



Environmental
Science &
Engineering, Inc.

ENVIRONMENTAL
PROTECTION

95 APR 26 PM 2:05

April 18, 1995

Ms. Madhulla Logan
Alameda County Health Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

**SUBJECT: FIRST QUARTER OF 1995
GROUND WATER MONITORING REPORT
JAMES RIVER CORPORATION
2101 WILLIAMS STREET
SAN LEANDRO, CALIFORNIA**

Dear Ms. Logan:

This report presents the results of the first quarter of 1995 ground water monitoring activities conducted by Environmental Science & Engineering, Inc. (ESE) for the James River Corporation facility at 2101 Williams Street, San Leandro, California (Figure 1). This document was prepared under the supervision of a California Registered Geologist and for the sole use of the James River Corporation and the Alameda County Health Care Services Agency (HCSA), the only intended beneficiaries of our work. No other party may rely on the information contained in this report without prior written consent of ESE.

FIRST QUARTER 1995 GROUND WATER MONITORING

Field Investigation

On February 22, 1995, ground water samples were collected from monitoring wells W-3, W-5, W-6, W-7, W-8, W-9, W-10, and B-1 for chemical analyses. All sampling equipment was decontaminated before sampling activities began and after each sampling event at each well. All ground water sampling was performed according to HCSA requirements and ESE's Standard Operating Procedure No. 3 for Ground Water Monitoring and Sampling from Monitoring Wells (Appendix A). Copies of ESE's ground water sample collection logs are presented in Appendix B.

Before the eight wells were purged and sampled, water-level measurements were obtained using an electronic ground water well sounder with an accuracy of 0.01 foot. The measurements were repeated several times until consecutive measurements differed by less than 0.01 foot. The final measurements were recorded on ESE's sample collection logs.

Each well was purged of at least three well volumes of water using a decontaminated centrifugal pump. Field parameters (consisting of temperature, specific conductance, and pH) were monitored during purging and recorded on the ESE ground water sample collection logs. Samples were collected after the

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parameter readings had stabilized. Field parameter measurements for purged water are presented in Table 1 and on ESE's sample collection logs (Appendix B). Due to sampling equipment problems, turbidity was not measured. Turbidity will be measured during future ground water sampling events at the site.

After purging, ground water samples were collected from each well using a new disposable Teflon bailer. To minimize the potential for cross-contamination, a new dropline and a new bailer was used for sample collection at each well. Samples collected for volatile organic analysis (VOA) were decanted into three 40-milliliter VOA vials. In addition, a one-liter amber glass bottle of ground water was collected from wells W-7 and W-8 for analysis of total petroleum hydrocarbons (as diesel and as motor oil). Samples were assigned numbers related to the well of origin, stored on ice, and delivered with a chain-of-custody record to Curtis & Tompkins, Ltd. (a state-certified laboratory) located in Berkeley, California.

One VOA trip blank was also submitted to the laboratory as a quality assurance (QA) check. The purpose of the trip blank was to identify the presence of artifact laboratory chemicals in the sample bottles or contamination of volatile chemicals during transport. This sample was entered on the chain-of-custody form and delivered to the laboratory in the cooler containing the ground water samples.

Ground Water Gradient and Flow Direction

Potentiometric surface elevations collected during the period of June 1994 to February 1995 are presented in Table 2. The direction of ground water flow during this quarter is towards the west at a gradient ranging between 0.003 to 0.006 foot/foot (Figure 2). Ground water flow direction and gradient data are consistent with data collected from previous monitoring periods.

Chemical Analyses

Samples collected on February 22, 1995, were analyzed using EPA Test Methods 8240 and 8015. Figure 3 presents the reported concentration of analytes detected in each well. Table 3 presents reported ground water sample analytical results for the period of June 1994 through February 1995. Chemical analytes and concentrations reported in February 1995 were in most cases, consistent with past reports. Compared to the previous monitoring report, trichloroethane (TCE) concentrations were reported to have increased in well W-6 from 78 micrograms per liter ($\mu\text{g/L}$) to 250 $\mu\text{g/L}$ and in W-7 from 9 $\mu\text{g/L}$ to 180 $\mu\text{g/L}$. Tetrachloroethane (PCE) was also reported to have increased in well W-6 from 120 $\mu\text{g/L}$ to 320 $\mu\text{g/L}$ and in well W-7 from 8 $\mu\text{g/L}$ to 170 $\mu\text{g/L}$. The vinyl chloride concentration in W-8 was reported to have increased from nondetectable (less than 10 $\mu\text{g/L}$) to 82 $\mu\text{g/L}$. In well W-10, the acetone concentration was reported to have increased from 18,000 $\mu\text{g/L}$ to 47,000 $\mu\text{g/L}$.

Cis-1,2 dichloroethene (DCE) concentrations were reported to have decreased in wells W-3, W-6, W-7, and W-9 and increased in wells W-5 and W-8. Vinyl chloride was not detected in well W-7 during this quarterly monitoring period.

ESE collected ground water from wells W-7 and W-8 for analysis of TPH as motor oil (TPH-MO) and diesel (TPH-D). These analyses were first performed during the June 1994 quarterly monitoring event to investigate the extent of a petroleum hydrocarbon release from the abandoned cardboard bailer vault located inside the Flexible Packaging Plant. Peaks on the chromatograph identifying both diesel and

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April 18, 1995

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motor oil were reported by the laboratory for well W-8. The sample from well W-8 was reported to contain TPH-D and TPH-MO at 3,100 $\mu\text{g/L}$ and 1,200 $\mu\text{g/L}$, respectively. As stated in the Curtis and Tompkins report, the sample chromatogram for W-8 does not resemble the hydrocarbon standard. A copy of the laboratory report and chains-of-custody documentation are presented in Appendix C.

Conclusions and Recommendations

Results of quarterly ground water sampling and analysis performed during February 1995, indicate that chlorinated hydrocarbons continue to be present in the shallow ground water beneath the James River Facility in San Leandro. Findings are consistent with those collected during the past and are indicative of an upgradient offsite source of chlorinated hydrocarbons.

The next ground water monitoring event is scheduled to take place in May, 1995. If you have any questions regarding this report, please contact either of the undersigned at (510) 685-4053.

Respectfully submitted,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.



Carl S. Kelley III
Senior Project Scientist



George O. Reid
Senior Geologist
Registered Geologist #3608

Attachments:	Table 1	Field Parameter Measurements of Water Purged from Monitoring Wells February 22, 1995
	Table 2	Water-Level Measurements
	Table 3	Analytical Results for Ground Water Samples
	Figure 1	Location Map
	Figure 2	Ground Water Level Contour Map
	Figure 3	Ground Water Quality Analytical Results
	Appendix A	ESE Standard Operating Procedure No. 3
	Appendix B	Sample Collection Logs
	Appendix C	Analytical Reports with Chain-of-Custody Documentation

TABLE 1

FIELD PARAMETER MEASUREMENTS OF WATER PURGED
FROM MONITORING WELLS
February 22, 1995

James River Corporation
San Leandro, California

Well No.	Gallons Purged	pH	Specific Conductance* (μ mhos/cm)	Temperature ($^{\circ}$ F)	Turbidity (NTU)
B-1	0	8.0	2280	63.5	NC
	20	6.9	2180	64.5	NC
	40	6.6	2200	65.2	NC
W-3	0	6.2	810	62.3	NC
	25	6.3	850	64.5	NC
	50	6.5	840	65	NC
W-5	0	6.4	980	62.1	NC
	5	6.5	910	64.5	NC
	10	6.4	920	65.1	NC
W-6	0	6.5	1020	63.1	NC
	7	6.4	1110	64.9	NC
	15	6.6	1100	64.7	NC
W-7	0	6.4	1010	63.1	NC
	25	6.4	970	63.9	NC
	50	6.2	950	64.2	NC
W-8	0	6.5	2110	65.1	NC
	25	6.4	1210	64.9	NC
	50	6.4	1120	64.8	NC
W-9	0	6.6	NA	NA	NC
	20	6.6	NA	NA	NC
	40	6.8	NA	NA	NC
W10	0	6.4	1410	63.5	NC
	7	6.5	1380	64.1	NC
	15	6.4	1360	63.9	NC

Notes:

NC=Not Completed

* = at 25 $^{\circ}$ C

μ mhos/cm = Micromhos per centimeter

$^{\circ}$ F = Degrees Fahrenheit

TABLE 2

WATER-LEVEL MEASUREMENTS

**James River Corporation
San Leandro, California**

Well Number	Date	Top of Well Casing Elevation (feet above MSL)	Depth to Water Below Top of Casing (feet)	Water Table Elevation (feet above MSL)
W-1	Jun-94	20.67	11.62	9.05
	Sep-94	20.67	12.27	8.40
	Dec-94	20.67	10.96	9.71
	Feb-95	20.67	10.26	10.41
W-3	Jun-94	20.80	11.82	8.98
	Sep-94	20.80	12.48	8.32
	Dec-94	20.80	11.20	9.60
	Feb-95	20.80	10.52	10.28
W-4	Jun-94	21.00	11.98	9.02
	Sep-94	21.00	12.63	8.37
	Dec-94	21.00	11.35	9.65
	Feb-95	21.00	10.66	10.34
W-5	Jun-94	21.64	12.64	9.00
	Sep-94	21.64	13.29	8.35
	Dec-94	21.64	12.00	9.64
	Feb-95	21.64	11.32	10.32
W-6	Jun-94	21.05	11.97	9.08
	Sep-94	21.05	12.62	8.43
	Dec-94	21.05	11.35	9.70
	Feb-95	21.05	10.63	10.42
W-7	Jun-94	20.41	12.02	8.39
	Sep-94	20.41	12.63	7.78
	Dec-94	20.41	11.44	8.97
	Feb-95	20.41	10.84	9.57

TABLE 2 (cont)

WATER-LEVEL MEASUREMENTS

James River Corporation
San Leandro, California

Well Number	Date	Top of Well Casing Elevation (feet above MSL)	Depth to Water Below Top of Casing (feet)	Water Table Elevation (feet above MSL)
W-8	Jun-94	20.50	11.48	9.02
	Sep-94	20.50	12.08	8.42
	Dec-94	20.50	10.85	9.65
	Feb-95	20.50	10.19	10.31
W-9	Jun-94	20.16	11.52	8.64
	Sep-94	20.16	12.00	8.16
	Dec-94	20.16	10.92	9.24
	Feb-95	20.16	10.3	9.86
W-10	Jun-94	20.22	12.16	8.06
	Sep-94	20.22	12.85	7.37
	Dec-94	20.22	11.53	8.69
	Feb-95	20.22	10.98	9.24
B-1	Jun-94	20.59	11.6	8.99
	Sep-94	20.59	12.26	8.33
	Dec-94	20.59	10.97	9.62
	Feb-95	20.59	10.28	10.31

TABLE 3

ANALYTICAL RESULTS FOR GROUND WATER SAMPLES

James River Corporation
San Leandro, California
(Concentrations in ug/L)

Well Name	Sample Date	Benzene	Ethyl-benzene	Toluene	Total Xylenes	TPH Diesel	TPH Motor Oil
W-3	Jun-94	<5	<5	<5	<5	NA	NA
	Sep-94	<5	<5	<5	<5	NA	NA
	Dec-94	<5	<5	<5	<5	NA	NA
	Feb-95	<5	<5	<5	<5	NA	NA
W-5	Jun-94	<50	<50	<50	<50	NA	NA
	Sep-94	<50	<50	<50	<50	NA	NA
	Dec-94	<50	<50	<50	<50	NA	NA
	Feb-95	<100	<100	<100	<100	NA	NA
W-6	Jun-94	<5	<5	<5	<5	NA	NA
	Sep-94	<5	<5	<5	<5	NA	NA
	Dec-94	<5	<5	<5	<5	NA	NA
	Feb-95	<10	<10	<10	<10	NA	NA
W-7	Jun-94	<5	<5	<5	<5	130	130
	Sep-94	<5	<5	<5	<5	71	630
	Dec-94	<5	<5	<5	<5	300	120
	Feb-95	<5	<5	<5	<5	<50	<1300
W-8	Jun-94	<5	<5	<5	<5	200	110
	Sep-94	<5	<5	<5	<5	170	870
	Dec-94	<5	<5	<5	<5	450	270
	Feb-95	<5	<5	<5	<5	3100	1200
W-9	Jun-94	<5	<5	<5	<5	NA	NA
	Sep-94	<5	<5	<5	<5	NA	NA
	Dec-94	<5	<5	<5	<5	NA	NA
	Feb-95	<5	<5	<5	<5	NA	NA
W-10	Jun-94	<2,000	<2,000	<2,000	<2,000	NA	NA
	Sep-94	<2,500	<2,500	<2,500	<2,500	NA	NA
	Dec-94	<500	<500	<500	<500	NA	NA
	Feb-95	<1,300	<1,300	<1,300	<1,300	NA	NA
B-1	Jun-94	<5	<5	<5	<5	NA	NA
	Sep-94	<5	<5	<5	<5	NA	NA
	Dec-94	<5	<5	<5	<5	NA	NA
	Feb-95	<5	<5	<5	<5	NA	NA

TABLE 3 (cont)

ANALYTICAL RESULTS FOR GROUND WATER SAMPLES

James River Corporation
 San Leandro, California
 (Concentrations in ug/L)

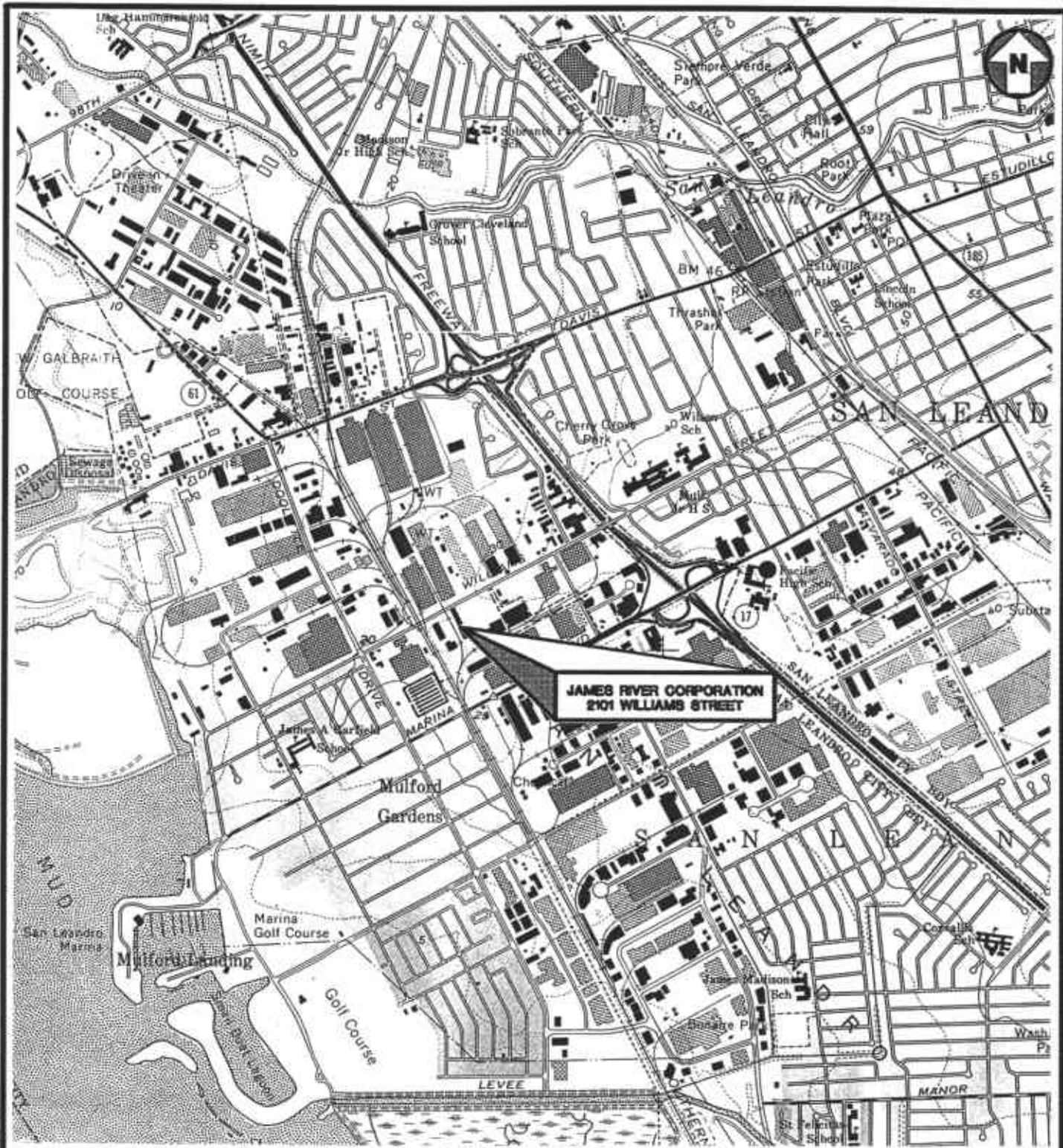
Well Name	Sample Date	TCE	Vinyl Chloride	PCE	TCA	Cis-1,2DCE	1,1DCA	Acetone	MIBK	1,1-DCE	Carbon Disulfide
W-3	Jun-94	<5	<10	<5	<5	8	<5	<20	210	<5	<5
	Sep-94	14	<10	19	<5	8	<5	<20	<10	<5	<5
	Dec-94	<5	<10	<5	<5	81	<5	<20	<10	<5	<5
	Feb-95	<5	<10	<5	<5	11	<5	<20	<10	<5	4
W-5	Jun-94	530	160	3400	<50	1700	<50	<200	<100	<50	<50
	Sep-94	530	140	2500	<50	1300	<50	<200	<100	<50	<50
	Dec-94	350	<100	1800	<50	1600	<50	<200	<100	<50	<50
	Feb-95	290	<200	1900	<100	2100	<100	<400	<200	<100	<100
W-6	Jun-94	310	<10	450	5	100	<5	<20	<10	<5	<5
	Sep-94	230	<10	310	<5	380	<5	<20	<10	<5	<5
	Dec-94	78	<10	120	<5	280	<5	<20	<10	<5	<5
	Feb-95	250	<20	320	<10	24	<10	<40	<20	<10	<10
W-7	Jun-94	240	<10	240	<5	26	<5	<20	<10	<5	<5
	Sep-94	120	<10	86	<5	230	<5	<20	<10	<5	<5
	Dec-94	9	37	8	<5	120	<5	<20	<10	<5	<5
	Feb-95	180	<10	170	<5	17	<5	<20	<10	<5	<5
W-8	Jun-94	<5	280	<5	<5	290	<5	<20	<10	<5	<5
	Sep-94	<5	43	<5	<5	59	<5	<20	<10	<5	<5
	Dec-94	<5	<10	<5	<5	15	<5	<20	<10	<5	<5
	Feb-95	<5	82	<5	<5	79	<5	<20	<10	<5	10
W-9	Jun-94	110	<10	12	5	<5	<5	<20	<10	6	<5
	Sep-94	80	<10	7	<5	30	<5	<20	<10	<5	<5
	Dec-94	<5	<10	<5	<5	110	<5	<20	<10	<5	<5
	Feb-95	3	<10	<5	<5	63	<5	<20	<10	<5	23
W-10	Jun-94	<2,000	<4,000	<2000	<4000	<2000	<2000	150000	4800	<2000	<2000
	Sep-94	<2,500	<5,000	<2500	<2500	<2500	<2500	74000	<5000	<2500	<2500
	Dec-94	<500	<1,000	<500	<500	<500	<500	18000	1600	<500	<500
	Feb-95	<1,300	<2,500	<1300	<1300	<1300	<1300	47000	1300	<1300	<1300
B-1	Jun-94	<5	<10	<5	<5	<5	<5	27	<10	<5	<5
	Sep-94	<5	<10	<5	<5	<5	<5	66	<10	<5	<5
	Dec-94	<5	<10	<5	<5	<5	<5	23	<10	<5	<5
	Feb-95	<5	<10	<5	<5	<5	<5	62	<10	<5	53

Notes:

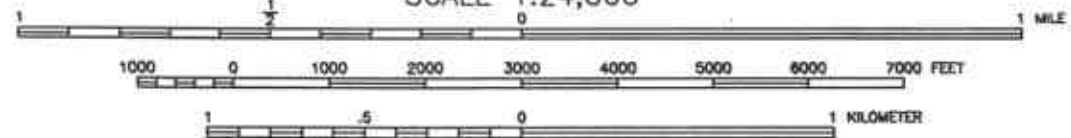
NA = Not Analyzed

<5 = Not detected at the listed concentration.


MIBK= Listed in laboratory reports as 4-Methyl-2-pentanone.

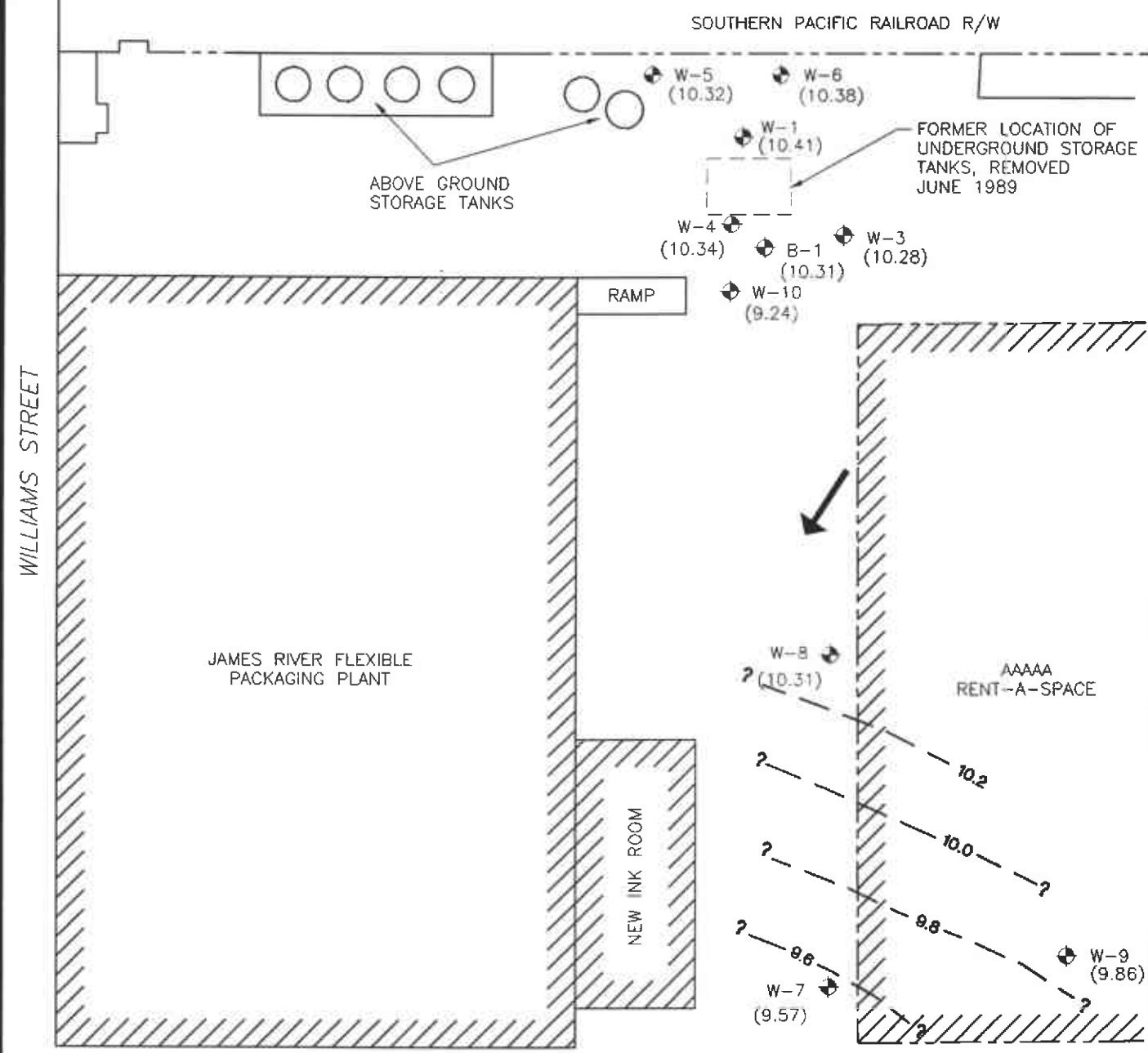


SCALE 1:24,000



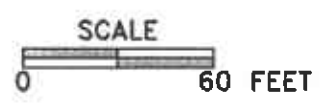
ADAPTED FROM U.S.G.S. SAN LEANDRO, CA. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP 1959, PHOTOREVISED 1980.

	DATE 3/10/95	LOCATION MAP	FIGURE NO. 1
	REVISED		PROJ. NO. 6595022
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 50220003	JAMES RIVER CORPORATION 2101 WILLIAMS STREET SAN LEANDRO, CALIFORNIA	



LEGEND

- W-5 (9.57) ⊕ GROUND WATER MONITORING WELL WITH ELEVATION
- - - - - PROPERTY LINE
- - 9.6 - - - GROUND WATER POTENTIOMETRIC CONTOUR WITH ELEVATION
- ➔ APPROXIMATE GROUND WATER FLOW DIRECTION



**Environmental
Science &
Engineering, Inc.**

DATE
3/9/95

REVISED

CAD FILE
65502201

GROUND WATER LEVEL CONTOUR MAP

JAMES RIVER CORPORATION
2101 WILLIAMS STREET
SAN LEANDRO, CALIFORNIA

FIGURE NO.

2

PROJ. NO.
65-95-022

4090 NELSON AVENUE, SUITE J
CONCORD, CA 94520



WILLIAMS STREET

SOUTHERN PACIFIC RAILROAD R/W

ABOVE GROUND STORAGE TANKS

FORMER LOCATION OF UNDERGROUND STORAGE TANKS, REMOVED JUNE 1989

JAMES RIVER FLEXIBLE PACKAGING PLANT

AAAAA RENT-A-SPACE

NEW INK ROOM

RAMP

COMPOUND CONCENTRATION

TCE	290
PCE	1,900
DCE	2,100

COMPOUND CONCENTRATION

TCE	250
PCE	320
DCE	24

COMPOUND CONCENTRATION

CD	53
A	62

COMPOUND CONCENTRATION

DCE	11
CD	4

COMPOUND CONCENTRATION

MIBK	1,300
A	47,000

COMPOUND CONCENTRATION

VC	82
DCE	79
CD	10
TPH-D	3,100
TPH-MO	1,200

COMPOUND CONCENTRATION

TCE	180
PCE	170
DCE	17
TPH-D	<50
TPH-MO	<1,300

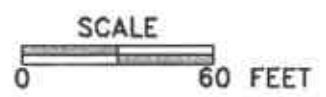
COMPOUND CONCENTRATION

TCE	3
DCE	63
CD	23

LEGEND

- GROUND WATER ELEVATION
- PROPERTY LINE
- A ACETONE
- CD CARBON DISULFIDE
- DCE CIS-1,2 DICHLOROETHENE
- MIBK 4-METHYL-2-PENTANONE
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- TPH-D TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL
- TPH-MO TPH AS MOTOR OIL
- VC VINYL CHLORIDE

*ALL CONCENTRATIONS REPORTED AS MICROGRAMS PER LITER



Environmental Science & Engineering, Inc.

DATE
3/9/95

REVISED
4/18/95

CAD FILE
65502202

**GROUND WATER QUALITY ANALYTICAL RESULTS
FEBRUARY 15, 1995**

JAMES RIVER CORPORATION
2101 WILLIAMS STREET
SAN LEANDRO, CALIFORNIA

FIGURE NO.

3

PROJ. NO.

65-95-022

4090 NELSON AVENUE, SUITE J
CONCORD, CA 94520

Appendix A

ESE Standard Operating Procedure No. 3

**ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
CONCORD, CALIFORNIA OFFICE**

**STANDARD OPERATING PROCEDURE NO. 3
FOR GROUND-WATER MONITORING AND SAMPLING FROM MONITORING WELLS**

Environmental Science & Engineering, Inc. (ESE) typically performs ground-water monitoring at project sites on a quarterly basis. As part of the monitoring program an ESE staff member will first gauge the depth to water and free product (if present) in each well, then collect ground-water samples from each well. Depth to water measurements are taken by lowering an electric fiberglass tape measure into the well and recording the occurrence of water in feet below a fixed datum set on the top of the well-casing. If free-phase liquid hydrocarbons (free product) are known or suspected to be present in the well, then an electric oil/water interface probe is used to determine the depth to the occurrence of ground-water and the free product in feet below the fixed datum on the top of the well-casing. Depth to water and depth to product measurements are measured and recorded within an accuracy of 0.005-foot. The electric tape and the electric oil/water interface probe are washed with an Alconox® detergent and tap water solution then rinsed with tap water between uses in different wells.

Ground-water samples are collected from a well subsequent to purging a minimum of three to four well-casing volumes of ground water from the well, if the well bails dry prior to the removal of the required minimum volume, then the samples are collected upon the recovery of the ground water in that well to 80% of its initial static level. Ground water is typically purged from monitoring wells using either a hand-operated positive displacement pump, constructed of polyvinylchloride (PVC); a new (precleaned), disposable polyethylene bailer; or, a variable-flow submersible pump, constructed of stainless steel and Teflon®. The hand pumps and the submersible pumps are cleaned between each use with an Alconox® detergent and tap water solution followed by a tap water rinse. During the well purging process the conductivity, pH and temperature of the ground water are monitored by the ESE staff member. Ground-water samples are collected from the well subsequent to the stabilization of the of the conductivity, pH and temperature of the purge water, and the removal of four well-casing volumes of ground-water (unless the well bails dry). The parameters are deemed to have stabilized when two consecutive measurements are within 10% of each other, for each respective parameter. The temperature, pH, conductivity and purge volume measurements, and observations of water clarity and sediment content will be documented by the ESE staff member on ESE Ground-Water Sampling Data Forms.

Ground-water samples are collected by lowering a new (precleaned), disposable polyethylene bailer into the well using new, disposable nylon cord. The filled bailer is retrieved, emptied, then filled again. The ground water from this bailer is decanted into appropriate laboratory supplied glassware and/or plastic containers (if sample preservatives are required, they are added to the empty containers at the laboratory prior to the sampling event). The containers are filled carefully so that no headspace is present to avoid volatilization of the sample. The filled sample containers are then labeled and placed in a cooler with ice for transport under chain of custody documentation to the designated analytical laboratory. The ESE staff member will document the time and method of sample collection, and the type of sample containers and preservatives (if any) used. These facts will appear on the ESE Ground-Water Sampling Data Forms. ESE will collect a duplicate ground-water sample from one well for every ten wells sampled at each site. The duplicate will be a blind sample (its well designation will be unknown to the laboratory). The duplicate sample is for Quality Assurance and Quality Control (QA/QC) purposes, and provides a check on ESE sampling procedures and laboratory sample handling procedures. When VOCs are included in the laboratory analyses, ESE will include a trip blank, if required, in the cooler with the ground-water samples for analysis for the identical VOCs. The trip blank is supplied by the laboratory and consists of deionized water. The trip blank is for QA/QC purposes and provides a check on both ESE and laboratory sample handling and storage procedures. Since disposable bailers are used for sample collection, and are not reused, no equipment blank (rinsate) samples are collected.

Appendix B
Sample Collection Logs



Environmental Science & Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORPORATION
PROJECT NO.: 65-95-022
DATE: 2/22/95

SAMPLE LOCATION I.D.: W-1
SAMPLER: PAUL MARSDEN
PROJECT MANAGER: BART MILLER

CASING DIAMETER

2" _____
4" X
Other _____

SAMPLE TYPE

Ground Water X
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (Inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME: _____
DEPTH TO WATER: 10.26 (ft.) WATER COLUMN: _____ (ft.) (3 or 4 WCV): _____ (gal)
DEPTH OF WELL: 38.77 (ft.) WELL CASING VOLUME: _____ (gal) ACTUAL VOLUME PURGED: _____ (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
_____	<u>0</u>	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

___ Displacement Pump ___ Other
___ Bailer (Teflon/PVC/SS) ___ Submersible Pump

SAMPLE METHOD

___ Bailer (Teflon/PVC/SS) ___ Dedicated
___ Bailer (Disposable) ___ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>W-1</u>	<u>NOT SAMPLED</u>	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: Paul Marsden

PROJECT MANAGER: Bart Miller

4090 Nelson Avenue, Suite J

Concord, CA 94520

Phone (510) 685-4053

Fax (510) 685-5323



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SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO: 65-95-022
DATE: Feb. 22, 85

SAMPLE LOCATION I.D.: W-3
SAMPLER: V. Marsden
PROJECT MANAGER: Garrett Miller

CASING DIAMETER

2" _____
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
<u>4.0</u>	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 10.52 (ft.) WATER COLUMN: 26.68 (ft.) (3 or 4 WCV): 52 (gal)
DEPTH OF WELL: 37.20 (ft.) WELL CASING VOLUME: 17.4 (gal) ACTUAL VOLUME PURGED: 50 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1256</u>	100 <u>0</u>	<u>6.2</u>	<u>X1000</u>	<u>62.3°</u>	_____	_____
<u>1300</u>	<u>25</u>	<u>6.3</u>	<u>0.81</u>	<u>64.5</u>	_____	_____
<u>1305</u>	<u>60</u>	<u>6.5</u>	<u>0.84</u>	<u>65°</u>	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hydrec 9 UNIT# 9308A DATE: 2/22/85 TIME: 8am BY: DM
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

___ Displacement Pump ___ Other
___ Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

___ Bailer (Teflon/PVC/SS) ___ Dedicated
 Bailer (Disposable) ___ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>W-3</u>	<u>1310</u>	<u>2/22</u>	<u>CURTIS: TOMPKINS</u>	<u>EPA 8240</u>
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: V. Marsden
4090 Nelson Avenue, Suite 1

Concord, CA 94520

PROJECT MANAGER

Phone (510) 685-4053

Fax (510) 685-5323



Environmental
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SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORPORATION
PROJECT NO.: 65-95-022
DATE: 2/22/95

SAMPLE LOCATION I.D.: W-4
SAMPLER: PAUL MARSDEN
PROJECT MANAGER: BART MULLER

CASING DIAMETER

2" _____
4" X
Other _____

SAMPLE TYPE

Ground Water _____
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: Ø (ft.) PRODUCT THICKNESS: Ø (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 10.66 (ft.) WATER COLUMN: _____ (ft.) (3 or 4 WCV): _____ (gal)
DEPTH OF WELL: 38.09 (ft.) WELL CASING VOLUME: _____ (gal) ACTUAL VOLUME PURGED: _____ (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

___ Displacement Pump ___ Other
___ Bailer (Teflon/PVC/SS) ___ Submersible Pump

SAMPLE METHOD

___ Bailer (Teflon/PVC/SS) ___ Dedicated
___ Bailer (Disposable) ___ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>W-4</u>	<u>NOT SAMPLED</u>	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: Paul Marsden
4090 Nelson Avenue, Suite J

PROJECT MANAGER: Bart Muller

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Fax (510) 685-5323



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SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO.: 65-95-022
DATE: Feb. 27, 95

SAMPLE LOCATION I.D.: W-5
SAMPLER: Jean Marsden
PROJECT MANAGER: Bob Muel

CASING DIAMETER

2"
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 11.32 (ft.) WATER COLUMN: 23.6 (ft.) ~~30.4~~ 11.5 (gal)
DEPTH OF WELL: 34.92 (ft.) WELL CASING VOLUME: 3.4 (gal) ACTUAL VOLUME PURGED: 10 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
_____	<u>0</u>	<u>6.4</u>	<u>0.94</u>	<u>62.1°</u>	_____	_____
_____	<u>5</u>	<u>6.5</u>	<u>0.91</u>	<u>64.5°</u>	_____	_____
_____	<u>10</u>	<u>6.4</u>	<u>0.92</u>	<u>65.1°</u>	_____	_____
_____	_____	_____	_____	_____	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hydax 9 UNIT# 9308A DATE: 2/22/95 TIME: 9am BY: JM
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

____ Displacement Pump ____ Other
____ Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

____ Bailer (Teflon/PVC/SS) ____ Dedicated
 Bailer (Disposable) ____ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
_____	<u>W-5</u>	<u>1540</u>	<u>2/27/95</u>	<u>CURTIS TOMPKINS</u>	<u>EPA 8240</u>
DUPLICATE	_____	_____	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: 26.56 combow for locks on site

SAMPLER: Jean Marsden

PROJECT MANAGER: Bob Muel

4090 Nelson Avenue, Suite J

Concord, CA 94520

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Fax (510) 685-5323



Environmental
Science &
Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO.: 65-95-022
DATE: Feb 22, 95

SAMPLE LOCATION I.D.: W-6
SAMPLER: K. Marsd
PROJECT MANAGER: Scott Munnick

CASING DIAMETER

2"
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 10.63 (ft.) WATER COLUMN: 27.01 (ft.) (3 or 4 WCV): 13 (gal)
DEPTH OF WELL: 37.64 (ft.) WELL CASING VOLUME: 4.4 (gal) ACTUAL VOLUME PURGED: 1.5 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1570</u>	<u>0</u>	<u>6.5</u>	<u>X1000</u>	<u>63.1°</u>	_____	_____
<u>1572</u>	<u>5</u>	<u>6.4</u>	<u>1.02</u>	<u>64.9°</u>	_____	_____
<u>1574</u>	<u>15</u>	<u>6.6</u>	<u>1.11</u>	<u>64.7°</u>	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hydaco 9 UNIT# 9308A DATE: 2/22/95 TIME: 8am BY: RM
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

___ Displacement Pump ___ Other
___ Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

___ Bailer (Teflon/PVC/SS) ___ Dedicated
 Bailer (Disposable) ___ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>W-6</u>	<u>1570</u>	<u>2/22/95</u>	<u>CURTIS: TAMPKIDS</u>	<u>EPA 8240</u>
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: K. Marsd PROJECT MANAGER: Scott Munnick
4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323



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SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO: 65-95-022
DATE: Feb. 22, 95

SAMPLE LOCATION I.D.: W-7
SAMPLER: R. Marsden
PROJECT MANAGER: BART MILLER

CASING DIAMETER

2" _____
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 1084 (ft.) WATER COLUMN: 25.3 (ft.) (3 or 4 WCV): 49.5 (gal)
DEPTH OF WELL: 36.14 (ft.) WELL CASING VOLUME: 16.5 (gal) ACTUAL VOLUME PURGED: 50 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1401</u>	<u>0</u>	<u>6.4</u>	<u>1100</u>	<u>63.1°</u>	_____	_____
<u>1404</u>	<u>25</u>	<u>6.4</u>	<u>0.97</u>	<u>63.9°</u>	_____	_____
<u>1407</u>	<u>50</u>	<u>6.2</u>	<u>0.95</u>	<u>64.2°</u>	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hydrol 9 UNIT # 9308A DATE: 2/22/95 TIME: Yam BY: PM
TURBIDITY: TYPE _____ UNIT # _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

____ Displacement Pump _____ Other
____ Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

____ Bailer (Teflon/PVC/SS) _____ Dedicated
 Bailer (Disposable) _____ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
	<u>W-7</u>	<u>1410</u>	<u>2/22/95</u>	<u>CURTIS TOMPKINS</u>	<u>EPA 8240/8015m</u>
DUPLICATE	_____	_____	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: R. Marsden PROJECT MANAGER: B. Miller
4090 Nelson Avenue, Suite 100 Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323



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Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO.: 65-95-022
DATE: Feb. 27, 95

SAMPLE LOCATION I.D.: W-8
SAMPLER: Tom Marsal
PROJECT MANAGER: Bart Miller

CASING DIAMETER

2" _____
4"
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 1019 (ft.) WATER COLUMN: 25.34 (ft.) (3 or 4 WOV): 496 (gal)
DEPTH OF WELL: 35.53 (ft.) WELL CASING VOLUME: 1654 (gal) ACTUAL VOLUME PURGED: 50 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1420</u>	<u>0</u>	<u>6.5</u>	<u>X1000</u>	<u>65.1°</u>	_____	_____
<u>1424</u>	<u>25</u>	<u>6.7</u>	<u>2.11</u>	<u>64.9°</u>	_____	_____
<u>1428</u>	<u>50</u>	<u>6.4</u>	<u>1.12</u>	<u>64.8°</u>	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hyla 9 UNIT # 9308A DATE: 2/20/95 TIME: 8am BY: JM
TURBIDITY: TYPE _____ UNIT # _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

____ Displacement Pump _____ Other
____ Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

____ Bailer (Teflon/PVC/SS) _____ Dedicated
 Bailer (Disposable) _____ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>W-8</u>	<u>1435</u>	<u>2/27/95</u>	<u>CURTIS: TOWNS</u>	<u>EPA 8240/8015m</u>
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: Tom Marsal

PROJECT MANAGER: Bart Miller

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SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO.: 65-95-002
DATE: 2/22/95

SAMPLE LOCATION I.D.: W-9
SAMPLER: PAUL MARSDEN
PROJECT MANAGER: JOHN MILLER

CASING DIAMETER

2" _____
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 10.30 (ft.) WATER COLUMN: 2085 (ft.) (3 or 4 WCV): 40 (gal)
DEPTH OF WELL: 31.15 (ft.) WELL CASING VOLUME: 3.6 (gal) ACTUAL VOLUME PURGED: _____ (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1344</u>	<u>0</u>	<u>6.6</u>	_____	_____	_____	_____
<u>1344</u>	<u>20</u>	<u>6.6</u>	_____	_____	_____	_____
<u>1352</u>	<u>40</u>	<u>6.8</u>	_____	_____	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

Displacement Pump Other
 Bailor (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

Bailor (Teflon/PVC/SS) Dedicated
 Bailor (Disposable) Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>W-9</u>	<u>1358</u>	<u>2/22/95</u>	<u>CURTIS TOMPKINS</u>	<u>EPA 8240/</u>
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: Paul Marsden PROJECT MANAGER: John Miller
4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4093 Fax (510) 685-5323



Environmental
Science &
Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO.: 65-95-022
DATE: Feb 22, 95

SAMPLE LOCATION I.D.: W-10
SAMPLER: V. Marsden
PROJECT MANAGER: Paul Miller

CASING DIAMETER

2" _____
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
<u>4.0</u>	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 10.98 (ft.) WATER COLUMN: 5.78 (ft.) (3 or 4 WCV): 15 (gal)
DEPTH OF WELL: 16.70 (ft.) WELL CASING VOLUME: 3.23 (gal) ACTUAL VOLUME PURGED: 15 (gal)

TIME	Volume (GAL)	pH (Unjts)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1208</u>	<u>0</u>	<u>6.1</u>	<u>X1000</u>	<u>63.5°</u>	<u>-</u>	<u>cloudy</u>
<u>1210</u>	<u>0</u>	<u>6.1</u>	<u>1.41</u>	<u>63.5°</u>	<u>-</u>	<u>clear</u>
<u>1440</u>	<u>150</u>	<u>6.1</u>	<u>1.38</u>	<u>64.1°</u>	_____	_____
<u>1442</u>	<u>7</u>	<u>6.5</u>	<u>1.36</u>	<u>63.9°</u>	_____	_____
<u>1444</u>	<u>15</u>	<u>6.4</u>	_____	_____	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hypac 9 UNIT # 9308A DATE: 2/22/95 TIME: 8am BY: VM
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

____ Displacement Pump ____ Other
____ Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

____ Bailer (Teflon/PVC/SS) ____ Dedicated
 Bailer (Disposable) ____ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>W-10</u>	<u>1450</u>	<u>2/22/95</u>	<u>CURTIS TOMPKINS</u>	<u>EPA 8240</u>
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: V. Marsden

PROJECT MANAGER: Paul Miller



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SAMPLE COLLECTION LOG

PROJECT NAME: JAMES RIVER CORP.
PROJECT NO: 65-95-022
DATE: Feb 22, 95

SAMPLE LOCATION I.D.: B-1
SAMPLER: J. Marsden
PROJECT MANAGER: Grant Miller

CASING DIAMETER

2"
4"
Other

SAMPLE TYPE

Ground Water
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: 0 (ft.) PRODUCT THICKNESS: 0 (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 10.28 (ft.) WATER COLUMN: 37.27 (ft.) (3 or 4 WCV): 24 (gal)
DEPTH OF WELL: 48.15 (ft.) WELL CASING VOLUME: 24.7 (gal) ACTUAL VOLUME PURGED: 70 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1208</u>	<u>2</u>	<u>8.0</u>	<u>2.28 2.28</u>	<u>63.50</u>	<u>-</u>	<u>cloudy</u>
<u>1212</u>	<u>20</u>	<u>6.9</u>	<u>2.18</u>	<u>64.50</u>	<u>-</u>	<u>clear</u>
<u>1215</u>	<u>70</u>	<u>6.6</u>	<u>2.20</u>	<u>65.20</u>	<u>-</u>	<u>clear</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hydac 9 UNIT# 9305A DATE: 2/22/95 TIME: 8am BY: JM
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

Displacement Pump Other
 Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

Bailer (Teflon/PVC/SS) Dedicated
 Bailer (Disposable) Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
_____	<u>B-1</u>	<u>1230</u>	<u>2/22</u>	<u>CURTIS TOMPKINS</u>	<u>EPA 8240</u>
DUPLICATE	_____	_____	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: need to fish out stinger tube.

SAMPLER: J. Marsden
4090 Nelson Avenue, Suite _____
Concord, CA 94520

PROJECT MANAGER: Grant Miller
Phone (510) 685-4053 Fax (510) 685-5323

Appendix C

ANALYTICAL REPORTS WITH CHAIN-OF-CUSTODY DOCUMENTS



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Environmental Science & Engineering
4090 Nelson Avenue
Suite J
Concord, CA 94520

Date: 11-MAR-95
Lab Job Number: 119999
Project ID: 65-95-022
Location: James River Corporation

Reviewed by:

Teresa K Morrison

Reviewed by:

May Klessner

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LABORATORY NUMBER: 119999
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE EXTRACTED: 02/27/95
 DATE ANALYZED: 02/28/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19211

Extractable Petroleum Hydrocarbons in Aqueous Solutions
 California DOHS Method
 LUFT Manual October 1989

LAB ID	SAMPLE ID	DIESEL RANGE (ug/L)	MOTOR OIL RANGE (ug/L)	SURROGATE RECOVERY (Hexacosane)
119999-004	W-7	ND(50)	ND(1300)	87 %
119999-005	W-8	3,100*	1,200*	76 %
METHOD BLANK	N/A	ND(50)	ND(1300)	91 %

Surrogate recovery limits: 60% - 150%

ND = Not detected at or above the reporting limit; reporting limit indicated in parentheses.

* Sample chromatogram does not resemble hydrocarbon standard.

QA/QC SUMMARY: BS/BSD

RPD, % 2 (Limit: <25)
 RECOVERY, % 107 (Limits: 75 - 125)



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119999-001
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: W-3

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/02/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19240

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	Detected (4)	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	11	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	97 %
Toluene-d8	87 %
Bromofluorobenzene	85 %

LABORATORY NUMBER: 119999-002
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: W-5

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/08/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19357

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	200
Bromomethane	ND	200
Vinyl chloride	ND	200
Chloroethane	ND	200
Methylene chloride	ND	400
Acetone	ND	400
Carbon disulfide	ND	100
Trichlorofluoromethane	ND	100
1,1-Dichloroethene	ND	100
1,1-Dichloroethane	ND	100
trans-1,2-Dichloroethene	ND	100
cis-1,2-Dichloroethene	2,100	100
Chloroform	ND	100
Freon 113	ND	100
1,2-Dichloroethane	ND	100
2-Butanone	ND	200
1,1,1-Trichloroethane	ND	100
Carbon tetrachloride	ND	100
Vinyl acetate	ND	1,000
Bromodichloromethane	ND	100
1,2-Dichloropropane	ND	100
cis-1,3-Dichloropropene	ND	100
Trichloroethene	290	100
Dibromochloromethane	ND	100
1,1,2-Trichloroethane	ND	100
Benzene	ND	100
trans-1,3-Dichloropropene	ND	100
Bromoform	ND	100
2-Hexanone	ND	200
4-Methyl-2-pentanone	ND	200
1,1,2,2-Tetrachloroethane	ND	100
Tetrachloroethene	1,900	100
Toluene	ND	100
Chlorobenzene	ND	100
Ethyl benzene	ND	100
Styrene	ND	100
Total xylenes	ND	100

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	85 %
Bromofluorobenzene	90 %

LABORATORY NUMBER: 119999-003
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: W-6

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/08/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19357

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	20
Bromomethane	ND	20
Vinyl chloride	ND	20
Chloroethane	ND	20
Methylene chloride	ND	40
Acetone	ND	40
Carbon disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
trans-1,2-Dichloroethene	ND	10
cis-1,2-Dichloroethene	24	10
Chloroform	ND	10
Freon 113	ND	10
1,2-Dichloroethane	ND	10
2-Butanone	ND	20
1,1,1-Trichloroethane	ND	10
Carbon tetrachloride	ND	10
Vinyl acetate	ND	100
Bromodichloromethane	ND	10
1,2-Dichloropropane	ND	10
cis-1,3-Dichloropropene	ND	10
Trichloroethene	250	10
Dibromochloromethane	ND	10
1,1,2-Trichloroethane	ND	10
Benzene	ND	10
trans-1,3-Dichloropropene	ND	10
Bromoform	ND	10
2-Hexanone	ND	20
4-Methyl-2-pentanone	ND	20
1,1,2,2-Tetrachloroethane	ND	10
Tetrachloroethene	320	10
Toluene	ND	10
Chlorobenzene	ND	10
Ethyl benzene	ND	10
Styrene	ND	10
Total xylenes	ND	10

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	87 %
Bromofluorobenzene	83 %

LABORATORY NUMBER: 119999-004
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: W-7

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/02/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19260

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	17	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	180	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	170	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	97 %
Toluene-d8	91 %
Bromofluorobenzene	84 %



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 119999-005
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: W-8

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/02/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19260

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	82	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	10	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	79	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	87 %
Bromofluorobenzene	89 %

LABORATORY NUMBER: 119999-006
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: W-9

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/02/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19240

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	23	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	63	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	Detected (3)	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	94 %
Toluene-d8	88 %
Bromofluorobenzene	88 %

LABORATORY NUMBER: 119999-007
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: W-10

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/08/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19357

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	2,500
Bromomethane	ND	2,500
Vinyl chloride	ND	2,500
Chloroethane	ND	2,500
Methylene chloride	ND	5,000
Acetone	47,000	5,000
Carbon disulfide	ND	1,300
Trichlorofluoromethane	ND	1,300
1,1-Dichloroethene	ND	1,300
1,1-Dichloroethane	ND	1,300
trans-1,2-Dichloroethene	ND	1,300
cis-1,2-Dichloroethene	ND	1,300
Chloroform	ND	1,300
Freon 113	ND	1,300
1,2-Dichloroethane	ND	1,300
2-Butanone	ND	2,500
1,1,1-Trichloroethane	ND	1,300
Carbon tetrachloride	ND	1,300
Vinyl acetate	ND	13,000
Bromodichloromethane	ND	1,300
1,2-Dichloropropane	ND	1,300
cis-1,3-Dichloropropene	ND	1,300
Trichloroethene	ND	1,300
Dibromochloromethane	ND	1,300
1,1,2-Trichloroethane	ND	1,300
Benzene	ND	1,300
trans-1,3-Dichloropropene	ND	1,300
Bromoform	ND	1,300
2-Hexanone	ND	2,500
4-Methyl-2-pentanone	Detected(1300)	2,500
1,1,2,2-Tetrachloroethane	ND	1,300
Tetrachloroethene	ND	1,300
Toluene	ND	1,300
Chlorobenzene	ND	1,300
Ethyl benzene	ND	1,300
Styrene	ND	1,300
Total xylenes	ND	1,300

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	94 %
Toluene-d8	86 %
Bromofluorobenzene	85 %

LABORATORY NUMBER: 119999-008
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: B-1

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/08/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19357

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	62	20
Carbon disulfide	53	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	98 %
Toluene-d8	87 %
Bromofluorobenzene	88 %

LABORATORY NUMBER: 119999-009
 CLIENT: Environmental Science & Engineering
 PROJECT ID: 65-95-022
 LOCATION: JAMES RIVER CORPORATION
 SAMPLE ID: TRIP BLANK

DATE SAMPLED: 02/22/95
 DATE RECEIVED: 02/23/95
 DATE ANALYZED: 03/02/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19260

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	5
1,1,1-Trichloroethane	ND	10
Carbon tetrachloride	ND	5
Vinyl acetate	ND	5
Bromodichloromethane	ND	50
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	5
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	10
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	91 %
Bromofluorobenzene	85 %

LABORATORY NUMBER: 119999 METHOD BLANK
 CLIENT: Environmental Science & Engineering

 DATE ANALYZED: 03/02/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19240

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	94 %
Toluene-d8	86 %
Bromofluorobenzene	87 %

LABORATORY NUMBER: 119999 METHOD BLANK
 CLIENT: Environmental Science & Engineering

 DATE ANALYZED: 03/02/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19260

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	89 %
Bromofluorobenzene	90 %

LABORATORY NUMBER: 119999 METHOD BLANK
 CLIENT: Environmental Science & Engineering

 DATE ANALYZED: 03/08/95
 DATE REPORTED: 03/11/95
 BATCH NO: 19357

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	91 %
Toluene-d8	87 %
Bromofluorobenzene	87 %



8240 Laboratory Control Sample Report

Lab No: QC86175
Date Analyzed: 01-MAR-95
Matrix: WATER
Batch No: 19240 425060234022

LCS Datafile: CC122
Operator: ATR

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	55.2	50	110 %	61-145%
Trichloroethene	50.1	50	100 %	71-120%
Benzene	49.9	50	100 %	76-127%
Toluene	49.1	50	98 %	76-125%
Chlorobenzene	47.9	50	96 %	75-130%

Surrogate Recoveries

1,2-Dichloroethane-d4	50.8	50	102 %	75-143%
Toluene-d8	44.5	50	89 %	77-134%
Bromofluorobenzene	44.9	50	90 %	65-129%

Results within Specifications - PASS

Note: Instrument C and D surrogates based on LCS data

8240 Laboratory Control Sample Report

Lab No: QC86261
Date Analyzed: 02-MAR-95
Matrix: WATER
Batch No: 19260 425061121003

LCS Datafile: CC203

Operator: ATR

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	53.5	50	107 %	61-145%
Trichloroethene	50.8	50	102 %	71-120%
Benzene	49.7	50	99 %	76-127%
Toluene	50.6	50	101 %	76-125%
Chlorobenzene	49.7	50	99 %	75-130%

Surrogate Recoveries

1,2-Dichloroethane-d4	46.3	50	93 %	75-143%
Toluene-d8	45.8	50	92 %	77-134%
Bromofluorobenzene	45.3	50	91 %	65-129%

Results within Specifications - PASS

Note: Instrument C and D surrogates based on LCS data

8240 Laboratory Control Sample Report

Lab No: QC86804
Date Analyzed: 08-MAR-95
Matrix: WATER
Batch No: 19357 425067126003

LCS Datafile: CC803

Operator: ATR

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	62.6	50	125 %	61-145%
Trichloroethene	50.7	50	101 %	71-120%
Benzene	55.4	50	111 %	76-127%
Toluene	55.7	50	111 %	76-125%
Chlorobenzene	52.8	50	106 %	75-130%

Surrogate Recoveries

1,2-Dichloroethane-d4	44.4	50	89 %	75-143%
Toluene-d8	45.7	50	91 %	77-134%
Bromofluorobenzene	44.9	50	90 %	65-129%

Results within Specifications - PASS

Note: Instrument C and D surrogates based on LCS data



8240 MS/MSD Report

Matrix Sample Number: 119999-001 Date Analyzed: 02-MAR-95
 Lab No: QC86178 QC86179 Spike File: CC126
 Matrix: WATER Spike Dup File: CC127
 Batch No: 19240 425061021026 425061027027 425061014025 Analyst: ATR

	Instrdrg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	50.7	50	101 %	61-145%
Trichloroethene	50.1	50	99 %	71-120%
Benzene	48.2	50	95 %	76-127%
Toluene	47.7	50	94 %	76-125%
Chlorobenzene	47.3	50	95 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	49.5	50	99 %	75-143%
Toluene-d8	43.7	50	87 %	77-134%
Bromofluorobenzene	44.1	50	88 %	65-129%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	49.6	50	99 %	61-145%
Trichloroethene	50.3	50	99 %	71-120%
Benzene	49.2	50	97 %	76-127%
Toluene	48	50	95 %	76-125%
Chlorobenzene	48	50	96 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	51.4	50	103 %	75-143%
Toluene-d8	43.3	50	87 %	77-134%
Bromofluorobenzene	44.9	50	90 %	65-129%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	0			
Trichloroethene	0.72			
Benzene	0.671			
Toluene	0.597			
Chlorobenzene	0			
<u>RPD DATA</u>				
1,1-Dichloroethene	2 %			< 14%
Trichloroethene	1 %			< 14%
Benzene	2 %			< 11%
Toluene	1 %			< 13%
Chlorobenzene	1 %			< 13%

Results within Specifications - PASS

8240 MS/MSD Report

Matrix Sample Number: 119999-005 Date Analyzed: 02-MAR-95
 Lab No: QC86264 QC86265 Spike File: CC216
 Matrix: WATER Spike Dup File: CC217
 Batch No: 19260 425061209016 425061215017 425061147007 Analyst: ATR

	Instrdrg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	47	50	94 %	61-145%
Trichloroethene	51.3	50	100 %	71-120%
Benzene	48.2	50	96 %	76-127%
Toluene	47.8	50	95 %	76-125%
Chlorobenzene	48.4	50	97 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	52.4	50	105 %	75-143%
Toluene-d8	45.2	50	90 %	77-134%
Bromofluorobenzene	45.2	50	90 %	65-129%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	49.2	50	99 %	61-145%
Trichloroethene	51.6	50	100 %	71-120%
Benzene	47.7	50	95 %	76-127%
Toluene	46	50	91 %	76-125%
Chlorobenzene	46.6	50	93 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	51	50	102 %	75-143%
Toluene-d8	42.7	50	85 %	77-134%
Bromofluorobenzene	42.6	50	85 %	65-129%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	0			
Trichloroethene	1.42			
Benzene	0			
Toluene	0.507			
Chlorobenzene	0			
<u>RPD DATA</u>				
1,1-Dichloroethene	5 %			< 14%
Trichloroethene	1 %			< 14%
Benzene	1 %			< 11%
Toluene	4 %			< 13%
Chlorobenzene	4 %			< 13%

Results within Specifications - PASS

119994

CHAIN OF CUSTODY RECORD

DATE 2/22/95 PAGE 1 OF 1

PROJECT NAME JAMES RIVER CORPORATION

ADDRESS 2101 WILLIAMS ST.

SAN LEANDRO, CA

PROJECT NO. 65-95-022

SAMPLED BY Karl Marschen

LAB NAME Curtis & Tompkins

ANALYSES TO BE PERFORMED

SAMPLE #	DATE	TIME	LOCATION	EPA 8240	TPH-D	TPH-MO	EPA 8015m	ANALYSES TO BE PERFORMED													
								1	2	3	4	5	6	7	8	9	10	11	12		
-1	2/22	1310	San Leandro	✓																	
-2	1	1540	1	✓																	
3	1	1520	1	✓																	
-4	1	1410	1	✓	✓																
-5	1	1435	1	✓	✓																
-6	1	1358	1	✓																	
-7	1	1450	1	✓																	
-8	1	1230	1	✓																	
-9	TRIP BLANK		1	✓																	

MATRIX

MATRIX	NUMBER OF CONTAINERS
WATER	3
"	3
"	3
"	4
"	4
"	3
"	3
"	3
"	1



Environmental Science & Engineering, Inc.

4090 Nelson Avenue Suite J Concord, CA 94520

Phone (510) 685-4053

Fax (510) 685-5323

REMARKS (CONTAINER, SIZE, ETC.)

300g
1
1 liter 300g
1 liter 300g
300g
" "
" "
100g

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. <i>[Signature]</i>	<i>[Signature]</i>	2/23/95	9:20
2. <i>[Signature]</i>	<i>[Signature]</i>	2/23/95	11:00
3.			
4.			
5.			

REPORT RESULTS TO:
Bart Miller
ESE

TOTAL NUMBER OF CONTAINERS 23²⁷

SPECIAL SHIPMENT REQUIREMENTS
COLD TRANSPORT

SAMPLE RECEIPT

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
NORMAL T.A.T. INVOICE TO ESE

CHAIN OF CUSTODY SEALS	
REC'D GOOD COND'TN/COLD	
CONFORMS TO RECORD	