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REPORT

QUARTERLY GROUNDWATER MONITORING RESULTS, SEPTEMBER-OCTOBER 2000

AT THE

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EXECUTIVE SUMMARY

Presented in this report are the results of the sixteenth quarterly groundwater sampling event (September-October 2000) completed as part of a long-term quarterly groundwater monitoring program at the NASA-Jet Propulsion Laboratory (JPL). This sampling event was conducted from September 8 through October 12, 2000.

During this event, groundwater samples were collected from JPL monitoring wells (both on- and off-site) and analyzed for volatile organic compounds (VOCs), total chromium (Cr), hexavalent chromium [Cr(VI)], and perchlorate.

Results indicate that only four VOCs (carbon tetrachloride, trichloroethene, 1,2-dichloroethane and tetrachloroethene) were detected at concentrations above state or Federal Maximum Contaminant Levels (MCLs) for drinking water. Perchlorate was detected at concentrations exceeding the state Interim Action Level of 18 micrograms per liter, and Cr(VI) was found in one well. To date, an MCL has not been established for Cr(VI). In addition, total chromium was detected in four wells. The state and Federal MCLs [0.05 milligrams per liter (mg/L) and 0.1 mg/L, respectively] were not exceeded for total Cr. A summary of the sampling procedures is included in Section 2.0, and analytical results are presented in Section 3.0.

In the past, general groundwater parameters (major cations/anions) were monitored at JPL quarterly to evaluate general groundwater types and distribution. However, because groundwater chemistry beneath JPL is now better understood, major cation/anion analysis is conducted annually and was not conducted during this event. Groundwater chemistry analysis was conducted during the second quarter of this year (Foster Wheeler Environmental Corporation, 2000a).

Water-level elevations were measured before and after sampling activities to determine groundwater gradients and flow directions during sampling. Water-level measurements are presented in Section 4.0. Groundwater flow was observed to be primarily to the south and east across JPL, with a zone of depression in the water table around the nearby operating City of Pasadena municipal production wells.

1.0 INTRODUCTION

This report summarizes the results from the sixteenth groundwater sampling event completed as part of the Long-Term Quarterly Monitoring Program currently being conducted at the NASA-Jet Propulsion Laboratory (JPL). The Long-Term Quarterly Monitoring Program was initiated in 1996 in response to a request from the United States Environmental Protection Agency (EPA). The program began during the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Investigation for on-site and off-site groundwater at JPL. The purpose of the program is to monitor the elevation, flow direction, and quality of the groundwater beneath and adjacent to the JPL site.

From September 9 to October 11, 2000, Foster Wheeler Environmental Corporation (Foster Wheeler) personnel collected samples from on- and off-site JPL monitoring wells. In addition, the water-level elevation at each well was measured prior to (September 8, 2000), and after (October 12, 2000) sampling to evaluate groundwater flow directions and gradients.

The locations of the JPL groundwater monitoring wells are shown in Figure 1-1. Monitoring wells MW-3, MW-4, MW-11, MW-12, MW-14, and MW-17 through MW-24 are deep multi-port wells, each containing five screened intervals equipped with a Westbay Instruments, Inc. (Westbay) multi-port casing system. Monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-13, MW-15, and MW-16 are relatively shallow standpipe wells, each containing a single screened interval located at the water table. Monitoring well MW-2 was not sampled since it was replaced with well MW-14 (Figure 1-1) as a JPL sampling point. A summary of the well construction details for the JPL groundwater monitoring wells is included in Table 1-1.

Based on the approved Long-Term Quarterly Monitoring Program Plan (Foster Wheeler, 1996) and on results from the first two years of monitoring at JPL, the monitoring program was revised to improve monitoring efficiency. Following regulatory agency approval [U.S. Environmental Protection Agency (EPA), California Department of Toxic Substances Control (DTSC), and the Regional Water Quality Control Board (RWQCB)], the changes were first implemented during the August, 1999 Monitoring Event (Foster Wheeler, 1999a). Basically, the changes are specific to each event, and involve less frequent sampling of wells/screens (monitoring points) in which various JPL constituents of interest are not present. In addition, general groundwater parameters (major anions and cations), which had been monitored quarterly in the past to delineate groundwater types beneath the site, are now monitored annually. Annual groundwater chemistry analysis was last conducted during the July-August 2000, sampling event (Foster Wheeler, 2000b). The changes are discussed in detail in the second and third Long-Term Quarterly Monitoring Program Annual Reports (Foster Wheeler, 1999b and 2000b).

In accordance with these changes, the September-October 2000 event involved sampling of selected JPL monitoring points determined necessary to adequately monitor the JPL constituents of interest [volatile organic compounds (VOCs), total chromium (Cr), hexavalent chromium [Cr(VI)], and perchlorate (ClO_4^-)]. A summary of monitoring points sampled and analyses performed is presented in Table 1-2. Although, MW-7 was originally scheduled for sampling, samples were not collected because the well was obstructed due to a US Filter pilot test evaluating the treatment of ClO_4^-.

All groundwater samples were taken to Montgomery Watson Laboratories in Pasadena, California, for chemical analysis. Montgomery Watson Laboratories is certified by the California Department of Health Services (CADHS).

In addition to groundwater samples, field quality assurance/quality control (QA/QC) samples, including trip blanks, equipment blanks, duplicate samples, and a field blank were collected for laboratory analysis. Sampling records for each shallow well are included in Appendix A, and sampling records and piezometric pressure profiling records for each deep multi-port well are included in Appendix B. Field instrument calibration forms are included in Appendix C, and laboratory analytical reports and associated chain-of-custody forms are included in Appendix D.

2.0 SAMPLING AND FIELD QUALITY ASSURANCE/ QUALITY CONTROL PROCEDURES

Two different procedures were used in collection of groundwater samples at JPL, one designed for the shallow wells and the other for the deep multi-port wells. These procedures are outlined below.

2.1 SHALLOW MONITORING WELLS

The sampling procedure described below was applied to the shallow JPL monitoring wells sampled during this event. This includes monitoring wells MW-5, MW-6, MW-8, MW-10, MW-13, and MW-16.

The primary equipment used to sample the shallow wells included dedicated 2-inch Grundfos Redi-Flo2® pumps, a pump controller, and a 220-volt generator. All of the dedicated 2-inch Grundfos Redi-Flo2® pump systems were decontaminated prior to their installation before the beginning of the long-term quarterly monitoring program. Details of the decontamination procedures for the Grundfos Redi-Flo2® pump systems are outlined in a previous document (Ebasco, 1993a).

Prior to sample collection, the water in each shallow well casing was purged (by pumping) to remove groundwater that may have been exposed to the atmosphere and thus may not be representative of undisturbed aquifer conditions. This purged groundwater was discharged into 500- or 1,000-gallon polyethylene storage tanks for disposal by JPL personnel pursuant to EPA guidance (EPA, 1991 and 1992).

Temperature, pH, electrical conductivity, and turbidity of the water removed from each well were monitored during purging. After these parameters had stabilized (when two successive measurements made approximately 3 minutes apart were within 10 percent of each other) and the turbidity was less than 5 Nephelometric Turbidity Units, the groundwater samples were collected with the dedicated pump. During sampling for VOCs, the pump rate was reduced to approximately 0.02 gallons per minute to minimize sample agitation. All information concerning sampling was noted on the Well Development/Well Sampling Log forms included in Appendix A.

All sample bottles were filled completely (though not allowed to overflow), capped, labeled, and placed in a cooler with ice immediately thereafter. Samples collected for VOCs had zero headspace.

Calibration, or standardization, of the field instruments used to measure temperature, pH, electrical conductivity, and turbidity, was performed to the manufacturer's specifications at the beginning and end of each sampling day. Field instrument calibration forms are included in Appendix C.

2.2 DEEP MULTI-PORT MONITORING WELLS

Sampling of the deep multi-port monitoring wells at JPL required specialized sampling equipment manufactured by Westbay. This equipment included a pressure profiling/sampling probe with a surface control unit. Field personnel using this equipment were trained by Westbay personnel to ensure proper use. Copies of the detailed operations manuals for the Westbay pressure profiling/sampling probe are included in the OU-1 and OU-3 Field Sampling and Analysis Plans (Ebasco, 1993a and 1994).

The Westbay sampling probe and sample-collection bottles were decontaminated prior to sampling each screened interval in the deep multi-port wells according to the following procedures:

- Wash each 250-mL stainless-steel sample-collection bottle in a solution of non-phosphate detergent (Liquinox®) and distilled water followed by washing each bottle in a solution of an acidic detergent (Citranox®) and American Society of Testing Materials (ASTM) Type II (deionized) water.
- Rinse each bottle with ASTM Type II water.
- The interior surfaces of the Westbay sampling probe, and the hoses and valves associated with the Westbay sample bottles, were decontaminated by forcing several volumes of a solution of Liquinox® and distilled water through them followed by forcing several volumes of a Citranox® and ASTM Type II water solution through them. A final rinse with ASTM Type II water was carried out. Each of these decontamination procedures was completed using a clean plastic spray bottle used only for this purpose.

Purging before sampling is not required in the deep multi-port monitoring wells because the groundwater sample is collected directly from the aquifer, thus ensuring that the groundwater sample has not been exposed to the atmosphere. However, at each screened interval an initial sample was collected in order to check temperature, pH, electrical conductivity, and turbidity in the field, and to rinse the Westbay stainless-steel sample-collection bottles with formation water. Samples for laboratory analysis were then collected and transferred to sample containers as described in Section 2.1. A final sample was then collected and the temperature, pH, electrical conductivity, and turbidity were measured to ensure continuity of aquifer conditions during sampling. Results of the field analyses were recorded on well development logs, which are included in Appendix B. Calibration of field instruments was carried out according to procedures described previously (Ebasco, 1993a and 1994).

2.3 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

To verify the quality of the groundwater samples collected from the JPL monitoring wells, field QA/QC samples were collected. The field QA/QC program included the collection of duplicate samples, equipment blanks, trip blanks, and a field blank. In addition, laboratory QA/QC samples were used by the laboratory according to analytical method requirements.

Duplicate samples for VOCs, Cr(VI), total Cr, and ClO_4^- analyses were collected from shallow groundwater monitoring wells MW-10 and MW-13, and deep multi-port monitoring wells MW-4 (Screen 2) and MW-12 (Screen 2). In addition, after every 10 samples that were collected for VOC analyses, a matrix-spike (MS) sample and a matrix-spike-duplicate (MSD) sample were collected and submitted to the laboratory for use in verifying the accuracy of the analytical method. Similarly, after every 10 samples that were collected for total chromium analyses, an MS/MSD sample was collected and submitted to the laboratory for analytical method verification. A QC sample for hexavalent chromium was submitted for each day that samples were collected for hexavalent chromium.

One equipment blank was collected from the Westbay sample collection bottles during each day of sampling of the deep multi-port wells. Equipment blanks consisted of ASTM Type II water (provided by the laboratory), which had been passed through the sampling equipment after the equipment had been decontaminated. Equipment blanks were analyzed for the same constituents as the groundwater samples to identify potential cross contamination due to inadequate decontamination procedures. Equipment blanks were not collected during sampling of the shallow wells as dedicated sampling equipment was used.

A trip blank, consisting of ASTM Type II water placed in three 40-mL glass vials by the laboratory, was transported with the empty sample bottles to the field and back to the laboratory with the groundwater samples. One trip blank was submitted for VOC analysis with each shipment of groundwater samples to the laboratory. Trip blanks were used to identify potential cross contamination of groundwater samples during transport.

During this sampling event, one field blank was collected at monitoring well MW-8. The field blank is used to determine whether ambient conditions or sample containers may effect analytical results. The field blank consisted of sample bottles, filled with ASTM Type II water supplied by the laboratory, left open at the well head during the sampling of the well. After sampling, the bottles containing the field blank were capped and analyzed for the same constituents as the groundwater samples.

3.0 ANALYTICAL RESULTS

JPL groundwater monitoring wells MW-3 through MW-6, MW-8, MW-10 through MW-14, and MW-16 through MW-24 were sampled from September 9 to October 11, 2000. Monitoring well MW-2 is not included in the monitoring program, as it was replaced as a JPL monitoring point by deep multi-port monitoring well MW-14. Samples were not collected from MW-1, MW-3 (Screen 1), MW-9, MW-11 (Screen 5), MW-15, MW-17 (Screen 1), MW-18 (Screen 1), MW-22 (Screen 5), and MW-24 (Screen 5) due to approved changes in the sampling program (these wells are either upgradient or sufficiently downgradient of detected contaminants of concern, and are sampled on a semi-annual basis). MW-7 was inaccessible due to a pilot test being conducted by US Filter, therefore no sample was collected.

The groundwater samples collected during this sampling event were analyzed for VOCs, total Cr, Cr(VI), and ClO_4^-. Refer to Table 1-2 for a summary of the samples collected, sample numbers used, and the analyses performed. Analytical laboratory reports and associated chain-of-custody forms are included in Appendix D.

3.1 VOLATILE ORGANIC COMPOUNDS RESULTS

Groundwater samples collected during the September-October 2000 sampling event were analyzed for over 60 different VOCs in accordance with EPA Method 524.2. Results of the analyses for VOCs are summarized in Table 3-1 along with the Maximum Contaminant Levels (MCLs) for drinking water as listed in Title 22 of the California Code of Regulations and in EPA Health Advisory Guidelines. Few VOCs were detected in the JPL samples, and only four VOCs [carbon tetrachloride (CCl_4), trichloroethene (TCE), 1,2-dichloroethane (1,2-DCA) and tetrachloroethene (PCE)] were found in concentrations exceeding state and/or Federal MCLs (Table 3-1).

At the request of the regulatory agencies, the aquifer beneath the site was divided into layers for data presentation purposes, based primarily on correlations interpreted from lithologic cross sections and from hydrologic characteristics. Listed in Table 3-2 are the JPL monitoring well screens and their corresponding aquifer layers. The concentrations of CCl_4, TCE, 1,2-DCA and PCE detected in each aquifer layer are contoured to show the spatial distribution of each constituent. A map for each of the above-mentioned VOCs was prepared for each aquifer layer in which it was detected. For instances where a constituent was not detected or only detected once in a particular aquifer layer, a contour map was not prepared for that constituent in that particular layer. Carbon tetrachloride concentrations detected in Aquifer Layers 1, 2, and 3 are contoured in Figures 3-1, 3-2, and 3-3, respectively. Figures 3-4, 3-5, and 3-6 display contours of TCE concentrations detected in Layers 1, 2, and 3, respectively. Concentrations of 1,2-DCA, which was detected only in Aquifer Layer 1, are contoured on Figure 3-7. Figures 3-8, 3-9, and 3-10 show contours of PCE detected in Aquifer Layers 1, 2, and 3. Note that on the contour maps, contaminant

concentrations measured in nearby municipal production wells are included. However, actual municipal production well concentrations were not used in contouring; due to various issues involving the way samples are collected, and the way the wells are screened (Foster Wheeler, 1999c). Rather, these concentrations are included only for verification of plume extents. It is further noted that the municipal production wells are screened over several of the JPL aquifer layers, and the results are therefore reported for all three JPL layers, with one exception. This exception is the concentrations for the city of Pasadena wells and the Lincoln Avenue wells, which are immediately downgradient from JPL, are not included in the Layer 1 maps. This is because extensive JPL monitoring data shows that contaminants are not present in Layer 1 in this vicinity. For reference, a summary of the VOC results compiled from all sixteen long-term quarterly sampling events completed to date is provided in Table 3-3.

CCl_4 above the state MCL (0.5 μg/L) was found in eight on-site wells and two off-site wells (Table 3-1, Figures 3-1, 3-2, and 3-3). The Federal MCL (5.0 μg/L) was exceeded in five on-site wells. The highest concentrations of CCl_4 were found in on-site wells MW-3 (Screen 3), MW-12 (Screen 3), MW-13, MW-16, and MW-24 (Screens 1 and 2).

TCE concentrations exceeded the state and Federal MCL (5.0 μg/L) in four on-site wells and two off-site wells (Table 3-1, Figures 3-4, 3-5, and 3-6). The highest levels of TCE were found in on-site wells MW-10 and MW-13, and off-site well MW-21 (Screen 1).

1,2-DCA was detected in two on-site wells in excess of the state MCL (0.5 μg/L) (Table 3-1, Figure 3-7), and was not detected in any off-site well. The Federal MCL for 1,2-DCA (5.0 μg/L) was not exceeded in any well.

PCE was detected at low levels in several on-site and off-site wells (Table 3-1, Figures 3-8, 3-9, and 3-10). The state and Federal MCL (5.0 μg/L) was exceeded only in off-site well MW-21 (Screens 4 and 5).

3.2 PERCHLORATE RESULTS

Perchlorate analyses were conducted on groundwater samples from the September-October 2000 event using ion chromatography (CADHS/EPA 314). Results are included in Table 3-1. No MCLs for ClO_4^- have been established to date. However, the California Department of Health Services has established an Interim Action Level (IAL) of 18 μg/L for ClO_4^-. Perchlorate was detected in a total of 17 wells (Table 3-1). Concentrations in seven of the 17 wells exceeded the Interim Action Level (18 μg/L). Perchlorate concentrations are contoured in Figures 3-11, 3-12, and 3-13 for Aquifer Layers 1, 2, and 3, respectively. The highest ClO_4^- levels were observed on-site in wells MW-10, MW-13, MW-16, and MW-24 (Screens 1 and 2).

3.3 CHROMIUM RESULTS

Groundwater samples were analyzed for total Cr (EPA 200.8) and Cr(VI) [(EPA 7196)]. The results of these analyses for the September-October 2000 samples are summarized below and in Table 3-4.

Total Cr was detected in four wells, MW-4, MW-6, MW-10, and MW-13. All had concentrations below the Federal and state drinking water standards (0.100 mg/L and 0.05 mg/L, respectively). Hexavalent chromium was detected in one on-site shallow well, MW-13. At this time, neither state nor Federal agencies have established an MCL for Cr(VI).

Table 3-5 contains a summary of metals data from all sixteen quarterly sampling events completed to date during the long-term monitoring program.

3.4 QUALITY ASSURANCE/QUALITY CONTROL RESULTS

Review of the QA/QC data provided with the laboratory analytical results (Appendix D) indicates that results obtained from the September-October 2000 sampling event are acceptable for their intended use of characterizing aquifer quality. Surrogate compound, matrix and blank spike, and method blank results were used by the laboratory to determine the accuracy and precision of the analytical techniques with respect to the JPL groundwater matrix, and to identify anomalous results due to laboratory contamination or instrument malfunction.

In addition to laboratory QA/QC samples, Foster Wheeler personnel collected QA/QC samples in the field. These samples included duplicate samples, equipment blanks, trip blanks, and a field blank.

Duplicate samples were used to evaluate the precision of the laboratory analyses. Duplicate groundwater samples were collected from MW-4 (Screen 2), MW-10, MW-12 (Screen 2), and MW-13, and analyzed for VOCs, ClO_4^-, total Cr, and Cr(VI). All of the analytical results for the duplicate samples were similar to the results of the original groundwater samples (Table 3-1 and Table 3-4).

Thirteen equipment blanks and sixteen trip blanks were submitted for analysis during the September-October 2000 sampling event. Chloroform was detected at a very low level (1.9 µg/L) in one equipment blank. A groundwater sample (MW-4, Screen 2) associated with this blank also had a detectable concentration of chloroform (1.4 µg/L), but the result was well below state and Federal drinking water standards of 100 µg/L (Tables 3-1 and 3-3). This has occurred in previous sampling events and it is suspected that very low levels of chloroform were likely present in the deionized water used for the equipment blank. No contaminants were detected in the field blank submitted for this event.

4.0 WATER-LEVEL MEASUREMENTS

Water-level measurements were recorded before sampling, on September 8, 2000, and after sampling, on October 12, 2000, to evaluate groundwater flow directions and gradients beneath and adjacent to JPL. Water-level data in the shallow wells were collected using a Solinst® water-level meter that utilized a water-sensor probe attached to a measuring tape. As the probe was lowered into a well, contact with the groundwater completed a circuit between two electrodes in the probe, thus activating a sounding device attached to a reel at the surface. Depth to groundwater was then read directly from the measuring tape at the top of the well casing.

In the deep multi-port wells, the hydraulic head at each sampling port in each screened interval was measured with a pressure-transducer probe manufactured by Westbay specifically for the unique casing used in these wells.

Water-table elevation measurements taken before sampling are provided in Table 4-1, and have been contoured in Figure 4-1. Water-table elevation measurements taken after sampling are provided in Table 4-2, and have been contoured in Figure 4-2. The hydraulic heads measured at each deep multi-port well screen before and after sampling are presented graphically in Figures 4-3 and 4-4, respectively. The pressure-profile records for the deep wells are included in Appendix B.

As indicated by Figures 4-1 and 4-2, groundwater flow was primarily to the south and east across JPL both before and after sampling. The "trough" of depression observed around the City of Pasadena municipal production wells (Figures 4-1 and 4-2) is the result of active pumping by these wells throughout this sampling event. This is also indicated by data shown in Figures 4-3 and 4-4 where the effects of municipal well pumping are reflected by relatively large drawdowns in the hydraulic heads measured at the lowermost screens within the multi-port wells closest to the production wells (MW-3, -4, -11, -12, -17, and -19).

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TABLES

TABLE 1-1

SUMMARY OF WELL CONSTRUCTION DETAILS FOR JPL GROUNDWATER MONITORING WELLS

Well Number	Well Type	Year Installed	Drilling Method	Depth to Bottom of Casing (feet)	Depth of Screened Interval (feet)	Elevation Top 4 inch Casing (feet above mean sea level)	Elevation of Screened Interval (feet above mean sea level)	Multi-Port Well Screen Number	Sand Pack (feet)	Screen Slot Size (inch)	Casing Material
MW-1	Shallow Standpipe	1989	Mud Rotary	120	70-110	1116.7	1006.70-1046.70	-	99		4" PVC
MW-2	Shallow Standpipe	1989	Mud Rotary	177	127-167	1168.85	1001.85-1041.85	-			
MW-3	Deep Multi-Port	1990	Mud Rotary	700	170-180	1099.82	919.82-929.82	1	37	0.010	4" low-carbon steel
					250-260		839.82-849.82	2	47	0.010	4" low-carbon steel
					344-354		745.82-755.82	3	45	0.010	4" low-carbon steel
					555-565		534.82-544.82	4	39	0.010	4" low-carbon steel
					650-660		433.82-443.82	5	64	0.010	4" low-carbon steel
MW-4	Deep Multi-Port	1990	Mud Rotary	559	147-157	1082.72	925.72-935.72	1	48	0.010	4" low-carbon steel
					237-247		835.72-845.72	2	34	0.010	4" low-carbon steel
					318-328		754.72-764.72	3	42	0.010	4" low-carbon steel
					389-399		683.72-693.72	4	54	0.010	4" low-carbon steel
					509-519		563.72-573.72	5	52	0.010	4" low-carbon steel
MW-5	Shallow Standpipe	1990	Air Percussion	140	85-135	1071.6	936.60-986.60	-	71	0.010	4" low-carbon steel
MW-6	Shallow Standpipe	1990	Air Percussion	245	195-245	1188.52	943.52-993.52	-	62	0.010	4" low-carbon steel
MW-7	Shallow Standpipe	1990	Air Percussion	275	225-275	1212.88	937.88-987.88	-	63	0.010	4" low-carbon steel
MW-8	Shallow Standpipe	1992	Air Percussion	205	155-205	1139.53	934.53-984.53	-	75	0.010	4" low-carbon steel
MW-9	Shallow Standpipe	1992	Air Percussion	68	18-68	1106.02	1038.02-1088.02	-	56	0.010	4" PVC
MW-10	Shallow Standpipe	1992	Air Percussion	155	105-155	1087.71	932.71-982.71	-	67.5	0.010	4" PVC (0-85') 4" stainless steel (85'-105')
MW-11	Deep Multi-Port	1992	Mud Rotary	680	140-150	1139.35	989.35-999.35	1	24	0.010	4" low-carbon steel
					250-260		879.35-889.35	2	22	0.010	4" low-carbon steel
					420-430		709.35-719.35	3	26	0.010	4" low-carbon steel
					515-525		614.35-624.35	4	26	0.010	4" low-carbon steel
					630-640		499.35-509.35	5	28	0.010	4" low-carbon steel

TABLE 1-1

SUMMARY OF WELL CONSTRUCTION DETAILS FOR JPL GROUNDWATER MONITORING WELLS

Well Number	Well Type	Year Installed	Drilling Method	Depth to Bottom of Casing (feet)	Depth of Screened Interval (feet)	Elevation Top 4 inch Casing (feet above mean sea level)	Elevation of Screened Interval (feet above mean sea level)	Multi-Port Well Screen Number	Sand Pack (feet)	Screen Slot Size (inch)	Casing Material
MW-12	Deep Multi-Port	1994	Mud Rotary	596	135-145	1102.14	957.14-967.14	1	22	0.010	4" low-carbon steel
					240-250		852.14-862.14	2	19	0.010	4" low-carbon steel
					315-325		777.14-787.14	3	21	0.010	4" low-carbon steel
					430-440		662.14-672.14	4	22	0.010	4" low-carbon steel
					546-556		546.14-556.14	5	21	0.010	4" low-carbon steel
MW-13	Shallow Standpipe	1994	Air Rotary	235	180-230	1183.47	953.47-1003.47	-	65	0.010	4" PVC
MW-14	Deep Multi-Port	1994	Mud Rotary	588	205-215	1173.42	958.42-968.42	1	22	0.010	4" low-carbon steel
					275-285		888.42-898.42	2	26	0.010	4" low-carbon steel
					380-390		783.42-793.42	3	22	0.010	4" low-carbon steel
					453-463		710.42-720.42	4	27	0.010	4" low-carbon steel
					538-548		625.42-635.42	5	21	0.010	4" low-carbon steel
MW-15	Shallow Standpipe	1994	Air Percussion	74	19-69	1120.66	1051.66-1101.66	-	60	0.010	4" stainless steel
MW-16	Shallow Standpipe	1994	Air Percussion	285	230-280	1236.27	956.27-1006.27	-	62	0.010	4.5" PVC
MW-17	Deep Multi-Port	1995	Mud Rotary	774	246-256	1190.99	934.99-944.99	1	24	0.010	4" low-carbon steel
					366-376		814.99-824.99	2	24	0.010	4" low-carbon steel
					466-476		714.99-724.99	3	27	0.010	4" low-carbon steel
					578-588		602.99-612.99	4	25	0.010	4" low-carbon steel
					723-733		457.99-467.99	5	22	0.010	4" low-carbon steel
MW-18	Deep Multi-Port	1995	Mud Rotary	732	266-276	1225.34	949.34-959.34	1	22	0.010	4" low-carbon steel
					326-336		889.34-899.34	2	24	0.010	4" low-carbon steel
					421-431		794.34-804.34	3	20	0.010	4" low-carbon steel
					561-571		654.34-664.34	4	22	0.010	4" low-carbon steel
					681-691		534.34-544.34	5	23	0.010	4" low-carbon steel
MW-19	Deep Multi-Port	1995	Mud Rotary	543	240-250	1143.2	893.20-903.20	1	20	0.010	4" low-carbon steel
					310-320		823.20-833.20	2	20	0.010	4" low-carbon steel
					390-400		743.20-753.20	3	17	0.010	4" low-carbon steel
					442-452		691.20-701.20	4	20	0.010	4" low-carbon steel
					492-502		641.20-651.20	5	22	0.010	4" low-carbon steel

TABLE 1-1

SUMMARY OF WELL CONSTRUCTION DETAILS FOR JPL GROUNDWATER MONITORING WELLS

Well Number	Well Type	Year Installed	Drilling Method	Depth to Bottom of Casing (feet)	Depth of Screened Interval (feet)	Elevation Top 4 inch Casing (feet above mean sea level)	Elevation of Screened Interval (feet above mean sea level)	Multi-Port Well Screen Number	Sand Pack (feet)	Screen Slot Size (inch)	Casing Material
MW-20	Deep Multi-Port	1995	Mud Rotary	948	228-238	1164.89	926.89-936.89	1	24	0.010	4" low-carbon steel
					388-398		766.89-776.89	2	23	0.010	4" low-carbon steel
					558-568		596.89-606.89	3	19	0.010	4" low-carbon steel
					698-708		456.89-466.89	4	23	0.010	4" low-carbon steel
					898-908		256.89-266.89	5	27	0.010	4" low-carbon steel
MW-21	Deep Multi-Port	1995	Mud Rotary	416	86-96	1058.99	962.99-972.99	1	26	0.010	4" low-carbon steel
					156-166		892.99-902.99	2	25	0.010	4" low-carbon steel
					236-246		812.99-822.99	3	21	0.010	4" low-carbon steel
					306-316		742.99-752.99	4	22	0.010	4" low-carbon steel
					366-376		682.99-692.99	5	22	0.010	4" low-carbon steel
MW-22	Deep Multi-Port	1997	Mud Rotary	634	239-249	1176.81	927.81-937.81	1	24	0.010	4" low-carbon steel
					324-334		842.81-852.81	2	21	0.010	4" low-carbon steel
					384-394		782.81-792.81	3	22	0.010	4" low-carbon steel
					464-474		702.81-712.81	4	23	0.010	4" low-carbon steel
					584-594		582.81-592.81	5	22	0.010	4" low-carbon steel
MW-23	Deep Multi-Port	1997	Mud Rotary	590	170-180	1108.34	928.34-938.34	1	23	0.010	4" low-carbon steel
					250-260		843.34-858.34	2	20.5	0.010	4" low-carbon steel
					315-325		783.34-793.34	3	18	0.010	4" low-carbon steel
					440-450		658.34-668.34	4	25	0.010	4" low-carbon steel
					540-550		558.34-568.34	5	22.5	0.010	4" low-carbon steel
MW-24	Deep Multi-Port	1997	Mud Rotary	725	275-285	1200.91	915.91-925.91	1	25	0.010	4" low-carbon steel
					370-380		820.91-830.91	2	50	0.010	4" low-carbon steel
					430-440		760.91-770.91	3	25	0.010	4" low-carbon steel
					550-560		640.91-650.91	4	19	0.010	4" low-carbon steel
					675-685		515.91-525.91	5	16	0.010	4" low-carbon steel

TABLE 1-2

SUMMARY OF ANALYSES PERFORMED ON GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER -OCTOBER 2000

Sample Location	Sample Number	Sample Type	VOCs EPA 524.2	Total Cr	Hexavalent Cr EPA 7196	Perchlorate EPA 314.0 Modified
MW-1	Not Sampled[1]					
MW-3						
Screen 1	Not Sampled[1]					
Screen 2	MW-003-070	GW	X	X	X	X
Screen 3	MW-003-069	GW	X	X	X	X
Screen 4	MW-003-068	GW	X	X	X	X
Screen 5	MW-003-067	GW				X
MW-4						
Screen 1	MW-003-066	GW	X	X	X	X
Screen 2	MW-003-065	GW	X	X	X	X
Screen 2	MW-003-064	DUP	X	X	X	X
Screen 3	MW-003-063	GW	X	X	X	X
Screen 4	MW-003-062	GW		X	X	
Screen 5	MW-003-061	GW		X	X	
MW-5	MW-003-060	GW	X	X	X	X
MW-6	MW-003-059	GW	X	X	X	X
MW-7	Not Sampled[1]					
MW-8	MW-003-057	GW	X	X	X	X
MW-9	Not Sampled[1]					
MW-10	MW-003-056	GW	X	X	X	X
MW-10	MW-003-055	DUP	X	X	X	X
MW-11						
Screen 1	MW-003-054	GW	X	X	X	X
Screen 2	MW-003-053	GW	X	X	X	X
Screen 3	MW-003-052	GW	X	X	X	X
Screen 4	MW-003-051	GW	X			X
Screen 5	Not Sampled[1]					
MW-12						
Screen 1	MW-003-050	GW	X	X	X	X
Screen 2	MW-003-049	GW	X	X	X	X
Screen 2	MW-003-048	DUP	X	X	X	X
Screen 3	MW-003-047	GW	X	X	X	X
Screen 4	MW-003-046	GW	X			X
Screen 5	MW-003-045	GW	X			X
MW-13	MW-003-044	GW	X	X	X	X
MW-13	MW-003-043	DUP	X	X	X	X

TABLE 1-2

SUMMARY OF ANALYSES PERFORMED ON GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER -OCTOBER 2000

Sample Location	Sample Number	Sample Type	VOCs EPA 524.2	Total Cr	Hexavalent Cr EPA 7196	Perchlorate EPA 314.0 Modified
MW-14						
Screen 1	MW-003-042	GW	X	X	X	X
Screen 2	MW-003-041	GW	X	X	X	X
Screen 3	MW-003-040	GW	X	X	X	X
Screen 4	MW-003-039	GW	X	X	X	X
Screen 5	MW-003-038	GW	X			X
MW-15	Not Sampled(1)					
MW-16	MW-003-037	GW	X	X	X	X
MW-17						
Screen 1	Not Sampled(1)					
Screen 2	MW-003-036	GW	X	X	X	X
Screen 3	MW-003-035	GW	X	X	X	X
Screen 4	MW-003-034	GW	X	X	X	X
Screen 5	MW-003-033	GW	X			X
MW-18						
Screen 1	Not Sampled(1)					
Screen 2	MW-003-032	GW	X	X	X	X
Screen 3	MW-003-031	GW	X	X	X	X
Screen 4	MW-003-030	GW	X	X	X	X
Screen 5	MW-003-029	GW	X			X
MW-19						
Screen 1	MW-003-028	GW	X			X
Screen 2	MW-003-027	GW	X			X
Screen 3	MW-003-026	GW	X			X
Screen 4	MW-003-025	GW	X			X
Screen 5	MW-003-024	GW	X			X
MW-20						
Screen 1	MW-003-023	GW	X	X	X	X
Screen 2	MW-003-022	GW	X	X	X	X
Screen 3	MW-003-021	GW	X	X	X	X
Screen 4	MW-003-020	GW	X	X	X	X
Screen 5	MW-003-019	GW	X	X	X	X
MW-21						
Screen 1	MW-003-018	GW	X			X
Screen 2	MW-003-017	GW	X			X
Screen 3	MW-003-016	GW	X			X
Screen 4	MW-003-015	GW	X			X
Screen 5	MW-003-014	GW	X			X

TABLE 1-2

SUMMARY OF ANALYSES PERFORMED ON GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER -OCTOBER 2000

Sample Location	Sample Number	Sample Type	VOCs EPA 524.2	Total Cr	Hexavalent Cr EPA 7196	Perchlorate EPA 314.0 Modified
MW-22						
Screen 1	MW-003-013	GW	X	X	X	X
Screen 2	MW-003-012	GW	X	X	X	X
Screen 3	MW-003-011	GW	X			X
Screen 4	MW-003-010	GW				X
Screen 5	Not Sampled(1)					
MW-23						
Screen 1	MW-003-009	GW	X	X	X	X
Screen 2	MW-003-008	GW	X	X	X	X
Screen 3	MW-003-007	GW	X	X	X	X
Screen 4	MW-003-006	GW		X	X	X
Screen 5	MW-003-005	GW				X
MW-24						
Screen 1	MW-003-004	GW	X	X	X	X
Screen 2	MW-003-003	GW	X	X	X	X
Screen 3	MW-003-002	GW	X	X	X	X
Screen 4	MW-003-001	GW		X	X	
Screen 5	Not Sampled(1)					

GW: Groundwater Sample
DUP: Duplicate Sample
1: Monitoring point not sampled at all, or not sampled for the particular constituent(s) due to changes in the sampling program as agreed to by the EPA, DTSC, and RWQCB.

TABLE 3-1

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER-OCTOBER 2000

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
MW-1	Not Sampled[1]										
MW-3											
Screen 1	Not Sampled[1]										
Screen 2	MW-003-070	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-003-069	**22**	1.3	--	--	--	--	--	25	--	**25**
Screen 4	MW-003-068	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-003-067	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	--
MW-4											
Screen 1	MW-003-066	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-003-065	**1.2**	2.6	1.2	0.7	--	--	--	1.4(EB)	--	**23**
Screen 2 (DUP)	MW-003-064	**1.0**	2.2	1.0	0.6	--	--	--	1.1 (EB)	--	**23**
Screen 3	MW-003-063	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-003-062	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Screen 5	MW-003-061	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
MW-5	MW-003-060	--	--	--	--	--	--	--	--	--	--
MW-6	MW-003-059	--	--	--	--	--	--	--	0.5	0.7 Freon 11	4.7
MW-7	Not Sampled[2]										
MW-8	MW-003-057	--	--	--	--	--	--	--	--	--	5.2
MW-9	Not Sampled[1]										
MW-10	MW-003-056	**0.6**	**19**	1.0	0.6	--	--	--	1.7	--	**33**
MW-10 (DUP)	MW-003-055	**0.6**	**20**	1.0	0.6	--	--	--	1.7	--	**32**
MW-11											
Screen 1	MW-003-054	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-003-053	**1.0**	--	--	--	--	--	--	0.8	--	--
Screen 3	MW-003-052	**1.0**	--	--	--	--	--	--	0.6	--	--
Screen 4	MW-003-051	--	--	--	--	--	--	--	0.7	--	--
Screen 5	Not Sampled[1]										

TABLE 3-1

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER-OCTOBER 2000

(concentrations in µg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
MW-12											
Screen 1	MW-003-050	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-003-049	--	--	--	--	--	--	--	--	--	--
Screen 2 (*DUP*)	MW-003-048	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-003-047	**11**	--	--	--	--	--	--	1.6	--	7.1
Screen 4	MW-003-046	**4.3**	--	--	--	--	--	--	1.2	--	7.9
Screen 5	MW-003-045	**2.5**	--	--	--	--	--	--	0.7	--	4.1
MW-13	MW-003-044	**14**	**24**	0.5	--	**0.5**	0.9	--	11	--	**620**
MW-13 (DUP)	MW-003-043	**13**	**24**	--	--	**0.6**	0.9	--	11	--	**660**
MW-14											
Screen 1	MW-003-042	--	--	--	1.2	--	--	--	--	--	--
Screen 2	MW-003-041	--	2.4	0.9	--	--	--	--	0.6	--	--
Screen 3	MW-003-040	--	0.7	--	--	--	--	--	0.5	--	6.4
Screen 4	MW-003-039	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-003-038	--	--	--	--	--	--	--	--	--	--
MW-15	Not Sampled[1]										
MW-16	MW-003-037	**53**	**8.0**	2.2	--	**0.6**	3.5	0.7	20	--	**1400**
MW-17											
Screen 1	Not Sampled[1]										
Screen 2	MW-003-036	--	--	--	--	--	--	--	1.0	1.0 Unknown(RT=5.12)	--
Screen 3	MW-003-035	**0.6**	1.9	--	--	--	--	--	3.5	--	--
Screen 4	MW-003-034	--	**5.5**	--	--	--	--	--	1.3	--	13
Screen 5	MW-003-033	--	**6.3**	--	--	--	--	--	1.5	--	12
MW-18											
Screen 1	Not Sampled[1]										
Screen 2	MW-003-032	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-003-031	--	0.7	--	--	--	--	--	2.8	--	--
Screen 4	MW-003-030	**4.5**	1.3	2.4	--	--	--	--	0.9	--	**25**
Screen 5	MW-003-029	--	--	--	--	--	--	--	--	--	--

TABLE 3-1

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER-OCTOBER 2000

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
MW-19											
Screen 1	MW-003-028	--	--	--	--	--	--	--	--	--	--
Screen 2	MW-003-027	--	0.7	--	--	--	--	--	--	--	--
Screen 3	MW-003-026	--	--	1.3	--	--	--	--	--	--	4.4
Screen 4	MW-003-025	--	--	--	--	--	--	--	2.9	--	--
Screen 5	MW-003-024	--	0.6	2.0	--	--	--	--	--	--	--
MW-20											
Screen 1	MW-003-023	--	--	--	--	--	--	--	0.8	--	7.9
Screen 2	MW-003-022	--	--	--	--	--	--	--	4.5	0.7 Bromodichloromethane	--
Screen 3	MW-003-021	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-003-020	--	--	--	--	--	--	--	--	--	--
Screen 5	MW-003-019	--	--	--	--	--	--	--	--	--	--
MW-21											
Screen 1	MW-003-018	--	**12**	0.6	--	--	--	--	1.6	--	16
Screen 2	MW-003-017	--	--	1.1	--	--	--	--	--		--
Screen 3	MW-003-016	--	0.7	1.6	--	--	--	--	0.8	--	--
Screen 4	MW-003-015	--	0.8	**8.6**	--	--	--	--	1.0	0.7 Bromodichloromethane 0.5 Chlorodibromomethane 1.5 cis-1,2 Dichloroethene	--
Screen 5	MW-003-014	--	0.8	**15**	--	--	--	--	1.7	0.6 Bromodichloromethane 2.7 cis-1,2 Dichloroethene	--
MW-22											
Screen 1	MW-003-013	--	--	2.7	0.7	--	--	--	--	1.9 Unknown (RT=5.12)	5.6
Screen 2	MW-003-012	--	--	--	--	--	--	--	--	--	--
Screen 3	MW-003-011	--	--	--	--	--	--	--	--	3.4 Unknown (RT=5.13)	--
Screen 4	MW-003-010	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	--
Screen 5	Not Sampled[1]										

TABLE 3-1

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED IN GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER-OCTOBER 2000

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sample Number	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Chloroform	Other Volatile Organic Compounds	Perchlorate
MW-23											
Screen 1	MW-003-009	--	0.6	1.0	0.7	--	--	--	--	--	--
Screen 2	MW-003-008	--	--	0.6	--	--	--	--	--	0.6	7.0
Screen 3	MW-003-007	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-003-006	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	--
Screen 5	MW-003-005	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	--
MW-24											
Screen 1	MW-003-004	**28**	**8.4**	1.1	--	--	0.6	0.6	5.5	--	**590**
Screen 2	MW-003-003	**21**	3.0	0.8	--	--	1.4	--	6.6	--	**430**
Screen 3	MW-003-002	--	--	--	--	--	--	--	--	--	--
Screen 4	MW-003-001	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Screen 5	Not Sampled[1]										
Practical Quantitation Limit		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.0
California Maximum Contaminant Level		0.5	5.0	5.0	5.0	0.5	6.0	1,200	100	6 cis-1,2-Dichloroethene[4] 100 1,1,1-Trichloroethane[4]	18[3]
EPA Region IX Maximum Contaminant Level		5.0	5.0	5.0	NE	5.0	7.0	NE	100	70 cis-1,2-Dichloroethene[4] 200 1,1,1-Trichloroethane[4]	NE

--: Not detected.
DUP: Duplicate.
NE: Not established.
EB: Compound detected in associated equipment blank.
1: Monitoring point not sampled at all, or not sampled for the particular constituent(s) due to changes in the sampling program as agreed to by the EPA, DTSC, and RWQCB.
2: Not sampled. US Filter Pilot Test being conducted.
3: California Department of Health Services Interim Action Level.
4: Only detected VOCs for which MCLs have been established are listed.

TABLE 3-2

LOCATION OF WELL SCREENS IN AQUIFER LAYERS

Well Number	AQUIFER LAYERS			
	Layer 1	Layer 2	Layer 3	Layer 4
MW-1	X			
MW-3				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	
MW-4				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4		X		
Screen 5			X	
MW-5	X			
MW-6	X			
MW-7	X			
MW-8	X			
MW-9	X			
MW-10	X			
MW-11				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4		X		
Screen 5			X	
MW-12				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4		X		
Screen 5			X	
MW-13	X			
MW-14				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	

TABLE 3-2

LOCATION OF WELL SCREENS IN AQUIFER LAYERS

Well Number	AQUIFER LAYERS			
	Layer 1	Layer 2	Layer 3	Layer 4
MW-15	X			
MW-16	X			
MW-17				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	
MW-18				
Screen 1	X			
Screen 2	X			
Screen 3		X		
Screen 4			X	
Screen 5			X	
MW-19				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	
MW-20				
Screen 1	X			
Screen 2		X		
Screen 3			X	
Screen 4			X	
Screen 5				X
MW-21				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	
MW-22				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	

TABLE 3-2

LOCATION OF WELL SCREENS IN AQUIFER LAYERS

Well Number	AQUIFER LAYERS			
	Layer 1	Layer 2	Layer 3	Layer 4
MW-23				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	
MW-24				
Screen 1	X			
Screen 2		X		
Screen 3		X		
Screen 4			X	
Screen 5			X	

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
MW-1	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.9 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.9 Acetone	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	1.3 m,p-Xylenes	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
MW-3											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	1.2	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	8.3	0.7(B) Naphthalene	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	2.6 Carbon Disulfide	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Screen 2	Aug/Sep 1996	--	--	--	--	--	--	--	5.5	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	4.8	1.9(B) Naphthalene	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	4.4	8.0 Carbon Disulfide	(1)
	Jun/Jul 1997	--	--	--	--	--	--	1.0	1.2	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	0.8	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	**0.6**	0.8	--	--	--	--	--	1.6	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	0.7	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	0.8	--	(1)
	Jun/Jul 1997	**1.2**	0.8	0.6	--	--	--	2.8	1.8	--	**21**
	Sep/Oct 1997	**1.2**	0.5	--	--	--	--	--	1.6	--	13
	Jan/Feb 1998	**1.2**	--	--	--	--	--	--	2.7	--	6.5
	Apr/May 1998	**3.6**	0.9	--	--	--	--	--	3.9	--	6.2
	Jul/Aug 1998	**2.4**	0.6	--	--	--	--	--	3.6	--	10
	Oct/Nov 1998	**5.8**	0.7	--	--	--	--	--	21	2.7 Carbon Disulfide	--
	Feb/Mar 1999	**4.5**	1.3	--	--	--	--	0.9	42	--	--
	May/Jun 1999	**42**	1.3	--	--	--	--	1.0	26(EB)	--	8.9
	Aug 1999	**15**	1.0	--	--	--	--	0.8	37	--	--
	Nov/Dec 1999	**26**	1.3	--	--	--	--	0.9	43(EB)	--	5.2
	Mar/Apr 2000	**42**	1.9	--	--	--	--	1.1	32(EB)	--	**19.4**
	Jul/Aug 2000	**8.6**	1.4	--	--	--	--	0.7	37(EB)	--	--
	Sep/Oct 2000	**22**	1.3	--	--	--	--	--	25	--	**25**
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.2 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.0 Hexane	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	4.7 Carbon Disulfide(3)	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	4.1 Carbonyl Sulfide	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.1 Dichloromethane	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	2.1 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.2 Carbon Disulfide 1.5 Carbon Disulfide 2.7 Sulfur Dioxide 1.3 Unknown (RT=2.51)	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	4.5 Carbon Disulfide	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	**91**
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	**75**
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	**140**
	Nov/Dec 1999	--	--	--	--	--	--	--	--	0.2 Carbonyl Sulfide	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	0.7 Carbonyl Sulfide	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
MW-4											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.9(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	7.4
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	9.6
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	3.4 Dichloromethane[4]	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.8(B)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 2	Aug/Sep 1996	**5.5**	**19**	--	--	**0.9**	0.7	--	6.7	3.2(B) Acetone	(1)
	Oct/Nov 1996	**5.3**	**15**	--	--	**0.6**	0.8	--	5.4	1.8 Acetone	(1)
	Feb/Mar 1997	**7.9**	**19**	--	--	**0.8**	0.8	--	7.8	--	(1)
	Jun/Jul 1997	**4.0**	**5.7**	--	--	--	0.5	--	3.4	--	**51**
	Sep/Oct 1997	**4.0**	**8.0**	0.5	0.6	--	0.5	--	3.5	--	**34**
	Jan/Feb 1998	**1.9**	2.7	0.6	--	--	--	--	1.8	--	**30**
	Apr/May 1998	**2.8**	4.3	0.7	0.5	--	--	--	3.1	--	**41**
	Jul/Aug 1998	**1.5**	3.0	0.8	0.5	--	--	--	2.0	--	**29**
	Oct/Nov 1998	**0.9**	2.4	0.7	--	--	--	--	1.6	--	**25**
	Feb/Mar 1999	**1.2**	4.1	0.6	0.5(5)	--	--	--	2.5	--	**38**
	May/Jun 1999	**2.0**	**6.4**	0.7	--	--	--	--	3.7(EB)	--	**56**
	Aug 1999	**1.9**	**5.5**	0.5	--	--	--	--	3.3	--	**69**
	Nov/Dec 1999	**2.3**	**6.2**	0.7	--	--	--	--	3.1(EB)	--	**42**
	Mar/Apr 2000	**1.4**	3.9	0.7	--	--	--	--	1.7(EB)	--	**33**
	Jul/Aug 2000	**1.7**	3.8	1.0	0.6	--	--	--	1.9(EB)	--	**32**
	Sep/Oct 2000	**1.2**	2.6	1.2	0.7	--	--	--	1.4(EB)	--	**23**
Screen 3	Aug/Sep 1996	--	--	--	--	--	--	--	--	3.0(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.5 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	1.0 Dichloromethane(4)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	0.6 Unknown (RT=4.79)	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	--	3.9(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.6 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.6(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Screen 5	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.9 Acetone	(1)
	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	7.4 Hexane	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.6(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
MW-5	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	4.2

TABLE 3-3

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	6.5 Dichloromethane(4)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
MW-6	Aug/Sep 1996	--	--	--	--	--	--	--	1.3(TB)	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	0.8	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	5.5
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	2.0	1.0	--	--	--	--	--	--
	Apr/May 1998	--	0.7	3.2	1.1	--	--	--	0.6	--	--
	Jul/Aug 1998	--	0.6	2.5	0.8	--	--	--	--	7.6 Dichloromethane(4)	4.2
	Oct/Nov 1998	--	--	0.7	--	--	--	--	--	--	--
	Feb/Mar 1999	--	0.8	3.8	1.0	--	--	--	0.6	--	--
	May/Jun 1999	--	--	1.5	--	--	--	--	--	--	--
	Aug 1999	--	--	0.5	--	--	--	--	--	--	4.0
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	3.0	0.8	--	--	--	--	--	4.8
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	4.1
	Sep/Oct 2000	--	--	--	--	--	--	--	0.5	0.7 Freon 11	4.7
MW-7	Aug/Sep 1996	**90**	**39**	0.8	--	**1.2**	1.1	7.2	13(TB)	--	(1)
	Oct/Nov 1996	**170**	**27**	1.3	--	**0.8**	2.3	7.7	14	4.3(B) 1,1-Difluoroethane 2.8(B) Acetone	(1)
	Feb/Mar 1997	**45**	**27**	0.6	--	**0.8**	0.9	5.1	9.9	--	(1)
	Jun/Jul 1997	**39**	**23**	0.7	--	**0.8**	1.0	4.1	11	10 Unknown	**285**
	Sep/Oct 1997	**93**	**22**	1.1	--	**0.9**	1.3	4.7	13	--	**550**
	Jan/Feb 1998	**150**	**24**	3.7	--	**0.8**	2.1	6.4	13	--	**720**
	Apr/May 1998	**31**	**13**	0.5	--	--	--	3.1	6.1	--	**130**
	Jul/Aug 1998	**43**	**19**	0.8	--	**0.6**	0.9	3.4	9.0	1.0 Dichloromethane(4)	**190**
	Oct/Nov 1998	**51**	**18**	0.9	--	**0.7**	1.1	3.0	9.8	3.4 Carbon Disulfide	**210**
	Feb/Mar 1999	**49**	**17**	0.6	--	--	0.9	2.0	7.2	--	**150**
	May/Jun 1999	**42**	**14**	--	--	--	--	2.2	5.7(FB)	--	**120**

TABLE 3-3

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(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Aug 1999	**40**	**16**	0.5	--	--	0.8	1.9	7.8(FB)	--	**210**
	Nov/Dec 1999	**120**	**19.7**	3.0	--	**0.7**	2.2	2.4	10.8(FB)	--	**460**
	Mar/Apr 2000	**110**	**18**	2.7	--	**0.5**	2.3	2.6	8.9(FB)	--	**740**
	Jul/Aug 2000	**50**	**14**	1.2	--	--	0.9	2.0	7.1(FB)	--	**290**
	Sep/Oct 2000	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
MW-8	Aug/Sep 1996	**4.0**	4.6	--	--	--	--	--	1.3	--	(1)
	Oct/Nov 1996	**2.8**	2.2	--	--	--	--	0.6	0.6	1.7 Acetone	(1)
	Feb/Mar 1997	**1.5**	4.5	--	--	--	--	--	1.3	1.1 Freon 11 1.9 Carbon Disulfide	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	6.4
	Sep/Oct 1997	**3.2**	3.6	--	--	--	--	--	1.2	1.0 Freon 11	**29**
	Jan/Feb 1998	**1.8**	1.3	--	--	--	--	--	0.8	0.8 Freon 11	11
	Apr/May 1998	**1.3**	1.3	--	--	--	--	--	0.5	--	7.6
	Jul/Aug 1998	--	--	--	--	--	--	--	--	6.6 Dichloromethane[4]	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	**0.9**	0.8	--	--	--	--	--	--	--	5.2
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	10
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	5.2
MW-9	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	3.9 Unknown RT=6.21	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

TABLE 3-3

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(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
MW-10	Aug/Sep 1996	**0.7**	**18**	0.5	--	--	--	1.2	1.4(TB)	--	(1)
	Oct/Nov 1996	**0.6**	**6.6**	1.0	1.9	--	--	0.8	1.1	3.0(B) Acetone 1.1 Unknown Scan #350	(1)
	Feb/Mar 1997	--	**5.2**	--	--	--	--	--	0.6	--	(1)
	Jun/Jul 1997	--	2.2	--	--	--	--	--	--	--	11
	Sep/Oct 1997	--	4.3	1.3	1.2	--	--	--	1.0	--	16
	Jan/Feb 1998	--	1.1	2.2	1.6	--	--	--	1.4	--	4.7
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	8.2 Dichloromethane(4)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	**5.7**	--	--	--	--	--	0.9	--	**39**
	May/Jun 1999	--	1.1	--	--	--	--	--	--	--	10
	Aug 1999	--	2.2	--	--	--	--	--	--	--	**21**
	Nov/Dec 1999	--	3.7	1.1	0.6	--	--	--	0.9	--	**21**
	Mar/Apr 2000	--	2.0	2.2	1.1	--	--	--	0.9	--	9.1
	Jul/Aug 2000	--	1.1	--	--	--	--	--	--	--	15
	Sep/Oct 2000	**0.6**	**20**	1.0	0.6	--	--	1.7	--	--	**33**
MW-11											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.6(B) Acetone 7.1 MTBE	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.8 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	**1.4**	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	**1.5**	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	**1.4**	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.9(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 2	Aug/Sep 1996	**2.4**	--	--	--	--	--	--	1.0	--	(1)
	Oct/Nov 1996	**1.1**	--	--	--	--	--	--	1.2	--	(1)
	Feb/Mar 1997	**1.7**	--	--	--	--	--	--	1.0	--	(1)
	Jun/Jul 1997	**1.2**	--	--	--	--	--	--	1.0	--	--
	Sep/Oct 1997	**0.6**	--	--	--	--	--	--	0.6	--	--
	Jan/Feb 1998	**0.7**	--	--	--	--	--	--	0.7	--	--
	Apr/May 1998	**1.0**	--	--	--	--	--	--	0.7	--	--
	Jul/Aug 1998	**0.9**	--	--	--	--	--	--	0.6	--	--
	Oct/Nov 1998	**0.6**	--	--	--	--	--	--	0.7	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7(4)	1.1	--	--
	May/Jun 1999	**0.5**	--	--	--	--	--	--	0.7(EB)	--	--
	Aug 1999	**0.5**	--	--	--	--	--	--	0.6	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Mar/Apr 2000	**0.8**	--	--	--	--	--	--	0.7(EB)	--	--
	Jul/Aug 2000	**0.7**	--	--	--	--	--	--	0.5(EB)	--	--
	Sep/Oct 2000	**1.0**	--	--	--	--	--	--	0.8	--	--
Screen 3	Aug/Sep 1996	**0.9**	--	--	--	--	--	--	1.3	2.9(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	1.4	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	1.1	--	(1)
	Jun/Jul 1997	**0.7**	--	--	--	--	--	--	1.4	--	--
	Sep/Oct 1997	**0.6**	--	--	--	--	--	--	1.3	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	1.4	--	--
	Apr/May 1998	**1.0**	--	--	--	--	--	--	1.3	--	--
	Jul/Aug 1998	**1.5**	--	--	--	--	--	--	1.4	--	--
	Oct/Nov 1998	**1.3**	--	--	--	--	--	--	1.1	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	**0.7**	--	--	--	--	--	--	0.7	--	--
	Nov/Dec 1999	**0.9**	--	--	--	--	--	--	0.7(EB)	--	--
	Mar/Apr 2000	**2.4**	--	--	--	--	--	--	1.0(EB)	--	--
	Jul/Aug 2000	**0.9**	--	--	--	--	--	--	0.6(EB)	--	--
	Sep/Oct 2000	**1.0**	--	--	--	--	--	--	0.6	--	--
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	0.5	2.4(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	1.5 2-Methyl-1-Propene	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	0.5	--	--

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Apr/May 1998	--	--	--	--	--	--	--	0.5	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	0.5	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	0.6	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Aug 1999	--	--	--	--	--	--	--	0.5	--	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	0.6(EB)	--	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	0.6(EB)	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	0.7	--	--
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.4(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.1 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	44 Carbon Disulfide(3)	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.7(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
MW-12											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	4.1	--	(1)
	Oct/Nov 1996	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Feb/Mar 1997	--	--	--	--	--	--	--	5.8	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	0.5	--	--
	Sep/Oct 1997	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Jan/Feb 1998	--	--	--	--	--	--	--	0.8	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 2	Aug/Sep 1996	**0.9**	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	**1.5**	0.6	--	--	--	--	0.5	--	--	(1)
	Feb/Mar 1997	**1.1**	0.5	--	--	--	--	--	--	1.1(B) Acetone	(1)
	Jun/Jul 1997	**1.0**	--	--	--	--	--	--	0.8	--	6.9
	Sep/Oct 1997	**0.8**	--	--	--	--	--	--	0.8	--	5.8
	Jan/Feb 1998	**1.1**	--	--	--	--	--	--	0.6	--	6.3
	Apr/May 1998	**1.2**	--	--	--	--	--	--	0.9	--	6.0
	Jul/Aug 1998	**1.4**	--	--	--	--	--	--	0.9	--	5.1
	Oct/Nov 1998	**1.3**	--	--	--	--	--	--	1.0	--	4.2
	Feb/Mar 1999	**1.3**	--	--	--	--	--	--	0.9	--	4.1
	May/Jun 1999	**0.8**	--	--	--	--	--	--	0.6(EB)	0.8 Dichloromethane(EB)	5.0
	Aug 1999	**0.5**	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	**0.5**	--	--	--	--	--	--	--	0.5 Unknown (RT=4.79)	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	**4.5**	--	--	--	--	--	--	1.3	--	(1)
	Oct/Nov 1996	**3.8**	--	--	--	--	--	--	1.3	1.6 Acetone	(1)
	Feb/Mar 1997	**6.4**	--	--	--	--	--	--	1.4	1.3(B) Acetone	(1)
	Jun/Jul 1997	**20**	--	--	--	--	--	--	1.6	--	5.7
	Sep/Oct 1997	**14**	--	--	--	--	--	--	1.7	--	6.2
	Jan/Feb 1998	**23 E**	--	--	--	--	--	--	2.3	--	5.9
	Apr/May 1998	**25**	--	--	--	--	--	--	2.0	--	6.9
	Jul/Aug 1998	**35**	--	--	--	--	--	--	2.2	--	6.6
	Oct/Nov 1998	**27**	--	--	--	--	--	--	2.2	--	6.9
	Feb/Mar 1999	**23**	--	--	--	--	--	--	--	--	--
	May/Jun 1999	**19**	--	--	--	--	--	--	2.0(EB)	--	8.7
	Aug 1999	**19**	--	--	--	--	--	--	2.3	--	--
	Nov/Dec 1999	**23**	--	--	--	--	--	--	2.4(EB)	0.5 Unknown	8.5
	Mar/Apr 2000	**17**	--	--	--	--	--	--	1.9(EB)	--	8.2
	Jul/Aug 2000	**16**	--	--	--	--	--	--	1.9(EB)	--	6.9
	Sep/Oct 2000	**11**	--	--	--	--	--	--	1.6	--	7.1

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Screen 4	Aug/Sep 1996	**6.3**	--	--	--	--	--	--	1.4	--	(1)
	Oct/Nov 1996	**5.1**	--	--	--	--	--	--	1.4	2.5 Acetone	(1)
	Feb/Mar 1997	**4.9**	--	--	--	--	--	--	1.3	--	(1)
	Jun/Jul 1997	**4.9**	--	--	--	--	--	--	1.3	--	7.3
	Sep/Oct 1997	**3.8**	--	--	--	--	--	--	1.0	--	7.6
	Jan/Feb 1998	**4.0**	--	--	--	--	--	--	1.1	--	8.0
	Apr/May 1998	**4.3**	--	--	--	--	--	--	1.2	--	8.0
	Jul/Aug 1998	**5.1**	--	--	--	--	--	--	1.2	--	6.0
	Oct/Nov 1998	**4.1**	--	--	--	--	--	--	1.2	--	7.7
	Feb/Mar 1999	**4.5**	--	--	--	--	--	--	1.2	--	7.0
	May/Jun 1999	**4.0**	--	--	--	--	--	--	1.0(EB)(3)	--	9.1
	Aug 1999	**3.7**	--	--	--	--	--	--	1.1	--	9.2
	Nov/Dec 1999	**3.9**	--	--	--	--	--	--	1.3(EB)	0.5 Unknown (RT=4.8)	8.5
	Mar/Apr 2000	**5.3**	0.5	--	--	--	--	--	1.3(EB)	--	8.7
	Jul/Aug 2000	**4.1**	--	--	--	--	--	--	1.2(EB)	--	8.1
	Sep/Oct 2000	**4.3**	--	--	--	--	--	--	1.2	--	7.9
Screen 5	Aug/Sep 1996	**3.4**	--	--	--	--	--	--	0.7	--	(1)
	Oct/Nov 1996	**1.3**	--	--	--	--	--	--	--	1.5 Acetone	(1)
	Feb/Mar 1997	**1.7**	--	--	--	--	--	--	0.5	--	(1)
	Jun/Jul 1997	**1.9**	--	--	--	--	--	--	0.5	--	4.1
	Sep/Oct 1997	**1.3**	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	**1.3**	--	--	--	--	--	--	--	--	--
	Apr/May 1998	**1.7**	--	--	--	--	--	--	0.6	--	--
	Jul/Aug 1998	**2.1**	--	--	--	--	--	--	0.6	--	--
	Oct/Nov 1998	**2.0**	--	--	--	--	--	--	0.6	--	--
	Feb/Mar 1999	**1.3**	--	--	--	--	--	--	0.7	--	--
	May/Jun 1999	**1.6**	--	--	--	--	--	--	0.5(EB)	--	--
	Aug 1999	**1.9**	--	--	--	--	--	--	0.6	--	--
	Nov/Dec 1999	**1.4**	--	--	--	--	--	--	0.5(EB)	--	--
	Mar/Apr 2000	**2.0**	--	--	--	--	--	--	0.6(EB)	--	4.7
	Jul/Aug 2000	**1.4**	--	--	--	--	--	--	0.5(EB)	--	4.0
	Sep/Oct 2000	**2.5**	--	--	--	--	--	--	0.7	--	4.1
MW-13	Aug/Sep 1996	**21**	**47**	0.6	--	**2.5**	1.5	0.7	21(TB)	--	(1)
	Oct/Nov 1996	**27**	**27**	--	--	**1.9**	1.5	0.6	14	--	(1)
	Feb/Mar 1997	**18**	**28**	--	--	**0.9**	1.1	0.6	9.2	--	(1)
	Jun/Jul 1997	**6.4**	**24 E**	--	--	**0.9**	0.5	--	11	--	**130**
	Sep/Oct 1997	**8.2**	**19**	--	--	**1.1**	0.5	--	10	--	**210**
	Jan/Feb 1998	**12**	**5.2**	0.5	--	--	0.5(5)	--	2.9	1.8 Freon 11	**99**

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Apr/May 1998	**13**	**17**	0.6	--	--	0.9	0.6	5.7	--	**100**
	Jul/Aug 1998	**15**	**29**	0.6	--	--	1.2	0.7	7.7	1.0 Dichloromethane[4] 0.5 1,1,1-Trichloroethane	**59**
	Oct/Nov 1998	**9.0**	**20**	--	--	--	1.1	0.5	9.3	--	**86**
	Feb/Mar 1999	**9.4**	**28**	--	--	**0.7**	0.7	11	--	--	**98**
	May/Jun 1999	**9.8**	**40**	0.6	--	**0.5**	0.8	1.0	9.4	--	**120**
	Aug 1999	**11**	**29**	--	--	**0.7**	0.9	--	12	--	**150**
	Nov/Dec 1999	**10.7**	**20**	--	--	**0.5**	0.7	--	9.2	--	**590**
	Mar/Apr 2000	**8.9**	**11**	0.7	0.7	--	0.6	--	5.2	--	**330**
	Jul/Aug 2000	**8.8**	**20**	--	--	**0.6**	0.7	--	8.8	--	**420**
	Sep/Oct 2000	**14**	**24**	0.5	--	**0.6**	0.9	--	11	--	**660**
MW-14											
Screen 1	Aug/Sep 1996	--	--	--	2.4	--	--	--	0.6	--	(1)
	Oct/Nov 1996	--	--	--	2.9	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	0.7	1.5	--	--	--	0.7	--	(1)
	Jun/Jul 1997	--	--	--	2.0	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	1.9	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	2.1	--	--	--	0.5	--	--
	Apr/May 1998	--	--	1.2	0.8	--	--	--	0.8	--	4.4
	Jul/Aug 1998	--	--	0.8	1.7	--	--	--	0.6	--	4.4
	Oct/Nov 1998	--	--	0.5	2.4	--	--	--	0.6	--	4.2
	Feb/Mar 1999	--	--	0.8	1.2	--	--	0.6[4]	0.6	--	4.2
	May/Jun 1999	--	--	0.5	2.6	--	--	--	--	--	--
	Aug 1999	--	--	--	1.7	--	--	--	--	--	--
	Nov/Dec 1999	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
	Mar/Apr 2000	--	--	0.8	0.8	--	--	--	0.5(EB)	--	5.3
	Jul/Aug 2000	--	--	--	1.0	--	--	--	--	--	4.2
	Sep/Oct 2000	--	--	--	1.2	--	--	--	--	--	--
Screen 2	Aug/Sep 1996	--	2.8	1.6	1.4	--	--	--	1.5	--	(1)
	Oct/Nov 1996	--	1.5	1.6	1.0	--	--	--	0.9	0.6 1,2,3-Trichlorobenzene 1.1 Acetone	(1)
	Feb/Mar 1997	--	0.9	1.9	1.3	--	--	--	0.8	0.8 1,2,3-Trichlorobenzene 1.1 Acetone	(1)
	Jun/Jul 1997	--	1.1	1.7	1.5	--	--	--	0.9	0.5 1,2,3-Trichlorobenzene	--
	Sep/Oct 1997	--	1.2	1.9	1.6	--	--	--	0.8	--	--
	Jan/Feb 1998	--	--	1.2	0.7	--	--	--	--	8.9 Carbon Disulfide[3]	9.0
	Apr/May 1998	--	--	1.2	0.7	--	--	--	0.6	--	4.0
	Jul/Aug 1998	--	0.9	1.8	0.8	--	--	--	0.6	--	4.9

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Oct/Nov 1998	--	0.6	1.5	0.7	--	--	--	0.5	--	4.2
	Feb/Mar 1999	--	0.9	1.6	0.7	--	--	0.6(4)	0.6	--	4.2
	May/Jun 1999	--	1.0	1.2	0.8	--	--	--	0.6(EB)	--	9.6
	Aug 1999	--	--	1.0	--	--	--	--	--	--	--
	Nov/Dec 1999	--	1.0	0.8	--	--	--	--	--	--	5.2
	Mar/Apr 2000	--	2.5	0.7	--	--	--	--	0.6(EB)	--	6.0
	Jul/Aug 2000	--	1.7	0.8	--	--	--	--	0.5(EB)	--	4.9
	Sep/Oct 2000	--	2.4	0.9	--	--	--	--	0.6	--	--
Screen 3	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	4.3
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	5.6
	Apr/May 1998	--	--	--	--	--	--	--	--	--	5.8
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	5.9
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	6.7
	Feb/Mar 1999	--	--	0.5	--	--	--	0.6(4)	0.5	--	5.9
	May/Jun 1999	--	--	--	--	--	--	--	--	--	7.0
	Aug 1999	--	--	--	--	--	--	--	--	--	6.6
	Nov/Dec 1999	--	0.5	--	--	--	--	--	0.5(EB)	--	6.8
	Mar/Apr 2000	--	0.8	0.5	--	--	--	--	0.6(EB)	--	7.9
	Jul/Aug 2000	--	0.7	--	--	--	--	--	0.5(EB)	--	7.5
	Sep/Oct 2000	--	0.7	--	--	--	--	--	0.5	--	6.4
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	0.6(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	9.9
	Aug 1999	--	--	--	--	--	--	--	--	--	4.0
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	4.1
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	4.2
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.1(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.6(TB) Acetone	(1)
										1.3 Carbon Disulfide	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	4.6 Carbon Disulfide[3]	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
MW-15	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	2.6 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
MW-16	Aug/Sep 1996	**125**	**33**	1.3	--	**2.4**	2.2	2.0	40(TB)	--	(1)
	Oct/Nov 1996	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Feb/Mar 1997	**91**	**23**	1.3	--	**1.7**	2.6	1.6	29	--	(1)

TABLE 3-3

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jun/Jul 1997	**68**	**25**	1.1	--	**2.1**	1.7	0.6	43	--	**615**
	Sep/Oct 1997	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Jan/Feb 1998	**30**	3.5	1.0	--	--	1.3	--	14	--	**1230**
	Apr/May 1998	**42**	**12**	0.8	--	**1.4**	1.6	1.2	20	--	**640**
	Jul/Aug 1998	**58**	**19**	1.3	--	**0.8**	2.7	1.2	23	0.6 Dichloromethane(4)	**420**
	Oct/Nov 1998	**51**	**18**	1.0	--	**1.5**	1.6	1.4	29	1.0 1,1,1-Trichloroethane 1.1 1,1,1-Trichloroethane 13 Carbon Disulfide	**220**
	Feb/Mar 1999	**67**	**20**	1.4	--	**1.1**	1.8	1.1	24	--	**790**
	May/Jun 1999	**58**	**15**	1.0	--	**0.8**	1.3	1.2	23	0.5 Fluorotrichloromethane	**650**
	Aug 1999	**70**	**19**	1.8	--	**1.1**	1.9	1.1	26(EB)	0.6 1,1,1-Trichloroethane	**930**
	Nov/Dec 1999	**80**	**10**	3.0	--	**0.7**	5.3	0.7	24	--	**770**
	Mar/Apr 2000	**24**	4.3	0.9	--	--	4.0	--	17	--	**1900**
	Jul/Aug 2000	**33**	**8.2**	1.1	--	**0.7**	1.3	0.5	16	--	**1500**
	Sep/Oct 2000	**53**	**8.0**	2.2	--	**0.6**	3.5	0.7	20	--	**1400**
MW-17											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	--	4.3(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.4 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	2.9	--	--
	Apr/May 1998	--	--	--	--	--	--	--	3.2	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Screen 2	Aug/Sep 1996	--	--	--	--	--	--	--	3.8	4.5(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	6.0	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	5.2	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	4.1	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	6.1	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	5.4	--	--

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Apr/May 1998	--	--	--	--	--	--	--	3.2	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	2.4	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	3.7	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.0(4)	3.9	--	--
	May/Jun 1999	--	--	--	--	--	--	--	3.2(EB)	--	--
	Aug 1999	--	--	--	--	--	--	--	2.5	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	1.4(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	1.9(EB)	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	1.1(EB)	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	1.0	1.0 Unknown (RT=5.12)	--
Screen 3	Aug/Sep 1996	**2.0**	**7.9**	--	--	--	--	--	7.5	--	(1)
	Oct/Nov 1996	**3.3**	**18**	0.8	--	--	--	--	8.7	--	(1)
	Feb/Mar 1997	**5.1**	**23**	1.1	--	--	--	--	6.2	--	(1)
	Jun/Jul 1997	**1.3**	**5.9**	--	--	--	--	--	8.2	--	12
	Sep/Oct 1997	**6.6**	**22**	1.4	--	--	--	--	9.2	--	**55**
	Jan/Feb 1998	**3.3**	**8.7**	--	--	--	--	--	6.8	--	**25**
	Apr/May 1998	--	0.9	--	--	--	--	--	5.3	--	--
	Jul/Aug 1998	--	1.0	--	--	--	--	--	4.9	--	--
	Oct/Nov 1998	--	1.9	--	--	--	--	--	4.1	--	5.1
	Feb/Mar 1999	--	1.6	--	--	--	--	--	3.8	--	4.2
	May/Jun 1999	--	1.5	--	--	--	--	--	3.5(EB)	--	--
	Aug 1999	**0.8**	2.9	--	--	--	--	--	4.6	--	6.1
	Nov/Dec 1999	**0.7**	3.2	--	--	--	--	--	4.4(EB)	--	5.5
	Mar/Apr 2000	--	1.9	--	--	--	--	--	2.6(EB)	--	5.0
	Jul/Aug 2000	--	1.6	--	--	--	--	--	2.8(EB)	--	6.7
	Sep/Oct 2000	**0.6**	1.9	--	--	--	--	--	3.5	--	--
Screen 4	Aug/Sep 1996	--	**9.5**	0.5	--	--	--	--	1.1	--	(1)
	Oct/Nov 1996	--	**8.9**	--	--	--	--	--	1.5	--	(1)
	Feb/Mar 1997	--	**5.8**	--	--	--	--	--	0.7	--	(1)
	Jun/Jul 1997	--	4.5	--	--	--	--	--	0.6	--	13
	Sep/Oct 1997	--	**6.8**	0.5	--	--	--	--	1.0	--	16
	Jan/Feb 1998	--	**7.3**	0.6	--	--	--	--	1.2	--	16
	Apr/May 1998	--	**7.6**	0.6	--	--	--	--	1.5	--	17
	Jul/Aug 1998	--	**8.9**	0.6	--	--	--	--	1.9	--	14
	Oct/Nov 1998	--	**6.2**	0.5	--	--	--	--	1.9	--	12
	Feb/Mar 1999	--	3.8	--	--	--	--	1.0(4)	1.8	--	9.8
	May/Jun 1999	--	3.2	--	--	--	--	--	1.4(EB)	--	14

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Aug 1999	--	3.5	--	--	--	--	--	1.5	--	12
	Nov/Dec 1999	--	**6.8**	--	--	--	--	--	2.0(EB)	--	10
	Mar/Apr 2000	--	**9.9**	0.6	--	--	--	--	1.8(EB)	--	15
	Jul/Aug 2000	--	**6.0**	--	--	--	--	--	1.4(EB)	--	13
	Sep/Oct 2000	--	**5.5**	--	--	--	--	--	1.3	--	1.3
Screen 5	Aug/Sep 1996	--	**13**	0.6	--	--	--	--	1.7	3.4(B) Acetone	(1)
	Oct/Nov 1996	--	**16**	0.7	--	--	--	--	1.7	--	(1)
	Feb/Mar 1997	--	**14**	0.7	--	--	--	--	1.3	--	(1)
	Jun/Jul 1997	--	**11**	0.7	--	--	--	--	1.3	--	12
	Sep/Oct 1997	--	**8.6**	0.6	--	--	--	--	1.4	--	15
	Jan/Feb 1998	--	**7.9**	--	--	--	--	--	1.5	--	15
	Apr/May 1998	--	**8.8**	0.6	--	--	--	--	1.8	--	15
	Jul/Aug 1998	--	**8.9**	0.6	--	--	--	--	2.0	--	13
	Oct/Nov 1998	--	**11**	0.8	--	--	--	--	2.7	--	12
	Feb/Mar 1999	--	4.9	--	--	--	--	--	2.1	--	6.4
	May/Jun 1999	--	**6.6**	0.6	--	--	--	--	2.0(EB)	--	12
	Aug 1999	--	4.0	--	--	--	--	--	1.6	--	11
	Nov/Dec 1999	--	**6.7**	--	--	--	--	--	2.1(EB)	--	9.1
	Mar/Apr 2000	--	**8.8**	--	--	--	--	--	1.8(EB)	--	15
	Jul/Aug 2000	--	**7.1**	0.6	--	--	--	--	1.5(EB)	--	12
	Sep/Oct 2000	--	**6.3**	--	--	--	--	--	1.5	--	12
MW-18											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	1.6	--	(1)
	Oct/Nov 1996	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Feb/Mar 1997	--	--	--	--	--	--	--	3.0	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	0.8	--	--
	Sep/Oct 1997	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Jan/Feb 1998	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Apr/May 1998	--	--	--	--	--	--	--	0.7	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	3.4 Unknown Hydrocarbon (RT=7.14)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Screen 2	Aug/Sep 1996	--	--	--	--	--	--	--	7.3	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	8.2	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	1.9	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	4.5	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	2.5	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	3.7	--	--
	Apr/May 1998	--	--	--	--	--	--	--	3.2	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	0.9	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	3.0	0.8 Bromodichloromethane	--
	May/Jun 1999	--	--	--	--	--	--	--	0.8(EB)	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	2.5(EB)	0.9 Bromodichloromethane	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	**0.7**	4.7	2.8	--	--	--	--	5.1	--	(1)
	Oct/Nov 1996	**0.7**	**6.4**	3.2	--	--	--	--	5.6	--	(1)
	Feb/Mar 1997	**0.8**	**6.6**	2.9	--	--	--	--	5.1	--	(1)
	Jun/Jul 1997	**0.6**	2.4	1.8	--	--	--	--	4.4	--	--
	Sep/Oct 1997	--	3.0	1.9	--	--	--	--	6.2	--	--
	Jan/Feb 1998	--	1.9	1.7	--	--	--	--	6.6	4.1 Unknown (RT=4.33)	--
	Apr/May 1998	**0.5**	1.8	1.3	--	--	--	--	5.7	--	5.0
	Jul/Aug 1998	--	1.5	0.9	--	--	--	--	4.6	--	5.2
	Oct/Nov 1998	--	1.4	0.8	--	--	--	--	4.2	--	--
	Feb/Mar 1999	--	1.0	0.5	--	--	--	--	3.5	--	--
	May/Jun 1999	--	1.1	--	--	--	--	--	2.5(EB)	0.6 Dichloromethane	--
	Aug 1999	--	1.0	--	--	--	--	--	2.8	--	--
	Nov/Dec 1999	--	0.8	--	--	--	--	--	0.8(EB)	--	--
	Mar/Apr 2000	--	1.1	0.5	--	--	--	--	3.1(EB)	--	--
	Jul/Aug 2000	--	0.6	--	--	--	--	--	2.6(EB)	--	--
	Sep/Oct 2000	--	0.7	--	--	--	--	--	2.8	--	--
Screen 4	Aug/Sep 1996	**2.2**	--	0.7	--	--	--	--	0.5	--	(1)
	Oct/Nov 1996	**2.2**	--	0.7	--	--	--	--	0.5	1.4(TB) Acetone	(1)
	Feb/Mar 1997	**2.2**	--	1.5	--	--	--	--	0.6	--	(1)
	Jun/Jul 1997	**1.9**	--	0.7	--	--	--	--	--	--	11

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Sep/Oct 1997	**2.4**	--	0.7	--	--	--	--	--	1.5 Carbon Disulfide	12
	Jan/Feb 1998	**2.6**	--	1.0	--	--	--	--	0.5	--	11
	Apr/May 1998	**3.1**	0.6	1.4	--	--	--	--	0.8	--	13
	Jul/Aug 1998	**2.5**	0.6	1.2	--	--	--	--	0.6	--	16
	Oct/Nov 1998	**3.4**	0.8	1.5	--	--	--	--	0.7	--	**19**
	Feb/Mar 1999	**4.7**	1.2	2.3	--	--	--	--	1.1	--	**24**
	May/Jun 1999	**3.6**	1.6	2.5	--	--	--	--	1.1(EB)	0.7 Dichloromethane	16
	Aug 1999	**3.6**	1.1	1.9	--	--	--	--	0.8	--	**23**
	Nov/Dec 1999	**3.8**	1.2	2.0	--	--	--	--	0.8(EB)	--	**23**
	Mar/Apr 2000	**3.8**	1.2	2.2	--	--	--	--	0.9(EB)	--	**24**
	Jul/Aug 2000	**3.6**	1.1	2.0	--	--	--	--	0.9(EB)	--	**24**
	Sep/Oct 2000	**4.5**	1.3	2.4	--	--	--	--	0.9	--	**25**
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	1.6 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	1.1 Carbon Disulfide	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	4.6 Hexane	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	0.8 Dichloromethane	--
	Aug 1999	--	--	--	--	--	--	--	--	1.0 Unknown (RT=4.25)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	0.6 Unknown (RT=4.82)	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
MW-19											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	0.9	3.7(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	0.6	2.9 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	0.8	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	2.5	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	1.4	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	0.8	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 2	Aug/Sep 1996	--	--	0.8	--	--	--	--	--	3.0(B) Acetone	(1)
	Oct/Nov 1996	--	--	1.1	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	0.6	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	0.6	0.9	--	--	--	--	--	--	--
	Apr/May 1998	--	0.9	1.2	--	--	--	--	--	--	--
	Jul/Aug 1998	--	0.6	0.7	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	0.6	--	--	--	--	--	--	--	--
	May/Jun 1999	--	1.3	1.1	--	--	--	--	--	--	4.5
	Aug 1999	--	0.7	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	0.5	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	0.6	0.5	--	--	--	--	--	--	--
	Jul/Aug 2000	--	0.6	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	0.7	--	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	--	--	3.1	--	--	--	--	--	2.6(B) Acetone	(1)
	Oct/Nov 1996	--	--	2.5	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	2.1	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	2.0	--	--	--	--	--	--	4.1
	Sep/Oct 1997	--	--	1.5	--	--	--	--	--	0.6 Toluene	--
	Jan/Feb 1998	--	--	2.1	--	--	--	--	--	--	--
	Apr/May 1998	--	--	2.5	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	2.1	--	--	--	--	--	--	4.4
	Oct/Nov 1998	--	--	2.0	--	--	--	--	--	--	4.2
	Feb/Mar 1999	--	--	1.5	--	--	--	--	--	--	--
	May/Jun 1999	--	0.9	2.7	--	--	--	--	--	--	7.2
	Aug 1999	--	0.6	1.9	--	--	--	--	--	--	4.4
	Nov/Dec 1999	--	0.6	1.9	--	--	--	--	--	--	5.0
	Mar/Apr 2000	--	0.8	2.0	--	--	--	--	--	--	4.8

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jul/Aug 2000	--	0.7	1.8	--	--	--	--	--	--	5.0
	Sep/Oct 2000	--	--	1.3	--	--	--	--	--	--	4.4
Screen 4	Aug/Sep 1996	**0.5**	1.5	--	--	--	--	--	2.1	--	(1)
	Oct/Nov 1996	--	1.5	--	--	--	--	--	1.9	--	(1)
	Feb/Mar 1997	--	1.1	0.6	--	--	--	--	1.5	--	(1)
	Jun/Jul 1997	--	0.7	--	--	--	--	--	1.3	--	--
	Sep/Oct 1997	--	0.7	0.6	--	--	--	--	1.7	--	4.9
	Jan/Feb 1998	--	0.5	0.6	--	--	--	--	1.3	--	--
	Apr/May 1998	--	0.8	1.0	--	--	--	--	1.6	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	1.4	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	2.2	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	3.0	--	--
	May/Jun 1999	--	0.7	--	--	--	--	--	2.6(EB)	--	--
	Aug 1999	--	0.5	--	--	--	--	--	2.7	--	--
	Nov/Dec 1999	--	0.5	--	--	--	--	--	2.1(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	2.0(EB)	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	3.2(EB)	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	2.9	--	--
Screen 5	Aug/Sep 1996	--	--	3.0	--	--	--	--	0.6	1.6(B) Unknown scan #940	(1)
	Oct/Nov 1996	--	--	2.4	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	1.7	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	1.5	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	2.2	--	--	--	--	0.8	--	--
	Jan/Feb 1998	--	--	1.4	--	--	--	--	--	--	--
	Apr/May 1998	--	--	0.9	--	--	--	--	0.6	--	--
	Jul/Aug 1998	--	--	1.5	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	1.5	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	1.3	--	--	--	--	--	--	--
	May/Jun 1999	--	--	2.1	--	--	--	--	--	0.7 Dichloromethane	4.4
	Aug 1999	--	--	1.5	--	--	--	--	--	--	4.2
	Nov/Dec 1999	--	--	1.5	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	1.4	--	--	--	--	0.6(EB)	--	--
	Jul/Aug 2000	--	0.5	1.7	--	--	--	--	0.5(EB)	--	4.2
	Sep/Oct 2000	--	0.6	2.0	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
MW-20											
Screen 1	Aug/Sep 1996	--	--	--	--	--	--	--	0.7	3.4(B) Acetone	(1)
	Oct/Nov 1996	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Feb/Mar 1997	--	--	--	--	--	--	--	1.4	2.4(EB) Acetone	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	0.8	--	5.7
	Sep/Oct 1997	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Jan/Feb 1998	--	--	--	--	--	--	--	1.4	--	6.3
	Apr/May 1998	--	--	--	--	--	--	--	2.5	--	5.5
	Jul/Aug 1998	--	--	--	--	--	--	--	1.8	--	5.9
	Oct/Nov 1998	--	--	--	--	--	--	--	0.8	--	7.8
	Feb/Mar 1999	--	--	--	--	--	--	--	2.2	--	4.9
	May/Jun 1999	--	--	--	--	--	--	--	1.9(EB)	--	4.4
	Aug 1999	--	--	--	--	--	--	--	0.6	--	7.5
	Nov/Dec 1999	--	--	--	--	--	--	--	1.3(EB)	--	7.7
	Mar/Apr 2000	--	--	--	--	--	--	--	1.1(EB)	--	7.6
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	7.5
	Sep/Oct 2000	--	--	--	--	--	--	--	0.8	--	7.9
Screen 2	Aug/Sep 1996	--	--	--	--	--	--	--	7.7	4.0(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	4.4	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	3.2	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	3.3	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	5.7	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	2.7	--	--
	Apr/May 1998	--	--	--	--	--	--	--	2.7	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	4.2	0.5 Dichlorobromomethane	--
	Oct/Nov 1998	--	--	--	--	--	--	--	3.6	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	4.2	--	--
	May/Jun 1999	--	--	--	--	--	--	--	4.6(EB)	0.6 Bromodichloromethane	--
	Aug 1999	--	--	--	--	--	--	--	4.8	0.6 Bromodichloromethane	--
	Nov/Dec 1999	--	--	--	--	--	--	--	3.8(EB)	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	3.8(EB)	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	4.1(EB)	0.6 Bromodichloromethane	--
	Sep/Oct 2000	--	--	--	--	--	--	--	4.5	0.7 Bromodichloromethane	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 3	Aug/Sep 1996	--	--	--	--	--	--	--	--	2.7(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	0.6	2.3 Acetone	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	3.4 Unknown (RT=6.2)	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 4	Aug/Sep 1996	--	--	--	--	--	--	--	--	3.8(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	**20**
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 5	Aug/Sep 1996	--	--	--	--	--	--	--	--	4.8(B) Acetone	(1)
	Oct/Nov 1996	--	--	--	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	--	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	8.2
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	0.7 Carbonyl Sulfide	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
MW-21											
Screen 1	Aug/Sep 1996	--	**33**	0.7	--	--	--	--	1.8	2.3(B) Acetone	(1)
	Oct/Nov 1996	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Feb/Mar 1997	--	**29**	--	--	--	--	--	2.2	--	(1)
	Jun/Jul 1997	--	**20**	--	--	--	--	--	1.6	--	**19**
	Sep/Oct 1997	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
	Jan/Feb 1998	--	**16**	--	--	--	--	--	1.8	--	14
	Apr/May 1998	--	**16**	--	--	--	--	--	1.8	--	14
	Jul/Aug 1998	--	**16**	0.6	--	--	--	--	1.8	--	13
	Oct/Nov 1998	--	**10**	--	--	--	--	--	1.6	--	13
	Feb/Mar 1999	--	**20**	0.5	--	--	--	--	1.8	--	14
	May/Jun 1999	--	**20**	0.5	--	--	--	--	1.6(EB)	--	15
	Aug 1999	--	**17**	0.5	--	--	--	--	1.7	--	12
	Nov/Dec 1999	--	**15**	0.7	--	--	--	--	2.2(EB)	--	16
	Mar/Apr 2000	--	**17**	0.7	--	--	--	--	1.8(EB)	--	12
	Jul/Aug 2000	--	**12**	0.5	--	--	--	--	1.7(EB)	--	16
	Sep/Oct 2000	--	**12**	0.6	--	--	--	--	1.6	--	16
Screen 2	Aug/Sep 1996	--	--	0.9	--	--	--	--	0.5	--	(1)
	Oct/Nov 1996	--	0.6	2.3	--	--	--	--	0.6	1.4(TB) Acetone	(1)
	Feb/Mar 1997	--	--	1.1	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	0.7	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	1.1	--	--	--	--	--	--	--
	Apr/May 1998	--	--	1.0	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	0.7	--	--	--	--	0.7	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	0.7	--	--
	Feb/Mar 1999	--	--	0.8	--	--	--	--	--	--	--
	May/Jun 1999	--	--	0.6	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Aug 1999	--	--	0.8	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	1.2	--	--	--	--	--	--	4.6
	Mar/Apr 2000	--	--	0.9	--	--	--	--	--	1.8 Carbonyl Sulfide	4.1
	Jul/Aug 2000	--	--	0.9	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	1.1	--	--	--	--	--	--	--
Screen 3	Aug/Sep 1996	--	0.7	1.5	--	--	--	--	0.5	--	(1)
	Oct/Nov 1996	--	0.9	1.6	--	--	--	--	--	1.2 Acetone	(1)
	Feb/Mar 1997	--	0.8	1.6	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	1.2	--	--	--	--	--	--	--
	Sep/Oct 1997	--	0.6	1.3	--	--	--	--	--	--	--
	Jan/Feb 1998	--	0.5	1.4	--	--	--	--	--	--	--
	Apr/May 1998	--	--	1.1	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	0.9	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	0.8	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	1.0	--	--	--	--	--	--	4.1
	May/Jun 1999	--	0.6	1.4	--	--	--	--	--	--	--
	Aug 1999	--	0.6	1.3	--	--	--	--	--	--	--
	Nov/Dec 1999	--	0.9	2.2	--	--	--	--	0.6(EB)	4.9 Carbonyl Sulfide	4.8
	Mar/Apr 2000	--	0.9	2.3	--	--	--	--	0.6(EB)	--	--
	Jul/Aug 2000	--	0.6	1.5	--	--	--	--	0.7(EB)	--	--
	Sep/Oct 2000	--	0.7	1.6	--	--	--	--	0.8	--	--
Screen 4	Aug/Sep 1996	--	0.8	4.2	--	--	--	--	--	--	(1)
	Oct/Nov 1996	--	--	2.5	--	--	--	--	--	1.6 Acetone	(1)
	Feb/Mar 1997	--	--	1.8	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	2.8	--	--	--	--	--	--	4.6
	Sep/Oct 1997	--	0.6	4.4	--	--	--	--	--	--	7.7
	Jan/Feb 1998	--	--	2.4	--	--	--	--	--	--	--
	Apr/May 1998	--	0.6	4.4	--	--	--	--	--	0.7 cis-1,2-Dichloroethene	--
	Jul/Aug 1998	--	0.8	4.3	--	--	--	--	--	0.8 cis-1,2-Dichloroethene	4.3
	Oct/Nov 1998	--	1.1	**8.3**	--	--	--	--	0.6	1.3 cis-1,2-Dichloroethene	--
	Feb/Mar 1999	--	--	3.8	--	--	--	--	--	0.7 cis-1,2-Dichloroethene	--
	May/Jun 1999	--	--	3.2	--	--	--	--	--	0.6 cis-1,2-Dichloroethene	4.8
	Aug 1999	--	0.7	**6.1**	--	--	--	--	0.6	1.2 cis-1,2-Dichloroethene	--
	Nov/Dec 1999	--	0.6	**6.0**	--	--	--	--	--	5.1 Carbonyl Sulfide 1.1 cis-1,2-Dichloroethene	--
	Mar/Apr 2000	--	--	4.0	--	--	--	--	--	0.9 cis-1,2-Dichloroethene	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
	Jul/Aug 2000	--	0.5	**6.2**	--	--	--	--	0.7(EB)	1.3 cis-1,2-Dichloroethene	--
	Sep/Oct 2000	--	0.8	**8.6**	--	--	--	--	1.0	0.7 Bromodichloromethane 0.5 Chlorodibromomethane 1.5 cis-1,2-Dichloroethene	--
Screen 5	Aug/Sep 1996	--	--	4.5	--	--	--	--	0.6	--	(1)
	Oct/Nov 1996	--	--	3.1	--	--	--	--	--	--	(1)
	Feb/Mar 1997	--	--	3.0	--	--	--	--	--	--	(1)
	Jun/Jul 1997	--	--	3.0	--	--	--	--	--	--	--
	Sep/Oct 1997	--	--	2.9	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	4.1	--	--	--	--	--	0.6 cis-1,2-Dichloroethene 5.0 Carbon Disulfide[3]	5.2
	Apr/May 1998	--	--	**6.5**	--	--	--	--	--	1.0 cis-1,2-Dichloroethene	5.8
	Jul/Aug 1998	--	--	**7.6**	--	--	--	--	0.6	1.5 cis-1,2-Dichloroethene	--
	Oct/Nov 1998	--	--	**6.7**	--	--	--	--	0.6	1.4 cis-1,2-Dichloroethene	4.0
	Feb/Mar 1999	--	0.5	**7.7**	--	--	--	--	0.7	1.4 cis-1,2-Dichloroethene	4.2
	May/Jun 1999	--	--	**8.2**	--	--	--	--	0.7(EB)[3]	1.5 cis-1,2-Dichloroethene	--
	Aug 1999	--	0.6	**9.6**	--	--	--	--	0.8	1.6 cis-1,2-Dichloroethene 1.4 Chlorodifluoromethane	--
	Nov/Dec 1999	--	0.7	**11.4**	--	--	--	--	1.0(EB)	2.2 cis-1,2-Dichloroethene	4.9
	Mar/Apr 2000	--	0.7	**12**	--	--	--	--	1.2(EB)	2.5 cis-1,2-Dichloroethene 0.6 Bromodichloromethane	4.2
	Jul/Aug 2000	--	0.6	**11**	--	--	--	--	1.2(EB)	2.2 cis-1,2-Dichloroethene 0.6 Bromodichloromethane	--
	Sep/Oct 2000	--	0.8	**15**	--	--	--	--	1.7	2.7 cis-1,2-Dichloroethene 0.6 Bromodichloromethane	--
MW-22[9]											
Screen 1	Sep/Oct 1997	--	--	2.0	0.7	--	--	--	--	--	--
	Jan/Feb 1998	--	--	2.3	0.8	--	--	0.5	--	--	--
	Apr/May 1998	--	0.9	2.1	0.8	--	--	--	0.5	--	5.4
	Jul/Aug 1998	--	0.9	1.7	0.6	--	--	--	--	--	6.4
	Oct/Nov 1998	--	--	1.7	0.7	--	--	--	--	--	5.0
	Feb/Mar 1999	--	0.6	3.6	1.0	--	--	1.3[4]	0.5	--	6.4
	May/Jun 1999	--	--	2.7	1.0	--	--	--	--	--	4.9
	Aug 1999	--	--	2.1	0.7	--	--	--	--	--	--
	Nov/Dec 1999	--	--	3.6	0.9	--	--	--	0.5(EB)	--	4.2
	Mar/Apr 2000	--	--	3.1	0.7	--	--	--	--	--	4.3
	Jul/Aug 2000	--	--	3.2	0.6	--	--	--	--	--	4.4
	Sep/Oct 2000	--	--	2.7	0.7	--	--	--	--	1.9 Unknown (RT=5.12)	5.6

TABLE 3-3

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 2	Sep/Oct 1997	--	--	--	--	--	--	--	--	0.8 Dichloromethane	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	0.6	--	--	--	--	1.4(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 3	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	15
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.3(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	3.4 Unknown (RT=5.13)	--
Screen 4	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.3(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--

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(concentrations in µg/L)

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Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 5	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	1.3(4)	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
MW-23(9)											
Screen 1	Sep/Oct 1997	--	3.1	0.6	0.8	--	--	--	--	--	4.4
	Jan/Feb 1998	--	4.2	1.6	1.2	--	--	--	0.9	0.6 1,2,3-Trichlorobenzene	5.2
	Apr/May 1998	**0.5**	**16**	0.8	1.2	--	--	--	1.9	--	16
	Jul/Aug 1998	**0.5**	**9.2**	--	--	--	--	--	1.0	2.2 Dichloromethane(3)	**19**
	Oct/Nov 1998	**0.8**	**15**	--	--	--	--	--	1.9	--	**21**
	Feb/Mar 1999	**0.6**	**15**	1.1	1.4	--	--	--	1.9	0.06 1,2,3-Trichlorobenzene	8.4
	May/Jun 1999	--	**7.0**	1.1	--	--	--	0.6	1.0(EB)	0.7 1,2,3-Trichlorobenzene	7.6
	Aug 1999	--	3.5	1.1	1.0	--	--	--	0.7(EB)	--	--
	Nov/Dec 1999	--	1.2	1.3	1.0	--	--	--	0.5(EB)	1.1 1,2,3-Trichlorobenzene	4.1
	Mar/Apr 2000	--	1.5	2.3	1.3	--	--	--	0.7(EB)	1.2 1,2,3-Trichlorobenzene	4.3
	Jul/Aug 2000	--	1.4	0.9	--	--	0.6	--	0.5(EB)	--	4.9
	Sep/Oct 2000	--	0.6	1.0	0.7	--	--	--	--	--	--
Screen 2	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	7.6
	Jan/Feb 1998	--	--	--	--	--	--	--	0.7	--	6.7
	Apr/May 1998	--	--	--	--	--	--	--	--	--	7.5
	Jul/Aug 1998	--	1.1	1.0	0.8	--	--	--	0.7	1.8 Dichloromethane(4)	7.8
	Oct/Nov 1998	--	0.6	0.7	0.6	--	--	--	0.6	--	16
	Feb/Mar 1999	--	--	--	--	--	--	--	0.5	--	7.7
	May/Jun 1999	--	--	--	0.5	--	--	--	0.6(EB)	--	7.8
	Aug 1999	--	--	--	--	--	--	--	0.5(EB)	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	7.5
	Mar/Apr 2000	--	--	0.6	--	--	--	--	0.6(EB)	--	7.2
	Jul/Aug 2000	--	--	0.7	--	--	--	--	0.7(EB)	--	6.6
	Sep/Oct 2000	--	--	0.6	--	--	--	--	0.6	--	7.0

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 3	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	1.7 Dichloromethane(4)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--
Screen 4	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	2.3 Dichloromethane(4)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
Screen 5	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	1.7 Dichloromethane(4) 3.0 Unknown (RT=3.93)	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	3.1 2-Methyl-1-propene	17
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
MW-24[9]											
Screen 1	Sep/Oct 1997	**5.0**	5.0	--	--	--	--	0.6	3.1	--	**92**
	Jan/Feb 1998	**30 E**	**15**	0.5	--	**0.8**	--	0.6	15	--	**330**
	Apr/May 1998	**6.7**	**5.4**	--	--	--	--	--	3.3	--	**74**
	Jul/Aug 1998	--	1.7	--	--	--	--	--	0.9	--	**20**
	Oct/Nov 1998	**1.0**	1.3	--	--	--	--	--	0.8	--	16
	Feb/Mar 1999	**1.0**	1.5	--	--	--	--	--	0.8	--	14
	May/Jun 1999	**1.0**	1.6	--	--	--	--	--	0.6(EB)	--	14
	Aug 1999	**1.8**	3.6	--	--	--	--	--	1.3	--	**22**
	Nov/Dec 1999	**6.3**	**5.3**	--	--	--	--	--	2.5(EB)	--	**91**
	Mar/Apr 2000	**15**	**8.6**	0.6	--	--	--	0.6	5.1(EB)	--	**270**
	Jul/Aug 2000	**18**	**7.7**	0.9	--	--	--	--	4.5(EB)	--	**440**
	Sep/Oct 2000	**28**	**8.4**	1.1	--	--	0.6	0.6	5.5	--	**590**
Screen 2	Sep/Oct 1997	**13**	1.3	--	--	--	--	--	3.8	--	**200**
	Jan/Feb 1998	**6.9**	0.7	--	--	--	--	--	2.4	--	**110**
	Apr/May 1998	**29**	3.3	0.9	--	--	1.4	--	9.4	--	**480**
	Jul/Aug 1998	**58**	4.0	1.5	--	--	2.0	--	8.4	--	**500**
	Oct/Nov 1998	**19**	2.3	0.8	--	--	0.8	--	5.9	--	**490**
	Feb/Mar 1999	**30 E**	3.0	1.0	--	--	1.5	--	6.6	--	**580**
	May/Jun 1999	**33**	4.3	1.3	--	--	1.8	--	7.7(EB)	--	**690**
	Aug 1999	**35**	3.6	0.9	--	--	1.4	--	7.5	--	**700**
	Nov/Dec 1999	**25**	3.7	0.9	--	--	1.4	--	7.4(EB)	--	**570**
	Mar/Apr 2000	**28**	4.3	1.1	--	--	1.9	--	8.0(EB)	--	**570**
	Jul/Aug 2000	**23 E**	3.3	0.8	--	--	1.2	--	7.7(EB)	--	**530**
	Sep/Oct 2000	**21**	3.0	0.8	--	--	1.4	--	6.6	--	**430**
Screen 3	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	--	--	--	--	--	--	--	--	--	--
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	--

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in μg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Screen 4	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	--	--	--	--	--	--	--	--	--	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	--	--	--	--	--	--	--	--	--	(2)
Screen 5	Sep/Oct 1997	--	--	--	--	--	--	--	--	--	--
	Jan/Feb 1998	--	--	--	--	--	--	--	--	--	--
	Apr/May 1998	--	--	--	--	--	--	--	--	--	--
	Jul/Aug 1998	--	--	--	--	--	--	--	--	--	--
	Oct/Nov 1998	--	--	--	--	--	--	--	--	--	--
	Feb/Mar 1999	--	--	--	--	--	--	--	--	--	--
	May/Jun 1999	--	--	--	--	--	--	--	--	--	--
	Aug 1999	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	--	--	--	--	--	--	--	--	--	--
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	--	--	--	--	--	--
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)

TABLE 3-3

SUMMARY OF VOLATILE ORGANIC COMPOUNDS AND PERCHLORATE DETECTED DURING THE LONG-TERM QUARTERLY GROUNDWATER SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in µg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sampling Location	Sampling Event	Carbon Tetrachloride	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	Freon 113	Total Trihalomethanes (Primarily Chloroform)	Other Volatile Organic Compounds	Perchlorate
Practical Quantitation Limit		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.0
California Maximum Contaminant Level		0.5	5.0	5.0	5.0	0.5	6.0	1,200	100	150 Freon 11[10] 6.0 cis-1,2-Dichloroethene[10] 1,1,1-Trichloroethane[10]	18[11]
EPA Region IX Maximum Contaminant Level		5.0	5.0	5.0	NE	5.0	7.0	NE	100	5.0 Dichloromethane[10] 70 cis-1,2-Dichloroethene[10] 100 Bromodichloromethane[10] 1,1,1-Trichloroethane[10]	NE

--: Not detected.
B: Compound detected in laboratory method blank.
EB: Compound detected in associated equipment blank.
RT: Retention time.
TB: Compound detected in associated trip blank.
FB: Compound detected in associated field blank.
E: Estimated concentration; result exceeded calibration range.
NE: Not established.
1: Perchlorate not part of monitoring program.
2: Monitoring point not sampled at all, or not sampled for the particular constituent due to changes in the sampling program as agreed to by the EPA, DTSC, and RWQCB.
3: Suspected by the laboratory to have resulted from carry over in analysis (see January/February 1998 report).
4: Attributed to laboratory contamination.
5: Results from duplicate analysis; original sample was non-detect.
6: Not sampled. U.S. Filter Pilot Test being conducted.
7: Not sampled, no water over screen.
8: Not sampled due to mechanical failure.
9: Wells installed June-August 1997.
10: Only detected VOCs for which MCLs have been established are listed.
11: California Department of Health Services Interim Action Level.

TABLE 3-4

RESULTS OF METALS ANALYSIS OF GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER-OCTOBER 2000

(concentrations in mg/L)
Values above state or Federal MCLs are bold and shaded

Sample Location	Sample Number	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
MW-1	Not Sampled[1]			
MW-3				
Screen 1	Not Sampled[1]			
Screen 2	MW-003-070	--	--	2.02
Screen 3	MW-003-069	--	--	2.20
Screen 4	MW-003-068	--	--	4.42
Screen 5	MW-003-067	(1)	(1)	15.0
MW-4				
Screen 1	MW-003-066	--	--	4.95
Screen 2	MW-003-065	0.025	--	17.82
Screen 2 (DUP)	MW-003-064	0.024	--	17.82
Screen 3	MW-003-063	--	--	16.55
Screen 4	MW-003-062	--	--	6.48
Screen 5	MW-003-061	--	--	2.09
MW-5	MW-003-060	--	--	0.72
MW-6	MW-003-059	0.022	--	4.42
MW-7	MW-003-058	(2)	(2)	1.27
MW-8	MW-003-057	--	--	3.81
MW-9	Not Sampled[1]			
MW-10	MW-003-056	0.020	--	2.85
MW-10 DUP	MW-003-055	0.029	--	2.85
MW-11				
Screen 1	MW-003-054	--	--	0.82
Screen 2	MW-003-053	--	--	1.22
Screen 3	MW-003-052	--	--	1.52
Screen 4	MW-003-051	(1)	(1)	1.42
Screen 5	Not Sampled[1]			
MW-12				
Screen 1	MW-003-050	--	--	17.45
Screen 2	MW-003-049	--	--	1.62
Screen 2 (DUP)	MW-003-048	--	--	1.62
Screen 3	MW-003-047	--	--	1.21
Screen 4	MW-003-046	(1)	(1)	1.10
Screen 5	MW-003-045	(1)	(1)	4.50

TABLE 3-4

RESULTS OF METALS ANALYSIS OF GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER-OCTOBER 2000

(concentrations in mg/L)
Values above state or Federal MCLs are bold and shaded

Sample Location	Sample Number	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
MW-13	MW-003-044	0.036	0.028	0.56
MW-13 DUP	MW-003-043	0.039	0.030	0.56
MW-14				
Screen 1	MW-003-042	--	--	0.76
Screen 2	MW-003-041	--	--	4.53
Screen 3	MW-003-040	--	--	0.59
Screen 4	MW-003-039	--	--	0.33
Screen 5	MW-003-038	(1)	(1)	2.68
MW-15	Not Sampled(1)			
MW-16	MW-003-037	--	--	0.13
MW-17				
Screen 1	Not Sampled(1)			
Screen 2	MW-003-036	--	--	1.70
Screen 3	MW-003-035	--	--	7.99
Screen 4	MW-003-034	--	--	3.15
Screen 5	MW-003-033	(1)	(1)	9.15
MW-18				
Screen 1	Not Sampled(1)			
Screen 2	MW-003-032	--	--	4.06
Screen 3	MW-003-031	--	--	0.76
Screen 4	MW-003-030	--	--	0.90
Screen 5	MW-003-029	(1)	(1)	1.13
MW-19				
Screen 1	MW-003-028	(1)	(1)	3.92
Screen 2	MW-003-027	(1)	(1)	3.53
Screen 3	MW-003-026	(1)	(1)	9.50
Screen 4	MW-003-025	(1)	(1)	1.23
Screen 5	MW-003-024	(1)	(1)	1.69
MW-20				
Screen 1	MW-003-023	--	--	3.77
Screen 2	MW-003-022	--	--	0.43
Screen 3	MW-003-021	--	--	0.40
Screen 4	MW-003-020	--	--	2.30
Screen 5	MW-003-019	--	--	1.35

TABLE 3-4

RESULTS OF METALS ANALYSIS OF GROUNDWATER SAMPLES COLLECTED FROM JPL MONITORING WELLS, SEPTEMBER-OCTOBER 2000

(concentrations in mg/L)
Values above state or Federal MCLs are bold and shaded

Sample Location	Sample Number	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
MW-21				
Screen 1	MW-003-018	(1)	(1)	0.55
Screen 2	MW-003-017	(1)	(1)	0.45
Screen 3	MW-003-016	(1)	(1)	1.91
Screen 4	MW-003-015	(1)	(1)	7.74
Screen 5	MW-003-014	(1)	(1)	9.62
MW-22				
Screen 1	MW-003-013	--	--	9.65
Screen 2	MW-003-012	--	--	1.80
Screen 3	MW-003-011	(1)	(1)	5.30
Screen 4	MW-003-010	(1)	(1)	2.40
Screen 5	Not Sampled(1)			
MW-23				
Screen 1	MW-003-009	--	--	9.16
Screen 2	MW-003-008	--	--	1.72
Screen 3	MW-003-007	--	--	1.16
Screen 4	MW-003-006	--	--	1.07
Screen 5	MW-003-005	(1)	(1)	1.31
MW-24				
Screen 1	MW-003-004	--	--	14.45
Screen 2	MW-003-003	--	--	13.40
Screen 3	MW-003-002	--	--	14.98
Screen 4	MW-003-001	--	--	5.64
Screen 5	Not Sampled(1)			
Practical Quantitation Limit		0.010	0.005	
California Maximum Contaminant Level		0.050	NE	
EPA Maximum Contaminant Level		0.100	NE	

(DUP): Duplicate.
NE: Not established.
--: Not detected.
1: Monitoring point not sampled at all, or not sampled for the particular constituent(s) due to changes in the sampling program as agreed to by the EPA, DTSC, and RWQCB.
2: Not sampled. US Filter Pilot Test being conducted.

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
MW-1	Aug/Sep 1996	--	--	--	--	0.8
	Oct/Nov 1996	--	--	--	--	0.5
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	0.7
	Jan/Feb 1998	--	--	--	--	1.6
	Apr/May 1998	--	--	--	--	0.5
	Jul/Aug 1998	--	0.009	**0.055**(1)	--	1.0
	Oct/Nov 1998	--	--	--	--	1.1
	Feb/Mar 1999	--	--	--	--	1.9
	May/Jun 1999	--	--	--	--	0.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	1.2
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.1
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
MW-3						
Screen 1	Aug/Sep 1996	--	--	--	--	7.2
	Oct/Nov 1996	--	--	--	--	3.1
	Feb/Mar 1997	--	--	--	--	6.1
	Jun/Jul 1997	--	--	--	--	2.6
	Sep/Oct 1997	--	--	--	--	2.1
	Jan/Feb 1998	--	--	--	--	2.9
	Apr/May 1998	--	--	--	--	4.8
	Jul/Aug 1998	--	--	--	--	4.5
	Oct/Nov 1998	--	--	--	--	3.8
	Feb/Mar 1999	--	--	--	--	4.7
	May/Jun 1999	--	--	--	--	4.6
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	4.5
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	7.6
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
Screen 2	Aug/Sep 1996	--	--	--	--	1.7
	Oct/Nov 1996	--	--	--	--	2.7
	Feb/Mar 1997	--	--	--	--	3.8
	Jun/Jul 1997	--	--	--	--	1.1
	Sep/Oct 1997	--	--	--	--	2.1
	Jan/Feb 1998	--	--	--	--	2.3
	Apr/May 1998	--	--	--	--	4.3
	Jul/Aug 1998	--	0.004	--	--	3.3
	Oct/Nov 1998	--	--	--	--	4.3
	Feb/Mar 1999	--	--	--	--	2.1
	May/Jun 1999	--	--	--	--	3.1
	Aug 1999	(2)	(2)	--	--	1.0
	Nov/Dec 1999	(2)	(2)	--	--	3.9
	Mar/Apr 2000	(2)	(2)	--	--	3.5

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jul/Aug 2000	--	--	--	--	1.2
	Sep/Oct 2000	(2)	(2)	--	--	2.0
Screen 3	Aug/Sep 1996	--	--	--	--	5.2
	Oct/Nov 1996	--	--	--	--	2.7
	Feb/Mar 1997	--	--	--	--	1.7
	Jun/Jul 1997	--	--	--	--	3.4
	Sep/Oct 1997	--	--	--	--	5.0
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.7
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	3.3
	Feb/Mar 1999	--	--	--	--	3.2
	May/Jun 1999	--	--	--	--	1.8
	Aug 1999	(2)	(2)	--	--	2.5
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	--	--	2.1
	Jul/Aug 2000	--	--	--	--	1.1
	Sep/Oct 2000	(2)	(2)	--	--	2.2
Screen 4	Aug/Sep 1996	--	--	--	--	4.3
	Oct/Nov 1996	--	--	--	--	2.6
	Feb/Mar 1997	--	--	--	--	4.5
	Jun/Jul 1997	--	--	--	--	2.7
	Sep/Oct 1997	--	--	--	--	2.5
	Jan/Feb 1998	--	--	--	--	3.0
	Apr/May 1998	--	--	--	--	3.6
	Jul/Aug 1998	--	--	--	--	3.1
	Oct/Nov 1998	--	--	--	--	1.3
	Feb/Mar 1999	--	--	--	--	3.5
	May/Jun 1999	--	--	--	--	1.5
	Aug 1999	(2)	(2)	--	--	1.1
	Nov/Dec 1999	(2)	(2)	--	--	2.6
	Mar/Apr 2000	(2)	(2)	--	--	2.2
	Jul/Aug 2000	--	--	--	--	1.6
	Sep/Oct 2000	(2)	(2)	--	--	4.4
Screen 5	Aug/Sep 1996	0.011	--	--	--	1.5
	Oct/Nov 1996	0.007	--	--	--	1.9
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	0.007	--	--	--	0.8
	Sep/Oct 1997	0.010	--	--	--	1.0
	Jan/Feb 1998	0.009	0.008	--	--	2.3
	Apr/May 1998	--	0.002	--	--	2.0
	Jul/Aug 1998	0.006	--	--	--	3.2
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	4.4
	May/Jun 1999	0.006	--	--	--	4.2
	Aug 1999	(2)	(2)	(2)	(2)	5.4
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	10.4

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jul/Aug 2000	--	--	--	--	11.6
	Sep/Oct 2000	(2)	(2)	(2)	(2)	15.0
MW-4						
Screen 1	Aug/Sep 1996	--	--	--	--	2.6
	Oct/Nov 1996	--	--	--	--	1.7
	Feb/Mar 1997	--	--	--	--	4.6
	Jun/Jul 1997	--	--	--	--	2.8
	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	--	--	3.7
	Jul/Aug 1998	--	--	--	--	3.0
	Oct/Nov 1998	--	--	--	--	2.7
	Feb/Mar 1999	--	--	--	--	1.0
	May/Jun 1999	--	--	--	--	1.8
	Aug 1999	(2)	(2)	--	--	1.2
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	--	--	1.5
	Jul/Aug 2000	--	--	--	--	8.6
	Sep/Oct 2000	(2)	(2)	--	--	5.0
Screen 2	Aug/Sep 1996	--	--	0.023	--	3.8
	Oct/Nov 1996	--	--	0.014	--	4.2
	Feb/Mar 1997	--	--	0.011	--	4.5
	Jun/Jul 1997	--	--	0.013	--	2.7
	Sep/Oct 1997	--	--	0.012	--	3.5
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	--	--	--	1.8
	Jul/Aug 1998	--	--	0.011	--	4.9
	Oct/Nov 1998	--	--	0.010	--	3.4
	Feb/Mar 1999	--	--	--	--	6.1
	May/Jun 1999	--	--	--	--	4.8
	Aug 1999	(2)	(2)	0.010	--	3.8
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	--	--	5.7
	Jul/Aug 2000	--	--	0.014	--	7.0
	Sep/Oct 2000	(2)	(2)	0.025	--	17.8
Screen 3	Aug/Sep 1996	--	--	--	--	0.6
	Oct/Nov 1996	--	--	--	--	1.5
	Feb/Mar 1997	--	--	--	--	2.8
	Jun/Jul 1997	--	--	--	--	2.0
	Sep/Oct 1997	--	--	--	--	1.4
	Jan/Feb 1998	--	--	--	--	4.6
	Apr/May 1998	--	--	--	--	3.2
	Jul/Aug 1998	--	--	--	--	3.9
	Oct/Nov 1998	--	--	--	--	1.2
	Feb/Mar 1999	--	--	--	--	2.9
	May/Jun 1999	--	--	--	--	4.9
	Aug 1999	(2)	(2)	--	--	2.1
	Nov/Dec 1999	(2)	(2)	--	--	3.0

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Mar/Apr 2000	(2)	(2)	--	--	8.4
	Jul/Aug 2000	--	--	--	--	9.6
	Sep/Oct 2000	(2)	(2)	--	--	16.1
Screen 4	Aug/Sep 1996	--	--	--	--	3.0
	Oct/Nov 1996	--	--	--	--	1.4
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	4.6
	Sep/Oct 1997	--	--	--	--	3.3
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	2.0
	Jul/Aug 1998	--	--	0.007	--	3.6
	Oct/Nov 1998	--	--	--	--	2.7
	Feb/Mar 1999	--	--	--	--	3.3
	May/Jun 1999	--	--	--	--	2.9
	Aug 1999	(2)	(2)	--	--	1.2
	Nov/Dec 1999	(2)	(2)	--	--	1.9
	Mar/Apr 2000	(2)	(2)	--	--	1.0
	Jul/Aug 2000	--	--	--	--	5.3
	Sep/Oct 2000	(2)	(2)	--	--	6.5
Screen 5	Aug/Sep 1996	--	--	--	--	4.5
	Oct/Nov 1996	--	--	--	--	4.1
	Feb/Mar 1997	--	--	--	--	4.4
	Jun/Jul 1997	--	--	--	--	4.0
	Sep/Oct 1997	--	--	--	--	3.9
	Jan/Feb 1998	--	--	--	--	4.5
	Apr/May 1998	--	--	--	--	3.8
	Jul/Aug 1998	0.005	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	2.9
	Feb/Mar 1999	--	--	--	--	2.4
	May/Jun 1999	--	--	--	--	1.1
	Aug 1999	(2)	(2)	--	--	2.4
	Nov/Dec 1999	(2)	(2)	--	--	3.4
	Mar/Apr 2000	(2)	(2)	--	--	1.1
	Jul/Aug 2000	--	--	--	--	0.4
	Sep/Oct 2000	(2)	(2)	--	--	2.1
MW-5	Aug/Sep 1996	--	--	--	--	2.7
	Oct/Nov 1996	--	0.003	--	--	2.7
	Feb/Mar 1997	--	--	--	--	1.5
	Jun/Jul 1997	--	--	--	--	4.5
	Sep/Oct 1997	--	--	--	--	1.0
	Jan/Feb 1998	--	--	--	--	0.9
	Apr/May 1998	--	--	--	--	3.1
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	7.9
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	--	--	4.3
	Nov/Dec 1999	(2)	(2)	--	--	3.6

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Mar/Apr 2000	(2)	(2)	--	--	0.2
	Jul/Aug 2000	--	--	--	--	1.3
	Sep/Oct 2000	(2)	(2)	--	--	0.7
MW-6	Aug/Sep 1996	--	--	0.050	--	4.5
	Oct/Nov 1996	--	--	0.011	--	1.1
	Feb/Mar 1997	--	--	0.014	--	4.3
	Jun/Jul 1997	--	--	0.019	--	2.5
	Sep/Oct 1997	--	--	--	--	1.8
	Jan/Feb 1998	--	--	--	--	0.4
	Apr/May 1998	--	--	0.012	--	2.1
	Jul/Aug 1998	--	--	0.013	--	3.0
	Oct/Nov 1998	--	--	0.037	--	3.8
	Feb/Mar 1999	--	--	0.017	--	2.7
	May/Jun 1999	--	--	0.036	--	4.1
	Aug 1999	(2)	(2)	**0.31**(3)	--	2.7
	Nov/Dec 1999	(2)	(2)	0.012	--	2.2
	Mar/Apr 2000	(2)	(2)	**0.082**	--	3.9
	Jul/Aug 2000	--	--	**0.051**	--	10.5
	Sep/Oct 2000	(2)	(2)	0.022	--	4.4
MW-7	Aug/Sep 1996	--	--	0.013	0.007	4.8
	Oct/Nov 1996	--	--	0.019	0.019	3.5
	Feb/Mar 1997	--	--	--	0.010	2.2
	Jun/Jul 1997	--	--	--	--	1.0
	Sep/Oct 1997	--	--	0.018	--	0.8
	Jan/Feb 1998	--	--	0.012	--	1.2
	Apr/May 1998	--	--	--	--	4.1
	Jul/Aug 1998	--	--	--	--	4.7
	Oct/Nov 1998	--	--	--	--	1.2
	Feb/Mar 1999	--	--	--	--	4.3
	May/Jun 1999	--	--	0.011	--	3.5
	Aug 1999	(2)	(2)	--	0.005	3.1
	Nov/Dec 1999	(2)	(2)	0.010	0.007	1.0
	Mar/Apr 2000	(2)	(2)	0.012	0.008	1.3
	Jul/Aug 2000	--	--	0.014	--	30.0
	Sep/Oct 2000	(2,4)	(2,4)	(4)	(4)	(4)
MW-8	Aug/Sep 1996	--	--	--	--	4.0
	Oct/Nov 1996	--	0.003	--	--	4.7
	Feb/Mar 1997	--	--	--	--	3.1
	Jun/Jul 1997	--	0.002	--	--	4.6
	Sep/Oct 1997	--	--	--	--	4.2
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	0.013	--	2.6
	Jul/Aug 1998	--	--	--	--	1.2
	Oct/Nov 1998	--	--	--	--	3.7
	Feb/Mar 1999	--	--	--	--	1.5
	May/Jun 1999	--	--	--	--	1.5
	Aug 1999	(2)	(2)	0.014	--	0.7
	Nov/Dec 1999	(2)	(2)	--	--	4.6

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Mar/Apr 2000	(2)	(2)	--	--	1.3
	Jul/Aug 2000	--	--	0.016	--	5.3
	Sep/Oct 2000	(2)	(2)	--	--	3.8
MW-9	Aug/Sep 1996	--	--	--	--	2.1
	Oct/Nov 1996	--	--	--	--	2.5
	Feb/Mar 1997	--	--	--	--	4.2
	Jun/Jul 1997	--	--	--	--	3.2
	Sep/Oct 1997	--	--	--	--	1.0
	Jan/Feb 1998	--	--	--	--	2.4
	Apr/May 1998	--	--	--	--	1.3
	Jul/Aug 1998	--	--	--	--	3.0
	Oct/Nov 1998	--	--	--	--	2.1
	Feb/Mar 1999	--	--	--	--	2.8
	May/Jun 1999	--	--	--	--	0.1
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	4.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	2.3
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
MW-10	Aug/Sep 1996	--	--	0.011	0.010	4.5
	Oct/Nov 1996	--	0.003	0.011	--	4.9
	Feb/Mar 1997	--	--	--	--	2.2
	Jun/Jul 1997	--	--	0.014	--	2.9
	Sep/Oct 1997	--	--	--	--	3.2
	Jan/Feb 1998	--	--	--	--	2.1
	Apr/May 1998	--	0.008	0.010	--	2.6
	Jul/Aug 1998	--	--	--	--	3.8
	Oct/Nov 1998	--	--	--	--	3.6
	Feb/Mar 1999	--	--	0.014	--	3.3
	May/Jun 1999	--	--	--	--	1.8
	Aug 1999	(2)	(2)	--	--	3.6
	Nov/Dec 1999	(2)	(2)	0.026	--	4.7
	Mar/Apr 2000	(2)	(2)	0.041	--	9.1
	Jul/Aug 2000	--	--	0.012(5)	--	1.8
	Sep/Oct 2000	(2)	(2)	0.029	--	2.9
MW-11						
Screen 1	Aug/Sep 1996	--	--	--	--	4.0
	Oct/Nov 1996	--	--	--	--	2.5
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	1.5
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	--	--	--	--	1.0
	Apr/May 1998	--	--	--	--	1.0
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	1.4
	Feb/Mar 1999	--	--	--	--	1.6
	May/Jun 1999	--	--	--	--	1.1
	Aug 1999	(2)	(2)	--	--	1.2

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Nov/Dec 1999	(2)	(2)	--	--	2.4
	Mar/Apr 2000	(2)	(2)	--	--	2.7
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 2000	(2)	(2)	--	--	0.8
Screen 2	Aug/Sep 1996	--	--	--	--	4.5
	Oct/Nov 1996	--	--	--	--	4.7
	Feb/Mar 1997	--	--	--	--	3.1
	Jun/Jul 1997	--	--	--	--	4.7
	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	2.4
	Apr/May 1998	--	--	--	--	1.4
	Jul/Aug 1998	--	--	--	--	3.5
	Oct/Nov 1998	--	--	--	--	3.7
	Feb/Mar 1999	--	--	--	--	12.8
	May/Jun 1999	--	--	--	--	1.3
	Aug 1999	(2)	(2)	--	--	1.9
	Nov/Dec 1999	(2)	(2)	--	--	3.3
	Mar/Apr 2000	(2)	(2)	--	--	1.8
	Jul/Aug 2000	--	--	--	--	1.0
	Sep/Oct 2000	(2)	(2)	--	--	1.2
Screen 3	Aug/Sep 1996	--	--	--	--	0.5
	Oct/Nov 1996	--	--	--	--	2.3
	Feb/Mar 1997	--	--	--	--	1.7
	Jun/Jul 1997	--	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	1.4
	Apr/May 1998	--	--	--	--	2.1
	Jul/Aug 1998	--	--	--	--	2.6
	Oct/Nov 1998	--	0.008	--	--	4.5
	Feb/Mar 1999	--	--	--	--	2.6
	May/Jun 1999	--	--	--	--	2.7
	Aug 1999	(2)	(2)	--	--	3.1
	Nov/Dec 1999	(2)	(2)	--	--	2.1
	Mar/Apr 2000	(2)	(2)	--	--	1.2
	Jul/Aug 2000	--	--	--	--	1.6
	Sep/Oct 2000	(2)	(2)	--	--	1.5
Screen 4	Aug/Sep 1996	--	--	--	--	3.9
	Oct/Nov 1996	--	--	--	--	3.3
	Feb/Mar 1997	--	0.009	--	--	5.2
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	--	--	--	--	5.0
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	--	--	4.2
	Jul/Aug 1998	--	--	--	--	3.7
	Oct/Nov 1998	--	--	--	--	4.5
	Feb/Mar 1999	--	--	--	--	1.4
	May/Jun 1999	--	--	--	--	4.0
	Aug 1999	(2)	(2)	(2)	(2)	3.5

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.7
	Jul/Aug 2000	--	--	--	--	1.9
	Sep/Oct 2000	(2)	(2)	(2)	(2)	1.4
Screen 5	Aug/Sep 1996	0.007	--	--	--	0.6
	Oct/Nov 1996	0.005	--	--	--	1.9
	Feb/Mar 1997	--	0.002	--	--	1.6
	Jun/Jul 1997	--	--	--	--	0.7
	Sep/Oct 1997	--	--	--	--	2.6
	Jan/Feb 1998	--	--	--	--	1.2
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	1.7
	Oct/Nov 1998	--	--	--	--	1.4
	Feb/Mar 1999	--	--	--	--	4.1
	May/Jun 1999	0.005	--	--	--	1.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	1.0
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.3
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
MW-12						
Screen 1	Aug/Sep 1996	--	0.004	--	--	50.4
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	0.003	--	--	3.8
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	--	--	--	--	2.6
	Apr/May 1998	--	--	0.010	--	4.8
	Jul/Aug 1998	--	--	--	--	5.0
	Oct/Nov 1998	--	--	--	--	7.4
	Feb/Mar 1999	--	--	--	--	7.5
	May/Jun 1999	--	--	--	--	10.5
	Aug 1999	(2)	(2)	--	--	41.6
	Nov/Dec 1999	(2)	(2)	--	--	13.1
	Mar/Apr 2000	(2)	(2)	--	--	7.9
	Jul/Aug 2000	--	--	--	--	33.6
	Sep/Oct 2000	(2)	(2)	--	--	17.5
Screen 2	Aug/Sep 1996	--	**0.024**	--	--	4.0
	Oct/Nov 1996	--	--	--	--	4.0
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	3.2
	Sep/Oct 1997	--	--	--	--	3.4
	Jan/Feb 1998	--	--	--	--	4.4
	Apr/May 1998	--	--	--	--	1.6
	Jul/Aug 1998	--	0.006	--	--	3.7
	Oct/Nov 1998	--	--	--	--	4.9
	Feb/Mar 1999	--	--	--	--	2.5
	May/Jun 1999	--	--	--	--	1.7

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Aug 1999	(2)	(2)	--	--	1.9
	Nov/Dec 1999	(2)	(2)	--	--	1.6
	Mar/Apr 2000	(2)	(2)	--	--	0.9
	Jul/Aug 2000	--	--	--	--	1.7
	Sep/Oct 2000	(2)	(2)	--	--	1.6
Screen 3	Aug/Sep 1996	--	--	--	--	2.5
	Oct/Nov 1996	--	--	--	--	3.1
	Feb/Mar 1997	--	--	--	--	5.0
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	--	--	--	--	4.2
	Jan/Feb 1998	--	--	--	--	2.8
	Apr/May 1998	--	--	--	--	4.4
	Jul/Aug 1998	--	**0.018**	--	--	3.2
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	4.6
	May/Jun 1999	--	--	--	--	0.8
	Aug 1999	(2)	(2)	--	--	0.4
	Nov/Dec 1999	(2)	(2)	--	--	0.4
	Mar/Apr 2000	(2)	(2)	--	--	0.8
	Jul/Aug 2000	--	--	--	--	0.4
	Sep/Oct 2000	(2)	(2)	--	--	1.2
Screen 4	Aug/Sep 1996	--	0.005	--	--	1.8
	Oct/Nov 1996	--	--	--	--	0.7
	Feb/Mar 1997	--	--	--	--	2.4
	Jun/Jul 1997	--	--	--	--	2.5
	Sep/Oct 1997	--	--	--	--	1.6
	Jan/Feb 1998	--	--	--	--	3.4
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	3.7
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	3.1
	May/Jun 1999	--	--	--	--	1.1
	Aug 1999	(2)	(2)	(2)	(2)	0.9
	Nov/Dec 1999	(2)	(2)	--	--	3.2
	Mar/Apr 2000	(2)	(2)	(2)	(2)	0.6
	Jul/Aug 2000	--	--	--	--	0.6
	Sep/Oct 2000	(2)	(2)	(2)	(2)	1.1
Screen 5	Aug/Sep 1996	--	--	--	--	2.0
	Oct/Nov 1996	--	--	--	--	2.0
	Feb/Mar 1997	--	--	--	--	1.5
	Jun/Jul 1997	--	--	--	--	5.0
	Sep/Oct 1997	--	--	--	--	1.0
	Jan/Feb 1998	--	--	--	--	2.2
	Apr/May 1998	--	--	--	--	3.5
	Jul/Aug 1998	--	--	--	--	3.1
	Oct/Nov 1998	--	--	--	--	1.3
	Feb/Mar 1999	--	--	--	--	5.0
	May/Jun 1999	--	--	--	--	3.2

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Aug 1999	(2)	(2)	(2)	(2)	4.8
	Nov/Dec 1999	(2)	(2)	--	--	3.7
	Mar/Apr 2000	(2)	(2)	(2)	(2)	5.9
	Jul/Aug 2000	--	--	--	--	1.7
	Sep/Oct 2000	(2)	(2)	(2)	(2)	4.5
MW-13	Aug/Sep 1996	--	--	0.046	0.047	4.1
	Oct/Nov 1996	--	0.005	0.031	0.028	3.0
	Feb/Mar 1997	--	--	0.032	0.035	0.5
	Jun/Jul 1997	--	--	0.038	0.037	1.2
	Sep/Oct 1997	--	--	0.050	0.045	2.4
	Jan/Feb 1998	--	0.003	0.040	0.036	1.0
	Apr/May 1998	--	--	**0.082**	0.024	3.5
	Jul/Aug 1998	--	--	0.025	0.023	1.0
	Oct/Nov 1998	--	--	0.036	0.029	3.4
	Feb/Mar 1999	--	--	0.030	0.019	1.0
	May/Jun 1999	--	--	0.024	0.024	0.4
	Aug 1999	(2)	(2)	0.037	0.031	0.15
	Nov/Dec 1999	(2)	(2)	0.034	0.029	1.2
	Mar/Apr 2000	(2)	(2)	0.034	0.030	0.5
	Jul/Aug 2000	--	--	0.044	0.019	1.4
	Sep/Oct 2000	(2)	(2)	0.039	0.030	0.6
MW-14						
Screen 1	Aug/Sep 1996	--	--	--	--	3.3
	Oct/Nov 1996	--	--	--	--	4.5
	Feb/Mar 1997	--	--	--	--	4.3
	Jun/Jul 1997	--	--	--	--	2.2
	Sep/Oct 1997	--	--	--	--	3.9
	Jan/Feb 1998	--	0.004	--	--	5.0
	Apr/May 1998	--	--	0.011	--	3.1
	Jul/Aug 1998	--	--	--	--	3.8
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	4.8
	May/Jun 1999	--	--	--	--	3.4
	Aug 1999	(2)	(2)	--	--	1.7
	Nov/Dec 1999	(7)	(7	(7)	(7)	(7)
	Mar/Apr 2000	(2)	(2)	--	--	1.7
	Jul/Aug 2000	--	--	--	--	2.2
	Sep/Oct 2000	(2)	(2)	--	--	0.8
Screen 2	Aug/Sep 1996	--	--	--	--	4.4
	Oct/Nov 1996	--	--	--	--	3.8
	Feb/Mar 1997	--	--	--	--	4.8
	Jun/Jul 1997	--	--	--	--	5.0
	Sep/Oct 1997	--	--	--	--	3.2
	Jan/Feb 1998	--	0.003	--	--	4.8
	Apr/May 1998	--	--	--	--	4.9
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	4.3
	Feb/Mar 1999	--	--	--	--	4.7

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	May/Jun 1999	--	--	--	--	4.4
	Aug 1999	(2)	(2)	--	--	2.8
	Nov/Dec 1999	(2)	(2)	--	--	4.6
	Mar/Apr 2000	(2)	(2)	--	--	1.9
	Jul/Aug 2000	--	--	--	--	3.4
	Sep/Oct 2000	(2)	(2)	--	--	4.5
Screen 3	Aug/Sep 1996	--	--	--	--	1.7
	Oct/Nov 1996	--	--	--	--	2.0
	Feb/Mar 1997	--	--	--	--	2.5
	Jun/Jul 1997	--	--	--	--	0.7
	Sep/Oct 1997	--	--	--	--	2.9
	Jan/Feb 1998	--	0.003	0.026	--	2.1
	Apr/May 1998	--	--	--	--	1.4
	Jul/Aug 1998	--	--	--	--	3.1
	Oct/Nov 1998	--	--	--	--	0.8
	Feb/Mar 1999	--	--	--	--	0.7
	May/Jun 1999	--	--	--	--	0.8
	Aug 1999	(2)	(2)	--	--	2.2
	Nov/Dec 1999	(2)	(2)	--	--	0.7
	Mar/Apr 2000	(2)	(2)	--	--	0.6
	Jul/Aug 2000	--	--	--	--	0.2
	Sep/Oct 2000	(2)	(2)	--	--	0.6
Screen 4	Aug/Sep 1996	--	--	--	--	3.1
	Oct/Nov 1996	--	--	--	--	2.5
	Feb/Mar 1997	--	--	--	--	4.1
	Jun/Jul 1997	--	--	--	--	2.3
	Sep/Oct 1997	--	--	--	--	1.7
	Jan/Feb 1998	--	0.002	--	--	2.7
	Apr/May 1998	--	--	--	--	1.3
	Jul/Aug 1998	--	--	--	--	1.0
	Oct/Nov 1998	--	--	--	--	2.3
	Feb/Mar 1999	--	--	--	--	2.1
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	--	--	1.2
	Nov/Dec 1999	(2)	(2)	--	--	1.2
	Mar/Apr 2000	(2)	(2)	--	--	1.3
	Jul/Aug 2000	--	--	--	--	0.2
	Sep/Oct 2000	(2)	(2)	--	--	0.3
Screen 5	Aug/Sep 1996	--	--	--	--	1.5
	Oct/Nov 1996	--	--	--	--	4.1
	Feb/Mar 1997	--	**0.028**	--	--	2.3
	Jun/Jul 1997	--	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	3.8
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	1.9
	Jul/Aug 1998	--	--	--	--	2.4
	Oct/Nov 1998	--	--	--	--	4.5
	Feb/Mar 1999	--	--	--	--	4.2

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	May/Jun 1999	--	--	--	--	1.9
	Aug 1999	(2)	(2)	(2)	(2)	1.4
	Nov/Dec 1999	(2)	(2)	--	--	3.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	3.2
	Jul/Aug 2000	--	--	--	--	2.9
	Sep/Oct 2000	(2)	(2)	(2)	(2)	2.7
MW-15	Aug/Sep 1996	--	--	--	--	1.3
	Oct/Nov 1996	--	--	NS	--	0.5
	Feb/Mar 1997	--	--	--	--	2.6
	Jun/Jul 1997	--	--	--	--	0.2
	Sep/Oct 1997	--	--	--	--	0.9
	Jan/Feb 1998	--	--	--	--	1.4
	Apr/May 1998	--	--	--	--	0.4
	Jul/Aug 1998	--	--	--	--	3.0
	Oct/Nov 1998	--	--	--	--	2.0
	Feb/Mar 1999	--	--	--	--	0.6
	May/Jun 1999	--	--	--	--	0.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	0.3
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.4
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
MW-16	Aug/Sep 1996	--	--	0.018	--	3.4
	Oct/Nov 1996	(6)	(6)	(6)	(6)	1.4
	Feb/Mar 1997	--	--	--	0.007	0.2
	Jun/Jul 1997	--	--	--	--	0.1
	Sep/Oct 1997	(6)	(6)	(6)	(6)	1.4
	Jan/Feb 1998	--	--	--	--	1.1
	Apr/May 1998	--	--	0.014	--	1.4
	Jul/Aug 1998	--	--	--	--	1.9
	Oct/Nov 1998	--	--	0.013	--	0.9
	Feb/Mar 1999	--	--	0.013	0.007	1.0
	May/Jun 1999	--	--	--	--	2.2
	Aug 1999	(2)	(2)	--	0.007	0.5
	Nov/Dec 1999	(2)	(2)	--	0.006	1.9
	Mar/Apr 2000	(2)	(2)	--	--	0.1
	Jul/Aug 2000	--	--	--	0.006	0.2
	Sep/Oct 2000	(2)	(2)	--	--	0.1
MW-17						
Screen 1	Aug/Sep 1996	--	--	NS	NS	1.0
	Oct/Nov 1996	--	--	--	--	2.9
	Feb/Mar 1997	--	--	--	--	2.0
	Jun/Jul 1997	--	--	--	--	2.2
	Sep/Oct 1997	--	--	--	--	1.3
	Jan/Feb 1998	--	--	--	--	5.0
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	1.5
	Oct/Nov 1998	--	--	--	--	0.5

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Feb/Mar 1999	--	--	--	--	1.5
	May/Jun 1999	--	--	--	--	0.4
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	1.2
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	1.5
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
Screen 2	Aug/Sep 1996	--	--	NS	NS	4.5
	Oct/Nov 1996	--	--	--	--	2.5
	Feb/Mar 1997	--	--	--	--	2.7
	Jun/Jul 1997	--	--	--	--	4.5
	Sep/Oct 1997	--	--	--	--	1.2
	Jan/Feb 1998	--	--	--	--	0.8
	Apr/May 1998	--	--	--	--	2.2
	Jul/Aug 1998	--	0.007	--	--	1.0
	Oct/Nov 1998	--	--	--	--	1.7
	Feb/Mar 1999	--	--	--	--	1.1
	May/Jun 1999	--	--	--	--	1.6
	Aug 1999	(2)	(2)	--	--	12.4
	Nov/Dec 1999	(2)	(2)	--	--	3.1
	Mar/Apr 2000	(2)	(2)	--	--	2.0
	Jul/Aug 2000	--	--	--	--	1.3
	Sep/Oct 2000	(2)	(2)	--	--	1.7
Screen 3	Aug/Sep 1996	--	0.002	NS	NS	4.9
	Oct/Nov 1996	--	--	--	--	4.8
	Feb/Mar 1997	--	--	--	--	6.0
	Jun/Jul 1997	--	--	--	--	4.8
	Sep/Oct 1997	--	--	--	0.006	2.5
	Jan/Feb 1998	--	--	--	--	3.2
	Apr/May 1998	--	--	--	--	3.6
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	4.4
	Feb/Mar 1999	--	--	--	--	6.3
	May/Jun 1999	--	--	--	--	2.2
	Aug 1999	(2)	(2)	--	--	2.5
	Nov/Dec 1999	(2)	(2)	--	--	4.6
	Mar/Apr 2000	(2)	(2)	--	--	3.6
	Jul/Aug 2000	--	--	--	--	1.8
	Sep/Oct 2000	(2)	(2)	--	--	8.0
Screen 4	Aug/Sep 1996	--	--	NS	NS	2.8
	Oct/Nov 1996	--	--	--	--	2.6
	Feb/Mar 1997	--	--	--	--	5.6
	Jun/Jul 1997	--	--	--	--	4.1
	Sep/Oct 1997	--	--	--	--	3.6
	Jan/Feb 1998	--	--	--	--	3.9
	Apr/May 1998	--	--	--	--	3.7
	Jul/Aug 1998	--	--	--	--	4.4
	Oct/Nov 1998	--	--	--	--	1.8

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Feb/Mar 1999	--	--	--	--	4.8
	May/Jun 1999	--	--	--	--	7.9
	Aug 1999	(2)	(2)	--	--	4.1
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	--	--	10.0
	Jul/Aug 2000	--	--	--	--	1.4
	Sep/Oct 2000	(2)	(2)	--	--	3.2
Screen 5	Aug/Sep 1996	--	--	NS	NS	5.0
	Oct/Nov 1996	--	0.005	--	--	5.2
	Feb/Mar 1997	--	0.003	--	--	25
	Jun/Jul 1997	--	--	--	--	34
	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	0.002	--	--	3.7
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	5.1
	Feb/Mar 1999	--	0.007	--	--	12.4
	May/Jun 1999	--	0.004	--	--	16.3
	Aug 1999	(2)	(2)	(2)	(2)	2.4
	Nov/Dec 1999	(2)	(2)	--	--	4.4
	Mar/Apr 2000	(2)	(2)	(2)	(2)	80.0
	Jul/Aug 2000	--	--	--	--	4.4
	Sep/Oct 2000	(2)	(2)	(2)	(2)	9.2
MW-18						
Screen 1	Aug/Sep 1996	--	--	NS	NS	0.9
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	--	--	--	1.9
	Jun/Jul 1997	--	--	--	--	0.4
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	(6)	(6)	(6)	(6)	(6)
	Apr/May 1998	--	--	--	--	0.1
	Jul/Aug 1998	--	--	--	--	3.8
	Oct/Nov 1998	--	--	--	--	2.3
	Feb/Mar 1999	--	--	--	--	0.7
	May/Jun 1999	--	--	--	--	2.8
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(6)	(6)	(6)	(6)	(6)
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.1
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
Screen 2	Aug/Sep 1996	--	--	NS	NS	3.5
	Oct/Nov 1996	--	0.003	--	--	3.4
	Feb/Mar 1997	--	--	--	--	2.8
	Jun/Jul 1997	--	--	--	--	1.5
	Sep/Oct 1997	--	--	--	--	1.4
	Jan/Feb 1998	--	--	--	--	3.6
	Apr/May 1998	--	--	--	--	0.1
	Jul/Aug 1998	--	--	--	--	3.1

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Oct/Nov 1998	--	--	--	--	1.9
	Feb/Mar 1999	--	0.005	--	--	2.7
	May/Jun 1999	--	--	--	--	4.1
	Aug 1999	(2)	(2)	--	--	1.0
	Nov/Dec 1999	(2)	(2)	--	--	4.0
	Mar/Apr 2000	(2)	(2)	--	--	1.8
	Jul/Aug 2000	--	--	--	--	2.1
	Sep/Oct 2000	(2)	(2)	--	--	4.0
Screen 3	Aug/Sep 1996	--	--	NS	NS	4.2
	Oct/Nov 1996	--	0.002	NS	--	4.0
	Feb/Mar 1997	--	--	0.015	0.007	3.3
	Jun/Jul 1997	--	--	--	--	3.9
	Sep/Oct 1997	--	--	--	--	2.1
	Jan/Feb 1998	--	--	--	--	0.6
	Apr/May 1998	--	--	0.012	0.007	0.04
	Jul/Aug 1998	--	--	0.014	--	2.3
	Oct/Nov 1998	--	--	--	--	1.7
	Feb/Mar 1999	--	--	--	0.007	1.2
	May/Jun 1999	--	--	--	--	2.1
	Aug 1999	(2)	(2)	--	--	0.8
	Nov/Dec 1999	(2)	(2)	--	--	0.7
	Mar/Apr 2000	(2)	(2)	--	--	0.2
	Jul/Aug 2000	--	--	--	--	0.1
	Sep/Oct 2000	(2)	(2)	--	--	0.8
Screen 4	Aug/Sep 1996	--	--	NS	NS	2.0
	Oct/Nov 1996	--	0.003	--	--	1.9
	Feb/Mar 1997	--	--	--	--	2.8
	Jun/Jul 1997	0.005	--	--	--	3.6
	Sep/Oct 1997	--	--	--	--	1.1
	Jan/Feb 1998	--	--	--	--	2.2
	Apr/May 1998	--	--	--	--	0.04
	Jul/Aug 1998	--	--	--	--	2.5
	Oct/Nov 1998	--	--	--	--	4.6
	Feb/Mar 1999	--	--	--	--	2.7
	May/Jun 1999	--	--	--	--	3.0
	Aug 1999	(2)	(2)	--	--	0.7
	Nov/Dec 1999	(2)	(2)	--	--	1.4
	Mar/Apr 2000	(2)	(2)	--	--	2.3
	Jul/Aug 2000	--	--	--	--	0.4
	Sep/Oct 2000	(2)	(2)	--	--	0.9
Screen 5	Aug/Sep 1996	--	--	NS	NS	2.8
	Oct/Nov 1996	--	0.002	--	--	3.6
	Feb/Mar 1997	--	--	--	--	2.9
	Jun/Jul 1997	--	--	--	--	4.0
	Sep/Oct 1997	--	--	--	--	1.7
	Jan/Feb 1998	--	--	--	--	1.6
	Apr/May 1998	--	--	--	--	0.1
	Jul/Aug 1998	--	--	--	--	1.1

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Oct/Nov 1998	--	--	--	--	2.8
	Feb/Mar 1999	--	--	--	--	2.0
	May/Jun 1999	--	--	--	--	2.4
	Aug 1999	(2)	(2)	(2)	(2)	0.6
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	(2)	(2)	2.3
	Jul/Aug 2000	--	--	--	--	1.8
	Sep/Oct 2000	(2)	(2)	(2)	(2)	1.1
MW-19						
Screen 1	Aug/Sep 1996	--	--	NS	NS	5.0
	Oct/Nov 1996	--	--	--	--	3.4
	Feb/Mar 1997	--	--	--	--	6.6
	Jun/Jul 1997	--	--	--	--	0.8
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	2.2
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	13.0
	Feb/Mar 1999	--	--	--	--	5.0
	May/Jun 1999	--	--	--	--	5.0
	Aug 1999	(2)	(2)	(2)	(2)	1.1
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.8
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 2000	(2)	(2)	(2)	(2)	3.9
Screen 2	Aug/Sep 1996	--	--	NS	NS	4.5
	Oct/Nov 1996	--	--	--	--	3.6
	Feb/Mar 1997	--	--	--	--	22
	Jun/Jul 1997	--	--	--	--	2.8
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	--	--	--	--	4.7
	Apr/May 1998	--	--	--	--	2.3
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	4.8
	Feb/Mar 1999	--	--	--	--	3.9
	May/Jun 1999	--	--	--	--	2.3
	Aug 1999	(2)	(2)	(2)	(2)	0.1
	Nov/Dec 1999	(2)	(2)	--	--	1.5
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.9
	Jul/Aug 2000	--	--	--	--	0.3
	Sep/Oct 2000	(2)	(2)	(2)	(2)	3.5
Screen 3	Aug/Sep 1996	--	--	NS	NS	3.0
	Oct/Nov 1996	--	--	--	--	5.0
	Feb/Mar 1997	--	--	--	--	4.9
	Jun/Jul 1997	--	--	--	--	4.9
	Sep/Oct 1997	--	--	--	--	2.0
	Jan/Feb 1998	--	--	--	--	4.1
	Apr/May 1998	--	--	--	--	2.4

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jul/Aug 1998	--	--	--	--	3.9
	Oct/Nov 1998	--	--	--	--	3.4
	Feb/Mar 1999	--	--	--	--	4.1
	May/Jun 1999	--	--	--	--	2.5
	Aug 1999	(2)	(2)	(2)	(2)	0.2
	Nov/Dec 1999	(2)	(2)	--	--	3.8
	Mar/Apr 2000	(2)	(2)	(2)	(2)	2.8
	Jul/Aug 2000	--	--	--	--	5.4
	Sep/Oct 2000	(2)	(2)	(2)	(2)	9.5
Screen 4	Aug/Sep 1996	--	--	NS	NS	4.2
	Oct/Nov 1996	--	--	--	--	8.0
	Feb/Mar 1997	--	0.003	--	--	16
	Jun/Jul 1997	--	--	--	--	4.9
	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	--	--	--	4.8
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	1.5
	Feb/Mar 1999	--	--	--	--	4.4
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	(2)	(2)	1.0
	Nov/Dec 1999	(2)	(2)	--	--	3.1
	Mar/Apr 2000	(2)	(2)	(2)	(2)	0.7
	Jul/Aug 2000	--	--	--	--	2.3
	Sep/Oct 2000	(2)	(2)	(2)	(2)	1.2
Screen 5	Aug/Sep 1996	--	--	NS	NS	4.9
	Oct/Nov 1996	--	--	NS	--	4.6
	Feb/Mar 1997	--	--	--	--	3.8
	Jun/Jul 1997	--	--	--	--	2.2
	Sep/Oct 1997	--	--	--	--	5.0
	Jan/Feb 1998	--	--	--	--	4.0
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	0.010	--	--	4.8
	Oct/Nov 1998	--	--	--	--	2.5
	Feb/Mar 1999	--	--	--	--	4.4
	May/Jun 1999	--	--	--	--	1.7
	Aug 1999	(2)	(2)	(2)	(2)	0.8
	Nov/Dec 1999	(2)	(2)	--	--	1.0
	Mar/Apr 2000	(2)	(2)	(2)	(2)	1.0
	Jul/Aug 2000	--	--	--	--	0.2
	Sep/Oct 2000	(2)	(2)	(2)	(2)	1.7
MW-20						
Screen 1	Aug/Sep 1996	--	--	--	NS	3.5
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	--	--	--	2.3
	Jun/Jul 1997	--	--	--	--	0.2
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	--	--	--	--	3.2

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Apr/May 1998	--	--	--	--	2.9
	Jul/Aug 1998	--	--	--	--	3.2
	Oct/Nov 1998	--	--	--	--	1.3
	Feb/Mar 1999	--	--	--	--	0.5
	May/Jun 1999	--	--	--	--	1.1
	Aug 1999	(2)	(2)	--	--	3.2
	Nov/Dec 1999	(2)	(2)	--	--	0.8
	Mar/Apr 2000	(2)	(2)	--	--	2.8
	Jul/Aug 2000	--	--	--	--	0.2
	Sep/Oct 2000	(2)	(2)	--	--	3.8
Screen 2	Aug/Sep 1996	--	--	NS	NS	3.9
	Oct/Nov 1996	--	--	--	--	1.1
	Feb/Mar 1997	--	--	--	--	2.1
	Jun/Jul 1997	--	--	--	--	2.5
	Sep/Oct 1997	--	--	--	--	3.6
	Jan/Feb 1998	--	--	--	--	0.4
	Apr/May 1998	--	--	--	--	1.4
	Jul/Aug 1998	--	--	--	--	1.3
	Oct/Nov 1998	--	--	--	--	2.4
	Feb/Mar 1999	--	--	--	--	0.8
	May/Jun 1999	--	--	--	--	0.9
	Aug 1999	(2)	(2)	--	--	2.8
	Nov/Dec 1999	(2)	(2)	--	--	0.5
	Mar/Apr 2000	(2)	(2)	--	--	0.4
	Jul/Aug 2000	--	--	--	--	0.03
	Sep/Oct 2000	(2)	(2)	--	--	0.4
Screen 3	Aug/Sep 1996	--	--	NS	NS	1.7
	Oct/Nov 1996	--	--	--	--	1.6
	Feb/Mar 1997	--	--	--	--	1.9
	Jun/Jul 1997	--	--	--	--	2.1
	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	--	--	--	--	2.2
	Apr/May 1998	--	--	--	--	1.3
	Jul/Aug 1998	--	--	--	--	0.7
	Oct/Nov 1998	--	--	--	--	2.7
	Feb/Mar 1999	--	0.009	--	--	0.1
	May/Jun 1999	--	--	--	--	1.0
	Aug 1999	(2)	(2)	--	--	0.7
	Nov/Dec 1999	(2)	(2)	--	--	0.3
	Mar/Apr 2000	(2)	(2)	--	--	0.3
	Jul/Aug 2000	--	--	--	--	0.1
	Sep/Oct 2000	(2)	(2)	--	--	0.4
Screen 4	Aug/Sep 1996	--	--	NS	NS	1.0
	Oct/Nov 1996	--	--	--	--	1.3
	Feb/Mar 1997	--	--	--	--	3.3
	Jun/Jul 1997	--	--	--	--	1.3
	Sep/Oct 1997	--	--	--	--	1.4
	Jan/Feb 1998	--	--	--	--	0.6

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Apr/May 1998	--	--	--	--	1.7
	Jul/Aug 1998	--	--	--	--	2.1
	Oct/Nov 1998	--	--	--	--	2.6
	Feb/Mar 1999	--	--	--	--	0.8
	May/Jun 1999	--	--	--	--	2.4
	Aug 1999	(2)	(2)	--	--	0.3
	Nov/Dec 1999	(2)	(2)	--	--	2.3
	Mar/Apr 2000	(2)	(2)	--	--	1.1
	Jul/Aug 2000	--	--	--	--	1.6
	Sep/Oct 2000	(2)	(2)	--	--	2.3
Screen 5	Aug/Sep 1996	--	--	NS	NS	1.8
	Oct/Nov 1996	--	--	NS	--	1.3
	Feb/Mar 1997	--	0.004	--	--	1.6
	Jun/Jul 1997	0.006	--	--	--	1.9
	Sep/Oct 1997	--	--	--	--	3.5
	Jan/Feb 1998	--	--	--	--	0.1
	Apr/May 1998	--	--	--	--	1.1
	Jul/Aug 1998	--	--	--	--	3.3
	Oct/Nov 1998	--	--	--	--	1.6
	Feb/Mar 1999	--	--	--	--	1.0
	May/Jun 1999	--	--	--	--	2.7
	Aug 1999	(2)	(2)	--	--	1.7
	Nov/Dec 1999	(2)	(2)	--	--	1.1
	Mar/Apr 2000	(2)	(2)	--	--	0.4
	Jul/Aug 2000	--	--	--	--	2.3
	Sep/Oct 2000	(2)	(2)	--	--	1.4
MW-21						
Screen 1	Aug/Sep 1996	--	--	NS	NS	0.9
	Oct/Nov 1996	(6)	(6)	(6)	(6)	(6)
	Feb/Mar 1997	--	--	--	--	1.1
	Jun/Jul 1997	--	--	--	--	2.8
	Sep/Oct 1997	(6)	(6)	(6)	(6)	(6)
	Jan/Feb 1998	--	--	--	--	0.8
	Apr/May 1998	--	--	--	--	0.7
	Jul/Aug 1998	--	--	--	--	3.4
	Oct/Nov 1998	--	--	--	--	2.2
	Feb/Mar 1999	--	--	--	--	0.3
	May/Jun 1999	--	--	--	--	2.8
	Aug 1999	(2)	(2)	(2)	(2)	1.1
	Nov/Dec 1999	(2)	(2)	--	--	0.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(9)
	Jul/Aug 2000	--	--	--	--	0.2
	Sep/Oct 2000	(2)	(2)	(2)	(2)	0.6
Screen 2	Aug/Sep 1996	--	--	NS	NS	2.1
	Oct/Nov 1996	--	--	--	--	1.2
	Feb/Mar 1997	--	--	--	--	3.9
	Jun/Jul 1997	--	--	--	--	1.7
	Sep/Oct 1997	--	--	--	--	0.8

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jan/Feb 1998	--	--	--	--	0.6
	Apr/May 1998	--	--	--	--	1.8
	Jul/Aug 1998	--	--	--	--	3.9
	Oct/Nov 1998	--	--	--	--	3.5
	Feb/Mar 1999	--	--	--	--	0.04
	May/Jun 1999	--	--	--	--	0.8
	Aug 1999	(2)	(2)	(2)	(2)	1.6
	Nov/Dec 1999	(2)	(2)	--	--	2.1
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(9)
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 2000	(2)	(2)	(2)	(2)	0.5
Screen 3	Aug/Sep 1996	--	--	NS	NS	4.6
	Oct/Nov 1996	--	--	--	--	4.9
	Feb/Mar 1997	--	0.003	--	--	4.6
	Jun/Jul 1997	--	--	--	--	1.4
	Sep/Oct 1997	--	--	--	--	3.2
	Jan/Feb 1998	--	0.003	--	--	4.8
	Apr/May 1998	--	--	--	--	4.1
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	4.8
	Feb/Mar 1999	--	--	--	--	4.2
	May/Jun 1999	--	--	--	--	2.2
	Aug 1999	(2)	(2)	(2)	(2)	1.9
	Nov/Dec 1999	(2)	(2)	--	--	2.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(9)
	Jul/Aug 2000	--	--	--	--	1.2
	Sep/Oct 2000	(2)	(2)	(2)	(2)	1.9
Screen 4	Aug/Sep 1996	--	--	NS	NS	2.5
	Oct/Nov 1996	--	--	--	--	3.3
	Feb/Mar 1997	--	0.004	--	--	4.4
	Jun/Jul 1997	--	--	--	--	2.5
	Sep/Oct 1997	--	--	--	--	4.5
	Jan/Feb 1998	--	--	--	--	1.1
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	2.4
	Oct/Nov 1998	--	--	--	--	4.4
	Feb/Mar 1999	--	--	--	--	13.1
	May/Jun 1999	--	--	--	--	7.6
	Aug 1999	(2)	(2)	(2)	(2)	0.5
	Nov/Dec 1999	(2)	(2)	--	--	2.8
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(9)
	Jul/Aug 2000	--	--	--	--	6.2
	Sep/Oct 2000	(2)	(2)	(2)	(2)	7.7
Screen 5	Aug/Sep 1996	--	--	NS	NS	4.9
	Oct/Nov 1996	--	--	--	--	5.0
	Feb/Mar 1997	--	--	--	--	28
	Jun/Jul 1997	--	--	--	--	26
	Sep/Oct 1997	--	--	--	--	12

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)
Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	4.2
	Oct/Nov 1998	--	--	--	--	14.0
	Feb/Mar 1999	--	--	--	--	4.3
	May/Jun 1999	--	--	--	--	3.3
	Aug 1999	(2)	(2)	(2)	(2)	1.9
	Nov/Dec 1999	(2)	(2)	--	--	4.8
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(9)
	Jul/Aug 2000	--	--	--	--	3.0
	Sep/Oct 2000	(2)	(2)	(2)	(2)	9.6
***MW-22*[8]**						
Screen 1	Sep/Oct 1997	--	--	--	--	34
	Jan/Feb 1998	--	--	--	--	4.5
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	4.0
	Feb/Mar 1999	--	--	--	--	20.1
	May/Jun 1999	--	--	--	--	37.6
	Aug 1999	(2)	(2)	--	--	4.8
	Nov/Dec 1999	(2)	(2)	--	--	8.1
	Mar/Apr 2000	(2)	(2)	--	--	15.5
	Jul/Aug 2000	--	--	--	--	15.8
	Sep/Oct 2000	(2)	(2)	--	--	9.7
Screen 2	Sep/Oct 1997	--	--	--	--	4.9
	Jan/Feb 1998	--	--	--	--	4.2
	Apr/May 1998	--	--	--	--	4.7
	Jul/Aug 1998	--	--	--	--	4.4
	Oct/Nov 1998	--	--	--	--	4.1
	Feb/Mar 1999	--	--	--	--	8.1
	May/Jun 1999	--	--	--	--	4.5
	Aug 1999	(2)	(2)	--	--	8.5
	Nov/Dec 1999	(2)	(2)	--	--	2.1
	Mar/Apr 2000	(2)	(2)	--	--	0.8
	Jul/Aug 2000	--	--	--	--	0.6
	Sep/Oct 2000	(2)	(2)	--	--	1.8
Screen 3	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	3.8
	Apr/May 1998	--	--	--	--	2.9
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	3.5
	Feb/Mar 1999	--	--	--	--	5.2
	May/Jun 1999	--	--	--	--	3.7
	Aug 1999	(2)	(2)	(2)	(2)	5.1
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	6.0
	Jul/Aug 2000	--	--	--	--	0.5
	Sep/Oct 2000	(2)	(2)	(2)	(2)	5.3

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
Screen 4	Sep/Oct 1997	--	--	--	--	2.8
	Jan/Feb 1998	--	--	--	--	3.7
	Apr/May 1998	--	--	--	--	3.0
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	4.3
	Feb/Mar 1999	--	--	--	--	5.1
	May/Jun 1999	--	--	--	--	4.1
	Aug 1999	(2)	(2)	(2)	(2)	2.8
	Nov/Dec 1999	(2)	(2)	--	--	4.9
	Mar/Apr 2000	(2)	(2)	(2)	(2)	2.4
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 2000	(2)	(2)	(2)	(2)	2.4
Screen 5	Sep/Oct 1997	--	--	--	--	4.4
	Jan/Feb 1998	--	--	--	--	2.8
	Apr/May 1998	--	--	--	--	2.9
	Jul/Aug 1998	--	--	--	--	2.3
	Oct/Nov 1998	--	--	--	--	3.3
	Feb/Mar 1999	--	--	--	--	2.6
	May/Jun 1999	--	--	--	--	4.7
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	0.6
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	0.4
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
MW-23[8]						
Screen 1	Sep/Oct 1997	--	--	--	--	3.4
	Jan/Feb 1998	--	--	--	--	4.1
	Apr/May 1998	--	--	--	--	4.5
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	6.3
	Feb/Mar 1999	--	--	--	--	4.2
	May/Jun 1999	--	--	--	--	7.0
	Aug 1999	(2)	(2)	--	--	9.4
	Nov/Dec 1999	(2)	(2)	--	--	35.0
	Mar/Apr 2000	(2)	(2)	--	--	44.2
	Jul/Aug 2000	--	--	--	--	13.1
	Sep/Oct 2000	(2)	(2)	--	--	9.2
Screen 2	Sep/Oct 1997	--	--	--	--	4.9
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.7
	Jul/Aug 1998	--	--	--	--	3.4
	Oct/Nov 1998	--	--	--	--	4.1
	Feb/Mar 1999	--	--	--	--	2.5
	May/Jun 1999	--	--	--	--	7.3
	Aug 1999	(2)	(2)	--	--	1.5
	Nov/Dec 1999	(2)	(2)	--	--	1.8
	Mar/Apr 2000	(2)	(2)	--	--	1.9

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Jul/Aug 2000	--	--	--	--	1.7
	Sep/Oct 2000	(2)	(2)	--	--	1.7
Screen 3	Sep/Oct 1997	--	--	--	--	3.0
	Jan/Feb 1998	--	--	--	--	4.6
	Apr/May 1998	--	--	--	--	4.6
	Jul/Aug 1998	--	--	--	--	4.7
	Oct/Nov 1998	--	--	--	--	4.5
	Feb/Mar 1999	--	--	--	--	4.3
	May/Jun 1999	--	--	--	--	7.5
	Aug 1999	(2)	(2)	--	--	13.1
	Nov/Dec 1999	(2)	(2)	--	--	3.0
	Mar/Apr 2000	(2)	(2)	--	--	1.6
	Jul/Aug 2000	--	--	--	--	2.7
	Sep/Oct 2000	(2)	(2)	--	--	1.2
Screen 4	Sep/Oct 1997	--	--	--	--	4.9
	Jan/Feb 1998	--	--	--	--	4.5
	Apr/May 1998	--	--	--	--	4.9
	Jul/Aug 1998	--	--	--	--	4.6
	Oct/Nov 1998	--	--	--	--	4.2
	Feb/Mar 1999	--	--	--	--	5.1
	May/Jun 1999	--	--	--	--	2.0
	Aug 1999	(2)	(2)	--	--	4.2
	Nov/Dec 1999	(2)	(2)	--	--	3.6
	Mar/Apr 2000	(2)	(2)	--	--	1.0
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 2000	(2)	(2)	--	--	1.1
Screen 5	Sep/Oct 1997	--	--	--	--	1.8
	Jan/Feb 1998	--	--	--	--	1.8
	Apr/May 1998	--	--	--	--	2.4
	Jul/Aug 1998	--	--	--	--	1.7
	Oct/Nov 1998	--	--	--	--	2.5
	Feb/Mar 1999	--	--	--	--	3.2
	May/Jun 1999	--	--	--	--	2.4
	Aug 1999	(2)	(2)	(2)	(2)	1.7
	Nov/Dec 1999	(2)	(2)	--	--	1.7
	Mar/Apr 2000	(2)	(2)	(2)	(2)	3.0
	Jul/Aug 2000	--	--	--	--	1.4
	Sep/Oct 2000	(2)	(2)	(2)	(2)	1.3
MW-24[8]						
Screen 1	Sep/Oct 1997	--	--	--	--	1.6
	Jan/Feb 1998	--	--	--	--	3.8
	Apr/May 1998	--	--	--	--	2.7
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	3.8
	Feb/Mar 1999	--	--	--	--	7.6
	May/Jun 1999	--	--	--	--	4.3
	Aug 1999	(2)	(2)	--	--	9.7
	Nov/Dec 1999	(2)	(2)	--	--	1.1

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Mar/Apr 2000	(2)	(2)	--	--	3.8
	Jul/Aug 2000	--	--	--	--	0.8
	Sep/Oct 2000	--	--	--	--	14.5
Screen 2	Sep/Oct 1997	--	--	--	--	4.4
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.5
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	8.3
	Feb/Mar 1999	--	--	--	--	4.2
	May/Jun 1999	--	--	--	--	5.4
	Aug 1999	(2)	(2)	--	--	33.8
	Nov/Dec 1999	(2)	(2)	--	--	23.8
	Mar/Apr 2000	(2)	(2)	--	--	19.2
	Jul/Aug 2000	--	--	--	--	14.1
	Sep/Oct 2000	(2)	(2)	--	--	13.4
Screen 3	Sep/Oct 1997	--	--	--	--	4.6
	Jan/Feb 1998	0.006	--	--	--	4.7
	Apr/May 1998	--	--	--	--	4.9
	Jul/Aug 1998	--	--	--	--	4.9
	Oct/Nov 1998	--	--	--	--	7.8
	Feb/Mar 1999	0.006	--	0.013	--	34.8
	May/Jun 1999	--	--	--	--	27.2
	Aug 1999	(2)	(2)	--	--	25.2
	Nov/Dec 1999	(2)	(2)	--	--	45.5
	Mar/Apr 2000	(2)	(2)	--	--	18.9
	Jul/Aug 2000	--	--	--	--	6.9
	Sep/Oct 2000	(2)	(2)	--	--	15.0
Screen 4	Sep/Oct 1997	--	--	--	--	4.0
	Jan/Feb 1998	--	--	--	--	4.9
	Apr/May 1998	--	--	--	--	4.3
	Jul/Aug 1998	--	--	--	--	4.8
	Oct/Nov 1998	--	--	--	--	8.3
	Feb/Mar 1999	--	0.003	--	--	6.1
	May/Jun 1999	--	--	--	--	10.0
	Aug 1999	(2)	(2)	--	--	10.5
	Nov/Dec 1999	(2)	(2)	--	--	14.7
	Mar/Apr 2000	(2)	(2)	--	--	9.5
	Jul/Aug 2000	--	--	--	--	4.9
	Sep/Oct 2000	(2)	(2)	--	--	5.6
Screen 5	Sep/Oct 1997	--	--	--	--	4.8
	Jan/Feb 1998	--	--	--	--	4.8
	Apr/May 1998	--	--	--	--	4.0
	Jul/Aug 1998	--	--	--	--	4.0
	Oct/Nov 1998	--	--	--	--	8.0
	Feb/Mar 1999	--	--	--	--	5.7
	May/Jun 1999	--	--	--	--	5.8
	Aug 1999	(2)	(2)	(2)	(2)	(2)
	Nov/Dec 1999	(2)	(2)	--	--	12.0

TABLE 3-5

SUMMARY OF METALS DETECTED DURING THE LONG-TERM QUARTERLY SAMPLING PROGRAM, JET PROPULSION LABORATORY

(concentrations in mg/L)

Values above state or Federal MCLs, or above/equal to action levels, are bold and shaded

Sample Location	Sampling Date	Arsenic	Lead	Total Chromium	Hexavalent Chromium	Field Turbidity (NTUs)
	Mar/Apr 2000	(2)	(2)	(2)	(2)	(2)
	Jul/Aug 2000	--	--	--	--	16.1
	Sep/Oct 2000	(2)	(2)	(2)	(2)	(2)
Practical Quantitation Limit		0.005	0.002	0.010	0.005	
Calif. Maximum Contaminant Level		0.05	(10)	0.05	NE	
EPA Maximum Contaminant Level		0.05	(10)	0.10	NE	

--: Not detected.
NS: Not sampled.
NE: Not established.
1: Probable lab error. MW-1 is always upgradient of the site, and Cr contamination is not believed to be present upgradient of the site.
2: Monitoring point not sampled at all, or not sampled for the particular constituent due to changes in the sampling program as agreed to by the EPA, DTSC, and RWQCB.
3: Believed to be a laboratory error.
4: Not sampled due to U.S. Filter's Pilot Test.
5: Result from original analysis; duplicate sample was non-detect.
6: Not sampled, no water over screen.
7: Not sampled due to mechanical failure.
8: Wells installed June-August 1997.
9: Turbidity not measured due to equipment failure.
10: Treatment technique and public notification triggered at Action Level of 0.015 mg/L.

TABLE 4-1

GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS

September 8, 2000

Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
MW-1		9/8/2000	36.73	1116.69	1079.96
MW-3	1 (top)	9/8/2000	139.48	1100.34	960.86
	2	9/8/2000	145.24	1100.34	955.10
	3	9/8/2000	148.49	1100.34	951.85
	4	9/8/2000	226.77	1100.34	873.57
	5	9/8/2000	255.29	1100.34	845.05
MW-4	1 (top)	9/8/2000	115.39	1082.84	967.45
	2	9/8/2000	124.55	1082.84	958.29
	3	9/8/2000	127.08	1082.84	955.76
	4	9/8/2000	136.04	1082.84	946.80
	5	9/8/2000	212.77	1082.84	870.07
MW-5		9/8/2000	103.22	1071.62	968.40
MW-6		9/8/2000	209.72	1188.54	978.82
MW-7		9/8/2000	NA	1212.90	No Data
MW-8		9/8/2000	169.36	1139.55	970.19
MW-9		9/8/2000	28.65	1106.06	1077.41
MW-10		9/8/2000	118.68	1087.73	969.05
MW-11	1 (top)	9/8/2000	125.94	1139.30	1013.36
	2	9/8/2000	168.35	1139.30	970.95
	3	9/8/2000	183.67	1139.30	955.63
	4	9/8/2000	191.24	1139.30	948.06
	5	9/8/2000	253.08	1139.30	886.22
MW-12	1 (top)	9/8/2000	131.05	1102.14	971.09
	2	9/8/2000	141.53	1102.14	960.61
	3	9/8/2000	144.40	1102.14	957.74
	4	9/8/2000	157.16	1102.14	944.98
	5	9/8/2000	219.33	1102.14	882.81
MW-13		9/8/2000	212.25	1183.49	971.24
MW-14	1 (top)	9/8/2000	192.71	1173.47	980.76
	2	9/8/2000	193.57	1173.47	979.90
	3	9/8/2000	193.86	1173.47	979.61
	4	9/8/2000	193.95	1173.47	979.52
	5	9/8/2000	195.00	1173.47	978.47
MW-15		9/8/2000	41.60	1120.68	1079.08
MW-16		9/8/2000	256.60	1236.29	979.69
MW-17	1 (top)	9/8/2000	232.16	1191.21	959.05
	2	9/8/2000	243.08	1191.21	948.13
	3	9/8/2000	255.70	1191.21	935.51
	4	9/8/2000	310.85	1191.21	880.36
	5	9/8/2000	320.44	1191.21	870.77

TABLE 4-1

GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS

September 8, 2000

Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
MW-18	1 (top)	9/8/2000	N/W	1225.41	N/W
	2	9/8/2000	271.46	1225.41	953.95
	3	9/8/2000	276.35	1225.41	949.06
	4	9/8/2000	308.88	1225.41	916.53
	5	9/8/2000	325.25	1225.41	900.16
MW-19	1 (top)	9/8/2000	187.83	1142.94	955.11
	2	9/8/2000	198.76	1142.94	944.18
	3	9/8/2000	204.00	1142.94	938.94
	4	9/8/2000	309.10	1142.94	833.84
	5	9/8/2000	312.77	1142.94	830.17
MW-20	1 (top)	9/8/2000	224.29	1165.05	940.76
	2	9/8/2000	225.63	1165.05	939.42
	3	9/8/2000	253.42	1165.05	911.63
	4	9/8/2000	260.25	1165.05	904.80
	5	9/8/2000	220.75	1165.05	944.30
MW-21	1 (top)	9/8/2000	84.23	1059.10	974.87
	2	9/8/2000	84.41	1059.10	974.69
	3	9/8/2000	84.94	1059.10	974.16
	4	9/8/2000	86.26	1059.10	972.84
	5	9/8/2000	86.30	1059.10	972.80
MW-22	1 (top)	9/8/2000	203.80	1176.98	973.18
	2	9/8/2000	205.36	1176.98	971.62
	3	9/8/2000	205.15	1176.98	971.83
	4	9/8/2000	223.43	1176.98	953.55
	5	9/8/2000	234.77	1176.98	942.21
MW-23	1 (top)	9/8/2000	137.64	1108.84	971.20
	2	9/8/2000	142.24	1108.84	966.60
	3	9/8/2000	142.67	1108.84	966.17
	4	9/8/2000	164.79	1108.84	944.05
	5	9/8/2000	165.18	1108.84	943.66
MW-24	1 (top)	9/8/2000	230.16	1200.94	970.78
	2	9/8/2000	235.92	1200.94	965.02
	3	9/8/2000	238.37	1200.94	962.57
	4	9/8/2000	263.10	1200.94	937.84
	5	9/8/2000	286.14	1200.94	914.80

TABLE 4-2

GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS

October 12, 2000

Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
MW-1		10/12/2000	37.39	1116.69	1079.30
MW-3	1 (top)	10/12/2000	141.26	1100.34	959.08
	2	10/12/2000	144.17	1100.34	956.17
	3	10/12/2000	145.56	1100.34	954.78
	4	10/12/2000	193.64	1100.34	906.70
	5	10/12/2000	218.58	1100.34	881.76
MW-4	1 (top)	10/12/2000	119.72	1082.84	963.12
	2	10/12/2000	123.94	1082.84	958.90
	3	10/12/2000	124.95	1082.84	957.89
	4	10/12/2000	129.76	1082.84	953.08
	5	10/12/2000	182.57	1082.84	900.27
MW-5		10/12/2000	108.35	1071.62	963.27
MW-6		10/12/2000	211.38	1188.54	977.16
MW-7		10/12/2000	NA	1212.90	No Data
MW-8		10/12/2000	174.50	1139.55	965.05
MW-9		10/12/2000	29.92	1106.06	1076.14
MW-10		10/12/2000	122.34	1087.73	965.39
MW-11	1 (top)	10/12/2000	128.63	1139.30	1010.67
	2	10/12/2000	169.32	1139.30	969.98
	3	10/12/2000	178.68	1139.30	960.62
	4	10/12/2000	182.35	1139.30	956.95
	5	10/12/2000	225.62	1139.30	913.68
MW-12	1 (top)	10/12/2000	136.20	1102.14	965.94
	2	10/12/2000	141.64	1102.14	960.50
	3	10/12/2000	142.99	1102.14	959.15
	4	10/12/2000	149.18	1102.14	952.96
	5	10/12/2000	190.65	1102.14	911.49
MW-13		10/12/2000	216.68	1183.49	966.81
MW-14	1 (top)	10/12/2000	194.04	1173.47	979.43
	2	10/12/2000	193.31	1173.47	980.16
	3	10/12/2000	192.58	1173.47	980.89
	4	10/12/2000	192.44	1173.47	981.03
	5	10/12/2000	192.61	1173.47	980.86
MW-15		10/12/2000	42.74	1120.68	1077.94
MW-16		10/12/2000	270.30	1236.29	965.99
MW-17	1 (top)	10/12/2000	236.91	1191.21	954.30
	2	10/12/2000	239.28	1191.21	951.93
	3	10/12/2000	244.38	1191.21	946.83
	4	10/12/2000	276.44	1191.21	914.77
	5	10/12/2000	285.70	1191.21	905.51

TABLE 4-2

GROUNDWATER MONITORING WELL WATER LEVEL MEASUREMENTS

October 12, 2000

Well Number	Screen Number	Date Measured	Depth to Water (ft)	Reference Elevation (ft msl)	Water Level Elevation (ft msl)
MW-18	1 (top)	10/12/2000	N/W	1225.41	N/W
	2	10/12/2000	274.21	1225.41	951.20
	3	10/12/2000	273.67	1225.41	951.74
	4	10/12/2000	288.06	1225.41	937.35
	5	10/12/2000	301.00	1225.41	924.41
MW-19	1 (top)	10/12/2000	189.03	1142.94	953.91
	2	10/12/2000	194.75	1142.94	948.19
	3	10/12/2000	197.18	1142.94	945.76
	4	10/12/2000	274.10	1142.94	868.84
	5	10/12/2000	277.91	1142.94	865.03
MW-20	1 (top)	10/12/2000	221.26	1165.05	943.79
	2	10/12/2000	219.77	1165.05	945.28
	3	10/12/2000	223.70	1165.05	941.35
	4	10/12/2000	244.51	1165.05	920.54
	5	10/12/2000	219.08	1165.05	945.97
MW-21	1 (top)	10/12/2000	86.94	1059.10	972.16
	2	10/12/2000	85.51	1059.10	973.59
	3	10/12/2000	85.43	1059.10	973.67
	4	10/12/2000	86.37	1059.10	972.73
	5	10/12/2000	86.44	1059.10	972.66
MW-22	1 (top)	10/12/2000	207.05	1176.98	969.93
	2	10/12/2000	205.06	1176.98	971.92
	3	10/12/2000	204.65	1176.98	972.33
	4	10/12/2000	215.67	1176.98	961.31
	5	10/12/2000	223.61	1176.98	953.37
MW-23	1 (top)	10/12/2000	141.21	1108.84	967.63
	2	10/12/2000	141.52	1108.84	967.32
	3	10/12/2000	141.26	1108.84	967.58
	4	10/12/2000	152.97	1108.84	955.87
	5	10/12/2000	153.05	1108.84	955.79
MW-24	1 (top)	10/12/2000	235.09	1200.94	965.85
	2	10/12/2000	236.44	1200.94	964.50
	3	10/12/2000	237.07	1200.94	963.87
	4	10/12/2000	251.06	1200.94	949.88
	5	10/12/2000	267.22	1200.94	933.72

FIGURES

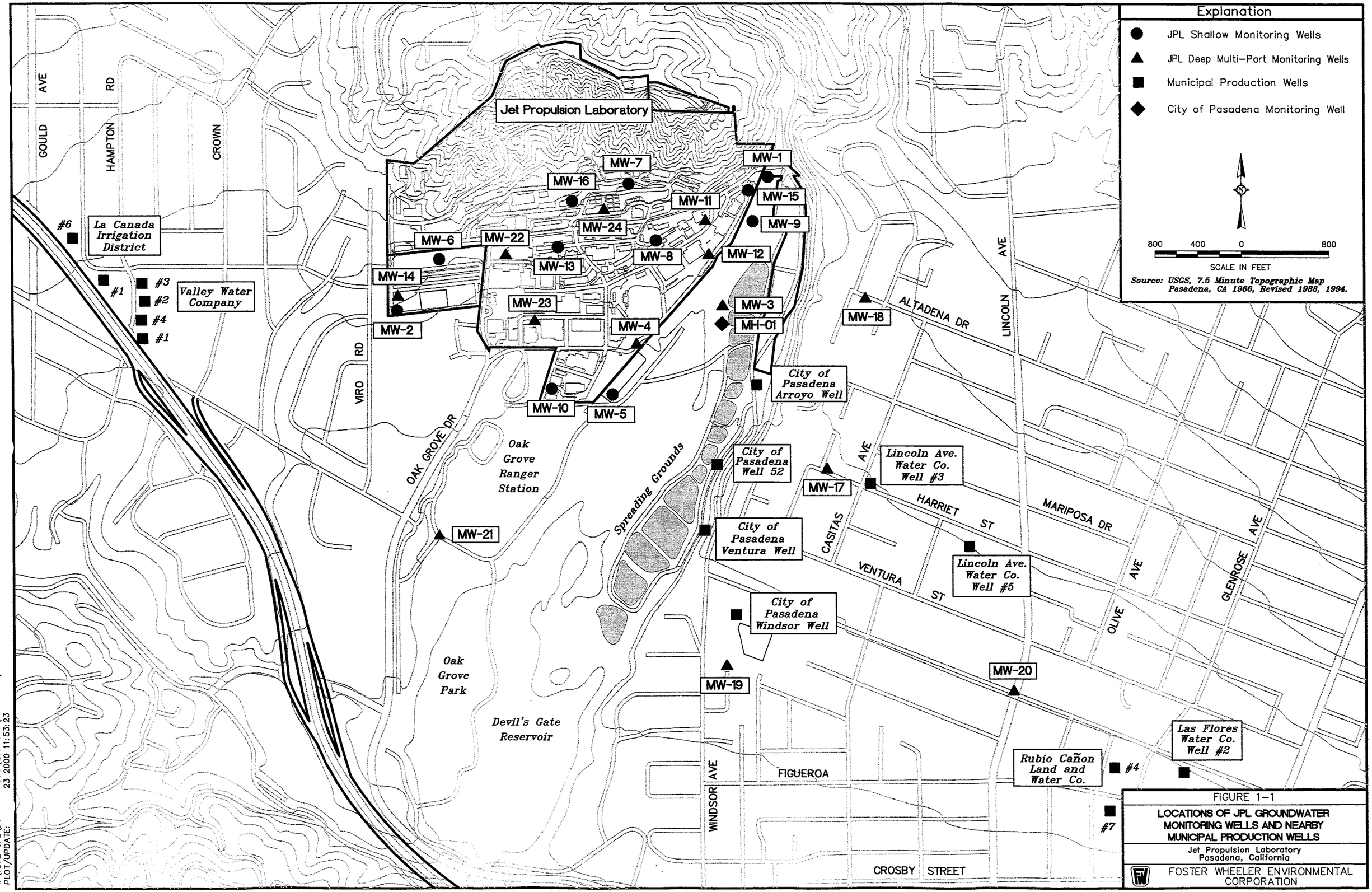

FIGURE 1-1

LOCATIONS OF JPL GROUNDWATER MONITORING WELLS AND NEARBY MUNICIPAL PRODUCTION WELLS

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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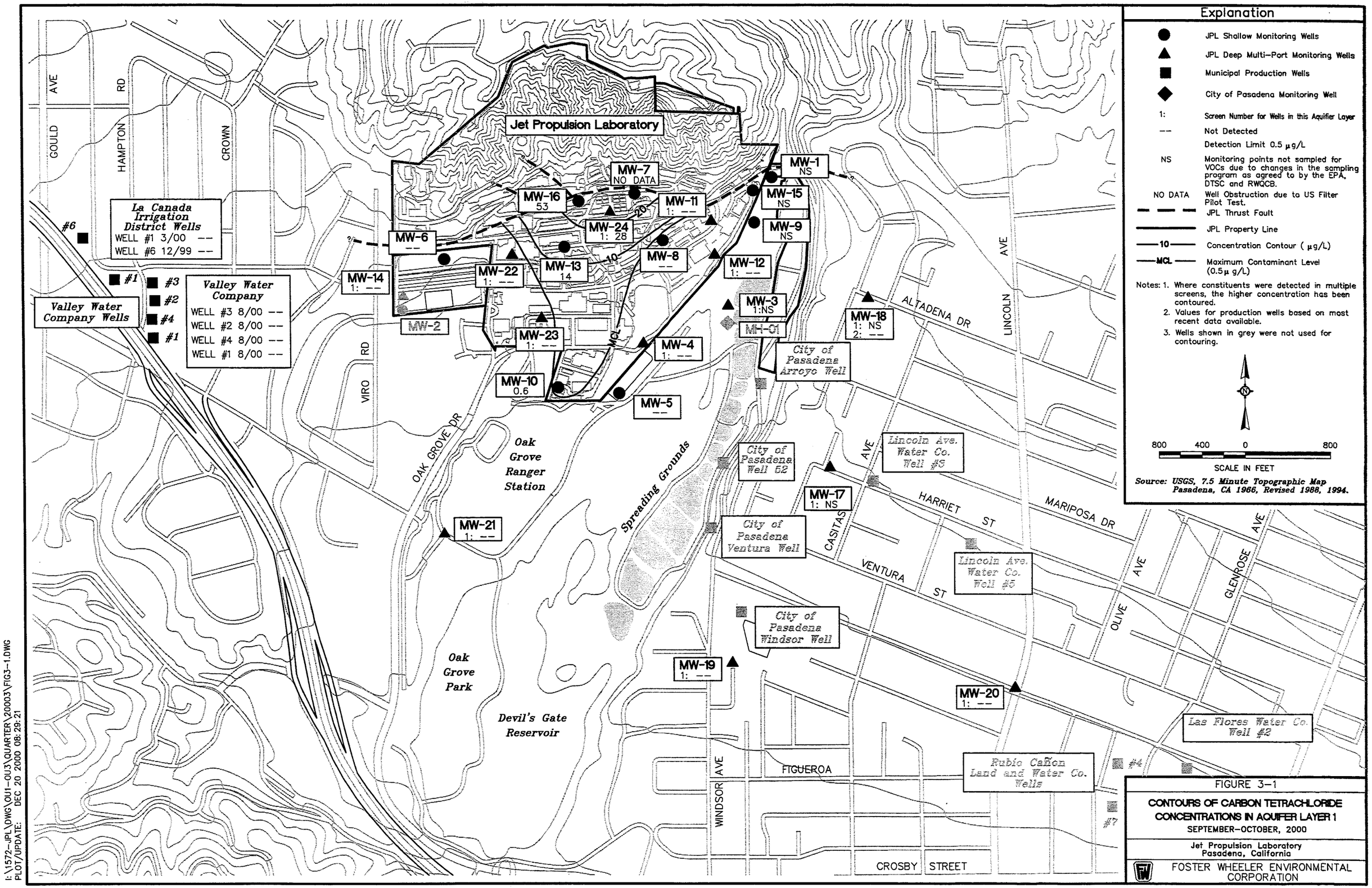

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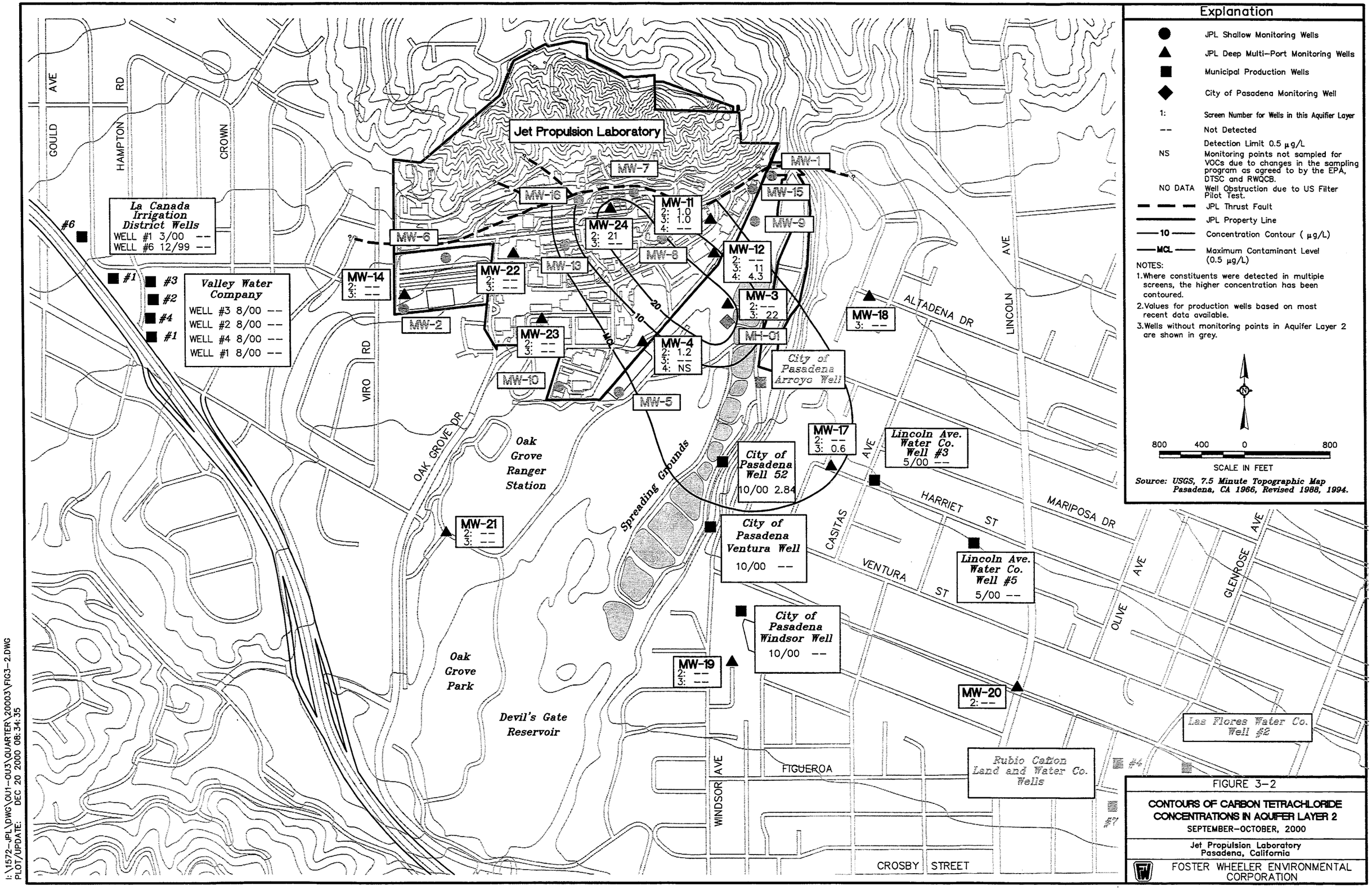

Explanation

- JPL Shallow Monitoring Wells
- JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- City of Pasadena Monitoring Well
- 1: Screen Number for Wells in this Aquifer Layer
- -- Not Detected
- Detection Limit 0.5 µg/L
- NS Monitoring points not sampled for VOCs due to changes in the sampling program as agreed to by the EPA, DTSC and RWQCB.
- NO DATA Well Obstruction due to US Filter Pilot Test.
- JPL Thrust Fault
- JPL Property Line
- 10 Concentration Contour (µg/L)
- MCL Maximum Contaminant Level (0.5 µg/L)

NOTES:

1. Where constituents were detected in multiple screens, the higher concentration has been contoured.
2. Values for production wells based on most recent data available.
3. Wells without monitoring points in Aquifer Layer 2 are shown in grey.

N

800 400 0 800

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 3-2

CONTOURS OF CARBON TETRACHLORIDE CONCENTRATIONS IN AQUIFER LAYER 2

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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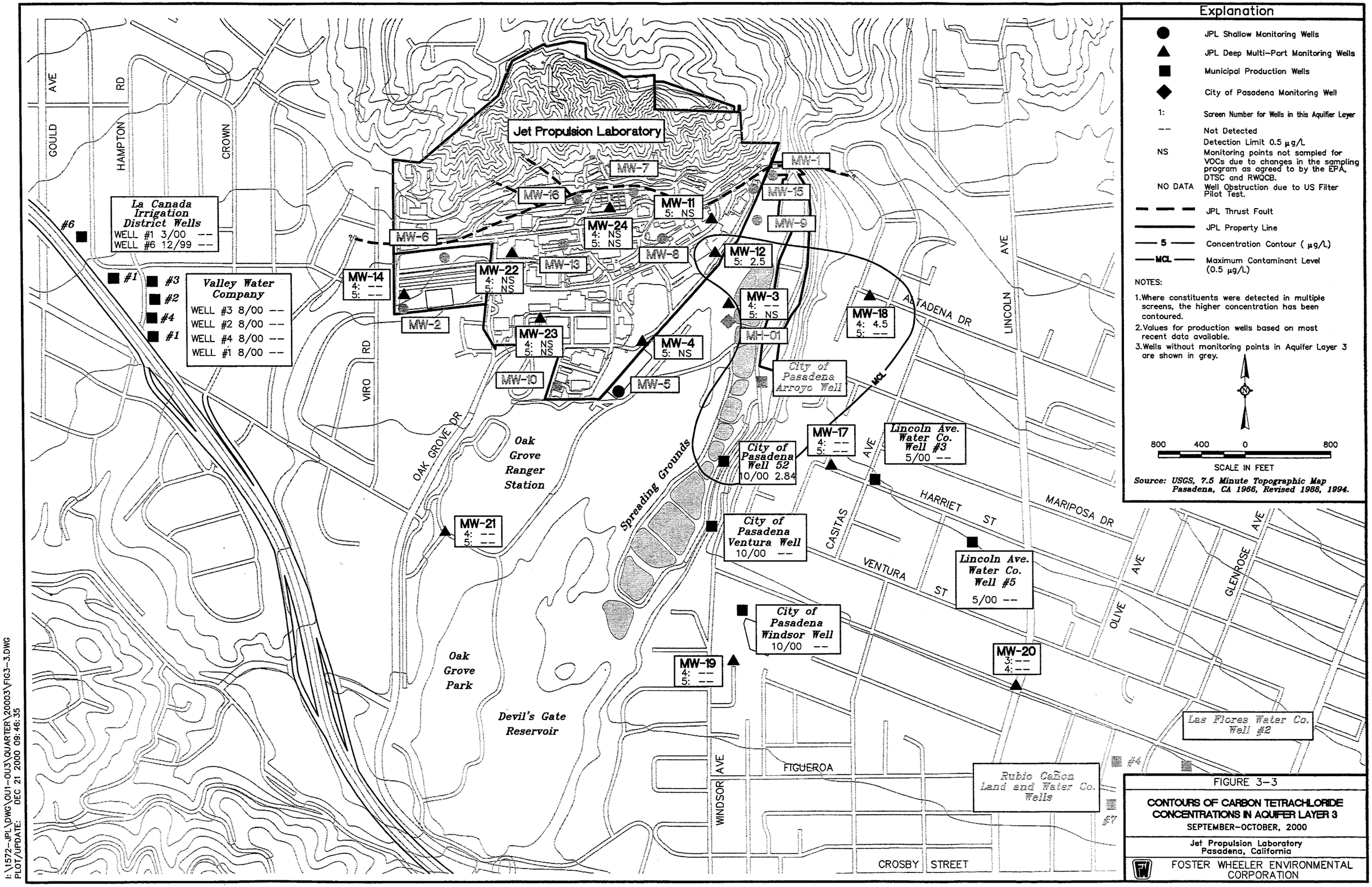

FIGURE 3-3

CONTOURS OF CARBON TETRACHLORIDE CONCENTRATIONS IN AQUIFER LAYER 3

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\OU1-OU3\QUARTER\20003\FIG3-3.DWG
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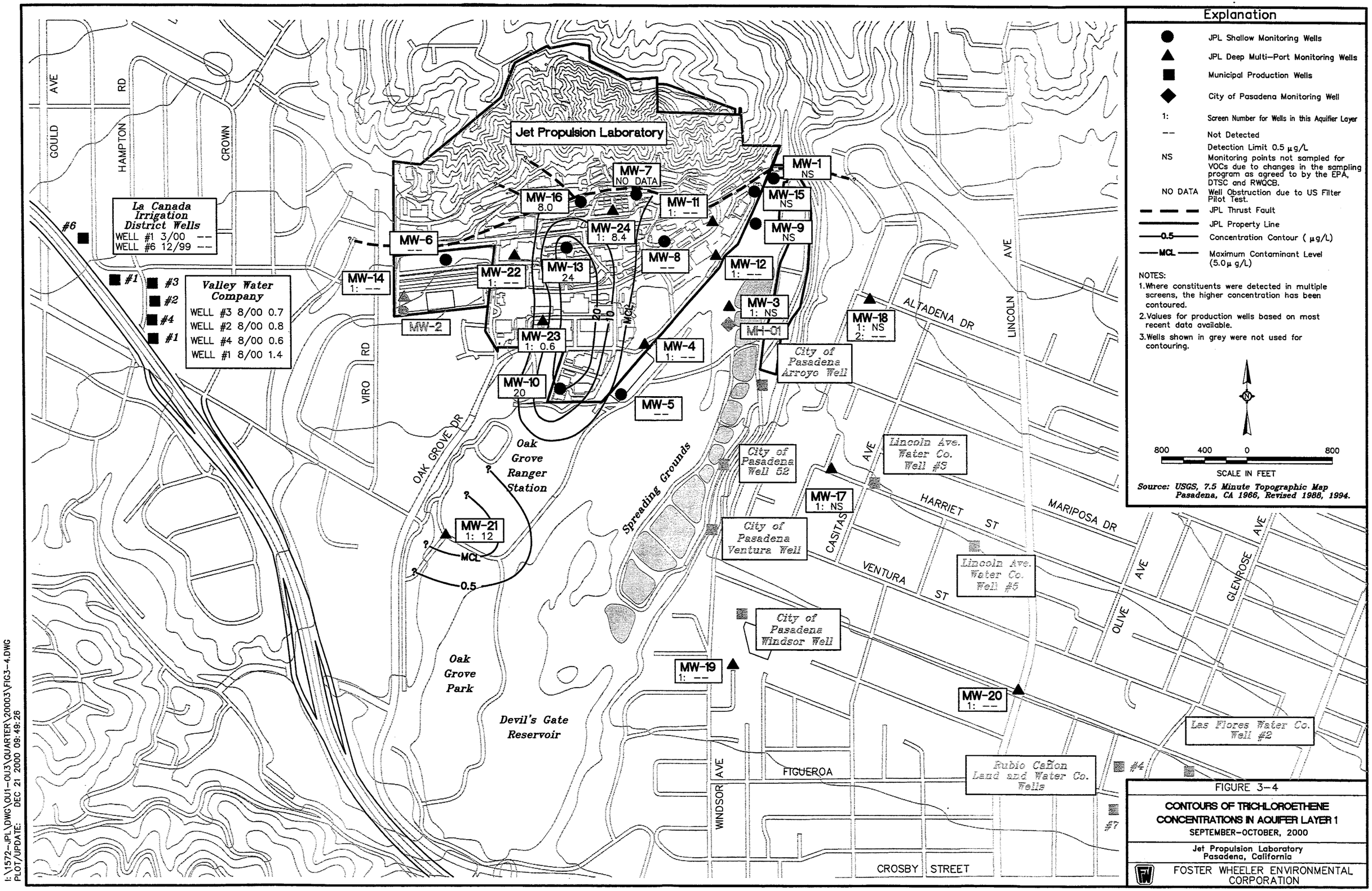

FIGURE 3-4

CONTOURS OF TRICHLOROETHENE CONCENTRATIONS IN AQUIFER LAYER 1

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\OU1-OU3\QUARTER\20003\FIG3-4.DWG
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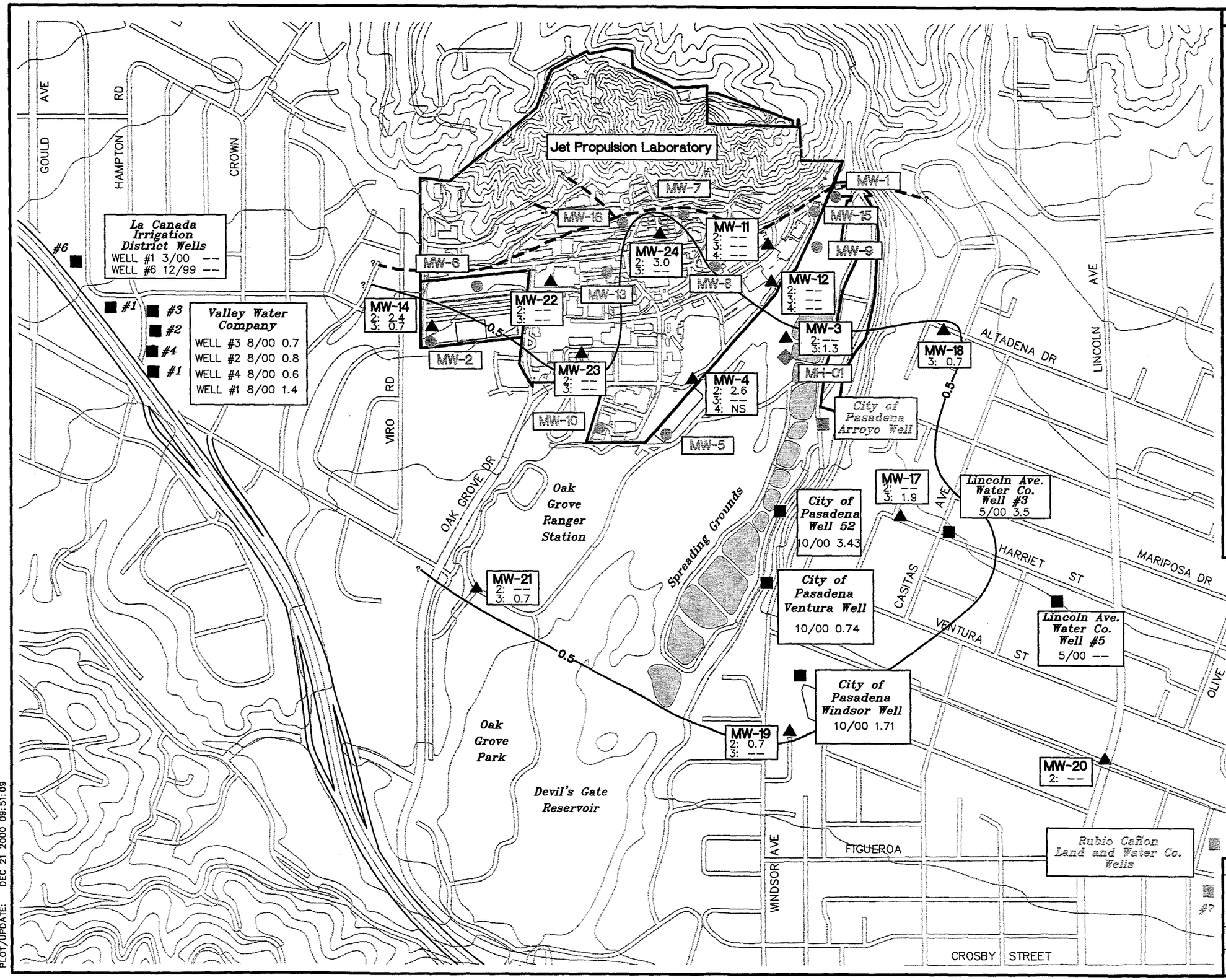

Explanation

- JPL Shallow Monitoring Wells
- JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- City of Pasadena Monitoring Well
- 1: Screen Number for Wells in this Aquifer Layer
- -- Not Detected
- Detection Limit 0.5 µg/L
- NS Monitoring points not sampled for VOCs due to changes in the sampling program as agreed to by the EPA, DTSC and RWQCB.
- NO DATA Well Obstruction due to US Filter Pilot Test.
- JPL Thrust Fault
- JPL Property Line
- 0.5 Concentration Contour (µg/L)
- MCL Maximum Contaminant Level (5.0 µg/L)

NOTES:

1. Where constituents were detected in multiple screens, the higher concentration has been contoured.
2. Values for production wells based on most recent data available.
3. Wells without monitoring points in Aquifer Layer 2 are shown in grey.

FIGURE 3-5

CONTOURS OF TRICHLOROETHENE CONCENTRATIONS IN AQUIFER LAYER 2

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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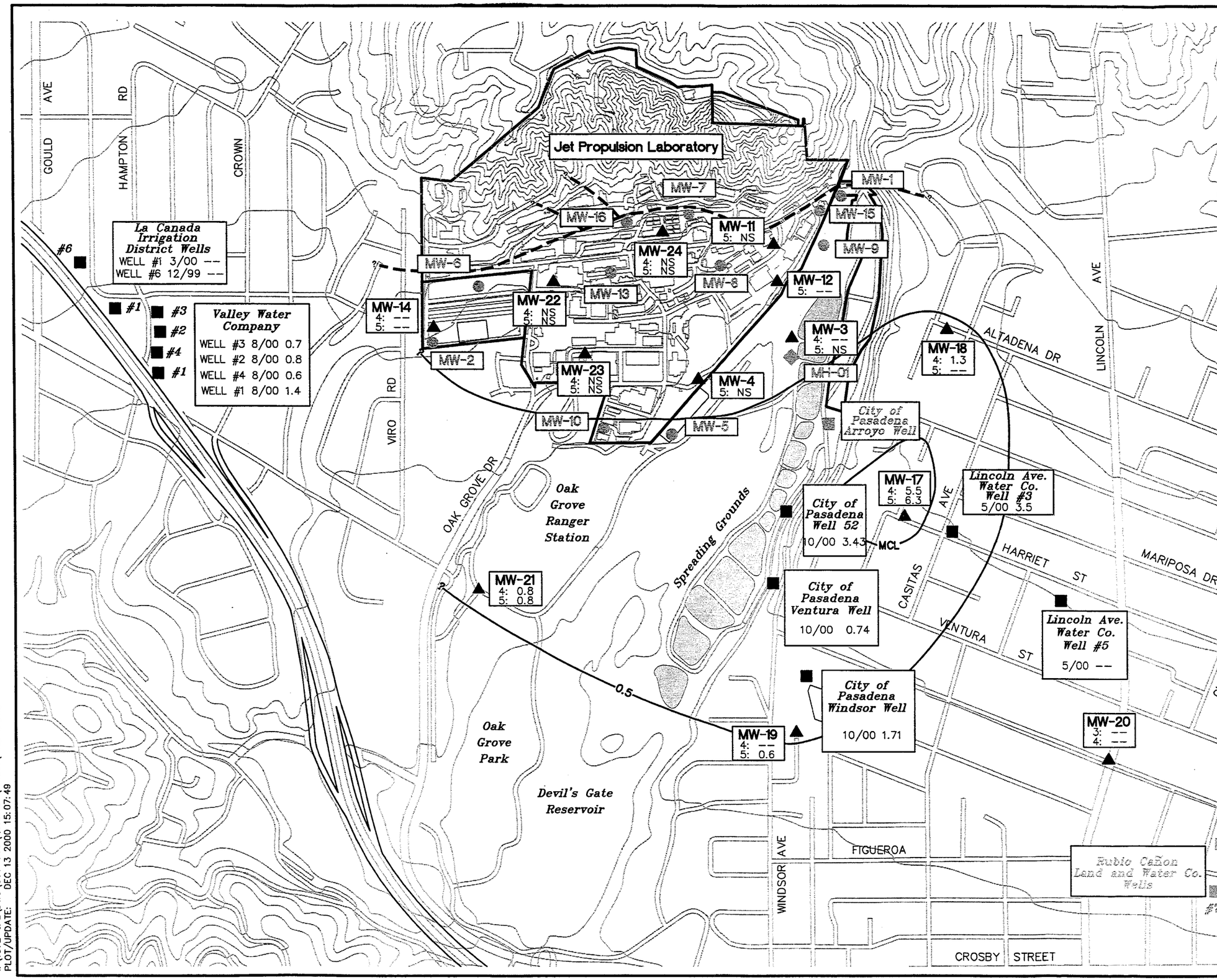

Explanation

- JPL Shallow Monitoring Wells
- JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- City of Pasadena Monitoring Well
- 1: Screen Number for Wells in this Aquifer Layer
- -- Not Detected
  Detection Limit 0.5 µg/L
- NS Monitoring points not sampled for VOCs due to changes in the sampling program as agreed to by the EPA, DTSC and RWQCB.
- NO DATA Well Obstruction due to US Filter Pilot Test.
- JPL Thrust Fault
- JPL Property Line
- 0.5 Concentration Contour (µg/L)
- MCL Maximum Contaminant Level (5.0 µg/L)

NOTES:

1. Where constituents were detected in multiple screens, the higher concentration has been contoured.
2. Values for production wells based on most recent data available.
3. Wells without monitoring points in Aquifer Layer 3 are shown in grey.

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 3-6

CONTOURS OF TRICHLOROETHENE CONCENTRATIONS IN AQUIFER LAYER 3

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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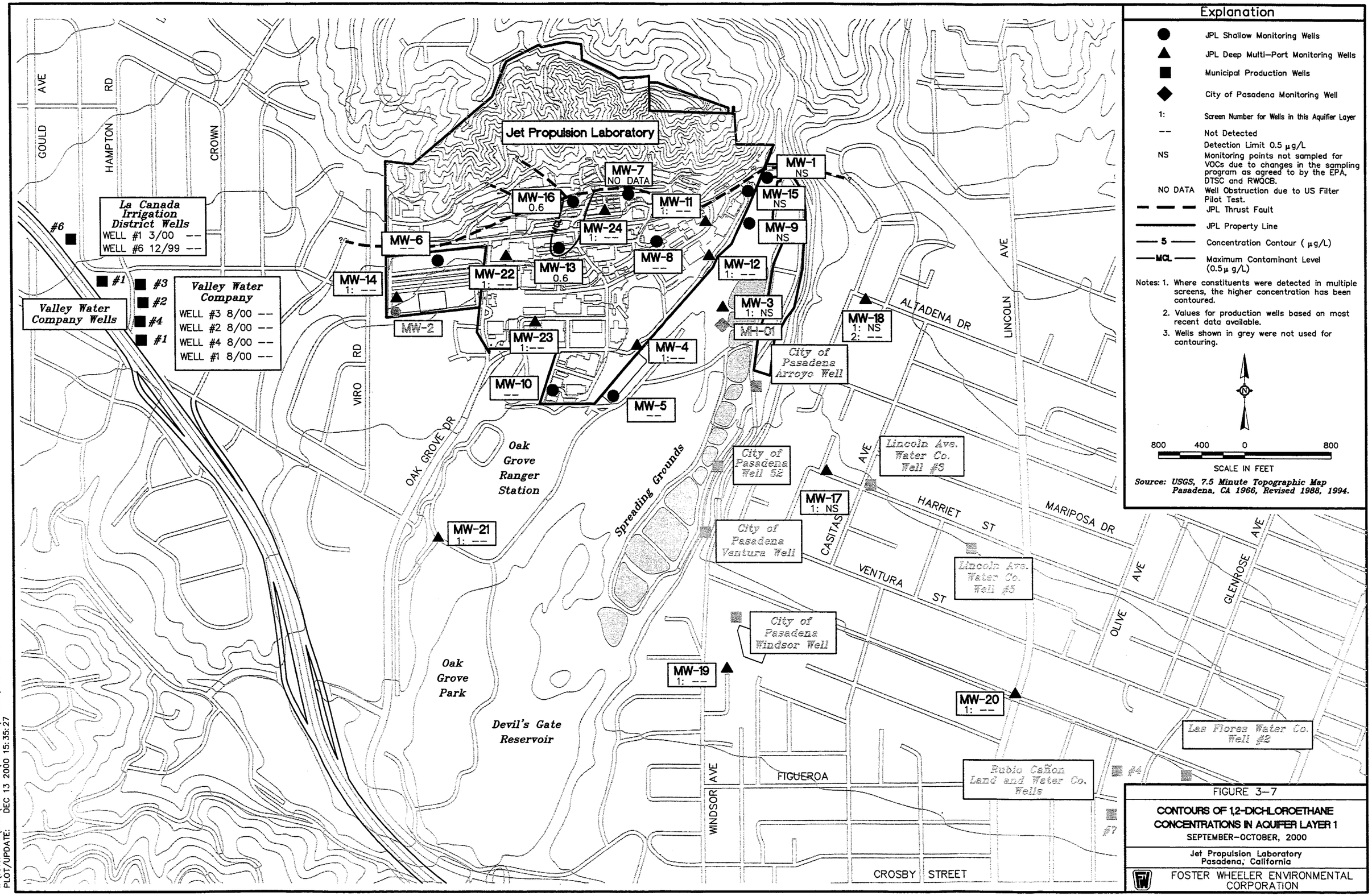

FIGURE 3-7

CONTOURS OF 1,2-DICHLOROETHANE CONCENTRATIONS IN AQUIFER LAYER 1

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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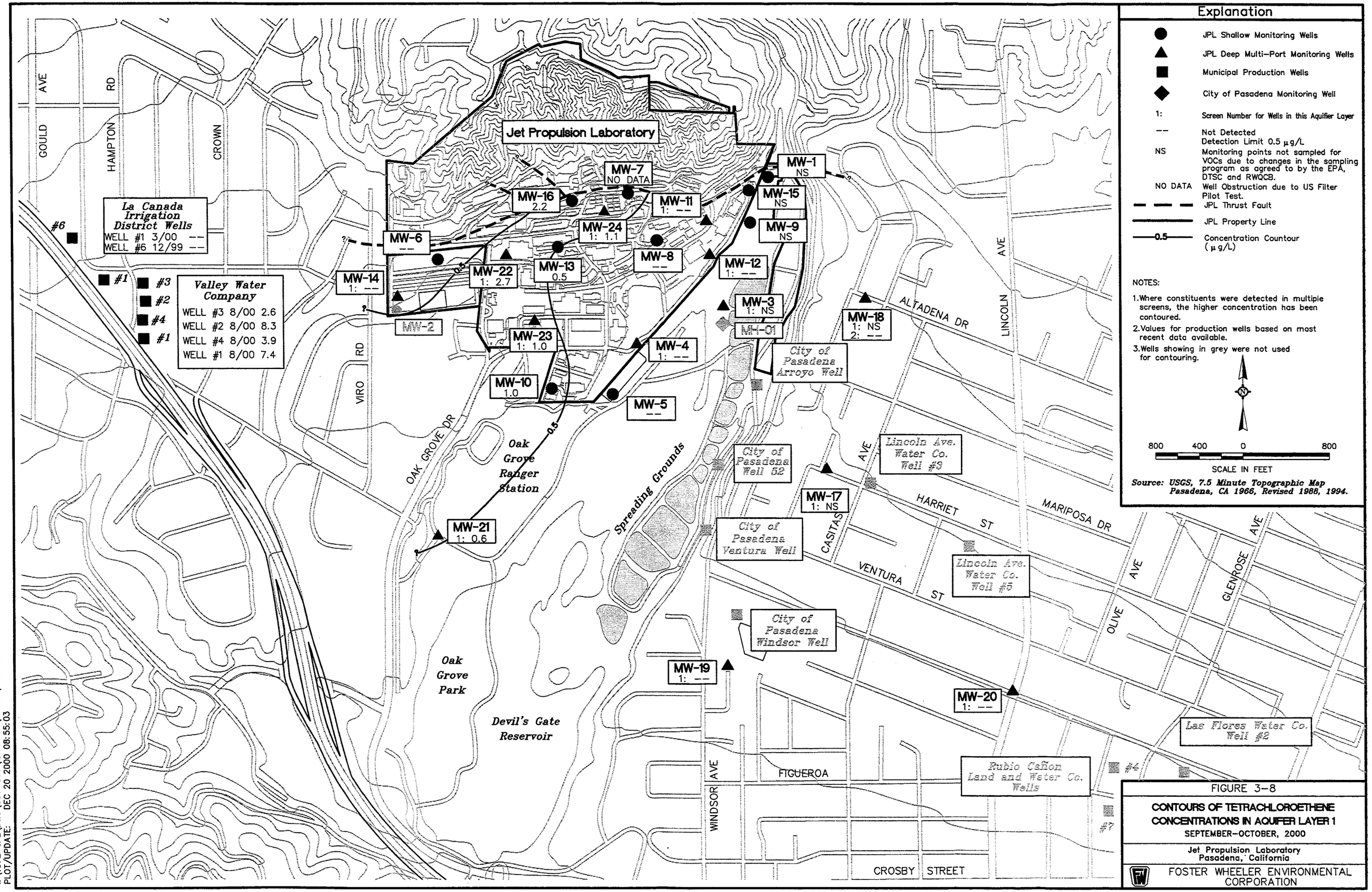

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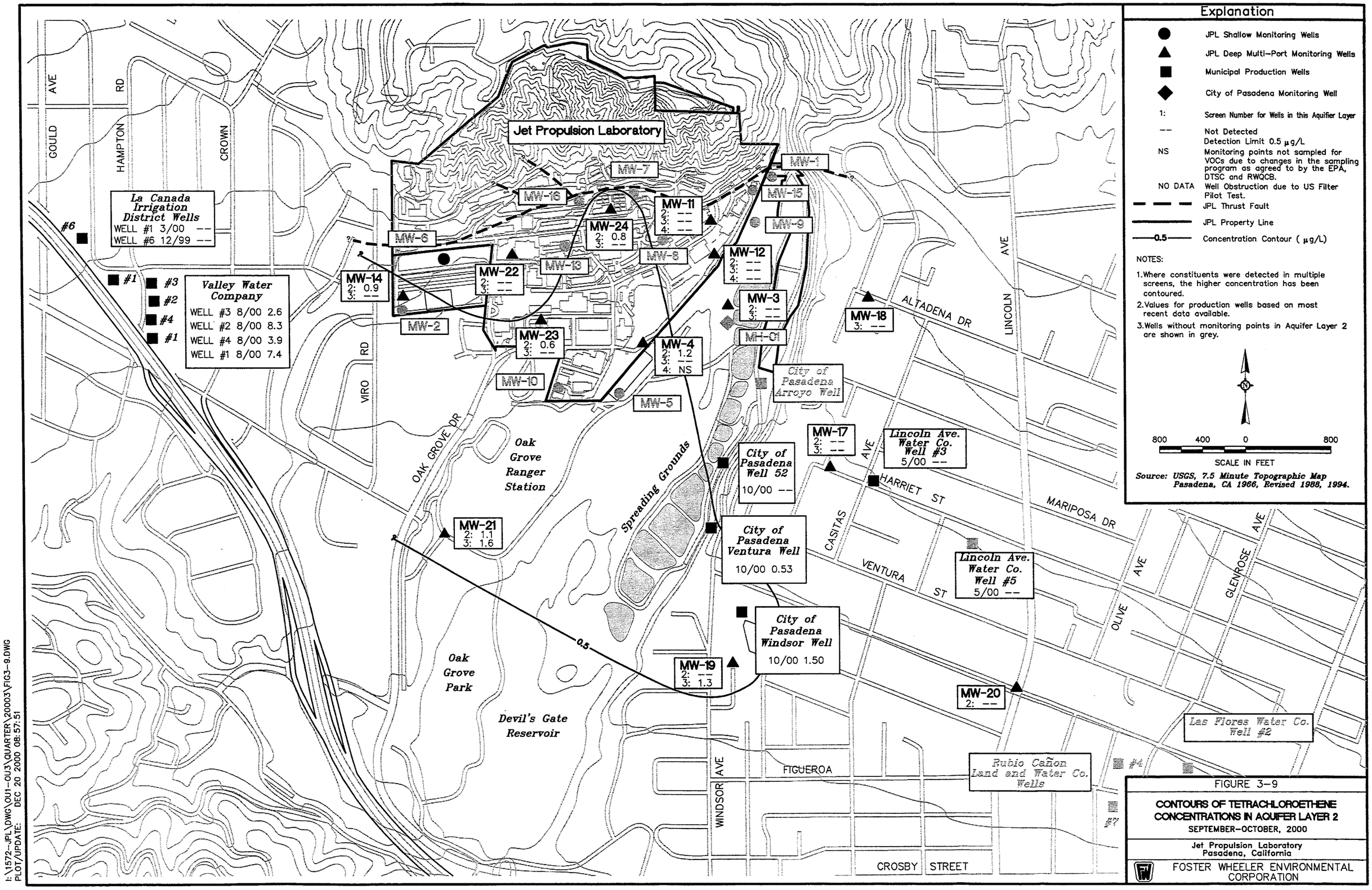

FIGURE 3-9

CONTOURS OF TETRACHLOROETHENE CONCENTRATIONS IN AQUIFER LAYER 2

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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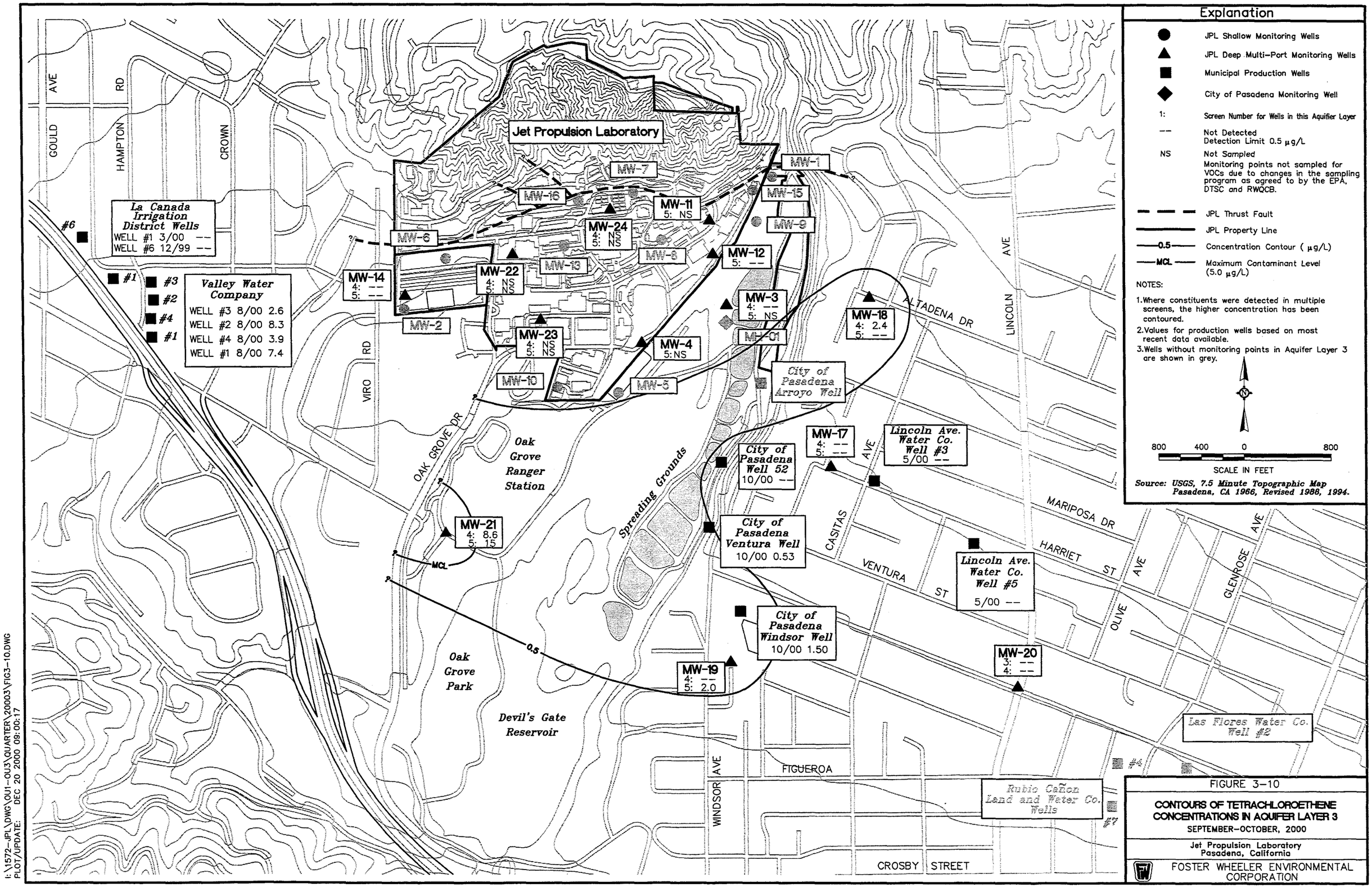

FIGURE 3-10

CONTOURS OF TETRACHLOROETHENE CONCENTRATIONS IN AQUIFER LAYER 3

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\OU1-OU3\QUARTER\20003\FIG3-10.DWG
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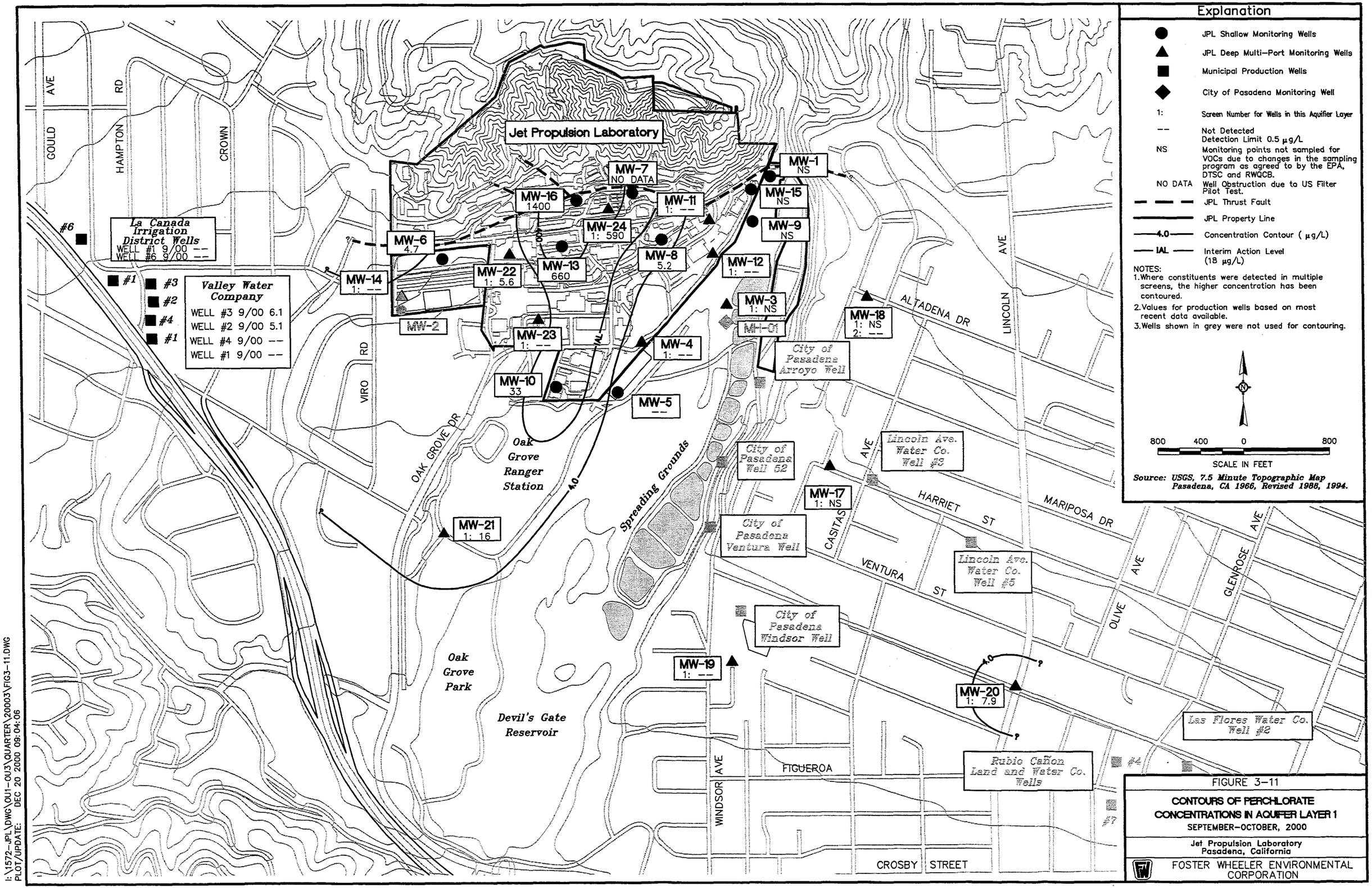

FIGURE 3-11

CONTOURS OF PERCHLORATE CONCENTRATIONS IN AQUIFER LAYER 1

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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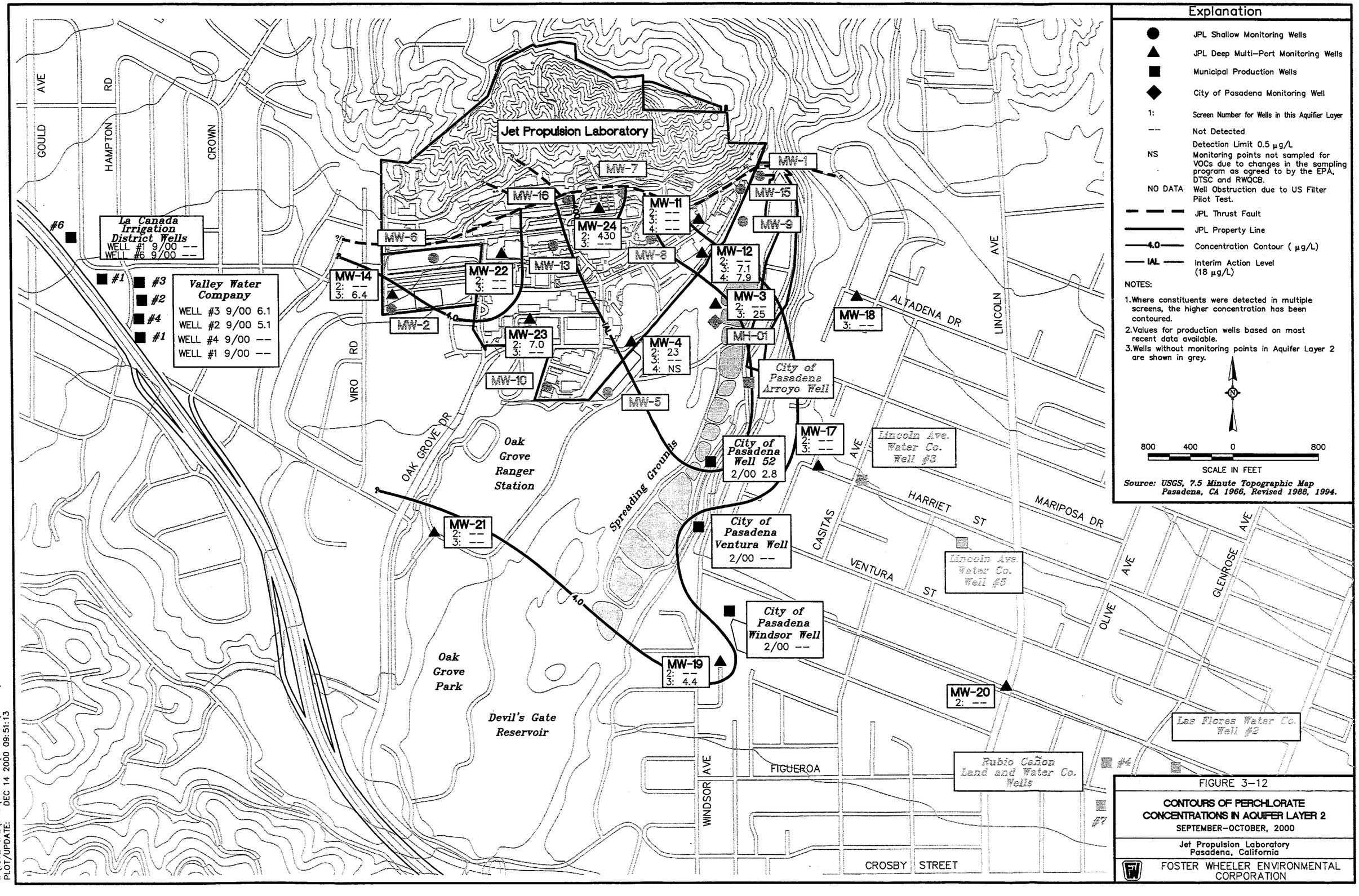

FIGURE 3-12

CONTOURS OF PERCHLORATE CONCENTRATIONS IN AQUIFER LAYER 2

SEPTEMBER-OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\OU1-OU3\QUARTER\20003\FIG3-12.DWG
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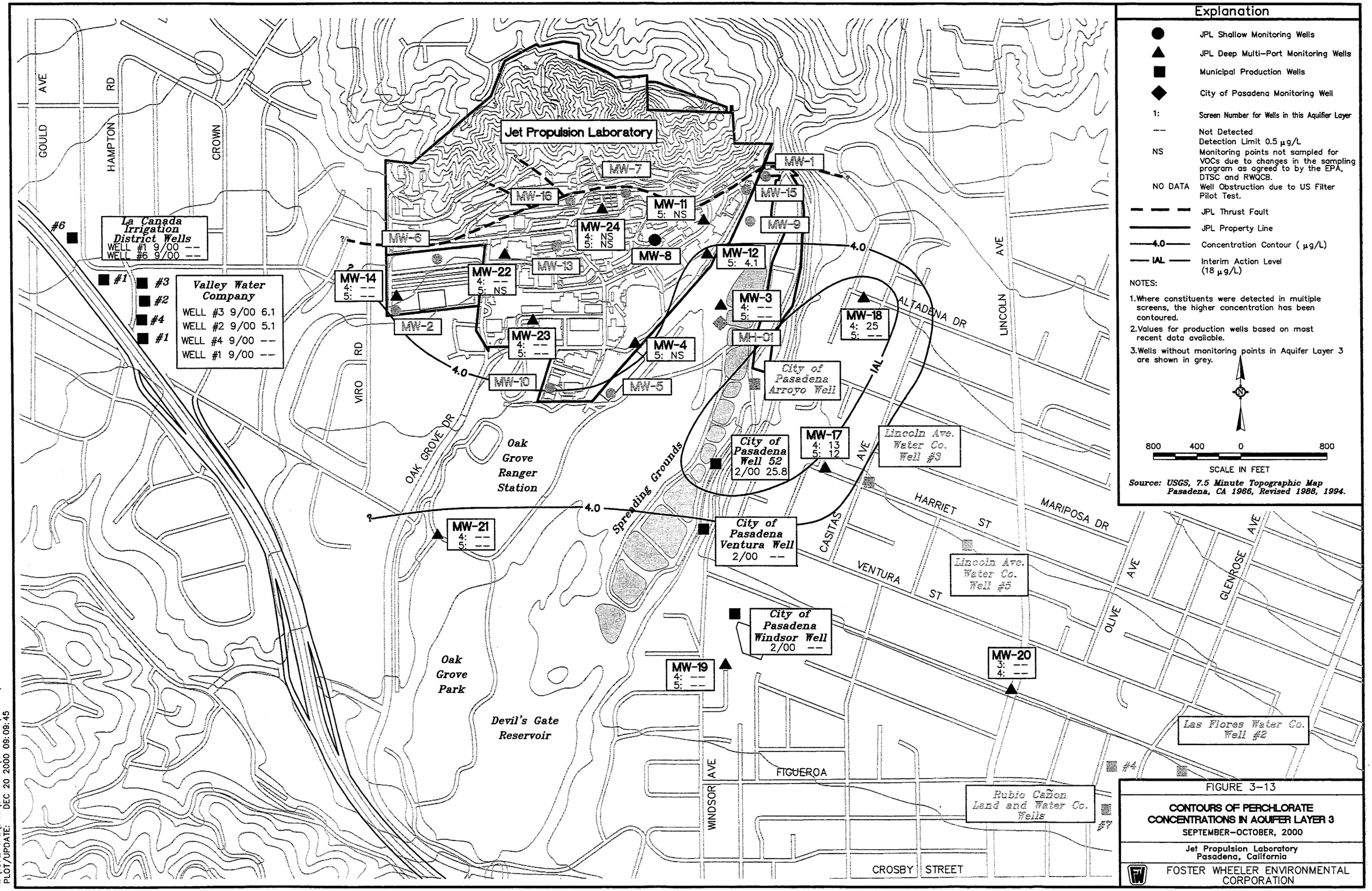

FIGURE 3-13

CONTOURS OF PERCHLORATE CONCENTRATIONS IN AQUIFER LAYER 3

SEPTEMBER–OCTOBER, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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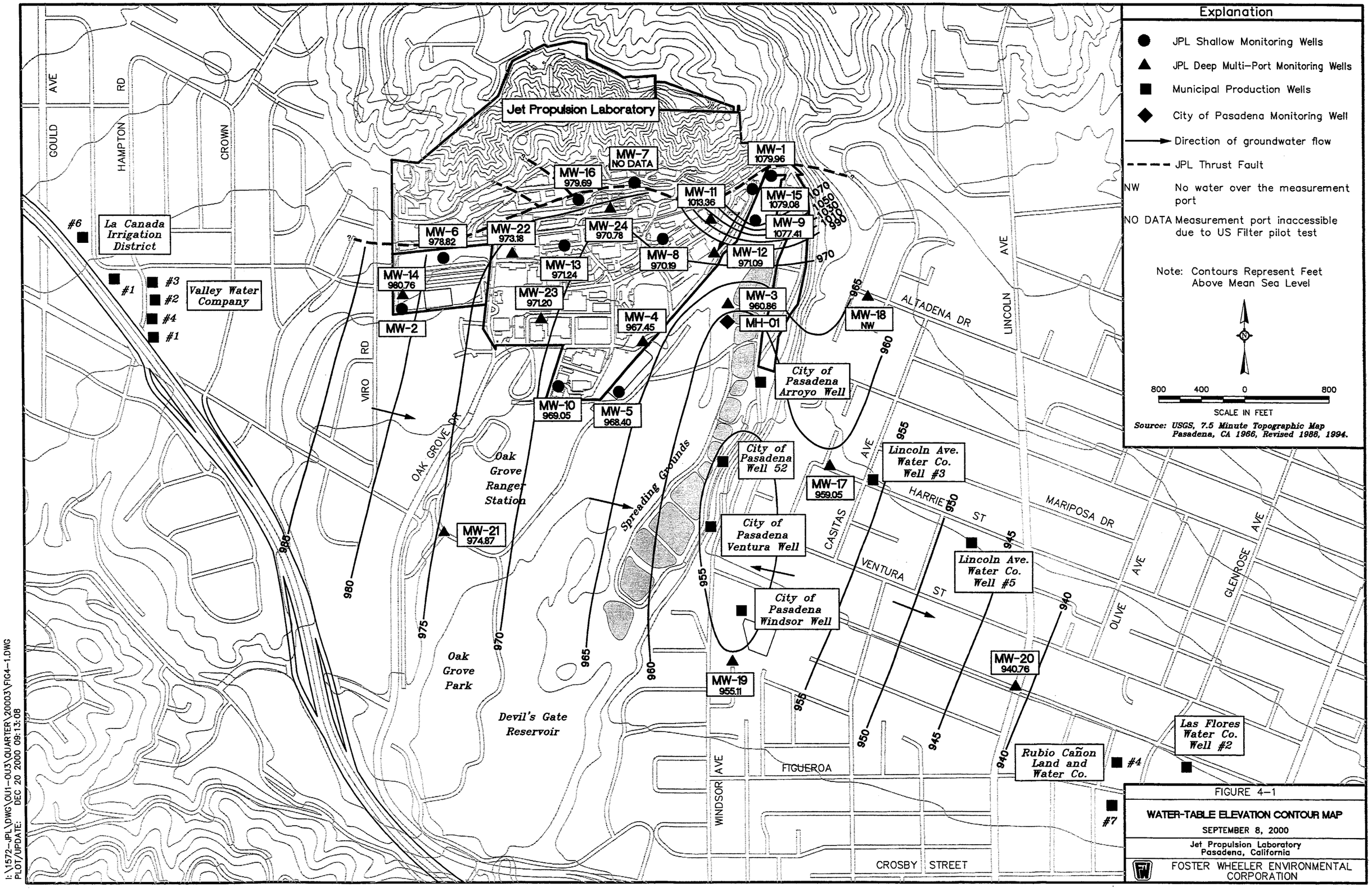
Explanation
JPL Shallow Monitoring Wells
JPL Deep Multi-Port Monitoring Wells
Municipal Production Wells
City of Pasadena Monitoring Well
Direction of groundwater flow
JPL Thrust Fault
NW No water over the measurement port
NO DATA Measurement port inaccessible due to US Filter pilot test
Note: Contours Represent Feet Above Mean Sea Level
800 400 0 800
SCALE IN FEET
Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.
Jet Propulsion Laboratory
MW-1 1079.96
MW-2
MW-3 960.86
MW-4 967.45
MW-5 968.40
MW-6 978.82
MW-7 NO DATA
MW-8 970.19
MW-9 1077.41
MW-10 969.05
MW-11 1013.36
MW-12 971.09
MW-13 971.24
MW-14 980.76
MW-15 1079.08
MW-16 979.69
MW-17 959.05
MW-18 NW
MW-19 955.11
MW-20 940.76
MW-21 974.87
MW-22 973.18
MW-23 971.20
MW-24 970.78
MH-01
#6
La Canada Irrigation District
#1
#3
#2
#4
#1
Valley Water Company
City of Pasadena Arroyo Well
City of Pasadena Well 52
City of Pasadena Ventura Well
City of Pasadena Windsor Well
Lincoln Ave. Water Co. Well #3
Lincoln Ave. Water Co. Well #5
Oak Grove Ranger Station
Oak Grove Park
Devil's Gate Reservoir
Spreading Grounds
Rubio Cañon Land and Water Co.
Las Flores Water Co. Well #2
#4
#7
GOULD AVE
HAMPTON RD
CROWN
VIRO RD
OAK GROVE DR
ALTADENA DR
LINCOLN AVE
CASITAS AVE
HARRIET ST
MARIPOSA DR
VENTURA ST
OLIVE AVE
GLENROSE AVE
WINDSOR AVE
FIGUEROA
CROSBY STREET
1070
1050
1030
1010
990
970
965
960
955
950
945
940
980
985
975
FIGURE 4-1
WATER-TABLE ELEVATION CONTOUR MAP
SEPTEMBER 8, 2000
Jet Propulsion Laboratory
Pasadena, California
FOSTER WHEELER ENVIRONMENTAL CORPORATION
I:\1572-JPL\DWG\OU1-OU3\QUARTER\20003\FIG4-1.DWG
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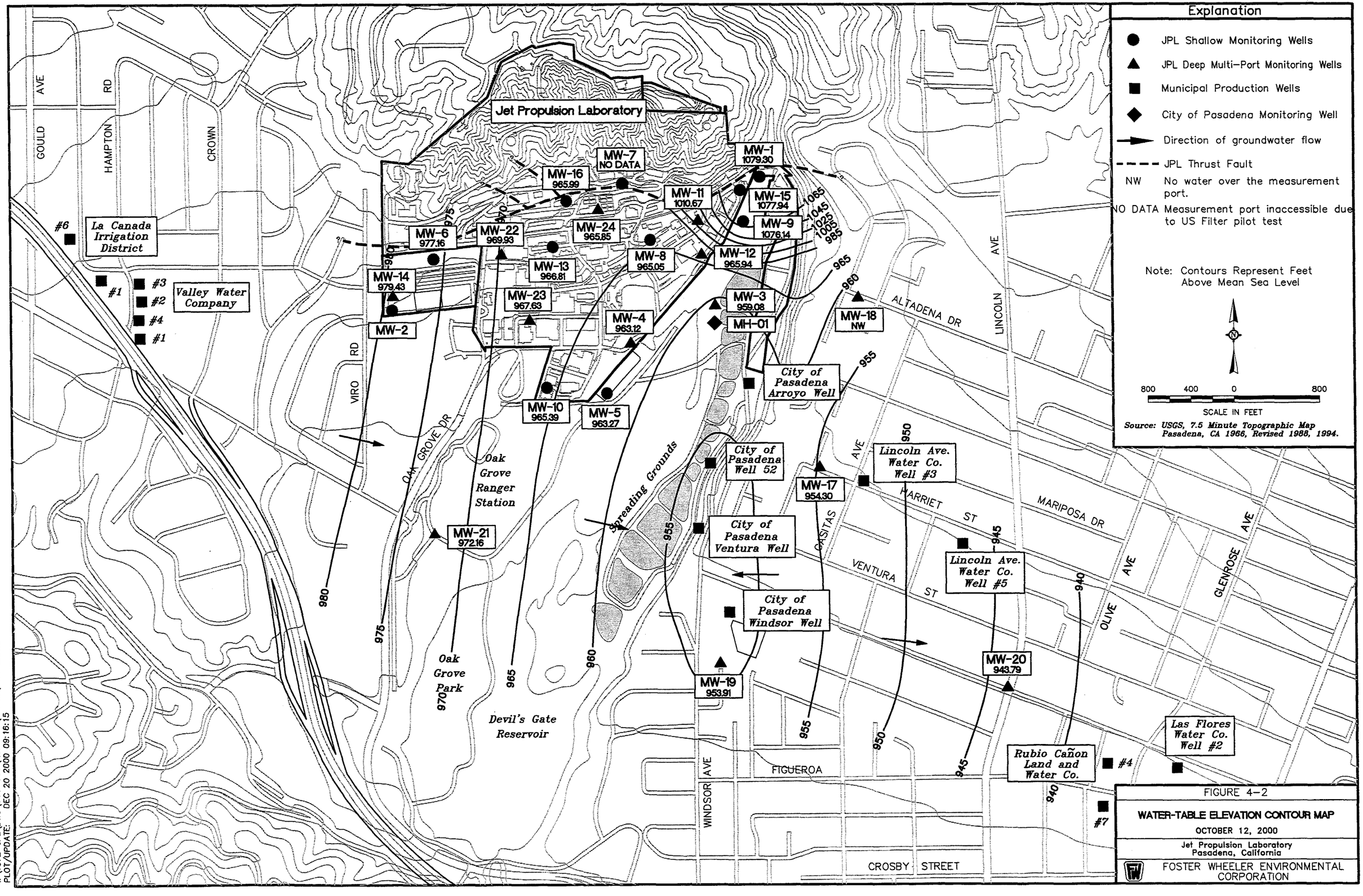

FIGURE 4-2

WATER-TABLE ELEVATION CONTOUR MAP

OCTOBER 12, 2000

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1572-JPL\DWG\OU1-OU3\QUARTER\20003\FIG4-2.DWG
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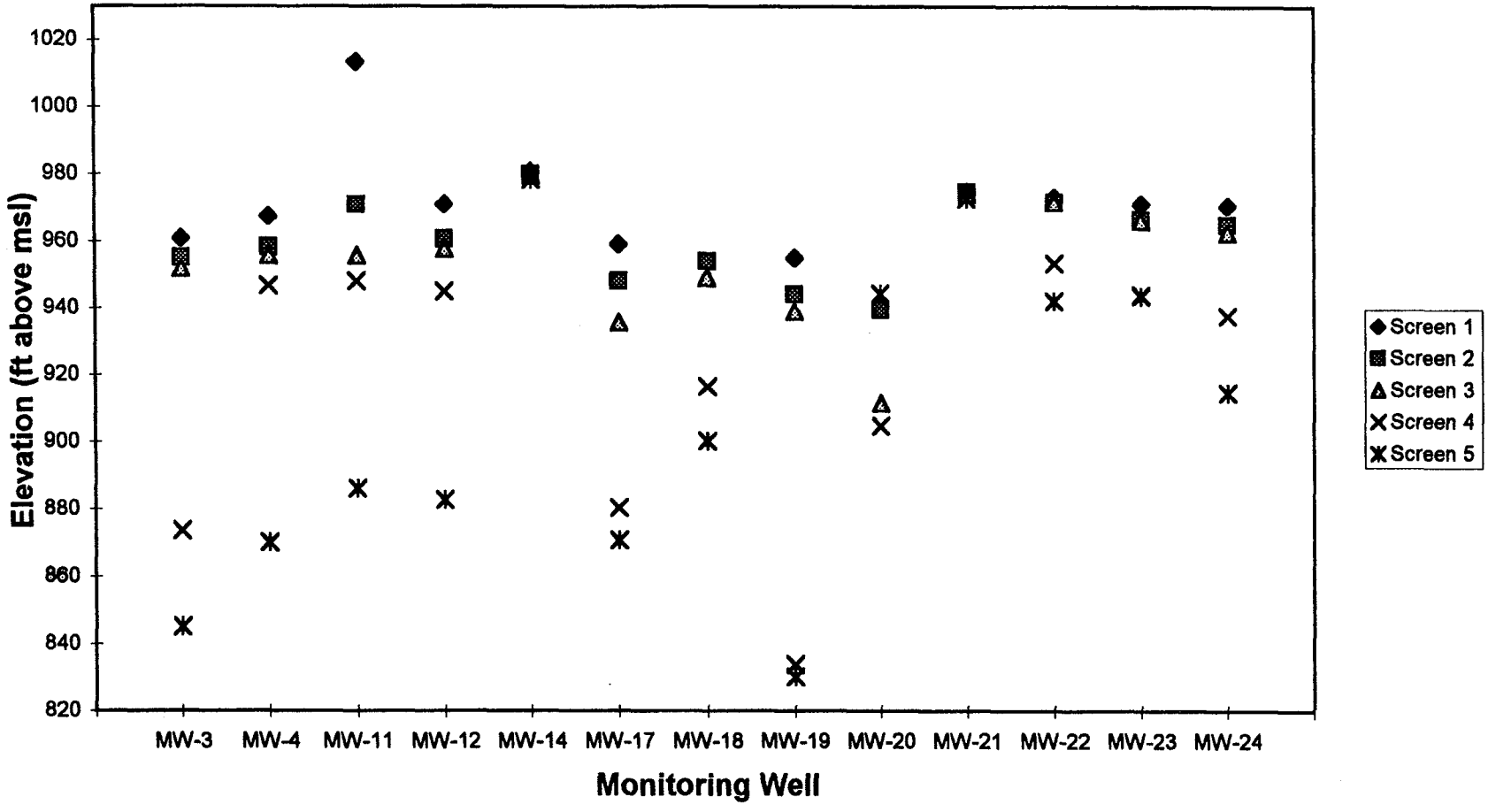

Figure 4-3

HYDRAULIC HEAD ELEVATIONS

FROM DEEP (MP) WELLS

September 8, 2000

Jet Propulsion Laboratory

Pasadena, California

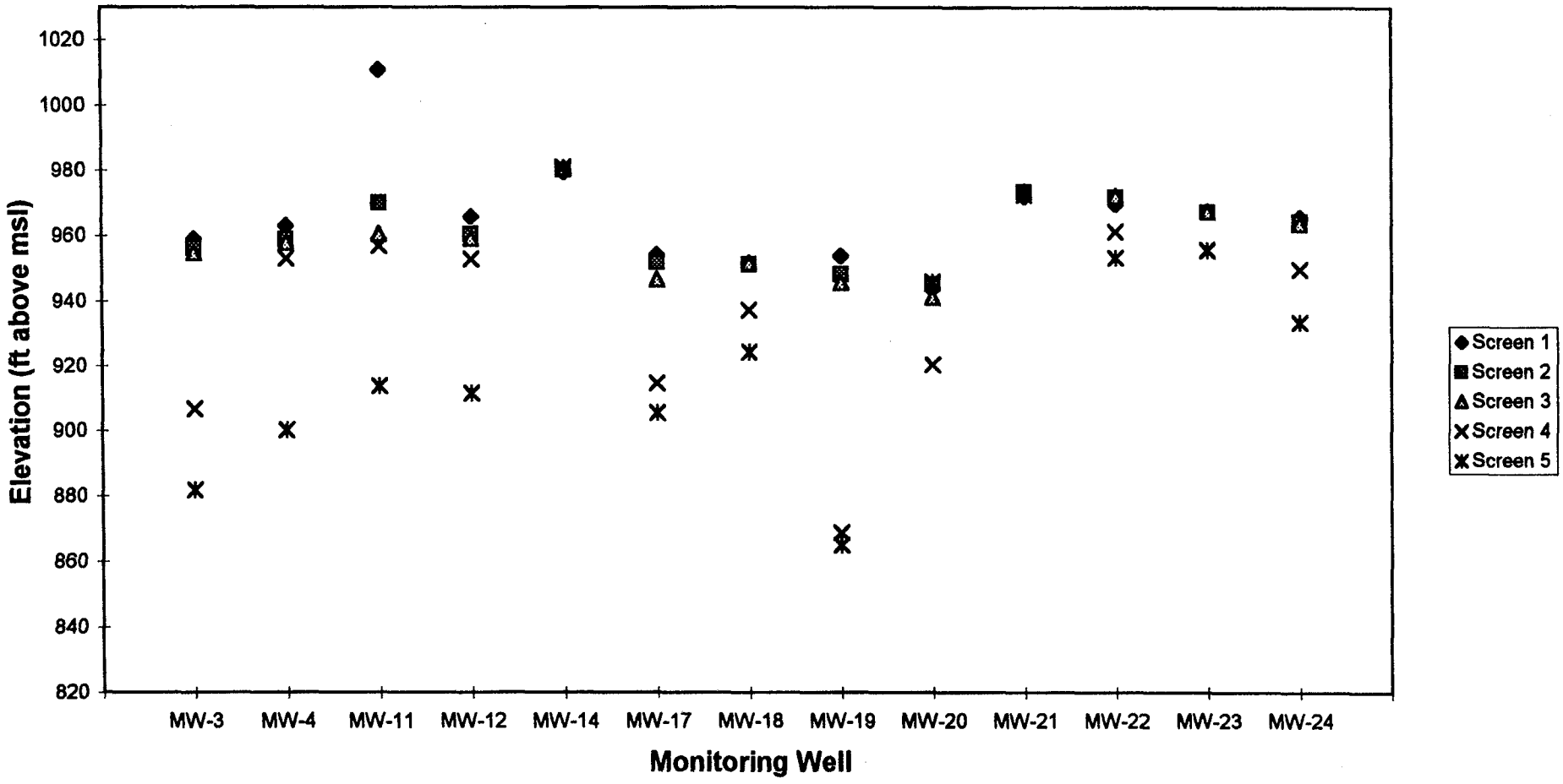

Figure 4-4

HYDRAULIC HEAD ELEVATIONS FROM DEEP (MP) WELLS

October 12, 2000

Jet Propulsion Laboratory
Pasadena, California

APPENDIX A

WELL DEVELOPMENT/WELL SAMPLING LOG FORMS FOR SHALLOW WELLS

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring
Project Number: 1572.0316
Date: 10/6/00
Site Engineer: T. Turpyn-Kensler
Well Number: MW-5
Equipment: 2" Grundfos, YSI 3500, DRT-15CE
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)	108.54	TOC	108.54
Depth to Sediment (ft)	139.86	TOC	139.84
Thickness of Sediment (ft)	0.14		

Depth of Well (ft) 140.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) -

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
1012	—	—	—	—	—	pump on set @ 235 MHz
1015	7.33	14.67	15.4	349	1.5	Water is slightly turbid
1020	7.13	4.62	16.3	350	1.5	Water is clear
1025	7.18	1.47	16.3	350	1.5	Water is clear
1030	7.24	1.30	16.4	350	1.5	Water is clear
1035	7.34	0.76	16.5	351	1.5	Water is clear
1040	7.23	0.78	16.6	349	1.5	water is clear
1045	6.91	0.55	16.4	351	1.5	Water is clear
1050	7.01	0.72	16.3	350	1.5	Collect. MW003-060
1055	—	—	—	—	—	Pump off

Notes on Sampling Procedures: Pump set @ 115' BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring **Well Number:** MW-6
Project Number: 1572.0316 **Equipment:** 2" Grundfos, YSI 3500
Date: 9/29/00 DRT-15CE
Site Engineer: T. Turpyn-Keasler **Contractor:** NONE

	Before	Reference Point	After
Depth to Water (ft)	212.90	Top of 4" casing	212.90
Depth to Sediment (ft)	244.00	Top of 4" casing	244.00
Thickness of Sediment (ft)	1.00		1.00

Depth of Well (ft) 245.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) 32.10

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 20.89
Casing Volumes Purged ~4.1

Total Volume Purged (gals) 85.5

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
1113	–	–	–	–	–	Pump on set @ 328 turbid
1115	6.82	79.8	23.8	881	1.5	~~clear~~ slightly turbid
1120	6.86	83.5	21.6	874	1.5	slightly turbid
1125	6.85	76.1	21.9	885	1.5	clearing
1130	6.77	57.2	22.7	900	1.5	clearing
1135	6.78	40.1	22.8	902	1.5	clearing
1140	6.78	17.6	23.0	904	1.5	clearing
1145	6.77	10.0	23.0	905	1.5	clearing
1150	6.76	7.5	23.0	911	1.5	clearing
1155	6.77	6.3	23.0	914	1.5	clearing
1200	6.76	4.98	23.0	915	1.5	clearing
1205	6.76	4.53	23.0	915	1.5	clearing
1210	6.76	4.42	23.0	914	1.5	water clear; ready to sample
1214	–	–	–	–	–	Reduce flow to 0.02 gpm
1215	–	–	–	–	–	collect MW-003-059
1220	–	–	–	–	–	Pump off

Notes on Sampling Procedures: pump set @ 220.00

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0316
Date: 10/10/00
Site Engineer: T. Turpyn-Keaslor
Well Number: MW-8
Equipment: 2" Grundfos, YSI 3500 DRT-15CE
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)	174.57	TOC 4"	174.57
Depth to Sediment (ft)	202.48	TOC 4"	202.78
Thickness of Sediment (ft)	2.52		

Depth of Well (ft) 205.00
Diameter of Casing (ft) .333
Water Column Height (ft) ~~27.91~~ 30.43

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = ~~18.1~~ 19.8

Casing Volumes Purged ~2.7

Total Volume Purged (gals) 53.2

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0924	–	–	–	–	–	pump on set @ 34Hz. turbid
0925	8.39	156.8	17.6	357	1.4	turbid
0930	8.76	94.3	18.1	359	1.4	slightly turbid
0935	8.79	37.6	18.4	360	1.4	clearing
0940	8.72	9.54	18.4	354	1.4	clear
0945	8.72	7.01	18.4	352	1.4	clear
0950	8.71	5.32	18.5	353	1.4	clear
0955	8.68	4.16	18.5	353	1.4	clear
1000	8.72	3.81	18.5	353	1.4	clear; ready to sample
1004	–	–	–	–	0.02	reduce flow
1005						collect mw-003-057
						pump off

Notes on Sampling Procedures:

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring
Project Number: 1572.0316
Date: 9/29/00
Site Engineer: T. Turpyn-Keesler
Well Number: MW-10
Equipment: Grundfos, YSI 3500, DRT-15CE
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	122.40	Top of 4" casing	122.40
Depth to Sediment (ft)	154.40	Top of 4" casing	154.40
Thickness of Sediment (ft)	0.60		0.60

Depth of Well (ft) 155.00
Diameter of Casing (ft) 0.333
Water Column Height (ft) ~~32.60~~ 32.6

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 21.21

Casing Volumes Purged ~3.3

Total Volume Purged (gals) ~~21.21~~ 70.5

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0933	–	–	–	–	–	pump on; set @ 248mH, clear
0935	6.96	14.63	20.5	695	1.5	water is clear
0940	6.87	12.82	22.3	733	1.5	clear
0945	6.88	42.00	20.2	733	1.5	~~clear~~ slightly turbid
0950	6.89	21.2	21.5	757	1.5	clear
0955	7.04	12.0	21.0	787	1.5	clear
1000	6.92	10.01	21.0	791	1.5	clear
1005	6.86	8.84	21.0	794	1.5	clear
1010	7.02	4.58	20.7	796	1.5	clear
1015	6.94	3.10	20.6	801	1.5	clear
1020	6.86	2.67	21.0	808	1.5	clear; ready to sample
1022	–	–	–	–	0.02	Reduce flow to 0.02
1025	–	–	–	–	0.02	collect MW-003-055
1030	–	–	–	–	0.02	collect MW-003-056
1033	6.88	2.85	21.4	824	–	pump off; final parameters

Notes on Sampling Procedures: pump set @ ~130.00 BTOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPC
Project Number: 1572.0316
Date: 9/29/00
Site Engineer: T. Turpyn-Kensler

Well Number: MW-13
Equipment: 2" Grundfos pump, YSI
Contractor:

	Before	Reference Point	After
Depth to Water (ft)	216.12 ft	Top of 4" casing	216.12
Depth to Sediment (ft)	234.92	Top of 4" casing	234.92
Thickness of Sediment (ft)	0.08		0.08

Depth of Well (ft) 235.00
Diameter of Casing (ft) .333
Water Column Height (ft) 18.88

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 12.29

Casing Volumes Purged ~3.9

Total Volume Purged (gals) 48

Time 18	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0815	—	—	—	—	1.5	Pump on @ 333 Hz, ~~water~~ greyish
0820	7.40	99.3	20.7	521	1.5	clearing
0825	7.25	9.15	21.3	526	1.5	clear
0830	7.33	3.65	22.5	534	1.5	clear
0835	7.30	1.20	22.9	542	1.5	clear
0840	7.22	1.66	22.9	547	1.5	clear
0845	7.20	0.84	23.1	550	1.5	clear
0850	7.12	0.56	23.5	552	1.5	clear
0853	—	—	—	—	—	reduce flow to 0.02 gpm
0855	—	—	—	—	0.02	collect MW-003-043
0900	—	—	—	—	0.02	collect MW-003-044
0904	—	—	—	—	—	pump off

Notes on Sampling Procedures: pump set @ 210' BTOC

C:\Projects\Forms\WELLLOG3.DOC

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring
Project Number: 1572.0316
Date: 10/6/00
Site Engineer: T. Turpyn-Keasler
Well Number: MW-16
Equipment: 2" Grundfos, 75I 3500 DRT-15CE
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)	270.32	TOC	270.32
Depth to Sediment (ft)	285.00	TOC	285.00
Thickness of Sediment (ft)			

Depth of Well (ft) 285.00
Diameter of Casing (ft) .333
Water Column Height (ft) 14.68

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = 9.55

Casing Volumes Purged 5.05

Total Volume Purged (gals) 48

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0843	—	—	—	—	1.5	Pump on set @ 373MHz
0845	7.43	21.8	20.5	474	1.5	Water is clear
0850	7.36	1.26	21.1	487	1.5	Water is clear
0855	7.38	0.50	22.9	500	1.5	Water is clear
0900	7.50	0.26	22.3	501	1.5	Water is clear
0905	7.58	0.35	22.4	501	1.5	water is clear
0910	7.39	0.18	22.5	498	1.5	water is clear
0915	7.41	0.14	22.4	493	1.5	water is clear; ready to sample
0920	—	—	—	—	0.2	REDUCE FLOW
0920	—	—	—	—	0.2	collect MW-003-037
0922	7.26	0.13	22.5	498	0.2	FINAL PARAMETERS
0925	—	—	—	—	—	pump off

Notes on Sampling Procedures: Pump set @ ~~285~~ 275' BTOC.

APPENDIX B

WELL DEVELOPMENT/WELL SAMPLING LOG FORMS, PIEZOMETRIC PRESSURE PROFILE RECORDS, AND GROUNDWATER SAMPLING FIELD DATA SHEETS FOR DEEP MULTI-PORT WELLS

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0316
Date: 9/12/00
Site Engineer: T. Turpin-Keasler
Well Number: MW-22
Equipment: WESTBAY, YSI 3500, DRT-15CE
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____ * See pressure profile sheet
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____
Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
1145	7.10	2.4	23.1	.365	-	1st RUN TO SCREEN 4; INITIAL PARAMETERS
1210	7.17	4.2	22.9	.310	-	2nd run to screen 4; collect MW-003-010
1230	7.20	5.3	22.9	522	-	1st RUN TO SCREEN 3; INITIAL PARAMETERS
1300	7.42	3.1	24.8	537		2nd run to screen 3; collect MW-003-011
-					-	
1320	7.29	1.8	23.3	645	-	1st run to screen 2; initial parameters
1353	7.41	1.76	24.5	629	-	2nd run to screen 2; collect MW-003-012
	@6.95					
1408	~~7.65~~	9.65	24.8	1100	-	1st run to screen 1; initial parameters
1430	-	-	-	-	-	2nd run to screen 2; collect MW-003-013
1455	6.93	15.5	24.9	581	-	3rd run to screen 2; collect MW-003-013

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0316
Date: 9/13/00
Site Engineer: T. Turpin-Keesler
Well Number: MW-3
Equipment: Westbay, YSI 3500, DRT-15CE
Contractor: ——

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

See Pressure Profile Sheets

Depth of Well (ft)
Diameter of Casing (ft)
Water Column Height (ft) -

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0955	8.75	15.0	21.8	318	-	1st run to screen 5; initial parameters
1030	~~8.75~~	15.75	21.3	~~196~~	-	2nd run to screen 5; collect MW-003-067
	9.19			3.09		
1100	8.05	4.42	21.7	325	-	1st RUN TO SCREEN 4, INITIAL PARAMETERS
1130	8.00	6.85	23.9	342	-	2nd run to screen 4; collect MW-003-068
1200	8.04	2.20	21.9	475	-	1st run to screen 3; initial parameters
1230	7.75	1.99	23.2	~~437~~	-	2nd run to screen 3; collect MW-003-069
1250	7.88	2.02	22.2	404	-	1st run to screen 2; initial parameters
~~1330~~	~~7.19~~	~~3.33~~	~~23.4~~	~~420~~	-	~~2nd run to screen 2; collect MW-003-070~~
1330	7.19	3.33	23.4	420		3rd run to screen 2; collected MW-003-070

Notes on Sampling Procedures: Note: valve closed beyond first bottle -- parameters not collected second run, screen 2.

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572-0316
Date: 9/14/00
Site Engineer: T. Turpin-Kaylor
Well Number: MW-317
Equipment: Westbay, YSI 3500, DRT-15CE
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			
Depth of Well (ft)	*See Pressure Profile Sheets*		
Diameter of Casing (ft)			
Water Column Height (ft)			

Casing Volume (gals) = π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0950	8.17	9.15	18.7	377	–	1st run to screen 5; initial parameters
1030	7.65	16.2	20.6	~~375~~ 375	–	2nd run to screen 5; collect MW003-033
1100	7.67	3.15	18.8	364	–	1st run to screen 4; initial parameters
1130	7.61	1.22	21.6	390	–	2nd run to screen 4; collect MW003-034
1205	7.48	7.99	19.1	386	–	1st run to screen 3; initial parameters;
1235					–	2nd run to screen 3; collect MW003-035
1250	7.71	6.57	20.4	378	–	3rd run to screen 3; ~~collect~~ final parameters
						~~1st run to screen 2; initial parameters~~
1325	7.67	1.7	19.7	317	–	1st run to screen 2; initial parameters
1345	7.64	2.7	22.0	333	–	2nd run to screen 2; collect MW003-03[illegible]

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572-0316
Date: 9-18-00
Site Engineer: T. Turpijin-Keasler
Well Number: MW-18
Equipment: West Bay VSI 3500 DrT - ISCP
Contractor: None.

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft)
Diameter of Casing (ft)
Water Column Height (ft) -

* see pressure profile sheets ~~list~~ *

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) =
Casing Volumes Purged
Total Volume Purged (gals)

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0910	8.68	1.13	20.00	260	-	1st run to screen 5; initial parameters
0935	9.01	1.02	20.9	267	-	2nd run to screen 5; collect MW003-029
1005	7.51	0.9	21.7	369	-	1st run to screen 4, initial parameters.
1105	7.48	1.3	21.7	384	-	2nd run to screen 4; collect MW003-030.
* 1350	7.76	.76	21.8	469	-	1st run to screen 3; initial parameters.
1415	7.63	.44	25.4	386	-	2nd run to screen 3; collect MW 003-031
1445	7.17	4.06	~~43~~ 22.8	431	-	1st run to screen 2; initial parameters.
1505	7.20	2.02	23.1	389	-	2nd run to screen 2; collect MW-032

Notes on Sampling Procedures: * problems with vacuum pump.

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL
Project Number: 1572.0316
Date: 9/19/00
Site Engineer: T. Turbyfill-Keasler
Well Number: MW-19
Equipment: YSI-3500-DRT.15CE Westbay
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____

* See pressure profile sheets *

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0935	7.30	1.69	19.5	780	-	1st run to screen 5; initial parameters
1000	7.36	0.69	22.7	814	-	2nd run to screen 5; collect MW003-024
1045	7.59	1.23	19.9	407	-	1st run to screen 4; initial parameters
1105	7.50	1.12	21.3	419	-	2nd run to screen 4; collect MW003-025
1130	7.48	9.5	21.2	889	-	1st run to screen 3; initial parameters
1200	6.95	9.89	22.5	941	-	2nd run to screen 3; collect MW003-026
1215	6.94	3.53	20.4	609	-	1st run to screen 2; initial parameters
1235	6.71	11.52	21.8	624	-	2nd run to screen 2; collect MW003-027
1300	7.37	3.97	20.5	377	-	1st run to screen 1; initial parameters
1325	7.36	1.60	20.7	383		2nd run to screen 1; collect MW003-028

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL G.W Monitoring **Well Number:** MW-20
Project Number: 1572.0319 **Equipment:** YSI-3500, DRT-15CE
Date: 9/20/00 WestBay
Site Engineer: T. Turpyn-Keusler **Contractor:** NONE

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			
Depth of Well (ft)	* See Pressure Profile Sheets		
Diameter of Casing (ft)			
Water Column Height (ft)			

Casing Volume (gals) = π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0850	8.75	1.35	19.0	362	-	1st run to screen 5; initial parameters
0930	8.49	0.46	19.5	329	-	2nd run to screen 5; collect MW003-019
1015	8.05	2.18	19.1	284	-	1st run to screen 4; initial parameters
1050	8.54	2.34	20.6	294	-	2nd run to screen 4; collect MW003-020
1125	7.93	0.40	19.4	492	-	1st run to screen 3; initial parameters.
1150 ~~1118~~	7.83	0.30	21.1	523	-	2nd run to screen 3; ~~no~~ collect MW003-021
1220	7.60	0.43	19.2	364	-	1st run to screen 2; initial parameters
1235	7.52	0.22	21.7	391	-	2nd run to screen 2; collect MW003-022
1300	7.46	3.77	20.8	750	-	1st run to screen 1; initial parameters
1400	7.23	4.66	21.9	766	-	2nd run to screen 1; collect MW003-023

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL G.W MONITORING
Project Number: 1572.0316
Date: 9/21/00
Site Engineer: T. TURPIN-KEASLER
Well Number: MW-21
Equipment: DRT-15LE, YSI 3500, WESTBAY
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			
Depth of Well (ft)	*SEE PRESSURE PROFILE SHEETS*		
Diameter of Casing (ft)			
Water Column Height (ft)			

Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0940	7.64	9.62	19.4	703	-	1st run to screen 5; initial parameters
0955	7.67	7.90	19.5	712	-	2nd run to screen 5; collect MW003-014
1030	7.32	7.74	19.4	735	-	1st run to screen 4; initial parameters
1045 1055	7.23	2.19	19.5	751	-	2nd run to screen 4; collect MW003-015
1110	7.41	1.91	19.3	889	-	1st run to screen 3, initial parameters
1130	7.36	1.25	19.5	899	-	2nd run to screen 3, collect MW003-016
1155	7.36	0.45	18.9	1031	-	1st run to screen 2; initial parameters
1205	7.30	0.72	18.9	1005	-	2nd run to screen 2; collect MW003-017
1220 ~~1230~~	6.74	0.55 ~~0.74~~	19.0	737	-	1st run to screen 1; initial parameters
1240	6.71	1.31	19.0	731	-	2nd run to screen 1; collect MW003-018

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring **Well Number:** MW-11
Project Number: 1572.0316 **Equipment:** YSI-3500, DRT, 15CE
Date: 9-25-00 Westbay
Site Engineer: T. Turpijn Keasler **Contractor:** NONE

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			
Depth of Well (ft)	* see pressure profile sheets *		
Diameter of Casing (ft)			
Water Column Height (ft)	-		

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0924	7.90	1.42	19.5	307	–	1st run to Screen 4; initial parameters.
0950	7.35	1.18	21.1	313	–	2nd run to screen 4; collect MW003-051
	7.44					
1030	~~7.03~~	1.52	20.1	374	–	~~2nd~~ 1st run to screen 3; initial parameters.
1050	7.46	1.61	21.6	368		2nd run to screen 3; collect MW003-052
1115	7.24	1.22	20.8	408	–	1st run to Screen 2; initial parameters.
						2nd run to screen 2 ~~collect MW003-053~~
1210	7.80	1.93	22.1	425	–	2nd run to Screen 2; collect MW003-053
1230	7.63	0.82	21.4	511	–	1st run to Screen 1; initial parameters.
1245	7.54	0.59	23.0	538	–	2nd run to screen 1; collect MW003-054

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring
Project Number: 1572.0316
Date: 9/26/00
Site Engineer: T. Turpyn-Keasler
Well Number: MW-23
Equipment: YSI-3500, DRT-15CE Westbay
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			
Depth of Well (ft)	* See Pressure Profile Sheets *		
Diameter of Casing (ft)			
Water Column Height (ft)			

Casing Volume (gals) = π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0830	9.60	1.31	20.2	445	—	1st RUN TO SCREEN 5; INITIAL PARAMETERS
0900	9.56	1.63	20.2	448	—	2nd RUN TO SCREEN 5; COLLECT MW-003-005
0925	7.77	1.07	20.7	339	—	1st run to screen 4; initial parameters.
0945	7.79	0.83	21.4	352	—	2nd run to screen 4; collect MW003-006
1020	7.75	1.16	21.1	428	—	1st RUN TO SCREEN #3; INITIAL
1030	7.63	1.77	22.9	448	—	2nd run to screen #3; collect MW003-007
1105	7.30	1.72	21.9	973	—	1st RUN TO SCREEN 2; INITIAL PARAMETERS
1125	7.28	4.93	24.8	1039	—	2nd run to screen 2; collect MW003-008
1150	7.05	9.16	22.0	1106	—	1st run to screen 1; initial parameters
1215	6.67	13.03	25.1	1162	—	2nd run to screen; collect MW003-009

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: PL GW Monitoring
Project Number: 1572.0316
Date: 9-27-00
Site Engineer: T. Turpijin-Keasler
Well Number: MW-14
Equipment: YSI-3500, DRT-15CE Westbay
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____ * see pressure profile sheets *
Diameter of Casing (ft) _____
Water Column Height (ft) _____

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0850	7.87	2.68	19.9	272	–	1st run to screen 5; initial parameters
0915	8.60	1.79	19.8	285	–	2nd run to screen 5; collect MW003-038
0945	7.96	0.33	19.8	531	–	1st run to screen 4; initial parameters
1015	7.94	0.70	19.8	536		2nd run to screen 4; collect MW003-039
1045	7.79	0.59	19.8	904	–	1st RUN TO SCREEN 3; INITIAL PARAMETERS
1110			BAD 20.1		–	2nd run to screen 3; collect MW003-040
1130	7.73	0.52	~~0.52~~	935	–	3rd run to screen 3; final parameters
1150	7.30	4.53	20.2	1058		1st run to screen 2; initial parameters
1210	7.29	5.50	21.1	1066		2nd run to screen 2; collect MW003-041
1245	7.07	0.76	21.3	1110	–	1st run to screen 1; initial parameters
1305	6.81	0.65	21.9	1112	–	2nd run to screen 1; collect MW003-042

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL G.W. Monitoring **Well Number:** MW-24
Project Number: 1572.0376 **Equipment:** YSI-3500, DRT-15CE
Date: 9-28-00 Westday
Site Engineer: T. Turpin Kessler **Contractor:** none

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) *see pressure profile sheets*
Diameter of Casing (ft)
Water Column Height (ft)

Casing Volume (gals) =π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) =

Casing Volumes Purged

Total Volume Purged (gals)

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
	7.16	~~335~~	21.2	324		
0950	~~8.85~~	~~5.64~~	~~20.3~~	~~324~~	-	1st run to screen 4; initial parameters
1010	8.10	5.92	21.5	322	-	2nd run to screen 4; collect MW003-001
1045	8.03	14.98	21.6	428	-	1st run to screen 3; initial parameters
1105	7.79	10.88	22.1	440	-	2nd run to screen 3; collect MW003-002
1135	8.35	18.81	21.9	360	-	1st run to screen 2; initial parameters
1215	8.40	21.9	22.8	360	-	2nd run to screen 2;

Notes on Sampling Procedures:

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring **Well Number:** MW-4
Project Number: 1572.0316. **Equipment:** YSI-3500 DRT-15CE
Date: 10-9-00 Westbay
Site Engineer: T. Turpijn Keesler **Contractor:** none

	Before	Reference Point	After
Depth to Water (ft)			
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____ *See pressure profile sheets*
Water Column Height (ft) _____

Casing Volume (gals) = π(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____
Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0845	8.55	1.09	19.0	333	–	1st run to screen 5; initial parameters
0905	8.12	1.62	19.6	336	–	2nd run to screen 5; collect MW003-061
0935	7.80	6.48	19.5	356	–	1st run to screen 4; initial parameters
0950	7.95	6.20	19.7	361	–	2nd run to screen 4; collect MW003-062
1015	8.07	16.43	20.2	362	–	1st run to screen 3; initial parameters
1040	7.69	16.55	20.5	369	–	2nd run to screen 3
1100	–	–	–	–	–	3rd run to screen 3; collect MW003-063
1115	8.42	16.92	21.0	386	–	4th run to screen 3; final param.
1135	7.96	17.82	21.6	745	–	1st run to screen 2; initial parameters.
1150	–	–	–	–	–	2nd run to screen 2; collect MW-003-064/065
1215	7.38	22.9	20.5	763	–	3rd RUN; FINAL PARAMETERS
1235	8.01	4.95	18.4	372	–	1st run to screen 1; initial parameters
1300	8.19	6.69	18.8	370		2nd run to screen 1; collect MW 003-

Notes on Sampling Procedures: _____

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: JPL GW Monitoring
Project Number: 1572.0316
Date: 10/10/00
Site Engineer: T. KARLOS / J. DONNAY
Well Number: MW-24
Equipment: YSI 3500
DRT-1505
Contractor: NONE

	Before	Reference Point	After
Depth to Water (ft)	*SEE PRESSURE PROFILE SHEETS		
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) -

Casing Volume (gals) $=\pi(\text{Diam. of Casing (ft)}/2)^2$ (Water Column Height (ft))(7.48 gals/ft^3) = _____

Casing Volumes Purged _____

Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
1200	7.59	13.4	20.9	356	-	1st run to screen 2; initial parameters
1220	7.91	12.75	21.2	361	-	2nd run to screen 2; ~~collect MW~~
1300	8.65	16.75	21.1	358	-	3rd run to screen 2; collect MW-003 =003
1335	9.17	14.45	19.6	390	-	1st run to screen 1; initial parameters
1340	9.10	14.74	20.9	407	-	2nd run to screen 1; collect MW-003

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELL DEVELOPMENT LOG / WELL SAMPLING LOG

Project Name: PL GW Monitoring
Project Number: 1572.0316
Date: 10-11-00
Site Engineer: T. Tinpajin-Kessler
Well Number: MW-[redacted]12
Equipment: YSI-3500
DRT-15CE
Contractor: None

	Before	Reference Point	After
Depth to Water (ft)	* See pressure profile sheet *		
Depth to Sediment (ft)			
Thickness of Sediment (ft)			

Depth of Well (ft) _____
Diameter of Casing (ft) _____
Water Column Height (ft) _____
Casing Volume (gals) $=\pi$(Diam. of Casing (ft)/2)^2 (Water Column Height (ft))(7.48 gals/ft^3) = _____
Casing Volumes Purged _____
Total Volume Purged (gals) _____

Time	pH	Turbidity (NTU)	Temp. (°C)	Conductivity (µmhos/cm)	Pump Rate (GPM)	Comments
0915	6.90	1.1	17.7	.384	–	1st run to screen 4; initial parameters
0930	7.80	0.73	17.4	.384	–	2nd run to screen 4; collect MW003-046.
1000	7.69	1.21	17.6	409	–	1st run to screen 3; initial parameters
1025	7.58	1.21	17.5	411	–	2nd run to screen 3 collect MW-003-047
1050	7.80	1.62	17.6	408	–	1st run to screen 2; initial parameters
1125	~~8.16~~	~~1.35~~	~~18.2~~	~~424~~	–	2nd run to screen 2; collect MW003-048,
1150	~~8.42~~	~~17.12~~	~~18.6~~	~~42.4~~		~~3rd run to screen 2; final parameters~~ 049
1125	8.16	1.35	18.2	424	–	3rd run; final parameters
1155	7.46	17.46	17.6	397	–	1st run screen 1; initial parameters
1215	7.62	28.1	17.1	397	–	2nd run to screen 1; collect MW-003-050
1240	7.54	4.5	17.0	375	–	1st run to screen 5; initial parameters
1340	7.90	3.1	18.6	380	–	2nd run to screen 5; collect MW003-045

Notes on Sampling Procedures: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-3
Elevation of Datum(ft msl): 1100.34
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.10/20.67/0908
Finish: 14.09/19.67/0925

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	653	171.65			22.26	913		255.29	845.05
			186.50						
			186.51						
			186.50						
				171.68					
4	558	130.39			22.73	915		226.77	873.57
			157.70						
			157.68						
			157.67						
				130.41					
3	346	38.37			21.64	919		148.49	951.85
			99.72						
			99.71						
			99.72						
				38.37					
2	252	14.26			20.74	921		145.24	955.10
			60.38						
			60.36						
			60.38						
				14.25					
1	172	14.19			20.27	923		139.48	960.86
			28.20						
			28.18						
			28.20						
				14.18					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-4
Elevation of Datum(ft msl): 1082.84
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.08/23.02/1421
Finish: 14.09/21.51/1435

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	513	131.46			27.13	1422		212.77	870.07
			144.20						
			144.26						
			144.24						
				131.44					
4	392	78.84			25.39	1426		136.04	946.80
			125.05						
			125.03						
			125.05						
				78.86					
3	322	48.44			23.30	1429		127.08	955.76
			98.59						
			98.57						
			98.59						
				48.46					
2	240	14.19			22.56	1430		124.55	958.29
			64.13						
			64.14						
			64.13						
				14.17					
1	150	14.13			22.09	1432		115.39	967.45
			29.07						
			29.10						
			29.09						
				14.15					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-11
Elevation of Datum(ft msl): 1139.30
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.09/20.05/0815
Finish: 14.10/18.74/0830

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	639	168.48			20.88	0817		253.08	886.22
			181.39						
			181.40						
			181.39						
				168.43					
4	524	119.02			21.19	0820		191.24	948.06
			158.34						
			158.35						
			158.35						
				119.00					
3	429	78.14			20.69	0822		183.67	955.63
			120.45						
			120.44						
			120.45						
				78.14					
2	259	14.23			19.45	0826		168.35	970.95
			53.40						
			53.38						
			53.40						
				14.20					
1	149	14.15			18.91	0829		125.94	1013.36
			24.09						
			24.10						
			24.09						
				14.14					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-12
Elevation of Datum(ft msl): 1102.14
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.08/22.59/1445
Finish: 14.11/19.15/1456

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	548	134.03			22.79	1445		219.33	882.81
			156.57						
			156.58						
			156.57						
				134.05					
4	436	85.34			22.16	1447		157.16	944.98
			134.98						
			134.96						
			134.98						
				85.36					
3	323	36.19			21.07	1450		144.40	957.74
			91.51						
			91.53						
			91.52						
				36.20					
2	243	14.19			19.94	1452		141.53	960.61
			58.07						
			58.09						
			58.09						
				14.20					
1	140	14.13			19.35	1454		131.05	971.09
			17.97						
			17.99						
			17.97						
				14.13					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-14
Elevation of Datum(ft msl): 1173.47
Range: 0 to 1000 psia
Client: Jet Propulsion Laboratory
Weather: 75 degrees F, sunny
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.07/28.42/1311
Finish: 14.02/20.92/1321

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	540	162.14			26.01	1315		195.00	978.47
			163.60						
			163.61						
			163.60						
				162.10					
4	456	125.61			24.68	1316		193.95	979.52
			127.64						
			127.65						
			127.64						
				125.61					
3	382	93.42			23.45	1317		193.86	979.61
			95.60						
			95.61						
			95.60						
				95.42					
2	277	47.77			21.64	1320		193.57	979.90
			50.21						
			50.22						
			50.21						
				47.71					
1	207	17.29			21.17	1321		192.71	980.76
			20.23						
			20.26						
			20.23						
				17.28					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-17
Elevation of Datum(ft msl): 1191.21
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.06/20.13/0940
Finish: 14.01/16.55/0955

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	726	169.28			20.55	0945		320.44	870.77
			189.85						
			189.83						
			189.85						
				169.30					
4	582	106.76			20.22	0946		310.85	880.36
			131.57						
			131.59						
			131.57						
				106.74					
3	468	57.18			18.92	0947		255.70	935.51
			106.08						
			106.06						
			106.06						
				57.17					
2	370	14.44			17.75	0950		243.08	948.13
			69.06						
			69.05						
			69.06						
				14.48					
1	250	14.18			16.88	0953		232.16	959.05
			21.77						
			21.79						
			21.75						
				14.17					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-18
Elevation of Datum(ft msl): 1225.41
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.06/18.78/1007
Finish: 14.14/18.18/1025

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	684	146.89			20.97	1013		325.25	900.16
			169.62						
			169.61						
			169.62						
				146.87					
4	564	94.78			21.17	1015		308.88	916.53
			124.70						
			124.68						
			124.70						
				94.76					
3	424	33.93			20.01	1017		276.35	949.06
			78.11						
			78.10						
			78.11						
				33.92					
2	330	14.19			18.90	1020		271.46	953.95
			39.46						
			39.48						
			39.49						
				14.18					
1	270	14.14			18.41	1022	No water over measurement port		
			14.15						
			14.14						
			14.15						
				14.15					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-19
Elevation of Datum(ft msl): 1142.94
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.09/21.02/1135
Finish: 14.14/18.47/1146

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	498	77.71			20.31	1137		312.77	830.17
			94.41						
			94.42						
			94.41						
				77.74					
4	444	54.25			19.88	1140		309.10	833.84
			72.75						
			72.26						
			72.77						
				54.25					
3	392	31.65			18.75	1142		204.00	938.94
			95.61						
			95.60						
			95.63						
				31.66					
2	314	14.24			18.71	1143		198.76	944.18
			64.07						
			64.08						
			64.07						
				14.22					
1	242	14.22			18.63	1145		187.83	955.11
			37.60						
			37.58						
			37.61						
				14.20					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-20
Elevation of Datum(ft msl): 1165.05
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.10/20.92/1050
Finish: 14.16/17.58/1122

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	900	261.54			23.20	1102		220.75	944.30
			308.58						
			308.59						
			308.58						
				261.48					
4	700	174.63			23.29	1107		260.25	904.80
			204.76						
			204.77						
			204.75						
				174.60					
3	562	114.66			21.62	1111		253.42	911.63
			147.90						
			147.89						
			147.91						
				114.65					
2	392	40.75			18.84	1115		225.63	939.42
			86.25						
			86.26						
			86.25						
				40.76					
1	230	14.18			17.67	1119		224.29	940.76
			16.61						
			16.59						
			16.61						
				14.20					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-21
Elevation of Datum(ft msl): 1059.10
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.19/23.55/1205
Finish: 14.14/19.45/1220

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	372	124.28			22.19	1208		86.30	972.80
			138.01						
			138.03						
			138.01						
				124.29					
4	310	97.30			20.98	1212		86.26	972.84
			111.17						
			111.13						
			111.17						
				97.31					
3	240	67.30			20.55	1215		84.94	974.16
			81.37						
			81.39						
			81.39						
				67.28					
2	161	32.96			19.99	1217		84.41	974.69
			47.36						
			47.38						
			47.36						
				32.96					
1	90	14.17			19.56	1218		84.23	974.87
			16.67						
			16.65						
			16.68						
				14.14					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-22
Elevation of Datum(ft msl): 1176.98
Range: 0 to 1000 psia
Client: Jet Propulsion Laboratory
Weather: 75 degrees F, sunny
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.05/23.83/1618
Finish: 14.07/20.74/1645

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	588	177.94			22.33	1638		234.77	942.21
			167.18						
			167.18						
			167.19						
				177.96					
4	467	125.52			22.10	1635		223.43	953.55
			119.65						
			119.64						
			119.65						
				125.54					
3	389	91.77			22.14	1640		205.15	971.83
			93.76						
			93.77						
			93.75						
				91.75					
2	329	65.76			21.71	1642		205.36	971.62
			67.67						
			67.65						
			67.66						
				65.74					
1	245	28.88			21.15	1644		203.80	973.18
			31.92						
			31.91						
			31.93						
				28.87					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-23
Elevation of Datum(ft msl): 1108.84
Range: 0 to 1000 psia
Weather: 75 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.09/17.31/0726
Finish: 14.10/20.05/0800

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	542	158.54			21.80	0728		165.18	943.66
			177.44						
			177.45						
			177.45						
				158.55					
4	445	116.42			21.50	0730		164.79	944.05
			135.58						
			135.56						
			135.56						
				116.40					
3	319	61.71			20.60	0752		142.67	966.17
			90.53						
			90.54						
			90.53						
				61.70					
2	254	33.45			20.52	0754		142.24	966.60
			62.53						
			62.55						
			62.55						
				33.45					
1	174	14.21			20.06	0757		137.64	971.20
			29.86						
			29.85						
			29.86						
				14.21					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 9/8/2000
Job No.: 1572
Serial No.: EMS 2502
Well Name: MW-24
Elevation of Datum(ft msl): 1200.94
Range: 0 to 1000 psia
Client: Jet Propulsion Laboratory
Weather: 75 degrees F, sunny
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.10/24.02/1540
Finish: 14.12/21.54/1556

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	678	167.49			23.41	1543		286.14	914.80
			183.97						
			183.98						
			183.99						
				167.43					
4	554	113.65			22.73	1546		263.10	937.84
			140.21						
			140.23						
			140.20						
				113.64					
3	435	61.98			22.34	1548		238.37	962.57
			99.34						
			99.36						
			99.35						
				61.99					
2	373	35.03			22.23	1552		235.92	965.02
			73.54						
			73.55						
			73.51						
				35.06					
1	279	14.17			21.84	1554		230.16	970.78
			35.29						
			35.27						
			35.29						
				14.16					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-3
Elevation of Datum(ft msl): 1100.34
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.27/18.43/1010
Finish: 14.24/19.40/1030

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	653	172.00			22.32	1015		218.58	881.76
			202.58						
			202.57						
			202.58						
				171.97					
4	558	130.79			22.94	1018		193.64	906.70
			172.21						
			172.19						
			172.21						
				130.78					
3	346	38.70			21.00	1021		145.56	954.78
			101.14						
			101.15						
			101.15						
				38.71					
2	252	14.38			20.47	1024		144.17	956.17
			61.00						
			61.01						
			60.99						
				14.37					
1	172	14.33			20.10	1027		141.26	959.08
			27.58						
			27.59						
			27.57						
				14.32					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-4
Elevation of Datum(ft msl): 1082.84
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.26/20.71/1200
Finish: 14.24/20.52/1212

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	513	131.87			21.66	1202		182.57	900.27
			157.49						
			157.50						
			157.48						
				131.91					
4	392	79.21			21.97	1204		129.76	953.08
			127.93						
			127.92						
			127.94						
				79.24					
3	322	48.80			21.86	1206		124.95	957.89
			99.67						
			99.68						
			99.66						
				48.79					
2	240	14.40			21.57	1208		123.94	958.90
			64.56						
			64.57						
			64.56						
				14.39					
1	150	14.32			20.85	1210		119.72	963.12
			27.38						
			27.39						
			27.36						
				14.33					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-11
Elevation of Datum(ft msl): 1139.30
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.26/19.38/1057
Finish: 14.27/19.46/1130

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	639	168.60			20.58	1121		225.62	913.68
			193.47						
			193.46						
			193.46						
				168.59					
4	524	119.13			21.16	1123		182.35	956.95
			162.36						
			162.38						
			162.37						
				119.13					
3	429	78.23			20.93	1125		178.68	960.62
			122.78						
			122.78						
			122.77						
				78.25					
2	259	14.34			20.13	1127		169.32	969.98
			53.14						
			53.13						
			53.16						
				14.32					
1	149	14.29			19.70	1129		128.63	1010.67
			23.11						
			23.08						
			23.10						
				14.27					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-12
Elevation of Datum(ft msl): 1102.14
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.25/19.14/1136
Finish: 14.26/18.73/1150

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	548	134.05			19.82	1138		190.65	911.49
			169.17						
			169.16						
			169.17						
				134.07					
4	436	85.41			21.09	1141		149.18	952.96
			138.60						
			138.58						
			138.60						
				85.39					
3	323	36.22			20.58	1143		142.99	959.15
			92.29						
			92.28						
			92.30						
				36.20					
2	243	14.33			19.09	1145		141.64	960.50
			58.20						
			58.18						
			58.20						
				14.34					
1	140	14.32			18.86	1147		136.20	965.94
			15.90						
			15.91						
			15.90						
				14.30					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-14
Elevation of Datum(ft msl): 1173.47
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.22/21.39/1304
Finish: 14.23/19.93/1323

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	540	132.76			21.57	1306		192.61	980.86
			164.81						
			164.83						
			164.81						
				132.76					
4	456	96.24			21.80	1308		192.44	981.03
			128.47						
			128.48						
			128.48						
				96.26					
3	382	64.04			21.01	1315		192.58	980.89
			96.34						
			96.32						
			96.35						
				64.05					
2	277	18.36			20.29	1317		193.31	980.16
			50.50						
			50.51						
			50.50						
				18.35					
1	207	14.32			20.10	1319		194.04	979.43
			19.85						
			19.83						
			19.85						
				14.29					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-17
Elevation of Datum(ft msl): 1191.21
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.21/17.79/0830
Finish: 14.20/16.64/0840

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	726	169.27			19.01	0825		285.70	905.51
			205.07						
			205.08						
			205.08						
				169.28					
4	582	106.74			19.17	0828		276.44	914.77
			146.67						
			146.66						
			146.67						
				106.75					
3	468	57.16			18.36	0831		244.38	946.83
			111.14						
			111.14						
			111.15						
				57.17					
2	370	14.35			17.47	0833		239.28	951.93
			70.87						
			70.88						
			70.86						
				14.32					
1	250	14.29			16.97	0836		236.91	954.30
			19.88						
			19.87						
			19.89						
				14.26					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-18
Elevation of Datum(ft msl): 1225.41
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.15/16.26/0855
Finish: 14.24/18.28/0905

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	684	147.06			19.37	0850		301.00	924.41
			180.22						
			180.23						
			180.22						
				147.06					
4	564	94.94			20.36	0853		288.06	937.35
			133.80						
			133.82						
			133.82						
				94.95					
3	424	34.11			19.88	0856		273.67	951.74
			79.36						
			79.37						
			79.36						
				34.10					
2	330	14.32			19.01	0900		274.21	951.20
			38.39						
			38.37						
			38.38						
				14.30					
1	270	14.31			18.53	0902	No water over measurement port		
			14.28						
			14.26						
			14.28						
				14.27					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-19
Elevation of Datum(ft msl): 1142.94
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.22/17.72/0950
Finish: 14.22/18.25/1000

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	498	77.90			18.62	0945		277.91	865.03
			109.64						
			109.63						
			109.62						
				77.89					
4	444	54.41			18.47	0948		274.10	868.84
			87.88						
			87.86						
			87.87						
				54.41					
3	392	31.79			18.41	0951		197.18	945.76
			98.68						
			98.66						
			98.68						
				31.79					
2	314	14.41			18.48	0954		194.75	948.19
			65.92						
			65.91						
			65.91						
				14.41					
1	242	14.35			18.43	0956		189.03	953.91
			37.19						
			37.18						
			37.18						
				14.33					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-20
Elevation of Datum(ft msl): 1165.05
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.21/18.16/0920
Finish: 14.21/18.22/0928

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	900	261.33			21.90	0915		219.08	945.97
			309.39						
			309.37						
			309.40						
				261.33					
4	700	174.56			22.08	0918		244.51	920.54
			211.66						
			211.68						
			211.66						
				174.51					
3	562	114.55			21.67	0921		223.70	941.35
			160.87						
			160.85						
			160.87						
				114.51					
2	392	40.63			20.11	0924		219.77	945.28
			88.86						
			88.87						
			88.88						
				40.61					
1	230	14.30			18.70	0927		221.26	943.79
			18.00						
			17.98						
			18.01						
				14.28					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-21
Elevation of Datum(ft msl): 1059.10
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.27/20.21/1332
Finish: 14.25/19.51/1345

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	372	124.34			20.30	1335		86.44	972.66
			138.05						
			138.07						
			138.03						
				124.35					
4	310	97.40			20.50	1337		86.37	972.73
			111.21						
			111.19						
			111.21						
				97.41					
3	240	67.37			20.32	1339		85.43	973.67
			81.27						
			81.26						
			81.27						
				67.36					
2	161	32.98			20.01	1340		85.51	973.59
			46.99						
			46.98						
			46.99						
				32.99					
1	90	14.31			19.65	1342		86.94	972.16
			15.59						
			15.58						
			15.59						
				14.29					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-22
Elevation of Datum(ft msl): 1176.98
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.20/21.72/1240
Finish: 14.21/21.12/1258

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	588	133.05			22.03	1244		223.61	953.37
			172.16						
			172.18						
			172.16						
				133.05					
4	467	80.52			22.31	1248		215.67	961.31
			123.16						
			123.14						
			123.17						
				80.53					
3	389	46.64			22.15	1250		204.65	972.33
			94.12						
			94.11						
			94.13						
				46.64					
2	329	20.53			21.93	1252		205.06	971.92
			67.93						
			67.94						
			67.93						
				20.54					
1	245	14.33			21.43	1254		207.05	969.93
			30.66						
			30.65						
			30.66						
				14.31					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-23
Elevation of Datum(ft msl): 1108.84
Range: 0 to 1000 psia
Client: Jet Propulsion Laboratory
Weather: 65 degrees F, sunny
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.26/10.14/0800
Finish: 14.23/19.82/0815

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings			Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	542	158.53			16.27	0805		153.05	955.79
			182.87						
			182.84						
			182.85						
				158.50					
4	445	116.40			19.07	0807		152.97	955.87
			140.83						
			140.85						
			140.84						
				116.41					
3	319	61.68			19.96	0809		141.26	967.58
			91.28						
			91.30						
			91.30						
				61.67					
2	254	33.41			20.06	0811		141.52	967.32
			63.01						
			62.99						
			63.01						
				33.41					
1	174	14.33			19.91	0813		141.21	967.63
			28.45						
			28.47						
			28.46						
				14.33					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PIEZOMETRIC PRESSURES/LEVELS

FIELD DATA SHEET FOR MULTI-PORT MONITORING WELLS

Datum: Top of 1.5" Casing
Probe Type: Westbay
Date: 10/12/2000
Job No.: 1572
Serial No.: EMS 2508
Well Name: MW-24
Elevation of Datum(ft msl): 1200.94
Range: 0 to 1000 psia
Weather: 65 degrees F, sunny
Client: Jet Propulsion Laboratory
Casing Size: 1.5-inch Westbay Casing
Operator: T. Turpijn-Keasler
Ambient Reading (Pressure/Temperature/Time) Start: 14.27/18.43/1010
Finish: 14.29/21.62/1235

Screen No.:	Depth (ft btoc)	Fluid Pressure Readings: Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)	Temp. (C)	Time (hrs:min)	Depth to Water (ft)	Piezometric Level Outside Port (ft)	Water Level Elevation (ft)
5	678	167.51			21.42	1225		267.22	933.72
			192.35						
			192.36						
			192.35						
				167.51					
4	554	113.66			22.04	1226		251.06	949.88
			145.60						
			145.61						
			145.60						
				113.67					
3	435	61.97			22.06	1228		237.07	963.87
			100.09						
			100.09						
			100.07						
				61.98					
2	373	35.05			22.04	1230		236.44	964.50
			73.47						
			73.49						
			73.47						
				35.05					
1	279	14.35			21.79	1232		235.09	965.85
			33.31						
			33.33						
			33.31						
				14.35					

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3 Depth: 252 Date: 9/13/00

Well ID: MW-3 Sampling Zone: 2 Starting Time: 1235 Finishing Time: 1330

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.21 psia (End of Session): 14.24

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1240	1243	✓	14.22	.75	1st RUN; INITIAL PARAMETERS NTU = 2.02
2	✓	✓	✓	✓	✓	✓	14.24	✓	1300	1302	✓	14.26	1.0	~~COLLECT MW-003-070 VOCs, Cr+6, Cr TOT, ClO4~~
3	✓	✓	✓	✓	✓	✓	14.22	✓	1313	1318	✓	14.24	1.0	COLLECT MW-003-070 VOCs, Cr+6, Cr TOT, ClO4
4														
5														
6														
7														
8														

Total Volume: 2.75 l

Comments: Pressure Outside MP Casing = 59.78 psia

VALVE CLOSED ON BOTTLE DURING SECOND RUN, THIRD FOR SAMPLE

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3 Depth: 346 Date: 9/13/00

Well ID: MW-3 Sampling Zone: 3 Starting Time: 1144 Finishing Time: 1225

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 40.21 psia (End of Session): 40.30 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	40.21	✓	1150	1156	✓	40.23	1.0	1st RUN; INITIAL PARAMETERS NTUs = 2.20.
2	✓	✓	✓	✓	✓	✓	40.26	✓	1214	12	✓	40.30	1.0	2nd RUN COLLECT MW-003-069 VOCs, Cr_{TOT}, Cr^{+6}, ClO_4^-
3														
4														
5														
6														
7														
8														

Total Volume: 2.0 l

Comments: Pressure Outside MP Casing = 99.08 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3A Depth: 558 Date: 9/13/00

Well ID: MW-22 Sampling Zone: 4 Starting Time: ~~0932~~ 1038 Finishing Time: 1130

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 131.95 psia (End of Session): 132.00 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	131.95	✓	1049 ✓	1053	✓	132.05	0.75	1st RUN; INITIAL PARAMETERS NTUs ~ 4.42
2	✓	✓	✓	✓	✓	✓	131.99	✓	1116	1120	✓	132.00	0.75	COLLECT MW-C05-C08 VOCs, C_{total}, Cr^{6+}, CH_4
3														
4														
5														
6														
7														
8														

Total Volume: 1.5 L

Comments: Pressure Outside MP Casing = 156.86 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL Location: MW-3z Depth: 653 Date: 9/13/00

Well ID: MW-22 Sampling Zone: 5 Starting Time: 0932 Finishing Time: 1030

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 172.74 psia (End of Session): 172.79 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	172.74	✓	0943	0946	✓	172.79	0.5	1st RUN; INITIAL PARAMETERS NTUs = 15.0
2	✓	✓	✓	✓	✓	✓	172.74	✓	1017	1019	✓	172.79	0.5	COLLECT MW-003-067 ClO_4^-
3														
4														
5														
6														
7														
8														

Total Volume: 1 L

Comments: Pressure Outside MP Casing = 185.73 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-4 Depth: 150 Date: 10/9/00

Well ID: MW-4 Sampling Zone: 1 Starting Time: 1220 Finishing Time: 1300

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.21 psia (End of Session): 14.22 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1229	1236	✓	14.20	1.0	1ST RUN; INITIAL PARAMETERS NTUs = 4.95
2	✓	✓	✓	✓	✓	✓	14.20	✓	1246	1253	✓	14.22	1.0	COLLECT MW-003-066 VOCs, Cr^{TOT}, Cr^{+6}, ClO_4^-
3														
4														
5														
6														
7														
8														

Total Volume: 2.0 l

Comments: Pressure Outside MP Casing = 27.18 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-4 Depth: 240 Date: 10/9/00

Well ID: MW-4 Sampling Zone: 2 Starting Time: 1125 Finishing Time: 1212

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.95 psia (End of Session): 14.97 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.95	✓ ~~1130~~	1130	1133	✓	14.96	1.0	1ST RUN; INITIAL PARAMETERS NTUs = 17.82
2	✓	✓	✓	✓	✓	✓	14.93	✓	1146	1149	✓	14.97	1.0	COLLECT MW-003-064/65 VOCs, Cr^{+6} x2, Cr^{TOT} x2, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.94	✓	1205	1209	✓	14.97	1.0	COLLECT MW-003-065 ClO_4^- FINAL PARAMETERS
4														
5														
6														
7														
8														

Total Volume: 3.0 l

Comments: Pressure Outside MP Casing = 63.44 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-4 Depth: 322 Date: 10/9/00

Well ID: MW-4 Sampling Zone: 3 Starting Time: 1002 Finishing Time: 1118

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 50.66 psia (End of Session): 50.16 psia * see note

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	50.66	✓	1010	1012	✓	50.67	1.0	1st RUN; INITIAL PARAMETERS NTUs = 16.43
2	✓	✓	✓	✓	✓	✓	50.68	✓	1028	1030	✓	50.69	1.0	NTUs = 16.55
3	✓	✓	✓	✓	✓	✓	50.69	✓	1050	1053	✓	50.67	1.0	COLLECT MW-005-060S VOCs, Cr^{+6}, Cl^{-6}, ClO_4^-
4	✓	✓	✓	✓	✓	✓	50.16*	✓	1111	1113	✓	50.16	.75	FINAL PARAMETERS
5														
6														
7														
8														

Total Volume: 3.75 L

Comments: Pressure Outside MP Casing = 98.15 psia

* less bottles

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-11 Depth: 259 Date: 9/25/00

Well ID: MW-11 Sampling Zone: 2 Starting Time: 1107 Finishing Time: 1447/210

Technicians: J. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): ~~120.58 psia~~ 14.21 psia (End of Session): 14.26 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1112	1117	✓	14.23	1.0	1st RUN; INITIAL PARAMETERS NTUs = 1.22
2	✓	✓	✓	✓	✓	✓	14.24	✓	1133	1136	✓	14.26	1.0	COLLECT MW-003-053 VOCs, ClO_4^-, Cr, Cr+6
3	✓	✓	✓	✓	✓	✓	14.23	✓	1155	1157	✓	14.26	1.0	FINAL PARAMETERS
4														
5														
6														
7														
8														

Total Volume: 3.0 l

Comments: Pressure Outside MP Casing = 52.47 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-11 Depth: ~~52~~ 429 Date: 9/05/10

Well ID: MW-11 Sampling Zone: 3 Starting Time: 1007 Finishing Time: 1150

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): ~~80.~~ 80.12 psia (End of Session): 80.14 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	80.12	✓	1016	1018	✓	80.00	1.0	1st RUN; INITIAL PARAMETERS NTUs = 1.52
2	✓	✓	✓	✓	✓	✓	80.13	✓	1037	1040	✓	80.14	1.0	COLLECT MW-003-052 VOCs, Cr_{TOT}, Cr^{+6}, ClO_4^-
3														
4														
5														
6														
7														
8														

Total Volume: ~~7.0 l~~ 2.0 l

Comments: Pressure Outside MP Casing = 119.71 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL G.W. Monitoring Location: MW-11 Depth: 524 Date: 9/25/00

Well ID: MW-11 Sampling Zone: 4 Starting Time: 0901 Finishing Time: 0949

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 120.58 psia (End of Session): 120.60 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	120.58	✓	0912	0915	✓	120.59	0.75	1st RUN; INITIAL PARAMETERS NTUs = 142
2	✓	✓	✓	✓	✓	✓	120.58	✓	0937	0939	✓	120.60	0.75	COLLECT MW-0003-51 VOCs, ClO4 –
3														
4														
5														
6														
7														
8														

Total Volume: 1.5 l

Comments: Pressure Outside MP Casing = 157.65 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-12 Depth: 140 Date: 10/11/00

Well ID: MW-12 Sampling Zone: 1 Starting Time: 1131 Finishing Time: 1215

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.21 psia (End of Session): 14.21 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.21	✓	1135	1143	✓	14.22	1.0	1st RUN; INITIAL PARAMETERS NTUs = 17.45
2	✓	✓	✓	✓	✓	✓	14.20	✓	1155	1205	✓	14.21	1.0	COLLECT MW-005-050 VOCs, Cr^{tot}/Cr^{+6}, ClO_4^-
3														
4														
5														
6														
7														
8														

Total Volume: 2.0 l

Comments: Pressure Outside MP Casing = 15.82 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-12 Depth: 243 Date: 10/11/00

Well ID: MW-12 Sampling Zone: 2 Starting Time: 1030 Finishing Time: 1125

Technicians: T. Turpyn-Keasler, J. Dannay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 14.26 psia (End of Session): 14.30 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	14.26	✓	1035	1040	✓	14.28	1.0	1st RUN; INITIAL PARAMETERS NTUs = 1.62
2	✓	✓	✓	✓	✓	✓	14.26	✓	1057	1101	✓	14.29	1.0	COLLECT MW-003-048/49 VOCs, Cr^{+6}, Cr^{TOT}, ClO_4^-
3	✓	✓	✓	✓	✓	✓	14.25	✓	1117	1221	✓	14.30	.75	COLLECT MW-003-019 ClO_4^-, FINAL PARAMETERS
4														
5														
6														
7														
8														

Total Volume: 2.75 l

Comments: Pressure Outside MP Casing = 59.21 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-12 Depth: 323 Date: 10/11/00

Well ID: MW-12 Sampling Zone: 3 Starting Time: 0939 Finishing Time: 1025

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 38.29 psia (End of Session): 38.33 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	38.29	✓	0946	0950	✓	38.32	1.0 ✓	(Σ RUN; INITIAL PARAMETERS) NTUs = 1.21
2	✓	✓	✓	✓	✓	✓	38.29	✓	1004	1008	✓	38.33	1.0	COLLECT MW-005-047 VOCs, Cr^{TOT}, Cr^{HEX}, ClO_4^-
3														
4														
5														
6														
7														
8														

Total Volume: 2.0 l

Comments: Pressure Outside MP Casing = 93.66 psia

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-12 Depth: 436 Date: 10/11/00

Well ID: MW-12 Sampling Zone: 4 Starting Time: 0854 Finishing Time: 0928

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 87.47 psia (End of Session): 87.50 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	87.47	✓	0859	0902	✓	87.49	1.0	(5 RUN) INITIAL PARAMETERS NTUs = 1.1
2	✓	✓	✓	✓	✓	✓	87.47	✓	0924	0924	✓	87.50	1.0	COLLECT MW-003-046 VOCs, ClO_4^-
3														
4														
5														
6														
7														
8														

Total Volume: 2 ol

Comments: Pressure Outside MP Casing = 140.52 psia

Continue

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Groundwater Sampling

Field Data Sheet for Multi-Port Well

Project: JPL GW Monitoring Location: MW-12 Depth: 548 Date: 10/11/00

Well ID: MW-12 Sampling Zone: 5 Starting Time: ~~0830~~ 1221 Finishing Time: 1340

Technicians: T. Turpyn-Keasler, J. Donnay

Pressure Reading Inside MP Casing in psia (Beginning of Session): 135.52 psia (End of Session): 135.55 psia

	Surface Function Checks					Position Sampler	Sample Collection Checks at the Surface							Comments
Run No.	Activate Shoe	Close Valve Check Vacuum	Open Valve	Evacuate Sample Containers	Close Valve	Deactivate Shoe Retract Arm Locate Port	Pressure in MP Casing (psia)	Activate Shoe	Valve Open Time	Valve Closed Time	Deactivate Shoe	Pressure in MP Casing (psia)	Volume Retrieved (liters)	
1	✓	✓	✓	✓	✓	✓	135.52	✓	1325	1328	✓	135.55	.75	1st RUN; INITIAL PARAMETERS NTUs = 9.50
2	✓	✓	✓	✓	✓	✓	135.53	✓	1320	1323	✓	135.55	.75	COLLECT MW-003-0745 VOCs, Cr^{TOT}, Cr^{+6}, Cl/Br
3														
4														
5														
6														
7														
8														

Total Volume: 1.5 l

Comments: Pressure Outside MP Casing = 182.60 psia