



92-0711-1-32

ST 10 147  
TP

November 21, 1991

18452,039.02

1600 63rd Street Associates, Inc.  
c/o Wareham Property Group  
1120 Nye Street, Suite 400  
San Rafael, California 94901

Attention: Mr. Dan Nourse

Gentlemen:

**Quarterly Groundwater Monitoring  
May 1991  
1600 63rd Street  
Emeryville, California**

This letter presents the results of the quarterly groundwater monitoring performed in May 1991 by Harding Lawson Associates (HLA) at 1600 63rd Street, Emeryville, California. HLA installed five groundwater monitoring wells at this site (Plate 1) in May and June 1989. The results of initial groundwater sampling and analyses, evaluation of water-level measurements, and a summary of investigations and remediation performed at the site by HLA and others are presented in HLA's October 2, 1989 report, *Groundwater Quality Investigation, 1600 63rd Street, Emeryville, California*. Details of the investigations and remedial activities conducted prior to HLA's involvement were presented in a December 1988 report prepared by Engineering Science (ES) of Berkeley, California.

In the October 2 report, HLA recommended that groundwater monitoring be continued at the site for one year to document the distribution of chemicals in the groundwater. The initial year of quarterly sampling was completed and the data were presented in HLA's letter, *Fourth Quarter Groundwater Monitoring, 1600 63rd Street, Emeryville, California*, dated August 8, 1990. Because detected concentrations of total petroleum hydrocarbons increased during the fourth quarter sampling round (March 1990) and gamma-BHC was detected, HLA recommended that groundwater monitoring, incorporating a modified analytical program, be performed for an additional year. This report presents the fourth quarter groundwater monitoring results for the second year. ✓

November 21, 1991  
18452,039.02  
1600 63rd Street Associates, Inc.  
Mr. Dan Nourse  
Page 2

Harding Lawson Associates

## FIELD INVESTIGATION

All water-level measurement and sampling equipment was decontaminated prior to use in each well. The sampling equipment had been steam cleaned at HLA and wrapped in clean plastic before being transported to the site. The water-level measurement equipment was decontaminated at the site by washing with a low phosphate soap and water mixture and double rinsing with deionized water. The rinsate was contained in a 55-gallon drum for subsequent disposal.

On May 8, 1991, an electronic oil-water interface probe was used to measure the depth to water and product thickness in each of the five monitoring wells. The groundwater in each well was also visually inspected for the presence of floating petroleum hydrocarbons (product) by carefully lowering a clear Lucite bailer into the well, removing it, and observing the water/product interface, if present, in the bailer.

After measuring the depth to water in all five wells, the wells were purged using a PVC bailer. Conductivity, pH, turbidity, and temperature were measured during well purging. The wells were purged of approximately three well casing volumes prior to sampling. All purged water was placed into labeled 55-gallon steel drums and stored onsite in a secured steel containment structure.

Immediately following purging of each well, groundwater was collected using a clean stainless steel bailer and decanted into laboratory-prepared sample bottles. Quality control samples included a duplicate groundwater sample from Well MW-2 and a trip blank consisting of deionized water prepared by the analytical laboratory. The samples were labeled, placed in a refrigerated environment, and transported under chain of custody to the analytical laboratory.

On June 25, 1991, the drummed rinsate and purged well water that were generated during this annual sampling program and contained in 55-gallon drums onsite were disposed of offsite at Gibson Oil and Refining in Redwood City, California.

## GROUNDWATER FLOW DIRECTION

Groundwater elevations and product thicknesses measured from August 1989 to the present are presented in Table 1. The changes in water-level elevations in the wells compared to the previous sampling round in February 1991 ranged from a 0.21-foot decrease in Well MW-4 to a 0.54-foot increase in Well MW-5. The water-level elevations measured during this sampling round are shown on Plate 1. The general groundwater flow direction is toward the west.

In Well MW-2, product thickness was not measurable with the oil-interface probe; however, globules of product (0.01- to 0.02-foot diameter) were observed in the clear Lucite bailer. No product was observed in the other four wells.

November 21, 1991  
18452,039.02  
1600 63rd Street Associates, Inc.  
Mr. Dan Nourse  
Page 3

Harding Lawson Associates

## LABORATORY ANALYSIS AND RESULTS

The groundwater samples were analyzed by NET Pacific, Inc. of Santa Rosa, California, a state-certified laboratory for the analyses performed. The samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline, diesel, kerosene and motor oil using the analytical methods described in the California State Water Resources Control Board's *Leaking Underground Fuel Tank (LUFT) Field Manual*, October 1989; for organochlorine pesticides using EPA Test Method 608; and for purgeable aromatics using EPA Test Method 602. The duplicate sample and trip blank were also analyzed for these same chemicals.

Results for compounds detected during this and previous quarterly sampling rounds are summarized in Table 2. Copies of the laboratory report and chain of custody form for this sampling round are attached.

TPH was detected in groundwater samples collected from Wells MW-1 and MW-2. The groundwater samples collected from Wells MW-1 and MW-2, and the duplicate sample collected from Well MW-2 contained 0.07, 43, and 26 parts per million (ppm) of TPH as diesel, respectively. Both the sample and duplicate from Well MW-2 contained TPH as gasoline at concentrations of 88 and 150 ppm, respectively and TPH as motor oil at concentrations of 30 and 18 ppm, respectively. TPH was not detected in the groundwater samples collected from Wells MW-3, MW-4 and MW-5 or in the trip blank. No organochlorine pesticides or purgeable aromatics were detected in any of the groundwater samples or in the trip blank sample.

## DISCUSSION

TPH as diesel has been detected on a consistent basis in groundwater samples from Wells MW-1 and MW-2 since July 1990 and June 1989, respectively. TPH as gasoline was detected in groundwater samples from Wells MW-3 and MW-4 in July 1990 and TPH as diesel was detected in a groundwater sample from Well MW-3 in February 1991. TPH has never been detected in groundwater samples from Well MW-5 or from Wells MW-3 and MW-4 during other sampling rounds. Organochloride pesticides (including endrin aldehyde, heptachlor, and 4,4'-DDD) and PCB-1260 have been detected in groundwater samples at low concentrations; however, none of these constituents have been consistently detected, nor have they been detected for more than one year.

Because organochlorine pesticides and PCBs are generally not detected, groundwater samples will no longer be analyzed for these constituents. Wells MW-3, MW-4, and MW-5 will no longer be sampled because TPH and other constituents have generally not been detected. To monitor chemical concentrations in groundwater, Wells MW-1 and MW-2 will continue to be sampled on a semiannual basis for an additional year. ✓

PNH detected  
in MW-3 - Testing  
discontinued in 1990

November 21, 1991  
18452,039.02  
1600 63rd Street Associates, Inc.  
Mr. Dan Nourse  
Page 4

Harding Lawson Associates

(415) 457-4964

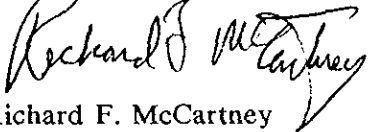
Groundwater samples will be analyzed for TPH as gasoline, diesel, and motor oil (EPA Test Method 8015) and benzene, toluene, ethylbenzene and xylenes (BTEX; EPA Test Method 602).

If you have any questions, please call.

Yours very truly,

(415) 892-0001

HARDING LAWSON ASSOCIATES



Richard F. McCartney  
Project Geologist



Lisa S. Teague  
Geologist - 3839

RFM/LST/yml/D18314-H

cc: Dennis Byrne, Alameda County Department of Environmental Health  
Steven Ritchie, California Regional Water Quality Control Board,  
San Francisco Bay Region

Attachments: Table 1 - Groundwater Elevations  
Table 2 - Selected Results of Organic Analyses of Groundwater  
Samples  
Plate 1 - Site Map  
Laboratory Report and Chain of Custody Form

ATTACHMENTS

Table 1. Groundwater Elevations  
1600 63rd Street, Emeryville

| WELL NUMBER | TOP OF CASING ELEVATION (FEET) Above MSL) | DATE MEASURED | DEPTH TO PRODUCT FROM TOP OF CASING (FEET) | DEPTH TO WATER FROM TOP OF CASING (FEET) | PRODUCT THICKNESS (FEET) | PRODUCT LEVEL ELEVATION (FEET) | WATER-LEVEL ELEVATION, CORR. FOR PRODUCT (FEET) | CHANGE IN WATER-LEVEL ELEVATION * (FEET) |
|-------------|---|---------------|--|--|--------------------------|--------------------------------|---|--|
| MW-1        | 15.12                                     | 03-Aug-89     | NO PRODUCT                                 | 5.99                                     | 0.00                     | NO PRODUCT                     | 9.13  |  |
|             |   | 21-Sep-89     | NO PRODUCT                                 | 5.81                                     | 0.00                     | NO PRODUCT                     | 9.31  | 0.18                                     |
|             |   | 20-Oct-89     | NO PRODUCT                                 | 6.24                                     | 0.00                     | NO PRODUCT                     | 8.88  | -0.43                                    |
|             |   | 20-Dec-89     | NO PRODUCT                                 | 6.09                                     | 0.00                     | NO PRODUCT                     | 9.03  | 0.15                                     |
|             |   | 20-Mar-90     | NO PRODUCT                                 | 5.87                                     | 0.00                     | NO PRODUCT                     | 9.25  | 0.22                                     |
|             |   | 20-Jul-90     | NO PRODUCT                                 | 5.75                                     | 0.00                     | NO PRODUCT                     | 9.37  | 0.12                                     |
|             |   | 12-Nov-90     | NO PRODUCT                                 | 6.04                                     | 0.00                     | NO PRODUCT                     | 9.08  | -0.29                                    |
|             |   | 07-Feb-91     | NO PRODUCT                                 | 6.65                                     | 0.00                     | NO PRODUCT                     | 8.47  | -0.61                                    |
|             |   | 08-May-91     | NO PRODUCT                                 | 6.17                                     | 0.00                     | NO PRODUCT                     | 8.95  | 0.48                                     |
| MW-2        | 14.43                                     | 03-Aug-89     | NO PRODUCT                                 | 6.66                                     | 0.00                     | NO PRODUCT                     | 7.77  |  |
|             |   | 21-Sep-89     | NO PRODUCT                                 | 6.32                                     | 0.00                     | NO PRODUCT                     | 8.11  | 0.34                                     |
|             |   | 20-Oct-89     | NO PRODUCT                                 | 6.78                                     | 0.00                     | NO PRODUCT                     | 7.65  | -0.46                                    |
|             |   | 20-Dec-89     | NO PRODUCT                                 | 7.32                                     | 0.00                     | NO PRODUCT                     | 7.11  | -0.54                                    |
|             |   | 20-Mar-90     | NO PRODUCT                                 | 6.76                                     | 0.00                     | NO PRODUCT                     | 7.67  | 0.56                                     |
|             |   | 11-May-90     | 6.65                                       | 6.66                                     | 0.01                     | 7.78                           | 7.78  | 0.11                                     |
|             |   | 20-Jul-90     | 6.72                                       | 6.74                                     | 0.02                     | 7.69                           | 7.70  | -0.07                                    |
|             |   | 12-Nov-90     | NOT MEASURED                               | 6.75                                     | --                       | PRODUCT                        | -7.70   | -0.00                                    |
|             |   | 21-Nov-90     | 6.97                                       | 7.00                                     | 0.03                     | 7.46                           | 7.45  | -0.25                                    |
|             |   | 07-Feb-91     | 6.86                                       | 6.88                                     | 0.02                     | 7.57                           | 7.56  | -0.25                                    |
|             |   | 08-May-91     | NOT MEASURABLE                             | 6.92                                     | **                       | PRODUCT                        | 7.51  | -0.05                                    |
| MW-3        | 15.90                                     | 03-Aug-89     | NO PRODUCT                                 | 4.06                                     | 0.00                     | NO PRODUCT                     | 11.84   |  |
|             |   | 21-Sep-89     | NO PRODUCT                                 | 3.77                                     | 0.00                     | NO PRODUCT                     | 12.13   | 0.29                                     |
|             |   | 20-Oct-89     | NO PRODUCT                                 | 4.49                                     | 0.00                     | NO PRODUCT                     | 11.41   | -0.72                                    |
|             |   | 20-Dec-89     | NO PRODUCT                                 | 4.32                                     | 0.00                     | NO PRODUCT                     | 11.58   | 0.17                                     |
|             |   | 20-Mar-90     | NO PRODUCT                                 | 3.78                                     | 0.00                     | NO PRODUCT                     | 12.12   | 0.54                                     |
|             |   | 20-Jul-90     | NO PRODUCT                                 | 3.73                                     | 0.00                     | NO PRODUCT                     | 12.17   | 0.05                                     |
|             |   | 12-Nov-90     | NO PRODUCT                                 | 3.89                                     | 0.00                     | NO PRODUCT                     | 12.01   | -0.16                                    |
|             |   | 07-Feb-91     | NO PRODUCT                                 | 3.92                                     | 0.00                     | NO PRODUCT                     | 11.98   | -0.03                                    |
|             |   | 08-May-91     | NO PRODUCT                                 | 3.96                                     | 0.00                     | NO PRODUCT                     | 11.94   | -0.04                                    |
| MW-4        | 14.04                                     | 03-Aug-89     | NO PRODUCT                                 | 7.10                                     | 0.00                     | NO PRODUCT                     | 6.94  |  |
|             |   | 21-Sep-89     | NO PRODUCT                                 | 6.90                                     | 0.00                     | NO PRODUCT                     | 7.14  | 0.20                                     |
|             |   | 20-Oct-89     | NO PRODUCT                                 | 6.95                                     | 0.00                     | NO PRODUCT                     | 7.09  | -0.05                                    |
|             |   | 20-Dec-89     | NO PRODUCT                                 | 7.24                                     | 0.00                     | NO PRODUCT                     | 6.80  | -0.29                                    |
|             |   | 20-Mar-90     | NO PRODUCT                                 | 6.94                                     | 0.00                     | NO PRODUCT                     | 7.10  | 0.30                                     |
|             |   | 20-Jul-90     | NO PRODUCT                                 | 6.94                                     | 0.00                     | NO PRODUCT                     | 7.10  | 0.00                                     |
|             |   | 12-Nov-90     | NO PRODUCT                                 | 7.13                                     | 0.00                     | NO PRODUCT                     | 6.91  | -0.19                                    |
|             |   | 07-Feb-91     | NO PRODUCT                                 | 6.94                                     | 0.00                     | NO PRODUCT                     | 7.10  | 0.19                                     |
|             |   | 08-May-91     | NO PRODUCT                                 | 7.15                                     | 0.00                     | NO PRODUCT                     | 6.89  | -0.21                                    |
| MW-5        | 15.21                                     | 03-Aug-89     | NO PRODUCT                                 | 4.35                                     | 0.00                     | NO PRODUCT                     | 10.86   |  |
|             |   | 21-Sep-89     | NO PRODUCT                                 | 4.38                                     | 0.00                     | NO PRODUCT                     | 10.83   | -0.03                                    |
|             |   | 20-Oct-89     | NO PRODUCT                                 | 4.37                                     | 0.00                     | NO PRODUCT                     | 10.84   | 0.01                                     |
|             |   | 20-Dec-89     | NO PRODUCT                                 | 4.48                                     | 0.00                     | NO PRODUCT                     | 10.73   | -0.11                                    |
|             |   | 20-Mar-90     | NO PRODUCT                                 | 4.07                                     | 0.00                     | NO PRODUCT                     | 11.14   | 0.41                                     |
|             |   | 20-Jul-90     | NO PRODUCT                                 | 4.12                                     | 0.00                     | NO PRODUCT                     | 11.09   | -0.05                                    |
|             |   | 12-Nov-90     | NO PRODUCT                                 | 4.36                                     | 0.00                     | NO PRODUCT                     | 10.85   | -0.24                                    |
|             |   | 07-Feb-91     | NO PRODUCT                                 | 4.44                                     | 0.00                     | NO PRODUCT                     | 10.77   | -0.08                                    |
|             |   | 08-May-91     | NO PRODUCT                                 | 3.90                                     | 0.00                     | NO PRODUCT                     | 11.31   | 0.54                                     |

MSL - Mean Sea Level

\* Change from previous measurement. Negative sign denotes decrease in water level.

~ Because product thickness was not measured, an estimate was made to account for the effect of product on the water level.

\*\* Product not measured using oil-interface probe; however, globules of product (0.01- to 0.02-foot diameter) were observed using clear Lucite bailer.

Table 2. Selected Results of Organic Analyses of Groundwater Samples  
1600 63rd Street, Emeryville

| Well Number   | Date Sampled | Benzene<br>EPA 8240<br>or 602 | Toluene<br>EPA 8240<br>or 602 | Ethyl-<br>benzene<br>EPA 8240<br>or 602 | Xylenes<br>EPA 8240<br>or 602 | TPH as<br>gasoline<br>EPA 8015/<br>3510-5030 | TPH as<br>diesel<br>EPA 8015/<br>3510 | TPH as<br>motor oil<br>EPA 8015/<br>3510 | TPH as<br>kerosene<br>EPA 8015/<br>3510 | Endrin<br>Aldehyde<br>EPA 8080/<br>608 |
|---------------|--------------|-------------------------------|-------------------------------|---|-------------------------------|--|---------------------------------------|--|---|--|
| MW-1          | 18-Jun-89    | <0.001                        | <0.001                        | <0.001                                  | <0.001                        | <0.5   | <0.5                                  | NT                                       | <0.5                                    | NT                                     |
|               | 21-Sep-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.5   | <0.5                                  | NT                                       | <0.5                                    | 0.0001                                 |
|               | 20-Dec-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Mar-90    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Jul-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | 0.17                                  | <0.5                                     | <0.05                                   | <0.00025                               |
|               | 12-Nov-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | 0.16                                  | <0.5                                     | NT                                      | <0.00005                               |
|               | 07-Feb-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | 0.20                                  | <0.5                                     | NT                                      | <0.00005                               |
|               | 08-May-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | 0.7                                   | <0.5                                     | <0.05                                   | <0.00005                               |
| MW-2          | 25-Jun-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | 0.3  | <0.5                                  | NT                                       | <0.5                                    | NT                                     |
|               | 21-Sep-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.5   | 1.0                                   | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Dec-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | 0.53   | <0.5                                  | NT                                       | 2.2                                     | <0.00005                               |
|               | 20-Mar-90    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | 0.42   | 49                                    | NT                                       | <1.0                                    | <0.00005                               |
|               | 11-May-90    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | 1.2  | 8.4                                   | NT                                       | <0.5                                    | NT                                     |
|               | 11-May-90 D* | <0.01                         | <0.01                         | <0.01                                   | <0.01                         | <0.05  | <2.5                                  | NT                                       | <2.5                                    | NT                                     |
|               | 20-Jul-90    | <0.005                        | <0.005                        | <0.005                                  | 0.011                         | 3.9  | 27                                    | <0.5                                     | <1.0                                    | <0.0001                                |
|               | 20-Jul-90 D  | <0.005                        | <0.0025                       | <0.0025                                 | 0.0033                        | 2.3  | 30                                    | <0.5                                     | <1.0                                    | <0.0001                                |
|               | 12-Nov-90    | <0.005                        | <0.0005                       | <0.0005                                 | 0.0005                        | 380  | 61                                    | <0.5                                     | NT                                      | <0.00005                               |
|               | 12-Nov-90 D  | <0.005                        | 0.0009                        | 0.001                                   | 0.0079                        | 7  | 35                                    | 21                                       | NT                                      | <0.00005                               |
|               | 07-Feb-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.0005                       | 11   | 41                                    | 31                                       | NT                                      | <0.00005                               |
|               | 07-Feb-91 D  | <0.005                        | <0.0005                       | <0.0005                                 | 0.043                         | 13   | 27                                    | 21                                       | NT                                      | <0.00005                               |
|               | 08-May-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | 88   | 43                                    | 30                                       | <0.05                                   | <0.00005                               |
|               | 08-May-91 D  | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | 150  | 26                                    | 18                                       | <0.05                                   | <0.00005                               |
| MW-3          | 18-Jun-89    | <0.001                        | <0.001                        | <0.001                                  | <0.001                        | <0.5   | <0.5                                  | NT                                       | <0.5                                    | NT                                     |
|               | 21-Sep-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.5   | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Dec-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Mar-90    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Jul-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | 0.11   | <0.05                                 | <0.5                                     | <0.05                                   | <0.00005                               |
|               | 12-Nov-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | NT                                      | <0.00005                               |
|               | 07-Feb-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | 0.12                                  | <0.5                                     | NT                                      | <0.00005                               |
|               | 08-May-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | <0.05                                   | <0.00005                               |
| MW-4          | 25-Jun-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | NT                                     |
|               | 21-Sep-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.5   | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Dec-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Dec-89 D  | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | NT   | NT                                    | NT                                       | NT                                      | NT                                     |
|               | 20-Mar-90    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Jul-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | 0.12   | <0.05                                 | <0.5                                     | <0.05                                   | <0.00005                               |
|               | 12-Nov-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | NT                                      | <0.00005                               |
|               | 07-Feb-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | NT                                      | <0.00005                               |
|               | 08-May-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | <0.05                                   | <0.00005                               |
| MW-5          | 30-Jun-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | NT                                     |
|               | 21-Sep-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.5   | <0.5                                  | NT                                       | <0.5                                    | 0.00015                                |
|               | 20-Dec-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Mar-90    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
|               | 20-Jul-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | <0.05                                   | <0.00005                               |
|               | 12-Nov-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | NT                                      | <0.00005                               |
|               | 07-Feb-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | NT                                      | <0.00005                               |
|               | 08-May-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | <0.05                                   | <0.00005                               |
| Blank Samples |              |                               |                               |   |                               |  |                                       |  |   |  |
| FB            | 30-Jun-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.05  | <0.5                                  | NT                                       | <0.5                                    | NT                                     |
| FB            | 21-Sep-89    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | <0.5   | <0.5                                  | NT                                       | <0.5                                    | <0.00005                               |
| TB            | 20-Mar-90    | <0.005                        | <0.005                        | <0.005                                  | <0.005                        | NT   | NT                                    | NT                                       | NT                                      | NT                                     |
| TB            | 20-Jul-90    | <0.005                        | 0.0006                        | <0.0005                                 | <0.005                        | <0.05  | NT                                    | NT                                       | NT                                      | NT                                     |
| TB            | 12-Nov-90    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | NT                                      | <0.00005                               |
| TB            | 07-Feb-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | NT                                      | <0.00005                               |
| TB            | 08-May-91    | <0.005                        | <0.0005                       | <0.0005                                 | <0.005                        | <0.05  | <0.05                                 | <0.5                                     | <0.05                                   | <0.00005                               |

Concentrations expressed as milligrams of chemical per liter of water (mg/l), which is essentially equivalent to parts per million (ppm). Less than symbol indicates results below listed reporting limit. Where they were analyzed, unlisted EPA Test Method 602, 8015, 8080, 8240 and 8270 parameters were not detected.

NT = Not tested

FB = Field Blank

D = Duplicate Samples

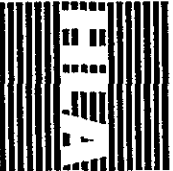
TB = Trip Blank

\* Sample contained 15 ppm of unknown hydrocarbons in about the C-7 to C-23 carbon range and 8 tentatively identified organic compounds.

Table 2. Selected Results of Organic Analyses of Groundwater Samples (Continued)  
1600 63rd Street, Emeryville

| Well Number   | Date Sampled | Heptachlor<br>EPA 8080/<br>608 | 4,4'-DDD<br>EPA 8080/<br>608 | Gamma-BHC<br>EPA 8080/<br>608 | Fluorene<br>EPA 8270 | Bis (2-ethyl-<br>hexyl)<br>phthalate<br>EPA 8270 | 2-Methyl-<br>naphthalene<br>EPA 8270 | Phen-<br>anthrene<br>EPA 8270 | Acetone<br>EPA 8240 | PCB<br>1260<br>EPA 8080/<br>608 |
|---------------|--------------|--------------------------------|------------------------------|-------------------------------|----------------------|--|--------------------------------------|-------------------------------|---------------------|---------------------------------|
| MW-1          | 18-Jun-89    | NT                             | NT                           | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | NT                              |
|               | 21-Sep-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | 0.0005                          |
|               | 20-Dec-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Mar-90    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Jul-90    | <0.00025                       | <0.00025                     | <0.00010                      | NT                   | NT   | NT                                   | NT                            | NT                  | NT                              |
|               | 12-Nov-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 07-Feb-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 08-May-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
| MW-2          | 25-Jun-89    | <0.00005                       | NT                           | <0.00005                      | trace                | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 21-Sep-89    | 0.00016                        | 0.00015                      | <0.00005                      | 0.006                | 0.005  | 0.0061                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Dec-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | 0.012                                | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Mar-90    | <0.00005                       | <0.00005                     | 0.00035                       | 0.0061               | <0.005   | 0.018                                | 0.0055                        | 0.044               | <0.0005                         |
|               | 11-May-90    | NT                             | NT                           | NT                            | NT                   | NT   | NT                                   | NT                            | <0.01               | NT                              |
|               | 11-May-90 D* | NT                             | NT                           | NT                            | NT                   | NT   | NT                                   | NT                            | <0.02               | NT                              |
|               | 20-Jul-90    | <0.00010                       | <0.00010                     | <0.00004                      | NT                   | NT   | NT                                   | NT                            | NT                  | NT                              |
|               | 20-Jul-90 D  | <0.00010                       | <0.00010                     | <0.00004                      | NT                   | NT   | NT                                   | NT                            | NT                  | NT                              |
|               | 12-Nov-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 12-Nov-90 D  | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 07-Feb-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 07-Feb-91 D  | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 08-May-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
| 08-May-91 D   | <0.00005     | <0.00005                       | <0.00002                     | NT                            | NT                   | NT   | NT                                   | NT                            | <0.0005             |                                 |
| MW-3          | 18-Jun-89    | NT                             | NT                           | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | NT                              |
|               | 21-Sep-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Dec-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Mar-90    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Jul-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | NT                              |
|               | 12-Nov-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 07-Feb-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 08-May-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
| MW-4          | 25-Jun-89    | <0.00005                       | NT                           | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 21-Sep-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Dec-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Dec-89 D  | NT                             | NT                           | NT                            | NT                   | NT   | NT                                   | NT                            | <0.01               | NT                              |
|               | 20-Mar-90    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Jul-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | NT                              |
|               | 12-Nov-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 07-Feb-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
| 08-May-91     | <0.00005     | <0.00005                       | <0.00002                     | NT                            | NT                   | NT   | NT                                   | NT                            | <0.0005             |                                 |
| MW-5          | 30-Jun-89    | NT                             | NT                           | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | NT                              |
|               | 21-Sep-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | 0.00090                         |
|               | 20-Dec-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Mar-90    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.0005                         |
|               | 20-Jul-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | NT                              |
|               | 12-Nov-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 07-Feb-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
|               | 08-May-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
| Blank Samples |              |                                |                              |                               |                      |  |                                      |                               |                     |                                 |
| FB            | 30-Jun-89    | NT                             | NT                           | NT                            | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | NT                              |
| FB            | 21-Sep-89    | <0.00005                       | <0.00005                     | <0.00005                      | <0.005               | <0.005   | <0.005                               | <0.005                        | <0.01               | <0.00050                        |
| TB            | 20-Mar-90    | NT                             | NT                           | NT                            | NT                   | NT   | NT                                   | NT                            | <0.01               | NT                              |
| TB            | 20-Jul-90    | NT                             | NT                           | NT                            | NT                   | NT   | NT                                   | NT                            | NT                  | NT                              |
| TB            | 12-Nov-90    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
| TB            | 07-Feb-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |
| TB            | 08-May-91    | <0.00005                       | <0.00005                     | <0.00002                      | NT                   | NT   | NT                                   | NT                            | NT                  | <0.0005                         |





**Harding Lawson Associates**  
Engineering and  
Environmental Services

DRAWN  
CVDC

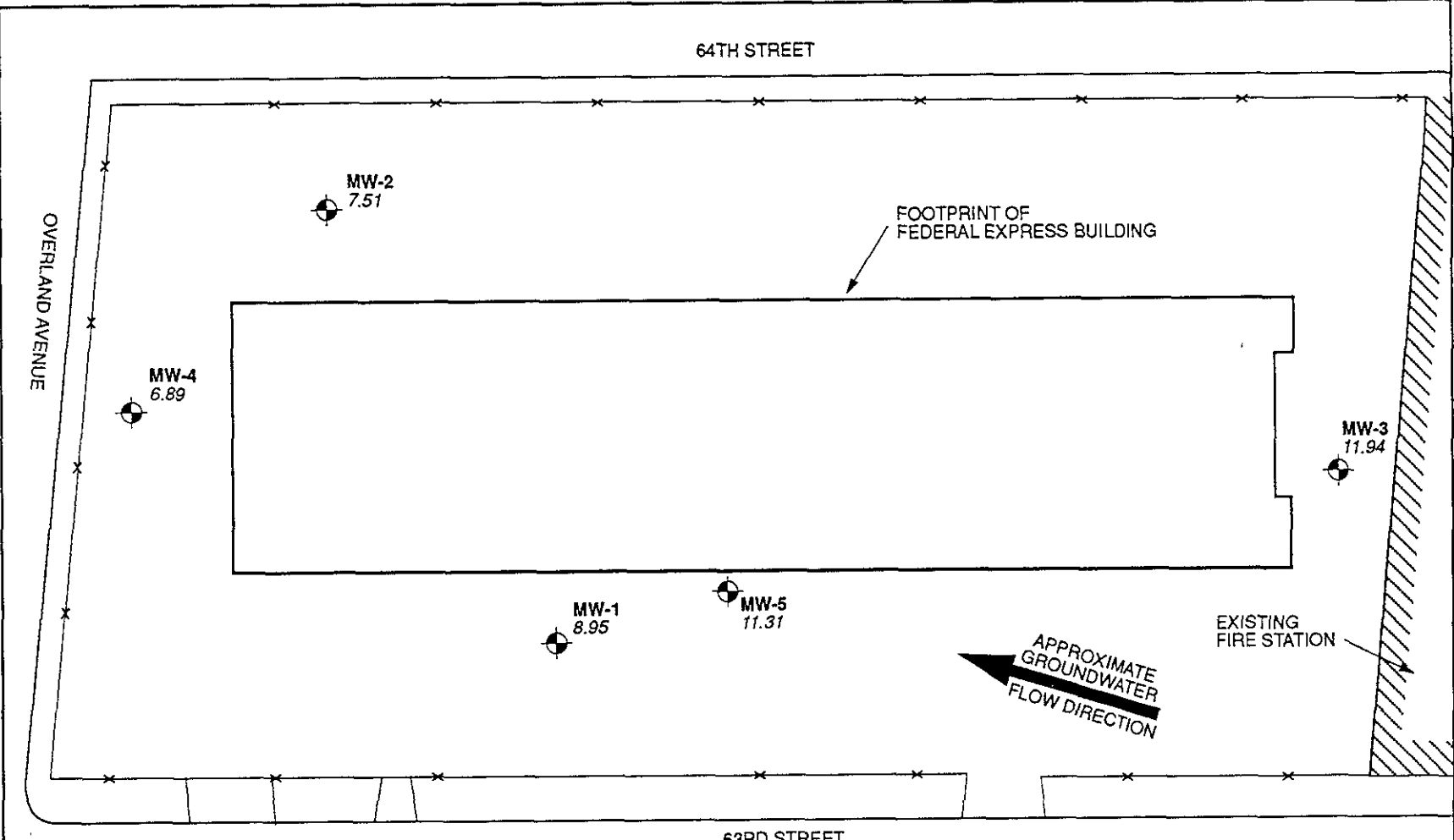
JOB NUMBER  
18452,039.02

APPROVED

**Site Map**  
1600 63rd Street  
Emeryville, California

DATE  
12/90

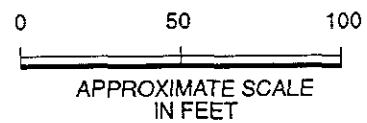
REVISED DATE  
5/91



**EXPLANATION**

MW-1  
8.47 HLA Monitoring Well

Groundwater elevation measured on May 8, 1991, in feet above mean sea level



0816nb

PLATE

**1**



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

NET Pacific, Inc.  
435 Tesconi Circle  
Santa Rosa, CA 95401  
Tel: (707) 526-7200  
Fax: (707) 526-9623

Diana Dickerson  
Harding Lawson Associates  
200 Rush Landing  
Novato, CA 94947

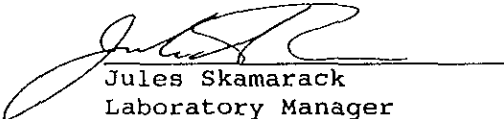
Date: 05-29-91  
NET Client Acct No: 281  
NET Pacific Log No: 7419  
Received: 05-08-91 1856

Client Reference Information

Wareham 63rd St., Job: 18452,039.02

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

  
Jules Skamarack  
Laboratory Manager

JS:rct  
Enclosure(s)



NET Pacific, Inc

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91  
Page: 2

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter              | Method | Reporting Limit | 91050801         | 91050802         | Units |
|------------------------|--------|-----------------|------------------|------------------|-------|
|                        |        |                 | 05-08-91<br>1045 | 05-08-91<br>1145 |       |
|                        |        |                 | 84762            | 84763            |       |
| PETROLEUM HYDROCARBONS |        |                 | --               | --               |       |
| VOLATILE (WATER)       |        |                 | --               | --               |       |
| DILUTION FACTOR *      |        |                 | 1                | 1                |       |
| DATE ANALYZED          |        |                 | 05-19-91         | 05-19-91         |       |
| METHOD GC FID/5030     |        |                 | --               | --               |       |
| as Gasoline            |        | 0.05            | ND               | ND               | mg/L  |
| METHOD 602             |        |                 | --               | --               |       |
| DILUTION FACTOR *      |        |                 | 1                | 1                |       |
| DATE ANALYZED          |        |                 | 05-19-91         | 05-19-91         |       |
| Benzene                |        | 0.5             | ND               | ND               | ug/L  |
| Ethylbenzene           |        | 0.5             | ND               | ND               | ug/L  |
| Toluene                |        | 0.5             | ND               | ND               | ug/L  |
| Xylenes, total         |        | 0.5             | ND               | ND               | ug/L  |
| PETROLEUM HYDROCARBONS |        |                 | --               | --               |       |
| EXTRACTABLE (WATER)    |        |                 | --               | --               |       |
| DILUTION FACTOR *      |        |                 | 1                | 1                |       |
| DATE EXTRACTED         |        |                 | 05-11-91         | 05-11-91         |       |
| DATE ANALYZED          |        |                 | 05-19-91         | 05-19-91         |       |
| METHOD GC FID/3510     |        |                 | --               | --               |       |
| as Diesel              |        | 0.05            | ND               | ND               | mg/L  |
| as Motor Oil           |        | 0.5             | ND               | ND               | mg/L  |
| as Kerosene            |        | 0.05            | ND               | ND               | mg/Kg |



NET Pacific, Inc

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91

Page: 3

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter                 | Method | Reporting<br>Limit | 91050801         | 91050802         | Units |
|---------------------------|--------|--------------------|------------------|------------------|-------|
|                           |        |                    | 05-08-91<br>1045 | 05-08-91<br>1145 |       |
|                           |        |                    | 84762            | 84763            |       |
| METHOD 608                |        |                    |                  |                  |       |
| DATE EXTRACTED            |        |                    | 05-13-91         | 05-13-91         |       |
| DATE ANALYZED             |        |                    | 05-22-91         | 05-22-91         |       |
| DILUTION FACTOR *         |        |                    | 1                | 1                |       |
| Aldrin                    |        | 0.02               | ND               | ND               | ug/L  |
| alpha-BHC                 |        | 0.005              | ND               | ND               | ug/L  |
| beta-BHC                  |        | 0.005              | ND               | ND               | ug/L  |
| delta-BHC                 |        | 0.005              | ND               | ND               | ug/L  |
| gamma-BHC (Lindane)       |        | 0.02               | ND               | ND               | ug/L  |
| Chlordane                 |        | 0.4                | ND               | ND               | ug/L  |
| 4,4'-DDD                  |        | 0.05               | ND               | ND               | ug/L  |
| 4,4'-DDE                  |        | 0.05               | ND               | ND               | ug/L  |
| 4,4'-DDT                  |        | 0.05               | ND               | ND               | ug/L  |
| Dieldrin                  |        | 0.05               | ND               | ND               | ug/L  |
| Endosulfan I              |        | 0.05               | ND               | ND               | ug/L  |
| Endosulfan II             |        | 0.05               | ND               | ND               | ug/L  |
| Endosulfan sulfate        |        | 0.05               | ND               | ND               | ug/L  |
| Endrin                    |        | 0.05               | ND               | ND               | ug/L  |
| Endrin aldehyde           |        | 0.05               | ND               | ND               | ug/L  |
| Heptachlor                |        | 0.05               | ND               | ND               | ug/L  |
| Heptachlor epoxide        |        | 0.05               | ND               | ND               | ug/L  |
| Methoxychlor              |        | 0.08               | ND               | ND               | ug/L  |
| Toxaphene                 |        | 1.0                | ND               | ND               | ug/L  |
| POLYCHLORINATED BIPHENYLS |        |                    |                  |                  |       |
| Aroclor 1016              |        | 2.0                | ND               | ND               | ug/L  |
| Aroclor 1221              |        | 8.0                | ND               | ND               | ug/L  |
| Aroclor 1232              |        | 3.0                | ND               | ND               | ug/L  |
| Aroclor 1242              |        | 2.0                | ND               | ND               | ug/L  |
| Aroclor 1248              |        | 2.0                | ND               | ND               | ug/L  |
| Aroclor 1254              |        | 0.5                | ND               | ND               | ug/L  |
| Aroclor 1260              |        | 0.5                | ND               | ND               | ug/L  |



NET Pacific, Inc

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91

Page: 4

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter              | Method | Reporting<br>Limit | Descriptor, Lab No. and Results |                              | Units |
|------------------------|--------|--------------------|---------------------------------|------------------------------|-------|
|                        |        |                    | 91050803<br>05-08-91<br>1235    | 91050804<br>05-08-91<br>1315 |       |
|                        |        |                    | 84764                           | 84765                        |       |
| PETROLEUM HYDROCARBONS |        |                    | --                              | --                           |       |
| VOLATILE (WATER)       |        |                    | --                              | --                           |       |
| DILUTION FACTOR *      |        |                    | 1                               | 1                            |       |
| DATE ANALYZED          |        |                    | 05-19-91                        | 05-19-91                     |       |
| METHOD GC FID/5030     |        |                    | --                              | --                           |       |
| as Gasoline            |        | 0.05               | ND                              | ND                           | mg/L  |
| METHOD 602             |        |                    | --                              | --                           |       |
| DILUTION FACTOR *      |        |                    | 1                               | 1                            |       |
| DATE ANALYZED          |        |                    | 05-19-91                        | 05-19-91                     |       |
| Benzene                |        | 0.5                | ND                              | ND                           | ug/L  |
| Ethylbenzene           |        | 0.5                | ND                              | ND                           | ug/L  |
| Toluene                |        | 0.5                | ND                              | ND                           | ug/L  |
| Xylenes, total         |        | 0.5                | ND                              | ND                           | ug/L  |
| PETROLEUM HYDROCARBONS |        |                    | --                              | --                           |       |
| EXTRACTABLE (WATER)    |        |                    | --                              | --                           |       |
| DILUTION FACTOR *      |        |                    | 1                               | 1                            |       |
| DATE EXTRACTED         |        |                    | 05-11-91                        | 05-11-91                     |       |
| DATE ANALYZED          |        |                    | 05-22-91                        | 05-22-91                     |       |
| METHOD GC FID/3510     |        |                    | --                              | --                           |       |
| as Diesel              |        | 0.05               | ND                              | 0.07                         | mg/L  |
| as Motor Oil           |        | 0.5                | ND                              | ND                           | mg/L  |
| as Kerosene            |        | 0.05               | ND                              | ND                           | mg/L  |



NET Pacific, Inc

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91

Page: 5

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter                 | Method | Reporting<br>Limit | Descriptor, Lab No. and Results |                              | Units |
|---------------------------|--------|--------------------|---------------------------------|------------------------------|-------|
|                           |        |                    | 91050803<br>05-08-91<br>1235    | 91050804<br>05-08-91<br>1315 |       |
|                           |        |                    | 84764                           | 84765                        |       |
| METHOD 608                |        |                    |                                 |                              |       |
| DATE EXTRACTED            |        |                    | 05-13-91                        | 05-13-91                     |       |
| DATE ANALYZED             |        |                    | 05-22-91                        | 05-22-91                     |       |
| DILUTION FACTOR *         |        |                    | 1                               | 1                            |       |
| Aldrin                    |        | 0.02               | ND                              | ND                           | ug/L  |
| alpha-BHC                 |        | 0.005              | ND                              | ND                           | ug/L  |
| beta-BHC                  |        | 0.005              | ND                              | ND                           | ug/L  |
| delta-BHC                 |        | 0.005              | ND                              | ND                           | ug/L  |
| gamma-BHC (Lindane)       |        | 0.02               | ND                              | ND                           | ug/L  |
| Chlordane                 |        | 0.4                | ND                              | ND                           | ug/L  |
| 4,4'-DDD                  |        | 0.05               | ND                              | ND                           | ug/L  |
| 4,4'-DDE                  |        | 0.05               | ND                              | ND                           | ug/L  |
| 4,4'-DDT                  |        | 0.05               | ND                              | ND                           | ug/L  |
| Dieldrin                  |        | 0.05               | ND                              | ND                           | ug/L  |
| Endosulfan I              |        | 0.05               | ND                              | ND                           | ug/L  |
| Endosulfan II             |        | 0.05               | ND                              | ND                           | ug/L  |
| Endosulfan sulfate        |        | 0.05               | ND                              | ND                           | ug/L  |
| Endrin                    |        | 0.05               | ND                              | ND                           | ug/L  |
| Endrin aldehyde           |        | 0.05               | ND                              | ND                           | ug/L  |
| Heptachlor                |        | 0.05               | ND                              | ND                           | ug/L  |
| Heptachlor epoxide        |        | 0.05               | ND                              | ND                           | ug/L  |
| Methoxychlor              |        | 0.08               | ND                              | ND                           | ug/L  |
| Toxaphene                 |        | 1.0                | ND                              | ND                           | ug/L  |
| POLYCHLORINATED BIPHENYLS |        |                    |                                 |                              |       |
| Aroclor 1016              |        | 2.0                | ND                              | ND                           | ug/L  |
| Aroclor 1221              |        | 8.0                | ND                              | ND                           | ug/L  |
| Aroclor 1232              |        | 3.0                | ND                              | ND                           | ug/L  |
| Aroclor 1242              |        | 2.0                | ND                              | ND                           | ug/L  |
| Aroclor 1248              |        | 2.0                | ND                              | ND                           | ug/L  |
| Aroclor 1254              |        | 0.5                | ND                              | ND                           | ug/L  |
| Aroclor 1260              |        | 0.5                | ND                              | ND                           | ug/L  |



NET Pacific, Inc

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91  
Page: 6

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter              | Method | Reporting Limit | 91050805         | 91050806         | Units |
|------------------------|--------|-----------------|------------------|------------------|-------|
|                        |        |                 | 05-08-91<br>1430 | 05-08-91<br>1455 |       |
|                        |        |                 | 84766**          | 84767            |       |
| PETROLEUM HYDROCARBONS |        |                 | --               | --               |       |
| VOLATILE (WATER)       |        |                 | --               | --               |       |
| DILUTION FACTOR *      |        |                 | 100              | 1                |       |
| DATE ANALYZED          |        |                 | 05-19-91         | 05-19-91         |       |
| METHOD GC FID/5030     |        |                 | --               | --               |       |
| as Gasoline            |        | 0.05            | 88               | ND               | mg/L  |
| METHOD 602             |        |                 | --               | --               |       |
| DILUTION FACTOR *      |        |                 | 100              | 1                |       |
| DATE ANALYZED          |        |                 | 05-19-91         | 05-19-91         |       |
| Benzene                |        | 0.5             | ND               | ND               | ug/L  |
| Ethylbenzene           |        | 0.5             | ND               | ND               | ug/L  |
| Toluene                |        | 0.5             | ND               | ND               | ug/L  |
| Xylenes, total         |        | 0.5             | ND               | ND               | ug/L  |
| PETROLEUM HYDROCARBONS |        |                 | --               | --               |       |
| EXTRACTABLE (WATER)    |        |                 | --               | --               |       |
| DILUTION FACTOR *      |        |                 | 20               | 1                |       |
| DATE EXTRACTED         |        |                 | 05-11-91         | 05-11-91         |       |
| DATE ANALYZED          |        |                 | 05-22-91         | 05-19-91         |       |
| METHOD GC FID/3510     |        |                 | --               | --               |       |
| as Diesel              |        | 0.05            | 43               | ND               | mg/L  |
| as Motor Oil           |        | 0.5             | 30               | ND               | mg/L  |
| as Kerosene            |        | 0.05            | ND               | ND               | mg/Kg |

\*\* Note: The positive result for the PETROLEUM HYDROCARBONS as Gasoline analysis on this sample is a heavier hydrocarbon than gasoline.



NET Pacific, Inc

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91

Page: 7

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter                 | Method | Reporting<br>Limit | Descriptor, Lab No. and Results |                              | Units |
|---------------------------|--------|--------------------|---------------------------------|------------------------------|-------|
|                           |        |                    | 91050805<br>05-08-91<br>1430    | 91050806<br>05-08-91<br>1455 |       |
|                           |        |                    | 84766                           | 84767                        |       |
| METHOD 608                |        |                    |                                 |                              |       |
| DATE EXTRACTED            |        |                    | 05-13-91                        | 05-13-91                     |       |
| DATE ANALYZED             |        |                    | 05-22-91                        | 05-22-91                     |       |
| DILUTION FACTOR *         |        |                    | 5                               | 1                            |       |
| Aldrin                    |        | 0.02               | ND                              | ND                           | ug/L  |
| alpha-BHC                 |        | 0.005              | ND                              | ND                           | ug/L  |
| beta-BHC                  |        | 0.005              | ND                              | ND                           | ug/L  |
| delta-BHC                 |        | 0.005              | ND                              | ND                           | ug/L  |
| gamma-BHC (Lindane)       |        | 0.02               | ND                              | ND                           | ug/L  |
| Chlordane                 |        | 0.4                | ND                              | ND                           | ug/L  |
| 4,4'-DDD                  |        | 0.05               | ND                              | ND                           | ug/L  |
| 4,4'-DDE                  |        | 0.05               | ND                              | ND                           | ug/L  |
| 4,4'-DDT                  |        | 0.05               | ND                              | ND                           | ug/L  |
| Dieldrin                  |        | 0.05               | ND                              | ND                           | ug/L  |
| Endosulfan I              |        | 0.05               | ND                              | ND                           | ug/L  |
| Endosulfan II             |        | 0.05               | ND                              | ND                           | ug/L  |
| Endosulfan sulfate        |        | 0.05               | ND                              | ND                           | ug/L  |
| Endrin                    |        | 0.05               | ND                              | ND                           | ug/L  |
| Endrin aldehyde           |        | 0.05               | ND                              | ND                           | ug/L  |
| Heptachlor                |        | 0.05               | ND                              | ND                           | ug/L  |
| Heptachlor epoxide        |        | 0.05               | ND                              | ND                           | ug/L  |
| Methoxychlor              |        | 0.08               | ND                              | ND                           | ug/L  |
| Toxaphene                 |        | 1.0                | ND                              | ND                           | ug/L  |
| POLYCHLORINATED BIPHENYLS |        |                    |                                 |                              |       |
| Aroclor 1016              |        | 2.0                | ND                              | ND                           | ug/L  |
| Aroclor 1221              |        | 8.0                | ND                              | ND                           | ug/L  |
| Aroclor 1232              |        | 3.0                | ND                              | ND                           | ug/L  |
| Aroclor 1242              |        | 2.0                | ND                              | ND                           | ug/L  |
| Aroclor 1248              |        | 2.0                | ND                              | ND                           | ug/L  |
| Aroclor 1254              |        | 0.5                | ND                              | ND                           | ug/L  |
| Aroclor 1260              |        | 0.5                | ND                              | ND                           | ug/L  |





NET Pacific, Inc.

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91

Page: 8

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter              | Method | Reporting Limit | 91050807<br>05-08-91<br>1520<br>84768** | Units |
|------------------------|--------|-----------------|---|-------|
| PETROLEUM HYDROCARBONS |        |                 |   |       |
| VOLATILE (WATER)       |        |                 |   |       |
| DILUTION FACTOR *      |        |                 |   |       |
| DATE ANALYZED          |        |                 |   |       |
| METHOD GC FID/5030     |        |                 |   |       |
| as Gasoline            |        | 0.05            | 150                                     | mg/L  |
| METHOD 602             |        |                 |   |       |
| DILUTION FACTOR *      |        |                 |   |       |
| DATE ANALYZED          |        |                 |   |       |
| Benzene                |        | 0.5             | ND                                      | ug/L  |
| Ethylbenzene           |        | 0.5             | ND                                      | ug/L  |
| Toluene                |        | 0.5             | ND                                      | ug/L  |
| Xylenes, total         |        | 0.5             | ND                                      | ug/L  |
| PETROLEUM HYDROCARBONS |        |                 |   |       |
| EXTRACTABLE (WATER)    |        |                 |   |       |
| DILUTION FACTOR *      |        |                 |   |       |
| DATE EXTRACTED         |        |                 |   |       |
| DATE ANALYZED          |        |                 |   |       |
| METHOD GC FID/3510     |        |                 |   |       |
| as Diesel              |        | 0.05            | 26                                      | mg/L  |
| as Motor Oil           |        | 0.5             | 18                                      | mg/L  |
| as Kerosene            |        | 0.05            | ND                                      | mg/L  |

\*\* Note: The positive result for the PETROLEUM HYDROCARBONS as Gasoline analysis on this sample is a heavier hydrocarbon than gasoline.



NET Pacific, Inc

Client No: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91

Page: 9

Ref: Wareham 63rd St., Job: 18452,039.02

Descriptor, Lab No. and Results

| Parameter                 | Method | Reporting Limit | 84768    | Units |
|---------------------------|--------|-----------------|----------|-------|
| METHOD 608                |        |                 |          |       |
| DATE EXTRACTED            |        |                 | 91050807 |       |
| DATE ANALYZED             |        |                 | 05-08-91 |       |
| DILUTION FACTOR *         |        |                 | 1520     |       |
| Aldrin                    |        | 0.02            | ND       | ug/L  |
| alpha-BHC                 |        | 0.005           | ND       | ug/L  |
| beta-BHC                  |        | 0.005           | ND       | ug/L  |
| delta-BHC                 |        | 0.005           | ND       | ug/L  |
| gamma-BHC (Lindane)       |        | 0.02            | ND       | ug/L  |
| Chlordane                 |        | 0.4             | ND       | ug/L  |
| 4,4'-DDD                  |        | 0.05            | ND       | ug/L  |
| 4,4'-DDE                  |        | 0.05            | ND       | ug/L  |
| 4,4'-DDT                  |        | 0.05            | ND       | ug/L  |
| Dieldrin                  |        | 0.05            | ND       | ug/L  |
| Endosulfan I              |        | 0.05            | ND       | ug/L  |
| Endosulfan II             |        | 0.05            | ND       | ug/L  |
| Endosulfan sulfate        |        | 0.05            | ND       | ug/L  |
| Endrin                    |        | 0.05            | ND       | ug/L  |
| Endrin aldehyde           |        | 0.05            | ND       | ug/L  |
| Heptachlor                |        | 0.05            | ND       | ug/L  |
| Heptachlor epoxide        |        | 0.05            | ND       | ug/L  |
| Methoxychlor              |        | 0.08            | ND       | ug/L  |
| Toxaphene                 |        | 1.0             | ND       | ug/L  |
| POLYCHLORINATED BIPHENYLS |        |                 |          |       |
| Aroclor 1016              |        | 2.0             | ND       | ug/L  |
| Aroclor 1221              |        | 8.0             | ND       | ug/L  |
| Aroclor 1232              |        | 3.0             | ND       | ug/L  |
| Aroclor 1242              |        | 2.0             | ND       | ug/L  |
| Aroclor 1248              |        | 2.0             | ND       | ug/L  |
| Aroclor 1254              |        | 0.5             | ND       | ug/L  |
| Aroclor 1260              |        | 0.5             | ND       | ug/L  |



NET Pacific, Inc

Client Acct: 281  
Client Name: Harding Lawson Associates  
NET Log No: 7419

Date: 05-29-91  
Page: 10

Ref: Wareham 63rd St., Job: 18452,039.02

QUALITY CONTROL DATA

| Parameter | Reporting Limits | Units | Cal Verf Stand % Recovery | Blank Data | Spike % Recovery | Duplicate Spike % Recovery | RPD |
|-----------|------------------|-------|---------------------------|------------|------------------|----------------------------|-----|
| Diesel    | 0.05             | mg/L  | 93                        | ND         | 57               | 58                         | 1.7 |
| Motor Oil | 0.5              | mg/L  | 82                        | ND         | N/A              | N/A                        | N/A |
| Diesel    | 0.05             | mg/L  | 103                       | ND         | 38               | 35                         | 11  |
| Motor Oil | 0.5              | mg/L  | 86                        | ND         | N/A              | N/A                        | N/A |
| Gasoline  | 0.05             | mg/L  | 101                       | ND         | 97               | 94                         | 3.1 |
| Benzene   | 0.5              | ug/L  | 94                        | ND         | 99               | 95                         | 4.1 |
| Toluene   | 0.5              | ug/L  | 104                       | ND         | 100              | 96                         | 4.1 |

COMMENT: Blank Results were ND on other analytes tested.

|            |      |      |     |    |     |    |     |
|------------|------|------|-----|----|-----|----|-----|
| Lindane    | 0.02 | ug/L | N/A | ND | 83  | 77 | 7.5 |
| Heptachlor | 0.05 | ug/L | N/A | ND | 77  | 82 | 6.3 |
| Aldrin     | 0.02 | ug/L | N/A | ND | 106 | 95 | 11  |
| Dieldrin   | 0.05 | ug/L | N/A | ND | 67  | 66 | 1.5 |
| Endrin     | 0.05 | ug/L | N/A | ND | 74  | 72 | 2.7 |
| 4,4' DDT   | 0.05 | ug/L | N/A | ND | 51  | 43 | 17  |

COMMENT: Blank Results were ND on other analytes tested.



NET Pacific, Inc

## KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- \* : Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
- ICVS : Initial Calibration Verification Standard (External Standard).
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference,  $100 \text{ [Value 1 - Value 2] / mean value}$ .
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- umhos/cm : Micromhos per centimeter.

### Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 16th Edition, APHA, 1985.

