<0.011	<0.011	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Beta-BHC	ug/L	0.3C	<0.011 UJs|	<0.011	<0.011	0.042 Js|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Delta-BHC	ug/L		<0.011 UJs|	<0.011	<0.011	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Gamma-BHC	ug/L	0.2	<0.011 UJs|	0.015	0.02 |P	<0.01 UJs|	0.066 Js|P	0.013 Js|P	0.014 Js|P	<0.01 UJs|	<0.011 UJs|
Alpha-Chlordane	ug/L		<0.011 UJs|	0.017	0.014	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Gamma-Chlordane	ug/L		<0.011 UJs|	<0.011	<0.011	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
4,4'-DDD	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
4,4'-DDE	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
4,4'-DDT	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
Dieldrin	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
Endosulfan I	ug/L		<0.011 UJs|	<0.011	<0.011	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Endosulfan II	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
Endosulfan Sulfate	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
Endrin	ug/L	0.2	<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
Endrin Aldehyde	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
Endrin Ketone	ug/L		<0.022 UJs|	<0.021	<0.022	<0.02 UJs|	<0.021 UJs|	<0.022 UJs|	<0.022 UJs|	<0.021 UJs|	<0.022 UJs|
Heptachlor	ug/L	0.01	<0.011 UJs|	<0.011	<0.011	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.011 UJs|	<0.011	<0.011	<0.01 UJs|	<0.011 UJs|	<0.011 UJs|	<0.011 UJs|	<0.01 UJs|	<0.011 UJs|
Methoxychlor	ug/L	40	<0.11 UJs|	<0.11	<0.11	<0.1 UJs|	<0.11 UJs|	<0.11 UJs|	<0.11 UJs|	<0.1 UJs|	<0.11 UJs|
Toxaphene	ug/L	3	<1.1 UJs|	<1.1	<1.1	<1 UJs|	<1.1 UJs|	<1.1 UJs|	<1.1 UJs|	<1 UJs|	<1.1 UJs|
Aroclor-1016	ug/L	0.5	<0.22 UJs|	<0.21	<0.22	<0.2 UJs|	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.21 UJs|	<0.22 UJs|
Aroclor-1221	ug/L	0.5	<0.43 UJs|	<0.43	<0.43	<0.41 UJs|	<0.43 UJs|	<0.43 UJs|	<0.43 UJs|	<0.41 UJs|	<0.43 UJs|
Aroclor-1232	ug/L	0.5	<0.22 UJs|	<0.21	<0.22	<0.2 UJs|	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.21 UJs|	<0.22 UJs|
Aroclor-1242	ug/L	0.5	<0.22 UJs|	<0.21	<0.22	<0.2 UJs|	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.21 UJs|	<0.22 UJs|
Aroclor-1248	ug/L	0.5	<0.22 UJs|	<0.21	<0.22	<0.2 UJs|	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.21 UJs|	<0.22 UJs|
Aroclor-1254	ug/L	0.5	<0.22 UJs|	<0.21	<0.22	<0.2 UJs|	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.21 UJs|	<0.22 UJs|
Aroclor-1260	ug/L	0.5	<0.22 UJs|	<0.21	<0.22	<0.2 UJs|	<0.21 UJs|	<0.22 UJs|	<0.22 UJs|	<0.21 UJs|	<0.22 UJs|

See footnotes at end of table

TABLE B.3
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	SWL00002 FALL
Aldrin	ug/L	0.05C	<0.01 UJs|
Alpha-BHC	ug/L	0.7C	<0.01 UJs|
Beta-BHC	ug/L	0.3C	<0.01 UJs|
Delta-BHC	ug/L		<0.01 UJs|
Gamma-BHC	ug/L	0.2	<0.01 UJs|
Alpha-Chlordane	ug/L		<0.01 UJs|
Gamma-Chlordane	ug/L		<0.01 UJs|
4,4'-DDD	ug/L		<0.021 UJs|
4,4'-DDE	ug/L		<0.021 UJs|
4,4'-DDT	ug/L		<0.021 UJs|
Dieldrin	ug/L		<0.021 UJs|
Endosulfan I	ug/L		<0.01 UJs|
Endosulfan II	ug/L		<0.021 UJs|
Endosulfan Sulfate	ug/L		<0.021 UJs|
Endrin	ug/L	0.2	<0.021 UJs|
Endrin Aldehyde	ug/L		<0.021 UJs|
Endrin Ketone	ug/L		<0.021 UJs|
Heptachlor	ug/L	0.01	<0.01 UJs|
Heptachlor Epoxide	ug/L	0.01	<0.01 UJs|
Methoxychlor	ug/L	40	<0.1 UJs|
Toxaphene	ug/L	3	<1 UJs|
Aroclor-1016	ug/L	0.5	<0.21 UJs|
Aroclor-1221	ug/L	0.5	<0.41 UJs|
Aroclor-1232	ug/L	0.5	<0.21 UJs|
Aroclor-1242	ug/L	0.5	<0.21 UJs|
Aroclor-1248	ug/L	0.5	<0.21 UJs|
Aroclor-1254	ug/L	0.5	<0.21 UJs|
Aroclor-1260	ug/L	0.5	<0.21 UJs|

See footnotes at end of table

TABLE B.3
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER,1994
PESTICIDES AND PCBS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE B.4
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER D1	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING D1	PCU SUMMER
Antimony	ug/L	6	9.1	<5 |B	<5	6.2	<5	<5	<5 |B	5.2	<5
Arsenic	ug/L	50	<2	<7.4 Uo|	5.3	5.3	2.6 Jd|	<2	<3.5 Uo|	<3.3 Uo|	6.5
Barium	ug/L	1000	60.3	55	36.7	35.2	62.0	62.5	82.4	88.7	55.4
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	<10 |B	<10 |B	<10 Up|B	<10	<10 |B	<10 |B	<10	<10 |B	<10
Chromium, Hexavalent (+6)	ug/L		<10	<10	<10	<10	<10 |H	<10	<10	<10	<10
Cobalt	ug/L		<10	<10 Uo|B	<10	<10	<10	<10	<10 |B	<10 Uo|B	<10
Copper	ug/L	1300#	<10 |B	<10 Up|B	<10 Up|B	<10 Up|B	<10 |B	<10 |B	<10 Up|B	<10 Up|B	<10 Up|B
Lead	ug/L	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Manganese	ug/L		-	<10 |B	<10 |B	<10 |B	-	-	<10 |B	<10 |B	<10 |B
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10 |B	<10 |B	27.6	26.8	<10 |B	<10	<10 |B	<10 |B	39.9
Nickel	ug/L	100	<20 |B	<20 Uo|B	<20 |B	<20 |B	<20 |B	<20 |B	<20 Uo|B	<20 Uo|B	<20 |B
Selenium	ug/L	10	<3	3.8	<3	<3	<3	<3	<3	<3	<3
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vanadium	ug/L		<10 |B	12	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B	13.4
Zinc	ug/L		<20 |B	<20 Up|B	<20 Up|B	<20 Up|B	<20 |B	<20 |B	<20 Up|B	<20 Up|B	<20 Up|B

See footnotes at end of table

TABLE B.4
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCU FALL	STPO WINTER	STPO WINTER D1	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL D1	SWL00001 FALL	SWL00001 FALL D1
Antimony	ug/L	6	<5	<5	<5	5	<5	<5	<5	50.1	51.7
Arsenic	ug/L	50	<2 |B	3.4	4.4	<7.4 Uo|	4	5.0 Jd|	4.7 Jd|	<2 Uo|B	<2 Uo|B
Barium	ug/L	1000	67.5	147 Jf|	26.1 Jf|	20.6	23.8	25.2	24.4	<20 |B	<20 |B
Beryllium	ug/L	4	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	ug/L	50	<10 |B	21.6	<10 |B	<10 |B	<10 Up|B	<10 |B	<10 |B	<10 Up|B	<10 Up|B
Chromium, Hexavalent (+6)	ug/L		<10 |H	<10	<10	<10	<10	<10 |H	<10 |H	<10 Uo|B	<10 Uo|B
Cobalt	ug/L		<10	<10	<10	<10 Uo|B	<10	<10	<10	<1	<1
Copper	ug/L	1300#	<10 |B	<10 |B	<10 |B	10.1	<10 Up|B	<10 |B	<10 |B	<10 |B	<10 |B
Lead	ug/L	15	<2	<2	<2	<2 |B	<2	<2	<2	14.5	15.2
Manganese	ug/L		-	-	-	<10 |B	21.8	-	-	-	-
Mercury	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L		<10	29.3	56.1	34.9	28.3	14.3	14.6	<5	<5
Nickel	ug/L	100	<20 |B	<20 |B	<20 |B	<20 Uo|B	<20	<20 |B	<20 |B	<20 |B	<20 |B
Selenium	ug/L	10	<3	<3	<3	4.3	<3	<3	<3	<1	<1
Silver	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<1	<1
Thallium	ug/L	2	<10	<10	<10	<10	<10	<10	<10	<1	<1
Vanadium	ug/L		<10 |B	11.1	12.3	12	<10 |B	<10 |B	<10 |B	<10 |B	<10 |B
Zinc	ug/L		<20 |B	25.6	33.1	23.4	<20 Up|B	41.0 Jd|	40.5 Jd|	92.6	83.9

See footnotes at end of table

TABLE B.4
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	SWL00002 FALL
Antimony	ug/L	6	124
Arsenic	ug/L	50	<1
Barium	ug/L	1000	<20 |B
Beryllium	ug/L	4	<1
Cadmium	ug/L	5	<1
Chromium	ug/L	50	<10 Up|B
Chromium, Hexavalent (+6)	ug/L		<10
Cobalt	ug/L		<1
Copper	ug/L	1300#	<10 |B
Lead	ug/L	15	35.6
Manganese	ug/L		-
Mercury	ug/L	2	<0.2
Molybdenum	ug/L		<5
Nickel	ug/L	100	<20 |B
Selenium	ug/L	10	<1
Silver	ug/L	50	<1
Thallium	ug/L	2	<1
Vanadium	ug/L		<1
Zinc	ug/L		96.5

See footnotes at end of table

TABLE B.4
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER,1994
METALS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE B.5
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	METHOD	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER D1	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING D1
Gross Alpha	pCi/L	15**	9310	-0.2±1.1	0.1±2.3	1.4±2.1 |C	-0.9±2.1 |C	0.5±1.8 |C	0.8±1.1	0.2±1.3	0±1.5
Gross Beta	pCi/L	50	9310	3.3±1.7	8.8±2.5 Uz|	22±3	30.1±6 |C	3.9±2.1 |B	0.9±1.4	1.7±1.4	2.1±2.1
Actinium-228	pCi/L		901.1	4.6±8.6	8±19	4±22	10±23	12.±22.	-1.2±4	17.8±7	-7.1±7.4
Bismuth-212	pCi/L		901.1	-16±17	3±26	-49.27±26.23	51.33±48.98	14.18±48.36	14±16	-12.4±6.1	3.96±15
Cesium-137	pCi/L		901.1	1.5±5.5	2.2±5.1	-0.1±6.1	-2±6.3	-2.0±3.2	1.3±1.7	2.7±1.9	0±1.8
Bismuth-214	pCi/L		901.1	25.4±6.2	13±12	9±12	5±13	15.±14.	5±2.9	20±5.5	2.5±5.2
Cesium-134	pCi/L		901.1	-	-	-	-	-	-	-	-
Cobalt-57	pCi/L		901.1	-	-	-	-	-	-	-	-
Cobalt-60	pCi/L		901.1	-1.3±1.6	-0.4±3.2	2.5±3.9	-1.4±3.9	-4.4±2.2	0.26±0.58	1.09±0.93	-0.2±1.2
Lead-210	pCi/L		901.1	2.2±3	-10±110	-2.19±105.63	-22.61±112.30	-10.36±105.47	-0.2±1.4	160±250	-240±301
Lead-212	pCi/L		901.1	4.2±9.1	-1.5±9.2	6±11	-3.2±9.9	6.±11.	5.7±4.9	9.2±4.7	4.6±4.9
Lead-214	pCi/L		901.1	17.5±5.3	3.7±9.4	-4.6±8.3	-2±11	7.±11.	8.7±2.5	15±4.9	2.9±4.5
Potassium-40	pCi/L		901.1	-26±55	-4±61	25±51	8±75	-12.±69.	6±28	49±26	-2±28
Thallium-208	pCi/L		901.1	1.1±7.2	3±6.7	5.2±7.2	3±7.7	-1.2±6.9	2.7±3	6.3±2.7	0.3±2.9
Uranium-235	pCi/L		901.1	9±11	2±23	0±26	-6±21	-2.±26.	-3.2±6	-11±11	5±13
Thorium-234	pCi/L		901.1	2±27	7±55	16±63	33±65	-7.27±65.27	14±19	-133±40	28±37
Americium-241	pCi/L		LAL-0108	-	-	0.022±0.018 UJI|	0.016±0.019 UJI|	0.017±0.027	-	-	-
Carbon-14	pCi/L		LSC	-9±62	68±56	60±76	16±71	-21.±94.	-24±60	-39±47	6±60
Plutonium-241	pCi/L		LAL-0178	-	-	-1.2±2.9 UJm|	-0.3±3.1 UJm|	0.3±4.5	-	-	-
Radium-226	pCi/L	5	903.1M	0.02±0.12	0±0.16	0.05±0.099	0.16±0.13	0.36±0.30	-0.02±0.082	0±0.15	0±0.17
Strontium-90	pCi/L	8	905.0	0.2±0.69	0.25±0.59	2.1±1.1 Je|	0.7±1 UJe|	0.04±0.45	0.07±0.66	-0.03±0.59	0.25±0.44
Tritium	pCi/L	20000*	906.0	30±140	2030±320	570±210	620±220	20±200	0±140	-100±110	0±130

See footnotes at end of table

TABLE B.5
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	METHOD	PCU SUMMER	PCU FALL	STPO WINTER	STPO WINTER D1	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL D1
Gross Alpha	pCi/L	15**	9310	1.2±2.5 |C	0.6±1.2 |C	1.7±3.8	1.4±2.6	1.1±2.4	0.3±1.7 |C	13.9±5.5 |C	2.2±3.2 |C
Gross Beta	pCi/L	50	9310	13.8±3.2 |C	1.9±1.7 |B	0.9±3.5	17.2±4.5	11.9±2.9 Uz|	14.5±2.7	17.1±4.3 |C	17.6±4.3 |C
Actinium-228	pCi/L		901.1	5±9.1	11.±21.	-4±3.9	7.4±9.6	-2.2±7.7	-4±17	1.7±8.3	1.8±9.1
Bismuth-212	pCi/L		901.1	6.13±16.34	9.41±49.06	5±16	5±38	2±15	-19.02±22.10	10.86±17.51	-6.88±17.83
Cesium-137	pCi/L		901.1	0.9±2	2.3±6.6	1.2±1.9	2.6±5.1	-0.5±1.9	-0.2±5.8	-0.9±1.7	1.1±1.7
Bismuth-214	pCi/L		901.1	3.2±5.6	4.±13.	0.8±2.6	17.2±6.1	-0.6±5.1	-3±13	0.2±5.6	5.2±6.0
Cesium-134	pCi/L		901.1	-	-	-	-	-	-	-	-
Cobalt-57	pCi/L		901.1	-	-	-	-	-	-	-	-
Cobalt-60	pCi/L		901.1	0.1±1.3	1.7±3.9	0.53±0.6	-1.1±1.8	-0.7±1.1	0.9±4.2	-1.24±0.82	-0.85±0.69
Lead-210	pCi/L		901.1	-65.01±278.68	18.13±102.56	-0.6±1.5	-0.9±3	80±310	-12.35±101.56	-159.2±134.91	-95.16±284.0
Lead-212	pCi/L		901.1	-2.6±5.2	3.±10.	4.4±5.1	3.4±8.7	-0.5±4.6	-4±10	1.5±5.3	4.8±5.3
Lead-214	pCi/L		901.1	-1.1±5.3	5.±11.	0.7±2.4	12.9±4.9	0.2±4.6	0±11	2.1±5.4	1.7±5.5
Potassium-40	pCi/L		901.1	6±33	15.±72.	24±29	14±69	-4±28	-24±67	3.±32.	1.±33.
Thallium-208	pCi/L		901.1	-0.8±3.2	5.4±6.8	1.5±3.1	1.9±6.7	-0.6±2.8	4.5±8.4	1.1±3.0	2.9±3.4
Uranium-235	pCi/L		901.1	-20±12	-18.±21.	-3.1±6.3	-11±12	-15.6±6.3	4±27	3.±15.	-6.±13.
Thorium-234	pCi/L		901.1	0±42	20.39±66.44	3±18	-2±28	-2±37	28±66	-36.19±43.83	-15.53±43.43
Americium-241	pCi/L		LAL-0108	0.035±0.048 UJl|Y	0.034±0.052	-	-	-	0.002±0.013 UJl|	0.016±0.062	0.00±0.13 |Y
Carbon-14	pCi/L		LSC	-18±66	18.±98.	23±65	-20±60	21±53	-18±66	50±100	8.±97.
Plutonium-241	pCi/L		LAL-0178	2.7±3 UJm|Y	0.00±16.	-	-	-	-2.1±2.2 UJm|	-0.3±3.1	0.5±3.4
Radium-226	pCi/L	5	903.1M	0.03±0.1	0.00±0.28	0.02±0.11	0±0.046	0.07±0.1	0.03±0.076	0.26±0.24	0.36±0.26
Strontium-90	pCi/L	8	905.0	-0.49±0.95 UJe|	-0.24±0.39	0.16±0.68	0.06±0.67	0.18±0.94	1±1 Je|	-0.59±0.54	-0.06±0.56
Tritium	pCi/L	20000*	906.0	120±160	-30±190	0±140	0±130	320±170	10±140	480±250	80±200

See footnotes at end of table

TABLE B.5
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	METHOD	SWL00001 FALL	SWL00001 FALL DI	SWL00002 FALL
Gross Alpha	pCi/L	15**	9310	0.62±0.70	0.27±0.62	0.20±0.52
Gross Beta	pCi/L	50	9310	2.1±1.3	2.6±1.3	0.9±1.2
Actinium-228	pCi/L		901.1	18.±21.	0.0±9.2	11.±20.
Bismuth-212	pCi/L		901.1	-35±30	-9±20	32±48
Cesium-137	pCi/L		901.1	0.2±5.1	-0.5±1.7	-3.8±5.0
Bismuth-214	pCi/L		901.1	-1.±12.	-2.9±6.0	0.00±13.
Cesium-134	pCi/L		901.1	-1.2±3.1	0.4±1.2	-1.7±5.8
Cobalt-57	pCi/L		901.1	0.9±3.5	-0.2±2.1	0.0±3.5
Cobalt-60	pCi/L		901.1	-0.6±2.8	-0.3±1.5	2.7±3.9
Lead-210	pCi/L		901.1	-40±110	-250±130	-80±100
Lead-212	pCi/L		901.1	6.6±9.5	3.4±5.1	6.1±9.5
Lead-214	pCi/L		901.1	7.±11.	-1.4±5.4	4.±11.
Potassium-40	pCi/L		901.1	22.±72.	-13.±29.	-8.±71.
Thallium-208	pCi/L		901.1	1.4±6.8	-0.5±2.9	2.9±6.6
Uranium-235	pCi/L		901.1	-15.±21.	-9.1±8.6	6.±27.
Thorium-234	pCi/L		901.1	-13±66	-20±44	-9±67
Americium-241	pCi/L		LAL-0108	-	-	-
Carbon-14	pCi/L		LSC	0.009±0.062	0.022±0.040	0.022±0.046
Plutonium-241	pCi/L		LAL-0178	-24.±64.	6.±68.	-9.±66.
Radium-226	pCi/L	5	903.1M	-0.4±1.1	-0.6±1.3	-0.7±1.4
Strontium-90	pCi/L	8	905.0	0.40±0.32	0.21±0.25	0.30±0.34
Tritium	pCi/L	20000*	906.0	0.03±0.93	-0.09±0.92	-0.16±0.70

See footnotes at end of table

TABLE B.5
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
RADIONUCLIDES
1994 WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Not analyzed. Storm water runoff available for sampling in the fall quarter only.
MCL = Maximum Contaminant Level (primary), Title 22, Division 4, Chapter 15.
C = California State Action Level, Department of Health Services. * = Proposed MCL. # = USEPA
** = MCL for Gross Alpha does not include anaylsis for Uranium or Radon, however reported Gross Alpha values on this table include all Alpha emitters.

Note: Radionuclide results are reported as calculated value. V, followed by the total uncertainty, T, in the format V±T. A calculated value that exceeds the uncertainty ("positive value") represents 95% level of confidence that measurable radioactivity above zero is present for a given radiounuclide.

Note: Americium-241 and Plutonium-241 were not requested to be performed until the summer quarter.

TABLE B.6
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER DI	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING DI	PCU SUMMER
Calcium	mg/L		22.5	20.4	18.6	20.4	24.9	23.9	24.6	24.2	22.4
Iron	mg/L		0.317	<0.1 Uo|B	<0.1 |B	<0.1 |B	<0.1	0.301	<0.1 Uo|B	<0.1 Uo|B	<0.1
Magnesium	mg/L		22.5	28.5	20.7	22.6	33.4	24	38.6	38	26.3
Potassium	mg/L		4.54	5.48	4.24	4.56	5.2	3.51	<2 |B	<2 |B	6.79
Chloride	mg/L		23	85	120	120	57.	12	17	17	100
Sodium	mg/L		30.6	87.3	134	148	59.6	18.7	21.9	21.6	140
Sulfate	mg/L	400*	30	47	68	68	38.	28	28	28	93
Phosphate, Total (as P)	mg/L		<1	<1	<2	<2	<1	<1	<1	<1	<2
Ammonia-Nitrogen	mg/L		0.29	0.6	0.077	0.072	0.35	0.097	0.068	0.053	1.5
Nitrogen, Nitrate (as N)	mg/L	10#	1.6	3.7	1.5	1.5	3.6	4.3	<0.1	<0.1	1.1
Total Kjeldahl Nitrogen	mg/L		0.93	1.5	0.66	0.58	0.72	<0.5	<0.5	<0.5	2.2
Alkalinity Total(as CaCO3)	mg/L		130	160	190	180	190	100	210	200	230

See footnotes at end of table

TABLE B.6
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCU FALL	STPO WINTER	STPO WINTER D1	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL D1	SWL00001 FALL	SWL00001 FALL D1
Calcium	mg/L		22.1	19.5	19.7	18.7	18.7	19.3	19.1	<2 |B	<2 |B
Iron	mg/L		<0.1	0.506	0.284	<0.1 Uo|B	<0.1	<0.1 |B	<0.1 |B	<0.1 Up|B	<0.1 Up|B
Magnesium	mg/L		32	20.3	21.1	21.6	19.9	19.5	19.1	<2 |B	<2 |B
Potassium	mg/L		<2 |B	12.9	14.3	10	5.77	12.3	11.5	<0.62 |B	<0.62 |B
Chloride	mg/L		12.	140	150	100	130	160	160	1.7	1.6
Sodium	mg/L		14.4	155	164	129	156	164	158	<2 |BE	<2 Up|BE
Sulfate	mg/L	400*	24.	56	56	58	56	65.	64.	1.2	1.3
Phosphate, Total (as P)	mg/L		<1	<2	<2	2.9	<2	<4	<4	<1	<1
Ammonia-Nitrogen	mg/L		<0.05	5.3	4.9	4.8	3.3	5.8	5.7	0.54	0.68
Nitrogen, Nitrate (as N)	mg/L	10#	0.29	8.5	6.7	6.1	0.89	3.6	3.6	0.29	0.28
Total Kjeldahl Nitrogen	mg/L		<0.5	6.5	6.2	6.7	3.5	6.1	6.0	-	-
Alkalinity Total(as CaCO3)	mg/L		170	180	200	200	200	180	190	<10	<10

See footnotes at end of table

TABLE B.6
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	SWL00002 FALL
Calcium	mg/L		<2 |B
Iron	mg/L		<0.1 Up|B
Magnesium	mg/L		<2 |B
Potassium	mg/L		<2
Chloride	mg/L		1.1
Sodium	mg/L		<2 |BE
Sulfate	mg/L	400*	<1
Phosphate, Total (as P)	mg/L		<1
Ammonia-Nitrogen	mg/L		0.43
Nitrogen, Nitrate (as N)	mg/L	10#	0.16
Total Kjeldahl Nitrogen	mg/L		-
Alkalinity Total(as CaCO3)	mg/L		<10

See footnotes at end of table

TABLE B.6
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER,1994
ANIONS AND CATIONS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers

TABLE B.7
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCD WINTER	PCD SPRING	PCD SUMMER	PCD SUMMER DI	PCD FALL	PCU WINTER	PCU SPRING	PCU SPRING DI
Total Dissolved Solids	mg/L		250 |*	410	540	540	330	220 |*	260	260
Total Suspended Solids	mg/L		-	-	-	-	-	-	-	-
Turbidity	NTU		120	17	2.8	3	4.7	130	18	19
Turbidity-F	NTU		>200	14.39	4.44	4.44	6.20	>200	19.72	-
Total Organic Carbon	mg/L		6.5	6.7	4.8	4.5	4.6	9.4	5.1	4.9
Chemical Oxygen Demand	mg/L						19.			
Specific Conductance(EC-F)	umhos		349	766	882	882	409	263	446	-
EH-F	mvolt		133	81	167	167	181	127	108	-
pH-F			7.69	7.68	6.86	6.86	7.47	7.85	8.4	-
Temperature-F	deg C		14.1	25.4	21	21	9.2	10.9	19.8	-
Formaldehyde	mg/L		<1 |N	<0.05 UJm|N	<1 |N	<1 |N	<1 |N	<1 |N	<0.05 UJm|N	<0.05 UJm|N
Total Oil & Grease	mg/L		-	-	-	-	-	-	-	-

See footnotes at end of table

TABLE B.7
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	PCU SUMMER	PCU FALL	STPO WINTER	STPO WINTER DI	STPO SPRING	STPO SUMMER	STPO FALL	STPO FALL DI
Total Dissolved Solids	mg/L		570	220	600 J*	600 J*	500	560	590	580
Total Suspended Solids	mg/L		-	-	-	-	-	-	-	-
Turbidity	NTU		59	10.	6.3	5.5	6.9	6.9	4.6	4.2
Turbidity-F	NTU		-	5.10	88.4	88.4	8.17	10.36	5.29	5.29
Total Organic Carbon	mg/L		6	3.7	8.4	8.4	8.7	4.2	6.5	6.6
Chemical Oxygen Demand	mg/L			19.					25.	24.
Specific Conductance(EC-F)	umhos		933	283	506	506	917	577	1001	1001
EH-F	mvolt		164	148	132	-	88	192	174	174
pH-F			7.6	8.20	7	7	7.15	7.07	7.02	7.02
Temperature-F	deg C		22	6.8	20.2	20.2	25.2	25.9	22.2	22.2
Formaldehyde	mg/L		<1 JN	<1 JN	<1 JN	<1 JN	<0.05 UJm|N	<1 JN	<1 JN	<1 JN
Total Oil & Grease	mg/L		-	-	-	-	-	-	-	-

See footnotes at end of table

TABLE B.7
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER, 1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS CALIFORNIA

Parameter	Units	MCL	SWL00001 FALL	SWL00001 FALL D1	SWL00002 FALL
Total Dissolved Solids	mg/L		<38. UzC	<70. UzC	<32. UzC
Total Suspended Solids	mg/L		<5	<5	<5
Turbidity	NTU		31.	28.	9.8
Turbidity-F	NTU		-	-	-
Total Organic Carbon	mg/l		11.	11.	5.3
Chemical Oxygen Demand	mg/L		26.	28.	10.
Specific Conductance(EC-F)	umhos		56	56	36
EH-F	mvolt		-	-	-
pH-F			-	-	-
Temperature-F	deg C		51	51	53
Formaldehyde	mg/L		<1	<1	<1
Total Oil & Grease	mg/L		<1.00	<1.00	<1.00

See footnotes at end of table

TABLE E.7
ANALYTICAL RESULTS FOR SURFACE WATER AND STORM WATER,1994
OTHER PARAMETERS
1994 ANNUAL WATER MONITORING REPORT
LEHR ENVIRONMENTAL RESTORATION, DAVIS, CALIFORNIA

D1 = Duplicate sample.
UF = Unfiltered sample.
- = Parameter not analyzed. Storm water runoff available for sampling in the fall quarter only.
< = constituent below detection limit. Detection limits may vary depending on interference by other sample constituents.
MCL = Maximum Contaminant Level (primary), Title 22 Division 4 Chapter 15.
* = Proposed USEPA MCL.
C = California State Action Level, Department of Health Services.
# = USEPA MCL.
F = Field measurements.
See Appendix B for explanation of data qualifiers