Park
Environmental

THIRD QUARTER 1995
GROUNDWATER MONITORING REPORT

NESTLE FOOD COMPANY
(FORMER CARNATION DAIRY FACILITY)
OAKLAND, CALIFORNIA

NOVEMBER, 1995

[illegible] Road Suite [illegible] Citrus Heights, CA 95610 TEL (916) 723-1776 FAX (916) 723-7698

THIRD QUARTER 1995
GROUNDWATER MONITORING REPORT

NESTLE FOOD COMPANY
(FORMER CARNATION DAIRY FACILITY)
1310 14TH STREET
OAKLAND, CALIFORNIA

PRESENTED TO:

ALAMEDA COUNTY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
DIVISION OF CLEAN WATER PROGRAM
UST LOCAL OVERSIGHT PROGRAM
80 SWAN WAY, ROOM 200
OAKLAND, CALIFORNIA 94621

ON BEHALF OF:

NESTLE USA, INC.
800 NORTH BRAND BOULEVARD
GLENDALE, CALIFORNIA 91203

PREPARED BY:

PARK ENVIRONMENTAL CORPORATION
8084 OLD AUBURN ROAD, SUITE E
CITRUS HEIGHTS, CALIFORNIA 95610

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1.0 INTRODUCTION

Nestle USA, Inc., (Nestle) has retained Park Environmental Corporation (Park) to provide environmental services at the former Carnation facility in Oakland, California. A site location map is shown on Figure 1. Nestle has authorized Park to prepare this Quarterly Groundwater Monitoring Report (QMR), which includes brief groundwater sampling methodology and findings sections.

The Alameda County Health Agency (ACHA) is the lead environmental agency. This work was requested by Ms. Susan Hugo and Ms. Jennifer Eberle with the ACHA in accordance with the meeting between ACHA, Mr. Richard Hiett of the California Regional Water Quality Control Board (CRWQCB), Mr. Walter Carey with Nestle, and Mr. Richard Zipp with Park, on September 17, 1992. This site is referenced by the ACHA as 1310 14th Street.

1.1 Scope of Services

Specific tasks completed during this investigation included the following:

- Measure depth to water and/or free product thicknesses in 71 monitoring wells;
- Calculate groundwater flow direction in the vicinity of the free product plume and in the vicinity of the property boundaries;
- Purge, sample and analyze nine monitoring wells (MW-2, MW-3, MW-6, MW-25, MW-26, MW-28, MW-29, MW-30, and MW-32) for total petroleum hydrocarbons as gasoline and diesel (TPH G and TPH D; EPA Method 8015), benzene, toluene, ethylbenzene, and total xylenes (BTEX; EPA Method 8020) and two samples (MW-26 and MW-32) for halogenated volatile organic compounds (HVOC; EPA Method 8260). In addition to the above mentioned analyses, modified EPA 8015 for gasoline tests were performed on an equipment blank and field duplicate sample for QA/QC purposes; and
- Prepare this QMR documenting the findings.

2.0 GROUNDWATER MONITORING WELL SAMPLING METHODOLOGY

2.1 Groundwater Measurements

Prior to obtaining depth to groundwater measurements in the sampled wells, the wells were checked for the presence of free product using a new disposable bailer for each well. Depth to groundwater measurements in the sampled wells and unsampled wells were made using an ACTAT Corporation Model P100 Olympic well probe. Free product thicknesses were measured with a KECK: KIR-89 Interface probe. The depths to water or product were measured from the top of the well casing.

Groundwater elevations were calculated using measurements from surveyed monitoring wells that did not contain free product. Results of these measurements are included in Table 1.

2.2 Monitoring Well Purging

Each monitoring well was purged with a submersible pump until at least three well volumes of water were removed. All of the wells sampled are constructed of 4-inch diameter PVC well casing (except MW-6, which is 2-inches in diameter). All purging and sampling equipment was washed in a solution of trisodium phosphate and rinsed in distilled water prior to each usage, to reduce the potential for cross contamination between wells.

As groundwater was removed from the wells, pH, temperature and conductivity were monitored and recorded on a field data sheet. These field documents are kept in a permanent project file. A summary of the data obtained during the purging of the wells is presented in Table 2.

The wells were allowed to stand for a period of time to regain equilibrium prior to sampling. Groundwater purged from the wells was placed into DOT approved 55-gallon drums, pending receipt of analytical results to select the appropriate disposition.

2.3 Groundwater Analyses

Analyses of the groundwater were performed by a California certified laboratory in accordance with state guidelines and EPA protocols. Groundwater samples from nine monitoring wells (MW-2, MW-3, MW-6, MW-25, MW-26, MW-28, MW-29, MW-30 and MW-32). were analyzed for TPH G, TPH D and BTEX. In addition, groundwater samples from monitoring wells MW-26 and MW-32 were analyzed for HVOC. Monitoring well MW-27 located in 16th Street was not sampled, due to a vehicle obstructing access.

2.4 Groundwater Sampling

Proper sampling collection and handling are essential to assure the quality of the data obtained from the given sample. Therefore, each groundwater sample was collected using a new sterile disposable bailer. The sampled water was placed in laboratory prepared 40 millimeter glass containers. The sample containers were filled with water to the top to expel air and were sealed with Teflon-lined caps. Water sample containers were labeled with the name of the sampler, the date, the job number, the preservative, and an identifying well number. The samples were transported to a California certified laboratory. Full chain-of-custody (COC) protocol was followed during sample handling and delivery.

3.0 FINDINGS

3.1 Groundwater Conditions

3.1.1 Groundwater Flow Direction and Hydraulic Gradient

Groundwater monitoring wells containing free product were not used for the calculations of groundwater flow direction or hydraulic gradient. Groundwater measurements taken by Park on September 22, 1995 indicate that groundwater flow beneath the site continues to be in a north-northwesterly direction. The hydraulic gradient was calculated to be approximately 0.0017 or 0.17-feet drop per 100-feet of run beneath the site. The flow direction of the groundwater is shown graphically on Figure 2. The measurements taken during this sampling event show the groundwater elevation ranging from about 3.91 to 5.48-feet above mean sea level (MSL), which is consistent with elevations monitored during the previous years. All groundwater measurement data collected are summarized in Table 1.

3.1.2 Occurrence of Free Product

Free product was present in 18 of the 66 monitoring wells that Park monitored for this investigation. The thicknesses of free product ranged from 0.08-feet to 1.41-feet, with an average thickness of 0.67-feet in the free product measured wells.

In comparison to the June, 1995 quarterly data, the September, 1995 data indicate a decrease in the average free product thickness and the lateral extent of product at the site. Soil product volumes for the June and September, 1995 sampling events are approximately 3,456 and 3,388-gallons, respectively, indicating a 68-gallon decrease between sampling events. Product volumecalculations, which are estimated based on average product thickness and the areal extent of the product plume, are included in Appendix A. During the latest sampling round, 18 monitoring wells contained measurable quantities of free product.

Free product measurements for sampling rounds since November, 1993 are summarized in Table 3. The occurrence of free product is shown on Figure 3.

3.1.3 Results of Laboratory Analyses

Laboratory test results for TPH gas and diesel analyses of groundwater samples collected on September 21, 1995 for this investigation as well as the results of previous quarterly sampling events since March, 1993 are summarized in Table 4.

Analytical results for selected wells and the estimated extent of dissolved TPH G and TPH D in the groundwater plume are shown in Figure 4. Dissolved TPH G and TPH D concentrations were reported in MW-3 and MW-25.

GROUNDWATER MONITORING REPORT
FORMER CARNATION DAIRY - OAKLAND
NOVEMBER, 1995

Concentrations of dissolved benzene were reported in MW-2, MW-3, and MW-6. Laboratory reports and COC documents are included as Appendix B.

Analytical results for well MW-3 indicate substantial increases in benzene concentrations over the last three quarters. Analysis of laboratory chromatograms for the period in question, however, does not explain the increased levels. Park will continue to monitor the wells and review analytical data in detail, but offers no explanation at this time for the apparently anomalous data.

4.0 PREPARATION OF REPORT

Firm Preparing Report

Park Environmental Corporation
8084 Old Auburn Road, Suite E
Citrus Heights, California 95610

Report Prepared by:

This report was prepared by Park Environmental Corporation (Park). Mr. Richard J. Zipp, Principal Hydrogeologist is the qualified person responsible for overseeing this project. This report was written by Ms. Kathleen A. Volk, Engineering Aide for Park.

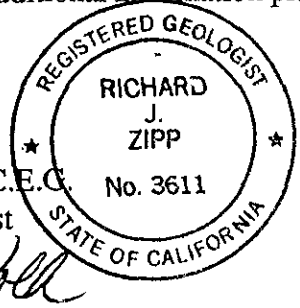
This report was prepared to assist the property owner in compliance with California Code of Regulations, Title 23, Chapter 16, Article 5, Section 2652(d), which requires the submittal of reports to regulatory agencies at a minimum every three months.

The monitoring services performed by Park were performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

The data presented in this report are representative of conditions at the site when monitoring and sampling were performed. The findings presented are based on the current data and past written and/or oral information provided by the regulatory agencies or Nestle USA.

This report has been reviewed by the client and they concur with the findings herein. If you have any questions or need additional information please call the undersigned at (916) 723-1776.

Thank You,



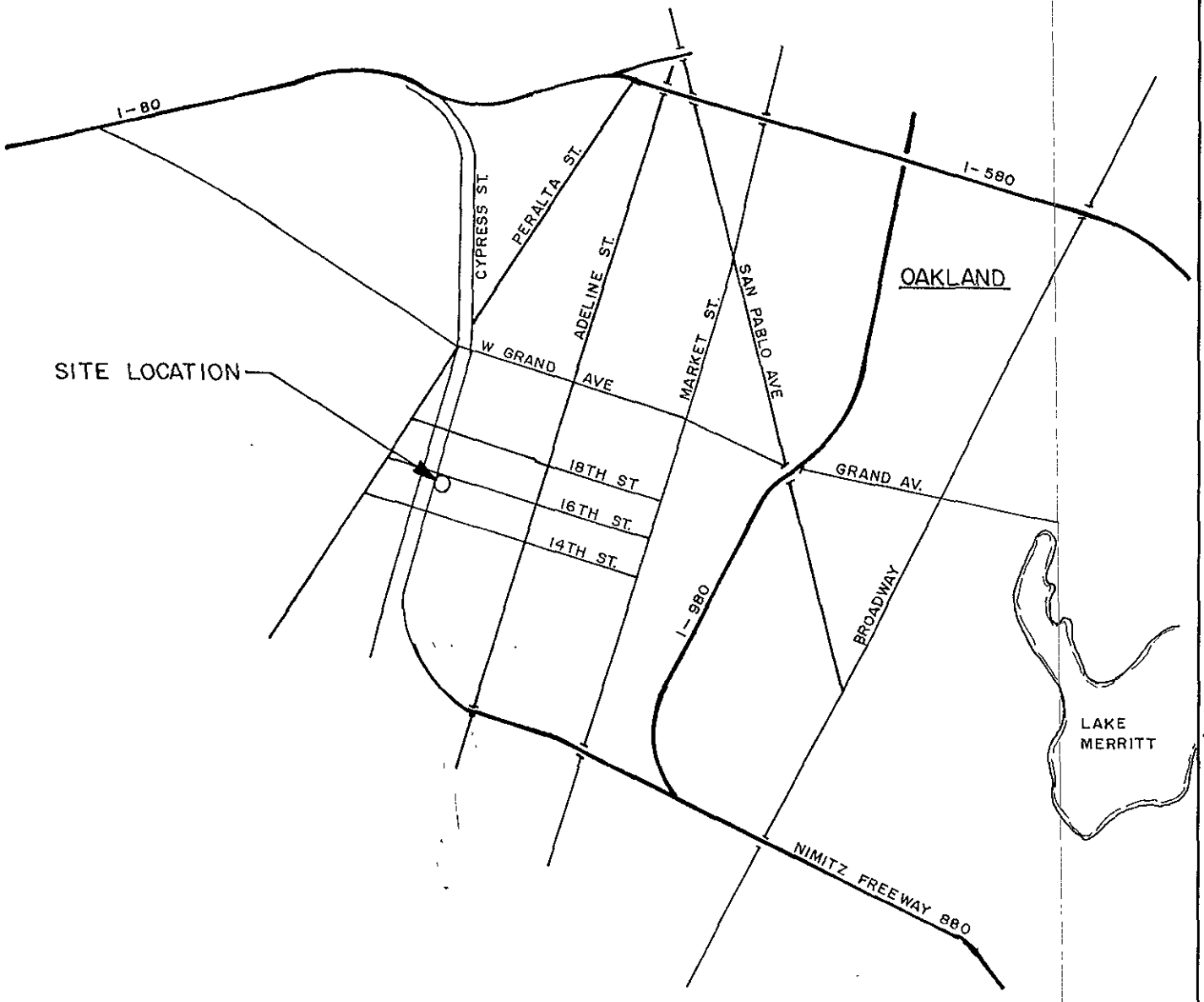
Richard J. Zipp, R.G., C.E.G.
Principal Hydrogeologist

Kathleen A. Volk
Engineering Aide

F:\5008\KV\naj\GMR1195.rpt

pc Mr. Binayak Acharya, Nestle USA, Inc.

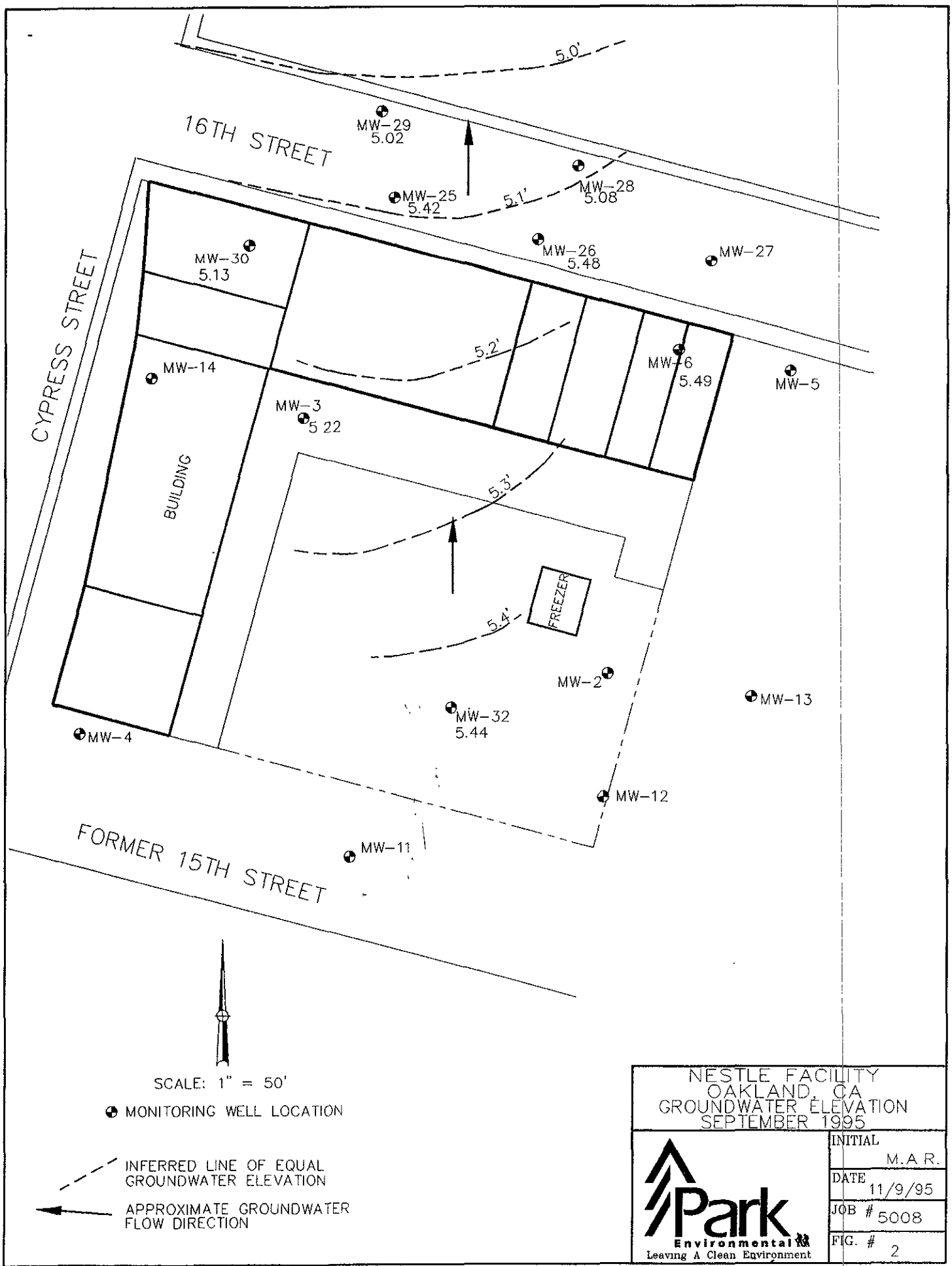
FIGURES



NESTLE FACILITY
OAKLAND
SITE LOCATION MAP

Park Environmental
Leaving A Clean Environment

INITIAL	M.A.R.
DATE	11/9/95
JOB #	5008
FIG #	1



SCALE: 1" = 50'

● MONITORING WELL LOCATION

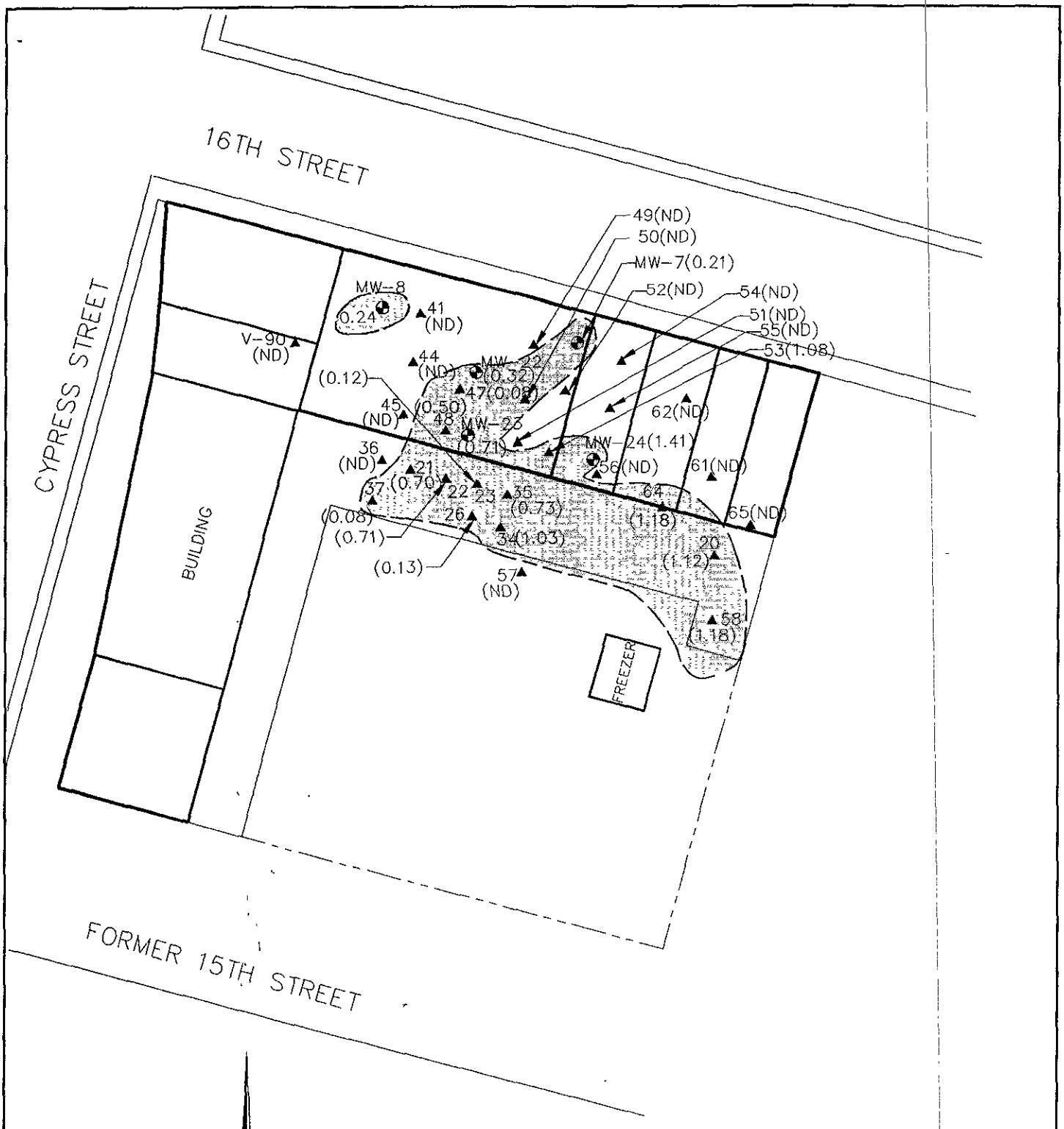
INFERRED LINE OF EQUAL GROUNDWATER ELEVATION

APPROXIMATE GROUNDWATER FLOW DIRECTION

NESTLE FACILITY
OAKLAND, CA
GROUNDWATER ELEVATION
SEPTEMBER 1995

Park Environmental
Leaving A Clean Environment

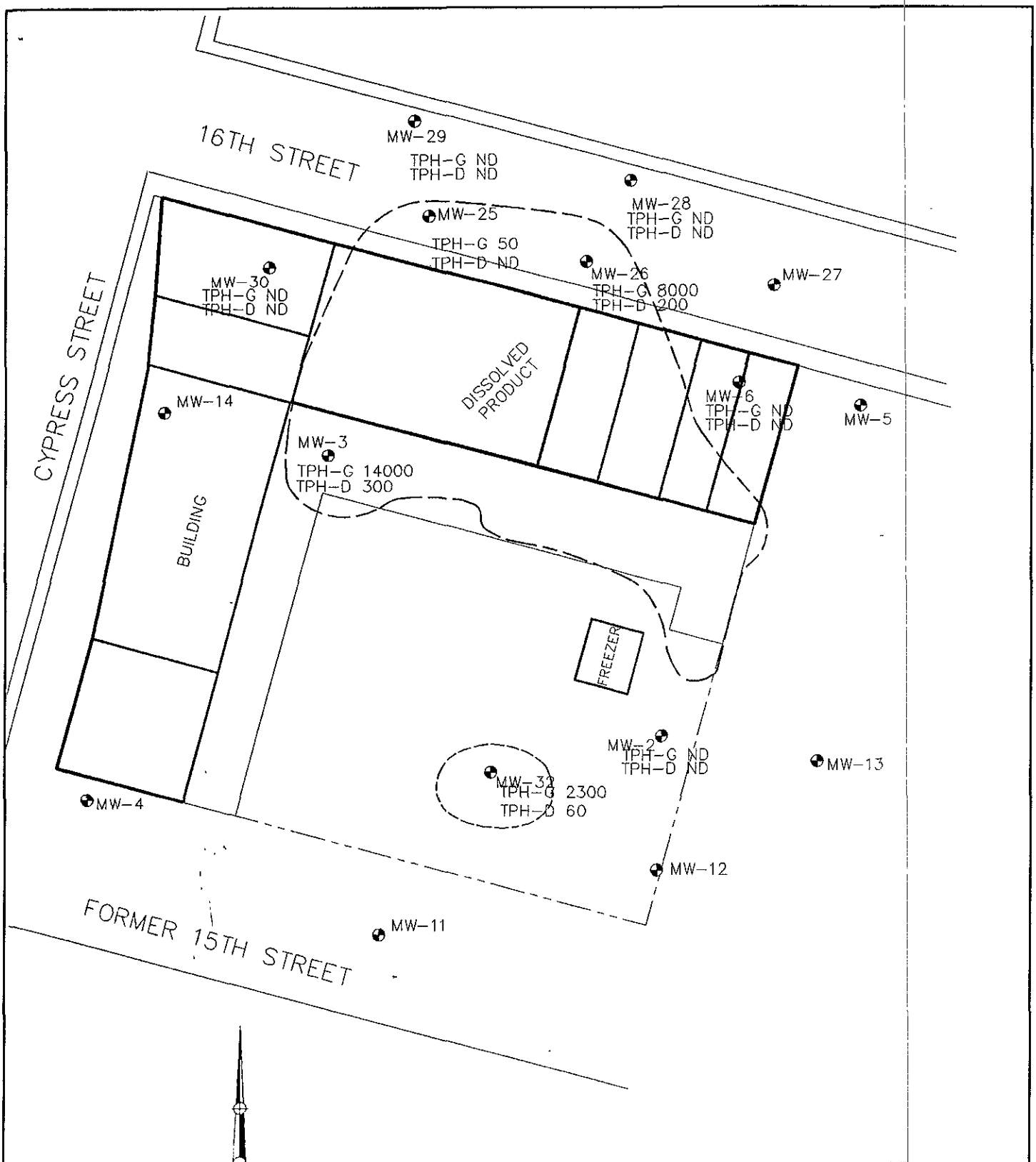
INITIAL	M.A.R.
DATE	11/9/95
JOB #	5008
FIG. #	2



NESTLE FACILITY
OAKLAND, CA
FREE PRODUCT MAP

Park Environmental
Leaving A Clean Environment

INITIAL	M.A.R
DATE	11/9/95
JOB #	5008
FIG #	3



SCALE: 1" = 50'

● MONITORING WELL LOCATION

TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL
F.P.-NOT SAMPLED DUE TO FLOATING PRODUCT IN WELL
ND-NOT DETECTED AT LISTED DETECTION LIMIT

SEPTEMBER 1995 DATA
REPORTED IN PARTS PER BILLION

NESTLE FACILITY
OAKLAND, CA
DISSOLVED CHEMICAL CONSTITUENTS MAP

Park Environmental
Leaving A Clean Environment

INITIAL	M.A.R
DATE	11/9/95
JOB #	5008
FIG. #	4

TABLES

TABLE 1
GROUNDWATER MEASUREMENTS

SEPTEMBER 22, 1995

Sample ID	TOC Depth to Product (feet)	TOC Depth to Water (feet)	Casing Elevation (feet)	Product Thickness (feet)	Well Diameter (inches)	Groundwater Elevation (feet)
MW-2 *	-	9.42	-	-	4	-
MW-3 *	-	9.08	14.30	-	4	5.22
MW-5	-	-	14.41	-	4	-
MW-6 *	-	8.63	14.12	-	2	5.49
MW-7	9.30	9.51	14.29	0.21	4	4.78
MW-8	9.29	9.53	14.20	0.24		4.67
MW-11	-	-	-	-	4	-
MW-13	-	-	14.85	-	4	-
MW-22	9.42	9.74	14.44	0.32	2	4.70
MW-23	9.35	10.06	-	0.71	4	-
MW-24	9.35	10.76	14.67	1.41	2	3.91
MW-25 *	-	7.45	12.87	-	4	5.42
MW-26 *	-	7.23	12.71	-	4	5.48
MW-27	-	-	14.04	-	4	-
MW-28 *	-	8.37	13.45	-	4	5.08
MW-29 *	-	7.58	12.60	-	4	5.02
MW-30 *	-	9.41	14.54	-	4	5.13
MW-32 *	-	9.32	14.76	-	4	5.44

TOC	Top of casing
*	Groundwater samples obtained for this investigation
-	No measurement
ND	None detected

TABLE 1 CONTINUED
GROUNDWATER MEASUREMENTS

SEPTEMBER 22, 1995

Sample ID	TOC Depth to Product (feet)	TOC Depth to Water (feet)	Casing Elevation (feet)	Product Thickness (feet)	Well Diameter (inches)	Groundwater Elevation (feet)
PR-20	8.75	9.87	14.36	1.12	2	4.49
PR-21	9.64	10.34	14.37	0.70	2	4.03
PR-22	9.08	9.79	14.43	0.71	2	4.64
PR-23	8.56	8.68	14.47	0.12	2	5.79
PR-24	-	9.27	-	-	-	-
PR-26	9.31	9.44	14.38	0.13	2	4.94
PR-27	-	9.12	-	-	2	-
PR-28	-	9.09	-	-	2	-
PR-30	-	DRY	-	-	-	-
PR-33	-	9.05	14.36		2	5.31
PR-34	9.00	10.03	14.49	1.03	2	4.46
PR-35	9.10	9.83	14.55	0.73	2	4.72
PR-36	-	DRY	-	-	-	-
PR-37	9.02	9.62	-	0.60	-	-
PR-39	-	9.39	-	-	-	-
PR-41	-	DRY	-	-	2	-
PR-42	-	9.60	-	-	-	-
PR-43	-	9.72	-	-	-	-
PR-44	-	DRY	-	-	2	-
PR-45	-	9.44	-	-	2	-
PR-46	-	9.55	-	-	2	-
PR-47	8.63	8.71	-	0.08	2	-
PR-48	9.39	9.89	-	0.50	2	-
PR-49	-	9.47	-	-	2	-

TOC	Top of casing
*	Groundwater samples obtained for this investigation
-	No measurement
ND	None detected

TABLE 1 CONTINUED
GROUNDWATER MEASUREMENTS

SEPTEMBER 22, 1995

Sample ID	TOC Depth to Product (feet)	TOC Depth to Water (feet)	Casing Elevation (feet)	Product Thickness (feet)	Well Diameter (inches)	Groundwater Elevation (feet)
PR-50	-	9.21	-	-	2	-
PR-51	-	DRY	-	-	2	-
PR-52	-	9.43	-	-	2	-
PR-53	8.81	9.89	-	1.08	2	-
PR-54	-	9.39	-	-	2	-
PR-55	-	DRY	-	-	2	-
PR-56	-	4.93	-	-	2	-
PR-57	-	8.95	-	-	2	-
PR-58	8.82	10.00	-	1.18	2	-
PR-59	-	-	-	-	2	-
PR-60	-	9.62	-	-	2	-
PR-61	-	9.40	-	-	2	-
PR-62	-	9.60	-	-	2	-
PR-64	9.70	10.85	-	1.15	4	-
PR-65	-	9.02	-	-	2	-
PR-66	-	9.12	-	-	2	-
PR-68	-	9.27	-	-	2	-
PR-69	-	9.02	-	-	2	-
PR-74	-	-	-	-	2	-
PR-75	-	-	-	-	2	-
PR-76	-	9.45	-	-	2	-
PR-77	-	9.15	-	-	2	-
V-89	-	-	-	-	4	-
V-90	-	DRY	-	-	4	-

TOC	Top of casing
*	Groundwater samples obtained for this investigation
-	No measurement
ND	None detected

TABLE 2
GROUNDWATER PURGING DATA

SEPTEMBER 21 , 1995

Sample ID	Total Gallons Removed	pH	Specific Conductance x 1,000 (umhos/cm)	Temperature in Fahrenheit
MW-2-P	0	7.02	0.853	68.1
	8	6.63	0.849	68.2
	16	6.52	0.818	67.9
	25	6.49	0.825	67.9
MW-3-P	0	6.55	0.948	69.9
	10	6.48	0.950	69.1
	20	6.47	0.952	68.5
	30	6.48	0.949	68.3
MW-6 *	0	6.87	0.538	68.7
	1	6.78	0.540	68.1
	2	6.72	0.541	67.6
	3	6.74	0.537	67.8
MW-25 **	0	7.43	0.426	68.9
	7	7.07	0.965	66.3
	14	6.87	0.979	65.7
MW-26	0	6.75	0.881	67.1
	10	6.62	0.772	64.9
	20	6.57	0.759	65.0
	31	6.54	0.773	64.5
MW-27 ***	-	-	-	-
MW-28	0	8.87	0.663	63.3
	10	7.52	0.571	66.3
	20	6.84	0.577	65.1
	31	6.68	0.589	64.3
MW-29	0	7.03	0.461	67.1
	10	7.02	0.402	67.1
	20	7.04	0.405	67.2
	30	6.90	0.358	69.8
MW-30	0	7.07	0.571	67.5
	7	6.98	0.580	66.8
	14	6.99	0.579	66.5
	21	6.95	0.573	66.7
MW-32	0	6.46	0.756	70.1
	8	6.46	0.767	71.8
	16	6.45	0.772	70.9
	25	6.47	0.775	70.3

* 2-inch well hand bailed using a new disposable bailer

** Well was pumped dry at approximately 17 gallons

*** Well not accessible

\- No information

TABLE 3

PRODUCT THICKNESS

Sample ID	11/04/93	02/24/94	06/02/94	08/31/94	12/22/94	03/13/95	06/09/95	09/22/95
	Product Thickness (ft.)							
MW-7	0.79	1.14	0.26	0.01	0.04	ND	ND	0.21
MW-8	0.47	0.44	0.31	0.31	0.26	0.08	0.09	0.24
MW-22	1.83	1.54	1.14	0.19	0.03	ND	ND	0.32
MW-23	1.21	0.07	1.79	0.68	0.41	ND	0.31	0.71
MW-24	1.77	-	0.97	0.39	-	ND	ND	1.41
PR-20	0.91	1.15	1.45	0.88	1.04	0.14	0.16	1.12
PR-21	0.63	-	1.39	0.42	2.01	4.11	2.42	0.70
PR-22	0.98	1.43	0.90	0.47	0.04	0.60	0.71	0.71
PR-23	0.67	0.36	0.38	0.17	0.06	0.34	0.06	0.12
PR-26	0.60	0.54	0.39	0.17	-	ND	ND	0.13
PR-30	-	-	2.81	1.21	1.97	-	-	DRY
PR-34	0.66	1.17	1.07	0.37	2.45	4.06	3.54	1.03
PR-35	0.62	1.26	1.70	0.12	0.13	0.85	0.91	0.73
PR-36	-	1.13	1.13	0.37	0.19	0.15	0.23	DRY
PR-37	0.41	1.29	0.96	0.14	0.22	0.83	0.82	0.60
PR-41	0.59	0.53	0.13	0.43	0.03	ND	ND	DRY
PR-44	0.24	0.22	-	-	-	-	ND	DRY
PR-45	0.17	5.27	-	-	-	-	ND	ND
PR-47	0.75	0.41	-	-	0.01	-	ND	0.08
PR-48	1.12	0.20	0.83	0.07	1.43	0.64	0.65	0.50
PR-49	-	3.24	-	-	-	-	ND	ND
PR-50	1.08	1.58	-	-	-	-	ND	-
PR-51	-	6.57	0.01	0.72	2.02	ND	ND	ND
PR-52	1.01	5.09	0.45	0.05	0.03	ND	ND	ND
PR-53	1.15	3.01	0.61	0.49	1.52	ND	1.55	1.08
PR-54	0.97	0.99	-	0.08	0.01	ND	ND	ND
PR-55	1.48	0.70	0.87	-	0.01	-	ND	DRY
PR-56	0.90	1.30	0.89	0.15	1.48	ND	ND	ND
PR-57	-	6.40	-	-	-	-	ND	ND
PR-58	0.96	0.85	1.48	0.89	2.15	1.31	1.34	1.18
PR-61	0.25	0.39	1.03	-	0.01	-	ND	ND
PR-62	0.04	-	-	-	-	-	ND	ND
PR-64	1.49	0.11	0.09	1.06	2.15	1.03	1.17	1.15
PR-65	0.04	0.02	0.08	-	-	-	ND	ND
PR-67	1.05	0.65	-	-	-	-	-	ND
V-78	-	-	0.23	-	-	-	-	ND
V-90	-	1.41	0.94	0.16	1.68	0.02	0.02	DRY

\- No information

ND None detected

avg. FP thickness as reported by Park:

1.85 0.86 0.41 0.82 1.02 0.93 0.67'

TABLE 4
GROUNDWATER ANALYSES SUMMARY
EPA METHODS 8015, 8020 AND 8010

Sample ID	Date	EPA METHOD						
		8015		8020				8010
		TPH G (ug/l)	TPH D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Chlorinated Compounds (ug/l)
MW-2	03/23/93	ND	ND	ND	ND	ND	ND	-
	07/27/93	ND	ND	ND	ND	ND	ND	-
	11/05/93	-	-	-	-	-	-	-
	02/25/94	ND	ND	ND	ND	ND	ND	-
	06/03/94	ND	ND	ND	ND	ND	ND	-
	08/31/94	ND	ND	ND	ND	ND	ND	-
	12/22/94	ND	ND	ND	ND	ND	ND	-
	03/13/95	ND	ND*	0.8	ND	ND	ND	-
	06/09/95	ND	ND	ND	ND	ND	ND	-
	09/21/95	ND	ND	0.7	ND	ND	ND	-
MW-3	03/23/93	300	ND	35	2.9	2	3.2	-
	07/27/93	220	ND	97	1	4	1.1	-
	11/05/93	170	ND	4.9	ND	ND	1.2	-
	02/25/94	100	ND	42	ND	ND	ND	-
	06/03/94	320	ND	120	8.2	8.4	4.5	-
	08/31/94	ND	ND	83	1.1	5.3	2.9	-
	12/22/94	3800	270	1460	18	100	50	-
	03/13/95	14000	1700	3600	260	270	280	-
	06/09/95	3700	120	4700	58	140	71	-
	09/21/95	14000	300	9800	58	600		-
MW-6	03/23/93	ND	ND	ND	ND	ND	ND	-
	07/27/93	ND	ND	ND	ND	ND	ND	-
	11/05/93	ND	ND	ND	ND	ND	ND	-
	02/25/94	ND	ND	ND	ND	ND	3.5	-
	06/03/94	69	ND	2.7	ND	ND	ND	-
	08/31/94	ND	ND	ND	8.7	1.6	3.5	-
	12/22/94	ND	ND*	ND	ND	ND	ND	-
	03/13/95	ND	ND	1.2	ND	ND	ND	-
	06/09/95	ND	ND	0.6	ND	ND	ND	-
	09/21/95	ND	ND	ND	ND	ND	ND	-

TPH G	Total petroleum hydrocarbons in the gasoline range
TPH D	Total petroleum hydrocarbons in the diesel range
ug/l	Micrograms per liter or parts per billion
ND	Not detected at methiod detection limits. See specific laboratory reports for method detection limits
ND*	Anomalous peak, phalate, reported. Chromatogram does not have a diesel like pattern.
BTEX	Benzene, toluene, ethylbenzene, and xylenes
-	No information

TABLE 4 CONTINUED
GROUNDWATER ANALYSES SUMMARY
EPA METHODS 8015, 8020 AND 8010

Sample ID	Date	EPA METHOD						
		8015		8020				8010
		TPH G (ug/l)	TPH D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Chlorinated Compounds (ug/l)
MW-25	03/23/93	ND	ND	ND	ND	ND	ND	-
	07/27/93	ND	ND	ND	ND	ND	ND	-
	11/05/93	170	ND	4.2	4.4	2.5	20	-
	02/25/94	ND	ND	2.1	ND	ND	ND	-
	06/03/94	97	ND	2.4	14	ND	3.4	-
	08/31/94	ND	ND	0.5	ND	ND	ND	-
	12/22/94	ND	*	0.5	ND	ND	ND	-
	03/13/95	150	950	0.58	ND	ND	ND	-
	06/09/95	ND	60	0.8	ND	ND	ND	-
	09/21/95	50	ND	ND	ND	ND	ND	-
MW-26	03/23/93	7000	1300	180	190	55	330	ND
	07/27/93	1800	ND	470	96	30	80	140*
	11/05/93	19000	ND	4700	1300	9	1400	120*
	02/25/94	14000	ND	4800	570	200	860	28*
	06/03/94	12000	ND	4100	300	120	230	140*
	06/03/94	-	-	-	-	-	-	1.7**
	06/03/94	-	-	-	-	-	-	0.84***
	08/31/94	93000	1400	4100	360	170	450	*****
	12/22/94	5000	560	1030	170	85	290	[1]
	03/13/95	3000	810	320	19	23	66	*
	03/13/95	-	-	-	-	-	-	**
	06/09/95	10800	310	14000	64	31	230	3.1*
	06/09/95	-	-	-	-	-	-	240**
	06/09/95	-	-	-	-	-	-	1.0****
	09/21/95	8000	200	1900	160	160		120*
	09/21/95	-	-	-	-	-	-	1.3**

TPH G	Total petroleum hydrocarbons in the gasoline range
TPH D	Total petroleum hydrocarbons in the diesel range
ug/l	Micrograms per liter or parts per billion
ND	Not detected at methiod detection limits. See specific laboratory reports for method detection limits
ND*	Anomalous peak, phalate, reported. Chromatogram does not have a diesel like pattern.
BTEX	Benzene, toluene, ethylbenzene, and xylenes
*	1,2 Dichloroethane
**	1,1 Dichloroethane
***	Dibromochloromethane
****	1,1,1-Trichloroethane
*****	Chlorinated volatile compounds not detected using EPA Method 8260
[1]	The following additional volatile compounds were detected using EPA Method 8260, n-Butylbenzene, 3.9; sec-Butylbenzene,2.2; tert-Butylbenzene,5.7; isopropylbenzene, 9.8; naphalene, 18; propylbenzene,6.3; 1,2,4-trimethylbenzene, 130; and 1,3,5-trimethylbenzene,23.
-	No information

TABLE 4 CONTINUED
GROUNDWATER ANALYSES SUMMARY
EPA METHODS 8015, 8020 AND 8010

Sample ID	Date	EPA METHOD						
		8015		8020				8010
		TPH G (ug/l)	TPH D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Chlorinated Compounds (ug/l)
MW-27	03/23/93	ND	ND	ND	ND	ND	ND	-
	07/27/93	ND	ND	ND	ND	ND	ND	-
	11/05/93	ND	ND	ND	ND	ND	2.6	-
	02/25/94	ND	ND	ND	ND	ND	ND	-
	06/03/94	ND	ND	0.85	ND	ND	ND	-
	08/31/94	+	+	+	+	+	+	-
	12/22/94	+	+	+	+	+	+	-
	03/13/95	+	+	+	+	+	+	-
	06/09/95	+	+	+	+	+	+	-
	09/21/95	+	+	+	+	+	+	-
MW-28	03/23/93	110	ND	ND	ND	ND	ND	-
	07/27/93	ND	ND	ND	ND	ND	ND	-
	11/05/93	ND	ND	ND	ND	ND	2.1	-
	02/25/94	ND	ND	ND	ND	ND	ND	-
	06/03/94	ND	ND	3.1	ND	ND	ND	-
	08/31/94	ND	ND	1.4	ND	ND	ND	-
	12/22/94	ND	ND*	ND	ND	ND	ND	-
	03/13/95	ND	ND	0.91	ND	ND	ND	-
	06/09/95	ND	ND	ND	ND	ND	ND	-
	09/21/95	ND	ND	ND	ND	ND	ND	-
MW-29	03/23/93	ND	ND	ND	ND	ND	ND	-
	07/27/93	ND	ND	ND	ND	ND	ND	-
	11/05/93	ND	ND	ND	ND	2.1	11	-
	02/25/94	ND	ND	ND	ND	ND	ND	-
	06/03/94	ND	ND	ND	ND	ND	ND	-
	08/31/94	ND	ND	ND	ND	ND	ND	-
	12/22/94	ND	ND*	ND	ND	ND	ND	-
	03/13/95	ND	ND	0.59	ND	ND	ND	-
	06/09/95	ND	ND	ND	ND	ND	ND	-
	09/21/95	ND	ND	ND	ND	ND	ND	-

TPH G	Total petroleum hydrocarbons in the gasoline range
TPH D	Total petroleum hydrocarbons in the diesel range
ug/l	Micrograms per liter or parts per billion
ND	Not detected at methiod detection limits. See specific laboratory reports for method detection limits
ND*	Anomalous peak, phalate, reported. Chromatogram does not have a diesel like pattern.
BTEX	Benzene, toluene, ethylbenzene, and xylenes
+	Well not accessible, groundwater samples not obtained
-	No information

TABLE 4 CONTINUED
GROUNDWATER ANALYSES SUMMARY
EPA METHODS 8015, 8020 AND 8010

Sample ID	Date	EPA METHOD						
		8015		8020				8010
		TPH G (ug/l)	TPH D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	Chlorinated Compounds (ug/l)
MW-30	03/23/93	ND	ND	ND	ND	ND	ND	-
	07/27/93	ND	ND	ND	ND	ND	ND	-
	11/05/93	ND	ND	ND	ND	ND	2.8	-
	02/25/94	ND	ND	1.3	ND	ND	ND	-
	06/03/94	ND	ND	1.1	ND	ND	ND	-
	08/31/94	ND	ND	0.8	ND	ND	ND	-
	12/22/94	ND	ND*	0.6	ND	ND	ND	-
	03/13/95	ND	ND	0.98	ND	ND	ND	-
	06/09/95	ND	ND	ND	ND	ND	ND	-
	09/21/95	ND	ND	ND	ND	ND	ND	-
MW-32	03/23/93	440	ND	391	6.2	3.1	9	60*
	07/27/93	ND	ND	ND	ND	ND	ND	14*
	11/05/93	170	ND	20	ND	1.8	2.1	7.9*
	02/25/94	ND	ND	5.6	ND	ND	ND	ND
	06/03/94	350	ND	120	1.3	ND	1.4	11*
	08/31/94	ND	ND	39	0.5	2.2	1.2	10*
	12/22/94	ND	ND*	4.8	ND	ND	ND	4.6*
	03/13/95	1100	ND	220	3.6	6.5	5.8	16*
	06/09/95	2200	180	1500	7.9	43	14	0.7**
	06/09/95	-	-	-	-	-	-	0.5****
	09/21/95	2300	60	1200	2.4	72		6.7*
	09/21/95	-	-	-	-	-	-	1.4******

TPH G	Total petroleum hydrocarbons in the gasoline range
TPH D	Total petroleum hydrocarbons in the diesel range
ug/l	Micrograms per liter or parts per billion
ND	Not detected at methiod detection limits. See specific laboratory reports for method detection limits
ND*	Anomalous peak, phalate, reported. Chromatogram does not have a diesel like pattern.
BTEX	Benzene, toluene, ethylbenzene, and xylenes
*	1,2 Dichloroethane
**	1,1 Dichloroethane
***	Dibromochloromethane
****	1,1,1-Trichloroethane
*****	Chlorinated volatile compounds not detected using EPA Method 8260
******	Trichloroethene
+	Well not accessible, groundwater samples not obtained
-	No information

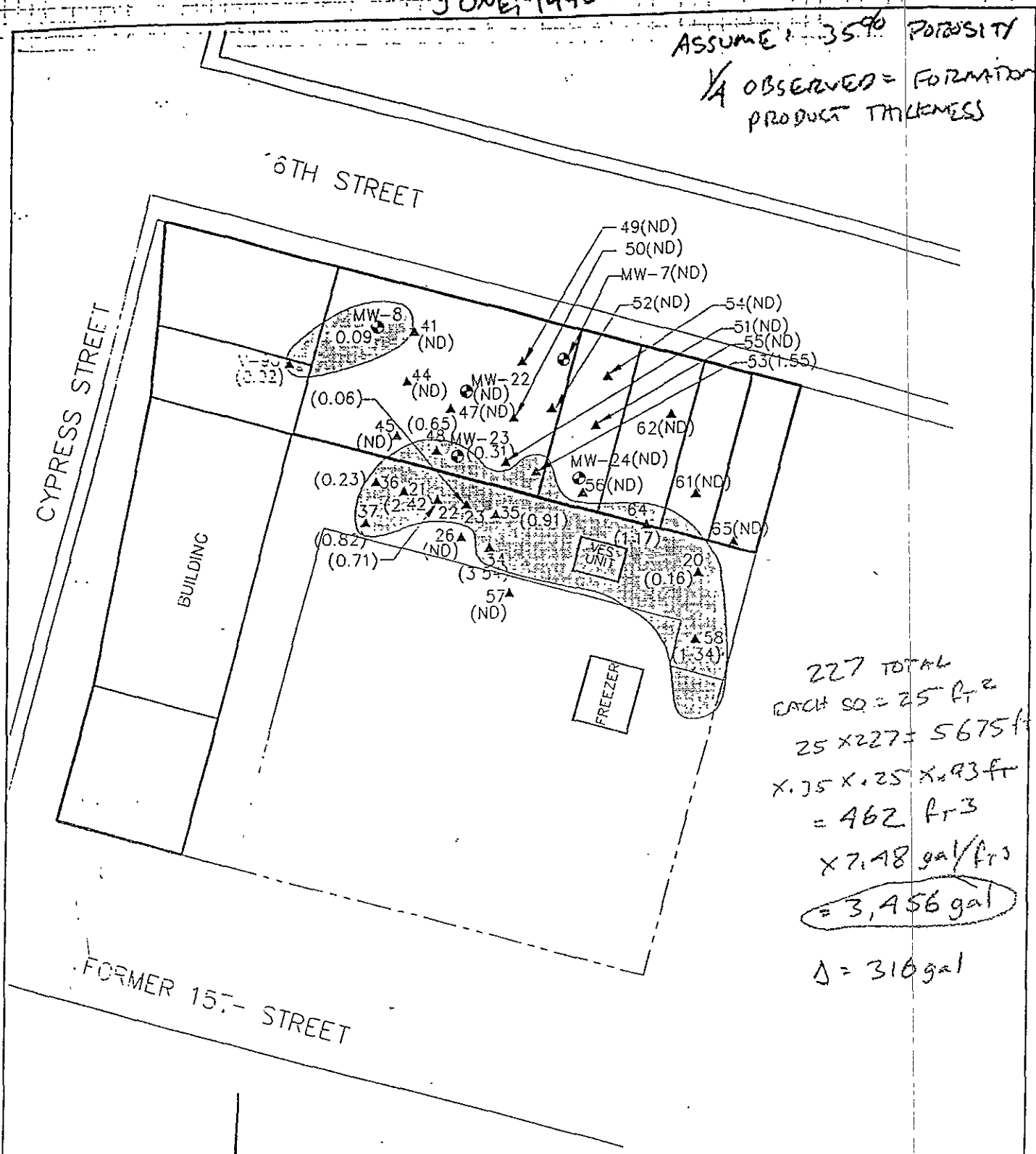
APPENDIX A

PRODUCT VOLUME CALCULATIONS
June and September, 1995

JUNE, 1995

ASSUME: 35% POROSITY

Y/A OBSERVED = FORMATION PRODUCT THICKNESS



227 TOTAL

EACH SQ = 25 ft²

25 × 227 = 5675 ft²

× .35 × .25 × .93 ft

= 462 ft³

× 7.48 gal/ft³

= 3,456 gal

Δ = 316 gal

NESTLE FACILITY
OAKLAND, CA
FREE PRODUCT MAP

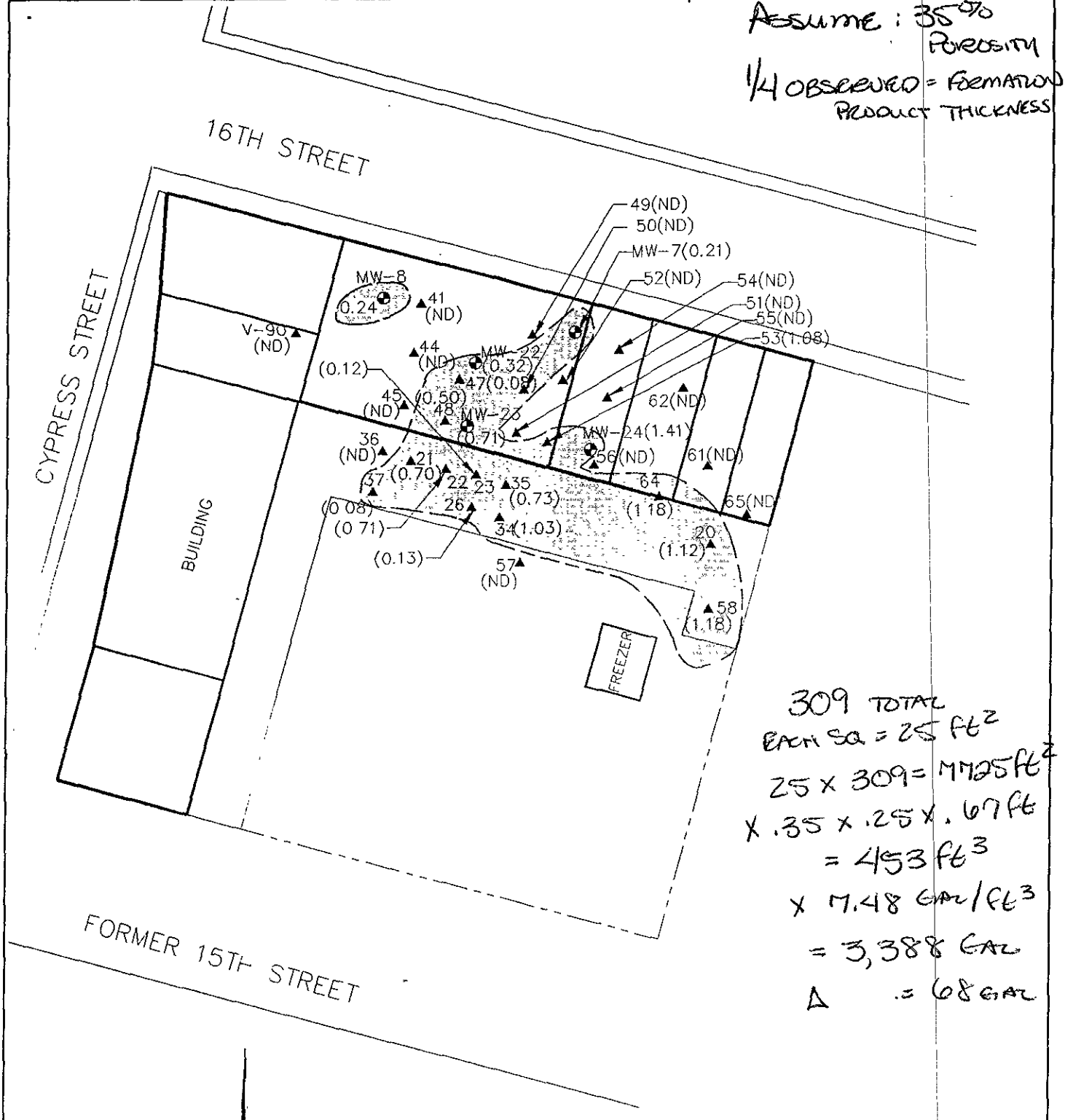
Park Environmental
Leaving A Clean Environment

INITIAL	M.A.R.
DATE	8/31/95
JOB #	3005
FIG #	3

SEPTEMBER 1995

ASSUME: 35% POROSITY

1/4 OBSERVED = FORMATION PRODUCT THICKNESS



SCALE: = 50'

▲ PRODUCT RECOVERY WELL

FREE PRODUCT AREA (SEPTEMBER 1995)

(.31) FLOATING PRODUCT THICKNESS (FT)

ND NON DETECT

309 TOTAL

EACH SQ = 25 ft²

25 x 309 = 7725 ft²

x .35 x .25 x .67 ft

= 453 ft³

x 7.48 GAL/ft³

= 3,388 GAL

Δ = 68 GAL

NESTLE FACILITY
OAKLAND, CA
FREE PRODUCT MAP

Park Environmental
Leaving A Clean Environment

INITIAL	M.A.R
DATE	11/9/95
JOB #	5008
FIG #	3

APPENDIX B

LABORATORY REPORTS AND CHAIN-OF-CUSTODY

NESTLÉ USA, INC.

QUALITY ASSURANCE LABORATORY
PO BOX 1516
6625 EITERMAN ROAD
DUBLIN, OH 43017-6516
TEL (614) 791-9144
FAX (614) 793-5353

October 23, 1995

Daron Robertson
Park Environmental
8084 Old Auburn Road
Suite E
Citrus Heights, CA 95610

cc: Binayak Acharya

RE: WATER SAMPLES FROM OAKLAND, CA

Dear Daron:

Attached is the result summary for the nine water samples (NQAL #95SEP948-000/008) submitted to NQAL from Oakland, CA. The chromatograms and QA/QC summary will follow.

If you have any questions or need any additional information please feel free to call.

Sincerely,

John R Heuser

John R. Heuser, Ph.D.
Manager, Organic Contaminants

JRH:frm

Attachment

n:/environ/cover/1995/misc/sep948.doc

NESTLÉ USA, INC.

QUALITY ASSURANCE LABORATORY
P.O. BOX 1516
6625 EITERMAN ROAD
DUBLIN, OH 43017-6516
TEL (614) 791-9144
FAX (614) 793-5353

Client:	Binayak Acharya	**Date of Report:**	10/23/95
Company:	Nestle USA Glendale, CA	**Date Sample Collected:**	9/21/95
		Date Sample Received:	9/27/95
Sample ID:	MW-26	**NQAL #:**	95SEP948-004
Sample Location:	Oakland, CA		

EPA 8010
Purgeable Halocarbons in Water

Analyte	Units	Result	Reporting Limit	Date Analyzed
Bromodichloromethane	µg/L	ND	0.5	10/6/95
Bromoform	µg/L	ND	0.5	10/6/95
Bromomethane	µg/L	ND	0.5	10/6/95
Carbon tetrachloride	µg/L	ND	0.5	10/6/95
Chlorobenzene	µg/L	ND	0.5	10/6/95
Chlorodibromomethane	µg/L	ND	0.5	10/6/95
Chloroethane	µg/L	ND	0.5	10/6/95
Chloroform	µg/L	ND	0.5	10/6/95
Chloromethane	µg/L	ND	0.5	10/6/95
1,2-Dichlorobenzene	µg/L	ND	0.5	10/6/95
1,3-Dichlorobenzene	µg/L	ND	0.5	10/6/95
1,4-Dichlorobenzene	µg/L	ND	0.5	10/6/95
Dichlorodifluoromethane	µg/L	ND	0.5	10/6/95
1,1-Dichloroethane	µg/L	1.3	0.5	10/6/95
1,2-Dichloroethane	µg/L	120	0.5	10/6/95
1,1-Dichloroethene	µg/L	ND	0.5	10/6/95
cis-1,2-Dichloroethene	µg/L	ND	0.5	10/6/95
trans-1,2-Dichloroethene	µg/L	ND	0.5	10/6/95
1,2-Dichloropropane	µg/L	ND	0.5	10/6/95
cis-1,3-Dichloropropene	µg/L	ND	0.5	10/6/95
trans-1,3-Dichloropropene	µg/L	ND	0.5	10/6/95
Methylene chloride	µg/L	ND	0.5	10/6/95
1,1,2,2-Tetrachloroethane	µg/L	ND	0.5	10/6/95
Tetrachloroethene	µg/L	ND	0.5	10/6/95
1,1,1-Trichloroethane	µg/L	ND	0.5	10/6/95
1,1,2-Trichloroethane	µg/L	ND	0.5	10/6/95
Trichloroethene	µg/L	ND	0.5	10/6/95
Trichlorofluoromethane	µg/L	ND	0.5	10/6/95
Vinyl chloride	µg/L	ND	0.5	10/6/95
Surrogate Recovery				
Bromofluorobenzene	%	51	43-142 %	
Bromochloromethane	%	71	40-169 %	

ND = Not Detected

NESTLÉ USA, INC.

QUALITY ASSURANCE LABORATORY
P.O. BOX 1516
6625 EITERMAN ROAD
DUBLIN, OH 43017-6516
TEL (614) 791-9144
FAX (614) 793-5353

Client: Binayak Acharya
Company: Nestle USA
Glendale, CA

Date of Report: 10/23/95
Date Sample Collected: 9/21/95
Date Sample Received: 9/27/95

Sample ID: MW-32
Sample Location: Oakland, CA

NQAL #: 95SEP948-008

EPA 8010
Purgeable Halocarbons in Water

Analyte	Units	Result	Reporting Limit	Date Analyzed
Bromodichloromethane	µg/L	ND	0.5	10/6/95
Bromoform	µg/L	ND	0.5	10/6/95
Bromomethane	µg/L	ND	0.5	10/6/95
Carbon tetrachloride	µg/L	ND	0.5	10/6/95
Chlorobenzene	µg/L	ND	0.5	10/6/95
Chlorodibromomethane	µg/L	ND	0.5	10/6/95
Chloroethane	µg/L	ND	0.5	10/6/95
Chloroform	µg/L	ND	0.5	10/6/95
Chloromethane	µg/L	ND	0.5	10/6/95
1,2-Dichlorobenzene	µg/L	ND	0.5	10/6/95
1,3-Dichlorobenzene	µg/L	ND	0.5	10/6/95
1,4-Dichlorobenzene	µg/L	ND	0.5	10/6/95
Dichlorodifluoromethane	µg/L	ND	0.5	10/6/95
1,1-Dichloroethane	µg/L	ND	0.5	10/6/95
1,2-Dichloroethane	µg/L	6.7	0.5	10/6/95
1,1-Dichloroethene	µg/L	ND	0.5	10/6/95
cis-1,2-Dichloroethene	µg/L	ND	0.5	10/6/95
trans-1,2-Dichloroethene	µg/L	ND	0.5	10/6/95
1,2-Dichloropropane	µg/L	ND	0.5	10/6/95
cis-1,3-Dichloropropene	µg/L	ND	0.5	10/6/95
trans-1,3-Dichloropropene	µg/L	ND	0.5	10/6/95
Methylene chloride	µg/L	ND	0.5	10/6/95
1,1,2,2-Tetrachloroethane	µg/L	ND	0.5	10/6/95
Tetrachloroethene	µg/L	ND	0.5	10/6/95
1,1,1-Trichloroethane	µg/L	ND	0.5	10/6/95
1,1,2-Trichloroethane	µg/L	ND	0.5	10/6/95
Trichloroethene	µg/L	1.4	0.5	10/6/95
Trichlorofluoromethane	µg/L	ND	0.5	10/6/95
Vinyl chloride	µg/L	ND	0.5	10/6/95
Surrogate Recovery				
Bromofluorobenzene	%	55	43-142 %	
Bromochloromethane	%	77	40-169 %	

ND = Not Detected

NESTLÉ USA, INC.

QUALITY ASSURANCE LABORATORY
P.O. BOX 1516
6625 EITERMAN ROAD
DUBLIN, OH 43017-6516
TEL (614) 791-9144
FAX (614) 793-5353

Client: Binayak Acharya
Nestle USA
Glendale, CA

Report Date: 10/23/95
Date Sampled: 9/21/95
Date Received: 9/27/95

Project: Oakland, CA

Result Summary

NQAL #	Sample ID	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	m&p Xylenes (ug/L)	o-Xylene (ug/L)	GRO (mg/L)	DRO (mg/L)
95SEP948-000	MW-2	0.7	ND	ND	ND	ND	ND	ND
95SEP948-001	MW-3	9800	58	600	42	53	14	0.3*
95SEP948-002	MW-6	ND	ND	ND	ND	ND	ND	ND
95SEP948-003	MW-25	ND	ND	ND	ND	ND	0.05	ND
95SEP948-004	MW-26	1900	160	160	210	110	8.0	0.2*
95SEP948-005	MW-28	ND	ND	ND	ND	ND	ND	ND
95SEP948-006	MW-29	**	**	**	**	**	**	ND
95SEP948-007	MW-30	ND	ND	ND	ND	ND	ND	ND
95SEP948-008	MW-32	1200	2.4	72	3.6	0.9	2.3	0.06*
Detection Limit		**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.05**	**0.05**

ND = Not Detected

* = no diesel pattern detected, result due to high gasoline concentration
** = all vials broken during shipment

NESTLÉ USA, INC.

QUALITY ASSURANCE LABORATORY
PO BOX 1516
6625 EITERMAN ROAD
DUBLIN, OH 43017-6516
TEL (614) 791-9144
FAX (614) 793-5353

October 30, 1995

Daron Robertson
Park Environmental
8084 Old Auburn Road
Citrus Heights, CA 95610

RE: OAKLAND, CA QUARTERLY MONITORING PROJECT

Dear Daron:

Attached is the analytical report for the water sample, MW-29 (NQAL # 95OCT896-000), which was submitted to NQAL for various analyses.

Please let us know if you have any questions.

Sincerely,

John R. Heuser, Ph.D.
Manager
Organic Contaminants

JRH:frm

Attachment

n:/environ/cover/1995/oct896.doc

OCT

NESTLÉ USA, INC.

QUALITY ASSURANCE LABORATORY
PO BOX 1515
6625 EITERMAN ROAD
DUBLIN, OH 43017-6516
TEL (614) 791-9144
FAX (614) 793-5353

Client: Binayak Acharya
Nestle USA
Glendale, CA

Report Date: 10/27/95
Date Sampled: 10/24/95
Date Received: 10/25/95

Project: Oakland, CA

Result Summary

NQAL #	Sample ID	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	m&p Xylenes (ug/L)	o-Xylene (ug/L)	GRO (mg/L)	DRO (mg/L)
95OCT896-000	MW-29	ND	ND	ND	ND	ND	ND	ND
Detection Limit		**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.05**	**0.05**

ND = Not Detected