# LAKEWOOD/PLAZA CLEANERS
# LONG-TERM MONITORING ROUND IV
# MAY 27-28, 1992

by
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Environmental Investigations and Laboratory Services Program
Toxics, Compliance and Ground Water Investigations Section
Olympia, Washington 98504-7710

Water Body No. WA- 1115GW
(Segment No. 05-12-GW)

October 1992

## ABSTRACT

Routine monitoring was conducted at Lakewood/Plaza Cleaners on May 27-28, 1992, in compliance with the Record of Decision (ROD). Ground water samples were collected from eight monitoring wells. Low levels of tetrachloroethylene, trichloroethylene and 1,2-dichloroethylene continue to be detected in most of the monitoring wells, with the exception of MW-20B. Tetrachloroethylene concentrations increased substantially in well MW-20B from 120 ppb in November 1991 to 940 ppb in May 1992. The May 1992 tetrachloroethylene concentrations are similar to those reported in sample rounds prior to November 1991.

## OBJECTIVES

The Toxics Cleanup Program (TCP) requested that the Toxics, Compliance, and Ground Water Investigations Section conduct long-term monitoring of the ground water at the Lakewood/Plaza Cleaners Site on a semi-annual basis. Monitoring objectives are as follows:

1. Collect ground water quality data that can be used to evaluate the effectiveness of continued operation of wells H1 and H2 to contain and remove contaminated ground water from the aquifer.

2. Monitor ground water upgradient of the site annually to determine if contaminants are migrating toward H1 and H2 from McChord Air Force Base (MCAFB).

## SITE BACKGROUND

In 1981, tetrachloroethylene (PERC), trichloroethylene (TCE), and 1,2-dichloroethylene (1,2-DCE) were detected in two Lakewood Water District supply wells (wells H1 and H2), as shown on Figure 1. On-site disposal of waste solvents and sludges at Plaza Cleaners, located 800 feet north of the wells, was identified as the source of contamination. Site remediation consisted of removal of contaminated sludge and soils, soil-vapor extraction and installation of two air-stripping towers for wells H1 and H2.

Results from on-site monitoring wells between 1985 to 1990 showed that the pump and treat system had contained and reduced the level of ground water contamination (CH2M Hill, 1990). A 1986 concentration contour map showed a portion of the contaminated plume, located northwest of the site, was not being captured by remedial pumping (CH2M Hill, 1988). However, contaminant concentrations in the uncaptured plume were decreasing; possibly due to biodegradation, dispersion and/or dilution.

Upgradient monitoring wells were installed to detect possible contaminant migration from the adjacent McChord Air Force Base (MCAFB). Previous studies (EPA, 1985) indicated potential contamination sources from MCAFB are located within the long-term capture zone of wells H1 and H2. Possible contaminants from MCAFB include hydrocarbons, pesticides, and heavy metals. Upgradient monitoring wells MW-19A and MW-40 are sampled annually and were not sampled this round.

Geology of the study area was defined in the Final Draft Remedial Investigation Report for Ponder's Corner, Washington (EPA, 1985) as consisting of four geologic units which are listed in order of increased depth; the Steilacoom Gravel, Vashon Till, Advance Outwash, and the Colvos Sands. The main units of interest are the Steilacoom Gravel, Vashon Till and Advance Outwash. The Steilacoom Gravel is found throughout most of the study area and ranges in thickness from 1 to 58 feet. This unit often contains perched water. At the site perched ground water flows to the northwest near wells H1 and H2, but to the south and southeast near the south end of Plaza Cleaners. The Vashon Till underlies the Steilacoom Gravel and ranges in thickness from 8 to 92 feet. Over most of the site the till (a mixture of clay, silt, sand and gravel) forms an aquitard separating the Steilacoom Gravel, above, from the Advance Outwash, below. The Advance Outwash is the primary aquifer for the area. The predominant horizontal flow in the Advance Outwash is west-northwest when production wells H1 and H2 are not in use. When in use, the wells create a large cone of depression. Previous studies showed that drawdowns occur in shallow monitoring wells drilled in the Steilacoom gravel when H1 and H2 are pumping (EPA, 1985). This indicates some hydraulic interconnection between the Steilacoom Gravel and the Advance Outwash.

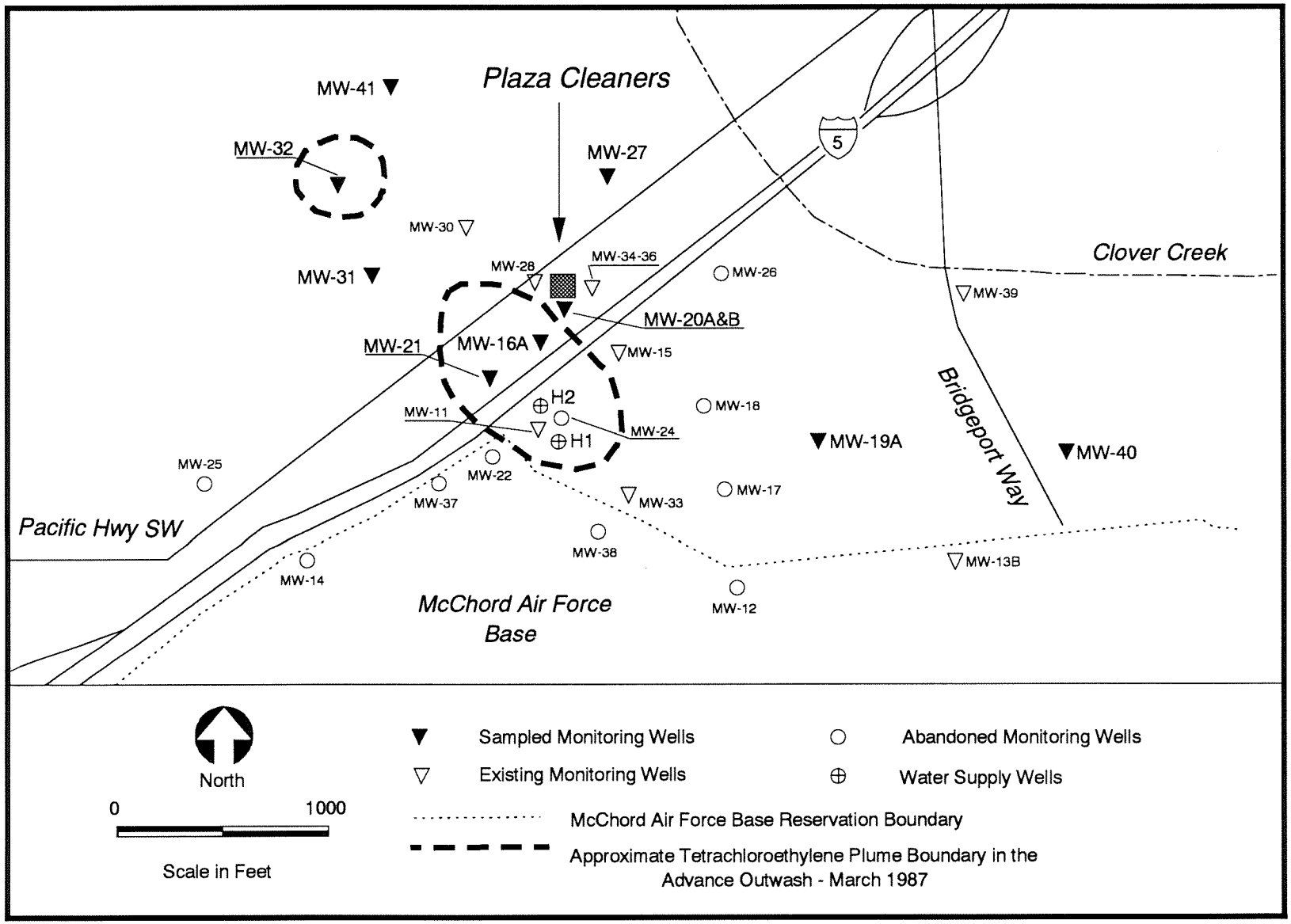


Figure 1: Well Location Map - Lakewood/Plaza Cleaners

# METHODS

## Ground Water Sampling

Samples were collected on May 27-28, 1992, from MW-16A, MW-20A, MW-20B, MW-21, MW-27, MW-31, MW-32, and MW-41 (Figure 2). Prior to sample collection, static water level measurements were obtained using an electronic water level indicator which was rinsed with deionized water after each use. All monitoring wells were purged until a minimum of three well volumes had been removed and pH, temperature, and specific conductance readings stabilized. Purge water was discharged to storm drains or to the ground near each monitoring well. All wells but one (MW-20B) were purged and sampled using dedicated bladder pumps. Well MW-20B was purged and sampled with a decontaminated teflon bailer.

Wells were sampled from the least to most contaminated. Samples collected for volatile organics were free of headspace and preserved with two drops of 1:1 hydrochloric acid. Volatile organic samples were analyzed using EPA SW 846 Method 8240 (EPA, 1986).

The bailer was pre-cleaned with a Liquinox® wash and sequential rinses of hot tap water, 10% nitric acid, distilled/deionized water, and pesticide-grade acetone. After cleaning, the bailer was air-dried and wrapped in aluminum foil. Chain-of-custody procedures were followed in accordance with Manchester Laboratory protocol (Huntamer and Hyre, 1991).

## Quality Assurance Samples

Quality control samples collected in the field consisted of a blind duplicate, replicate, transfer blank, and transport blank. A blind duplicate sample, labeled MW-16B, was collected from well MW-16A. Duplicate samples are two sets of samples collected from a well simultaneously and submitted to the laboratory with different identification. A replicate sample, labeled MW-20A**, was collected from well MW-20A. Replicate samples are two sets of samples collected from a well at different times. A transfer blank was collected by pouring organic-free water through a decontaminated bailer. And a transport blank was carried unopened throughout the sampling event. In addition to quality control samples collected in the field, matrix spike, matrix spike duplicates and surrogate compound recoveries were performed in the laboratory.

Volatile organic analyses were performed by Manchester Laboratory. Dick Huntamer of the Manchester Laboratory conducted the quality assurance review, which has been included in Appendix A. Estimated concentrations of acetone, methylene chloride, 2-butanone, and toluene were detected in all of the method blanks at or near the detection limit. None of these compounds were detected in any of the field samples.

In general, the quality of the data is good. Duplicate samples collected at MW-16A provide an estimate of combined field and laboratory precision. The numeric comparison of duplicate results is expressed as the relative percent difference or RPD. RPDs are the ratio of the difference and the mean of the duplicate results expressed as a percentage. The RPDs for tetrachloroethylene (PERC) and 1,2-dichloroethylene (1,2-DCE) were 15% and 22%,

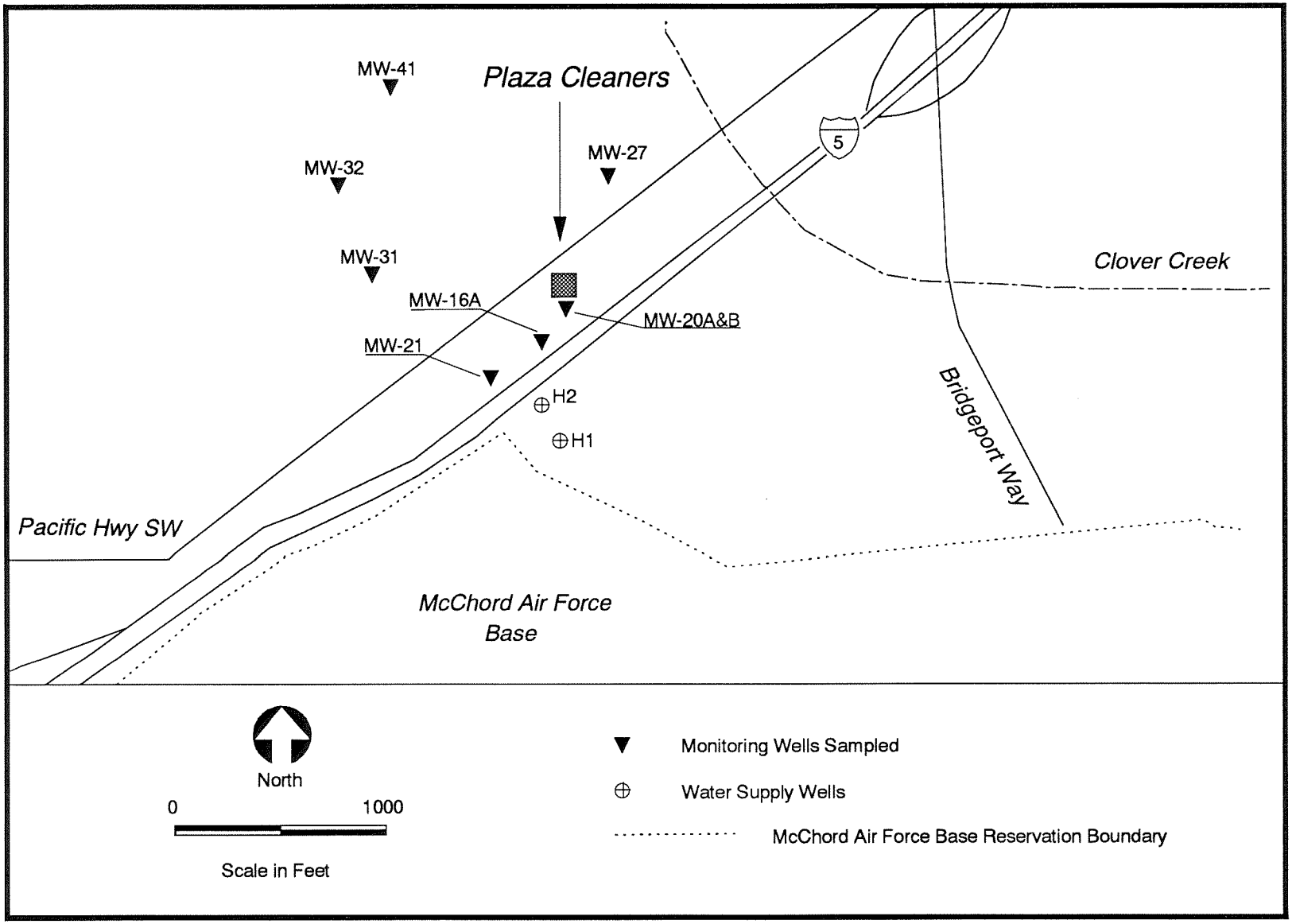


Figure 2: Lakewood/Plaza Cleaners Sample Locations for May 1992

respectively. Because these percentages are based on values near the quantitation limit, they are probably not representative of precision at higher concentrations. Matrix spike and spike duplicate recoveries for volatile organics are within the QC limits of ±25% for water sample analysis.

## RESULTS

### Field Observations

Table 1 lists field observation data including well depth, geologic unit, static water level, pH, specific conductance, temperature, and purged volume in order the wells were sampled. Depth to water ranged from 30.36 to 62.54 feet. Stabilized field measurements for pH, specific conductance and temperature ranged as follows: pH from 6.86 to 7.31 standard units, specific conductance from 165 to 436 umhos/cm and temperature from 11.8 to 14.3°C. Well MW-20A had a pH reading of 9.08 standard units, which is consistent with previous measurements. High pH readings in MW-20A are most likely related to well construction. Well MW-20B had a higher specific conductance reading (436 umhos/cm) than other wells. A higher specific conductance is expected for samples from the Vashon Till compared to samples from the Advance Outwash.

### Analytical Results

Table 2 is a summary of analytical results for sample Round IV conducted on May 27-28, 1992. Tetrachloroethylene (PERC) and 1,2-dichloroethylene (1,2-DCE) were detected in most of the wells screened in the Advance Outwash. These compounds were detected in wells MW-16A, MW-20A, MW-21, MW-31, and MW-32 at concentrations at or near the quantitation limit. Maximum PERC (940 ppb), 1,2-DCE (32 ppb), and trichloroethylene (TCE, 13 ppb) concentrations were detected in well MW-20B, which is screened in the Vashon Till. Chloroform, 1,1,1-trichloroethane, 1,1-dichloroethane and trans-1,2-dichloroethene were also detected below the quantitation limit in well MW-20B.

Laboratory reporting sheets are presented in Appendix A. Data were managed using the ENVIS database software package.

## DISCUSSION AND CONCLUSIONS

Table 3 shows PERC, TCE, and 1,2-DCE concentrations for January 1991 through May 1992. Well MW-20B continues to have the highest concentrations of any of the wells sampled. Historical maximum concentrations for PERC and TCE recorded in well MW-20B occurred in March 1985 at 4,856 ppb and 103 ppb respectively. PERC and TCE concentrations measured at the Lakewood site over the history of the project are presented in Appendix B. During this sample round concentrations of PERC, TCE and 1,2-DCE in MW-20B were 940 ppb, 13 ppb, and 32 ppb respectively. PERC concentration increased substantially from the November 1991 measurement of 120 ppb. The May 1992 concentrations are similar to those reported in sample rounds prior to November 1991. Well MW-20B is close to Plaza Cleaners, and is screened in the Vashon Till.

Table 1: Field Parameter Results for May 27-28, 1992

| Monitoring Well | Total Depth From Top of PVC Casing As Measured | Geologic Unit Screened | Depth to Water | pH (st. units) | Specific Conductance (umhos/cm) | Temperature (°C) | Purge Volume (gallons) |
|---|---|---|---|---|---|---|---|
| MW-41 | 96.8 | Advance Outwash | 30.36 | 7.22 | 189 | 11.9 | 31 |
| MW-27 | 96.4 | Advance Outwash | ++ | 6.86 | 181 | 12.9 | 20 |
| MW-20A | 97.3 | Advance Outwash | 35.75 | 9.08 | 210 | 13.6 | 31 |
| MW-32 | 114.4 | Advance Outwash | 62.54 | 7.27 | 190 | 12.6 | 26 |
| MW-31 | 91.5 | Advance Outwash | ++ | 7.04 | 179 | 11.8 | 32 |
| MW-21 | 92.1 | Advance Outwash | 43.96 | 6.86 | 165 | 12.2 | 24 |
| MW-16A | 109 | Advance Outwash | 45.15 | 7.31 | 191 | 13.2 | 125 |
| MW-20B | 50.4 | Vashon Till | 38.57 | 6.92 | 436 | 14.3 | 6 |

++ = Water level was not measured due to obstruction in well.

Table 2: Summary of Analytes Detected in Samples Collected During May 27-28, 1992

| Geologic Unit Screened | Vashon Till | Advance Outwash | | | | | | | | | Upgradient Wells | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Well | MW-20B | MW-16A | MW-16B* | MW-20A | MW-20A** | MW-21 | MW-27 | MW-31 | MW-32 | MW-41 | MW-19A | MW-40 |
| Volatile Organics: (ug/L) | | | | | | | | | | | | |
| Tetrachloroethylene (PERC) | 940 | 7 | 6 | 0.5 J | 0.4 J | 2 | 1.0 U | 0.8 J | 0.7 J | 1.0 U | NT | NT |
| Trichloroethylene (TCE) | 13 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NT | NT |
| 1,2-Dichloroethylene (1,2-DCE) | 32 | 1 | 0.8 J | 1.0 U | 1.0 U | 0.6 J | 1.0 U | 1 | 1 | 1.0 U | NT | NT |
| Chloroform | 0.3 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NT | NT |
| 1,1,1-Trichloroethane | 0.3 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NT | NT |
| 1,1-Dichloroethane | 0.2 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NT | NT |
| trans-1,2-Dichloroethene | 0.5 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NT | NT |

* = Duplicate
** = Replicate
U = The analyte was not detected at or above the reported result.
J = The analyte was positively identified. The associated numerical result is an estimate.
NT = Not Tested

Table 3: Summary of Sampling Results from January 1991 to May 1992

| Well Number | January 1991 | | | May 1991 | | | November 1991 | | | May 1992 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PERC | TCE | 1,2-DCE | PERC | TCE | 1,2-DCE | PERC | TCE | 1,2-DCE | PERC | TCE | 1,2-DCE |
| MW-16A | 28 | 1 J | 2.4 J | 26 | 0.6 J | 2 | 2.7 J | 1.0 U | 0.6 J | 7 | 1.0 U | 1 |
| MW-20A | 1.0 U | 1.0 U | 1.0 U | 0.4 J | 1.0 U | 1.0 U | 0.4 J | 1.0 U | 1.0 U | 0.5 J | 1.0 U | 1.0 U |
| MW-20B | 1100 D | 18 | 33 | 752 | 16 | 30 | 120 | 2.6 J | 6.7 | 940 | 13 | 32 |
| MW-21 | 2.1 J | 1.0 U | 1 J | 2 | 1.0 U | 0.7 J | 2.2 J | 1.0 U | 1.0 J | 2 | 1.0 U | 0.6 J |
| MW-27 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| MW-31 | 1 J | 1.0 U | 1.9 J | 0.6 J | 1.0 U | 2 | 0.9 J | 1.0 U | 2.2 J | 0.8 J | 1.0 U | 1 |
| MW-32 | 1 J | 1.0 U | 1.1 J | 1 | 1.0 U | 2 | 0.6 J | 1.0 U | 0.6 J | 0.7 J | 1.0 U | 1 |
| MW-41 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| MW-19A | -- | -- | -- | -- | -- | -- | 1.0 U | 0.5 J | 1.0 U | -- | -- | -- |
| MW-40 | 1.0 U | 1.0 U | 1.0 U | -- | -- | -- | 1.0 U | 1.0 U | 1.0 U | -- | -- | -- |

U = The analyte was not detected at or above the reported result.
J = The analyte was positively identified. The associated numerical result is an estimate.
D = Analysis performed at secondary dilution.
-- = Not Tested

Low concentrations of PERC and 1,2-DCE were also detected in MW-16A with concentrations of 7 ppb and 1 ppb respectively. Concentrations in MW-16A continue to be higher in this well than those measured in MW-20A. Both wells are screened in the Advance Outwash below the contaminated Vashon Till, however, MW-16A is further from the source (See Figure 2). Higher contaminant concentrations in MW-16A are evidence that more permeable materials (lenses) in the overlying contaminated Vashon Till may be allowing downward migration of contaminants to the Advance Outwash.

Upgradient monitoring wells MW-19A and MW-40 were not sampled during this round. These wells will be sampled in November 1992.

## REFERENCES


CH2M Hill, 1988. Final Aquifer Cleanup Assessment Report Ponder's Corner, Washington. February 1988.

------, 1990. Sampling and Analysis Plan Remedial Action - Lakewood RA. April 1990.

EPA, 1983. Methods for Chemical Analysis of Water and Wastes. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, EPA 600/4-79-020, 1983.

------, 1985. Final Draft Remedial Investigation Report - Ponder's Corner, Washington. EPA 112-0L22, 1985.

------, 1986. Test Methods for Evaluating Solid Waste, SW-846. Office of Emergency Response, Washington D.C.

Huntamer, D. and J. Hyre, 1991. Manchester Environmental Laboratory - Laboratory Users Manual. July 1991.

# APPENDIX A

Analytical Results
Lakewood/Plaza Cleaners
May 27–28, 1992

# MANCHESTER ENVIRONMENTAL LABORATORY

7411 Beach Drive E , Port Orchard Washington 98366

## CASE NARRATIVE

**July 28, 1992**

Subject: Lakewood/Plaza Cleaners

Samples: 92 - 228105 to -228116

Case No. DOE-075Y

Officer: Pam Marti

By: Dickey D. Huntamer
Organics Analysis Unit

## *VOLATILE ORGANIC ANALYSIS*

### ANALYTICAL METHODS:

Volatile organic compounds were analyzed using Manchester modification of the EPA SW 846 Method 8240 purge-trap procedure with capillary GC/MS analysis. Normal QA/QC procedures except for matrix spikes were performed on the samples.

### BLANKS:

Low levels of the common laboratory solvents acetone, methylene chloride were detected in the laboratory blanks The EPA five times rule was applied to all target compounds which were found in the blank. Compounds that were found in the sample and in the blank were considered real and not the result of contamination if the levels in the sample are greater than or equal to five times the amount of compounds in the associated method blank.

### SURROGATES:

Surrogate recoveries were within acceptable limits for the three recommended surrogate compounds. The fourth surrogate, 1,2- Dichlorobenzene-d4, had lower recoveries than the recommended advisory limits of 78% to 123%. Since the other surrogates were acceptable no qualifiers were added to the sample data due to low recoveries of 1,2- Dichlorobenzene-d4.

### HOLDING TIMES:

All of the water samples were analyzed within the recommended 14 day holding time.

## MATRIX SPIKE AND MATRIX SPIKE DUPLICATE:

Matrix spikes recoveries were acceptable for all compounds.

## SPECIAL ANALYTICAL PROBLEMS:

No analytical problems were encountered in the analysis. The data is acceptable for use.

## DATA QUALIFIER CODES:

| | | |
|---|---|---|
| U | - | The analyte was not detected at or above the reported value. |
| J | - | The analyte was positively identified. The associated numerical value is an estimate. |
| UJ | - | The analyte was not detected at or above the reported estimated result. |
| REJ | - | The data are unusable for all purposes. |
| EXP | - | The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals $3 \times 10^6$. |
| NAF | - | Not analyzed for. |
| N | - | For organic analytes there is evidence the analyte is present in this sample. |
| NJ | - | There is evidence that the analyte is present. The associated numerical result is an estimate. |
| E | - | This qualifier is used when the concentration of the associated value exceeds the known calibration range. |
| * | - | The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet.) |

4A

# VOLATILE METHOD BLANK SUMMARY

Lab Name: MANCHESTER LAB Contract: D3P11

Lab Code: _____ Case No.: DOE-07 SAS No.: 1011 SDG No.: LAKEWO

Lab File ID: IBW2156 Lab Sample ID: LAB_BLANK

Date Analyzed: 06/04/92 Time Analyzed: 1037

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: FINN

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | I92228105 | SAMPLE | I228105 | 1135 |
| 02 | I92228106 | SAMPLE | I228106 | 1217 |
| 03 | I92228107 | SAMPLE | I228107 | 1300 |
| 04 | I92228108 | SAMPLE | I228108 | 1348 |
| 05 | I92228109 | SAMPLE | I228109 | 1432 |
| 06 | I92228110 | SAMPLE | I228110 | 1513 |
| 07 | I92228111 | SAMPLE | I228111 | 1552 |
| 08 | IBW2156 | LAB_BLANK | IBW2156 | 1037 |

COMMENTS: IBW2156 - 5MLS - BLANK - 6/4/92
PURGE AND TRAP

4A

# VOLATILE METHOD BLANK SUMMARY

Lab Name: MANCHESTER LAB Contract: D3P11

Lab Code: _____ Case No.: DOE-07 SAS No.: 1011 SDG No.: LAKEWQ

Lab File ID: IBW2157 Lab Sample ID: LAB_BLANK

Date Analyzed: 06/05/92 Time Analyzed: 1144

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: FINN

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | I92228112 | SAMPLE | I228112 | 1423 |
| 02 | I92228113 | SAMPLE | I228113 | 1506 |
| 03 | I92228113A | SAMPLE_DILN | I228113A | 1549 |
| 04 | I92228115 | SAMPLE | I228115 | 1254 |
| 05 | I92228116 | SAMPLE | I228116 | 1346 |
| 06 | IBW2157 | LAB_BLANK | IBW2157 | 1144 |

COMMENTS: IBW2157 - 5MLS - BLANK - 6/5/92
PURGE AND TRAP

4A

# VOLATILE METHOD BLANK SUMMARY

Lab Name: MANCHESTER LAB Contract: D3P11

Lab Code: _____ Case No.: DOE-07 SAS No.: 1011 SDG No.: LAKEWQ

Lab File ID: IBW2160 Lab Sample ID: LAB_BLANK

Date Analyzed: 06/08/92 Time Analyzed: 1106

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: FINN

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | I92228114 | SAMPLE | I228114 | 1146 |
| 02 | I92228114Y | MATRIX_SPIKE | I228114Y | 1233 |
| 03 | I92228114Z | MATRIX_SPKDUP | I228114Z | 1320 |
| 04 | IBW2160 | LAB_BLANK | IBW2160 | 1106 |

COMMENTS: IBW2160 - 5MLS - BLANK - 6/8/92
PURGE AND TRAP

Washington State Department of Ecology
Sample/Project Analysis Results



Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS  Officer: PZM  Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228105  Description: MW-41  Source: Well (Test/Observation)

Begin Date: 92/05/27 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 1U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 1U | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 99 | % Recov |
| D4-1,2-Dichlorobenzene | 54 | % Recov |
| d8-Toluene | 97 | % Recov |
| d4-1,2-Dichloroethane | 105 | % Recov |

(Sample Complete)

Washington State Department of Ecology
Sample/Project Analysis Results



Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS  Officer: PZM  Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228106  Description: MW-27  Source: Well (Test/Observation)

Begin Date: 92/05/27 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 1U | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 100 | % Recov |
| D4-1,2-Dichlorobenzene | 54 | % Recov |
| d8-Toluene | 98 | % Recov |
| d4-1,2-Dichloroethane | 102 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228107 Description: MW-20A Source: Well (Test/Observation)

Begin Date: 92/05/27 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 0.5J* | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 101 | % Recov |
| D4-1,2-Dichlorobenzene | 52 | % Recov |
| d8-Toluene | 104 | % Recov |
| d4-1,2-Dichloroethane | 100 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228108 Description: MW-32 Source: Well (Test/Observation)

Begin Date: 92/05/27 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 0.7J* | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1 * | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 98 | % Recov |
| D4-1,2-Dichlorobenzene | 57 | % Recov |
| d8-Toluene | 95 | % Recov |
| d4-1,2-Dichloroethane | 99 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS

Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228109 Description: MW-31

Source: Well (Test/Observation)

Begin Date: 92/05/27 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 0.8J* | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1 * | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 98 | % Recov |
| D4-1,2-Dichlorobenzene | 56 | % Recov |
| d8-Toluene | 101 | % Recov |
| d4-1,2-Dichloroethane | 99 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS  Officer: PZM  Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228110  Description: MW-21  Source: Well (Test/Observation)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 2 * | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 0.6J* | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 100 | % Recov |
| D4-1,2-Dichlorobenzene | 47 | % Recov |
| d8-Toluene | 97 | % Recov |
| d4-1,2-Dichloroethane | 101 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228111 Description: MW-16A Source: Well (Test/Observation)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 1UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 7 * | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1 * | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 98 | % Recov |
| D4-1,2-Dichlorobenzene | 52 | % Recov |
| d8-Toluene | 93 | % Recov |
| d4-1,2-Dichloroethane | 98 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228112 Description: MW-16B Source: Well (Test/Observation)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5UJ | ug/l |
| Carbon Disulfide | 5U | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 6 * | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 0.8J* | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 86 | % Recov |
| D4-1,2-Dichlorobenzene | 52 | % Recov |
| d8-Toluene | 91 | % Recov |
| d4-1,2-Dichloroethane | 95 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS  Officer: PZM  Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228113  Description: MW-20B  Source: Well (Test/Observation)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 0.3J* | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 0.3J* | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 5U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 0.2J* | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 13 * | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 940 * | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 32 * | ug/l |
| trans-1,2-Dichloroethe+ | 0.5J* | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 87 | % Recov |
| D4-1,2-Dichlorobenzene | 51 | % Recov |
| d8-Toluene | 90 | % Recov |
| d4-1,2-Dichloroethane | 96 | % Recov |

| VOA - PP Scan (GCMS) Duplicate #1 | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 50U | ug/l |
| Acetone | 250UJ | ug/l |
| Chloroform | 50U | ug/l |
| Benzene | 50U | ug/l |
| 1,1,1-Trichloroethane | 50U | ug/l |
| Bromomethane | 50U | ug/l |
| Chloromethane | 50UJ | ug/l |
| Dibromomethane | 50U | ug/l |
| Bromochloromethane | 50U | ug/l |
| Chloroethane | 50U | ug/l |
| Vinyl Chloride | 50U | ug/l |
| Methylene Chloride | 250U | ug/l |
| Carbon Disulfide | 250UJ | ug/l |
| Bromoform | 50U | ug/l |
| Bromodichloromethane | 50U | ug/l |
| 1,1-Dichloroethane | 50U | ug/l |
| 1,1-Dichloroethene | 50U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** Duplicate #1 | Water-Total Result | Units |
|---|---|---|
| Trichlorofluoromethane | 50U | ug/l |
| Methane, Dichlorodiflu+ | 250U | ug/l |
| 1,2-Dichloropropane | 50U | ug/l |
| 2-Butanone | 250U | ug/l |
| 1,1,2-Trichloroethane | 50U | ug/l |
| Ethene, trichloro- | 50U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 50U | ug/l |
| 1,2,3-Trichlorobenzene | 50U | ug/l |
| Hexachlorobutadiene | 50U | ug/l |
| Naphthalene | 50U | ug/l |
| 2-Chlorotoluene | 50U | ug/l |
| 1,2-Dichlorobenzene | 50U | ug/l |
| 1,2,4-Trimethylbenzene | 50U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 250U | ug/l |
| 1,2,3-Trichloropropane | 50U | ug/l |
| Tert-Butylbenzene | 50U | ug/l |
| Isopropylbenzene (Cume+ | 50U | ug/l |
| p-Isopropyltoluene | 50U | ug/l |
| Ethylbenzene | 50U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 50U | ug/l |
| BENZENE, PROPYL- | 50U | ug/l |
| Butylbenzene | 50U | ug/l |
| 4-Chlorotoluene | 50U | ug/l |
| 1,4-Dichlorobenzene | 50U | ug/l |
| 1,2-Dibromoethane (EDB) | 50U | ug/l |
| 1,2-Dichloroethane | 50U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 50U | ug/l |
| 1,3,5-Trimethylbenzene | 50U | ug/l |
| Bromobenzene | 50U | ug/l |
| Toluene | 50U | ug/l |
| Chlorobenzene | 50U | ug/l |
| 1,2,4-Trichlorobenzene | 50U | ug/l |
| Dibromochloromethane | 50U | ug/l |
| Tetrachloroethene | 940 * | ug/l |
| Sec-Butylbenzene | 50U | ug/l |
| 1,3-Dichloropropane | 50U | ug/l |
| Cis-1,2-Dichloroethene | 32J* | ug/l |
| trans-1,2-Dichloroethe+ | 50U | ug/l |
| 1,3-Dichlorobenzene | 50U | ug/l |
| 1,1-Dichloropropene | 50U | ug/l |
| 2,2-Dichloropropane | 50U | ug/l |
| 2-Hexanone | 50U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 50U | ug/l |
| Total Xylenes | 50U | ug/l |

(Continued on next page)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228113 Description: MW-20B Source: Well (Test/Observation)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) *** Continued *** Duplicate #1 | Water-Total Result | Units |
|---|---|---|
| cis-1,3-Dichloropropene | 50U | ug/l |
| trans-1,3-Dichloroprop+ | 50U | ug/l |
| p-Bromofluorobenzene | 87 | % Recov |
| D4-1,2-Dichlorobenzene | 54 | % Recov |
| d8-Toluene | 94 | % Recov |
| d4-1,2-Dichloroethane | 100 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228114 Description: MW-20A** Source: Well (Test/Observation)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1U | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 1U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 1U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 0.4J* | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | NAR | % Recov |
| D4-1,2-Dichlorobenzene | NAR | % Recov |
| d8-Toluene | NAR | % Recov |
| d4-1,2-Dichloroethane | NAR | % Recov |

| VOA - PP Scan (GCMS) Matrix Spike #1 | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 94 | % Recov |
| Acetone | 62J | % Recov |
| Chloroform | 98 | % Recov |
| Benzene | 99 | % Recov |
| 1,1,1-Trichloroethane | 96 | % Recov |
| Bromomethane | 108 | % Recov |
| Chloromethane | 107 | % Recov |
| Dibromomethane | 114 | % Recov |
| Bromochloromethane | 97 | % Recov |
| Chloroethane | 99 | % Recov |
| Vinyl Chloride | 96 | % Recov |
| Methylene Chloride | 100J | % Recov |
| Carbon Disulfide | 84 | % Recov |
| Bromoform | 100 | % Recov |
| Bromodichloromethane | 96 | % Recov |
| 1,1-Dichloroethane | 104 | % Recov |
| 1,1-Dichloroethene | 93 | % Recov |

| VOA - PP Scan (GCMS) *** Continued *** Matrix Spike #1 | Water-Total Result | Units |
|---|---|---|
| Trichlorofluoromethane | 96 | % Recov |
| Methane, Dichlorodiflu+ | 98 | % Recov |
| 1,2-Dichloropropane | 116 | % Recov |
| 2-Butanone | 122 | % Recov |
| 1,1,2-Trichloroethane | 100 | % Recov |
| Ethene, trichloro- | 100 | % Recov |
| ETHANE, 1,1,2,2-TETRAC+ | 96 | % Recov |
| 1,2,3-Trichlorobenzene | 104 | % Recov |
| Hexachlorobutadiene | 115 | % Recov |
| Naphthalene | 106 | % Recov |
| 2-Chlorotoluene | 98 | % Recov |
| 1,2-Dichlorobenzene | 104 | % Recov |
| 1,2,4-Trimethylbenzene | 98 | % Recov |
| 1,2-Dibromo-3-chloropr+ | 89 | % Recov |
| 1,2,3-Trichloropropane | 100 | % Recov |
| Tert-Butylbenzene | 96 | % Recov |
| Isopropylbenzene (Cume+ | 108 | % Recov |
| p-Isopropyltoluene | 94 | % Recov |
| Ethylbenzene | 99 | % Recov |
| BENZENE, ETHENYL-(STYR+ | 92 | % Recov |
| BENZENE, PROPYL- | 116 | % Recov |
| Butylbenzene | 97 | % Recov |
| 4-Chlorotoluene | 102 | % Recov |
| 1,4-Dichlorobenzene | 103 | % Recov |
| 1,2-Dibromoethane (EDB) | 102 | % Recov |
| 1,2-Dichloroethane | 98 | % Recov |
| 4-Methyl-2-Pentanone(M+ | 96 | % Recov |
| 1,3,5-Trimethylbenzene | 103 | % Recov |
| Bromobenzene | 100 | % Recov |
| Toluene | 96 | % Recov |
| Chlorobenzene | 98 | % Recov |
| 1,2,4-Trichlorobenzene | 103 | % Recov |
| Dibromochloromethane | 102 | % Recov |
| Tetrachloroethene | 97 | % Recov |
| Sec-Butylbenzene | 106 | % Recov |
| 1,3-Dichloropropane | 99 | % Recov |
| Cis-1,2-Dichloroethene | 104 | % Recov |
| trans-1,2-Dichloroethe+ | 100 | % Recov |
| 1,3-Dichlorobenzene | 106 | % Recov |
| 1,1-Dichloropropene | 100 | % Recov |
| 2,2-Dichloropropane | 100 | % Recov |
| 2-Hexanone | 124 | % Recov |
| Ethane, 1,1,1,2-Tetrac+ | 92 | % Recov |
| Total Xylenes | 115 | % Recov |

(Continued on next page)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228114 Description: MW-20A** Source: Well (Test/Observation)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Matrix Spike #1 | | |
| D4-1,2-Dichlorobenzene | 56 | % Recov |
| d8-Toluene | 98 | % Recov |
| cis-1,3-Dichloropropene | 47 | % Recov |
| trans-1,3-Dichloroprop+ | 48 | % Recov |
| d4-1,2-Dichloroethane | 107 | % Recov |
| p-Bromofluorobenzene | 97 | % Recov |

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Matrix Spike #2 | | |
| Carbon Tetrachloride | 86 | % Recov |
| Acetone | 59J | % Recov |
| Chloroform | 96 | % Recov |
| Benzene | 103 | % Recov |
| 1,1,1-Trichloroethane | 96 | % Recov |
| Bromomethane | 102 | % Recov |
| Chloromethane | 102 | % Recov |
| Dibromomethane | 98 | % Recov |
| Bromochloromethane | 97 | % Recov |
| Chloroethane | 96 | % Recov |
| Vinyl Chloride | 96 | % Recov |
| Methylene Chloride | 91 | % Recov |
| Carbon Disulfide | 78J | % Recov |
| Bromoform | 98 | % Recov |
| Bromodichloromethane | 88 | % Recov |
| 1,1-Dichloroethane | 96 | % Recov |
| 1,1-Dichloroethene | 97 | % Recov |
| Trichlorofluoromethane | 92 | % Recov |
| Methane, Dichlorodiflu+ | 124 | % Recov |
| 1,2-Dichloropropane | 107 | % Recov |
| 2-Butanone | 112 | % Recov |
| 1,1,2-Trichloroethane | 104 | % Recov |
| Ethene, trichloro- | 98 | % Recov |
| ETHANE, 1,1,2,2-TETRAC+ | 98 | % Recov |
| 1,2,3-Trichlorobenzene | 100 | % Recov |
| Hexachlorobutadiene | 98 | % Recov |
| Naphthalene | 105 | % Recov |
| 2-Chlorotoluene | 97 | % Recov |
| 1,2-Dichlorobenzene | 108 | % Recov |
| 1,2,4-Trimethylbenzene | 104 | % Recov |
| 1,2-Dibromo-3-chloropr+ | 133 | % Recov |
| 1,2,3-Trichloropropane | 102 | % Recov |
| Tert-Butylbenzene | 105 | % Recov |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Matrix Spike #2 | | |
| Isopropylbenzene (Cume+ | 103 | % Recov |
| p-Isopropyltoluene | 96 | % Recov |
| Ethylbenzene | 94 | % Recov |
| BENZENE, ETHENYL-(STYR+ | 92 | % Recov |
| BENZENE, PROPYL- | 104 | % Recov |
| Butylbenzene | 98 | % Recov |
| 4-Chlorotoluene | 99 | % Recov |
| 1,4-Dichlorobenzene | 100 | % Recov |
| 1,2-Dibromoethane (EDB) | 99 | % Recov |
| 1,2-Dichloroethane | 98 | % Recov |
| 4-Methyl-2-Pentanone(M+ | 104 | % Recov |
| 1,3,5-Trimethylbenzene | 98 | % Recov |
| Bromobenzene | 104 | % Recov |
| Toluene | 97 | % Recov |
| Chlorobenzene | 98 | % Recov |
| 1,2,4-Trichlorobenzene | 100 | % Recov |
| Dibromochloromethane | 90 | % Recov |
| Tetrachloroethene | 99 | % Recov |
| Sec-Butylbenzene | 104 | % Recov |
| 1,3-Dichloropropane | 100 | % Recov |
| Cis-1,2-Dichloroethene | 96 | % Recov |
| trans-1,2-Dichloroethe+ | 98 | % Recov |
| 1,3-Dichlorobenzene | 103 | % Recov |
| 1,1-Dichloropropene | 98 | % Recov |
| 2,2-Dichloropropane | 100 | % Recov |
| 2-Hexanone | 117 | % Recov |
| Ethane, 1,1,1,2-Tetrac+ | 96 | % Recov |
| Total Xylenes | 112 | % Recov |
| D4-1,2-Dichlorobenzene | 53 | % Recov |
| d8-Toluene | 96 | % Recov |
| cis-1,3-Dichloropropene | 49 | % Recov |
| trans-1,3-Dichloroprop+ | 42 | % Recov |
| d4-1,2-Dichloroethane | 105 | % Recov |
| p-Bromofluorobenzene | 94 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228115 Description: TRANSFER Source: Water (General)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 2UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 1U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 1U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 1U | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 89 | % Recov |
| D4-1,2-Dichlorobenzene | 51 | % Recov |
| d8-Toluene | 90 | % Recov |
| d4-1,2-Dichloroethane | 100 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Laboratory: Ecology, Manchester

Sample No: 92 228116 Description: TRANSPOR Source: Water (General)

Begin Date: 92/05/28 :

| VOA - PP Scan (GCMS) | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5UJ | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 1U | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 5U | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 1U | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 90 | % Recov |
| D4-1,2-Dichlorobenzene | 55 | % Recov |
| d8-Toluene | 93 | % Recov |
| d4-1,2-Dichloroethane | 104 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Blank ID: BW2156

| VOA - PP Scan (GCMS) Blank #1 | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5J* | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 0.3J* | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 2J* | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** Blank #1 | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 1U | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 98 | % Recov |
| D4-1,2-Dichlorobenzene | 52 | % Recov |
| d8-Toluene | 100 | % Recov |
| d4-1,2-Dichloroethane | 100 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS Officer: PZM Account: D3P11

Blank ID: BW2157

| VOA - PP Scan (GCMS) Blank #2 | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5J* | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1UJ | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 0.3J* | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 2J* | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** Blank #2 | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 0.1J* | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 1U | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 87 | % Recov |
| D4-1,2-Dichlorobenzene | 52 | % Recov |
| d8-Toluene | 92 | % Recov |
| d4-1,2-Dichloroethane | 98 | % Recov |

(Sample Complete)

Project: DOE-075Y LAKEWOOD/PLAZA CLEANERS  Officer: PZM  Account: D3P11

Blank ID: BW2160

| VOA - PP Scan (GCMS) Blank #3 | Water-Total Result | Units |
|---|---|---|
| Carbon Tetrachloride | 1U | ug/l |
| Acetone | 5J* | ug/l |
| Chloroform | 1U | ug/l |
| Benzene | 1U | ug/l |
| 1,1,1-Trichloroethane | 1U | ug/l |
| Bromomethane | 1U | ug/l |
| Chloromethane | 1U | ug/l |
| Dibromomethane | 1U | ug/l |
| Bromochloromethane | 1U | ug/l |
| Chloroethane | 1U | ug/l |
| Vinyl Chloride | 1U | ug/l |
| Methylene Chloride | 0.4J* | ug/l |
| Carbon Disulfide | 5UJ | ug/l |
| Bromoform | 1U | ug/l |
| Bromodichloromethane | 1U | ug/l |
| 1,1-Dichloroethane | 1U | ug/l |
| 1,1-Dichloroethene | 1U | ug/l |
| Trichlorofluoromethane | 1U | ug/l |
| Methane, Dichlorodiflu+ | 5U | ug/l |
| 1,2-Dichloropropane | 1U | ug/l |
| 2-Butanone | 2J* | ug/l |
| 1,1,2-Trichloroethane | 1U | ug/l |
| Ethene, trichloro- | 1U | ug/l |
| ETHANE, 1,1,2,2-TETRAC+ | 1U | ug/l |
| 1,2,3-Trichlorobenzene | 1U | ug/l |
| Hexachlorobutadiene | 1U | ug/l |
| Naphthalene | 1U | ug/l |
| 2-Chlorotoluene | 1U | ug/l |
| 1,2-Dichlorobenzene | 1U | ug/l |
| 1,2,4-Trimethylbenzene | 1U | ug/l |
| 1,2-Dibromo-3-chloropr+ | 5U | ug/l |
| 1,2,3-Trichloropropane | 1U | ug/l |
| Tert-Butylbenzene | 1U | ug/l |
| Isopropylbenzene (Cume+ | 1U | ug/l |
| p-Isopropyltoluene | 1U | ug/l |
| Ethylbenzene | 1U | ug/l |
| BENZENE, ETHENYL-(STYR+ | 1U | ug/l |
| BENZENE, PROPYL- | 1U | ug/l |
| Butylbenzene | 1U | ug/l |
| 4-Chlorotoluene | 1U | ug/l |
| 1,4-Dichlorobenzene | 1U | ug/l |
| 1,2-Dibromoethane (EDB) | 1U | ug/l |
| 1,2-Dichloroethane | 1U | ug/l |
| 4-Methyl-2-Pentanone(M+ | 1U | ug/l |
| 1,3,5-Trimethylbenzene | 1U | ug/l |

| VOA - PP Scan (GCMS) *** Continued *** Blank #3 | Water-Total Result | Units |
|---|---|---|
| Bromobenzene | 1U | ug/l |
| Toluene | 1U | ug/l |
| Chlorobenzene | 1U | ug/l |
| 1,2,4-Trichlorobenzene | 1U | ug/l |
| Dibromochloromethane | 1U | ug/l |
| Tetrachloroethene | 1U | ug/l |
| Sec-Butylbenzene | 1U | ug/l |
| 1,3-Dichloropropane | 1U | ug/l |
| Cis-1,2-Dichloroethene | 1U | ug/l |
| trans-1,2-Dichloroethe+ | 1U | ug/l |
| 1,3-Dichlorobenzene | 1U | ug/l |
| 1,1-Dichloropropene | 1U | ug/l |
| 2,2-Dichloropropane | 1U | ug/l |
| 2-Hexanone | 1U | ug/l |
| Ethane, 1,1,1,2-Tetrac+ | 1U | ug/l |
| Total Xylenes | 1U | ug/l |
| cis-1,3-Dichloropropene | 1U | ug/l |
| trans-1,3-Dichloroprop+ | 1U | ug/l |
| p-Bromofluorobenzene | 93 | % Recov |
| D4-1,2-Dichlorobenzene | 55 | % Recov |
| d8-Toluene | 104 | % Recov |
| d4-1,2-Dichloroethane | 108 | % Recov |

| Tent Ident - VOA Sca Blank #1 | Water-Total Result | Units |
|---|---|---|
| HEXANE, 2,2-DIMETHYL- | 1.3NJ* | ug/l |

(Sample Complete)

# APPENDIX B

Historical TCE and PERC Data

**Table B-1**
**TCE Concentrations Measured in Monitoring Wells**
**Ponders Corner, Washington**

| Well No. | 2/12/85 Through 2/14/85 | 3/18/85 Through 3/22/85 | 4/25/85 | 5/16/85 Through 5/20/85 | 6/17/85 Through 6/21/85 | 8/20/85 Through 8/23/85[a] | 11/5/85 Through 11/7/85[a] | 8/25/86 Through 8/28/87 | 12/16/86 Through 12/17/86 | 3/17/87 Through 3/20/87 | 7/7/87 | 10/5/87 Through 10/6/87 | 1/28/88 Through 1/29/88 | 4/25/88 Through 4/26/88 | 10/4/88 Through 11/28/88 | 5/22/89 Through 5/25/89 | 4/23/90 Through 4/24/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11A | ND | ND | NM | ND | ND | D | ND | ND | NM | NM | | NM | NM | NM | NM | NM | |
| 11B | NM | NM | NM | NM | NM | ND | NM | NM | NM | NM | | NM | NM | NM | NM | NM | |
| 12 | ND | ND | ND | ND | ND | ND | ND | 1[d] | ND | ND | ND | ND | ND | ND | NM | NM | |
| 13A | NM | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 13B | NM | NM | NM | NM | NM | D | ND | 1[d] | 1[d] | 2 | ND | D | J | ND | NM | NM | |
| 14 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 15A | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 15B | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 16A | 6.3 | 3.9 | NM | 3.4 | 2.0 | D/D[b] | 2[d] | 1[d] | 1[d] | ND | NM | ND | NM | D | NM | ND | 1 |
| 16B | NM | ND | NM | ND | ND | NM | NM | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 17A | ND | ND | NM | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 17B | NM | ND | NM | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 18 | ND | ND | NM | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 19A | ND | ND | NM | ND | ND | ND | ND | ND | NM | ND | ND | ND | J | ND | ND | ND | ND |
| 19B | NM | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 19C | | | | | | | | | | | | NM | J | ND | NM | NM | |
| 20A | NM | ND | NM | NM | ND | D | ND | ND | ND | ND | NM | ND | NM | D | NM | ND | ND |
| 20B | NM | 103 | 32 | 12 | ND | D[c] | 29 | 100 | NM | NM | NM | ND | NM | NM | NM | 29 | 24/23 |
| 21 | 1.5 | ND | NM | ND | ND | D | 6 | 1[d] | 1[d] | 1[d] | NM | ND | NM | D | NM | ND | 0 2J |
| 22 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 24A | ND | ND | NM | ND | ND | 1.2 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 24B | NM | ND | NM | ND | ND | D | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 25 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 26 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 27 | ND | NM | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 28A | ND | ND | NM | ND | ND | NM | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 29 | ND | ND | NM | ND | ND | ND | ND | ND | 1[d] | ND | NM | ND | NM | D | ND | ND | ND |
| 30 | 1.6 | ND | NM | ND | D | NM | ND | 1[d] | ND | ND | NM | ND | NM | D | ND | NM | |
| 31 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 32 | ND | ND | ND | ND | ND | D | ND | 1[d] | ND | ND | NM | ND | NM | ND | ND | ND | ND |

**Table B-1**
**TCE Concentrations Measured in Monitoring Wells**
**Ponders Corner, Washington**

| Well No. | 2/12/85 Through 2/14/85 | 3/18/85 Through 3/22/85 | 4/25/85 | 5/16/85 Through 5/20/85 | 6/17/85 Through 6/21/85 | 8/20/85 Through 8/23/85[a] | 11/5/85 Through 11/7/85[a] | 8/25/86 Through 8/28/87 | 12/16/86 Through 12/17/86 | 3/17/87 Through 3/20/87 | 7/7/87 | 10/5/87 Through 10/6/87 | 1/28/88 Through 1/29/88 | 4/25/88 Through 4/26/88 | 10/4/88 Through 11/28/88 | 5/22/89 Through 5/25/89 | 4/23/90 Through 4/24/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 34 | ND | NM | NM | NM | NM | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 35 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 36 | 42 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 37[c] | | | | | | | | | | ND | ND | ND | J | ND | ND | ND | ND |
| 38[c] | | | | | | | | | | 15 | ND | NM | NM | NM | NM | NM | |
| 39A[c] | | | | | | | | | | 1 | ND | ND | ND | ND | ND | NM | |
| 39B[c] | | | | | | | | | | ND | ND | NM | ND | ND | ND | NM | |
| 39C | | | | | | | | | | | | NM | NM | ND | NM | NM | |
| 40[c] | | | | | | | | | | ND | ND | ND | ND | ND | ND | ND | ND |
| 41[c] | | | | | | | | | | ND | | NM | NM | NM | NM | ND | ND |

[a]Exceeded acceptable holding time.
[b]Duplicate analysis.
[c]Detection limit = 100 µg/l.
[d]Estimated value. Compound present but at less than the specified detection limit.
[e]Wells constructed 2/87 through 3/87.

Notes: Units in parts per billion.
NM = Not measured.
ND = Not detected.
D = Detected, not quantified.
J = Estimated value. Value not accurate.

Table B-2
PERC Concentrations Measured in Monitoring Wells
Ponders Corner, Washington

| Well No. | 2/12/85 Through 2/14/85 | 3/18/85 Through 3/22/85 | 4/25/85 | 5/16/85 Through 5/20/85 | 6/17/85 Through 6/21/85 | 8/20/85 Through 8/23/85[a] | 11/5/85 Through 11/7/85[a] | 8/25/86 Through 8/28/86 | 12/16/86 Through 12/17/87 | 3/17/87 Through 3/20/87 | 7/7/87 | 10/5/87 Through 10/6/87 | 1/28/88 Through 1/29/88 | 4/25/88 Through 4/26/88 | 10/7/88 Through 11/28/88 | 5/22/89 Through 5/25/89 | 4/23/90 Through 4/24/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 34 | 83 | NM | NM | NM | NM | 1.2 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 35 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 36 | 139 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 37[d] | | | | | | | | | | ND | ND | ND | J | ND | ND | ND | D |
| 38[d] | | | | | | | | | | ND | ND | NM | NM | NM | NM | NM | |
| 39A[d] | | | | | | | | | | ND | ND | ND | J | D | ND | NM | |
| 39B[d] | | | | | | | | | | ND | ND | NM | NM | J | ND | ND | |
| 39C | | | | | | | | | | | | NM | NM | ND | NM | NM | |
| 40[d] | | | | | | | | | | ND | ND | ND | J | ND | ND | ND | ND |
| 41[d] | | | | | | | | | | ND | ND | NM | NM | NM | NM | ND | ND |

[a]Exceeded acceptable holding time.
[b]Duplicate analysis.
[c]Estimated value. Compound present but at less than the specified detection limit.
[d]Wells constructed 2/87 through 3/87.

Notes: Units in µg/l.
NM = Not measured.
ND = Not detected.
D = Detected, not quantified.
J = Estimated value. Value not accurate.

**Table B-2**
**PERC Concentrations Measured in Monitoring Wells**
**Ponders Corner, Washington**

| Well No. | 2/12/85 Through 2/14/85 | 3/18/85 Through 3/22/85 | 4/25/85 | 5/16/85 Through 5/20/85 | 6/17/85 Through 6/21/85 | 8/20/85 Through 8/23/85[a] | 11/5/85 Through 11/7/85[a] | 8/25/86 Through 8/28/86 | 12/16/86 Through 12/17/87 | 3/17/87 Through 3/20/87 | 7/7/87 | 10/5/87 Through 10/6/87 | 1/28/88 Through 1/29/88 | 4/25/88 Through 4/26/88 | 10/7/88 Through 11/28/88 | 5/22/89 Through 5/25/89 | 4/23/90 Through 4/24/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11A | 6.2 | 5.6 | NM | 6.1 | 2.7 | 4.3 | 2 | 1.4 | NM | NM | NM | NM | NM | NM | NM | NM | |
| 11B | NM | NM | NM | NM | NM | 2.4 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 12 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | NM | NM | |
| 13A | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 13B | NM | NM | NM | NM | NM | ND | ND | ND | ND | ND | ND | ND | J | ND | NM | NM | |
| 14 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 15A | NM | 0.5 | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 15B | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 16A | 110 | 70 | NM | 46 | 33 | 12/11[b] | 19 | 16 | 17 | 49 | NM | 8 | NM | 7.3-8.0 | NM | 5(16) | 74 |
| 16B | NM | 15 | NM | 13 | 5 | NM | 4[c] | 4.5 | NM | NM | NM | NM | NM | NM | NM | NM | |
| 17A | ND | ND | NM | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 17B | NM | ND | NM | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 18 | ND | ND | NM | ND | ND | D | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 19A | ND | ND | NM | ND | ND | ND | ND | ND | NM | ND | ND | ND | J | ND | ND | ND | ND |
| 19B | NM | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 19C | | | | | | | | | | | | NM | J | ND | NM | NM | |
| 20A | NM | 5.1 | NM | NM | 2.8 | 4.0 | ND | 2.1 | 1.5 | ND | NM | ND | NM | 1.2 | NM | ND | 0.6J |
| 20B | NM | 4,856 | 2,200 | 570 | 1,220 | 1,060 | 350 | 745 | NM | NM | NM | ND | NM | NM | NM | 1,100 (880) | 550 (1,300) |
| 21 | 27 | 2.2 | NM | 13 | 11 | 10 | ND | ND | 4.6 | 4 | NM | 6 | NM | 4.0 | NM | 2 J | 3 |
| 22 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 24A | 8.5 | 1.5 | NM | 7.2 | 4.4 | 16 | NM | NM | NM | NM | NM | NM | NM | NM | NM | NM | |
| 24B | NM | 9.5 | NM | 0.9 | 4.0 | 4.9 | ND | 2.9 | NM | NM | NM | NM | NM | NM | NM | NM | |
| 25 | ND | ND | NM | ND | ND | ND | 13 | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 26 | ND | ND | NM | NM | ND | ND | 9 | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 27 | ND | NM | NM | NM | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 28A | ND | 0.7 | NM | ND | ND | NM | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 29 | 5.8 | 0.9 | NM | 5.4 | 1.1 | 3.4 | ND | 1.2 | 2.8 | ND | NM | ND | NM | 1.8 | ND | 1J | 0.8J |
| 30 | 38 | 24.1 | NM | 17.2 | 13 | NM | 10 | 5.3 | 2.2 | ND | NM | 5 | NM | 3.8-4.7 | 3J | NM | |
| 31 | ND | ND | NM | ND | ND | ND | ND | ND | NM | NM | NM | NM | NM | NM | NM | NM | |
| 32 | ND | 4.3 | 5 | 6.9 | 3.3 | 3.7 | ND | 2 | 1.5 | 2 | NM | ND | NM | D | ND | 1J | 1 |