Environmental
Science &
Engineering, Inc.

A CILCORP Company

TO: Alameda County
Health Care Services Agency
1131 Harbor Bay Parkway, Ste. 250
Alameda, CA 94502

DATE: August 17, 1995

JOB NUMBER: 65-95-022

ATTN: Madhulla Logan

SUBJECT: **JAMES RIVER CORPORATION, 2101 WILLIAMS STREET, SAN LEANDRO, CALIFORNIA**

WE ARE TRANSMITTING THE FOLLOWING:

One copy of a Third Quarter of 1995 Ground Water Monitoring Report for the subject site.

CC:

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ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

BY: _____
Bart Miller
Marketing Manager/Project Geologist

4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323

Environmental
Science &
Engineering, Inc.
A CILCORP Company

August 3, 1995

Ms. Madhulla Logan
Alameda County Health Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: THIRD QUARTER OF 1995
GROUND WATER MONITORING REPORT
JAMES RIVER CORPORATION
2101 WILLIAMS STREET
SAN LEANDRO, CALIFORNIA
ESE PROJECT NO. 65-95-022

Dear Ms. Logan:

This report presents the results of the third 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 (ACHCSA), 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.

THIRD QUARTER 1995 GROUND WATER MONITORING

Field Investigation

On July 6, 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 ACHCSA requirements. ESE's Standard Operating Procedure No. 3 for Ground Water Monitoring and Sampling from Monitoring Wells is presented in Appendix A. Copies of ESE's ground water sample collection logs are presented in Appendix B.

4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323

Before the 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 parameter readings had stabilized. Field parameter measurements for purged water are presented in Table 1 and on ESE's sample collection logs, Appendix B.

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 were used for sample collection at each well. Ground water samples collected for volatile organic analysis (VOA) were decanted into three 40-milliliter VOA vials. Ground water samples collected from wells W-7 and W-8 were decanted into a one-liter amber glass bottle 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

Water-level measurements during the period of June 1994 to July 1995 are presented in Table 2. The direction of ground water flow during this quarter is towards the west at a gradient of approximately 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 July 6, 1995 were analyzed for chlorinated volatile organic compounds (using EPA Test Method 8240) and for diesel and motor oil. Figure 3 illustrates the well location and the reported concentration of analytes detected in each well. Table 3 presents a

summary of reported ground water sample analytical results for the period of June 1994 to July 1995. Chemical analytes and concentrations reported in July 1995 were, in most cases, consistent with past reports.

Compared to the previous monitoring event, trichloroethene (TCE) concentrations have increased slightly in wells W-6 (from 230 micrograms per liter, - µg/L, to 250 µg/L), W-7 (from 100 µg/L to 140 µg/L), and in W-9 (from 72 µg/L to 89 µg/L). TCE concentrations decreased slightly in wells W-3 (from 160 µg/L to 150 µg/L) and W-5 (from 360 µg/L to 350 µg/L).

Tetrachloroethene (PCE) concentrations increased slightly in wells W-3 (from 270 µg/L to 320 µg/L), well W-6 (from 440 µg/L to 470 µg/L), well W-7 (from 97 µg/L to 140 µg/L), well W-9 (from 7.2 µg/L to 9.0 µg/L).

The reported concentrations of PCE decreased slightly in well W-5 (from 3,600 µg/L to 3,400 µg/L). The vinyl chloride concentration decreased in well W-7 (from 59 µg/L to 48 µg/L) and in well W-8 (from 260 µg/L to 200 µg/L). In well W-10, the acetone concentration decreased (from 21,000 µg/L to 19,000 µg/L).

Cis-1,2 dichloroethene (DCE) concentrations have decreased in wells W-3, W-5, W-6, and W-7, and increased in well W-8. No detectable concentrations of carbon disulfide, 1,1-DCE, 4-methyl-2-pentanone (MIBK), and 1,1 DCA were reported to occur in samples collected during this sampling event.

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. In the July 1995 sampling event, concentrations of TPH-D and TPH-M0 were non-detect in ground water from wells W-7 and W-8. A copy of the laboratory report and chain-of-custody documentation are presented in Appendix C.

Conclusions and Recommendations

Results of quarterly ground water sampling and analysis performed during July 1995, indicate that chlorinated hydrocarbons continue to be present in the shallow ground water beneath the James River Facility in San Leandro. The findings are consistent with those collected for past ground water monitoring reports.

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

Respectfully submitted,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

George Reid
Senior Geologist
Registered Geologist #3608

REGISTERED GEOLOGIST
GEORGE REID
No. 3608
STATE OF CALIFORNIA

Attachments:

Table 1	Field Parameter Measurements of Water Purged from Monitoring Wells July 6, 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

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TABLE 2

WATER-LEVEL MEASURMENTS

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
	May-95	20.67	10.32	10.35
	Jul-95	20.67	11.26	9.41
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
	May-95	20.80	10.38	10.42
	Jul-95	20.80	11.50	9.30
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
	May-95	21.00	10.72	10.28
	Jul-95	21.00	11.63	9.37
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
	May-95	21.64	11.36	10.28
	Jul-95	21.64	12.84	8.80
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
	May-95	21.05	10.30	10.35
	Jul-95	21.05	13.75	7.30
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
	May-95	20.41	10.30	9.51
	Jul-95	20.41	11.70	8.71

TABLE 2 (cont)

WATER-LEVEL MEASURMENTS

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
	May-95	20.50	10.55	9.95
	Jul-95	20.50	11.14	9.36
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	10.30	9.86
	May-95	20.16	10.38	9.78
	Jul-95	20.16	11.21	8.95
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
	May-95	20.22	10.95	9.27
	Jul-95	20.22	11.84	8.38
B-1	Jun-94	20.59	11.60	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
	May-95	20.59	10.34	10.25
	Jul-95	20.59	11.25	9.34

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
	May-95	<10	<10	<10	<10	NA	NA
	Jul-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
	May-95	<50	<50	<50	<50	NA	NA
	Jul-95	<5	<5	<5	<5	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
	May-95	<5	<5	<5	<5	NA	NA
	Jul-95	<13	<13	<13	<13	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	<50
	May-95	<5	<5	<5	<5	15,000	9,600
	Jul-95	<5	<5	<5	<5	<50	<1,300
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	ND<5	<5	<5	<5	<5	3,100	[redacted]
	May-95	<5	<5	<5	<5	<50	<1,300
	Jul-95	<5	<5	<5	<5	<50	<1,300
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
	May-95	<5	<5	<5	<5	NA	NA
	Jul-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
	May-95	<1,000	<1,000	<1,000	<1,000	NA	NA
	Jul-95	<5	15	140	80	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
	May-95	<5	<5	<5	<5	NA	NA
	Jul-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)

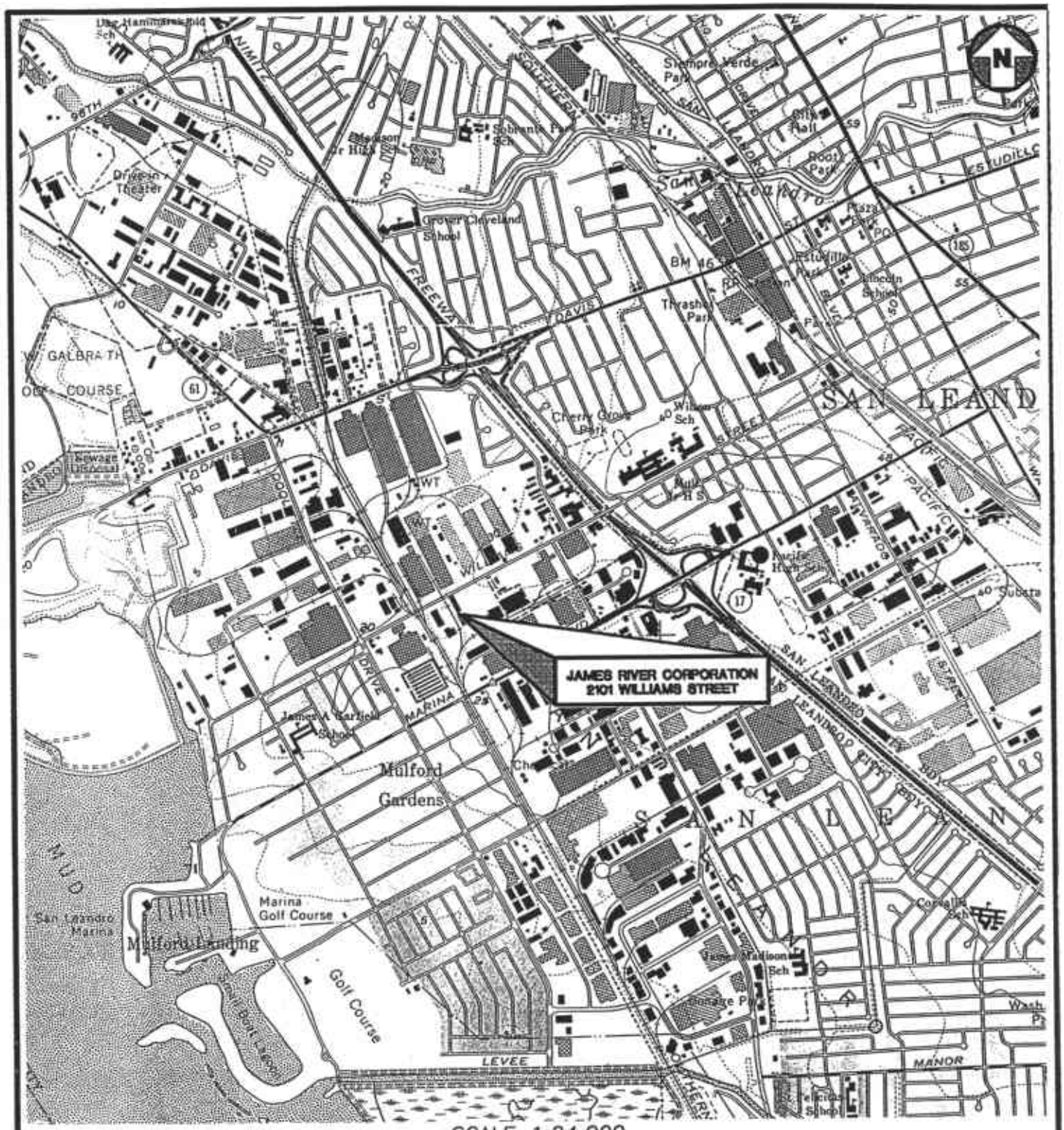
Well Name	Sample Date	TCE	Vinyl Chloride	PCE	1,1,1-TCA	Cis-1,2DCE	1,1DCA	Acetone	MIBK	1,1-DCE	Carbon Disulfide
W-3	Jun-94	<5	<10	<5	<5	8	<5	<20	210	<5	<5
	Sep-94	14	<10	19	<5	8	<5	<20	<10	<5	<5
	Dec-94	<5	<10	<5	<5	61	<5	<20	<10	<5	<5
	Feb-95	<5	<10	<5	<5	11	<5	<20	<10	<5	4
	May-95	160	28	270	<10	23	<10	<40	<20	<10	<10
	Jul-95	[redacted]	[redacted]	[redacted]	<5	[redacted]	<5	<20	<10	<5	<5
W-5	Jun-94	530	160	3,400	<50	1,700	<50	<200	<100	<50	<50
	Sep-94	530	140	2,500	<50	1300	<50	<200	<100	<50	<50
	Dec-94	350	<100	1,800	<50	1,600	<50	<200	<100	<50	<50
	Feb-95	290	<200	1,900	<100	2,100	<100	<400	<200	<100	<100
	May-95	360	<100	3,600	<50	540	<50	<200	<100	<50	<50
	Jul-95	[redacted]	[redacted]	[redacted]	<5	[redacted]	<5	<20	<10	<5	<5
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
	May-95	230	<10	440	<5	16	<5	<20	<10	<5	<5
	Jul-95	[redacted]	<25	[redacted]	<13	<13	<13	<50	<25	<13	<13
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
	May-95	100	59	97	<5	110	<5	<20	<10	<5	<5
	Jul-95	[redacted]	[redacted]	[redacted]	<5	[redacted]	<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
	May-95	<5	260	<5	<5	160	<5	<20	<10	<5	<5
	Jul-95	<5	[redacted]	<5	<5	[redacted]	<5	<20	<10	<5	<5
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
	May-95	72	<10	7.2	<5	<5	<5	<20	<10	<5	<5
	Jul-95	[redacted]	<10	[redacted]	<5	<5	<5	<20	<10	<5	<5
W-10	Jun-94	<2,000	<4,000	<2,000	<4,000	<2,000	<2,000	150,000	4,800	<2,000	<2,000
	Sep-94	<2,500	<5,000	<2,500	<2,500	<2,500	<2,500	74,000	<5,000	<2,500	<2,500
	Dec-94	<500	<1,000	<500	<500	<500	<500	18,000	1,600	<500	<500
	Feb-95	<1,300	<2,500	<1,300	<1,300	<1,300	<1,300	47,000	1,300	<1,300	<1,300
	May-95	<1,000	<2,000	<1,000	<1,000	<1,000	<1,000	21,000	<2,000	<1,300	<1,000
	Jul-95	<5	<10	<5	<5	<5	<5	[redacted]	<500	<5	<5
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
	May-95	<5	<10	<5	<5	<5	<5	<20	<10	<5	<5
	Jul-95	<5	<10	<5	<5	<5	<5	<20	<10	<5	<5

Notes:

NA = Not Analyzed

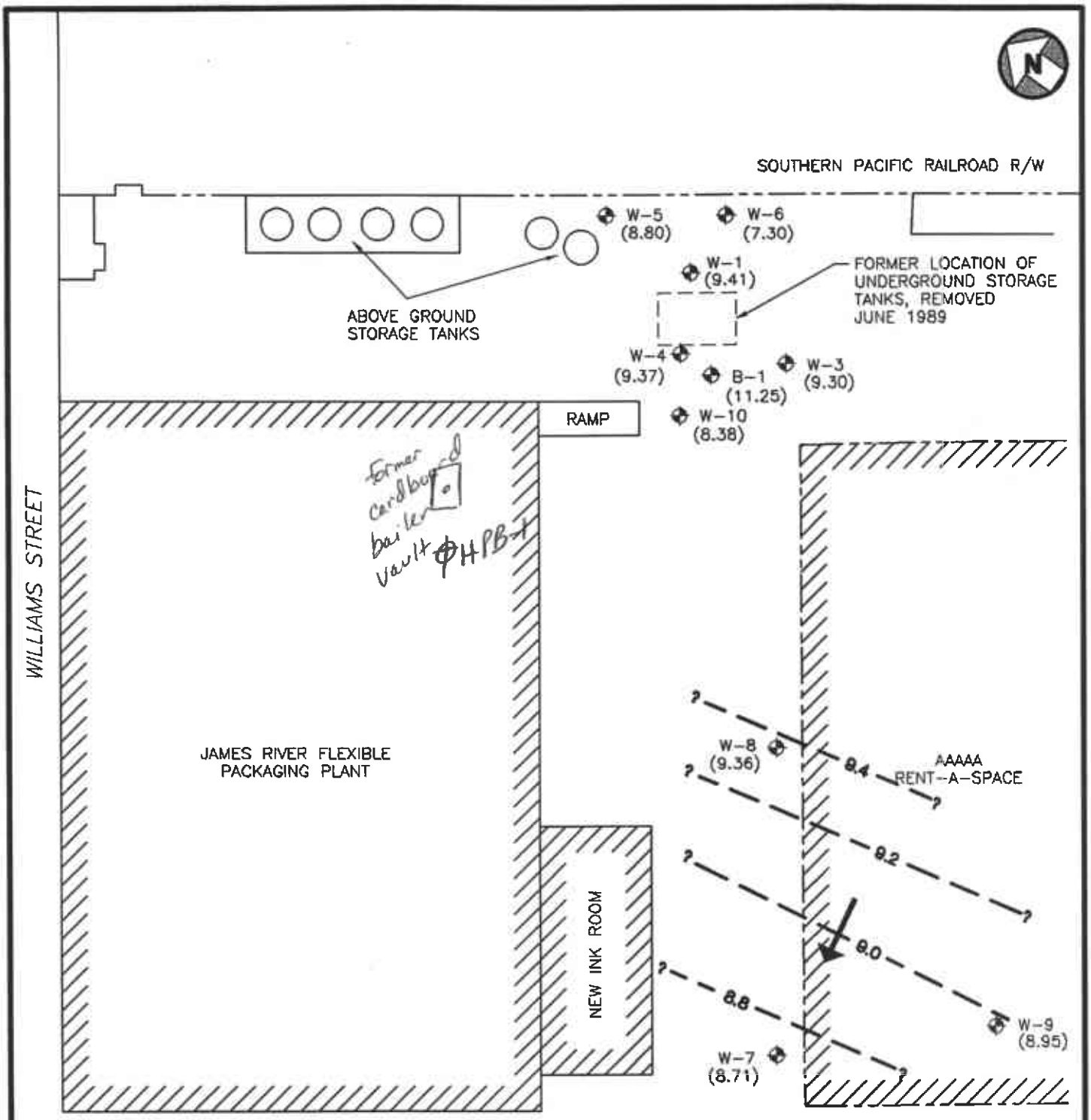
<5 = Not detected at the listed concentration.

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



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

Environmental Science & Engineering, Inc. A CB&I Company	DATE 3/10/95 REVISED	LOCATION MAP	FIGURE NO. 1
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 50220003	JAMES RIVER CORPORATION 2101 WILLIAMS STREET SAN LEANDRO, CALIFORNIA	PROJ. NO. 6595022



LEGEND

W-5 (8.80) — GROUND WATER MONITORING WELL WITH ELEVATION

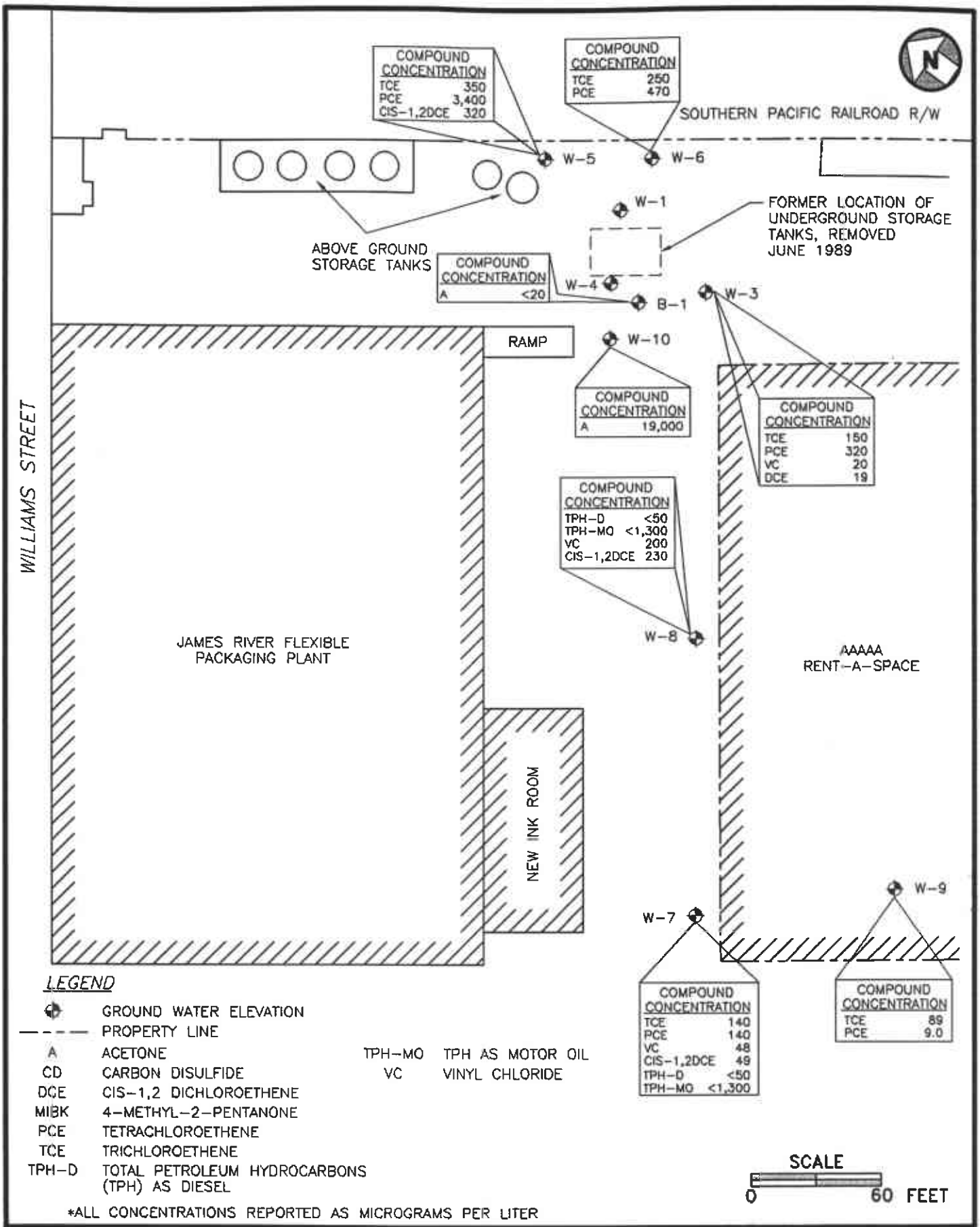
— — — PROPERTY LINE

—8.6— GROUND WATER POTENTIOMETRIC CONTOUR WITH ELEVATION

APPROXIMATE GROUND WATER FLOW DIRECTION

SCALE 0 60 FEET

ESE Environmental Science & Engineering, Inc.	DATE 3/9/95	GROUND WATER LEVEL CONTOUR MAP JULY 6, 1995	FIGURE NO. 2
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED 7/31/95	JAMES RIVER CORPORATION 2101 WILLIAMS STREET SAN LEANDRO, CALIFORNIA	PROJ. NO. 65-95-022
	CAD FILE 65502202		



*ALL CONCENTRATIONS REPORTED AS MICROGRAMS PER LITER

Environmental Science & Engineering, Inc.	DATE 3/9/95	GROUND WATER QUALITY ANALYTICAL RESULTS JULY 6, 1995	FIGURE NO. 3
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED 7/31/95	JAMES RIVER CORPORATION 2101 WILLIAMS STREET SAN LEANDRO, CALIFORNIA	PROJ. NO. 65-95-022
	CAD FILE 65502203		

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.
A CH2MHILL Company

SAMPLE COLLECTION LOG

PROJECT NAME: J. R.
PROJECT NO.: 65-95-022
DATE: 7-6-95

SAMPLE LOCATION I.D.: B-1
SAMPLER: Karl Marsden
PROJECT MANAGER: Bart M.

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.)
DEPTH TO WATER: 11.25 (ft.)
DEPTH OF WELL: 48 (ft.)

PRODUCT THICKNESS: 0 (ft.)
WATER COLUMN: 36.75 (ft.)
WELL CASING VOLUME: 23.99 (gal)

MINIMUM PURGE VOLUME (3 or ~~4 WCV~~): 71 (gal)
ACTUAL VOLUME PURGED: ~~75~~ (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
900	0	7.3	690	66°		Clear
903	~~45~~	7.5	710	65°		"
905	~~30~~	7.5	710	65°		"
					2.5	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Ion UNIT#____ DATE: 7/6/95 TIME: 7am BY: JM
TURBIDITY: TYPE____ UNIT#____ DATE:____ TIME:____ BY:____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	B-1	1118	7/6/95	C&T	8240
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:____

SAMPLER: Karl Marsden PROJECT MANAGER: Bart M.

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Environmental Science & Engineering, Inc.
A GILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: J. R.
PROJECT NO.: 65-95-022
DATE: 7-6-95

SAMPLE LOCATION I.D.: W-1
SAMPLER: Paul Marsden
PROJECT MANAGER: Bart M.

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: Ø (ft.)
DEPTH TO WATER: 11.26 (ft.)
DEPTH OF WELL:_____(ft.)

PRODUCT THICKNESS:_____(ft.)
WATER COLUMN:_____(ft.)
WELL CASING VOLUME:_____(gal)

MINIMUM PURGE VOLUME (3 or 4 WCV):_____(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

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-1		7/6/95		
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:_____

SAMPLER: Paul Marsden PROJECT MANAGER: B. M.

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Environmental Science & Engineering, Inc.
A CH2MHILL Company

SAMPLE COLLECTION LOG

PROJECT NAME: James River
PROJECT NO.: 65-95-022
DATE: 7-6-95

SAMPLE LOCATION I.D.: W-3
SAMPLER: Paul Marsch
PROJECT MANAGER: Bert 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: Ø (ft.)
DEPTH TO WATER: 11.50 (ft.)
DEPTH OF WELL: 37.35 (ft.)

PRODUCT THICKNESS: Ø (ft.)
WATER COLUMN: 25.85 (ft.)
WELL CASING VOLUME: 16.8 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 50.6 (gal)
ACTUAL VOLUME PURGED: 60 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
8:49	Ø	7.1	920	65°		Clear
8:52	25	7.0	760	65°		
8:55	50	7.1	700	65°		
					10	

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Ten UNIT#— DATE: 7/6/95 TIME: 7am BY: TM
TURBIDITY: TYPE____ UNIT#____ DATE:____ TIME:____ BY:____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-3	1110	7/6/95	CAT	8240
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: Paul Marsch
PROJECT MANAGER: Bert Miller

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Environmental Science & Engineering, Inc.
A CH2MHILL Company

SAMPLE COLLECTION LOG

PROJECT NAME: James River
PROJECT NO.: 65-95-022
DATE: 7-6-95

SAMPLE LOCATION I.D.: W-4
SAMPLER: Karl Marsh
PROJECT MANAGER: Bart M.

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: Ø (ft.)
DEPTH TO WATER: 11.63 (ft.)
DEPTH OF WELL:_____(ft.)

PRODUCT THICKNESS: Ø (ft.)
WATER COLUMN:_____(ft.)
WELL CASING VOLUME:____(gal)

MINIMUM PURGE VOLUME (3 or 4 WCV):_____(gal)
ACTUAL VOLUME PURGED:_____(gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
	0					
	25					
	55					

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Rem UNIT#____ DATE: 7/6/95 TIME: 7am BY: RM
TURBIDITY: TYPE_____ UNIT#_____ DATE:_____ TIME:_____ BY:_____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-4		7/6/95	C&T	
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:_____

SAMPLER: Karl Marsh
PROJECT MANAGER

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Environmental Science & Engineering, Inc.
A CRLCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: J. R.
PROJECT NO.: 65-95-022
DATE: 7/6/95

SAMPLE LOCATION I.D.: W-5
SAMPLER: Paul Marsden
PROJECT MANAGER: Bart M.

CASING DIAMETER

2" X
4" ____
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: Ø (ft.)
DEPTH TO WATER: 12.84 (ft.)
DEPTH OF WELL: 34.77 (ft.)

PRODUCT THICKNESS: Ø (ft.)
WATER COLUMN: 21.93 (ft.)
WELL CASING VOLUME: 3.5 (gal)

MINIMUM PURGE VOLUME
~~(3 or~~ (4 WCV): 14.5 (gal)
ACTUAL VOLUME PURGED: 40 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
830	Ø	7.8	590	65°		Cloudy
832	20	7.6	610	65°		Clear
835	40	7.9	630	65°		
					24.5	

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Ben UNIT# — DATE: 7/6/95 TIME: 7am BY: RM
TURBIDITY: TYPE ____ UNIT# ____ DATE: ____ TIME: ____ BY: ____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-5	1045	7/6/95	C&T	8240
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS: ____

SAMPLER: Paul Marsden
PROJECT MANAGER: Bart M.

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Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: James River
PROJECT NO.: 65-95-022
DATE: July-6-95

SAMPLE LOCATION I.D.: W-6
SAMPLER: Paul Marsh
PROJECT MANAGER: Bart M.

CASING DIAMETER

2" X
4"
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.)
DEPTH TO WATER: 13.75 (ft.)
DEPTH OF WELL: 37.45 (ft.)

PRODUCT THICKNESS: 0 (ft.)
WATER COLUMN: 23.70 (ft.)
WELL CASING VOLUME: 3.8 (gal)

MINIMUM PURGE VOLUME (3 or ~~4~~ WCV): 15.5 (gal)
ACTUAL VOLUME PURGED: 40 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
9:17	0	9	630	65°		Brown
9:19	20	8.1	600	61°		Clear
9:22	40	8.0	610	66°		
					35.5	

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Ben UNIT#— DATE: 7/5 TIME: 700 BY: TM
TURBIDITY: TYPE____ UNIT#____ DATE:____ TIME:____ BY:____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-6	1035	7/6/95	C&T	9240
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: Paul Marsh
PROJECT MANAGER

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Environmental Science & Engineering, Inc.
A CH2MHILL Company

SAMPLE COLLECTION LOG

PROJECT NAME: J. R.
PROJECT NO.: 65-95-022
DATE: 7-6-95

SAMPLE LOCATION I.D.: W-7
SAMPLER: Paul Marsden
PROJECT MANAGER: Bart M.

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.)
DEPTH TO WATER: 11.70 (ft.)
DEPTH OF WELL: 36.20 (ft.)

PRODUCT THICKNESS: 0 (ft.)
WATER COLUMN: 24.5 (ft.)
WELL CASING VOLUME: 15.99 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 63.9 (gal)
ACTUAL VOLUME PURGED: 65 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
942	0	7.3	680	64°	1	Clear
944	25	7.4	690	65°	1	"
947	55	7.6	670	65°	1	"
					54.5	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Ion UNIT#___ DATE: 7/6/95 TIME: 7am BY: RM
TURBIDITY: TYPE_____ UNIT#_____ DATE:_____ TIME:_____ BY:_____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-7	1145	7/6/95	CAT	8240/8015m
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:_____

SAMPLER: _____ PROJECT MANAGER _____

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Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: T. R.
PROJECT NO.: 65-95-022
DATE: 7-6-95

SAMPLE LOCATION I.D.: W-8
SAMPLER: Paul Marsh
PROJECT MANAGER: Bart M.

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.)
DEPTH TO WATER: 11.14 (ft.)
DEPTH OF WELL: 37.6 (ft.)

PRODUCT THICKNESS: 0 (ft.)
WATER COLUMN: 26.46 (ft.)
WELL CASING VOLUME: 17.27 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 51.8 (gal)
ACTUAL VOLUME PURGED: 60 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
932	0	7.2	570	65°		Clear
934	25	7.1	580	65°		
937	55	7.1	580	65°		
					12.5	

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Ben UNIT#— DATE: 7/6 TIME: 7am BY: PM
TURBIDITY: TYPE_____ UNIT#_____ DATE:_____ TIME:_____ BY:_____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-8	1125	7/6/95	C&T	8240/8015m
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS: Bio growth in well

SAMPLER: Paul Marsh PROJECT MANAGER: B. M.

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Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: T-R.
PROJECT NO.: 65-95-022
DATE: 7/6/95

SAMPLE LOCATION I.D.: W-9
SAMPLER: Paul Marsh
PROJECT MANAGER: Bart M.

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.)
DEPTH TO WATER: 11.21 (ft.)
DEPTH OF WELL: 31.10 (ft.)

PRODUCT THICKNESS: 0 (ft.)
WATER COLUMN: 19.89 (ft.)
WELL CASING VOLUME: 12.9 (gal)

MINIMUM PURGE VOLUME
~~(3 or~~ 4 WCV): 52 (gal)
ACTUAL VOLUME PURGED: 55 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1012	0	6.9	700	68°		
1014	25	7.9	750	67°		
1016	50	7.9	770	67°		
					15.6	

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Horiba UNIT#____ DATE: 7-6 TIME: 7am 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

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-9	1018	7/6/95	CAT	8240
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:____

SAMPLER: Paul Marsh PROJECT MANAGER

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Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: T. R.
PROJECT NO.: 65-95-022
DATE: 7-6-95

SAMPLE LOCATION I.D.: W-10
SAMPLER: Paul Marsden
PROJECT MANAGER: Bart M.

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.)
DEPTH TO WATER: 11.84 (ft.)
DEPTH OF WELL: 16.75 (ft.)

PRODUCT THICKNESS: 0 (ft.)
WATER COLUMN: 4.91 (ft.)
WELL CASING VOLUME: 3.2 (gal)

MINIMUM PURGE VOLUME (3 of 4 WCV): 12.8 (gal)
ACTUAL VOLUME PURGED: 30 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
915	0	7.1	1050	66°		Clear
918	15	6.8	960	65°		
925	30	6.7	950	66°		
					25.9	

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Ken UNIT# — DATE: 7/6 TIME: 7am BY: RM
TURBIDITY: TYPE_____ UNIT#_____ DATE:_____ TIME:_____ BY:_____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	W-10	1055	7/6/95	C&T	8240
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:_____

SAMPLER: Paul Marsden PROJECT MANAGER Bart M.

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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: 19-JUL-95
Lab Job Number: 121680
Project ID: 65-95-022
Location: James River Corporation

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltc

LABORATORY NUMBER: 121680
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE EXTRACTED: 07/10/95
DATE ANALYZED: 07/14/95
DATE REPORTED: 07/18/95
BATCH NO: 21826

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

LAB ID	CLIENT ID	DIESEL RANGE (ug/L)	MOTOR OIL RANGE (ug/L)
121680-004	W-7	ND(50)	ND(1,300)
121680-005	W-8	ND(50)	ND(1,300)
Method Blank	N/A	ND(50)	ND(1,300)

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

QA/QC SUMMARY: BS/BSD

RPD, %	15
RECOVERY, %	90

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-001
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: W-3

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/10/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	20	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	19	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	150	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	320*	13
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

* Result obtained from a 1:2.5 dilution analyzed on 07/11/95. (Batch:2183

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	87 %
Toluene-d8	95 %
Bromofluorobenzene	93 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-002
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: W-5

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/10/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	28	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	320*	130
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	350*	130
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	3,400*	130
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

* Result obtained from a 1:25 dilution analyzed on 07/11/95. (Batch:21837)
ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	82 %
Toluene-d8	87 %
Bromofluorobenzene	86 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-003
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: W-6

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/11/95
DATE REPORTED: 07/19/95
BATCH NO: 21837

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	25
Bromomethane	ND	25
Vinyl chloride	ND	25
Chloroethane	ND	25
Methylene chloride	ND	50
Acetone	ND	50
Carbon disulfide	ND	13
Trichlorofluoromethane	ND	13
1,1-Dichloroethene	ND	13
1,1-Dichloroethane	ND	13
trans-1,2-Dichloroethene	ND	13
cis-1,2-Dichloroethene	ND	13
Chloroform	ND	13
Freon 113	ND	13
1,2-Dichloroethane	ND	13
2-Butanone	ND	25
1,1,1-Trichloroethane	ND	13
Carbon tetrachloride	ND	13
Vinyl acetate	ND	130
Bromodichloromethane	ND	13
1,2-Dichloropropane	ND	13
cis-1,3-Dichloropropene	ND	13
Trichloroethene	250	13
Dibromochloromethane	ND	13
1,1,2-Trichloroethane	ND	13
Benzene	ND	13
trans-1,3-Dichloropropene	ND	13
Bromoform	ND	13
2-Hexanone	ND	25
4-Methyl-2-pentanone	ND	25
1,1,2,2-Tetrachloroethane	ND	13
Tetrachloroethene	470	13
Toluene	ND	13
Chlorobenzene	ND	13
Ethyl benzene	ND	13
Styrene	ND	13
Total xylenes	ND	13

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	98 %
Bromofluorobenzene	96 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-004
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: W-7

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/10/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	48	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	49	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	140	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	140	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	90 %
Toluene-d8	97 %
Bromofluorobenzene	94 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-005
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: W-8

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/11/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	200	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	230*	10
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

* Result obtained from a 1:2 dilution analyzed on 07/11/95. (Batch:21837)
ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	88 %
Toluene-d8	96 %
Bromofluorobenzene	93 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-006
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: W-9

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/11/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

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	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	89	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	9.0	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	93 %
Toluene-d8	97 %
Bromofluorobenzene	95 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-007
CLIENT:ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: W-10

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/11/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

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	19,000*	4,000
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	87	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	Detected(380)	500
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	140	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	15	5.0
Styrene	ND	5.0
Total xylenes	80	5.0

* Result obtained from a 1:200 dilution analyzed on 07/11/95. (Batch:2183
** Result obtained from a 1:500 dilution analyzed on 07/11/95. (Batch:218
ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	93 %
Bromofluorobenzene	93 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-008
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: B-1

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/11/95
DATE REPORTED: 07/19/95
BATCH NO: 21837

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	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	100 %
Bromofluorobenzene	96 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-009
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: TRIP BLANK

DATE SAMPLED: 07/06/95
DATE RECEIVED: 07/07/95
DATE ANALYZED: 07/11/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

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	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	100 %
Bromofluorobenzene	97 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-Method Blank
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: MB

DATE ANALYZED: 07/10/95
DATE REPORTED: 07/19/95
BATCH NO: 21797

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	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

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

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 121680-Method Blank
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 65-95-022
LOCATION: JAMES RIVER CORPORATION
SAMPLE ID: MB

DATE ANALYZED: 07/10/95
DATE REPORTED: 07/19/95
BATCH NO: 21837

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	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	102 %
Bromofluorobenzene	99 %

Curtis & Tompkins, Ltd

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8240 Laboratory Control Sample Report

Lab No: QC97911 LCS Datafile: DG903
Date Analyzed: 10-JUL-95
Matrix: WATER Operator: TW
Batch No: 21797 435191108003

Compound	ug/L	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	49.49	50	99 %	61-145%
Trichloroethene	50.61	50	101 %	71-120%
Benzene	52.10	50	104 %	76-127%
Toluene	52.90	50	106 %	76-125%
Chlorobenzene	52.34	50	105 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	42.42	50	85 %	75-143%
Toluene-d8	47.65	50	95 %	77-134%
Bromofluorobenzene	48.12	50	96 %	65-129%

Results within Specifications - PASS

Note: Instrument C and D surrogates based on LCS data

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8240 MS/MSD Report

Matrix Sample Number: 121600-001
Lab No: QC97961 QC97962
Matrix: MISCELL.
Batch No: 21797 435191181015 435191186016 435191175014

Date Analyzed: 10-JUL-95
Spike File: DG915
Spike Dup File: DG916
Analyst: TW

	ppb	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	50.7	50	101 %	61-145%
Trichloroethene	51.5	50	103 %	71-120%
Benzene	53.5	50	107 %	76-127%
Toluene	59.8	50	109 %	76-125%
Chlorobenzene	54.3	50	109 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	43.8	50	88 %	75-143%
Toluene-d8	48.5	50	97 %	77-134%
Bromofluorobenzene	48.2	50	96 %	65-129%
MSD RESULTS				
1,1-Dichloroethene	50.5	50	101 %	61-145%
Trichloroethene	52	50	104 %	71-120%
Benzene	54.1	50	108 %	76-127%
Toluene	60.1	50	109 %	76-125%
Chlorobenzene	54.6	50	109 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	44.5	50	89 %	75-143%
Toluene-d8	49.1	50	98 %	77-134%
Bromofluorobenzene	48.6	50	97 %	65-129%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	0			
Toluene	5.36			
Chlorobenzene	0			

RPD DATA		
1,1-Dichloroethene	0 %	< 14%
Trichloroethene	1 %	< 14%
Benzene	1 %	< 11%
Toluene	0 %	< 13%
Chlorobenzene	1 %	< 13%

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Curtis & Tompkins, Ltd.

8240 Laboratory Control Sample Report

Lab No: QC98083 LCS Datafile: DGB04
Date Analyzed: 11-JUL-95
Matrix: WATER Operator: TW
Batch No: 21837 435192125004

Compound	ug/L	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	49.96	50	100 %	61-145%
Trichloroethene	51.21	50	102 %	71-120%
Benzene	52.51	50	105 %	76-127%
Toluene	53.73	50	107 %	76-125%
Chlorobenzene	54.01	50	108 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	44.05	50	88 %	75-143%
Toluene-d8	47.90	50	96 %	77-134%
Bromofluorobenzene	47.32	50	95 %	65-129%

Results within Specifications - PASS

Note: Instrument C and D surrogates based on LCS data

Curtis & Tompkins, Ltd

8240 MS/MSD Report

Curtis & Tompkins, Ltd.

Matrix Sample Number: 121680-002 Date Analyzed: 11-JUL-95
Lab No: QC98116 QC98117 Spike File: DGB10
Matrix: WATER Spike Dup File: DGB11
Batch No: 21837 435192163010 435192169011 435192157009 Analyst: TW

	ppb	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	49.1	50	98 %	61-145%
Trichloroethene	88.4	50	102 %	71-120%
Benzene	51.9	50	104 %	76-127%
Toluene	53.9	50	108 %	76-125%
Chlorobenzene	53.4	50	107 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	43.7	50	87 %	75-143%
Toluene-d8	47.7	50	95 %	77-134%
Bromofluorobenzene	47.4	50	95 %	65-129%
MSD RESULTS				
1,1-Dichloroethene	50.9	50	102 %	61-145%
Trichloroethene	89.7	50	105 %	71-120%
Benzene	53.1	50	106 %	76-127%
Toluene	55.2	50	110 %	76-125%
Chlorobenzene	55.4	50	111 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	44.8	50	90 %	75-143%
Toluene-d8	48.6	50	97 %	77-134%
Bromofluorobenzene	48.4	50	97 %	65-129%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	37.4			
Benzene	0			
Toluene	0			
Chlorobenzene	0			

RPD DATA		
1,1-Dichloroethene	4 %	< 14%
Trichloroethene	1 %	< 14%
Benzene	2 %	< 11%
Toluene	2 %	< 13%
Chlorobenzene	4 %	< 13%

121680

CHAIN OF CUSTODY RECORD

DATE JULY 6, 1995 PAGE 1 OF 1

PROJECT NAME JAMES RIVER CORP.

ADDRESS 2101 WILLIAMS ST., SAN LEANDRO, CA

PROJECT NO. 65-95-022

SAMPLED BY Paul Marsden

LAB NAME CURTIS : TOMPKINS, LTD.

ESE Environmental Science & Engineering, Inc.
A CILCORP Company
4090 Nelson Avenue
Suite J
Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	ANALYSES TO BE PERFORMED: EPA 8240	TPH-D : TPH-MO EPA 8015m	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
1 W-3	7/6	1110	SAN LEANDRO	✓		WATER	3	VOA vials (x3)
2 W-5		1045	"	✓		"	3	
3 W-6		1035	"	✓		"	3	
4 W-7		1145	"	✓	✓	"	4	+ 1 liter
5 W-8		1125	"	✓	✓	"	4	+ 1 liter
6 W-9		1018	"	✓		"	3	
7 W-10		1055	"	✓		"	3	
8 B-1		1118	"	✓		"	3	
9 TRIP BLANK			"	✓		"	1	VOA vial (x1)
10								
11								
12								

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. Paul Marsden			
2.			
3.			
4.			
5.			

27 TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO: Bart Miller ESE

SPECIAL SHIPMENT REQUIREMENTS: COLD TRANSPORT

SAMPLE RECEIPT

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

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
NORMAL T.A.T. INVOICE TO ESE. SUSPECT DETECTABLE CONCENTRATIONS OF CHLORINATED VOLATILE ORGANIC COMPOUNDS IN SOME WELLS.