

ENVIRONHENTAL PROTECTION

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June 20, 1996

Mr. Dale Klettke, CHMM
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

SUBJECT: SPRING 1996

GROUND WATER MONITORING REPORT

JAMES RIVER FLEXIBLE PACKAGING FACILITY

2101 WILLIAMS STREET SAN LEANDRO, CALIFORNIA ESE PROJECT NO. 65-96-044

Dear Mr. Klettke:

This report presents the results of the ground water monitoring activities conducted during the Spring of 1996 by Environmental Science & Engineering, Inc. (ESE). The ground water monitoring activities were conducted on behalf of the James River Flexible Packaging Facility located at 2101 Williams Street, San Leandro, California (Figure 1). This document was prepared under the supervision of a California Registered Geologist and for the exclusive 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.

SPRING 1996 GROUND WATER MONITORING

Field Investigation

On April 11, 1996, ground water samples were collected from monitoring wells W-7, W-8, W-10, TW-2 and TW-3 for chemical analyses (well locations are shown on Figure 2 - Site Map). All ground water sampling was performed according to the ACHCSA. Field parameters are recorded on ESE's ground water sample collection logs which are presented in Appendix A.

Prior to purging and sampling, water-level measurements were obtained by an ESE representative using an electronic ground water well sounder with an accuracy of 0.01 foot. Ground water samples were collected from monitoring wells W-7, W-8, W-10, TW-2 and TW-3 after at least three well volumes of water was removed from each well using a vacuum extraction system. Vacuum extraction services were provided by Automated Environmental Services (AES) located in Modesto, California. Class 2000 PVC "stingers" have been designated to each of the site wells and are utilized by AES to purge each well prior to sampling. The use of a vacuum based system eliminates the possibility of cross contamination between wells, and thus does not require the decontamination. Ground water samples were collected using new disposable polyethylene bailers lowered into the wells with a new nylon cord. A new bailer and new cord were used for each well. Ground water from the second bailer volume removed from each well was decanted into laboratory supplied containers. The sample containers were sealed, labeled, placed on ice in a cooler and placed under chain-of-custody for transportation to McCampbell Analytical (MAL), a State-certified analytical laboratory of Pacheco, California. A laboratory-supplied trip blank, consisting

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of deionized water, was transported with the other samples and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbons as hydraulic fluid (TPH-HF) using U.S. Environmental Protection Agency (EPA) Methods 8020 and 8015M, respectively. 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 on ice in the cooler containing the ground water samples. ESE performed the fieldwork in accordance with ACHCSA and Tri-Regional Water Quality Control Board guidelines.

Ground water samples collected from wells W-7 and W-8 were analyzed for total petroleum hydrocarbons as diesel (TPH-D) and as hydraulic fluid (TPH-HF) using EPA Method 8015M. MAL routinely uses the direct injection method for analyzing hydraulic fluid oil-range constituents under EPA method 8015M and can achieve a lower minimum detection limit of 250 μ g/L. Ground water samples collected from W-10 were analyzed for acetone, methyl isobutyl ketone (MIBK) using EPA Method 8260 and BTEX using EPA Method 8020. Ground water samples collected from monitoring wells TW-1 and TW-2 were analyzed for TPH-D and TPH-HF.

Depth to Ground Water, Gradient and Flow Direction

Water-level measurements collected in 1996 are presented in Table 1. The depth to ground water ranged from 10.28 feet in W-1 to 14.89 feet in TW-2. The direction of ground water flow on April 11, 1996 was to the west at a gradient of approximately 0.0045 ft/ft (Figure 3). Ground water flow direction and gradient data are consistent with data collected from previous monitoring periods.

Chemical Analyses

Monitoring well locations and their respective concentrations of analytes detected in samples collected from each well are illustrated in Figure 4. Table 2 presents a summary of reported ground water sample analytical results for the period of December 1995 to April 1996. Concentrations of chemical analytes reported during this event are consistent with results reported during the previous sampling event, with the exception of the reduced concentrations of hydraulic fluid reported in monitoring well TW-2.

Concentrations of TPH-D of ground water samples collected from monitoring wells W-7 and W-8 were reported as below the method detection limit. Concentrations of TPH-HF of ground water samples collected from monitoring wells TW-2, TW-3, W-7 and W-8 were reported as below the method detection limit. Concentrations of BTEX of ground water samples collected from monitoring wells TW-2 and TW-3 were reported as below the method detection limit. Concentrations of acetone and MIBK were detected in the ground water sample collected from monitoring well W-10 at 14,000 μ g/L and 690 μ g/L, respectively. BTEX was detected in ground water samples collected from W-10 at concentrations of 2.2 μ g/L, 100 μ g/L, 12 μ g/L, and 62 μ g/L, respectively. A copy of the laboratory report and chain-of-custody documentation are presented in Appendix B.

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Conclusions

Based on the results of the Spring 1996 ground water monitoring event, ESE presents the following conclusions:

- Depth to ground water ranged from 10.28 feet in W-1 to 14.89 feet in TW-2;
- The direction of ground water flow on April 11, 1996 was to the west at a gradient of approximately 0.0045 ft/ft (Figure 2);
- TPH-D in ground water samples collected from monitoring wells W-7 and W-8 were reported as below the method detection limit;
- TPH-HF in ground water samples collected from monitoring wells TW-2, TW-3, W-7 and W-8 were reported as below the method detection limit;
- Free-phase hydraulic fluid floating on ground water was encountered in monitoring well TW-1 and remediation of free-phase product by passive skimming is currently in progress;
- BTEX in ground water samples collected from monitoring wells TW-2 and TW-3 were reported
 as below the method detection limit;
- BTEX was detected in ground water samples collected from W-10 at concentrations of 2.2 μ g/L, 100 μ g/L, 12 μ g/L, and 62 μ g/L, respectively;
- Acetone is reported in the ground water sample collected from monitoring well W-10 at a concentration of 14,000 μ g/L, which is above the EPA Preliminary Remediation Goal (PRG) in tap water of 770 μ g/L; and
- MIBK was detected in the ground water sample collected from monitoring well W-10 at 690 μ g/L, which is below the PRG in tap water of 1,800 μ g/L.

Results of annual ground water sampling and analysis performed during the Spring of 1996 indicate that TPH-HF dissolved concentrations are no longer being detected in the tested on-site monitoring wells. ESE believes, based on conversations with ACHCSA, that monitoring for HF should be discontinued based on information presented by the State Water Resources Control Board memorandum LG-141 Permanent Hydraulic Fuel Tank Exemption.

In addition, no further action should be issued in the fuel/acetone/MIBK area according to guidelines presented by the State Water Board - Interim Guidance on Required Cleanup at Low-Risk Fuel Sites, dated December 8, 1995 and by the California Regional Water Quality Control Board memorandum concerning Supplemental Instructions to the aforementioned Interim Guidance. Accordingly, the James River Facility has satisfied these guidelines as outlined by the following:

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- The point source of the hydraulic fluid leak has been removed and the free phase product is being removed;
- The site soils and ground water have been adequately characterized;
- Ground water impact by chemicals of concern from the James River Site is now minimal and no human toxicity is reported for hydraulic fluid;
- No drinking water wells or other sensitive receptors are likely to be impacted; and
- The low levels and limited extent of the chemicals of concern do not pose a significant risk to human health and the environment.

Review of internal documents and interviews with on-site personnel by Ms. Regina Colbert of the James River Corporation has not revealed an on-site source for the acetone impact to ground water beneath the site. Acetone used by the facility at the on-site laboratory is estimated at a few gallons.

Recommendations

With continued decrease in the levels of the chemicals of concern, it is anticipated that levels below environmental concern will continue to be found in the monitoring wells. ESE thus suggests that the James River Facility case be closed upon review of these findings and that no further action be issued by the ACHCSA.

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Should you have any questions pertaining to this report, please contact Eric Garcia at (510) 685-4053.

Respectfully submitted,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Eric W. Garcia

Senior Staff Geologist

JUNE 20, 1996

Date

David J. Blunt, R.G. 4516

Senior Geologist

Date

Attachments:

Table 1

Summary of Ground Water Elevation Data

Table 2

Summary of Ground Water Sample Analytical Results

Figure 1

Location Map

Figure 2

Site Map

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Figure 3
Figure 4

Ground Water Elevation Contour Map, April 11, 1996 Ground Water Quality Analytical Results, April 11, 1996

Appendix A

Sample Collection Logs

Appendix B

Analytical Reports with Chain-of-Custody Documentation

TABLE 1 SUMMARY OF GROUND WATER ELEVATION DATA JAMES RIVER FLEXIBLE PRODUCT FACILITY SAN LEANDRO, CALIFORNIA

Monitoring Well Number	Date Measured	Top of Casing Elevation (feet MSL*)	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Ground Water Elevation (feet MSL*)
	May 1995	21.05	10.30		(44)	10.75
W-6	July 1995	1 1	13.75			7.30
	Oct. 1995	1 1	12.47		**	8.58
	Jan. 1996	24.72*	11.48		277.	13.24
	April 1996		11.30	办-法	+	13.42
	May 1995	20.41	10.30	-	=	10.11
W-7	July 1995	1 1	11.70	124		8.71
	Oct. 1995	1 1	12.39		277	8.02
	Jan. 1996	24.04*	11.60		_	12.44
	April 1996		10.86	1 (M.	=	13.18
	May 1995	20.50	10.55	- C	8 1	9.95
W-8	July 1995		11.14			9.36
	Oct. 1995	1 1	11.81		:=:	8.69
	Jan. 1996	23.83*	11.01		_	12.82
	April 1996		10.23	7 - 7		13.60
	May 1995	20.22	10.95	=		9.27
W-10	July 1995	1	11.84	**		8.38
	Oct. 1995		12.54	==		7.68
	Jan. 1996	24.77*	11.67	1941		13.10
	April 1996		10.88	29-	-	13.89
	May 1995	20.59	10.34	-		10.25
B-1	July 1995		11.25		-	9.34
	Oct. 1995		11.98		1000	8.61
	Jan. 1996	24.25*	11.12	-		13.13
	April 1996		10.30	14.基		13.95

Notes:

^{*}Elevation based on an arbitrary datum of 25 feet above Mean Sea Level (MSL) at southwest corner of aboveground storage tank pad. --= no product measured

TABLE 1 SUMMARY OF GROUND WATER ELEVATION DATA JAMES RIVER FLEXIBLE PRODUCT FACILITY SAN LEANDRO, CALIFORNIA

Monitoring Well ID	Date Measured	Top of Casing Elevation (feet MSL*)	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Ground Water *Elevation (feet MSL*)
TW-1	01/11/96	28.61	15.73	15.68	0.05	12.88
	04/11/96		14.85	ND	ND	ND
TW-2	01/11/96	25.79	15.29			10.50
	04/11/96		14.89	14-	-	10.90
TW-3	01/11/96	25.29	13.82		-	11.47
	04/11/96		13.25	7/2	9 4	12.04

Notes:

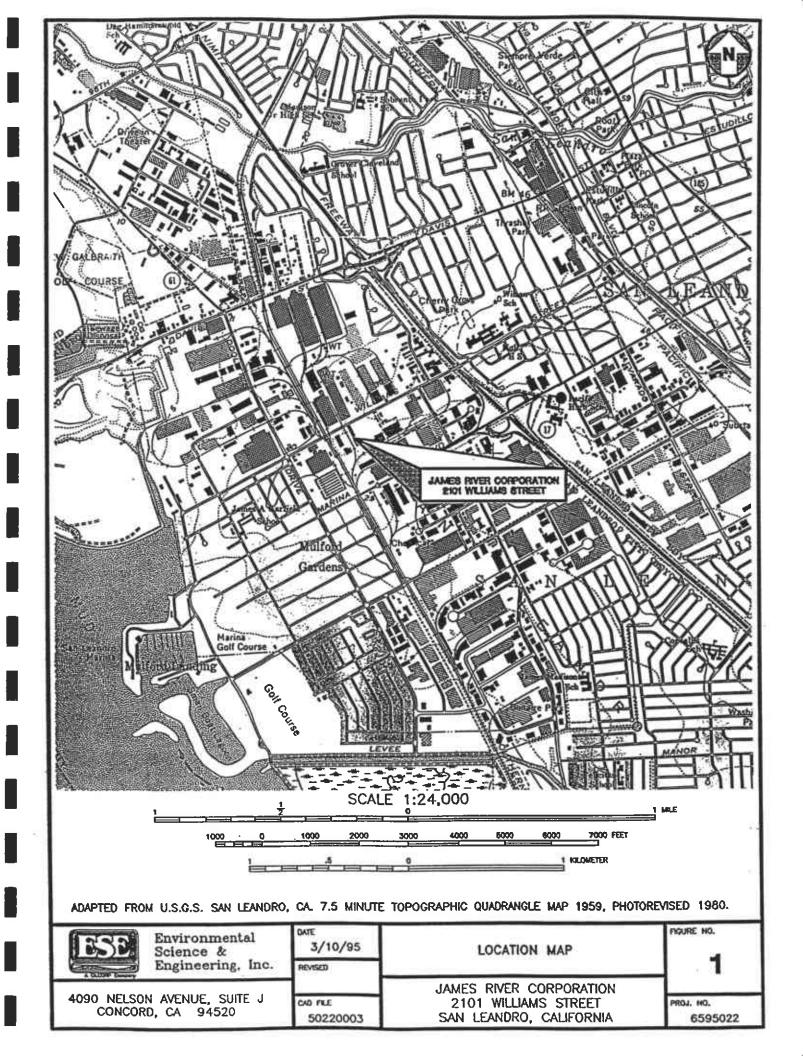
^{*}Elevation based on an arbitrary datum of 25 feet above Mean Sea Level (MSL) at southwest corner of aboveground storage tank pad.

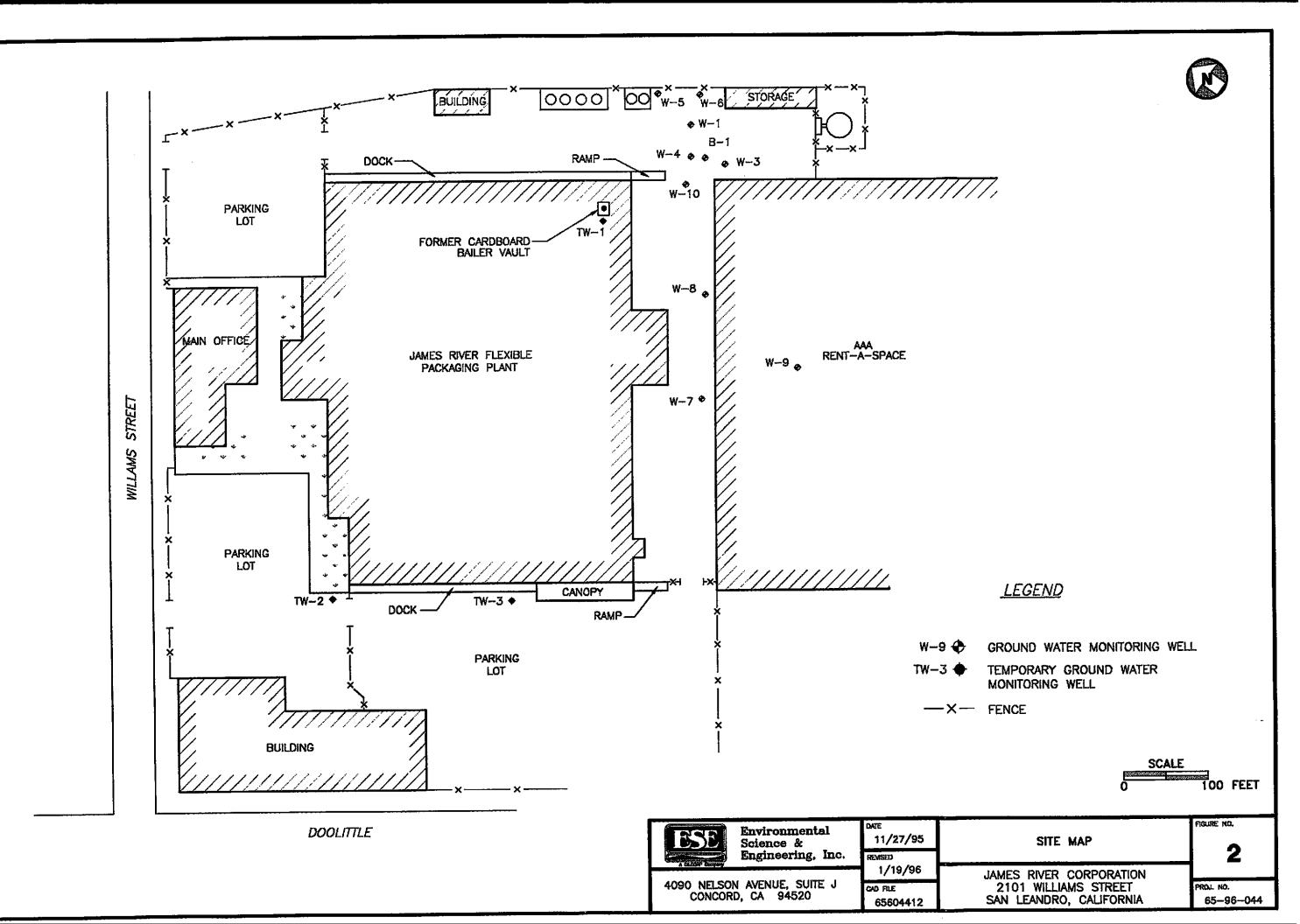
ND =Not determined - Product present, but unable to measure thickness and calculate ground water elevation.

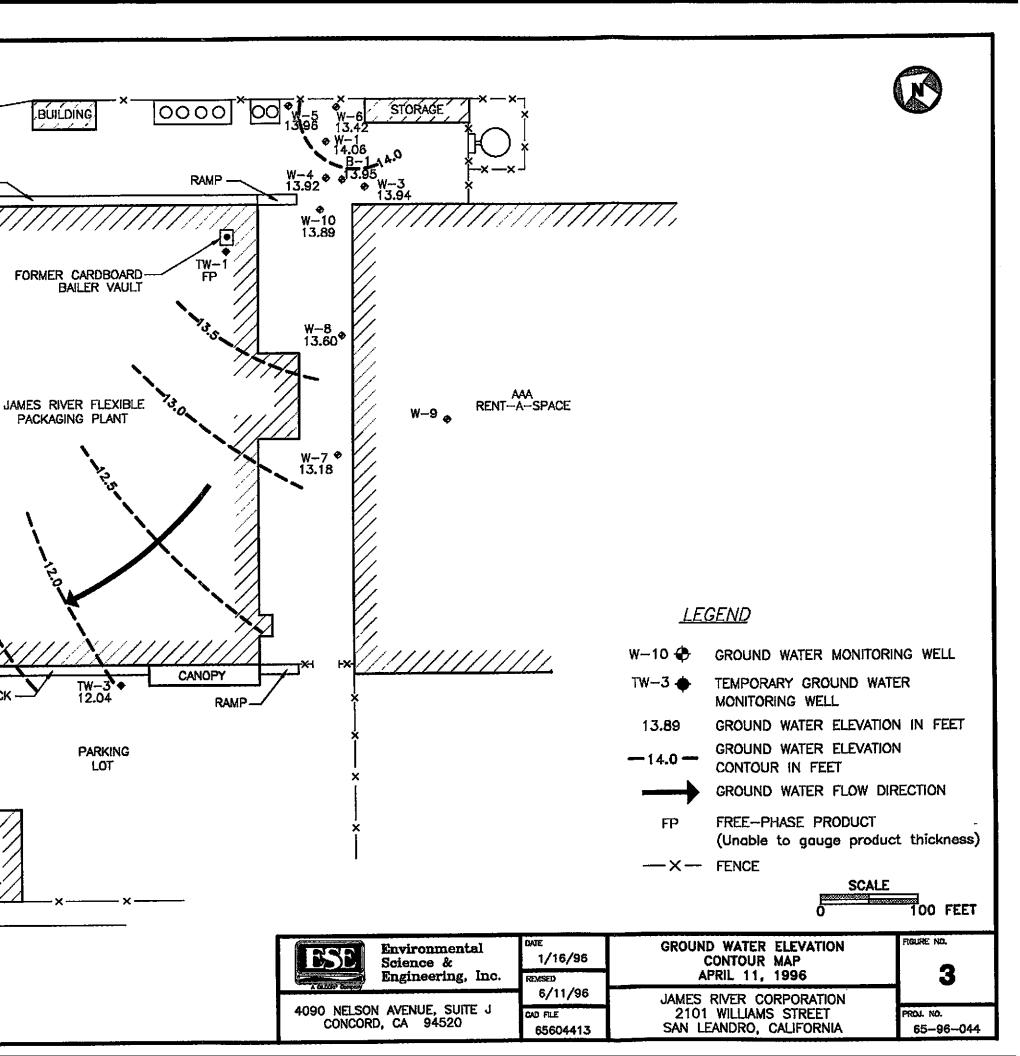
⁻⁼ no product measured

TABLE 2
SUMMARY OF GROUND WATER SAMPLE ANALYTICAL RESULTS
JAMES RIVER FLEXIBLE PRODUCT FACILITY
SAN LEANDRO, CALIFORNIA

Sample ID	Sample Date	TPH-D (μg/L)	TPH-HF (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethylbenzene (μg/L)	Total Xylenes (μg/L)	Acetone (μg/L)	MIBK (μg/L)
TW-2	12/28/95	NA	2,200	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA	NA
DUP	4/11/96 4/11/96	NA NA	ND < 250 ND < 250	ND < 0.5 ND < 0.5	ND < 0.5 ND < 0.5	ND < 0.5 ND < 0.5	ND<0.5 ND<0.5	NA NA	NA NA
TW-3 DUP	12/28/95 12/28/95	NA . NA	ND<1,400 ND<1,400	ND<0.5 ND<0.5	ND < 0.5 ND < 0.5	ND<0.5 ND<0.5	ND<0.5 ND<0.5	NA NA	NA NA
	4/11/96	NA	ND < 250	0.58	ND<0.5	ND<0.5	ND < 0.5	NA	NA
W-7	12/28/95	ND < 60	ND<1,500	ND<0.5	ND<0.5	ND < 0.5	ND<0.5	NA	NA
	4/11/96	ND < 50	ND < 250	NA	NA	NA	NA	NA	NA
W-8	4/11/96	ND < 50	ND < 250	NA	NA	NA	NA	NA	NA
W-10	12/28/95	1,700	2,500	1.8	91	11	64	NA	NA
	4/11/96	NA	NA	2.2	100	12	62	14,000	690







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PARKING LOT

TW-2 **◆** 10.90

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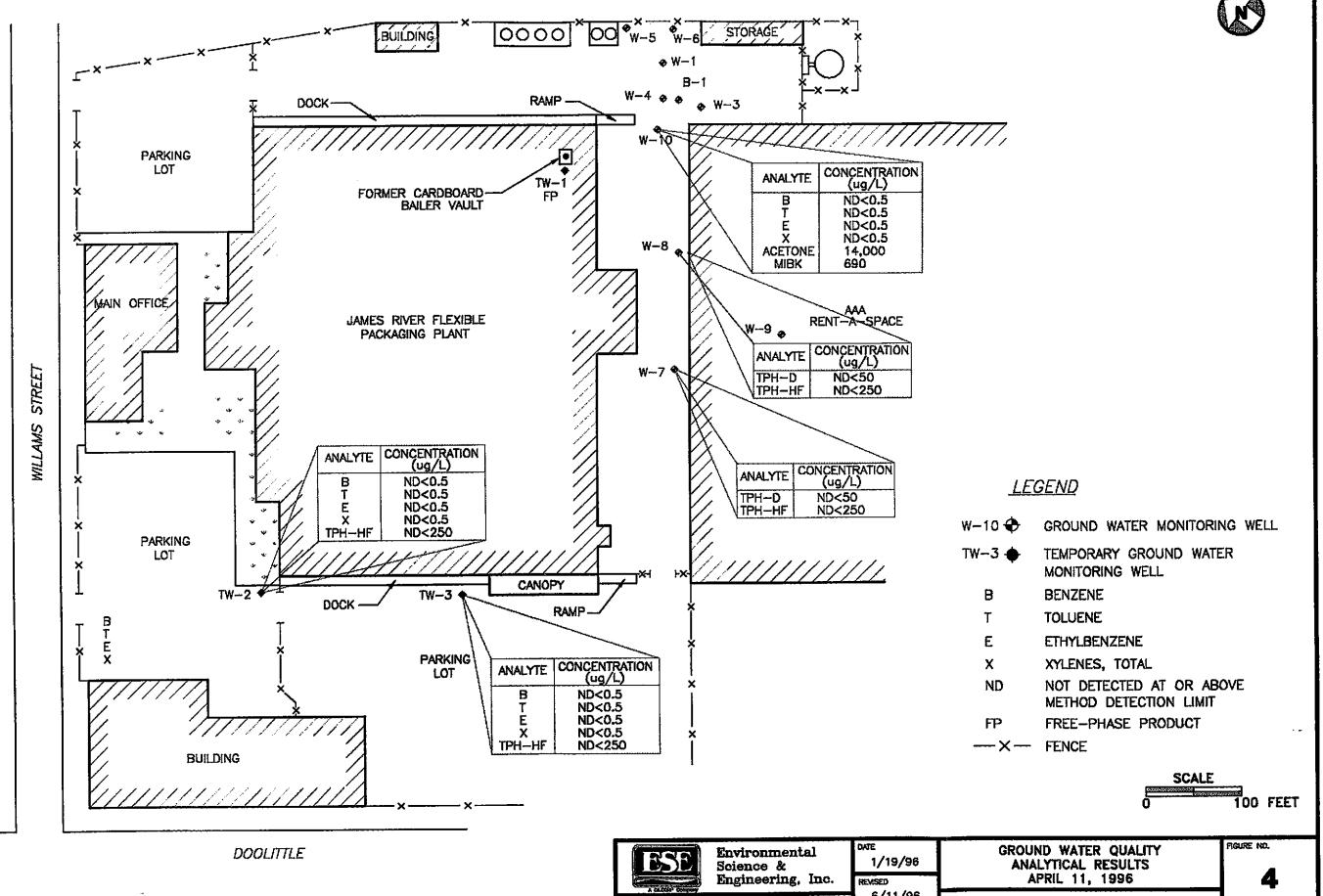
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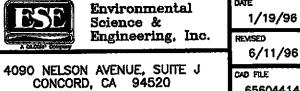
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65604414

JAMES RIVER CORPORATION 2101 WILLIAMS STREET SAN LEANDRO, CALIFORNIA

PROJ. NO. 65-96-044 Appendix A

Sample Collection Logs

WELL MEASUREMENTS 6596044 2101 Williams St. San Leandro, CA

STAFF EUG

PROJECT NO.

LOCATION

DATE AND TIME 4.11.96 0800

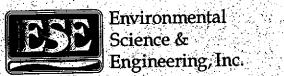
WELL NO	PRODUCT LEVEL (FT)	WATER LEVEL (FT)	COMMENTS
w-1		10.28	
.w - 3		10.55	
W-4		10.70	
W.5		11.43	
W.6		11.30	
W-7		10.86	
W.8		10.23	
W.9.		10.30	
W-10	A the	10.88	
B-1		10.30	
TW-	-X	14.85	*Product Present unable to determine thickness
TW.2		14.89	,
TW-3		13.25	
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Other		Treat. Influent		1632
		Treat. Effluent		6528
		Other	6.0	4690
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		Treat. Effluent	<u></u>	0.6528
		Other	6.0	1,4690
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4090 Nelson Aven	ue, Suite I	Concord, CA 94520	Phone (510) 685-4053	Fax (510) 685-5323



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INSTRUMENT CALIBRA pH/COND./TEMP:: TURBIDITY: PURGE M Displacement PumpBailer (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE	TYPE UNIT# B DATI TYPE UNIT# DATI IETHOD Other Vac Truct SS)Submersible Pump D IDTIMEDATI	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other
INSTRUMENT CALIBRA pH/COND./TEMP TURBIDITY: PURGE M Displacement PumpBaller (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE SPLIT	TYPE UNIT# B DATI TYPE UNIT# DATI IETHOD Other Vac Truct SS)Submersible Pump D IDTIMEDATI	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other
INSTRUMENT CALIBRA pH/COND./TEMP.: TURBIDITY: PURGE M Displacement PumpBaller (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE	TYPE UNIT# B DATI TYPE UNIT# DATI IETHOD Other Vac Truct SS)Submersible Pump D IDTIMEDATI	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other
INSTRUMENT CALIBRA pH/COND./TEMP TURBIDITY: PURGE M Displacement PumpBailer (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE SPLIT	TYPE UNIT# B DATI TYPE UNIT# DATI IETHOD Other Vac Truct SS)Submersible Pump D IDTIMEDATI	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other
INSTRUMENT CALIBRA pH/COND./TEMP:: TURBIDITY: PURGE M Displacement PumpBaller (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE SPLIT FIELD BLANK	TYPE UNIT# B DATI TYPE UNIT# DATI IETHOD Other Vac Truct SS)Submersible Pump D IDTIMEDATI	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other
INSTRUMENT CALIBRA PH/COND./TEMP:: TURBIDITY: PURGE M _Displacement Pump _Baller (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE SPLIT FIELD BLANK	TYPE UNIT# B DATI TYPE UNIT# DATI IETHOD Other Vac Truct SS)Submersible Pump D IDTIMEDATI	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other
INSTRUMENT CALIBRA PH/COND./TEMP:: TURBIDITY: PURGE M _Displacement Pump Baller (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE SPLIT FIELD BLANK	TYPE UNIT# B DATI TYPE UNIT# DATI IETHOD Other Vac Truct SS)Submersible Pump D IDTIMEDATI	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other
INSTRUMENT CALIBRA PH/COND./TEMP:: TURBIDITY: PURGE M _Displacement Pump Baller (Teflon/PVC/ SAMPLES COLLECTE SAMPLE DUPLICATE SPLIT FIELD BLANK	TYPE UNIT# DATI IETHOD Other Vac Truck SS)Submersible Pump D U-/0	SAMPLE METHOBailer (Teflon/PVC/SS)Bailer (Disposable)	Dedicated Other



I-OT NO	ences Rive		SAMPLE LOCATION I.D.: Tw.
The state of the s	6596049		PROJECT MANAGER: EWG
ATE:	1,11.96		PROJECT MANAGEM.
ASING DIAMETER		SAMPLE TYPE	WELL VOLUMES PER UNIT
		Ground Water	Well Casing
		Surface Water	I.D. (inches) Gal/Ft.
ther		Treat. Influent	2.0 0.1632
		Treat Effluent	4 <u>.0</u> 0.6528
		Other	6.0 1,4690
EPTH TO PRODUCT	T· 🧢 🕶 /ft \ 🗡	RODUCT THICKNESS:	- (ft.) MINIMUM PURGE VOLUME
EPTH TO WATER:	ILL & G IAN V	VATER COLUMN: 5	// (ft.) (3)or 4 WCV): // (
EPTH OF WELL:	26 ∞ (ft.) V	VELL CASING VOLUME:	3.3 (gal) ACTUAL VOLUME PURGED: 20 (
	Volume	pH E.C.	Temperature Turbid.
TIME	(GAL)	(Units) (Micromito	os) (F°) (NTU) Other
0749	20	6.77 960	
0757		37.16	
<u>0753</u>	<u> </u>	7.39 796	59.0° - Cloude
<u> </u>			
		하는 것으로 있는데 그렇게 보고 있다. 레이스 글로 사용하는 것으로 보다고 있다.	
	DOATION		
NSTRUMENT CALI	DUATION		
		65R1	ATE 4/196 TIME 2820 BY 9
H/COND./TEMP.:	TYPE <i>lea</i>		NATE: 4/19/ TIME: 0800 BY: 9
H/COND./TEMP.:		UNIT#_ <u>658/</u> D UNIT#D	ATE: 4/194 TIME: 0800 BY: 9
H/COND./TEMP::	TYPE <i>lea</i>		ATE: TIME: BY:
OH/COND./TEMP.: FURBIDITY:	TYPE <i>lea</i>		SAMPLE METHOD
OH/COND./TEMP:: FURBIDITY: PURGE	TYPE <u>RA</u> TYPE METHOD	UNIT# D	SAMPLE METHOD
H/COND./TEMP.: URBIDITY: PURGEDisplacement Pu	TYPE <u>RA</u> TYPE METHOD	UNIT# D	SAMPLE METHOD Bailer (Teflon/PVC/SS)Dedicated
OH/COND./TEMP.: URBIDITY: PURGE	TYPE <u>RA</u> TYPE METHOD	UNIT# D	SAMPLE METHOD
oH/COND./TEMP:: TURBIDITY: PURGE Displacement Pu	TYPE <u>RA</u> TYPE METHOD	UNIT# D	SAMPLE METHOD Bailer (Teflon/PVC/SS)Dedicated
oH/COND./TEMP:: FURBIDITY: PURGE Displacement Pu	TYPE ALA TYPE METHOD mpOr C/SS)Su	UNIT# □ ther Vac Tuck ismersible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
OH/COND./TEMP:: FURGE PURGE Displacement Pu Baller (Teflon/PV	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Tuck Ismersible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)Dedicated
OH/COND./TEMP:: FURBIDITY: PURGE Displacement Pu Baller (Teflon/PV SAMPLES COLLECT	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Truck briefslible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
PURGE Displacement Pu Baller (Teflon/PV SAMPLES COLLECTED	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Tuck Ismersible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
PURGE Displacement Pure Baller (Teflon/PV SAMPLES COLLECTED SAMPLE DUPLICATE SPLIT	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Truck briefslible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
PURGE DISPIACEMENT BAILER (TEFFON/PM SAMPLES COLLECT SAMPLE DUPLICATE SPLIT FIELD BLANK	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Truck briefslible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
PURGE Displacement Pure Baller (Teflon/PV SAMPLES COLLECTED SAMPLE DUPLICATE SPLIT	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Truck briefslible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
H/COND./TEMP.: URBIDITY: PURGEDisplacement PuBaller (Teflon/PV SAMPLES COLLECT SAMPLE DUPLICATE SPLIT FIELD BLANK	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Truck briefslible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
H/COND./TEMP.: URBIDITY: PURGE Displacement Pu Baller (Teflon/PV SAMPLES COLLECT SAMPLE DUPLICATE SPLIT FIELD BLANK	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Truck briefslible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther
H/COND./TEMP.: URBIDITY: PURGE Displacement PuBailer (Teflon/PV AMPLES COLLECT AMPLE DUPLICATE SPLIT SELD BLANK	TYPE ALA TYPE METHOD mpOr C/SS)Su	ther Vac Truck briefslible Pump	SAMPLE METHOD Bailer (Teflon/PVC/SS)DedicatedDedicatedOther



PROJECT NAME:) P 10		SAMPLE I	OCATION L.D.:	W3
PROJECT NO.:	6596 044		SAMPLER	: C	
DATE:	4.11.96		PROJECT	MANAGER: E	WG
		OAMOLE TABLE		WELL VOLU	MES PER UNIT
CASING DIAMETER	\$P\$1.美数数数40000000000000000000000000000000000	SAMPLE TYPE	and the second s	MELL VOLU	MES PER URI
)-		Ground Water		Well Casing	
		Surface Water_	The second second	I.D. (inches)	Gal/Ft.
Other		Treat. Influent_		2.0	0.1632
		Treat. Effluent_		4.0	0.6528
		Other		6.0	1.4690
DEPTH TO PRODUCT	Γ: ★ /#\^ P	RODUCT THICKNE	SS: (fit) M	INIMUM PURGE VO	DLUME
DEPTH TO WATER:_	/3.25 (ft) V	ATER COLUMN:	G. 75 (ft.) (D	or 4 WCV):	15.2 (gal
DEPTH OF WELL:		ELL CASING VOL	JME: <u>4.4</u> (gal) A	CTUAL VOLUME PL	JRGED:(gal
			<u>.</u>		
	√olume		E.C. Temper	and a second	Other
TIME 0822	(GAL)		romhos) (F° - 76 - 57) (NIO)	S/ty
	10		57 59		Clowdoly
	20		69 61	7 -	cloudy
		<u> </u>			
INSTRUMENT CALL	SRATION				
pH/COND./TEMP.:	TYPE Pen	UNIT# 6581	DATE 4/1 9	TIME: 0800	BY:
TURBIDITY:	TYPE	UNIT# <u>_00_0/</u>	DATE:	TIME:	BY:
TORDIOTAL.					
PURGE	METHOD			SAMPLE METH	OD
				(D) (O (O)	
Displacement Pur	The state of the species and the state of th	her Vac Truck		(Teflon/PVC/SS)	Dedicated Other
Baller (Teflon/PV	C/SS)- <u>- Su</u> t	omersible Pump	Bauer	(Disposable)	Outer
SAMPLES COLLECT	ren		A Company of the Comp		
)D	TIME_	DATE	LAB ANA	LYSES /
SAMPLE	IW-3	0835	4.11.96	Milanikel Tr	HIF/BIEX
DUPLICATE			<u> </u>	<u> </u>	<u> </u>
SPLIT			. <u> </u>	<u>francisco de la companya de la comp</u> La companya de la companya dela companya de la companya dela companya de la companya de la companya de la companya dela companya de la companya dela companya de la	
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FIELD BLANK				. Salah S	
FIELD BLANK COMMENTS:		•		<u> </u>	<u> </u>
	7	1			
	<i>)</i>				
			— · · · · · · · · · · · · · · · · · · ·		
)	Concord, CA 94520	PROJECT MANA	GER (1) (1) 685-4053	Fax (510) 685-5323

Appendix B

Analytical Reports with Chain-of-Custody Documentation

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 510-798-1620 Fax: 510-798-1622

Environmenta	al Science & Eng.	Client Pro	oject ID:#6:	596044; Jan	ies River	Date Sampled: 04/11/96 Date Received: 04/11/96			
4090 Nelson A	Ave., Suite J								
Concord, CA	94520	Client Contact: Eric Garcia Date Extracted: 04/2					cted: 04/22	22/96	
		Client P.O: # SMSA-C-021 Date Analyzed: 04/2					zed: 04/22/	2/96	
EPA methods 50	Gasoline Range	ge (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX* 8020 or 602; California RWQCB (SF Bay Region) method GCFID (5030)							
Lab ID	Client ID	Matrix	TPH(g) ⁺	Benzene	Toluene	Ethylben- zene	Xylenes	% Rec. Surrogate	
63148	W-10	Water		2.2	100	12	62	#	
		1							
						ļ			
			1						
							-	1	
	T. i. i	***	50 - 5	0.5	0.5	0.5	0.5		
wise stated:	Limit unless other; ND means not de- e the reporting limit	Water	50 ug/L	0.5	0.5	0.5	1	-	
rected above	s the reporting limit	Soil	1.0 mg/kg	0.005	0.005	0.005	0.005		

^{*} water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

[#] cluttered chromatogram; sample peak coelutes with surrogate peak

⁺ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant (aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

Environment	al Science & Eng.	Client Pro	roject ID: # 6596044; James River Date Sampled: 04/11/96					
4090 Nelson A	Jelson Ave., Suite J Date Received: 04/11/96		96					
Concord, CA	CA 94520 Client Contact: Eric Garcia Da		Date Extracted: 04/11/96					
	ļ	Client P.O: # SMSA-C-021				Date Analy	zed: 04/11/	96
EDA methodo 5/	Gasoline Range	e (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX* 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)						
Lab ID	Client ID	Matrix	TPH(g) ⁺	Benzene	Toluene	Ethylben- zene	Xylenes	% Rec. Surrogate
63149	TW-2	Water		ND	ND	ND	ND	102
63150	TW-3	Water		0.58	ND	ND	1.5	97
63151	Dup	Water		ND	ND	ND	ND	109
63152	Trip	Water		ND	ND	ND	ND	98
						:		
Reporting	Limit unless other-	Water	50 ug/L	0.5	0.5	0.5	0.5	
tected abov	; ND means not de- e the reporting limit	Soil	1.0 mg/kg	0.005	0.005	0.005	0.005	

^{*} water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

[#] cluttered chromatogram; sample peak coelutes with surrogate peak

⁺ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

Environment	al Science & Eng.	Client Proje	ect ID: # 6596044; James Rive	River Date Sampled: 04/11/96		
4090 Nelson	Ave., Suite J	_		Date Received: 04/	11/96	
Concord, CA	. 94520	Client Cont	act: Eric Garcia	Date Extracted: 04/	12/96	
		Client P.O: # SMSA-C-021 Date Analyzed: 04/h				
			ange (C18+) Extractable Hy Fluid *			
EPA methods n	nodified 8015, and 3550 or	3510; Californ	ia RWQCB (SF Bay Region) method	1 GCFID(3550) or GCFID(3	510)	
Lab ID	Client ID	Matrix	TPH(d) ⁺	TPH(hf) ⁺	% Recovery Surrogate	
63146	W-7	Water	ND	ND	100	
63147	W-8	Water	ND	ND	98	
63149	TW-2	Water		ND	97	
63150	TW-3	Water		ND	100	
63151	Dup	Water		ND	100	
63152	Trip	Water	***	ND	99	
voi Afrika and a constant and a cons						
Reporting	Limit unless other-	Water	50 ug/L	250 ug/L		
wise stated	; ND means not de- ve the reporting limit	Soil	10 mg/kg	10 mg/kg		

^{*} water samples are reported in ug/L, soil samples in mg/kg, and all TCLP and STLC extracts in mg/L

[&]quot;cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

⁺ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

										
Environmental Science & Eng	. Client Pro	ject ID);#65	96044; James River	Date Sampled: 04/11/96					
4090 Nelson Ave., Suite J					Date R	ate Received: 04/11/96				
Concord, CA 94520	Client Cor	ntact: I	Eric G	arcia	Date Extracted: 04/16-04/19/96					
	Client P.C): # SM	ISA-C	C-021	Date A	nalyzed: 04/16	-04/19/	/96		
	Vo	latile ()rgan	ics By GC/MS						
EPA method 8260										
Lab ID			63	148						
Client ID			W	/-10						
Matrix			W	ater		<u> </u>				
Company	Concentration*	Reporti	g Limit	Compound	-	Concentration*	Reportin			
	Concentration	Water	Soil	Compound		COHOLINATION	Water	Soil		
Acetone (b)	14,000	100	5	trans-1,3-Dichloropropen	e		0.5	5		
Benzene	ND	100	5	Ethylene dibromide ^(d)			0.5	5		
Bromobenzene		0.5	5	Ethylbenzene		ND	100	5		
Bromochloromethane		0.5	5	Hexachlorobutadiene			0.5	5		
Bromodichloromethane		0.5	5	Iodomethane			0.5	5		
Bromoform		0.5	5	Isopropylbenzene			0.5	5		
Bromomethane		0.5	5	p-Isopropyl toluene			0.5	5		
n-Butyl benzene		0.5	5	Methyl butyl ketone (e)			0.5	5		
sec-Butyl benzene		0.5	5	Methylene Chloride ^(f)		-	0.5	5		
tert-Butyl benzene	***	0.5	5	Methyl ethyl ketone (g)			0.5	5		
Carbon Disulfide	***	0.5	5	Methyl isobutyl ketone (k)	690	100	5		
Carbon Tetrachloride		0.5	5	Napthalene			0.5	5		
Chlorobenzene	***	0.5	5	p-Propyl benzene			0.5	5		
Chloroethane		0.5	5	Styrene ⁽¹⁾			0.5	5		
2-Chloroethyl Vinyl Ether (c)		0.5	5	1,1,1,2-Tetrachloroethane	•		0.5	5		
Chloroform		0.5	5	1,1,2,2-Tetrachloroethane			0.5	5		
Chloromethane		0.5	5	Tetrachloroethene			0.5	5		
2-Chlorotoluene		0.5	5	Toluene (m)		140	100	5		
4-Chlorotoluene		0.5	5	1,2,3-Trichlorobenzene			0.5	5		
Dibromochloromethane		0.5	5	1,2,4-Trichlorobenzene			0.5	5		
Dibromomethane		0.5	5	1,1,1-Trichloroethane			0.5	5		
1,2-Dichlorobenzene		0.5	5	1,1,2-Trichloroethane		***	0.5	5		
1,3-Dichlorobenzene		0.5	5	Trichloroethene			0.5	5		
1,4-Dichlorobenzene		0.5	5	Trichlorofluoromethane			0.5	5		
Dichlorodifluoromethane		0.5	5	1,2,3-Trichloropropane			0.5	5		
1,1-Dichloroethane		0.5	5	1,2,4-Trimethylbenzene			0.5	5		
1,2-Dichloroethane		0.5	5	1,2,5-Trimethylbenzene			0.5	5		
1,1-Dichloroethene		0.5	5	Vinyl Acetate (a)			0.5	5		
cis-1,2-Dichloroethene		0.5	5	Vinyl Chloride (0)				5		
trans-1,2-Dichloroethene		0.5	5	Xylenes, total (p)		ND	0.5 100	5		
1,2-Dichleropropane		0.5	5	Comments:						
1,3-Dichloropropane	•	0.5	5		rogate Re	coveries (%)				
2,2-Dichloropropane		0.5	5	Dibromofluoromethane		90	 5			
1,1-Dichloropropene	***	0.5	5	Toluene-d8		99				
						90				
cis-1,3-Dichloropropene		0.5	5	4-Bromofluorobenzene		1 90	5			

^{*} water and vapor samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

⁽b) 2-propanone or dimethyl ketone; (c) (2-chloroethoxy) ethene; (d) 1,2-dibromoethane or EDB; (e) 2-hexanone; (f) dichloromethane; (g) 2-butanone; (h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~ 5 vol. % sediment; (j) sample diluted due to high organic content; (k) 4-methyl-2-pentanone or isopropylacetone; (l) ethenylbenzene (m)methylbenzene; (n) acetic acid ethenyl ester; (o) chloroethene; (p) dimethylbenzenes.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/22/96

Matrix: Water

Analyte	Concent Sample	ration	(ug/L)		* Reco		
	(#63369)	MS	MSD	Amount Spiked	MS	MSD	RPD -
TPH (gas) Benzene Toluene Ethyl Benzene Xylenes	0.0	104.5 10.5 10.0 11.2 33.4	102.0 10.2 10.5 10.7 32.2	100.0 10.0 10.0 10.0 30.0	104.5 105.0 100.0 112.0 111.3	102.0 102.0 105.0 107.0 107.3	2.4 2.9 4.9 4.6 3.7
TPH (diesel)	0	158	151	150	105	101	4.3
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Rec. - (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/11/96

Matrix: Water

Analyte	Concent	ration	(ug/L)		* Reco		
	Sample (#63042)	MS	MSD	Amount Spiked	MS	MSD	RPD
TPH (gas) Benzene Toluene Ethyl Benzene Xylenes	0.0	100.5 10.4 10.7 11.0 33.1	105.3 10.6 11.0 11.3 33.7	100.0 10.0 10.0 10.0 30.0	100.5 104.0 107.0 110.0	105.3 106.0 110.0 113.0 112.3	4.6 1.9 2.8 2.7 1.8
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

† Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/12/96

Matrix: Water

Analyte	Concent Sample	ration	(ug/L)		* Reco		
	(#63168)	MS	MSD	Amount Spiked	 MS 	MSD	RPD
TPH (gas) Benzene Toluene Ethyl Benzene Xylenes	0.0	106.2 9.7 9.9 10.1 29.7	97.1 9.6 9.7 9.8 28.9	100.0 10.0 10.0 10.0 30.0	106.2 97.0 99.0 101.0 99.0	97.1 96.0 97.0 98.0 96.3	9.0 1.0 2.0 3.0 2.7
TPH (diesel)	0	165	164	150	110	109	0.5
TRPH (oil & grease)	0	24500	25500	23700	103	108	4.0

† Rec. = (MS - Sample) / amount spiked x 100

RPD • (MS - MSD) / (MS + MSD) \times 2 \times 100

QC REPORT FOR VOCs (EPA 624/8240/8260)

Date: 04/16/96-04/19/96 Matrix: Water

Analyte	Concent	ration	(ug/L)		* Reco		
	Sample	MS	MSD	Amount Spiked	MS	MSD	RPD -
 1,1-Dichloroethe Turk ah	0.00	4.50	4.50	5.0	90	90	0.0
Trichloroethene	0.00	4.70	4.60	5.0	94	92	2.2
Chlorobenzene	0.00	5.30	5.00	5.0	106	100	5.8
Benzene	0.00 0.00	5.70 5.20	5.60	5.0	114	112	1.8
Toluene	0.00	5.50	4.70 5.20	5.0 5.0	104	94	10.1
i			3.20	5.0	110	104	5.6

† Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100

DATE 4 //	96	-	,		/			СН	AIN	OF	CUST	ODY F	ŒC	ORD			61	92 AFSEX	(316		
PROJECT NA	-	_ PAGE		OF_													Environmental				
						ANA	LYS	ES	TO E	BE P	ERFO	RMED	_	TAM	RIX			(40	Science &		
ADDRE		1 will			1			ZEK						M	ı	N C	G	A CALCORP Corpory	Engineeri	ng, Inc.	
PROJECT NO. 6596044							L	10'	200	- 1		1 1		A		MNBT	409	O Nelson Avenue	Phone	(510) 685-405	
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5.		HEAD SPA	CEABSE	NT 4	CO	NTAIN	ERS	1								1.0		SAM	MPLE RECE	EIPT	
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185			5	TAT	T													REC'D GOO	DD CONDTN	/COLD	4C
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