NC9Z

ES
ENGINEERING-SCIENCE, INC.

600 BANCROFT WAY
BERKELEY, CALIFORNIA 94710
(415) 548-7970

7 June 1988
NC065.10

CALIFORNIA REGIONAL WATER
JUN 09 1988
QUALITY CONTROL BOARD

Regional Water Quality Control Board
1111 Jackson Street
Oakland, CA 94607

Attn: Mr. Greg Zentner

FALK Property

Subject: Discharge of Groundwater to Surface Water at 1600-63rd Street in Emeryville

Dear Mr. Zentner:

During closure of a 350ft deep well at the 1600-63rd St. Site in Emeryville, two 6,000 gallon tanks were filled with purged groundwater. The tanks were sampled by collecting discrete samples from the top, middle and bottom of each tank according to EPA protocols. The samples from each tank were then composited by the lab and analyzed for TPH (EPA 3510/ 8015), Volatile Aromatic Hydrocarbons (EPA 602), Organochlorine Pesticides and PCBs (EPA 3510/608), and 13 priority pollutant metals. In Tank A, Trace amounts of oil not quantifiable by GC, Nickle and Zinc were detected. In Tank B, Trace amounts of C7-C9 and C11-C22 Hydrocarbons, Nickle and Selenium were detected. All other constituents were non-detected. Copies of the analytical report are attached.

These results verify that the discharge meets the criteria outlined in the Regional Board's guidelines for discharge of groundwater to surface water. The site owner has been informed that it is permissible to discharge the contents of both tanks to the storm sewer.

Very truly yours,

Dan B. McCullar
Project Manager

DBM/cac

cc: Mark Scher, Wareham Development
Greg Mallcheck, O'Neill Construction
R.S. Makdisi, Engineering-Science

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
290 Division Street, San Francisco, CA 94103, Phone (415) 861-1863

LAB NUMBER: 14744
CLIENT: ENGINEERING-SCIENCE
Job #: NC065, WAREHAM PETERSON

DATE RECEIVED: 05/23/88
DATE ANALYZED: 05/26/88
DATE REPORTED: 06/06/88

Results of Analysis for Petroleum Hydrocarbons in Water

Method References: TPH: Total Petroleum Hydrocarbons, EPA 3510/8015

LAB ID	COMPOSITE ID	GASOLINE (mg/L)	KEROSINE (mg/L)	DIESEL (mg/L)	OTHER (mg/L)
14744-1,2,3	BT-A1,A2,A3	ND(0.05)	ND(0.05)	ND(0.05)	TRACE*
14744-4,5,6	BT-B1,B2,B3	ND(0.05)	ND(0.05)	ND(0.05)	1.1**

*CONTAINS UNIDENTIFIABLE OIL NOT QUANTIFIABLE BY GC.

** FINGERPRINT PATTERN DOES NOT MATCH HYDROCARBON STDS. QUANITATION IS BASED ON AREA SUM OF LARGEST PEAKS WITHIN BOILING RANGE OF HYDROCARBON STDS, C7-C9 AND C11-C22.

ND = Not Detected; Limit of detection in parentheses.

QA/QC SUMMARY

Duplicate: Relative % Difference	13
Spike: % Recovery	94

Jon Wong for CBG
LABORATORY DIRECTOR

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
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LABORATORY NUMBER: 14744-1,2,3
CLIENT: ENGINEERING-SCIENCE
JOB #: NC065, WAREHAM PETERSON
COMPOSITE ID: BT-A1,A2,A3

DATE RECEIVED: 05/23/88
DATE ANALYZED: 05/26/88
DATE REPORTED: 06/06/88

EPA 602: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
Benzene	ND	1
Toluene	ND	5
Ethyl Benzene	ND	1
Total Xylenes	ND	1
Chlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = None Detected

QA/QC SUMMARY

%RPD	8
%RECOVERY	106

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LABORATORY NUMBER: 14744-4,5,6
CLIENT: ENGINEERING-SCIENCE
JOB #: NC065, WAREHAM PETERSON
COMPOSITE ID: BT-B1,BA2,B3

DATE RECEIVED: 05/23/88
DATE ANALYZED: 05/26/88
DATE REPORTED: 06/06/88

EPA 602: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
Benzene	ND	1
Toluene	ND	5
Ethyl Benzene	ND	1
Total Xylenes	ND	1
Chlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = None Detected

QA/QC SUMMARY

%RPD	8
%RECOVERY	106

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
290 Division Street, San Francisco, CA 94103, Phone (415) 861-1863

LABORATORY NUMBER: 14735-1,2,3
CLIENT: ENGINEERING-SCIENCE
JOB #: NC065, WAREHAM PETERSON
COMPOSITE ID: BT-A1,A2,A3

DATE RECEIVED: 05/23/88
DATE EXTRACTED: 06/03/88
DATE ANALYZED: 06/03/88
DATE REPORTED: 06/06/88

EPA 608: Organochlorine Pesticides and PCBs in Water
Extraction Method: EPA 3510

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor Epoxide	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.05
pp-DDE	ND	0.05
Endrin	ND	0.05
Endosulfan II	ND	0.05
pp-DDT	ND	0.05
Chlordane	ND	0.5
Toxaphene	ND	0.5
Methoxychlor	ND	0.5
PCB 1016	ND	0.5
PCB 1221	ND	0.5
PCB 1232	ND	0.5
PCB 1242	ND	0.5
PCB 1248	ND	0.5
PCB 1254	ND	0.5
PCB 1260	ND	0.5

ND = Not detected.

QA/QC SUMMARY:

Duplicate: Relative % Difference	22
Average Spike Recovery %	110

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LABORATORY NUMBER: 14735-4,5,6
CLIENT: ENGINEERING-SCIENCE
JOB #: NC065, WAREHAM PETERSON
COMPOSITE ID: BT-B1,B2,B3

DATE RECEIVED: 05/23/88
DATE EXTRACTED: 06/03/88
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EPA 608: Organochlorine Pesticides and PCBs in Water
Extraction Method: EPA 3510

COMPOUND	RESULT ug/L	DETECTION LIMIT ug/L
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor Epoxide	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.05
pp-DDE	ND	0.05
Endrin	ND	0.05
Endosulfan II	ND	0.05
pp-DDT	ND	0.05
Chlordane	ND	0.5
Toxaphene	ND	0.5
Methoxychlor	ND	0.5
PCB 1016	ND	0.5
PCB 1221	ND	0.5
PCB 1232	ND	0.5
PCB 1242	ND	0.5
PCB 1248	ND	0.5
PCB 1254	ND	0.5
PCB 1260	ND	0.5

ND = Not detected.

QA/QC SUMMARY:

Duplicate: Relative % Difference	22
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LABORATORY NUMBER: 14744-1,2,3
CLIENT: ENGINEERING-SCIENCE
JOB #: NC065, WAREHAM PETERSON
COMPOSITE ID: BT-A1,A2,A3

DATE RECEIVED: 05/23/88
DATE ANALYZED: 05/24-28/88
DATE REPORTED: 06/06/88

13 Priority Pollutant Metals in Aqueous Solutions

METAL	RESULT mg/L	DETECTION LIMIT mg/L	METHOD
Antimony	ND	0.2	EPA 7040
Arsenic	ND	0.1	EPA 6010
Beryllium	ND	0.02	EPA 7090
Cadmium	ND	0.01	EPA 6010
Chromium (total)	ND	0.02	EPA 6010
Copper	ND	0.02	EPA 6010
Lead	ND	0.2	EPA 6010
Mercury	ND	0.001	EPA 7470
Nickel	0.10	0.05	EPA 6010
Selenium	ND	0.2	EPA 6010
Silver	ND	0.05	EPA 6010
Thallium	ND	0.2	EPA 7840
Zinc	0.05	0.02	EPA 6010

ND = None Detected

QA/QC SUMMARY

	%RPD	%SPIKE		%RPD	%SPIKE
Antimony	<1	88	Mercury	<1	87
Arsenic	<1	111	Nickel	<1	102
Beryllium	<1	106	Selenium	9	122
Cadmium	<1	102	Silver	<1	105
Chromium	<1	100	Thallium	<1	95
Copper	<1	101	Zinc	<1	104
Lead	<1	101			

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DATE RECEIVED: 05/23/88
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DATE REPORTED: 06/06/88

13 Priority Pollutant Metals in Aqueous Solutions

METAL	RESULT mg/L	DETECTION LIMIT mg/L	METHOD
Antimony	ND	0.2	EPA 7040
Arsenic	ND	0.1	EPA 6010
Beryllium	ND	0.02	EPA 7090
Cadmium	ND	0.01	EPA 6010
Chromium (total)	ND	0.02	EPA 6010
Copper	ND	0.02	EPA 6010
Lead	ND	0.2	EPA 6010
Mercury	ND	0.001	EPA 7470
Nickel	0.06	0.05	EPA 6010
Selenium	0.2	0.2	EPA 6010
Silver	ND	0.05	EPA 6010
Thallium	ND	0.2	EPA 7840
Zinc	ND	0.02	EPA 6010

ND = None Detected

QA/QC SUMMARY

	%RPD	%SPIKE		%RPD	%SPIKE
Antimony	<1	88	Mercury	<1	87
Arsenic	<1	111	Nickel	<1	102
Beryllium	<1	106	Selenium	9	122
Cadmium	<1	102	Silver	<1	105
Chromium	<1	100	Thallium	<1	95
Copper	<1	101	Zinc	<1	104
Lead	<1	101			