

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
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Clayton
ENVIRONMENTAL
CONSULTANTS

December 9, 1994

COPY

1994
FILE

Mr. William Block
CAPSULE ENVIRONMENTAL ENGINEERING, INC.
1970 Oakcrest Avenue, Suite 213
St. Paul, Minnesota 55113-2624

Clayton Project No. 59125.00

Subject: Analytical results of monitoring wells at the Ingersoll-Rand facility in San Leandro, California

Dear Mr. Block:

Clayton Environmental Consultants, Inc. is pleased to present the enclosed analytical results for the groundwater sampling conducted on October 20, and 21, 1994 at the Ingersoll-Rand facility located at 1944 Marina Boulevard in San Leandro, California.

Groundwater samples were collected from wells MW-1, MW-2, MW-3, MW-4 and OB-1. Prior to sampling the static water depths were measured and 4 to 5 casing volumes of water were purged according to standard Clayton Sampling Protocol. Two Department of Transportation (DOT) approved 55-gallon drums were left onsite to store the purge water. Upon completion of well sampling a sample from the purge drums was collected to characterize the purge water.

Groundwater samples from monitoring wells MW-1, MW-2, MW-3, and MW-4, observation well OB-1, and the purged water DS-1 were analyzed using Environmental Protection Agency (EPA) Methods 8260 for volatile organic compounds (VOCs), EPA Method 8015 modified for gasoline, and EPA 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, the purged water DS-1 was analyzed for reactivity, corrosivity, and ignitability (RCI).

Attachment 1 includes laboratory reports detailing the analyses conducted for water samples collected from monitoring wells MW-1, MW-2, MW-3, and MW-4, observation well OB-1, and for the purged water DS-1. Attachment 2 includes well field sampling forms describing the sampling of the wells. The sampling protocols used for sample collection is included in Attachment 3.

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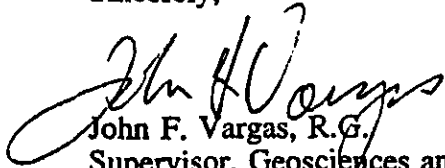
Clayton Environmental Consultants, Inc. • Detroit • New York/Newark • Atlanta • San Francisco • Los Angeles
Honolulu • Windsor, ON • Toronto • Birmingham, U.K. • London, U.K. • Southampton, U.K. • Gateshead, U.K.

Mr. William Block
CAPSULE ENVIRONMENTAL ENGINEERING
December 9, 1994

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Clayton Project No. 59125.00

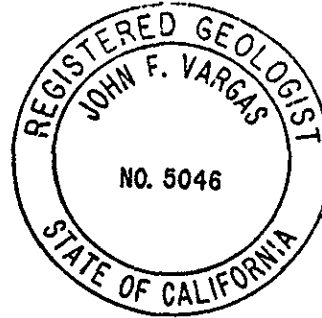
If you have any questions regarding the sampling event, please call me at (510) 426-2676 or Richard Silva at (510) 426-2670.

Sincerely,



John F. Vargas, R.G.
Supervisor, Geosciences and Remediation
Western Operations

JFV/rjs
Enclosures



ATTACHMENT 1
ANALYTICAL RESULTS

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

November 3, 1994

Mr. John Vargas
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 59129.00
Clayton Project No.: 94102.69

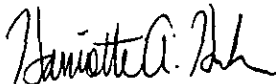
Dear Mr. Vargas:

Attached is our analytical laboratory report for the samples received on October 20, 1994. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after December 3, 1994, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,



Harriotte A. Hurley, CIH
Director, Laboratory Services
Western Operations

HAH/caa

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-1	Date Sampled: 10/20/94
Lab Number: 9410269-01A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	5
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-1	Date Sampled: 10/20/94
Lab Number: 9410269-01A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	11	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-1	Date Sampled: 10/20/94
Lab Number: 9410269-01A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	97	74 - 121
Dibromofluoromethane	1868-53-7	93	80 - 120
Toluene-d8	2037-26-5	102	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification:	MW-2	Date Sampled:	10/20/94
Lab Number:	9410269-02A	Date Received:	10/20/94
Sample Matrix/Media:	WATER	Date Prepared:	10/28/94
Preparation Method:	EPA 5030	Date Analyzed:	10/28/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-2	Date Sampled: 10/20/94
Lab Number: 9410269-02A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	6	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-2	Date Sampled: 10/20/94
Lab Number: 9410269-02A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	113	74 - 121
Dibromofluoromethane	1868-53-7	94	80 - 120
Toluene-d8	2037-26-5	102	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification:	MW-3	Date Sampled:	10/20/94
Lab Number:	9410269-03A	Date Received:	10/20/94
Sample Matrix/Media:	WATER	Date Prepared:	10/28/94
Preparation Method:	EPA 5030	Date Analyzed:	10/28/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds

Acetone	67-64-1	50	20
Benzene	71-43-2	9	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	13	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	19	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	64	5
1,3-Dichlorobenzene	541-73-1	9	5
1,4-Dichlorobenzene	106-46-7	18	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

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Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-3	Date Sampled: 10/20/94
Lab Number: 9410269-03A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	90	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	20	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	29	5
n-Propylbenzene	103-65-1	43	5
sec-Butylbenzene	135-98-8	6	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-3	Date Sampled: 10/20/94
Lab Number: 9410269-03A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2,4-Trimethylbenzene	95-63-6	150	5
1,3,5-Trimethylbenzene	108-67-8	46	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	68	5
p,m-Xylenes	--	140	5

Surrogates

		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	114	74 - 121
Dibromofluoromethane	1868-53-7	96	80 - 120
Toluene-d8	2037-26-5	100	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification:	MW-4	Date Sampled:	10/20/94
Lab Number:	9410269-04A	Date Received:	10/20/94
Sample Matrix/Media:	WATER	Date Prepared:	10/28/94
Preparation Method:	EPA 5030	Date Analyzed:	10/28/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	160	20
Benzene	71-43-2	260	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	17	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	7	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	12	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-4	Date Sampled: 10/20/94
Lab Number: 9410269-04A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	240	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	66	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	96	5
n-Propylbenzene	103-65-1	78	5
sec-Butylbenzene	135-98-8	8	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	34	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	27	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-4	Date Sampled: 10/20/94
Lab Number: 9410269-04A	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2,4-Trimethylbenzene	95-63-6	300	5
1,3,5-Trimethylbenzene	108-67-8	100	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	110	5
p,m-Xylenes	--	330	5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	118	74 - 121
Dibromofluoromethane	1868-53-7	89	80 - 120
Toluene-d8	2037-26-5	97	81 - 117

ND: Not detected at or above limit of detection
 --: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9410269-07A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 10/27/94
Preparation Method: EPA 5030	Date Analyzed: 10/27/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410269-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/27/94
Preparation Method:	EPA 5030	Date Analyzed:	10/27/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
 for
 Clayton Environmental Consultants, Inc.
 Client Reference: 59129.00
 Clayton Project No. 94102.69

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9410269-07A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 10/27/94
Preparation Method: EPA 5030	Date Analyzed: 10/27/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	96	74 - 121
Dibromofluoromethane	1868-53-7	93	80 - 120
Toluene-d8	2037-26-5	100	81 - 117

ND: Not detected at or above limit of detection
 --: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-1	Date Sampled: 10/20/94
Lab Number: 9410269-01C	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/31/94
Preparation Method: EPA 5030	Date Analyzed: 10/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	76	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
 for
 Clayton Environmental Consultants, Inc.
 Client Reference: 59129.00
 Clayton Project No. 94102.69

Sample Identification: MW-2	Date Sampled: 10/20/94
Lab Number: 9410269-02C	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/31/94
Preparation Method: EPA 5030	Date Analyzed: 10/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	90	50 - 150

ND: Not detected at or above limit of detection
 --: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-3	Date Sampled: 10/20/94
Lab Number: 9410269-03C	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/31/94
Preparation Method: EPA 5030	Date Analyzed: 10/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	8.9	0.4
Ethylbenzene	100-41-4	96	0.3
Toluene	108-88-3	4.4	0.3
o-Xylene	95-47-6	69	0.4
p,m-Xylenes	--	160	0.4
Gasoline	--	2600	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	112	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: MW-4	Date Sampled: 10/20/94
Lab Number: 9410269-04C	Date Received: 10/20/94
Sample Matrix/Media: WATER	Date Prepared: 10/31/94
Preparation Method: EPA 5030	Date Analyzed: 10/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	360	0.4
Ethylbenzene	100-41-4	270	0.3
Toluene	108-88-3	33	0.3
o-Xylene	95-47-6	120	0.4
p,m-Xylenes	--	520	0.4
Gasoline	--	7800	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	102	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification:	METHOD BLANK.	Date Sampled:	--
Lab Number:	9410269-07A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/31/94
Preparation Method:	EPA 5030	Date Analyzed:	10/31/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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BTEX/Gasoline

Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50

Surrogates

		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	90	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
 for
 Clayton Environmental Consultants, Inc.
 Client Reference: 59129.00
 Clayton Project No. 94102.69

Sample Identification: COMPOSITE DRUM SAMPLE DS-1
 Lab Number: 9410269-06
 Sample Matrix/Media: WATER

Date Sampled: 10/20/94
 Date Received: 10/20/94

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
Flash Point	>200	--	Degrees F	--	10/31/94	--	EPA 1010
Reactive Cyanide	<0.1	0.1	mg/L	--	11/01/94	--	EPA 335.2
Reactive Sulfide	<10	10	mg/L	--	11/02/94	--	SW 7.3.4.2
pH	7.2	--	S.U.	--	10/20/94	--	EPA 150.1

ND: Not detected at or above limit of detection
 --: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.69

Sample Identification: METHOD BLANK
Lab Number: 9410269-07
Sample Matrix/Media: WATER

Date Sampled: --
Date Received: --

Analyte	Concentration	Method Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Method Reference
Reactive Cyanide	<0.1	0.1	mg/L	--	11/01/94	--	EPA 335.2
Reactive Sulfide	<10	10	mg/L	--	11/02/94	--	SW 7.3.4.2

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Quality Assurance Results Summary
Matrix Spike/Matrix Spike Duplicate Results
for
Clayton Project No. 94102.69

Quality Assurance Results Summary
for
Clayton Project No. 94102.69

Clayton Lab Number: 9410269-06A
 Prep. Method: EPA7.3.4.2
 Date: 11/01/94
 Analyst: TT
 Sample Source: BAKER 611700
 Sample Matrix/Media: WATER

Analytical Method: EPA7.3.4.2
 Instrument ID: 00008
 Date: 11/02/94
 Time: 09:30
 Analyst: HYW
 Units: mg/L

Sample Type	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
ACTIVE SULFIDE	ND	54.4	50.0	92	46.0	85	88	65	120	8.3	20

LC = Laboratory Control Sample
 ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
 SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94102.69

Clayton Lab Number: 9410300-05
 Prep. Method: EPA5030
 Date: 10/26/94
 Analyst: JP
 Sample Source: M940803-02W
 Sample Matrix/Media: WATER

Analytical Method: EPA624 8240
 Instrument ID: 02831
 Date: 10/26/94
 Time: 01:38
 Analyst: JP
 Units: UG/L

Element	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	ND	50.0	51.0	102	56.0	112	107	61	145	9.3	14
BENZENE	ND	50.0	44.0	88	47.0	94	91	76	127	6.6	11
CHLOROBENZENE	ND	50.0	45.0	90	47.0	94	92	75	130	4.3	13
TOLUENE	ND	50.0	46.0	92	48.0	96	94	76	125	4.3	13
1,1-DICHLOROETHENE	ND	50.0	45.0	90	48.0	96	93	71	120	6.5	14

ND = Laboratory Control Sample
 ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
 SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94102.69

Clayton Lab Number: 9410295-MB
Prep. Method: EPA5030
Date: 10/27/94
Analyst: JP
Sample Source: M940803-01W
Sample Matrix/Media: WATER

Analytical Method: EPA8260
Instrument ID: 05138
Date: 10/27/94
Time: 22:21
Analyst: JP
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix		MS	Matrix Spike	MSD	Average	LCL	UCL	RPD	UCL
			Spike	Result	Recovery (%)	Duplicate Result	Recovery (%)	Recovery (% R)	(% R)	(% R)	(%)	(%RPD)
1,1-DICHLOROETHENE	ND	50.0	50.0		100	48.0	96	98	80	120	4.1	20
BENZENE	ND	50.0	52.0		104	52.0	104	104	80	120	0.0	20
METHYLBENZENE	ND	50.0	54.0		108	52.0	104	106	80	120	3.8	20
TOLUENE	ND	50.0	52.0		104	54.0	108	106	80	120	3.8	20
1,2-DICHLOROETHENE	ND	50.0	52.0		104	52.0	104	104	80	120	0.0	20

LC = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94102.69

Lab Number: 9410294-02D
Prep. Method: EPA5030
Date: 10/31/94
Analyst: WAS
Sample Source: V941024-04W
Sample Matrix/Media: WATER

Analytical Method: EPA8015 8020
Instrument ID: 05587
Date: 10/31/94
Time: 11:15
Analyst: WAS
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix		MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
			Spike	Result								
BENZENE	(PID) ND	8.70		8.70	100	8.50	98	99	81	118	2.3	20
TOLUENE	(PID) ND	7.60		7.80	103	8.00	105	104	81	114	2.5	20
ETHYLENE	(FID) ND	500		422	84	426	85	85	80	150	0.9	25
STYRENE	(PID) ND	37.8		40.0	106	39.3	104	105	84	118	1.8	20
PARA-XYLENE	(PID) ND	45.1		46.1	102	47.0	104	103	85	115	1.9	20

LC = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94102.69

Clayton Lab Number: 9410366-03A
 Prep. Method: EPA335.2
 Date: 11/01/94
 Analyst: HYW
 Source: MALL 6881
 Sample Matrix/Media: WATER

Analytical Method: EPA335.2
 Instrument ID: 07487
 Date: 11/01/94
 Time: 16:30
 Analyst: HYW
 Units: mg/L

Element	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
CHLORIDE	0.133	0.400	0.501	92	0.523	97	95	70	119	4.4	20

LC = Laboratory Control Sample
 - Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
 SOR = Spike out of range due to high sample concentration.

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only Page 1 of 1

Project No. _____

Batch No. **9410269**

Ind. Code _____ W.P. _____

Date Logged In 10/28/94 By [Signature]

REPORT RESULTS TO	Name <u>JOHN VARGAS</u>		Title _____		Purchase Order No. _____		Client Job No. _____		
	Company <u>CLAYTON</u>		Dept. _____		Name <u>JOHN VARGAS</u>		Dept. <u>EMS</u>		
	Mailing Address _____				Company <u>CLAYTON ENVIRONMENTAL</u>		Dept. <u>EMS</u>		
	City, State, Zip _____				Address <u>P.O. Box 9019</u>		City, State, Zip <u>TREASANTZ, CA 94561</u>		
Telephone No. _____		Telefax No. _____		Date Results Req. <u>NORMAL</u>		Rush Charges Authorized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Phone / Fax Results <input type="checkbox"/> <input type="checkbox"/>	
Special Instructions: (method, limit of detection, etc.) <u>HOLD BZCC AND GAS/BTEX - 1740</u>				Samples are: (check if applicable)		ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)			
Explanation of Preservative: <u>ANALYZE BZCC & GAS/BTEX</u> <u>P-H2O 6.45 am 10-21-94 RL</u>				<input type="checkbox"/> Drinking Water <input type="checkbox"/> Collected in the State of New York		Number of Containers			
CLIENT SAMPLE IDENTIFICATION			DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	FOR LAB USE ONLY			
<u>MU-1</u>			<u>10-20-94</u>	<u>H2O</u>	<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>01 A,B</u>
<u>MU-1</u>					<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>C,D</u>
<u>MU-2</u>					<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>02 A,B</u>
<u>MU-2</u>					<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>C,D</u>
<u>MU-3</u>					<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>03 A,B</u>
<u>MU-3</u>					<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>C,D</u>
<u>MU-4</u>					<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>04 A,B</u>
<u>MU-4</u>					<u>40mls</u>	<u>2</u>	<u>XP</u>		<u>C,D</u>
<u>TRAP BENCH # 0100294</u>			<u>X</u>	<u>X</u>	<u>40mls</u>	<u>2</u>		<u>XP</u>	<u>05 A,B</u>
<u>COMPOSITE DRINK SAMPLE DS-1</u>			<u>10-20-94</u>	<u>H2O</u>	<u>500mls (PL)</u>	<u>2</u>		<u>X</u>	<u>06 A,B</u>
CHAIN OF CUSTODY	Collected by: <u>RICHARD SILVA</u> (print)			Collector's Signature: <u>[Signature]</u>					
	Relinquished by: <u>[Signature]</u>			Date/Time: <u>10-28-94 9:45 am</u>			Received by: _____		
	Relinquished by: _____			Date/Time: _____			Received at Lab by: <u>[Signature]</u>		
	Method of Shipment: _____			Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain) <u>540</u>					
Authorized by: _____ Date: _____			(Client Signature <u>Must</u> Accompany Request)						

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethal Drive Novi, MI 48375 (313) 344-1770	Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837 (908) 225-6040	400 Chastain Center Blvd., N.W. Suite 490 Kennesaw, GA 30144 (404) 499-7500	1252 Quarry Lane Pleasanton, CA 94566 (510) 426-2657
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DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Returns

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

November 4, 1994

Mr. John Vargas
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 59129.00
Clayton Project No.: 94102.95

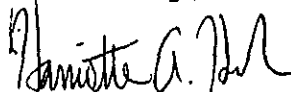
Dear Mr. Vargas:

Attached is our analytical laboratory report for the samples received on October 21, 1994. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after December 4, 1994, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,



Harriotte A. Hurley, CIH
Director, Laboratory Services
Western Operations

HAH/tjb

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification:	OB-1	Date Sampled:	10/21/94
Lab Number:	9410295-01A	Date Received:	10/21/94
Sample Matrix/Media:	WATER	Date Prepared:	10/27/94
Preparation Method:	EPA 5030	Date Analyzed:	10/27/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	120	20
Benzene	71-43-2	48	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	9	5
trans-1,2-Dichloroethene	156-60-5	10	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification: OB-1	Date Sampled: 10/21/94
Lab Number: 9410295-01A	Date Received: 10/21/94
Sample Matrix/Media: WATER	Date Prepared: 10/27/94
Preparation Method: EPA 5030	Date Analyzed: 10/27/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	30	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-3	ND	5
Trichloroethene	79-01-6	66	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification: OB-1	Date Sampled: 10/21/94
Lab Number: 9410295-01A	Date Received: 10/21/94
Sample Matrix/Media: WATER	Date Prepared: 10/27/94
Preparation Method: EPA 5030	Date Analyzed: 10/27/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	96	74 - 121
Dibromofluoromethane	1868-53-7	91	80 - 120
Toluene-d8	2037-26-5	101	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification: DS-1	Date Sampled: 10/21/94
Lab Number: 9410295-03A	Date Received: 10/21/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds

Acetone	67-64-1	50	20
Benzene	71-43-2	240	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	12	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	6	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification: DS-1	Date Sampled: 10/21/94
Lab Number: 9410295-03A	Date Received: 10/21/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds (Continued)</u>			
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	210	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	18	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	82	5
n-Propylbenzene	103-65-1	19	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	25	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	6	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification: DS-1	Date Sampled: 10/21/94
Lab Number: 9410295-03A	Date Received: 10/21/94
Sample Matrix/Media: WATER	Date Prepared: 10/28/94
Preparation Method: EPA 5030	Date Analyzed: 10/28/94
Method Reference: EPA 8260	Analyst: JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2,4-Trimethylbenzene	95-63-6	310	5
1,3,5-Trimethylbenzene	108-67-8	99	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	80	5
p,m-Xylenes	--	280	5

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	120	74 - 121
Dibromofluoromethane	1868-53-7	93	80 - 120
Toluene-d8	2037-26-5	101	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410295-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/27/94
Preparation Method:	EPA 5030	Date Analyzed:	10/27/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>Volatile Organic Compounds</u>			
Acetone	67-64-1	ND	20
Benzene	71-43-2	ND	5
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5
2-Butanone	78-93-3	ND	20
n-Butylbenzene	104-51-8	ND	5
Carbon disulfide	75-15-0	ND	5
Carbon tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	5
2-Chlorotoluene	95-49-8	ND	5
4-Chlorotoluene	106-43-4	ND	5
Dibromochloromethane	124-48-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5
Dibromomethane	74-95-3	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410295-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/27/94
Preparation Method:	EPA 5030	Date Analyzed:	10/27/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	ND	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1,3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
Freon 113	76-13-1	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	ND	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Trichlorofluoromethane	75-69-4	ND	5
1,2,3-Trichloropropane	96-18-4	ND	5

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410295-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/27/94
Preparation Method:	EPA 5030	Date Analyzed:	10/27/94
Method Reference:	EPA 8260	Analyst:	JP

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
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Volatile Organic Compounds (Continued)

1,2,4-Trimethylbenzene	95-63-6	ND	5
1,3,5-Trimethylbenzene	108-67-8	ND	5
Vinyl acetate	108-05-4	ND	10
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47-6	ND	5
p,m-Xylenes	--	ND	5

Surrogates

		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
4-Bromofluorobenzene	460-00-4	96	74 - 121
Dibromofluoromethane	1868-53-7	93	80 - 120
Toluene-d8	2037-26-5	100	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification: OB-1	Date Sampled: 10/21/94
Lab Number: 9410295-02A	Date Received: 10/21/94
Sample Matrix/Media: WATER	Date Prepared: 10/31/94
Preparation Method: EPA 5030	Date Analyzed: 10/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	48	0.4
Ethylbenzene	100-41-4	5.2	0.3
Toluene	108-88-3	3.3	0.3
o-Xylene	95-47-6	0.9	0.4
p,m-Xylenes	--	5.0	0.4
Gasoline	--	2600	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	112	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification: DS-1	Date Sampled: 10/21/94
Lab Number: 9410295-04A	Date Received: 10/21/94
Sample Matrix/Media: WATER	Date Prepared: 10/31/94
Preparation Method: EPA 5030	Date Analyzed: 10/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	290	0.4
Ethylbenzene	100-41-4	250	0.3
Toluene	108-88-3	21	0.3
o-Xylene	95-47-6	79	0.4
p,m-Xylenes	--	380	0.4
Gasoline	--	4400	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	107	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 59129.00
Clayton Project No. 94102.95

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9410295-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	10/31/94
Preparation Method:	EPA 5030	Date Analyzed:	10/31/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	90	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Quality Assurance Results Summary
Matrix Spike/Matrix Spike Duplicate Results
for
Clayton Project No. 94102.95

Quality Assurance Results Summary
for
Clayton Project No. 94102.95

Clayton Lab Number: 9410295-MB
Ext./Prep. Method: EPA5030
Date: 10/27/94
Analyst: JP
Std. Source: W940803-01W
Sample Matrix/Media: WATER

Analytical Method: EPA8260
Instrument ID: 05138
Date: 10/27/94
Time: 22:21
Analyst: JP
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	ND	50.0	50.0	100	48.0	96	98	80	120	4.1	20
BENZENE	ND	50.0	52.0	104	52.0	104	104	80	120	0.0	20
CHLOROBENZENE	ND	50.0	54.0	108	52.0	104	106	80	120	3.8	20
TOLUENE	ND	50.0	52.0	104	54.0	108	106	80	120	3.8	20
TRICHLOROETHENE	ND	50.0	52.0	104	52.0	104	104	80	120	0.0	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94102.95

Clayton Lab Number: 9410294-02D
Ext./Prep. Method: EPA5030
Date: 10/31/94
Analyst: WAS
Std. Source: V941024-04W
Sample Matrix/Media: WATER

Analytical Method: EPA8015 8020
Instrument ID: 05587
Date: 10/31/94
Time: 11:15
Analyst: WAS
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix		MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
				Spike	Result								
BENZENE	(PID)	ND	8.70	8.70	100	8.50	98	99	81	118	2.3	20	
ETHYLBENZENE	(PID)	ND	7.60	7.80	103	8.00	105	104	81	114	2.5	20	
GASOLINE	(FID)	ND	500	422	84	426	85	85	80	150	0.9	25	
TOLUENE	(PID)	ND	37.8	40.0	106	39.3	104	105	84	118	1.8	20	
TOTAL XYLENE	(PID)	ND	45.1	46.1	102	47.0	104	103	85	115	1.9	20	

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only Page 1 of 1

Project No. _____

Batch No. **9410295**

Ind. Code _____ W.P. _____

Date Logged In 10/21/94 By KI

REPORT RESULTS TO	Name <u>JEAN YAREKIS</u>	Title _____	PURCHASE ORDER NO. _____	CLIENT JOB NO. _____
	Company <u>CLAYTON</u>	Dept. _____		
	Mailing Address _____			
	City, State, Zip _____			
Telephone No. _____	Telefax No. _____			
SEND INVOICE TO	Name _____		ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)	FOR LAB USE ONLY
	Company <u>INGERSOLL-RAND</u>	Dept. _____		
	Address _____			
	City, State, Zip _____			

Date Results Req.: NORMAL TAT Rush Charges Authorized? Yes No Phone / Fax Results

Special Instructions: (method, limit of detection, etc.) _____

Explanation of Preservative: P-HCE

Samples are: (check if applicable)

Drinking Water

Collected in the State of New York

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED										FOR LAB USE ONLY		
<u>UR-1</u>	<u>10-21-94</u>	<u>H₂O</u>	<u>40ML</u>	<u>2</u>	<u>XP</u>												<u>01A, B</u>
<u>OB-1</u>			<u>40ML</u>	<u>2</u>		<u>XP</u>											<u>02</u>
<u>DS-1</u>			<u>40ML</u>	<u>2</u>	<u>XP</u>												<u>03</u>
<u>ES-1</u>			<u>40ML</u>	<u>2</u>		<u>XP</u>											<u>04</u>
<u>TRIP BLANK #C10294</u>			<u>40ML</u>	<u>1</u>			<u>XP</u>										<u>05 A</u>

CHAIN OF CUSTODY	Collected by: <u>RICHARD SILVA</u> (print)	Collector's Signature: <u>Richard Silva</u>		
	Relinquished by: <u>Richard Silva</u>	Date/Time: <u>10-21-94/1810</u>	Received by: <u>Carel Hammerberg</u>	Date/Time: <u>10/21/94 6:10pm</u>
	Relinquished by: _____	Date/Time: _____	Received at Lab by: _____	Date/Time: _____
	Method of Shipment: _____	Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)		
Authorized by: _____ Date: _____		(Client Signature <u>Must</u> Accompany Request)		

ATTACHMENT 2

FIELD SAMPLING SURVEY FORMS

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job # 59125.00 Site: INGERSOLL-RAND Date: OCTOBER 2, 1994
 Well # MU-1 Sampling Team: RICHARD SILVA
 Sampling Method: DISPOSABLE BAILEY
 Field Conditions: PARTLY CLOUDY, COOL, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: SUBMERSIBLE PUMP WAS WASHED WITH DETERGENT AND TRIPLE RINSED

Total Depth of Well: 18.80 feet Time: 1600 Depth to Water Before Pumping: 13.84 feet

Volume Height of Water Column:	feet *	Diameter		Volume	Purge Factor	To Purge
		2-inch	4-inch			
<u>4.96</u>		.16	<u>.65</u>	= <u>3.22</u> gal *	<u>5</u>	= <u>16.10</u>

Depth Purging From: 18 feet Time Surging Begins: 1005

Notes on Initial Discharge: BROWNISH, SILTY, NO ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1008</u>	<u>4-GAL</u>	<u>8.2</u>	<u>595</u>	<u>17.7</u>	<u>CLEAR</u>
<u>1011</u>	<u>8-GAL</u>	<u>8.0</u>	<u>573</u>	<u>17.6</u>	<u>CLEAR PURGED</u>
<u>1033</u>	<u>12-GAL</u>	<u>8.2</u>	<u>541</u>	<u>17.7</u>	<u>CLEAR</u>
<u>1036</u>	<u>16-GAL</u>	<u>8.1</u>	<u>534</u>	<u>17.5</u>	<u>CLEAR, PURGED</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 59125.00 Site: INGERSOLL-RAND Date: SEPTEMBER 22 1994

Well # MW-2 Sampling Team: RICHARD SILVA

Sampling Method: DISCABLE BAILEY

Field Conditions: CLEAR SKY, COOL, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: SUBMERSIBLE PUMP WAS WASHED WITH DETERGENT THEN TRIPLE RINSED

Total Depth of Well: 20.75 feet Time: 1122 Depth to Water Before Pumping: 14.31 feet

Volume Height of Water Column:	Diameter	Purge	
		2-inch	4-inch
<u>5.84</u> feet *	<u>.16</u>	<u>(.65)</u> = <u>380</u> gal *	<u>5</u> = <u>19.0</u>
Depth Purging From: <u>19</u> feet		Time Surging Begins: <u>1138</u>	

Notes on Initial Discharge: BROWNISH, SILTY, NO ODOOR

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1141</u>	<u>5-GAL</u>	<u>7.5</u>	<u>977</u>	<u>20.4</u>	<u>PURGED DRY BROWNISH, SILTY</u>
<u>1144</u>	<u>10-GAL</u>	<u>7.1</u>	<u>970</u>	<u>20.7</u>	<u>CLEAR</u>
<u>1147</u>	<u>15-GAL</u>	<u>7.2</u>	<u>969</u>	<u>20.8</u>	<u>CLEAR, DRY PURGED.</u>
<u>1150</u>	<u>20-GAL</u>	<u>7.0</u>	<u>961</u>	<u>20.6</u>	<u>CLEAR</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job # 59125.00 Site: INGERSON ROAD Date: OCTOBER 20, 1994
 Well # MW-3 Sampling Team: RICHARD SILVA
 Sampling Method: DISPOSABLE BAILER
 Field Conditions: CLEAR SKIES, WARM, SLIGHT FREEZE

Describe Equipment D-Con Before Sampling This Well: SUBMERSIBLE PUMP WAS WASHED WITH DETERGENT AND TRIPLE RINSED

Total Depth of Well: 20.20 feet Time: 1400 Depth to Water Before Pumping: 16.82 feet

Volume Height of Water Column:	Diameter		Volume	Purge Factor	To Purge
	2-inch	4-inch			
<u>3.36</u> feet *	.16	<u>.65</u>	= <u>2.20</u> gal *	<u>5</u>	= <u>11.0</u>

Depth Purging From: 20 feet Time Surging Begins: 1416

Notes on Initial Discharge: BLACKISH, SILTY, SLIGHT ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1413</u>	<u>3-GAL</u>	<u>7.4</u>	<u>734</u>	<u>20.7</u>	<u>CLEAR</u>
<u>1420</u>	<u>6-GAL</u>	<u>7.3</u>	<u>735</u>	<u>20.4</u>	<u>CLEAR, PURGED DE</u>
<u>1452</u>	<u>9-GAL</u>	<u>7.5</u>	<u>717</u>	<u>20.6</u>	<u>CLEAR</u>
<u>1457</u>	<u>12-GAL</u>	<u>7.4</u>	<u>726</u>	<u>20.4</u>	<u>CLEAR, PURGED DE</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 59125.00 Site: INGERSOLL-RAND Date: OCTOBER 20 1994
 Well # MW-4 Sampling Team: RICHARD SILIA
 Sampling Method: DISPOSABLE BAILER
 Field Conditions: CLEAR SKIES, WARM, SLIGHT FOGGIE

Describe Equipment D-Con Before Sampling This Well: SUBMERSIBLE PUMP WAS WASHED WITH DETERGENT AND TRIPLE RINSED

Total Depth of Well: 27.66 feet Time: 1255 Depth to Water Before Pumping: 19.20 feet

Volume Height of Water Column:	<u>8.66</u> feet *	Diameter		Volume	Purge Factor	To Purge
		2-inch	4-inch			
		.16	<u>(.65)</u>	= <u>5.63</u> gal *	<u>5</u>	= <u>28.15</u>

Depth Purging From: 27 feet Time Surging Begins: 1301

Notes on Initial Discharge: GRAYISH, SILTY, SLIGHT ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1304</u>	<u>5-GAL</u>	<u>8.0</u>	<u>789</u>	<u>19.3</u>	<u>CLEAR</u>
<u>1308</u>	<u>10-GAL</u>	<u>7.7</u>	<u>798</u>	<u>19.4</u>	<u>CLEAR</u>
<u>1311</u>	<u>15-GAL</u>	<u>7.0</u>	<u>801</u>	<u>19.3</u>	<u>CLEAR</u>
<u>1314</u>	<u>20-GAL</u>	<u>7.6</u>	<u>825</u>	<u>19.1</u>	<u>CLEAR</u>
<u>1317</u>	<u>25-GAL</u>	<u>7.6</u>	<u>811</u>	<u>19.1</u>	<u>LIGHT OILY, MURKY</u>
<u>1321</u>	<u>30-GAL</u>	<u>7.6</u>	<u>822</u>	<u>19.1</u>	<u>LIGHT OILY, MURKY</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Job # 59125.00 Site: INGERSOLL-RAND Date: OCTOBER 20 1994
 Well # OB-1 Sampling Team: RICHARD SILVA
 Sampling Method: DISPOSABLE BAILER
 Field Conditions: CLEAR SKIES, COOL, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: SUBMERSIBLE PUMP WAS
 WASHED WITH DETERGENT AND TRIPLE RINSED

Total Depth of Well: 49.58 feet Time: 1135 Depth to Water Before Pumping: 20.28 feet

Volume Height of Water Column: <u>29.3</u> 18.8 feet *	<u>Diameter</u>		Volume	Purge Factor	To Purge
	2-inch	4-inch			
	<u>(1.6)</u>	.65	= <u>4.69</u> gal *	* <u>5</u>	= <u>23.45</u>

Depth Purging From: 48 feet Time Surging Begins: 1145

Notes on Initial Discharge: CLEAR, NO ODOOR

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1147</u>	<u>5-GAL</u>	<u>8.0</u>	<u>788</u>	<u>19.0</u>	<u>CLEAR</u>
<u>1149</u>	<u>10-GAL</u>	<u>8.0</u>	<u>788</u>	<u>18.9</u>	<u>CLEAR</u>
<u>1152</u>	<u>15-GAL</u>	<u>7.9</u>	<u>802</u>	<u>18.9</u>	<u>CLEAR</u>
<u>1155</u>	<u>20-GAL</u>	<u>7.9</u>	<u>813</u>	<u>18.9</u>	<u>CLEAR</u>
<u>1158</u>	<u>25-GAL</u>	<u>7.9</u>	<u>821</u>	<u>18.9</u>	<u>CLEAR</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1205

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.8</u>	<u>7.7</u>	<u>7.7</u>	<u>7.7</u>
Conductivity	<u>824</u>	<u>831</u>	<u>834</u>	<u>837</u>
T°C	<u>18.9</u>	<u>18.9</u>	<u>18.9</u>	<u>18.8</u>

Pre-Sample Collection Gallons Purged: 25

Time Sample Collection Begins: 1210

Time Sample Collection Ends: 1215

Total Gallons Purged: 27

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1331

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>	<u>7.5</u>
Conductivity	<u>872</u>	<u>868</u>	<u>870</u>	<u>869</u>
T°C	<u>19.4</u>	<u>19.2</u>	<u>19.1</u>	<u>19.1</u>

Pre-Sample Collection Gallons Purged: 30

Time Sample Collection Begins: 1335

Time Sample Collection Ends: 1340

Total Gallons Purged: 32

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1505

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.7</u>	<u>7.7</u>	<u>7.7</u>	<u>7.7</u>
Conductivity	<u>703</u>	<u>703</u>	<u>703</u>	<u>697</u>
T°C	<u>20.3</u>	<u>20.4</u>	<u>20.3</u>	<u>20.3</u>

Pre-Sample Collection Gallons Purged: 12

Time Sample Collection Begins: 1510

Time Sample Collection Ends: 1515

Total Gallons Purged: 14

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1200

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>
Conductivity	<u>918</u>	<u>922</u>	<u>930</u>	<u>929</u>
T°C	<u>20.1</u>	<u>20.2</u>	<u>20.3</u>	<u>20.2</u>

Pre-Sample Collection Gallons Purged: 20

Time Sample Collection Begins: 1205

Time Sample Collection Ends: 1210

Total Gallons Purged: 22

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1100

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>8.2</u>	<u>8.2</u>	<u>8.2</u>	<u>8.1</u>
Conductivity	<u>515</u>	<u>516</u>	<u>513</u>	<u>518</u>
T°C	<u>17.2</u>	<u>17.5</u>	<u>17.5</u>	<u>17.5</u>

Pre-Sample Collection Gallons Purged: 16

Time Sample Collection Begins: 1105

Time Sample Collection Ends: 1109

Total Gallons Purged: 18

Comments: _____

ATTACHMENT 3

**DRILLING, WELL CONSTRUCTION, AND SAMPLING
PROTOCOLS FOR BOREHOLE/MONITORING WELL
INSTALLATION**

**DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS
FOR
BOREHOLE/MONITORING WELL INSTALLATION**

BOREHOLE INSTALLATION

Clayton Environmental Consultants, Inc. acquires the proper governmental agency permits to bore, drill, or destroy all proposed boreholes and monitoring wells that intersect with groundwater aquifers and writes a health and safety plan.

Clayton subcontracts only with drillers who possess a current C-57 water well contractor's license issued by the State of California and whose personnel have attended the OSHA 40-hour Hazardous Materials Safety Training. Prior to starting work, a "tailgate" safety meeting including discussion of the safety hazards and precautions relevant to the particular job will be held with all personnel working on the job. Well drillers are identified on permit applications.

Borings are drilled dry by hollow- or solid-stem, continuous flight augers. Augers, drill rods, and other working components of the drilling rig are steam-cleaned before arriving onsite to prevent the introduction of contaminants. These components are also steam-cleaned between borings away from boring locations. Cleaned augers, rods, and other components are stored, and/or covered when not in use.

Our bore logs include a detailed description of subsurface stratigraphy. Clayton examines the soil brought to the surface by drilling operations, and samples undisturbed soil every 5 feet or as otherwise specified. Soil cuttings are screened for hydrocarbon contamination using a photoionization detector. Boring logs are filled out in the field by a professional geologist, civil engineer, engineering geologist who is registered by the State of California, or a technician who is trained and working under the supervision of one of the previously mentioned persons, using the Unified Soil Classification System.

SOIL SAMPLING

Soil samples are taken every 5 feet, at areas of obvious contamination, or as otherwise specified, with a California modified split-spoon sampler that is lined with three six-inch brass tubes. The sampler and rod are inserted into the borehole to the current depth and a hammer of known weight and height above the sampler are allowed to free-fall onto the rod, advancing the assembly 18 inches into undisturbed soil. Clayton uses the number of blows necessary to drive the sampler into the ground to help evaluate the consistency of materials encountered. The sampler is then pulled from the borehole and disassembled, and the three brass tubes are separated for inspection and labeling.

Clayton uses new brass liners or liners cleaned with a trisodium phosphate (TSP) solution, double rinsed with clean tap water, and air dried prior to each sampling. The sampler is also cleaned with TSP and rinsed with tap water between sampling events.

Soil samples selected for laboratory analysis are left in the brass liners, sealed with aluminum foil and plastic caps, taped for air tightness, labeled, and immediately placed into a pre-cooled ice chest chilled to less than 4°C. Labels contain the following information: site name, date and time sampled, borehole number and depth, and the sampler's initials. The samples are transported under chain-of-custody to a state-certified laboratory. The laboratory analyzes soil samples within the prescribed holding time, storing them at temperatures below 4°C at all times.

Pending results of laboratory analysis, excess drilling and sampling cuttings are placed into Department of Transportation (DOT)-approved drums, labeled with the name of the site, address, and well number, and left at the site. Uncontaminated soil may be disposed of by the client. Soil found to contain levels of contaminants above local or state action levels will require that the client dispose of it in accordance with hazardous waste regulations. At the client's request, we will assist with the disposal of contaminated soil.

WELL CONSTRUCTION

Boreholes are converted to monitoring wells by placing 2-inch or 4-inch diameter well casing with flush-threaded joints and slotted screen into the borehole. Construction materials include polyvinyl chloride (PVC), stainless steel, or low carbon steel. The most suitable material for a particular installation will depend on the parameters to be monitored. All screens and casings used are in a contaminant-free condition when placed in the ground. No thread lubrication is used, other than teflon tape, for connecting the casing segments.

Wells extend at least 10 feet into the upper saturated zone, but do not extend through any clay layers greater than 5 feet that are below the shallow water table. The standard practice for wells installed at hydrocarbon contamination sites is to construct a well with a 20-foot long perforated interval extending 15 feet below and 5 feet above the water table in an unconfined aquifer. The top of the well is solid casing. The annular space of the borehole is backfilled with washed, kiln-dried sand to a point at least 1 foot above the slotted screen. A seal above the filter pack is formed by placing a 1- to 2-foot layer of bentonite pellets on top of the sand. The bentonite pellets are moistened by pouring clean tap water down the hole so that they can expand and seal the annulus. A neat cement grout is placed above the bentonite seal and brought to the ground surface.

Well casings are protected from surface contamination, accidental damage, and unauthorized entry or tampering with water-tight locking caps on the well casings. The caps are usually surrounded by a concrete vault. Wells are clearly identified with a metal tag or other device where the following information is recorded: well number, depth to water, depth of well, casing data including location of screened interval.

WELL DEVELOPMENT

The well seal in newly developed wells must set up for 48 to 72 hours prior to development. Since development of the well can volatilize contaminants present, the well must also settle for at least 48 to 72 hours between development and the first purging/sampling incident.

All monitoring wells are initially developed to clean the well and stabilize sand, gravel, and disturbed aquifer materials around the screened internal perforations. Wells are developed by

-- pumping (or bailing) and surging until water turbidity and specific conductance stabilize. In some cases, where wells are installed in low permeability formations and the wells purge dry, the well is allowed to recover and is purged dry three times. Clean tap water is introduced into the well if it does not recover rapidly enough.

Pending results by laboratory analysis, purge water from well development and sampling is placed into DOT-approved drums, labeled with the name of the site, address, well number, and left at the site. Uncontaminated water may be disposed of by the client. Water found to contain levels of contaminants above local or state action levels requires that the client dispose of it in accordance with hazardous waste requirements. At the client's request, we can assist with the disposal of contaminated purge water.

GROUNDWATER SAMPLING

To collect a representative sample of the groundwater, stagnant water within the well casing and filter material must be purged and fresh aquifer water allowed to replace it. The water is purged from the well by pumping or bailing at least three well volumes. Well volumes are calculated by measuring depth to groundwater to the nearest 0.01 foot upon arrival at the well before any purging has begun. Groundwater samples are collected only after purging has been of sufficient duration for pH, temperature, and electrical conductivity to stabilize. When purging low-yield wells, the wells are purged to dryness. When the well recovers to 80% of the depth measured upon arrival, samples are collected.

Field sampling logs maintained for each well include:

- Monitoring well identification
- Static water level, before and after pumping
- Well depth
- Condition of water prior to purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

Water samples are collected using clean teflon bailers. All equipment that contacts samples is thoroughly cleaned before arrival at the site and between sampling events.

Water is collected in clean laboratory-supplied containers, labeled, placed immediately into an ice chest pre-cooled to 4°C, and transported to Clayton's laboratory for analysis. One trip blank will be furnished in accordance with our quality assurance/quality control (QA/QC) program.

All samples are collected in such a manner so as to minimize the volatilization of a sample due to agitation and/or transfer from bailer to sample container. Samples are collected so that contaminants most sensitive to volatilization are sampled first.

Preservatives are not added to any sample, unless instructed. If requested, they are supplied by Clayton's laboratory.

All sample containers are labeled in the field. Labels contain the following information: project name, sample identification number, project number, date and time of collection, and sampler's initials.

Under no circumstances are sealed sample containers opened by anyone other than the laboratory personnel who perform the requested analyses. If it is necessary for samples or sample chests to leave the immediate control of the sampler prior to delivery to the laboratory, for example during shipment by an overnight shipper, a custody seal is placed on each sample container and/or sample chest to ensure that the samples have not been tampered with during transportation. The custody seal is signed by the sampler, and the date and time that the seal was placed is recorded. The elapsed time between sample collection and delivery to the laboratory never exceeds 48 hours. Water samples are not held for more than 14 days prior to analysis and are kept at 4°C at all times.

To document and trace samples from time of collection, a signed chain-of-custody record is filled out by the sampler and accompanies the samples through the laboratory analyses. The completed chain-of-custody is included with the analytical report from the laboratory.

REFERENCES

Groundwater Monitoring Guidelines, Revised February 1990. Alameda County District Groundwater Protection Program.

Leaking Underground Fuel Tank (LUFT) Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Tank Closure, May 1988. State of California LUFT Task Force.

Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks, Revised November 1989. North Coast, San Francisco Bay, and Central Valley regions of the California State Water Quality Control Board.

Standards for the Construction and Destruction of Wells and Other Deep Excavations in Santa Clara County, Revised June 1989. Santa Clara Valley Water District.