APPENDIX I TABLE OF CONTENTS

FIGURES

TABLES

LABORATORY REPORTS

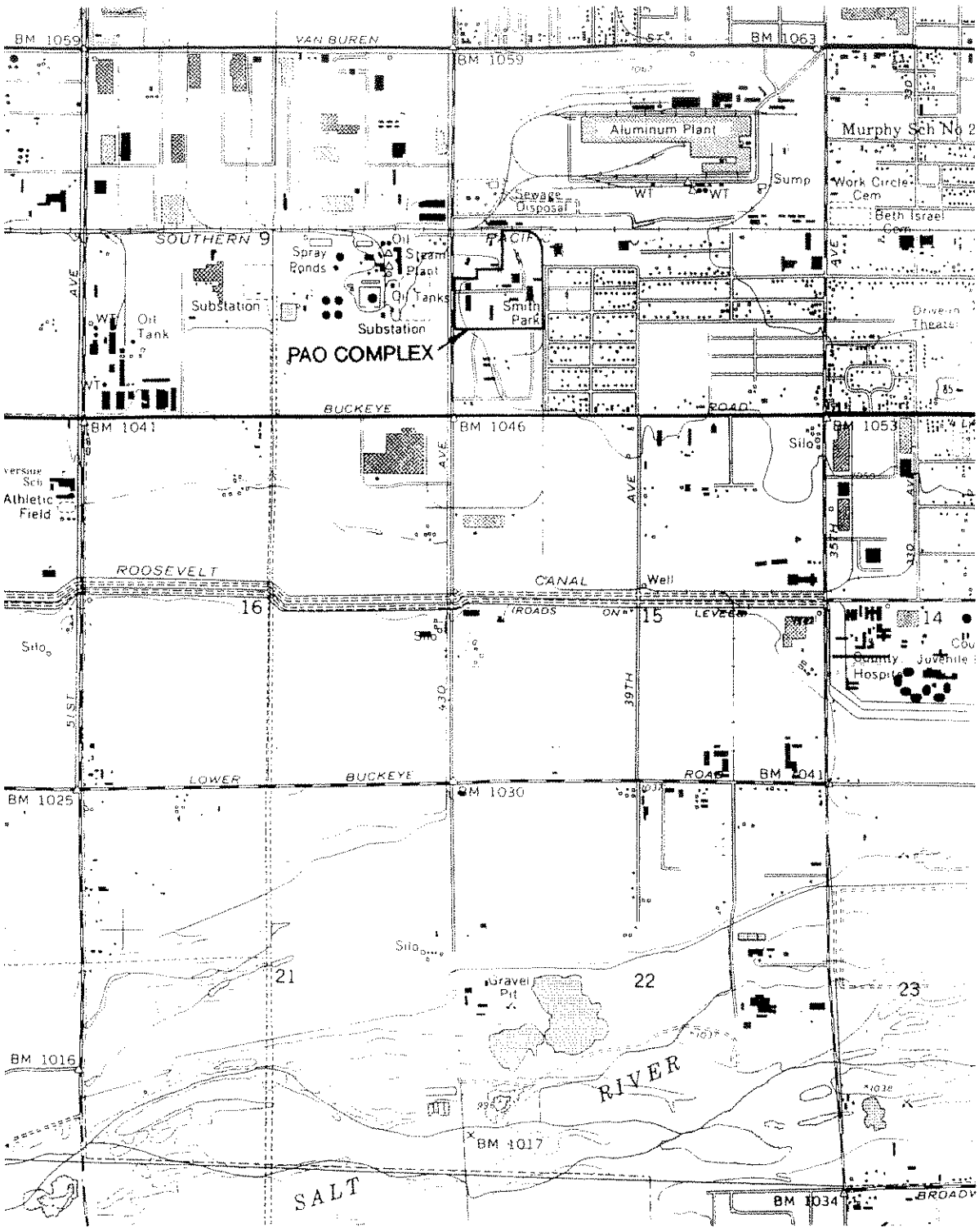
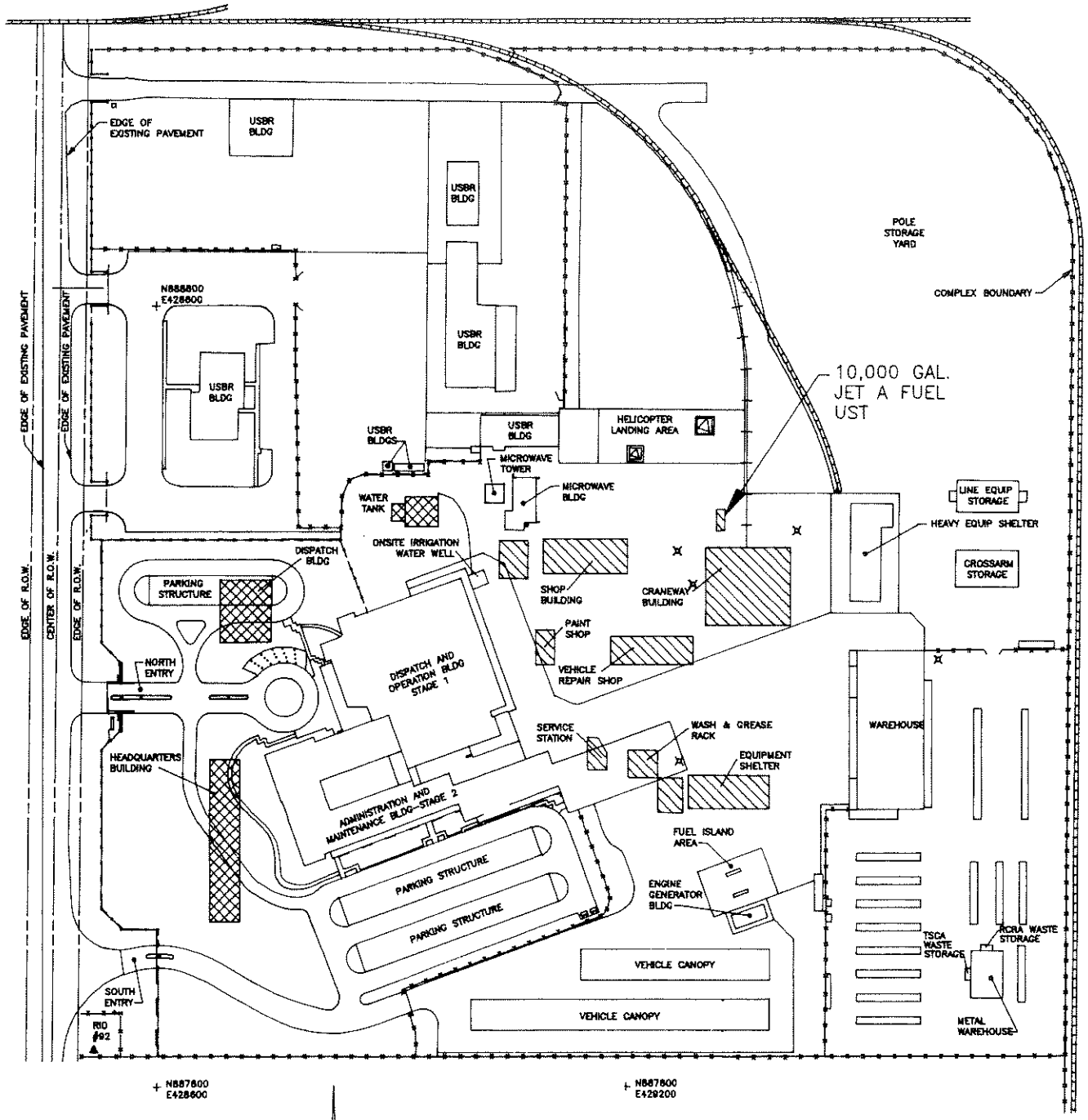


Figure I-1 - Site Location Map

Western Area Power Administration
Phoenix Area Office

Source:
U.S.G.S

SCS ENGINEERS
"Superior Customer Service"

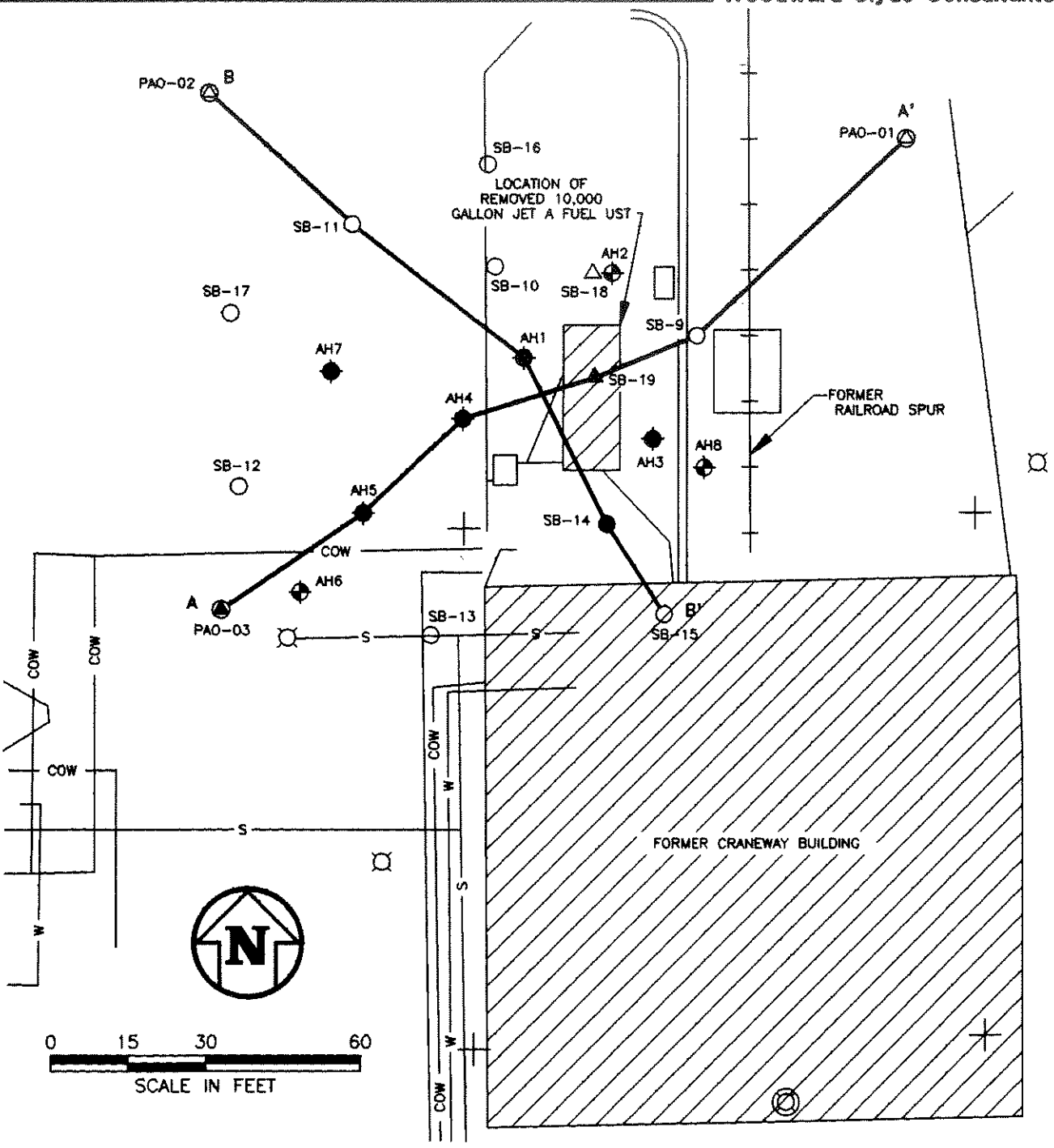


Job No. :	23121E
Prepared by :	D.A.K.
Date :	9/26/93

SITE SPECIFIC MAP
WESTERN AREA POWER ADMINISTRATION
PAO COMPLEX

3121SITE

Figure I-2



LEGEND

- AH2 — JUNE 1992 HSA BORING LOCATION
- AH1 — JUNE 1992 HSA BORING LOCATION SHOWING ELEVATED PETROLEUM HYDROCARBON CONCENTRATIONS
- SB-9 — JULY 1993 HSA BORING LOCATION
- SB-14 — JULY 1993 HSA BORING LOCATION SHOWING ELEVATED PETROLEUM HYDROCARBON CONCENTRATIONS
- SB-18 — JULY 1993 DUAL TUBE BORING LOCATION
- A——A' — TRACE OF GEOLOGICAL CROSS-SECTION
- SB-19 — JULY 1993 DUAL TUBE BORING LOCATION SHOWING ELEVATED PETROLEUM HYDROCARBON CONCENTRATIONS
- PAO-01 — JULY 1993 MONITORING WELL LOCATION
- PAO-03 — JULY 1993 MONITORING WELL LOCATION SHOWING ELEVATED PETROLEUM HYDROCARBON CONCENTRATIONS IN SOIL
- HSA — HOLLOW STEM AUGER
- EXISTING DRYWELL LOCATION
- PROPOSED DRYWELL LOCATION

SOURCE: DOE SUBSURFACE INVESTIGATION FOR THE JET A FUEL UNDERGROUND STORAGE TANK (NOV. 1992)

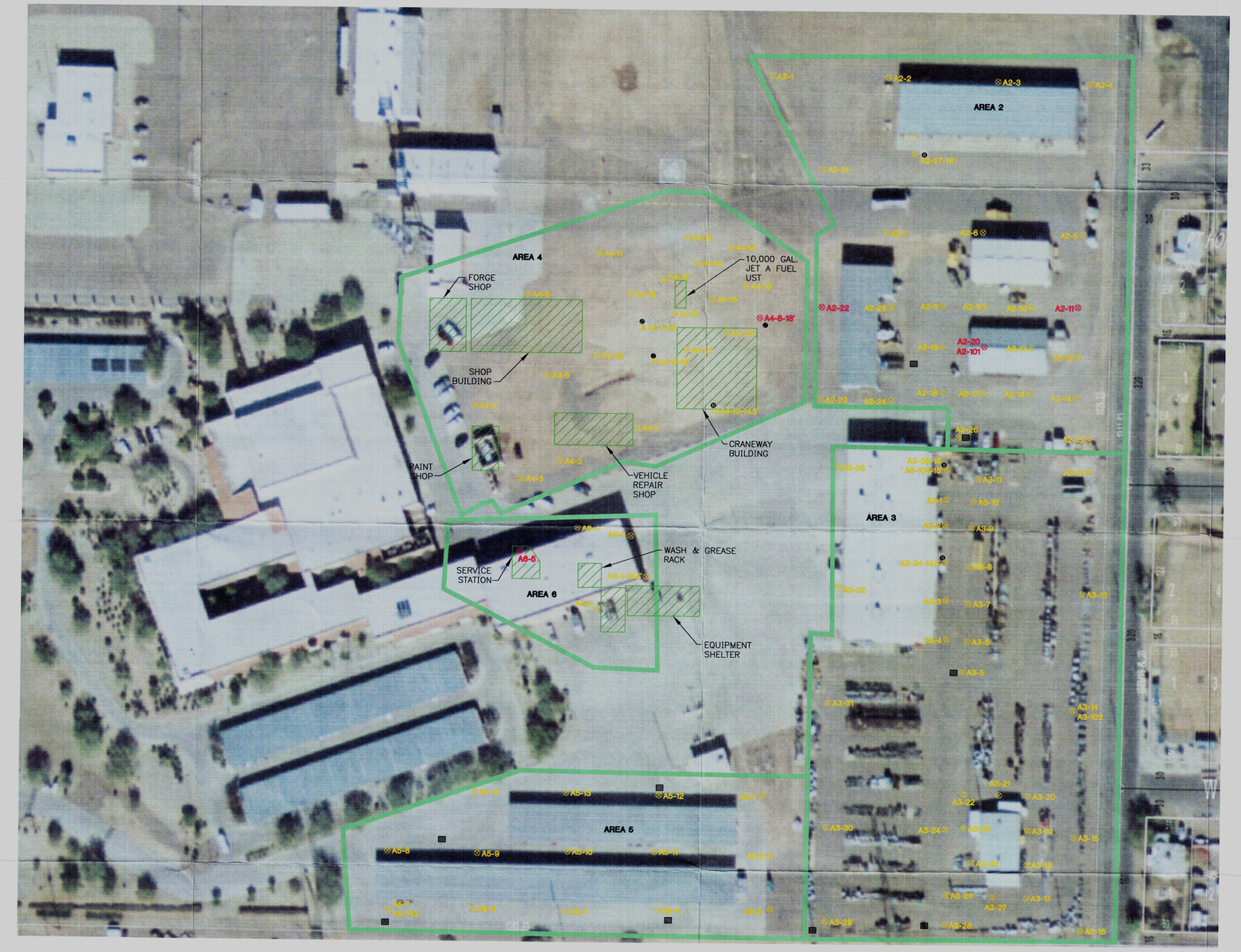
Job No. :	23121E
Prepared by :	D.A.K.
Date :	5/20/94

SOIL BORING AND MONITORING WELL LOCATION MAP

WESTERN AREA POWER ADMINISTRATION
PAO COMPLEX

2312105A

Figure I-3



EXPLANATION

- ⊗A3-31 SAMPLE LOCATION AND IDENTIFICATION
- ⊗A3-31 AT LEAST 1 COMPOUND DETECTED ABOVE LABORATORY PRACTICAL QUANTITATION LIMIT
- STORM DRAIN
- DRYWELL
- ABANDONED DRYWELL
- REMOVED STRUCTURES

NOTE:
1. ALL SAMPLES WERE COLLECTED AT A DEPTH OF 10' UNLESS UTHERWISE NOTED.
2. ALL SAMPLES NUMBERED ABOVE 100 ARE DUPLICATES.

A2-27-16'
- DEPTH
- SAMPLE
- AREA

N

0 60' 120' 180'

HORIZONTAL SCALE IN FEET
1" =60'
(FOR DRAWING SIZE 24"X36")

SCS ENGINEERS
"Superior Customer Service"

Site Plan

Western Area Power Administration
615 South 43rd Avenue
Phoenix,Arizona

Project Number
02.200070.42

Figure I-4

Table I-1 U.S. Department of Energy Well Information
West Van Buren WQARF Site

WVBA WELL ID	OWNER/FACILITY NAME	FACILITY WELL ID	ADWR #	TOTAL DEPTH (FT BTOC)	CASING DIAMETER (INCHES)	PERFORATED INTERVAL (FT BGS)	MEASURING POINT ELEVATION (FT AMSL)
AVB101-01	DOE	MW-1	55-539692	120	4	55-115	1,052.21
AVB101-02	DOE	MW-2	55-539693	120	4	55-115	1,050.78
AVB101-03	DOE	MW-3	55-539694	120	4	55-115	1,049.61
AVB101-04	DOE	Irrigation	55-804260	357	-	-	-

Notes: FT BTOC - Feet Below Top Of Casing
FT BGS - Feet Below Ground Surface
FT AMSL - Feet Above Mean Sea Level

LTS 111857
RIMS 33961
Volume 1

2665 Park Center Drive, Suite D Simi Valley, California 93065 (805) 526-7161 ph (805) 526-7270 fax

Columbia Analytical Services INC.
An Employee - Owned Company

LABORATORY REPORT

Client:	ADEQ	Date of Report:	04/27/05
Address:	1110 West Washington	Date Received:	04/07/05
	Phoenix, AZ 85007	CAS Project No:	P2500724
Contact:	Mr. Wayne Pudney	Purchase Order:	Verbal
Client Project ID:	DOE WAPA	Arizona License No.:	AZ0550

Three (3) Tedlar Bag Samples labeled:

"PAO-SV-A6-1-18.5" "PAO-SV-A4-7-16" "PAO-SV-A4-8-18"

The samples were received at the laboratory under chain of custody on April 07, 2005. The samples were received intact. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time that they were received at the laboratory. The laboratory is Arizona certified for EPA Method TO-15.

Volatile Organic Compound Analysis

The samples were analyzed by combined gas chromatography/mass spectrometry (GC/MS) for volatile organic compounds. The analyses were performed according to the methodology outlined in EPA Method TO-15. However, the method was modified to include the use of Tedlar bags. The analyses were performed by gas chromatography/mass spectrometry, utilizing a direct cryogenic trapping technique. The analytical system used was comprised of a Hewlett Packard Model 5973 GC/MS/DS interfaced to a Tekmar AutoCan Elite whole air inlet system/cryogenic concentrator. A 100% Dimethylpolysiloxane capillary column (RT_x-1, Restek Corporation, Bellefonte, PA) was used to achieve chromatographic separation.

The results of analyses are given on the attached data sheets. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Reviewed and Approved:

Rusty Bravo
Analytical Chemist
Air Quality Laboratory

Received MAY 2005

Reviewed and Approved:

Chris Parnell
GCMS-VOA Team Leader
Air Quality Laboratory

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **PAO-SV-A6-1-18.5**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P2500724-001

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: 4/6/05
Date Received: 4/7/05
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 0.20 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	5.0	ND	2.4	
75-01-4	Vinyl Chloride	ND	5.0	ND	2.0	
74-83-9	Bromomethane	ND	5.0	ND	1.3	
75-00-3	Chloroethane	ND	5.0	ND	1.9	
67-64-1	Acetone	**190**	25	**81**	11	**M**
75-69-4	Trichlorofluoromethane	**84**	5.0	**15**	0.89	
75-35-4	1,1-Dichloroethene	ND	5.0	ND	1.3	
75-09-2	Methylene chloride	ND	5.0	ND	1.4	
76-13-1	Trichlorotrifluoroethane	**27**	5.0	**3.5**	0.65	
75-15-0	Carbon Disulfide	**12**	5.0	**3.7**	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	ND	1.3	
75-34-3	1,1-Dichloroethane	ND	5.0	ND	1.2	
1634-04-4	Methyl tert-Butyl Ether	ND	5.0	ND	1.4	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	**53**	5.0	**18**	1.7	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	ND	1.3	
67-66-3	Chloroform	ND	5.0	ND	1.0	
107-06-2	1,2-Dichloroethane	ND	5.0	ND	1.2	
71-55-6	1,1,1-Trichloroethane	ND	5.0	ND	0.92	
71-43-2	Benzene	**7.7**	5.0	**2.4**	1.6	
56-23-5	Carbon Tetrachloride	ND	5.0	ND	0.80	
78-87-5	1,2-Dichloropropane	ND	5.0	ND	1.1	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
M = Matrix interference; results may be biased high.

Verified By: KMH Date: 04/21/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **PAO-SV-A6-1-18.5**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P2500724-001

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: 4/6/05
Date Received: 4/7/05
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 0.20 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-27-4	Bromodichloromethane	ND	5.0	ND	0.75	
79-01-6	Trichloroethene	**18**	5.0	**3.3**	0.93	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	ND	1.1	
108-10-1	4-Methyl-2-pentanone	**9.5**	5.0	**2.3**	1.2	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	ND	1.1	
79-00-5	1,1,2-Trichloroethane	ND	5.0	ND	0.92	
108-88-3	Toluene	**34**	5.0	**9.1**	1.3	
591-78-6	2-Hexanone	**9.1**	5.0	**2.2**	1.2	
124-48-1	Dibromochloromethane	ND	5.0	ND	0.59	
106-93-4	1,2-Dibromoethane	ND	5.0	ND	0.65	
127-18-4	Tetrachloroethene	**32**	5.0	**4.8**	0.74	
108-90-7	Chlorobenzene	ND	5.0	ND	1.1	
100-41-4	Ethylbenzene	**14**	5.0	**3.2**	1.2	
136777-61-2	*m,p* -Xylenes	**43**	5.0	**10**	1.2	
75-25-2	Bromoform	ND	5.0	ND	0.48	
100-42-5	Styrene	ND	5.0	ND	1.2	
95-47-6	o-Xylene	**27**	5.0	**6.3**	1.2	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	ND	0.73	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ND	0.83	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ND	0.83	
95-50-1	1,2-Dichlorobenzene	ND	5.0	ND	0.83	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

3

Verified By: KMH Date: 04/20/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **PAO-SV-A4-7-16**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P2500724-002

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: 4/6/05
Date Received: 4/7/05
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 0.20 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	5.0	ND	2.4	
75-01-4	Vinyl Chloride	ND	5.0	ND	2.0	
74-83-9	Bromomethane	ND	5.0	ND	1.3	
75-00-3	Chloroethane	ND	5.0	ND	1.9	
67-64-1	Acetone	**230**	25	**95**	11	**M**
75-69-4	Trichlorofluoromethane	**120**	5.0	**21**	0.89	
75-35-4	1,1-Dichloroethene	ND	5.0	ND	1.3	
75-09-2	Methylene chloride	ND	5.0	ND	1.4	
76-13-1	Trichlorotrifluoroethane	**99**	5.0	**13**	0.65	
75-15-0	Carbon Disulfide	**19**	5.0	**6.0**	1.6	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	ND	1.3	
75-34-3	1,1-Dichloroethane	ND	5.0	ND	1.2	
1634-04-4	Methyl tert-Butyl Ether	ND	5.0	ND	1.4	
108-05-4	Vinyl Acetate	ND	5.0	ND	1.4	
78-93-3	2-Butanone (MEK)	**46**	5.0	**16**	1.7	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	ND	1.3	
67-66-3	Chloroform	ND	5.0	ND	1.0	
107-06-2	1,2-Dichloroethane	ND	5.0	ND	1.2	
71-55-6	1,1,1-Trichloroethane	ND	5.0	ND	0.92	
71-43-2	Benzene	**6.8**	5.0	**2.1**	1.6	
56-23-5	Carbon Tetrachloride	ND	5.0	ND	0.80	
78-87-5	1,2-Dichloropropane	ND	5.0	ND	1.1	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
M = Matrix interference; results may be biased high.

Verified By: _____ Date: 04/15/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **PAO-SV-A4-7-16**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P2500724-002

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: 4/6/05
Date Received: 4/7/05
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 0.20 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-27-4	Bromodichloromethane	ND	5.0	ND	0.75	
79-01-6	Trichloroethene	**27**	5.0	**5.0**	0.93	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	ND	1.1	
108-10-1	4-Methyl-2-pentanone	ND	5.0	ND	1.2	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	ND	1.1	
79-00-5	1,1,2-Trichloroethane	ND	5.0	ND	0.92	
108-88-3	Toluene	**25**	5.0	**6.8**	1.3	
591-78-6	2-Hexanone	**7.0**	5.0	**1.7**	1.2	
124-48-1	Dibromochloromethane	ND	5.0	ND	0.59	
106-93-4	1,2-Dibromoethane	ND	5.0	ND	0.65	
127-18-4	Tetrachloroethene	**82**	5.0	**12**	0.74	
108-90-7	Chlorobenzene	ND	5.0	ND	1.1	
100-41-4	Ethylbenzene	**12**	5.0	**2.7**	1.2	
136777-61-2	*m,p* -Xylenes	**37**	5.0	**8.5**	1.2	
75-25-2	Bromoform	ND	5.0	ND	0.48	
100-42-5	Styrene	ND	5.0	ND	1.2	
95-47-6	o-Xylene	**25**	5.0	**5.6**	1.2	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	ND	0.73	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ND	0.83	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ND	0.83	
95-50-1	1,2-Dichlorobenzene	ND	5.0	ND	0.83	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KWH Date: 04/20/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **PAO-SV-A4-8-18**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P2500724-003

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: 4/6/05
Date Received: 4/7/05
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 0.10 Liter(s)
0.040 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	10	ND	4.8	
75-01-4	Vinyl Chloride	ND	10	ND	3.9	
74-83-9	Bromomethane	ND	10	ND	2.6	
75-00-3	Chloroethane	ND	10	ND	3.8	
67-64-1	Acetone	**240**	50	**99**	21	**M**
75-69-4	Trichlorofluoromethane	**130**	10	**23**	1.8	
75-35-4	1,1-Dichloroethene	**100**	10	**26**	2.5	
75-09-2	Methylene chloride	ND	10	ND	2.9	
76-13-1	Trichlorotrifluoroethane	**280**	10	**37**	1.3	
75-15-0	Carbon Disulfide	**19**	10	**6.1**	3.2	
156-60-5	trans-1,2-Dichloroethene	ND	10	ND	2.5	
75-34-3	1,1-Dichloroethane	ND	10	ND	2.5	
1634-04-4	Methyl tert-Butyl Ether	ND	10	ND	2.8	
108-05-4	Vinyl Acetate	ND	10	ND	2.8	
78-93-3	2-Butanone (MEK)	**57**	10	**19**	3.4	
156-59-2	cis-1,2-Dichloroethene	**11**	10	**2.7**	2.5	
67-66-3	Chloroform	**29**	10	**5.9**	2.0	
107-06-2	1,2-Dichloroethane	ND	10	ND	2.5	
71-55-6	1,1,1-Trichloroethane	ND	10	ND	1.8	
71-43-2	Benzene	ND	10	ND	3.1	
56-23-5	Carbon Tetrachloride	ND	10	ND	1.6	
78-87-5	1,2-Dichloropropane	ND	10	ND	2.2	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

M = Matrix interference; results may be biased high.

6

Verified By: KMH Date: 04/21/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **PAO-SV-A4-8-18**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P2500724-003

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: 4/6/05
Date Received: 4/7/05
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 0.10 Liter(s)
0.040 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-27-4	Bromodichloromethane	ND	10	ND	1.5	
79-01-6	Trichloroethene	**1,600**	10	**300**	1.9	
10061-01-5	cis-1,3-Dichloropropene	ND	10	ND	2.2	
108-10-1	4-Methyl-2-pentanone	ND	10	ND	2.4	
10061-02-6	trans-1,3-Dichloropropene	ND	10	ND	2.2	
79-00-5	1,1,2-Trichloroethane	ND	10	ND	1.8	
108-88-3	Toluene	**30**	10	**7.9**	2.7	
591-78-6	2-Hexanone	ND	10	ND	2.4	
124-48-1	Dibromochloromethane	ND	10	ND	1.2	
106-93-4	1,2-Dibromoethane	ND	10	ND	1.3	
127-18-4	Tetrachloroethene	**920**	10	**140**	1.5	
108-90-7	Chlorobenzene	ND	10	ND	2.2	
100-41-4	Ethylbenzene	**16**	10	**3.7**	2.3	
136777-61-2	*m,p* -Xylenes	**51**	10	**12**	2.3	
75-25-2	Bromoform	ND	10	ND	0.97	
100-42-5	Styrene	ND	10	ND	2.3	
95-47-6	o-Xylene	**35**	10	**8.0**	2.3	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	ND	1.5	
541-73-1	1,3-Dichlorobenzene	ND	10	ND	1.7	
106-46-7	1,4-Dichlorobenzene	ND	10	ND	1.7	
95-50-1	1,2-Dichlorobenzene	ND	10	ND	1.7	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KMH Date: 04/8/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **Method Blank**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P050407-MB

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: NA
Date Received: NA
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
74-87-3	Chloromethane	ND	1.0	ND	0.48	
75-01-4	Vinyl Chloride	ND	1.0	ND	0.39	
74-83-9	Bromomethane	ND	1.0	ND	0.26	
75-00-3	Chloroethane	ND	1.0	ND	0.38	
67-64-1	Acetone	ND	5.0	ND	2.1	
75-69-4	Trichlorofluoromethane	ND	1.0	ND	0.18	
75-35-4	1,1-Dichloroethene	ND	1.0	ND	0.25	
75-09-2	Methylene chloride	ND	1.0	ND	0.29	
76-13-1	Trichlorotrifluoroethane	ND	1.0	ND	0.13	
75-15-0	Carbon Disulfide	ND	1.0	ND	0.32	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ND	0.25	
75-34-3	1,1-Dichloroethane	ND	1.0	ND	0.25	
1634-04-4	Methyl tert-Butyl Ether	ND	1.0	ND	0.28	
108-05-4	Vinyl Acetate	ND	1.0	ND	0.28	
78-93-3	2-Butanone (MEK)	ND	1.0	ND	0.34	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ND	0.25	
67-66-3	Chloroform	ND	1.0	ND	0.20	
107-06-2	1,2-Dichloroethane	ND	1.0	ND	0.25	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ND	0.18	
71-43-2	Benzene	ND	1.0	ND	0.31	
56-23-5	Carbon Tetrachloride	ND	1.0	ND	0.16	
78-87-5	1,2-Dichloropropane	ND	1.0	ND	0.22	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit**.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: _____ Date: 04/8/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **Method Blank**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P050407-MB

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: NA
Date Received: NA
Date(s) Analyzed: 4/7/05
Volume(s) Analyzed: 1.00 Liter(s)

D.F. = 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-27-4	Bromodichloromethane	ND	1.0	ND	0.15	
79-01-6	Trichloroethene	ND	1.0	ND	0.19	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ND	0.22	
108-10-1	4-Methyl-2-pentanone	ND	1.0	ND	0.24	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ND	0.22	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ND	0.18	
108-88-3	Toluene	ND	1.0	ND	0.27	
591-78-6	2-Hexanone	ND	1.0	ND	0.24	
124-48-1	Dibromochloromethane	ND	1.0	ND	0.12	
106-93-4	1,2-Dibromoethane	ND	1.0	ND	0.13	
127-18-4	Tetrachloroethene	ND	1.0	ND	0.15	
108-90-7	Chlorobenzene	ND	1.0	ND	0.22	
100-41-4	Ethylbenzene	ND	1.0	ND	0.23	
136777-61-2	*m,p*-Xylenes	ND	1.0	ND	0.23	
75-25-2	Bromoform	ND	1.0	ND	0.097	
100-42-5	Styrene	ND	1.0	ND	0.23	
95-47-6	o-Xylene	ND	1.0	ND	0.23	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ND	0.15	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ND	0.17	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ND	0.17	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ND	0.17	

ND = Compound was analyzed for, but not detected above the **laboratory reporting limit.**
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By: KMH Date: 04/21/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724

Surrogate Spike Recovery Results

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag(s)
Test Notes:

Date Collected: 4/6/05
Date Received: 4/7/05
Date Analyzed: 4/7/05

Client Sample ID	CAS Sample ID	1,2-Dichloroethane-d4		Toluene-d8		Bromofluorobenzene		Data Qualifier
		% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	% Recovered	Acceptance Limits	
Method Blank	P050407-MB	**101**	70-140	**99**	70-140	**96**	70-140	
Lab Control Sample	P050407-LCS	**99**	70-140	**99**	70-140	**98**	70-140	
PAO-SV-A6-1-18.5	P2500724-001	**102**	70-140	**91**	70-140	**91**	70-140	
PAO-SV-A4-7-16	P2500724-002	**100**	70-140	**93**	70-140	**91**	70-140	
PAO-SV-A4-8-18	P2500724-003	**102**	70-140	**94**	70-140	**94**	70-140	

Verified By: KWH Date: 04/21/05

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **ADEQ**
Client Sample ID: **Lab Control Sample**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P050407-LCS

Laboratory Control Sample (LCS) Summary

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 4/7/05
Volume(s) Analyzed: NA Liter

CAS #	Compound	Amount Spiked µg/m³	Amount Recovered µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
74-87-3	Chloromethane	25.50	25.96	**102**	73-122	
75-01-4	Vinyl Chloride	25.50	25.99	**102**	74-134	
74-83-9	Bromomethane	25.75	24.91	**97**	74-127	
75-00-3	Chloroethane	25.50	25.74	**101**	77-132	
67-64-1	Acetone	26.25	24.16	**92**	70-116	
75-69-4	Trichlorofluoromethane	25.75	25.39	**99**	77-134	
75-35-4	1,1-Dichloroethene	26.25	26.46	**101**	78-133	
75-09-2	Methylene chloride	26.00	25.02	**96**	73-124	
76-13-1	Trichlorotrifluoroethane	26.00	25.80	**99**	80-128	
75-15-0	Carbon Disulfide	25.00	24.68	**99**	70-128	
156-60-5	trans-1,2-Dichloroethene	26.50	27.27	**103**	78-133	
75-34-3	1,1-Dichloroethane	26.25	25.86	**99**	77-129	
1634-04-4	Methyl tert-Butyl Ether	26.25	25.81	**98**	80-124	
108-05-4	Vinyl Acetate	26.75	28.27	**106**	47-148	
78-93-3	2-Butanone (MEK)	26.25	29.35	**112**	80-131	
156-59-2	cis-1,2-Dichloroethene	26.00	26.38	**101**	79-132	
67-66-3	Chloroform	26.00	25.48	**98**	75-132	
107-06-2	1,2-Dichloroethane	26.00	26.02	**100**	79-131	
71-55-6	1,1,1-Trichloroethane	26.00	26.28	**101**	81-130	
71-43-2	Benzene	26.00	25.11	**97**	77-124	
56-23-5	Carbon Tetrachloride	26.00	26.96	**104**	81-133	
78-87-5	1,2-Dichloropropane	26.00	26.43	**102**	81-131	

Verified By: _____ Date: 04/8/05

Client: **ADEQ**
Client Sample ID: **Lab Control Sample**
Client Project ID: **DOE WAPA**

CAS Project ID: P2500724
CAS Sample ID: P050407-LCS

Laboratory Control Sample (LCS) Summary

Test Code: Modified EPA TO-15
Instrument ID: Tekmar AUTOCAN/HP5973/HP6890/MS3
Analyst: Rusty Bravo
Sampling Media: Tedlar Bag
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 4/7/05
Volume(s) Analyzed: NA Liter

CAS #	Compound	Amount Spiked µg/m³	Amount Recovered µg/m³	% Recovery	CAS Acceptance Limits	Data Qualifier
75-27-4	Bromodichloromethane	26.50	28.03	**106**	83-139	
79-01-6	Trichloroethene	26.00	25.94	**100**	80-134	
10061-01-5	cis-1,3-Dichloropropene	25.50	27.85	**109**	84-135	
108-10-1	4-Methyl-2-Pentanone	26.25	26.10	**99**	71-146	
10061-02-6	trans-1,3-Dichloropropene	27.50	30.76	**112**	82-134	
79-00-5	1,1,2-Trichloroethane	26.25	27.79	**106**	82-134	
108-88-3	Toluene	26.00	25.21	**97**	78-130	
591-78-6	2-Hexanone	26.25	25.60	**98**	58-156	
124-48-1	Dibromochloromethane	26.25	29.42	**112**	81-143	
106-93-4	1,2-Dibromoethane	26.00	27.57	**106**	80-134	
127-18-4	Tetrachloroethene	26.00	25.76	**99**	81-130	
108-90-7	Chlorobenzene	26.00	25.88	**100**	80-128	
100-41-4	Ethylbenzene	26.00	25.29	**97**	80-129	
136777-61-2	*m,p* -Xylenes	52.00	49.60	**95**	76-126	
75-25-2	Bromoform	26.25	30.81	**117**	80-153	
100-42-5	Styrene	26.00	26.39	**102**	75-136	
95-47-6	o-Xylene	26.25	25.45	**97**	78-127	
79-34-5	1,1,2,2-Tetrachloroethane	26.25	27.48	**105**	82-130	
541-73-1	1,3-Dichlorobenzene	26.00	26.80	**103**	77-129	
106-46-7	1,4-Dichlorobenzene	26.00	25.57	**98**	69-128	
95-50-1	1,2-Dichlorobenzene	26.00	26.19	**101**	74-129	

Verified By: _____ Date: 04/21/05

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: ADEQ Work order: P2500724

Project: DOE WAPA

Sample(s) received on: 4/7/05 Date opened: 4/7/05 by: SM

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client or as required by the method/SOP.

		Yes	No	N/A
1	Were **custody seals** on outside of cooler/Box'?	☐	☒	☐
	Location of seal(s)'? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included'?	☐	☐	☒
	Were seals intact'?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)'? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included'?	☐	☐	☒
	Were seals intact'?	☐	☐	☒
2	Were **sample containers** properly marked with client sample ID'?	☒	☐	☐
3	Did **sample containers** arrive in good condition'?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out'?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers'?	☒	☐	☐
6	Was **sample volume** received adequate for analysis'?	☒	☐	☐
7	Are samples within specified holding times'?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to'?	☐	☐	☒
	Cooler Temperature NA °C			
	Blank Temperature NA °C			
9	Is pH (acid) **preservation** necessary, according to method/SOP or Client specified information'?	☐	☒	☐
	Is there a client indication that the submitted samples are **pH** (acid) preserved'?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles'?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it'?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact'?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact'?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact'?	☐	☐	☒

Lab Sample ID	Required pH (as received, if required)	pH (as received, if required)	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2500724-001			NA	
P2500724-002			NA	
P2500724-003			NA	

Explain any discrepancies: (include lab sample ID numbers):

Columbia Analytical Services INC.
An Employee-Owned Company
www.caslab.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

3902 E. University Dr., Suite 4 • Phoenix, AZ 85034 • (602) 437-2001 • 800-695-7222 x09 • FAX (602) 437-5308

PAGE 1 OF 1

SR # X0500382
CAS Contact

Project Name: DOE WAPA	Project Number:
Project Manager: Wayne Pudney	Report CC:
Company/Address: ADEQ 1110 W Washington Phoenix, AZ 85007	
Phone: 602 771 4192	FAX#:
Sampler's Signature: Wayne Pudney	Sampler's Printed Name: Wayne Pudney

ANALYSIS REQUESTED (Include Method Number and Container Preservative) S. m.

PRESERVATIVE

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	BTEX 602 / 8021	Volatile Organics GC/MS 8260 624 524.2	8015 AZR1 C-10-C-32	PAH 8310	Halogenated & Aromatic 8021 601 / 602	8 RCRA Metals Total TCLP	Lead Total TCLP	Flash Point pH Paint Filter	TO-15						REMARKS/ ALTERNATE DESCRIPTION
PAD-SV-A6-1-18.5	382-001	4/6/05	8:30am	SV	1									X						BSCC 7.04
PAD-SV-A4-7-16	002		9:10am		1									X						
PAD-SV-A4-8-18	003		9:50am		1									X						

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ACID

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE
REQUESTED REPORT DATE

REPORT REQUIREMENTS
___ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
___ V. Specialized Forms / Custom Report
Edata ___ Yes ___ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Wayne Pudney	Signature: Leslie May	Signature: Leslie May	Signature: Shawn McLane	Signature:	Signature:
Printed Name: Wayne Pudney	Printed Name: CAS/Phx	Printed Name: CAS/Phx	Printed Name: CAS	Printed Name:	Printed Name:
Firm: ADEQ	Firm: 4-1-05 1013	Firm: 4/6/05 1030	Firm: 4/7/05 11:00	Firm:	Firm:
Date/Time: 4/6/05 1030	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-0101-06

Columbia Analytical Services INC.
An Employee-Owned Company
www.caslab.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

3902 E. University Dr., Suite 4 • Phoenix, AZ 85034 • (602) 437-2001 • 800-695-7222 x09 • FAX (602) 437-5308

PAGE 1 OF 1

SR # X0500382
CAS Contact

Project Name: DOE WAPA	Project Number:
Project Manager: Wayne Pudney	Report CC:
Company/Address: ADEQ 1110 W Washington Phoenix AZ 85007	
Phone #: 602 771 4192	FAX#:
Sampler's Signature: Wayne Pudney	Sampler's Printed Name: Wayne Pudney

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE	NUMBER OF CONTAINERS	BTEX 602 / 8021	Volatile Organics GC/MS 8260 624 524.2	8015 AZR1 C-10-C-32	PAH 8310	Halogenated & Aromatic 601 / 602 8021	8 RCRA Metals Total TCLP	Lead Total TCLP	Flash Point pH Paint Filter	TO-15
PAD-SV-A6-1-18.5	382-001	4/6/05	8:30am	SV		1									X
PAD-SV-A4-7-18	002	↓	9:10am	↓		1									X
PAD-SV-A4-8-18	003	↓	9:50am	↓		1									X

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ACID

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

X0500382

Arizona Department of Environmental Quality
DOE WAPA

See QAPP ☐

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE
REQUESTED REPORT DATE

REPORT REQUIREMENTS
___ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
___ V. Speicalized Forms / Custom Report
Edata ___ Yes ___ No

INVOICE INFORMATION
PO#
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Wayne Pudney	Signature: Leslie May	Signature	Signature	Signature	Signature
Printed Name: Wayne Pudney	Printed Name: Leslie May	Printed Name	Printed Name	Printed Name	Printed Name
Firm: ADEQ	Firm: CAS/PHX	Firm	Firm	Firm	Firm
Date/Time: 4/6/05 10:30	Date/Time: 4-6-05 1030	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-0101-06

X050 0382

Columbia Analytical Services, Inc.
Phoenix, AZ

Sample Receipt and Preservation Form

Client: AOEC Project Name: DOE WAPA

Sample(s) Received on: 4-6-05 date 1030 time

MeOH Extracts

VOA's ☐ Glass Bottles ☐ Plastic Bottles ☐ Jars ☐ Sleeves ☐ Tedlar Bags ☑ Encores ☐

MATRIX: SOIL ☐ WATER ☐ VAPOR ☐

First Extraction Holding Time Expiration: _____ date _____ time (soils only)

Is first extraction/analysis holding time expiration LESS THAN 24 HOURS(soil)/7 DAYS (water)? Yes ☐ No ☐

If YES, chemist notified on: _____ date _____ time _____ Chemist's Initials

1. Rush or standard turn-a-round time?	RUSH	STANDARD
2. Are the custody seals present? If yes, how many and where? _____	Yes ☐	No ☑
3. Are the signature and date correct?	Yes ☑	No ☐
4. Did all containers arrive in good condition?	Yes ☑	No ☐
5. Are all container labels complete (i.e. preservation, sample ID)?	Yes ☑	No ☐
6. Were the correct containers used for the tests indicated?	Yes ☑	No ☐
7. Have VOA's been checked for the presence of air bubbles? (note problems in comments)	Yes ☐	No ☐ N/A ☑
8. Is there sufficient sample volume to perform the requested analysis?	Yes ☑	No ☐
9. Temperature of sample(s) upon receipt: NA		

Explaination of discrepancies: _____

		YES	NO
pH	Reagent		
12	NaOH		
2	HNO_3		
2	H_2SO_4		
2	HCl		

VOA Vial pH Verification
(Tested After Analysis)

☐ All Samples pH ≤ 2

☐ Following Samples Exhibited pH > 2

Comments: _____

Form Completed and Sample(s) Received by (initials): _____

X050 0382

Columbia Analytical Services, Inc.
Phoenix, AZ
Analysis Acknowledgement Form

The Following tests are preformed at Columbia Analytical Services - Phoenix lab:

Volatiles	8260	624	602	524.2	8021B	8015GRO
Semi-Volatiles	8015AZR1(soils only)			8310	610	8330(soils only)
Wet Chemistry	pH					

Note: Samples for 524.2 Drinking Water will be subcontracted out to our Kelso facility.

All other analysis requested by the client will be subcontracted out. Columbia Analytical Services - Phoenix Lab reserves the option to subcontract any of the above-mentioned tests out due to capacity issues or instrument failures.

Comments: _____

_____

Client Acknowledgement (initials): WDP Date 4/6/05

Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 307853

CLIENT : WOODWARD-CLYDE CONSULTANTS-DENVER
PROJECT # : 23121E
PROJECT NAME : WESTERN PAO

DATE RECEIVED : 07/22/93
REPORT DATE : 08/19/93

PARAMETER	UNITS	10
PETROLEUM HYDROCARBONS,418.1	MG/L	<1
TOTAL ORGANIC CARBON (415.2)	MG/L	<0.5 UJ

NPL TOC

9.21.93

Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 307853

CLIENT : WOODWARD-CLYDE CONSULTANTS-DENVER
PROJECT # : 23121E
PROJECT NAME : WESTERN PAO

DATE RECEIVED : 07/22/93
REPORT DATE : 08/19/93

PARAMETER	UNITS	01	02 x25	03 x10	04	05
% MOISTURE	%	14.2	18.3	18.2	17.8	18.9
PETROLEUM HYDROCARBONS, IR	MG/KG	<20	14000	2700	<20	<20
TOTAL ORGANIC CARBON (WB)	%	0.05 J	0.06 J	<0.01 UJ	0.09 J	0.06 J

low std: $\frac{10\,mg}{ml} \times \frac{20\,ml}{10\,g} = \frac{200\,mg}{10\,g} = 20\,mg/g = 20\,mg/kg$

high std: $\frac{384\,mg}{ml} \times \frac{20\,ml}{10\,g} = \frac{7680\,mg}{10} = 768\,mg/g = 768\,mg/kg$

ok. Sample 02: $768 \times 25 = 19200$ = high std

$1 - .183 = .817$ = % solids

$19200 \times .817 = 15686$ = highest level that could be reported

ok. Sample 02: $768 \times 10 = 7680$ = high std

$1 - .182 = .818$

$768 \times .818 = 6282$

nh 9-21-93

Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 307853

CLIENT : WOODWARD-CLYDE CONSULTANTS-DENVER
PROJECT # : 23121E
PROJECT NAME : WESTERN PAO

DATE RECEIVED : 07/22/93
REPORT DATE : 08/19/93

PARAMETER	UNITS	06	07	08	09	11
% MOISTURE	%	13.7	14.0	13.8	17.4	17.3
PETROLEUM HYDROCARBONS, IR	MG/KG	<20	<20	<20	<20	<20
TOTAL ORGANIC CARBON (WB)	%	0.19J	<0.01UJ	<0.01UJ	<0.01UJ	<0.01UJ

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785301

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-14-013	DATE ANALYZED	: 07/29/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.029
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.029
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.029~~ R
1,3-DICHLOROBENZENE	<0.029
1,2 & 1,4-DICHLOROBENZENE	<0.029
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.029
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.029
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.029
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	109
BROMOFLUOROBENZENE (%)	98

9.21.93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785302

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-14-018	DATE ANALYZED	: 07/29/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.031
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.031
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.031~~ R
1,3-DICHLOROBENZENE	<0.031
1,2 & 1,4-DICHLOROBENZENE	<0.031
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.031
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	0.23
TOLUENE	<0.031
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.031
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	104
BROMOFLUOROBENZENE (%)	115

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785303

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-14-028	DATE ANALYZED	: 07/29/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.031
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.031
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER — not in VOH std	~~<0.031~~ R
1,3-DICHLOROBENZENE	<0.031
1,2 & 1,4-DICHLOROBENZENE	<0.031
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.031
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	0.049 J
TOLUENE	<0.031
1,1,1-TRICHLOROETHANE	0.032 J
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE — Not in VOH Std	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.031
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	90
BROMOFLUOROBENZENE (%)	230*

* Result out of limits due to sample matrix interference

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785304

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-15-028	DATE ANALYZED	: 07/30/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.030
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.030
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.030~~ R
1,3-DICHLOROBENZENE	<0.030
1,2 & 1,4-DICHLOROBENZENE	<0.030
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.030
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.030
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.030
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	92
BROMOFLUOROBENZENE (%)	103

9.21.93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785305

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-13-018	DATE ANALYZED	: 07/30/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.031
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.031
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.031~~ R ✓
1,3-DICHLOROBENZENE	<0.031
1,2 & 1,4-DICHLOROBENZENE	<0.031
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.031
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.031
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R ✓
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.031
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	86
BROMOFLUOROBENZENE (%)	104

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785306

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-13-023	DATE ANALYZED	: 07/30/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.029
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.029
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.029~~ R
1,3-DICHLOROBENZENE	<0.029
1,2 & 1,4-DICHLOROBENZENE	<0.029
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.029
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.029
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.029
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	92
BROMOFLUOROBENZENE (%)	101

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785307

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-09-013	DATE ANALYZED	: 07/30/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.029
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.029
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.029~~ R
1,3-DICHLOROBENZENE	<0.029
1,2 & 1,4-DICHLOROBENZENE	<0.029
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.029
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.029
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.029
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	101
BROMOFLUOROBENZENE (%)	101

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785308

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-09-017	DATE ANALYZED	: 07/30/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.029
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.029
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.029~~ R
1,3-DICHLOROBENZENE	<0.029
1,2 & 1,4-DICHLOROBENZENE	<0.029
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.029
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.029
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.029
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	102
BROMOFLUOROBENZENE (%)	103

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785309

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-09-027	DATE ANALYZED	: 07/30/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.030
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.030
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.030~~ R
1,3-DICHLOROBENZENE	<0.030
1,2 & 1,4-DICHLOROBENZENE	<0.030
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.030
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.030
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.030
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	83
BROMOFLUOROBENZENE (%)	89

9-21-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785311

TEST : VOLATILE HALOCARBON/AROMATIC (EPA 8010/8020)

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: 07/23/93
CLIENT I.D.	: SB-13-028	DATE ANALYZED	: 07/30/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.030
BROMODICHLOROMETHANE	<0.012
BROMOFORM	<0.012
BROMOMETHANE	<0.012
CARBON TETRACHLORIDE	<0.012
CHLOROBENZENE	<0.030
CHLOROETHANE	<0.012
CHLOROFORM	<0.012
CHLOROMETHANE	<0.012
DIBROMOCHLOROMETHANE	<0.012
2-CHLOROETHYL VINYL ETHER	~~<0.030~~ R ✓
1,3-DICHLOROBENZENE	<0.030
1,2 & 1,4-DICHLOROBENZENE	<0.030
DICHLORODIFLUOROMETHANE	<0.012
1,1-DICHLOROETHANE	<0.012
1,2-DICHLOROETHANE	<0.012
1,1-DICHLOROETHENE	<0.012
1,2-DICHLOROETHENE(TOTAL)	<0.012
1,2-DICHLOROPROPANE	<0.012
CIS-1,3-DICHLOROPROPENE	<0.012
TRANS-1,3-DICHLOROPROPENE	<0.012
ETHYLBENZENE	<0.030
METHYLENE CHLORIDE	<0.12
1,1,2,2-TETRACHLOROETHANE	<0.012
TETRACHLOROETHENE	<0.012
TOLUENE	<0.030
1,1,1-TRICHLOROETHANE	<0.012
1,1,2-TRICHLOROETHANE	<0.012
TRICHLOROETHENE	<0.012
TRICHLOROTRIFLUOROETHANE	~~<0.12~~ R ✓
VINYL CHLORIDE	<0.012
TOTAL XYLENES	<0.030
TRICHLOROFLUOROMETHANE	<0.012

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	82
BROMOFLUOROBENZENE (%)	94

8/4-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785310

TEST : EPA METHOD 502.2

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/22/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: N/A
CLIENT I.D.	: SB-09-051	DATE ANALYZED	: 08/03/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
VINYL CHLORIDE	<0.2
BENZENE	<0.5
CARBON TETRACHLORIDE	<0.2
1,2-DICHLOROETHANE	<0.2
TRICHLOROETHYLENE (TCE)	<0.2
PARA-DICHLOROBENZENE	<0.5
1,1-DICHLOROETHYLENE	<0.2
1,1,1-TRICHLOROETHANE	<0.2
CIS-1,2-DICHLOROETHYLENE	<0.2
1,2-DICHLOROPROPANE	<0.2
ETHYLBENZENE	<0.5
CHLOROBENZENE	<0.5
ORTHO-DICHLOROBENZENE	<0.5
STYRENE	<0.5
TETRACHLOROETHYLENE	<0.2
TOLUENE	<0.5
TRANS-1,2-DICHLOROETHYLENE	<0.2
META,PARA-XYLENE (TOTAL)	<0.5
ORTHO-XYLENE	<0.5
CHLOROMETHANE	<0.2
BROMOMETHANE	<0.2
CHLOROETHANE	<0.2
1,3-DICHLOROPROPENE (TOTAL)	<0.2
DIBROMOMETHANE	<0.2
1,1-DICHLOROPROPENE	<0.2
1,3-DICHLOROPROPANE	<0.2
1,2,3-TRICHLOROPROPANE	<0.2
2,2-DICHLOROPROPANE	<0.2
CHLOROFORM	<0.2
BROMOFORM	<0.2
BROMODICHLOROMETHANE	<0.2
CHLORODIBROMOMETHANE	<0.2
DICHLOROMETHANE	<2.0
ORTHO-CHLOROTOLUENE	<0.5
PARA-CHLOROTOLUENE	<0.5
META-DICHLOROBENZENE	<0.5
1,1-DICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
1,1,1,2-TETRACHLOROETHANE	<0.2
1,1,2,2-TETRACHLOROETHANE	<0.2
BROMOBENZENE	<0.5

9.21.93

(CONTINUED NEXT PAGE)

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785310

TEST : EPA METHOD 502.2

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<0.5
TRICHLOROFLUOROMETHANE	<0.5
BROMOCHLOROMETHANE	<0.2
1,2-DIBROMOETHANE	<1.0
ISO-PROPYLBENZENE	<2.0
N-PROPYLBENZENE	<1.0
1,3,5-TRIMETHYLBENZENE	<1.0
1,2,4-TRIMETHYLBENZENE	<0.5
TERT-BUTYLBENZENE	<0.5
SEC-BUTYLBENZENE	<0.5
P-ISOPROPYLTOLUENE	<0.5
N-BUTYLBENZENE	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	<1.0
1,2,4-TRICHLOROBENZENE	<0.5
NAPHTHALENE	<1.0
1,2,3-TRICHLOROBENZENE	<0.5
HEXACHLOROBUTADIENE	<1.0
TRANS-1,3-DICHLOROPROPENE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
SURROGATE PERCENT RECOVERIES	
1-CHLORO-2-FLUOROBENZENE (PID) (%)	105
1-CHLORO-2-FLUOROBENZENE (HALL) (%)	109

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785312

TEST : EPA METHOD 502.2

CLIENT	: WOODWARD-CLYDE CONSULTANTS-DENVER	DATE SAMPLED	: 07/21/93
PROJECT #	: 23121E	DATE RECEIVED	: 07/22/93
PROJECT NAME	: WESTERN PAO	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANK	DATE ANALYZED	: 08/03/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
VINYL CHLORIDE	<0.2
BENZENE	<0.5
CARBON TETRACHLORIDE	<0.2
1,2-DICHLOROETHANE	<0.2
TRICHLOROETHYLENE (TCE)	<0.2
PARA-DICHLOROBENZENE	<0.5
1,1-DICHLOROETHYLENE	<0.2
1,1,1-TRICHLOROETHANE	<0.2
CIS-1,2-DICHLOROETHYLENE	<0.2
1,2-DICHLOROPROPANE	<0.2
ETHYLBENZENE	<0.5
CHLOROBENZENE	<0.5
ORTHO-DICHLOROBENZENE	<0.5
STYRENE	<0.5
TETRACHLOROETHYLENE	<0.2
TOLUENE	<0.5
TRANS-1,2-DICHLOROETHYLENE	<0.2
META,PARA-XYLENE (TOTAL)	<0.5
ORTHO-XYLENE	<0.5
CHLOROMETHANE	<0.2
BROMOMETHANE	<0.2
CHLOROETHANE	<0.2
1,3-DICHLOROPROPENE (TOTAL)	<0.2
DIBROMOMETHANE	<0.2
1,1-DICHLOROPROPENE	<0.2
1,3-DICHLOROPROPANE	<0.2
1,2,3-TRICHLOROPROPANE	<0.2
2,2-DICHLOROPROPANE	<0.2
CHLOROFORM	<0.2
BROMOFORM	<0.2
BROMODICHLOROMETHANE	<0.2
CHLORODIBROMOMETHANE	<0.2
DICHLOROMETHANE	<2.0
ORTHO-CHLOROTOLUENE	<0.5
PARA-CHLOROTOLUENE	<0.5
META-DICHLOROBENZENE	<0.5
1,1-DICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
1,1,1,2-TETRACHLOROETHANE	<0.2
1,1,2,2-TETRACHLOROETHANE	<0.2
BROMOBENZENE	<0.5

9-21-93

(CONTINUED NEXT PAGE)

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30785312

TEST : EPA METHOD 502.2

COMPOUNDS	RESULTS
DICHLORODIFLUOROMETHANE	<0.5
TRICHLOROFLUOROMETHANE	<0.5
BROMOCHLOROMETHANE	<0.2
1,2-DIBROMOETHANE	<1.0
ISO-PROPYLBENZENE	<2.0
N-PROPYLBENZENE	<1.0
1,3,5-TRIMETHYLBENZENE	<1.0
1,2,4-TRIMETHYLBENZENE	<0.5
TERT-BUTYLBENZENE	<0.5
SEC-BUTYLBENZENE	<0.5
P-ISOPROPYLTOLUENE	<0.5
N-BUTYLBENZENE	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	<1.0
1,2,4-TRICHLOROBENZENE	<0.5
NAPHTHALENE	<1.0
1,2,3-TRICHLOROBENZENE	<0.5
HEXACHLOROBUTADIENE	<1.0
TRANS-1,3-DICHLOROPROPENE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
SURROGATE PERCENT RECOVERIES	
1-CHLORO-2-FLUOROBENZENE (PID) (%)	101
1-CHLORO-2-FLUOROBENZENE (HALL) (%)	108

Analytical Technologies, Inc., Albuquerque, NM

San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland

CHAIN OF CUSTODY

DATE: 7/22/93 PAGE 1 OF 2

ATI LAB I.D. 307853

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: Jeff Ehrenzeller

COMPANY: Woodward-Clyde Consultants
ADDRESS: 4582 So. Ulster St. Ste 1000
Denver, Co. 80237
PHONE: 303-740-2799
FAX: 303 694-3946

BILL TO: Same
COMPANY:
ADDRESS:
303 740-3817

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
SB-14-013	7/22/93	0902	Soil	1
SB-14-018	7/22/93	0934		2
SB-14-028	7/22/93	1005		3
SB-15-028	7/22/93	1704		4
SB-13-018	7/22/93	0640		5
SB-13-023	7/22/93	0705		6
SB-09-013	7/22/93	1230		7
SB-09-017	7/22/93	1242		8
SB-09-027	7/22/93	1411		9

Petroleum Hydrocarbons (418.1) ✓ (1)
(MOD 8015) Gas/Diesel ✓ (2)
Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020) ✓ (3)
BTXE/MTBE (8020) ✓ (4)
Mud Bois Kerosene TOC (9060) Wilbey Black (Soil) ✓ (5)
Chlorinated Hydrocarbons (601/8010) ✓ (6)
Aromatic Hydrocarbons (602/8020) ✓ (7)
SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg. ✓ (8)
Pesticides/PCB (608/8080) ✓ (9)
Herbicides (615/8150) ✓ (10)
Base/Neutral/Acid Compounds GC/MS (625/8270) ✓ (11)
Volatile Organics GC/MS (624/8240) ✓ (12)
Polynuclear Aromatics (610/8310) ✓ (13)
SDWA Primary Standards - Arizona ✓ (14)
SDWA Secondary Standards - Arizona ✓ (15)
SDWA Primary Standards - Federal ✓ (16)
SDWA Secondary Standards - Federal ✓ (17)
The 13 Priority Pollutant Metals ✓ (18)
RCRA Metals by Total Digestion ✓ (19)
RCRA Metals by TCLP (1311) ✓ (20)

NUMBER OF CONTAINERS: X X 2 2 2 2 2 2 2

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.: 23121E		NO. CONTAINERS	1820
PROJ. NAME: Western PAO		CUSTODY SEALS	(Y) N / NA
P.O. NO.: 23121E-005C		RECEIVED INTACT	Y
SHIPPED VIA:		RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEK

Comments: MS/MSD on #1

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Edward Fall Time: 655	Signature: Time:	Signature: Time:
Printed Name: Edward Fall Date: 7/22/93	Printed Name: Date:	Printed Name: Date:
Company: Woodward-Clyde Phone: 225 0050	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY:(LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 655
Printed Name: Date:	Printed Name: Date:	Printed Name: Date: MARGE CENTER Revised 7/22/93
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR

Analytical **Technologies,** Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland

CHAIN OF CUSTODY

DATE: 7/22/93 PAGE 2 OF 2

ATI LAB I.D. 307853

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: Jeff Ehrenzeller

COMPANY: Woodward-Clyde Consultants
ADDRESS: 4582 So. Ulster St. Ste 1000
Denver, Co. 80237
PHONE: 303-740-2799
FAX: 303-694-3946

BILL TO: Same
COMPANY:
ADDRESS:
303-740-3817

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1) BLS 181	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	Mod 8015 Kerosene TOC (9060 Modified) Walkley Black Soil	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1, 503.1), 502.2 Reg. & Unreg.	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
SB-14-013 MS/MSD	7/22/93	0902	Soil	10	/			/	/	/	/														2
SB-09-051	7/22/93	1505	H_2O	10	/			/	/		/														2
SB-13-028	7/22/93	0720	Soil	11	/			/	/	/	/														2
Trip Blank	7/21/93	715	Aq	12							/														1

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.:	23121E	NO. CONTAINERS	15
PROJ. NAME:	Western PAO	CUSTODY SEALS	(Y) / N / NA
P.O. NO.:	23121E-005C	RECEIVED INTACT	Y
SHIPPED VIA:		RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☐ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Edward Fall Time: 655	Signature: Time:	Signature: Time:
Printed Name: Edward Fall Date: 7/22/93	Printed Name: Date:	Printed Name: Date:
Company: Woodward-Clyde Phone: 225-0150	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY (LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1655
Printed Name: Date:	Printed Name: Date:	Printed Name: MARGUERITE ORISCOLL Date: 7/22/93
Company:	Company:	Analytical Technologies, Inc.

ATI Labs: San Diego (619) 458-9141 ▪ Phoenix (602) 496-4400 ▪ Seattle (206) 228-8335 ▪ Pensacola (904) 474-1001 ▪ Portland (503) 684-0447 ▪ Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ATI ▪ Pink - ORIGINATOR