Formerly Utilized Sites Remedial Action Program (FUSRAP)
Contract No. DACW45-98-D-0028

Final Post-Remedial Action Report for 62 Trudy Drive

Lodi, New Jersey

January 2002

US Army Corps of Engineers

z4.43 2521.3

Formerly Utilized Sites Remedial
Action Program (FUSRAP)

Maywood Chemical Company Superfund Site

ADMINISTRATIVE RECORD

Document Number

MISS – 172

US Army Corps
of Engineers®

FINAL POST-REMEDIAL ACTION REPORT

FOR

62 TRUDY DRIVE

IN

LODI, NEW JERSEY

JANURARY 2002

Prepared for

U.S. Army Corps of Engineers

Under Contract No. DACW45-98-D-0028

By

Bechtel National, Inc.

Oak Ridge, Tennessee

Bechtel Job No. 14501

CONTENTS

Page

FIGURES v

TABLES vi

ACRONYMS vii

UNITS OF MEASURE viii

1.0 INTRODUCTION 1-1
- 1.1 BACKGROUND 1-1
- 1.2 HISTORY 1-2
  - 1.2.1 Prior Remedial Actions 1-2
  - 1.2.2 Characterization Before Current Remedial Action 1-2

2.0 REMEDIATION CRITERIA 2-1
- 2.1 EPA AGREEMENT WITH DOE 2-1
- 2.2 EE/CA 2-1
- 2.3 SITE-SPECIFIC TOTAL URANIUM GUIDELINE 2-1
- 2.4 APPLICATION OF CRITERIA 2-2
  - 2.4.1 Radionuclides of Concern 2-2
  - 2.4.2 Background Levels 2-3
  - 2.4.3 Sum-of-Ratios Calculation 2-4
  - 2.4.4 Hot Spot Criteria 2-4

3.0 REMEDIAL ACTION 3-1
- 3.1 CLEANUP ACTIVITIES 3-1

4.0 POST-REMEDIAL ACTION MEASUREMENTS 4-1
- 4.1 62 TRUDY DRIVE 4-2
  - 4.1.1 Post-Remedial Action Survey 4-3
  - 4.1.2 Photographs 4-4
  - 4.1.3 Chemical Sampling After Remediation 4-4
  - 4.1.4 IVC Verification 4-4
  - 4.1.5 Summary 4-4

5.0 POST-REMEDIAL ACTION STATUS 5-1

6.0 REFERENCES 6-1

APPENDIXES

A	RADIATION AT A GLANCE	A-1
B	CONTAMINATION CONTROL DURING REMEDIAL ACTION	B-1
C	QUALITY CONTROL DATA FOR 62 TRUDY DRIVE	C-1
D	POST-REMEDIAL ACTION DATA FOR 62 TRUDY DRIVE	D-1
E	RADIOLOGICAL DATA FOR CLEAN OVERBURDEN SOIL	E-1
F	CHEMICAL DATA FOR CLEAN OVERBURDEN SOIL	F-1
G	RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL RECEIVED FROM VENDORS	G-1

FIGURES

Figure	Title	Page
1-1	Location of the Maywood Site, Bergen County, New Jersey	1-4
1-2	Location of 62 Trudy Drive	1-5
1-3	Approximate Areas of Surface and Subsurface Contamination, 62 Trudy Drive	1-6
2-1	Background Sampling Locations for the Maywood Interim Storage Site	2-5
4-1	Areas of Excavation and Elevation Contours, 62 Trudy Drive	4-5
4-2	Areas of Excavation and Post-Remedial Action Samples, 62 Trudy Drive	4-6
4-3	Underpin Excavation and Post-Remedial Action Samples, 62 Trudy Drive	4-7
4-4	Underpin Photographs (Photos 1 - 5), 62 Trudy Drive	4-8
4-5	Underpin Photographs (Photos 6 - 10), 62 Trudy Drive	4-9
4-6	PIC Readings, 62 Trudy Drive	4-10
4-7	Photographs Taken During Remediation (Photos 1 – 3), 62 Trudy Drive	4-11

TABLES

Table	Title	Page
2-1	Federal Guidelines for Residual Radioactive Contamination	2-6
4-1	Final Status Survey Results for 62 Trudy Drive	4-12
4-2	Chemical Data for a Sample Collected After Remediation for 62 Trudy Drive	4-14
A-1	Comparison and Description of Various Dose Levels	A-4
C-1	Quality Control Sample Results for 62 Trudy Drive	C-1
D-1	Post-Remedial Action Data for 62 Trudy Drive	D-1
E-1	Radiological Data for Maywood Vicinity Properties Clean Overburden Samples	E-1
E-2	Sum-of-Ratios for Radiological Data for Maywood Vicinity Properties Clean Overburden Samples	E-2
F-1	Chemical Data for Clean Overburden Samples Collected from Maywood Vicinity Properties	F-1
G-1	Radiological and Chemical Data for Backfill Material Received from Vendors	G-1

ACRONYMS

ANL	Argonne National Laboratory
ALARA	as low as reasonably achievable
BEIDMS	Bechtel Environmental Integrated Database Management System
BNI	Bechtel National, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DCG	derived concentration guide
DOE	U.S. Department of Energy
EE/CA	engineering evaluation/cost analysis
EPA	U.S. Environmental Protection Agency
FUSRAP	Formerly Utilized Sites Remedial Action Program
IVC	independent verification contractor
MCW	Maywood Chemical Works
MISS	Maywood Interim Storage Site
MVP	Maywood Vicinity Property
ORNL	Oak Ridge National Laboratory
PIC	pressurized ionization chamber
PPE	personal protective equipment
QC	quality control
SEC	Safety and Ecology Corporation
USACE	U.S. Army Corps of Engineers

UNITS OF MEASURE

cm	centimeter
dpm	disintegrations per minute
ft	foot
g	gram
h	hour
in.	inch
km	kilometer
L	liter
μCi	microcurie
μR	microroentgen
m	meter
mi	mile
mL	milliliter
mrem	millirem
pCi	picocurie
yd	yard
yr	year

1.0 INTRODUCTION

1.1 BACKGROUND

This report documents the remedial action conducted under the U.S. Army Corps of Engineers (USACE) Formerly Utilized Sites Remedial Action Program (FUSRAP) from 1998 through 1999 at 62 Trudy Drive in Lodi, New Jersey. The purpose of this report is to document the compliance of areas remediated on the property with applicable federal radiological guidelines and to summarize and provide the results of final remediation data. Remedial action at 62 Trudy Drive was conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in compliance with an engineering evaluation/cost analysis (EE/CA) (BNI 1995).

The property at 62 Trudy Drive is part of the Maywood Interim Storage Site (MISS). The Maywood site is located in Bergen County, New Jersey, approximately 20 km (12 mi) north-northwest of New York City and 21 km (13 mi) northeast of Newark, New Jersey (Figure 1-1). It consists of the MISS; the Stepan Chemical Company site; and 85 Maywood vicinity properties (MVPs) in the boroughs of Maywood and Lodi and the township of Rochelle Park. The property is approximately 3.4 km (2.1 mi) from MISS (Figure 1-2). The MISS and its vicinity properties are also included within FUSRAP.

FUSRAP was established in 1974 to identify and clean up, or otherwise control, sites where residual radioactive contamination remains from the early years of the nation's atomic energy program or where contamination remains from commercial operations that have caused conditions that Congress has authorized FUSRAP to remedy. The Maywood site was assigned to FUSRAP in 1984 after the cleanup was authorized by the US Congress in the Energy and Water Appropriations Act.

The objectives of FUSRAP, as they apply to the Maywood site, are

- to remove or otherwise control contamination on sites identified as contaminated at levels exceeding current guidelines, and

- to achieve and maintain compliance with applicable criteria for the protection of human health and the environment.

The Department of Energy (DOE) administered FUSRAP until October 1997, when management of the program was transferred to USACE. Bechtel National, Inc. (BNI), the project management contractor, assisted USACE in the planning, management, and implementation of the cleanup of 62 Trudy Drive. Oak Ridge National Laboratory (ORNL) was the independent

verification contractor (IVC) assigned by USACE to provide autonomous assurance that site conditions after completion of the remedial action met the radiological cleanup criteria.

1.2 HISTORY

1.2.1 Prior Remedial Actions

From 1916 to 1959, the former Maywood Chemical Works (MCW) extracted radioactive thorium and rare earths from monazite sand for use in manufacturing industrial products such as mantles for gas lanterns. Slurry that contained waste from the thorium-processing operations was pumped to earthen diked areas. Nearby properties became contaminated when some process wastes, along with tea and coca leaves from other MCW operations, were removed from the MCW property and used as mulch and fill. Additional waste apparently migrated from the MCW property through natural drainage associated with the former Lodi Brook. In all, 87 commercial, governmental, and residential vicinity properties became radioactively contaminated by these transport mechanisms. A comprehensive history can be found in the CERCLA EE/CA documentation prepared for this activity (BNI 1995).

Twenty-five residential properties and the Ballod property were remediated during 1984–85, and a property at 90 Avenue C was partially remediated during that period. Remediation of five residential properties, including 90 Avenue C, was completed during 1995. The MISS pile was removed in 1996, and material was transported to an offsite disposal facility. Additionally, eight other residential properties (7 Branca Court, 11 Redstone Lane, and 16, 18, 20, 22, 24, and 26 Long Valley Road) were remediated during 1996, and three more (5 and 7 Shady Lane, and 34 Long Valley Road) were completed in 1997. USACE remediation of 62 Trudy Drive was part of the remediation of 23 MVPs and 5 additional properties in Lodi and Maywood during 1997 through 1999.

1.2.2 Characterization Before Current Remedial Action

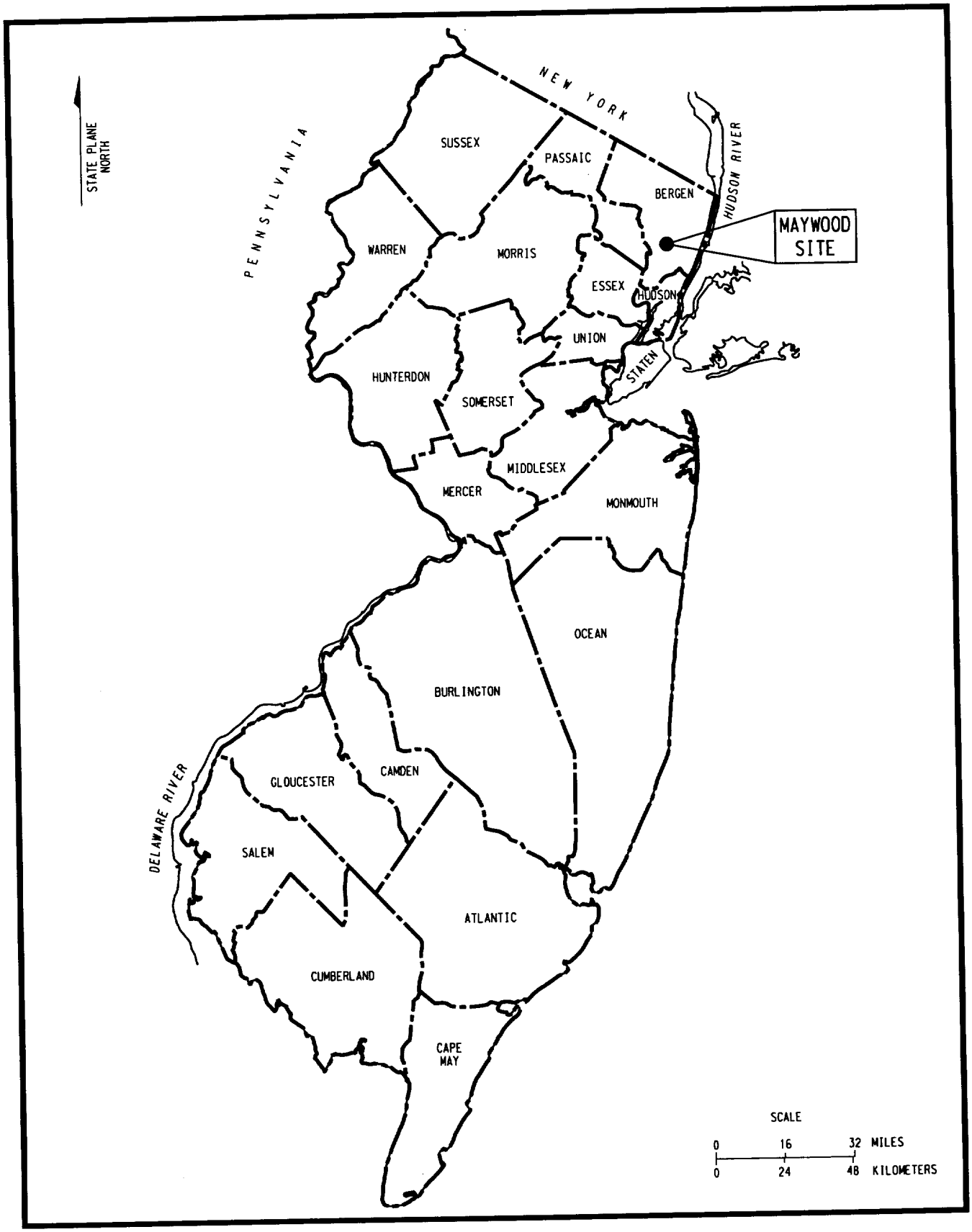
Initial radiological characterization of 62 Trudy Drive to determine if the property should be included in FUSRAP was performed by ORNL in 1988 (ORNL 1989). Because sampling results exceeded applicable federal guidelines, the property was designated for inclusion in the program. Subsequent radiological testing occurred in 1992 and prior to the start of cleanup activity.

In 1992, testing was performed to locate the horizontal and vertical boundaries of contamination (BNI 1992). The contamination was primarily surface and subsurface contamination ranging from a depth of 0 m (0 ft) to 2.9 m (9.5 ft).

Prior to remediation, an additional survey was performed in 1998 to further define the extent of contamination. Based on initial walkover surface scans, sixteen boreholes were drilled in areas showing the highest gamma readings. Gamma radiation readings were taken from within each borehole at 6-inch intervals and documented in a radiation log. A sample from each borehole was collected from the depth showing the highest gamma reading and was analyzed for radionuclides. The results indicated that samples MVP3005, MVP3008, MVP3009, and MVP3013 from four boreholes were found to be contaminated. Samples MVP3000 through 3004, MVP3006, MVP3007, MVP3010, MVP3011, MVP3012, MVP3014, and MVP3015 from twelve boreholes were not contaminated (BNI 1998a). Section 2.4.3 provides details on how compliance with radiological cleanup criteria was assessed.

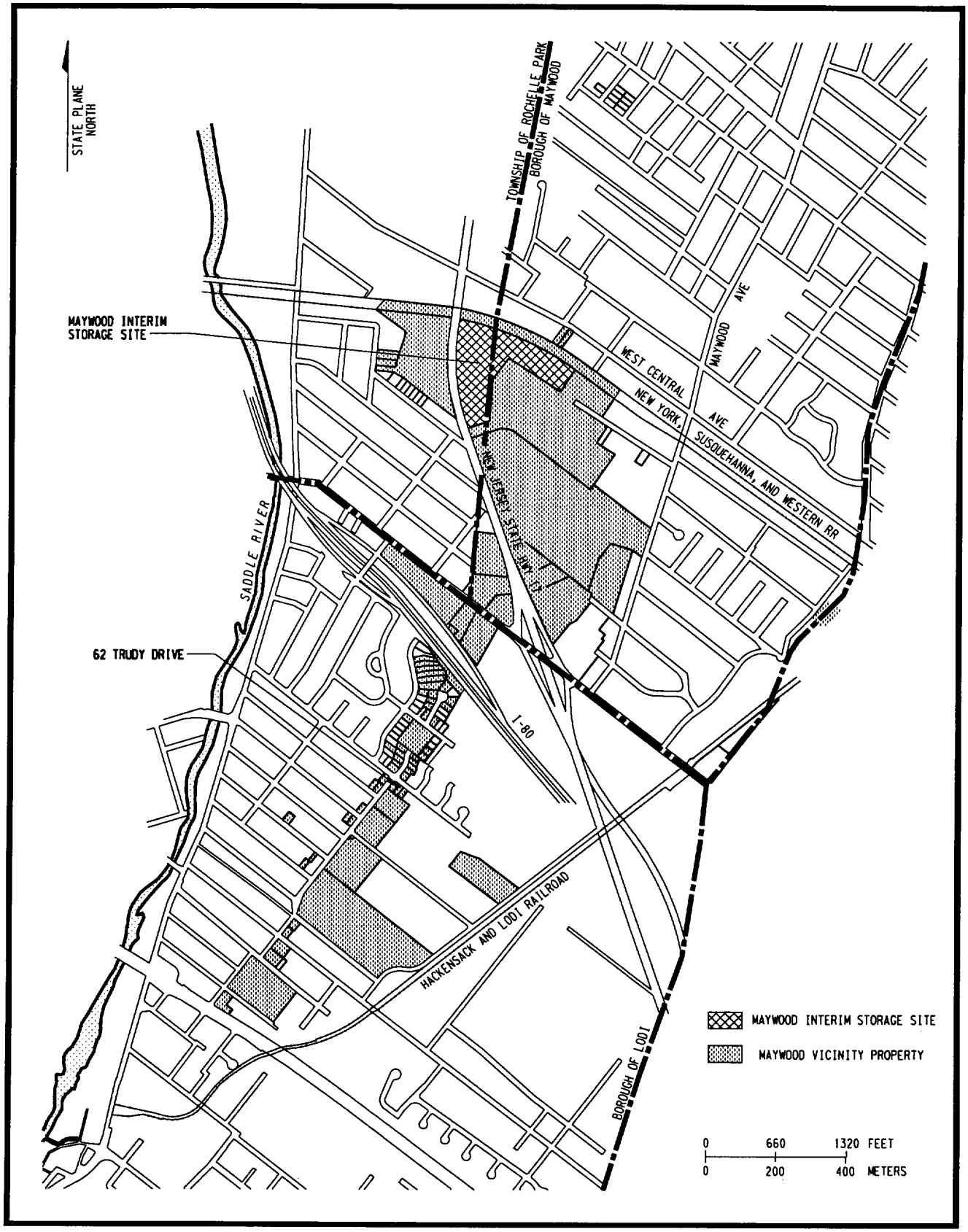
Figure 1-3 shows the approximate areas of surface and subsurface contamination estimated by 1992 and 1998 radiological characterization activities. Characterization results indicated contamination ranging from 0 to 2.9 m (0 to 9.5 ft) deep, based on the results of borehole logs and sample data. The data was then extrapolated to define the approximate boundaries of contamination.

Details on post-remedial action surveys and sampling results are provided in Section 4.0.



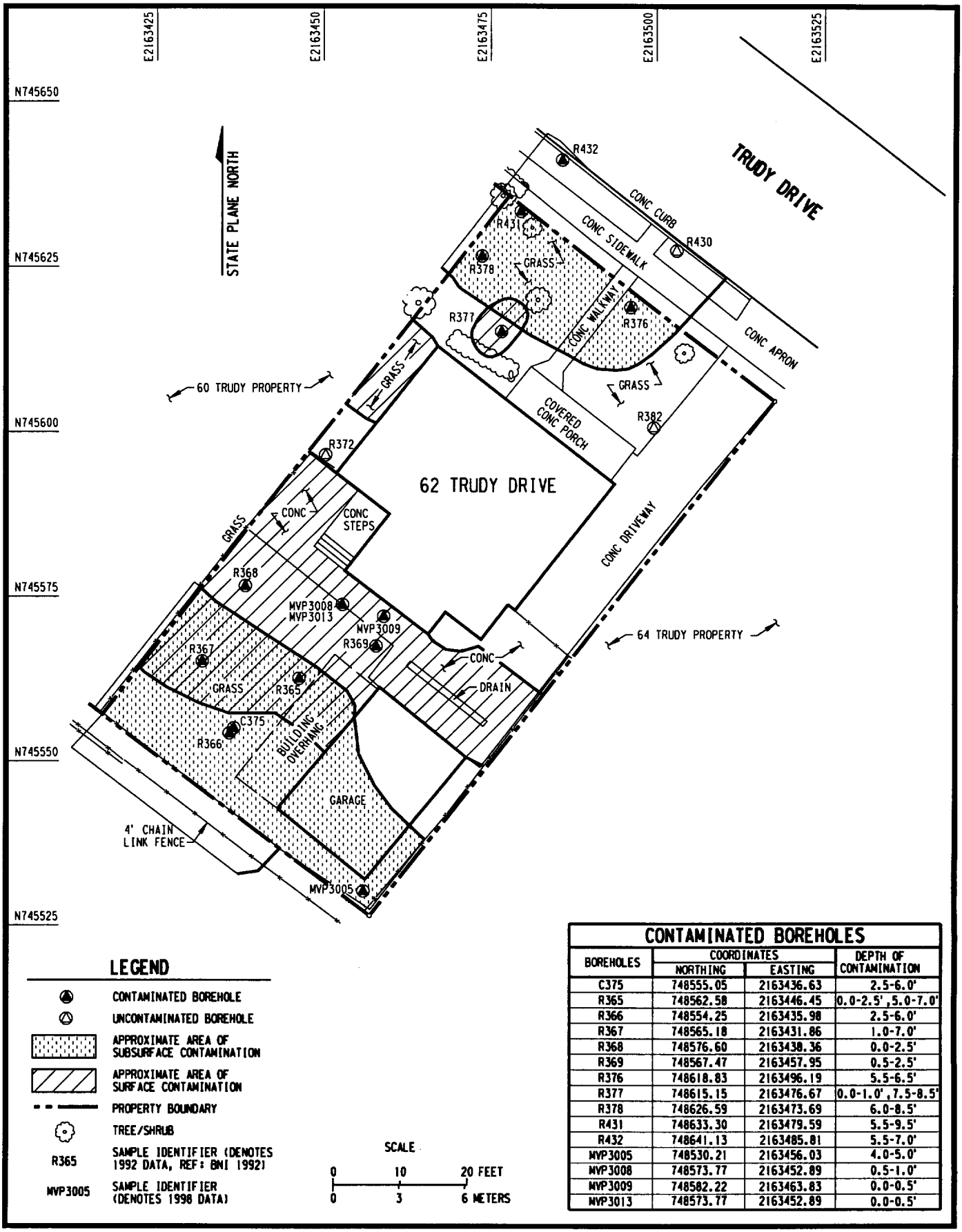
14501/138/PRAR107.DGN

Figure 1-1
Location of the Maywood Site
Bergen County, New Jersey



O:14501/138/98PRAR/PRAR219.DGN

Figure 1-2
Location of 62 Trudy Drive



LEGEND

- CONTAMINATED BOREHOLE
- UNCONTAMINATED BOREHOLE
- APPROXIMATE AREA OF SUBSURFACE CONTAMINATION
- APPROXIMATE AREA OF SURFACE CONTAMINATION
- PROPERTY BOUNDARY
- TREE/SHRUB
- R365 — SAMPLE IDENTIFIER (DENOTES 1992 DATA, REF: BNI 1992)
- MVP3005 — SAMPLE IDENTIFIER (DENOTES 1998 DATA)

SCALE

0 10 20 FEET

0 3 6 METERS

CONTAMINATED BOREHOLES

BOREHOLES	COORDINATES		DEPTH OF CONTAMINATION
	NORTHING	EASTING	
C375	748555.05	2163436.63	2.5-6.0'
R365	748562.58	2163446.45	0.0-2.5',5.0-7.0'
R366	748554.25	2163435.98	2.5-6.0'
R367	748565.18	2163431.86	1.0-7.0'
R368	748576.60	2163438.36	0.0-2.5'
R369	748567.47	2163457.95	0.5-2.5'
R376	748618.83	2163496.19	5.5-6.5'
R377	748615.15	2163476.67	0.0-1.0',7.5-8.5'
R378	748626.59	2163473.69	6.0-8.5'
R431	748633.30	2163479.59	5.5-9.5'
R432	748641.13	2163485.81	5.5-7.0'
MVP3005	748530.21	2163456.03	4.0-5.0'
MVP3008	748573.77	2163452.89	0.5-1.0'
MVP3009	748582.22	2163463.83	0.0-0.5'
MVP3013	748573.77	2163452.89	0.0-0.5'

O:\14501\138\98prar\62Trudy\prar93.dgn
12/27/2001

Figure 1-3
Approximate Areas of Surface and Subsurface Contamination
62 Trudy Drive

2.0 REMEDIATION CRITERIA

Remediation activities at 62 Trudy Drive was conducted in accordance with the federal cleanup criteria contained in the 1994 agreement between the U.S. Environmental Protection Agency (EPA) and DOE and in accordance with the remedy provided in the CERCLA EE/CA prepared for properties comprising Phase 1 of MVP cleanup. The cleanup criteria contained in these documents were adopted by USACE to allow for cleanup of the MVPs addressed in the EE/CA to continue under USACE management without disruption.

These documents are contained in the Administrative Record established for the Maywood site and are available for review at the USACE Information Center in the Borough of Maywood.

2.1 EPA AGREEMENT WITH DOE

The agreement between EPA and DOE reached in April 1994 establishes cleanup levels for radionuclide contamination in soil at all properties on the Maywood site (DOE 1994). Soil on Phase 1 properties, regardless of depth, is to be remediated to 5 pCi/g above background for thorium-232 and radium-226.

2.2 EE/CA

In September 1995, DOE made available for public review and comment the EE/CA announcing the preferred remedy for the cleanup of residential and other properties included in Phase 1 of cleanup activities at the Maywood site (BNI 1995). The final EE/CA adopts the criteria for radionuclides contained in the EPA/DOE agreement and other site-specific, federal criteria developed for radionuclides of concern at the MVPs.

2.3 SITE-SPECIFIC TOTAL URANIUM GUIDELINE

In the absence of promulgated federal criteria for total uranium in soil, a site-specific criterion was developed for the Maywood site by the Argonne National Laboratory (ANL), an agency of the DOE. To develop the guideline for total uranium, site-specific soil data was used to determine the level of uranium that would result in the maximum public exposure limit of 100 mrem/yr for all plausible uses of land. The site-specific guideline for Maywood was developed based on hypothetical but reasonable exposure pathways from the site.

Based on the ANL analysis, the uranium limit is well below the dose guideline of 100 mrem/yr (910 pCi/g), which must be met under all worst case, plausible scenarios, including the assumed residential and agricultural use (BNI 1994). An as low as reasonably achievable (ALARA) analysis was conducted by DOE. The 100 pCi/g total uranium limit is considered

acceptable since no potential benefit is expected from a lower value due to the uranium being co-located with the thorium. Remediation of thorium contaminated soils will result in residual uranium concentrations much lower than 100 pCi/g (BNI 1994). The resulting uranium-238 guideline is 50 pCi/g, assuming that uranium exists in the naturally occurring abundance of 1:1:0.046 for uranium-234, uranium-238, and uranium-235, respectively (Shleien 1992).

2.4 APPLICATION OF CRITERIA

Historical data indicate that radioactive contamination at the MVPs consisted primarily of thorium-232 but also included uranium-238 and radium-226 and their decay products. Table 2-1 lists the residual contamination guidelines for these radionuclides and release of the Phase 1 MVPs without radiological restrictions. The following sections address key principles associated with the application of radiological criteria and assessment of compliance.

Appendix A includes a brief introduction to the nature, sources, and basic units of radiation.

2.4.1 Radionuclides of Concern

Radionuclides of concern at the Maywood site are thorium-232, radium-226, and uranium-238, identified based on the following:

- Reconstruction of the process used by the MCW to extract thorium, and
- Analysis of soil samples collected during the remedial investigation for radionuclides.

The explanation below discusses the thorium-232 and uranium-238 radioactive decay series, and then the results of remedial investigation sampling.

In unprocessed, undisturbed ores, thorium-232 coexists with all of the decay products in the thorium decay series and is often found in secular equilibrium, a state in which each radionuclide in the decay series has the same decay rate (activity) as the parent (thorium-232). Substantial amounts of thorium-232 and thorium-228 would be removed in the extraction process, leaving primarily decay products. The waste component would also contain unextracted thorium-232 and thorium-228. Due to the relatively short half-lives of their decay products, these radionuclides would reestablish equilibrium in 30 to 40 years. One of these decay products is radon-220, a gas that would be released by emission from exposed surfaces and would decay elsewhere.

Uranium-238 is also present in monazite ore (at lower concentrations), and its decay products would also be in secular equilibrium. Due to low natural abundance of these radionuclides and their low concentrations in the waste material, the total activity contributed by their decay series is only a small fraction of the total activity of the waste. Thorium-230 concentrations are expected to be lower than radium-226 based on the fact that the processing would remove most of thorium-230.

To determine whether secular equilibrium existed between thorium-232 and its daughters in contaminated soils at the Maywood site, five percent of all remedial investigation soil samples analyzed for uranium-238, radium-226, and thorium-232 were also randomly selected for isotopic analysis (radium-226, radium-228, uranium-238, uranium-235, uranium-234, thorium-232, thorium-230, and thorium-228). Fifty-four samples, representative of the sampling conducted at the Maywood site, excluding MISS, were selected.

Although a small number of samples were not in equilibrium, all contained progeny of the thorium-232 and uranium-238 decay series. It was therefore concluded that because all samples were analyzed for uranium-238, radium-226, and thorium-232, all radionuclides of interest at the Maywood site were detected. The results are provided in the remedial investigation done for the Maywood FUSRAP site (BNI 1992).

2.4.2 Background Levels

Because cleanup guidelines are based on radioactivity in addition to background levels, it was important to establish the levels of naturally occurring background radioactivity in soils near the site. Background data serve as a frame of reference for evaluating analytical data from the vicinity properties because they represent conditions typical of the areas unaffected by former MCW activities. During the remedial investigation, soil samples were obtained from three background locations in the general area of the vicinity properties. The locations were selected on the basis of their proximity to the site, relative independence from potential influence of the site, and representativeness of area land uses. The background locations are shown in Figure 2-1. Samples from these background areas were analyzed for radium-226, thorium-232, and uranium-238. Background external gamma radiation exposure rates were also measured at these three background locations using a pressurized ionization chamber (PIC). The average concentration of thorium-232 in background samples was 1.0 pCi/g, with a range of 0.9 to 1.1 pCi/g.

The average background concentration of radium-226 was 0.7 pCi/g with a range of 0.5 to 0.8 pCi/g. The average background concentration of uranium-238 was 2.9 pCi/g with a range of

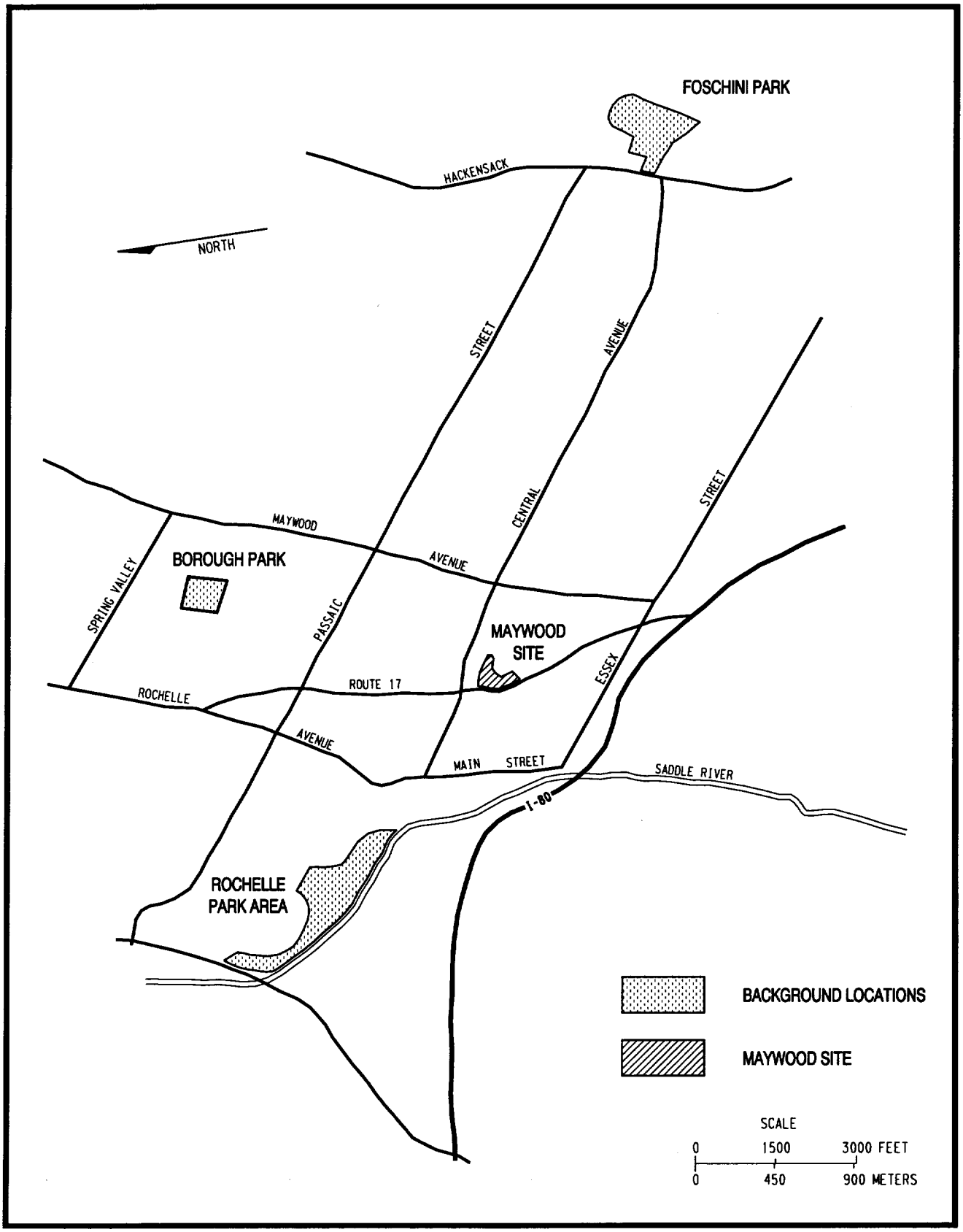
2.4 to 3.5 pCi/g (BNI 1992). The average background external radiation exposure rate was determined to be 9.0 μR/h.

2.4.3 Sum-of-Ratios Calculation

Compliance with radionuclide criteria is determined by performing a sum-of-ratios calculation by first subtracting the background concentration for each isotope from the reported value for that isotope. If the net result of an isotope is negative, then the value for that isotope is reported as zero. The subtraction of background concentrations can cause the values of some isotopes to be reduced to 0, and in some cases this causes the sum of ratios to be 0 as well. Then the values are divided by the appropriate guideline number for thorium-232, uranium-238, and radium-226 (see Table 2-1 for guidelines). Finally, the three calculated values are summed. If the sum of the three calculated values is 1.0 or less, the soil is below the applicable guideline for radioactive contamination at Maywood and is thus considered clean.

2.4.4 Hot Spot Criteria

Hot spots are small areas that have levels of residual radioactive material that are considerably above the levels in the surrounding area. Residual concentrations of radioactive material in soil are defined as those in excess of background concentrations averaged over an area of 100 m^2. If the average concentration in any surface or below-surface area less than or equal to 25 m^2 exceeds the limit or guideline by a factor of $(100/A)^{1/2}$, where A is the area in square meters of the region in which concentrations are elevated, limits for "hot spots" are applicable. Procedures for calculating these hot spot limits, which depend on the extent of the elevated local concentrations, are given in the supplement—"A Manual for Implementing Residual Radioactive Material Guidelines – A Supplement to U.S. Department of Energy Guidelines for Residual Radioactive Material at Formerly Utilized Sites Remedial Action Program and Surplus Facilities Management Program Sites" (ANL 1989). In addition, the standard requires that every reasonable effort be made to remove any source of radionuclide that exceeds 30 times the appropriate limit for soil, irrespective of the average concentration in the soil.



O:\14501\138\98PRAR\PRAR109.DGN
12/27/2001

Figure 2-1
Background Sampling Locations for
the Maywood Interim Storage Site

Table 2-1
Federal Guidelines for Residual Radioactive Contamination

Basic Dose Limits

The basic limit for the annual radiation dose received by an individual member of the general public is 100 mrem/yr [a]. In implementing this limit, as-low-as-reasonably-achievable (ALARA) principles are applied to set site-specific guidelines.

Soil Guidelines [b,c,d,e]

Radium-226 Radium-228 Thorium-230 Thorium-232	5 pCi/g when averaged over any 15-cm (6-in.)-thick layer of soil regardless of depth.
Uranium [f]	100 pCi/g total uranium, 50 pCi/g uranium-238 (BNI 1994).

Radionuclide [g]	Allowable Surface Residual Contamination [g] (dpm/100 cm^2)		
	Average [h,i]	Maximum [h,j]	Removable [h,k]
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-124, I-129	100	300	20
Th-Natural, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000	3,000	200
U-Natural, U-235, U-238. and associated decay products	5,000 $^{\alpha}$	15,000 $^{\alpha}$	1,000 $^{\alpha}$
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission except Sr-90 and others noted above)	5,000 $^{\beta\text{-}\gamma}$	15,000 $^{\beta\text{-}\gamma}$	1,000 $^{\beta\text{-}\gamma}$

[a] Department of Energy, 1990, Order 5400.5, "Radiation Protection of the Public and the Environment" (February 8).

[b] Soil guidelines are also used for sediment because there are no sediment guidelines. The soil guideline of 5 pCi/g regardless of depth is from DOE 1994.

[c] These guidelines take into account ingrowth of radium-226 from thorium-230 and of radium-228 from thorium-232, and assume secular equilibrium. If either thorium-230 and radium-226 or thorium-232 and radium-228 are both present, not in secular equilibrium, the guidelines apply to the higher concentration. If other mixtures of radionuclides occur, the concentrations of individual radionuclides must be reduced so that (1) the dose for the mixtures will not exceed the basic dose limit, or (2) the sum of ratios of the soil concentration of each radionuclide to the allowable limit for the radionuclide will not exceed 1 ("unity").

[d] These guidelines represent allowable residual concentration exceeding background levels averaged across any 15-cm (6-in.)-thick layer to any depth and over any contiguous 100-m^2 (1,076-ft^2) surface area, except as noted.

[e] If the average concentration in any surface or below-surface area less than or equal to 25 m^2 (269 ft^2) exceeds the authorized limit or guideline by a factor of $(100/A)^{1/2}$, where A is the area of the elevated region in square meters, limits for "hot spots" will also be applicable. Procedures for calculating these hot spot limits, which depend on the extent of the elevated local concentrations, are given in the supplement. In addition, every reasonable effort shall be made to remove any source of radionuclide that exceeds 30 times the appropriate limit for soil, irrespective of the average concentration in the soil.

[f] Guidelines are calculated on a site-specific basis using a DOE manual developed for this use.

[g] Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exists, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

[h] Measurements of average contamination should not be averaged over more than 1 m^2 (10.8 ft^2). For objects of less surface area, the average must be derived for each such object.

[i] The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/h and 1.0 mrad/h, respectively, at 1 cm (0.4 in.).

[j] The maximum contamination level applies to an area of not more than 100 cm^2 (16 in.^{2}).

[k] The amount of removable radioactive material per 100 cm^2 (16 in.^{2}) of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm^2 (16 in.^{2}) is determined, the activity per unit area should be based on the actual area or the entire surface should be wiped. The numbers in this column are maximum amounts.

3.0 REMEDIAL ACTION

3.1 CLEANUP ACTIVITIES

Generally, pre-remediation work activities at 62 Trudy Drive consisted of documentation of existing conditions and preparation of the property for remedial action. This included the performance of inspections, the preparation of videotapes, and evaluation of building material for lead paint or asbestos content.

Prior to remediation, the results of earlier characterization investigations were used to help plan remediation activities. The property was again surveyed immediately before remediation to more accurately define the boundaries of radioactive contamination. Walkover surface scans were conducted during remediation to direct the excavation. As remediation was completed, soil samples were collected and analyzed to verify that residual radioactive material above the cleanup criteria had been removed. Additionally, exposure rate measurements were taken with a PIC to confirm that residual radiation levels were in compliance with applicable guidelines. Details are provided in Section 4.0.

The primary technique used in the remedial action was excavation of the contaminated materials. A jackhammer was used to break up concrete, asphalt, and debris before removal. Because of the limited working space available, small volumes of soil were removed with picks and shovels, while a backhoe was used to remove larger volumes. A vacuum truck was also used to remove larger volumes below the garage. After remedial action, areas were restored to the condition agreed upon by the property owners.

The alternate trench method (ATM- II) was used to underpin the property; details of the method are provided in the design drawing (BNI 1998b). The underpins for wall footings for interior sections of the property were installed to support the structure and to facilitate removal of contaminated material underneath the structure. A separate drawing indicating approximate locations of underpins was generated for field use. As remediation work progressed, the onsite field engineer made appropriate changes to identify exact locations of underpins. Upon completion, the field sketches were revised to identify exact locations of underpins. Final data on underpins is provided in Section 4.0.

After the material was excavated, direct gamma measurements were taken with an Eberline SPA-3 gamma scintillation detector. When survey results indicated that remediation was complete, post-remediation soil samples were collected from the excavated areas in accordance with the *FUSRAP Post-Remedial Action Survey Plan* (BNI 1996). The soil samples were sent to a laboratory at the MISS for gamma spectral analysis to ensure that all soils contaminated above

the cleanup criteria had been removed. If the analysis showed that residual radioactive material exceeding criteria remained, then additional excavation was conducted and additional post-remedial action samples were collected and analyzed. The rationale for the sampling program and the analytical results are presented in Section 4.0.

Following verification that cleanup criteria had been met, excavated areas were either backfilled with clean fill purchased from a vendor or with clean soil, i.e., overburden, removed from other properties in the vicinity being remediated. Radiological results were compared to applicable guidelines identified in section 2.0. Chemical results were compared to applicable New Jersey soil cleanup criteria and site background concentrations (NJDEP 1996, BNI 1992). The results compared to applicable guidelines for backfill and clean overburden soil are provided in section 4.1.

During remediation, approximately 1,180 m^3 (1,544 yd^3) of radioactively contaminated soil was removed from 62 Trudy Drive (BNI 1999a). Excavated material was transported to the MISS, where it was loaded into railcars and shipped to the Envirocare of Utah disposal facility in Clive, Utah.

Details on the results of post-remedial action surveys and sampling are provided in Section 4.0. Information pertaining to contamination control during remedial action is provided in Appendix B.

4.0 POST-REMEDIAL ACTION MEASUREMENTS

After each portion of the property was remediated, each area was surveyed to confirm that all radioactive contamination exceeding cleanup criteria had been removed. Safety and Ecology Corporation (SEC), a subcontractor to BNI, conducted the initial post-remediation surveys. Verification techniques included walkover gamma scans, external gamma radiation exposure rate measurements, and soil sampling. ORNL, as the IVC, performed independent verification surveys of the remediated areas using similar or identical survey techniques. The results of IVC final survey data and conclusions are to be issued as a separate report.

As excavation proceeded, walkover surface scans were conducted with an Eberline SPA-3 gamma scintillation detector to determine whether all soil that was radioactively contaminated in excess of the cleanup criteria had been removed from the remediated areas. The walkover survey provided immediate feedback so that additional excavation could be performed if residual contamination appeared to exceed remedial action guidelines. The area was scanned after each lift of soil was removed to verify that the contamination had been removed. Soil samples also were collected throughout the excavation and analyzed at the MISS laboratory as an additional verification measure on the surface scans.

In addition, external gamma radiation exposure rates were taken and measured with a PIC at 1 m (3 ft) above the ground surface in each open excavation prior to its backfilling with clean fill. PIC readings were compared with the background exposure rate (9.0 μR/h) established for the area.

The procedure followed for performing post-remedial action sampling is provided in the "FUSRAP Post-Remedial Action Survey Plan" (BNI 1996). Upon completion of remediation, a survey grid of 100 m^2 (1,076 ft^2) was established over the excavated area to conduct radiological surveys. If there were small irregularities in the excavated area, the total area for each grid did not exceed 100 m^2 (1,076 ft^2). Composite post-remediation soil samples were collected (from a depth of 0 to 6 in.) from each remediated grid by taking individual samples [at a frequency of 25 per 100 m^2 (1,076 ft^2)] from each sample grid and compositing these individual samples into one sample for that grid. A bias sample was also collected from the bottom of the excavation at an area indicating the highest gamma reading for that grid. Soil sampling, using gamma spectroscopy, was the primary method used to confirm that all radioactive contamination exceeding the cleanup criteria had been removed. External gamma exposure rates were measured in excavated areas using a PIC.

For underpins, bias samples were collected from the floor of each underpin at areas indicating the highest gamma reading. A composite sample for underpins was obtained by mixing six-inch plugs collected systematically from all underpins.

Samples for radiological parameters were analyzed at the MISS laboratory. Samples for chemical analysis were sent to Adirondack laboratory in Albany, New York, or the RECRA laboratory in Lionsville, Pennsylvania. In addition, approximately 10% of all samples collected for radiological analysis were sent to the Thermo NuTech laboratory in Oak Ridge, Tennessee, for independent analysis as a quality control (QC) measure. The samples sent to the independent laboratory primarily consisted of clean overburden, in-progress excavation, and post-remedial action bias and composite samples. The QC results are provided in Appendix C.

Additionally, material purchased from a vendor was used as backfill after remediation. Before the excavated areas were backfilled, samples were tested for radiological and chemical parameters to ensure the backfill material was not contaminated.

The radiological data packages were validated as required by project procedures. The post-remedial action radiological results are reported in Table D-1 (Appendix D).

4.1 62 TRUDY DRIVE

The property at 62 Trudy Drive is a one-story house with a basement. It has a detached garage in the back of the house. The approximate areas of surface and subsurface contamination are shown in Figure 1-3.

During remediation, surface scans were performed on each lift of soil removed to determine if the material was below or above the cleanup criteria. Clean soil from the excavation, i.e., overburden, was staged separately at Lodi Park. Seven samples were collected during excavation at depths from 0.3 to 1.4 m (1 to 4.5 ft). Results of analyses for thorium-232, radium-226, and uranium-238 were below the cleanup criteria. Data for clean overburden soil for this property, and other properties, are reported in Appendices E and F. All soil exceeding the cleanup criteria, including soils between the underpins and below the garage, was excavated and transported to the MISS for later shipment to Envirocare of Utah.

Clean soil from residential property excavations and material obtained from offsite vendor(s) was used to backfill the site. Soils naturally contain certain metals and organic compounds. All sources of backfill were tested for radiological and chemical parameters. USACE review of this data indicates that the levels of contamination fall within or below the CERCLA (cancer) risk range of 1×10^{-4} to 1×10^{-6}. Radiological and chemical data associated with all backfill sources potentially used on this site are contained in Appendix G.

4.1.1 Post-Remedial Action Survey

Figure 4-1 shows the areas of excavation and property elevation contours. The areas and depths of excavation, grid locations, and locations of post-remedial action soil samples are shown in Figure 4-2. Twelve samples were collected from five locations in grids 1 through 5 (see Figure 4-2).

Before pouring the concrete mix, a post-remedial action survey was performed to verify that soils under each underpin were below the cleanup criteria. SEC, a BNI subcontractor, collected post-remedial action bias samples from each underpin for radionuclide analysis. This data was provided to the IVC for review and approval. Figure 4-3 shows the areas of excavation and locations of post-remedial action soil samples with underpin numbers. Photographs of the underpins are shown in Figures 4-4 and 4-5.

The net result for each radionuclide reported in Table 4-1 is obtained by subtracting the background concentration for each radionuclide from the reported value for that radionuclide. If the net result of a radionuclide is negative, then the value for that radionuclide is reported as zero. As indicated in Table 4-1, the sum-of-ratios for each sample was below 1, and radiological criteria for release were met.

In post-remedial action composite samples, thorium-232 net concentrations ranged from 0.0 pCi/g to 0.17 pCi/g, and concentrations of radium-226 and uranium-238 were not detected above background.

In post-remedial action bias samples, thorium-232 net concentrations ranged from 0.0 pCi/g to 3.25 pCi/g, radium-226 net concentrations ranged from 0.0 pCi/g to 0.44 pCi/g, and uranium-238 net concentrations ranged from 0.0 pCi/g to 1.46 pCi/g.

Figure 4-6 shows the locations of the eight post-remedial action gamma exposure rate measurements taken with the PIC. The exposure rates ranged from 10.2 to 16.2 μR/h; the background value is 9.0 μR/h. The PIC readings were taken in excavated areas prior to backfilling as a remedial action evaluation survey. If PIC readings were elevated, the readings would have indicated potential exposure concerns thus indicating missed contamination above the release criteria and triggering additional excavation. Although the reported values are above background, they do not represent the final status of the property. The exposures from external gamma radiation would be further reduced after the excavations were backfilled with clean fill. The clean fill would cause a shielding and covering effect on the remaining soils, reducing gamma ray, dust, and radon exposures. Even without the clean fill and assuming continuous

exposure at the point of measurement, the average dose calculated from measured gamma radiation exposure rates was below the remedial action level of 100 mrem/yr.

The unaffected portion of the house was sealed off from the work area with a wood frame covered in heavy plastic to keep out dust. BNI also employed security personnel to ensure these areas were secured.

4.1.2 Photographs

Figure 4-7 shows some of the photographs taken during remediation.

4.1.3 Chemical Sampling After Remediation

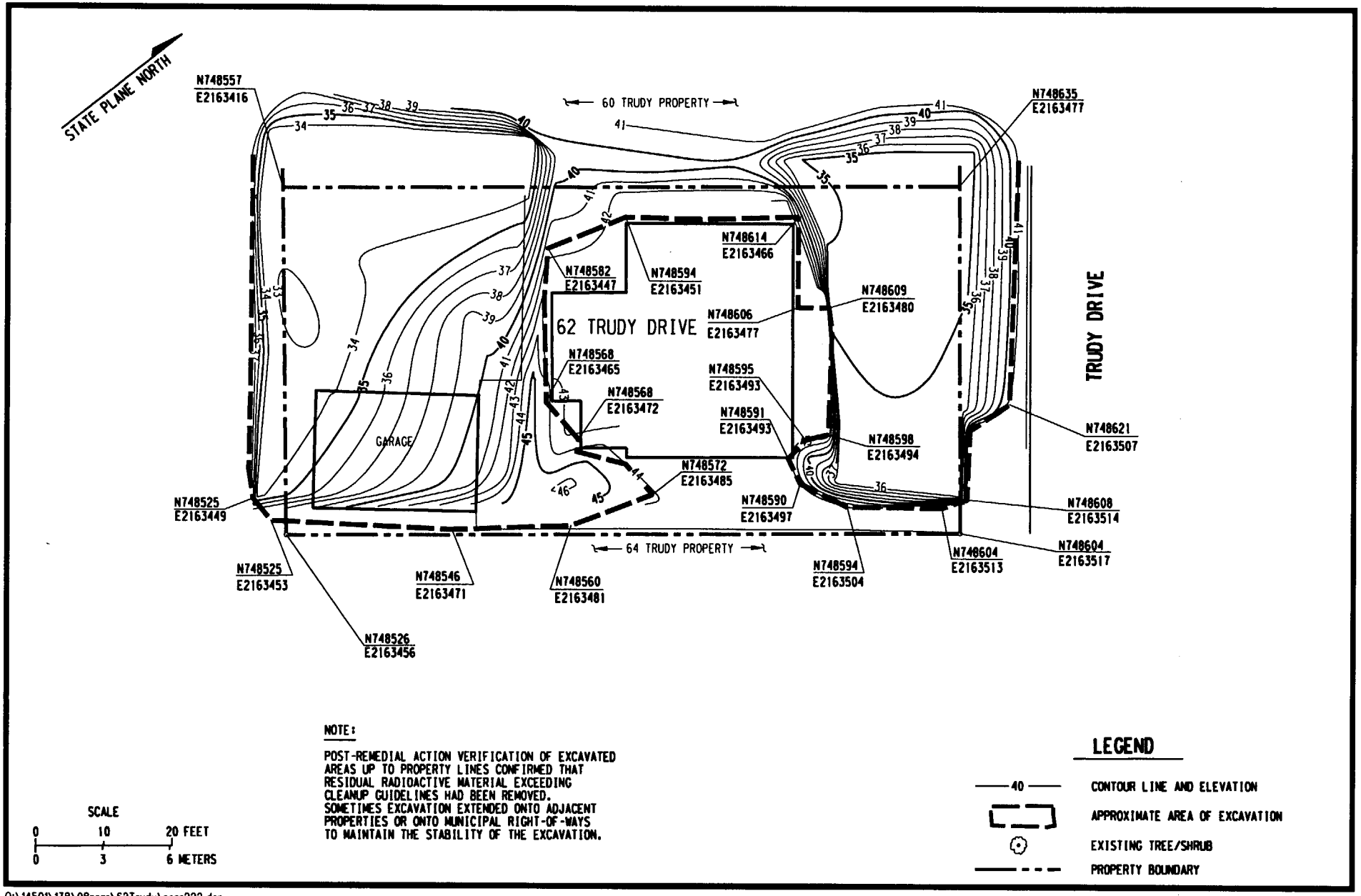
To facilitate regulatory delisting requirements, a post-remedial action sample was collected after remediation from the excavated area for total metals analysis. Concentrations of analytes were compared to applicable New Jersey soil cleanup criteria and background concentrations (NJDEP 1996, BNI 1992). Chemical analytical results were below applicable criteria. The results are provided in Table 4-2.

4.1.4 IVC Verification

After remediation, BNI provided post-remedial action data to the IVC for review. The IVC verified excavated areas to determine if remediated areas were in compliance with the cleanup criteria. Upon completion of verification, the IVC gave verbal approval so that excavated areas could be backfilled. This was followed by e-mail confirming their approval. The final IVC report will be published separately.

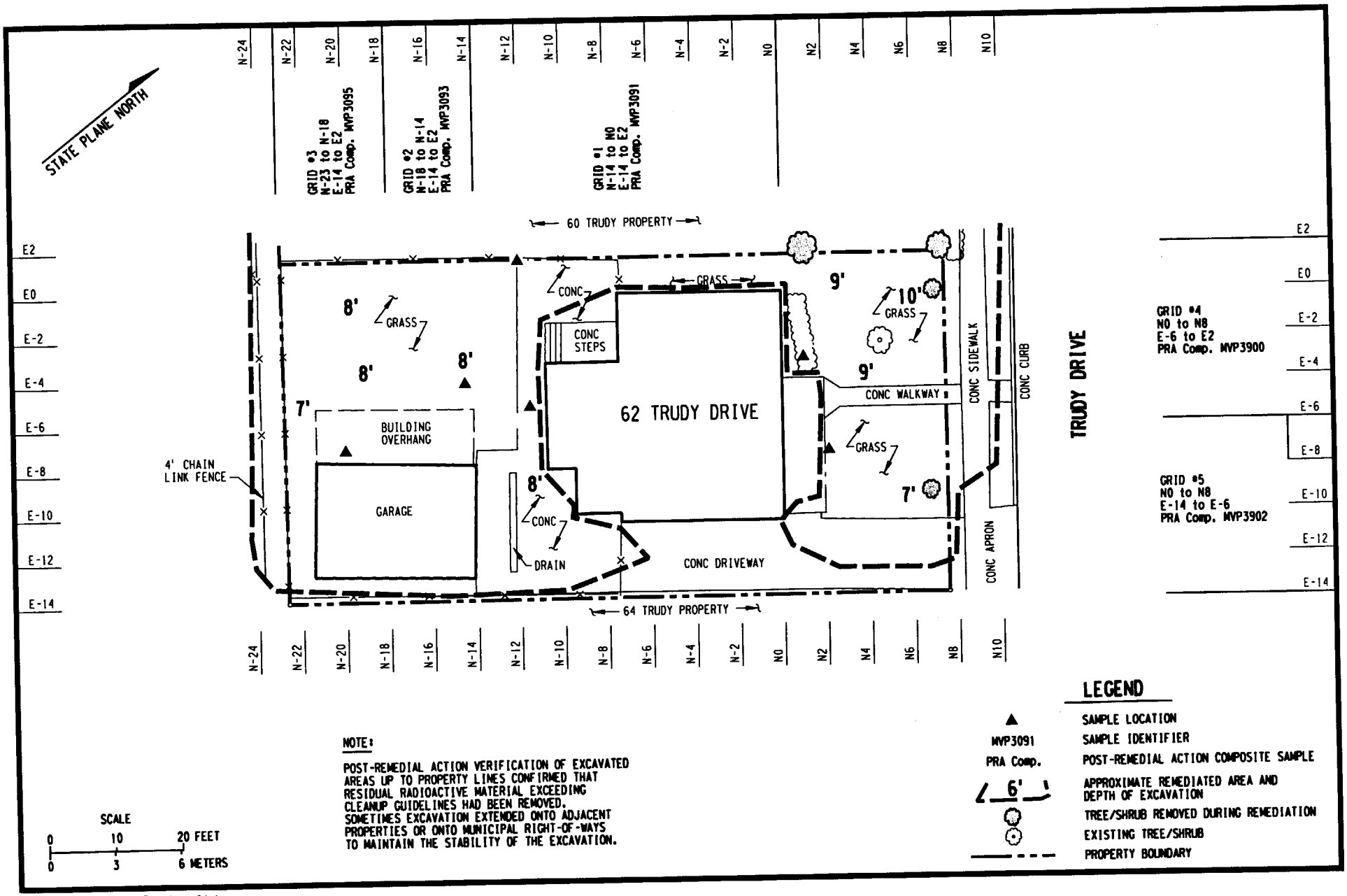
4.1.5 Summary

The results of data taken at the conclusion of remediation for the open excavations and underpins were below the cleanup criteria (see Table 2-1). On verification of results, the remediated areas were restored.



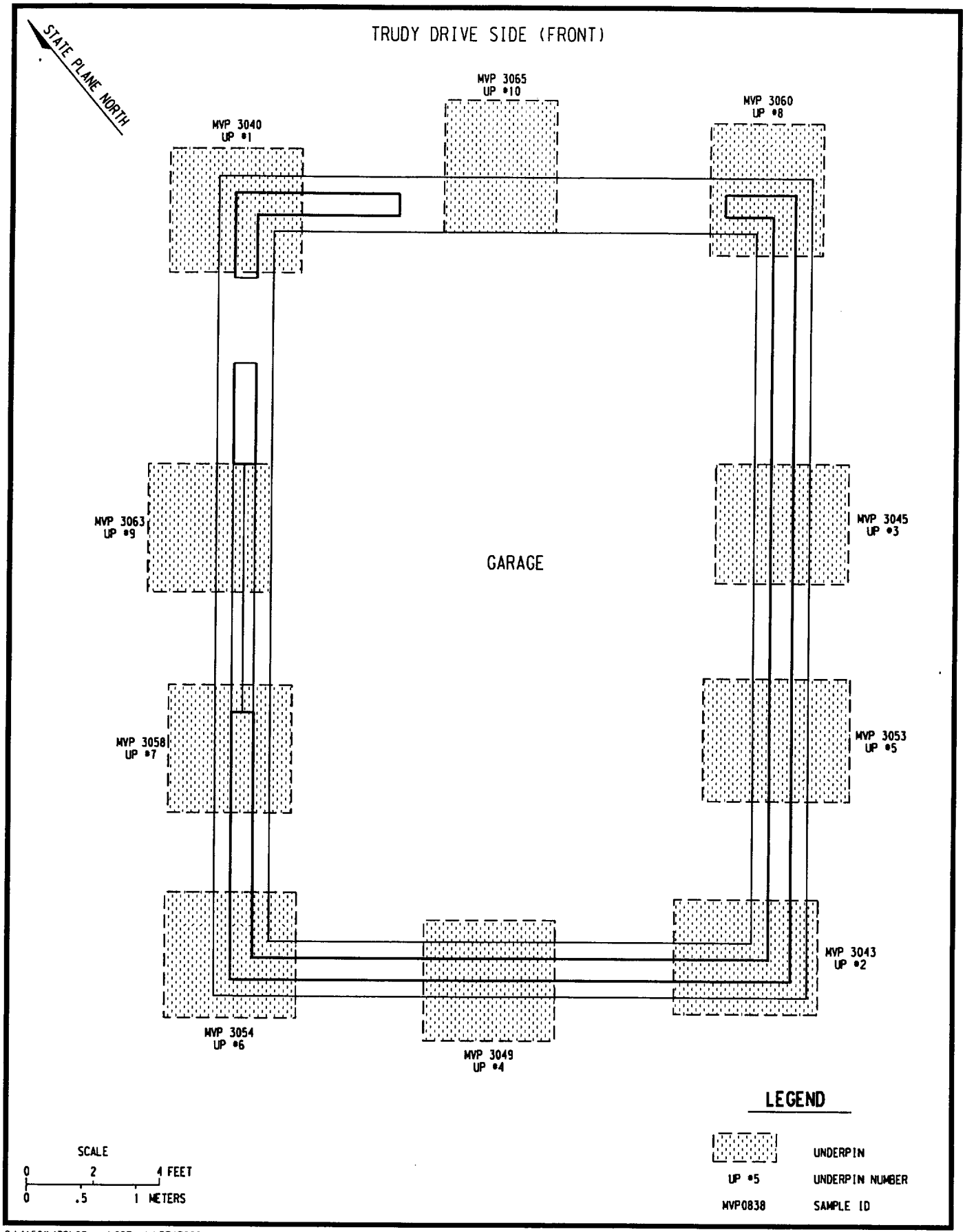
O:\14501\138\98prar\62Trudy\prar222.dgn
12/27/2001

Figure 4-1
Areas of Excavation and Elevation Contours
62 Trudy Drive



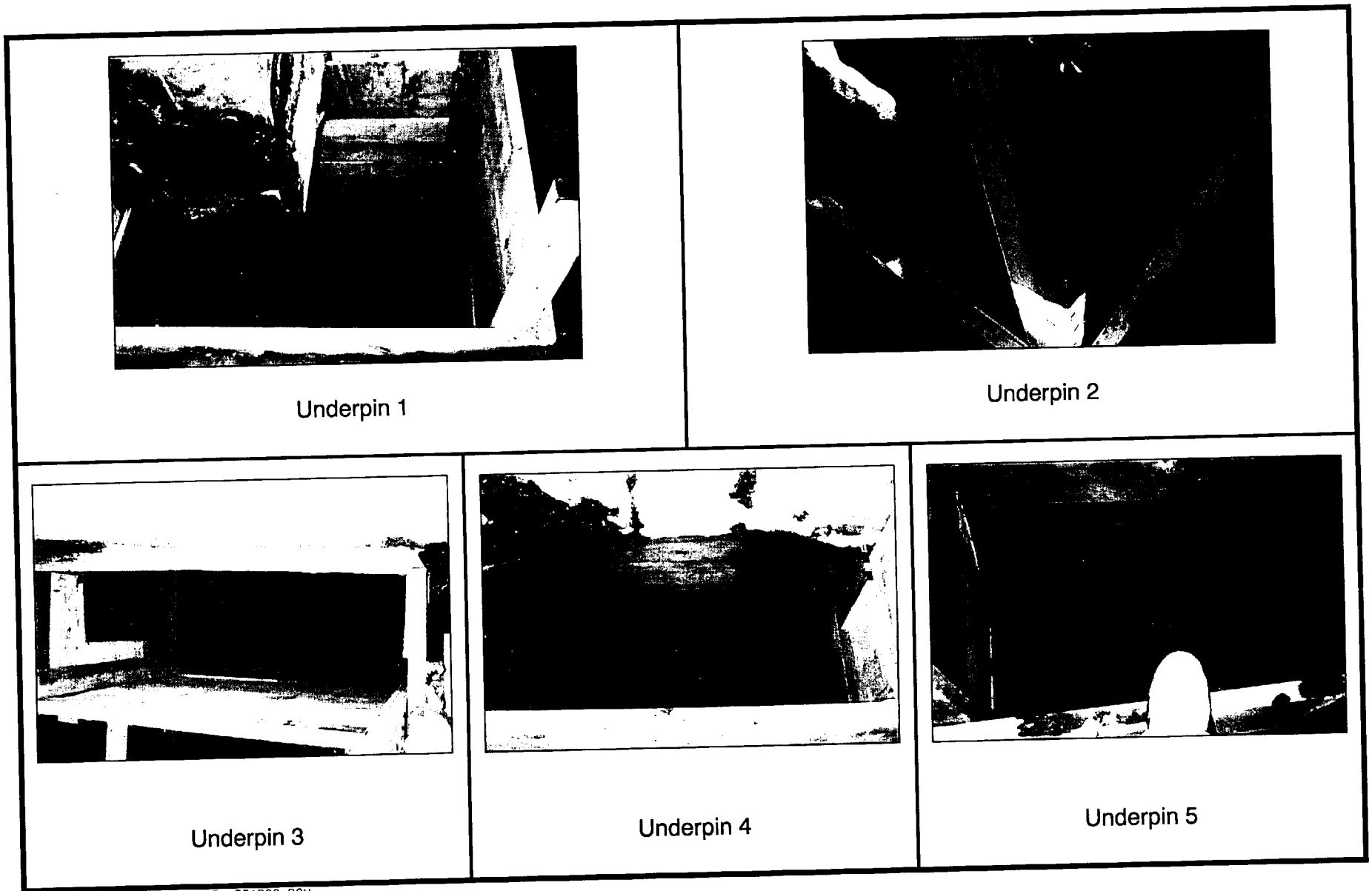
0:\14501\138\98prar\62Trudy\prar94.dgn
12/27/2001

Figure 4-2
Area of Excavation and Post-Remedial Action Samples
62 Trudy Drive



O:\14501\138\98pror\62Trudy\PRAR220.dgn
12/11/2001

Figure 4-3
Underpin Excavation and Post-Remedial Action Samples
62 Trudy Drive



Underpin 1

Underpin 2

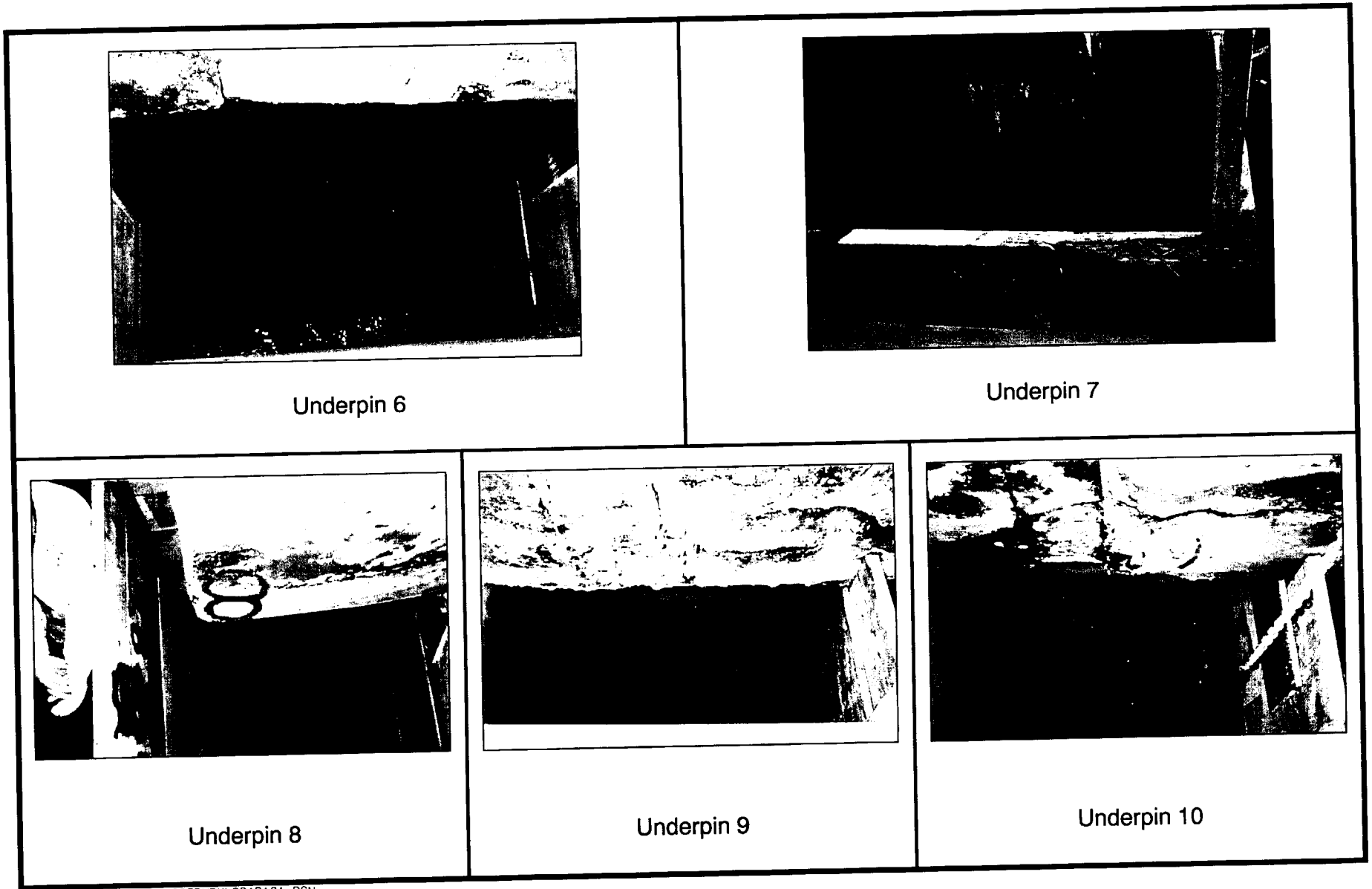
Underpin 3

Underpin 4

Underpin 5

O:\14501\138\98PRAR\62TRUDY\PRAR99.DGN
12/27/2001

Figure 4-4
Underpin Photographs (Photos 1 through 5)
62 Trudy Drive



Underpin 6

Underpin 7

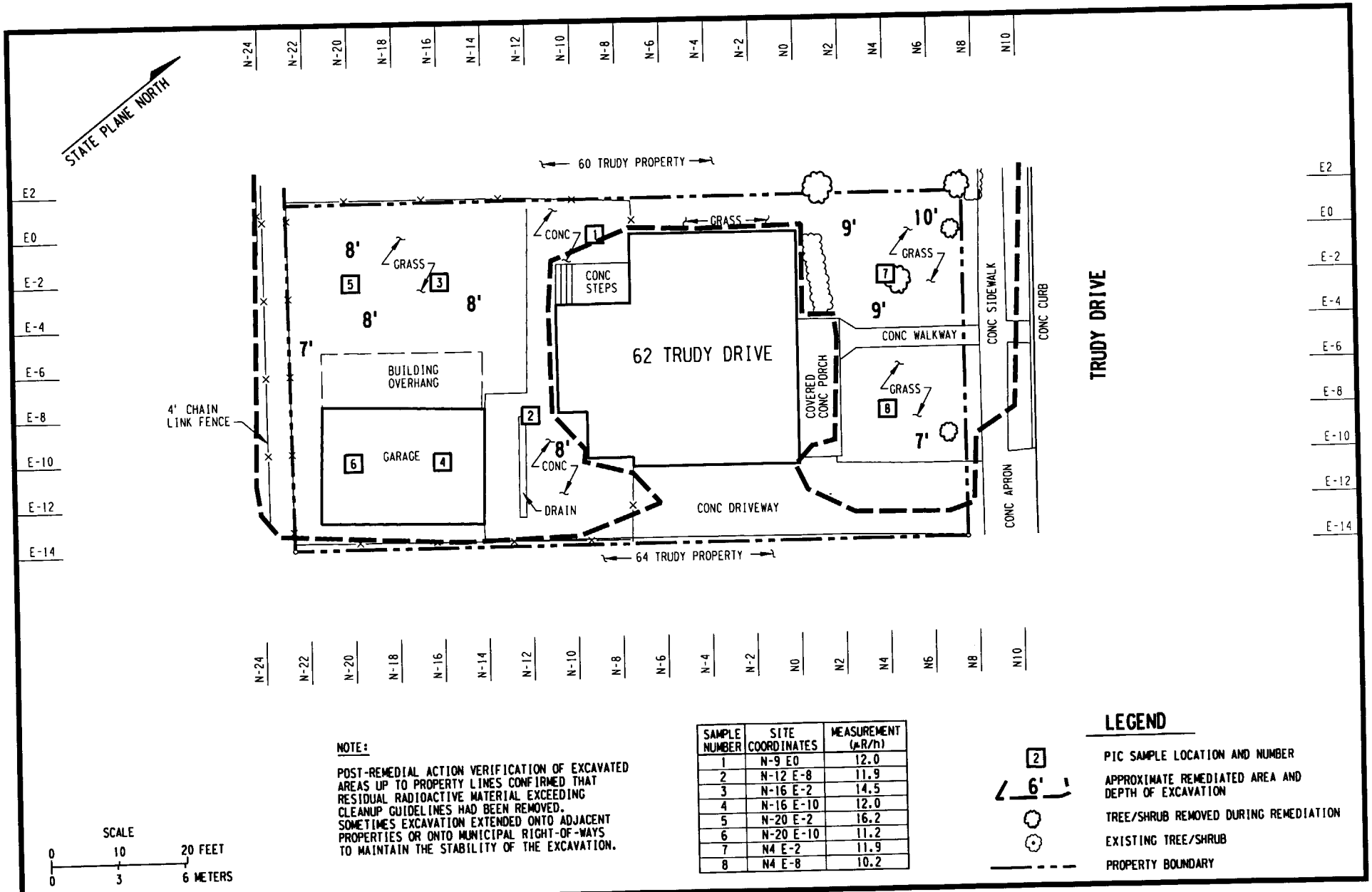
Underpin 8

Underpin 9

Underpin 10

0:\14501\138\98PRAR\62TRUDY\PRAR101.DGN
12/27/2001

Figure 4-5
Underpin Photographs (Photos 6 through 10)
62 Trudy Drive



NOTE:

POST-REMEDIAL ACTION VERIFICATION OF EXCAVATED AREAS UP TO PROPERTY LINES CONFIRMED THAT RESIDUAL RADIOACTIVE MATERIAL EXCEEDING CLEANUP GUIDELINES HAD BEEN REMOVED. SOMETIMES EXCAVATION EXTENDED ONTO ADJACENT PROPERTIES OR ONTO MUNICIPAL RIGHT-OF-WAYS TO MAINTAIN THE STABILITY OF THE EXCAVATION.

SAMPLE NUMBER	SITE COORDINATES	MEASUREMENT (μR/h)
1	N-9 E0	12.0
2	N-12 E-8	11.9
3	N-16 E-2	14.5
4	N-16 E-10	12.0
5	N-20 E-2	16.2
6	N-20 E-10	11.2
7	N4 E-2	11.9
8	N4 E-8	10.2

LEGEND

- [2] PIC SAMPLE LOCATION AND NUMBER
- 6' APPROXIMATE REMEDIATED AREA AND DEPTH OF EXCAVATION
- TREE/SHRUB REMOVED DURING REMEDIATION
- EXISTING TREE/SHRUB
- PROPERTY BOUNDARY

O:\14501\138\98prar\62Trudy\prar98.dgn
12/27/2001

Figure 4-6
PIC Readings
62 Trudy Drive

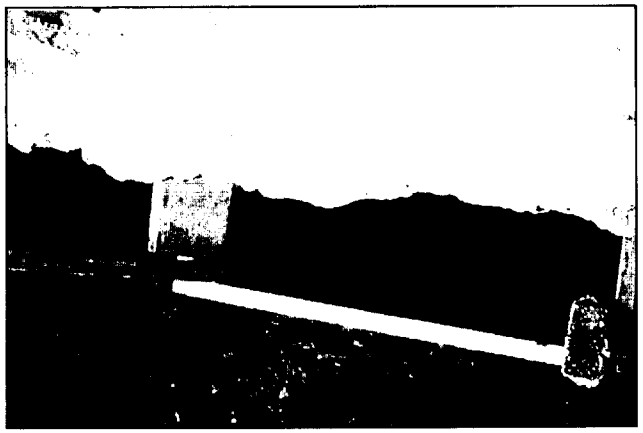


Photo 1

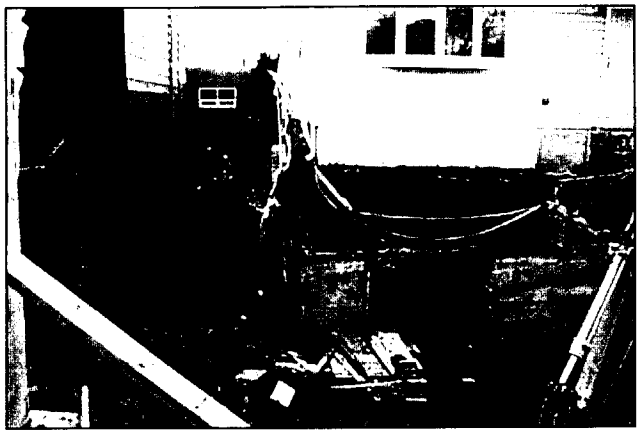


Photo 2

Photo 3

0:\14501\138\98PRAR\62TRUDY\PRAR221.DGN
12/27/2001

Figure 4-7
Photographs Taken During Remediation (Photos 1 through 3)
62 Trudy Drive

TABLE 4-1
FINAL STATUS SURVEY RESULTS FOR 62 TRUDY DRIVE

Sample ID	COC #	Collection Date	Comments	Matrix	Coordinates	Depth (ft)	Lab	Th-232 (pCi/g)	Error +\-	Ra-226 (pCi/g)	Error +\-	U-238 (pCi/g)	Error +\-	Sum Ratios
MVP3091	138990221	2/6/1999	Post-RA composite grid 1	sfs	N-14~0 E-14~2	0.0-0.5	MISS	0.00	0.05	0.00	0.03	0.00	0.00	0.000
MVP3093	138990221	2/6/1999	Post-RA composite grid 2	sfs	N-14~-18 E-14~2	0.0-0.5	MISS	0.16	0.05	0.00	0.03	0.00	0.64	0.032
MVP3095	138990221	2/6/1999	Post-RA composite grid 3	sfs	N-18~-23 E-14~2	0.0-0.5	MISS	0.17	0.06	0.00	0.03	0.00	0.00	0.034
MVP3900	138990233	2/10/1999	Post-RA composite grid 4	sfs	N0~8 E2~-6	0.0-0.5	MISS	0.00	0.04	0.00	0.03	0.00	0.00	0.000
MVP3902	138990233	2/10/1999	Post-RA composite grid 5	sfs	N0~8 E-6~-14	0.0-0.5	MISS	0.00	0.04	0.00	0.03	0.00	0.00	0.000
MVP3067	138981236	12/17/1998	Post-RA composite underpins	sfs	N-14~-21.5 E-7.5~-13	0.0-0.5	MISS	0.00	0.04	0.00	0.02	0.00	0.00	0.000
MVP3072	138981245	12/30/1998	Post-RA bias	sfs	N-11 E-5	0.0-0.5	MISS	0.00	0.05	0.00	0.03	0.00	0.00	0.000
MVP3092	138990221	2/6/1999	Post-RA bias grid 1	sfs	N-12 E1.5	0.0-0.5	MISS	0.54	0.06	0.00	0.04	0.12	0.68	0.110
MVP3094	138990221	2/6/1999	Post-RA bias grid 2	sfs	N-14.5 E-4	0.0-0.5	MISS	3.25	0.12	0.44	0.05	1.46	1.10	0.767
MVP3096	138990221	2/6/1999	Post-RA bias grid 3	sfs	N-20 E-7	0.0-0.5	MISS	1.61	0.09	0.00	0.04	0.00	0.92	0.322
MVP3901	138990233	2/10/1999	Post-RA bias grid 4	sfs	N1 E-3	0.0-0.5	MISS	0.00	0.05	0.00	0.03	0.00	0.00	0.000
MVP3903	138990233	2/10/1999	Post-RA bias grid 5	sfs	N1 E-7	0.0-0.5	MISS	0.00	0.05	0.00	0.03	0.00	0.00	0.000
MVP3904	138990233	2/10/1999	Post-RA bias grid 5 (field dup.)	sfs	N1 E-7	0.0-0.5	MISS	0.75	0.07	0.00	0.04	0.00	0.00	0.150
MVP3040	138981218	12/9/1998	Post-RA bias (UP# 1)	sfs	N-14 E-8	0.0-0.5	MISS	0.00	0.03	0.00	0.02	0.00	0.00	0.000
MVP3043	138981219	12/10/1998	Post-RA bias (UP# 2)	sfs	N-21.5 E-13	0.0-0.5	MISS	0.00	0.05	0.00	0.03	0.00	0.61	0.000
MVP3045	138981221	12/11/1998	Post-RA bias (UP# 3)	sfs	N-17 E-13	0.0-0.5	MISS	0.00	0.04	0.00	0.02	0.00	0.00	0.000
MVP3049	138981221	12/11/1998	Post-RA bias (UP# 4)	sfs	N-21.5 E-10	0.0-0.5	MISS	0.00	0.05	0.00	0.03	0.00	0.00	0.000
MVP3053	138981226	12/14/1998	Post-RA bias (UP# 5)	sfs	N-19 E-13	0.0-0.5	MISS	0.00	0.03	0.00	0.02	0.00	0.00	0.000
MVP3054	138981226	12/14/1998	Post-RA bias (UP# 6)	sfs	N-19 E-7.5	0.0-0.5	MISS	0.00	0.05	0.00	0.03	0.00	0.00	0.000
MVP3058	138981230	12/15/1998	Post-RA bias (UP# 7)	sfs	N-21 E-7.5	0.0-0.5	MISS	0.00	0.04	0.00	0.02	0.00	0.00	0.000

TABLE 4-1
FINAL STATUS SURVEY RESULTS FOR 62 TRUDY DRIVE

Sample ID	COC #	Collection Date	Comments	Matrix	Coordinates	Depth (ft)	Lab	Th-232 (pCi/g)	Error +\-	Ra-226 (pCi/g)	Error +\-	U-238 (pCi/g)	Error +\-	Sum Ratios
MVP3060	138981230	12/15/1998	Post-RA bias (UP# 8)	sfs	N-14 E-13	0.0-0.5	MISS	0.12	0.06	0.00	0.03	0.00	0.00	0.024
MVP3063	138981236	12/17/1998	Post-RA bias (UP# 9)	sfs	N-17 E-7.5	0.0-0.5	MISS	0.00	0.03	0.00	0.02	0.00	0.00	0.000
MVP3065	138981236	12/17/1998	Post-RA bias (UP# 10)	sfs	N-14 E-10	0.0-0.5	MISS	0.00	0.04	0.00	0.02	0.00	0.00	0.000

NOTES:
COC # - Chain-of-custody number
RA - Remedial action
sfs - Surface soil
UP # - Underpin number
Background concentrations: Th-232, 1.00 pCi/g; Ra-226, 0.70 pCi/g; and U-238, 2.90 pCi/g.
Net results are reported. The net result is obtained by subtracting the background concentration for each radionuclide from the reported gross value for that radionuclide. If the net result of a radionuclide is negative, then the value for that radionuclide is reported as zero.

TABLE 4-2
CHEMICAL DATA FOR A SAMPLE COLLECTED AFTER REMEDIATION OF 62 TRUDY DRIVE

Sample ID	Document ID	COC #	Collection Date	Analyte	Conc.	Review Qualifier	Unit
MVP3076	9901L814	138990107	1/6/99	Aluminum	8210		MG/KG
MVP3076	9901L814	138990107	1/6/99	Antimony	0.37	UJ	MG/KG
MVP3076	9901L814	138990107	1/6/99	Arsenic	2.1		MG/KG
MVP3076	9901L814	138990107	1/6/99	Barium	41.7		MG/KG
MVP3076	9901L814	138990107	1/6/99	Beryllium	0.39		MG/KG
MVP3076	9901L814	138990107	1/6/99	Cadmium	0.06		MG/KG
MVP3076	9901L814	138990107	1/6/99	Calcium	554		MG/KG
MVP3076	9901L814	138990107	1/6/99	Chromium	13.3		MG/KG
MVP3076	9901L814	138990107	1/6/99	Cobalt	4.1		MG/KG
MVP3076	9901L814	138990107	1/6/99	Copper	8.5		MG/KG
MVP3076	9901L814	138990107	1/6/99	Iron	10400		MG/KG
MVP3076	9901L814	138990107	1/6/99	Lead	8.9		MG/KG
MVP3076	9901L814	138990107	1/6/99	Magnesium	1420		MG/KG
MVP3076	9901L814	138990107	1/6/99	Manganese	248		MG/KG
MVP3076	9901L814	138990107	1/6/99	Mercury	0.04		MG/KG
MVP3076	9901L814	138990107	1/6/99	Nickel	8.1		MG/KG
MVP3076	9901L814	138990107	1/6/99	Potassium	408		MG/KG
MVP3076	9901L814	138990107	1/6/99	Selenium	0.38	U	MG/KG
MVP3076	9901L814	138990107	1/6/99	Silver	0.05	U	MG/KG
MVP3076	9901L814	138990107	1/6/99	Sodium	69.1		MG/KG
MVP3076	9901L814	138990107	1/6/99	Thallium	0.3	U	MG/KG
MVP3076	9901L814	138990107	1/6/99	Vanadium	13.3		MG/KG
MVP3076	9901L814	138990107	1/6/99	Zinc	23.8		MG/KG

NOTES:
COC # - Chain-of-custody number
U - Analyte was analyzed for, but not detected.
UJ - Analyte was analyzed for but not detected, but must be estimated for quality control purposes.

5.0 POST-REMEDIAL ACTION STATUS

Final analytical results for 62 Trudy Drive demonstrate that remediated areas are in compliance with applicable cleanup guidelines for radioactive contamination and that chemicals were not detected in soils exceeding the applicable chemical criteria.

The IVC is responsible for preparing a plan outlining the procedures used in conducting verification activities (ORNL 1998). In accordance with its verification plan, Type A and Type B reviews were conducted by the IVC following the completion of remediation at 62 Trudy Drive.

Type A verification consisted of reviewing the existing post-remedial action survey results. After review of the results, the IVC determined if there was a need to collect additional samples from the location(s) listed in the survey results. In performing Type B verification review, the IVC conducted a survey of the site that included direct radiological measurements, review of the post-remedial action survey methods and results, sampling, and laboratory analysis of separate soil samples. On publication, the IVC's verification report will become part of the CERCLA Administrative Record for the Maywood FUSRAP site.

6.0 REFERENCES

Argonne National Laboratory (ANL) 1989. "A Manual for Implementing Residual Radioactive Material Guidelines – A Supplement to U.S. Department of Energy Guidelines for Residual Radioactive Material at Formerly Utilized Sites Remedial Action Program and Surplus Facilities Management Program Sites" DOE/CH/8901 (June).

BNI 1992. "Remedial Investigation Report for the Maywood Site, Maywood, New Jersey," DOE/OR/21949-337, Oak Ridge, Tenn. (December).

BNI 1994. "MIS – Uranium Guideline (from Wagoner to Price)" CCN 115863, (April).

BNI 1995. "Engineering Evaluation/Cost Analysis for the Cleanup of Residential and Municipal Vicinity Properties at the Maywood Site, Bergen County, New Jersey," CCN 134427, Oak Ridge, Tenn. (September).

BNI 1996. "FUSRAP Post-Remedial Action Survey Plan," CCN 144856, Oak Ridge, Tenn. (August).

BNI 1998a. "FUSRAP Data Transmittal for 62 Trudy Drive," document # 98G1103, 98G1107, and 98G1110.

BNI 1998b. "FUSRAP Maywood Vicinity Properties Remediation, Alternate Trench Method – II, Remediation Stages," Dwg # 138-DD599-C04, Oak Ridge, Tenn. (February).

BNI 1999a. "MIS-Delivery Order 0004 Maywood Vicinity Property Cost Summaries," CCN 138-TOA-GAM-00221 (December).

BNI 1999b. "VP Perimeter Radiological Air Sampling Summary," 138-IOA-GEV-00228 (September).

New Jersey Department of Environmental Protection (NJDEP) 1996. "Soil Cleanup Criteria (residential direct contact soil cleanup criteria)," last revised July 11.

Oak Ridge National Laboratory (ORNL) 1989. "Results of the Radiological Survey at 62 Trudy Drive, Lodi, New Jersey", ORNL/RASA-88/68, (June).

ORNL 1998. "Draft Field Sampling Plan for the Independent Verification of a Vicinity Property of the Maywood Chemical Company Site, NJ," (November 12).

Shleien, B., 1992. *"The Health Physics and Radiological Health Handbook"*, Revised Edition, Scinta Inc., Silver Spring, Maryland.

U.S. Department of Energy (DOE), 1990. "Radiation Protection of the Public and the Environment," DOE Order 5400.5, Washington, D.C. (June).

DOE 1994. "DOE Acceptance of EPA's Proposed Cleanup Levels," Letter from J. La Grone to W. Muszynski, CCN 115499 (April 13).

APPENDIX A

RADIATION AT A GLANCE

RADIATION AT A GLANCE

Of all activities at FUSRAP sites, those associated with radiation receive the most attention. What exactly is radiation and where does it come from? To answer these questions, it is best to start with a few basics.

All matter is made up of extremely small particles called atoms. Atoms contain even smaller particles called protons, neutrons, and electrons. When an atom has a stable mix of protons and neutrons, it is nonradioactive. However, when atoms have too many of either protons or neutrons, these unstable atoms can break apart, or decay, in an attempt to become stable. As atoms decay, energy is released; this released energy is called radiation.

Sources of Radiation

Radiation originates from natural events that happen all the time, but it can also be made by man. Most of the radiation people are exposed to occurs naturally. Radiation has always been present, and every person who has ever lived has been exposed to it. Although modern technology may seem to have greatly increased the exposure rate, this is not necessarily the case. Exposure to manmade radiation varies greatly based on a given individual's lifestyle choices and medical treatments.

Sources of natural, or background, radiation include internal radiation from food (we all have approximately 500,000 atoms disintegrating in our bodies every minute), cosmic radiation from the sun and from outside the solar system, and terrestrial radiation from rocks, soils, and minerals. People have no control over the amount of natural radiation around them, and the amount of natural radiation stays about the same over time. The natural radiation present in the environment today is not much different than it was hundreds of years ago. In general, over 80 percent of the radiation the average person is exposed to is from natural sources. Manmade radiation accounts for less than 20 percent of the total; most of it is from medical procedures.

Manmade sources of radiation include consumer products, medical procedures, and the nuclear industry. Some consumer products such as smoke detectors and even porcelain dentures contain radioactive elements. Probably the best-known source of manmade radiation is nuclear medicine. For example, to conduct a brain, liver, lung, or bone scan, doctors inject patients with radioactive compounds and then use radiation detectors to make a diagnosis by examining the resulting image of the organ. Manmade radioactive materials also include cesium-137 and strontium-90, present in the environment as a result of previous nuclear weapons testing.

As with background radiation, exposure to other sources of radiation varies greatly depending on individual choices, such as smoking tobacco products (which contain polonium-210) and eating certain foods (bananas contain potassium-40).

Levels of Radiation

The average dose caused by background radiation varies widely. In the United States, the average is about 300 mrem/yr; some people in other parts of the world receive a dose more than four times this amount. For example, in some areas of Brazil, doses to inhabitants can be more than 2,000 mrem/yr from background radiation. These wide variations are the result of several factors, most notably the types and amounts of radionuclides in the soil.

This diversity in background radiation is responsible for the large differences in doses. Because people live in areas with high levels of background radiation without proven harm, it is assumed by most in the scientific community that small variations in environmental radiation levels have an inconsequential effect, if any, on humans.

Measuring Radiation

To determine the possible effects of radiation on the health of the environment and people, these effects must be measured. More precisely, the potential for radiation to cause damage must be ascertained. Measurements of these potential effects are derived from the activity of each isotope and are expressed in terms of the absorbed dose to an individual and the effective dose or potential to cause biological damage.

Activity

When we measure the amount of radiation in the environment, what is actually being measured is the rate of radioactive decay, or radioactivity, of a given element. This radioactivity is expressed in a unit of measure known as a curie (Ci). A curie is a measure of radioactivity, not a set quantity of material. More specifically, one curie equals 37,000,000,000 (3.7×10^{10}) radioactive disintegrations per second. One gram of a radioactive substance may contain the same amount of radioactivity as several tons of another radioactive substance. For example, one gram of tritium (a radioactive form of hydrogen) emits about 10,000 Ci, while one gram of uranium emits about 0.000000333 (333×10^{-9}) Ci. Because the levels of radioactive contamination at most FUSRAP sites are very low, the picocurie is commonly used in reporting contaminant levels. One picocurie is equal to 1×10^{-12} curies. Contaminants in water are reported in picocuries per liter (pCi/L), and contaminants in soil are reported in picocuries per gram (pCi/g).

Absorbed Dose

The total amount of absorbed energy per unit mass as a result of exposure to radiation is expressed in a unit of measure known as a rad. However, in terms of human health, it is the relative effectiveness of the absorbed energy in causing biological damage that is important, not the actual amount of energy absorbed.

Dose Equivalent

The absorbed dose needed to achieve a given level of biological damage is different for different kinds of radiation. To allow for the different biological effectiveness of different kinds of radiation, the concept of dose equivalent is used. The dose equivalent is the product of the absorbed dose and a dimensionless quality factor. The unit of dose equivalent is called the rem (roentgen-equivalent-man). A rem is a fairly large dose; therefore, the most common unit of dose equivalent is the millirem (mrem), or 1/1,000 of a rem. Table A-1 describes some potential health effects over a wide range of radiation doses.

Table A-1
Comparison and Description of Various Dose Levels

Dose	Description
1 mrem	Approximate daily dose from natural background radiation, including that from radon.
2.5 mrem	Cosmic dose to a person on a one-way airplane flight from New York to Los Angeles.
4 mrem	Annual exposure limit set by EPA for manmade radiation in drinking water.
10 mrem	Typical dose from one chest X-ray using modern equipment.
10 mrem	Annual exposure limit, set by EPA, for exposures from airborne emissions (excluding radon) from operations of nuclear fuel cycle facilities, including power plants, uranium mines, and mills.
25 mrem	Annual exposure limit set by EPA for low-level waste-related exposures.
65 mrem	Average yearly dose to people in the United States from manmade sources.
60-80 mrem	Average yearly dose from cosmic radiation to people in the Rocky Mountain States.
83 mrem	Estimate of the largest dose any offsite person could have received from the March 28, 1979, Three Mile Island nuclear accident.
100 mrem	Annual limit of dose from all DOE facilities to a member of the public who is not a radiation worker.
110 mrem	Average occupational dose received by United States commercial radiation workers in 1980.

170 mrem	Average yearly dose to an airline flight crewmember from cosmic radiation.
300 mrem	Average yearly dose to people in the United States from all sources of natural background radiation.
900 mrem	Average dose from a lower-intestine diagnostic X-ray series.
1,000–5,000 mrem	EPA's Protective Action Guidelines state that public officials should take emergency action when the dose to a member of the public from a nuclear accident will likely reach this range.
5,000 mrem	Annual limit for occupational exposure of radiation workers set by the U.S. Nuclear Regulatory Commission and DOE.
8,000 mrem	Average yearly dose to the lungs from smoking 1½ packs of cigarettes per day.
10,000 mrem	The BEIR V report estimated that an acute dose at this level would result in a lifetime excess risk of death from cancer, caused by the radiation, of 0.8 percent.
25,000 mrem	EPA's guideline for voluntary maximum dose to emergency workers for non-lifesaving work during an emergency.
75,000 mrem	EPA's guideline for maximum dose to emergency workers volunteering for lifesaving work.
50,000–600,000 mrem	Doses in this range received over a short period of time will produce radiation sickness in varying degrees. At the lower end of this range, people are expected to recover completely, given proper medical attention. At the top of this range, most people will die within 60 days.

APPENDIX B

CONTAMINATION CONTROL DURING REMEDIAL ACTION

CONTAMINATION CONTROL DURING REMEDIAL ACTION

During the removal action, engineering and administrative controls (such as dust control, hazardous work permits, and installation of silt fences) and personal protective equipment (PPE) were used to protect remediation workers and members of the public from exposure to radiation in excess of applicable guidelines. These measures also controlled the migration of radioactive material to uncontaminated areas next to these vicinity properties.

All personnel working in contaminated areas were required to wear protective clothing, safety glasses, rubber boots, hard hat, and gloves.

Workers exiting controlled areas were checked for radioactive contamination (frisked) at the control point with a hand-held radiation detection instrument. Conducted by personnel who have received Radiological Worker II training, the frisk ensured that workers were not contaminated and prevented the potential spread of radioactive material from the work area. A frisk is simply a search for radioactive material that may have been transferred onto the skin or clothing of individuals inside the work area. The AC-3 alpha probe radiation detection instrument is hand-held approximately 0.5 cm (0.2 in.) away from the area to be frisked and moved slowly [about 5 cm (2 in.) per second] across the body or clothing by the worker. Portions of the worn PPE that were suspected or known to be contaminated were packaged and shipped to Envirocare of Utah for disposal.

The primary pathway by which persons onsite and offsite could be exposed to radioactive material during removal activities at the site was inhalation and ingestion of radioactively contaminated airborne dust generated during excavation. The spread of contamination and personnel exposure during remedial action were minimized by the following measures:

- A fine water mist was sprayed as needed to control dust during soil removal and transport.

- Trucks hauling contaminated materials were fitted with liners, and the loads were covered with tarps to prevent spillage.

- Silt fences were placed around excavated areas to prevent runoff of potentially contaminated sediment and were maintained until restoration activities were completed.

Water accumulated in the excavated area was sampled first for shipment to an offsite laboratory for radionuclides analysis. Then the water was pumped into a tanker and transported to the MISS.

Area air particulate sampling was also performed adjacent to areas being remediated to ensure that no member of the general public was exposed at levels exceeding the guidelines (DOE 1990). The limits expressed are derived concentration guides (DCGs); a DCG is the concentration of a particular radionuclide that would provide an effective dose equivalent of 100 mrem/yr to an individual continuously inhaling the radionuclide for an entire year. These guidelines were established by the International Commission on Radiation Protection and the National Commission on Radiation Protection to protect the environment and members of the general public. Eberline RAS-1 high-volume and SKC low-volume samplers were used, and the filters were collected daily and counted after 4 days to allow for radon decay. As an extra precaution, the area monitors were placed well within the site perimeter. The average concentration of thorium-232 measured by area air particulate monitors was 2.02×10^{-15} μCi/mL (2.02×10^{-6} pCi/L) (BNI 1999b).

Most results were below the DCG of 1.0×10^{-5} pCi/L for thorium-232. Even though the DCG was exceeded for a few 8-h periods, a person would need to be exposed to the thorium-232 DCG continuously for 1 year to receive a dose greater than the 100 mrem/yr guideline.

APPENDIX C

QUALITY CONTROL DATA
FOR 62 TRUDY DRIVE

TABLE C-1
QUALITY CONTROL SAMPLE RESULTS FOR 62 TRUDY DRIVE

Sample ID	COC #	Date	Comments	Matrix	Coordinates	Depth	Th-232	Review	Error	Ra-226	Review	Error	U-238	Review	Error
						(ft)	(pCi/g)	Qual.[a]	+\-	(pCi/g)	Qual.[a]	+\-	(pCi/g)	Qual.[a]	+\-
Background							1.00			0.70			2.90		
MVP3905	138990308	3/3/1999	Rad. Characterization QC sample for MVP3000	sbs	N5 E1	5.5 - 6	1.45		0.20	0.58		0.06	2.35	UJ	2.01
MVP3906	138990308	3/3/1999	Rad. Characterization QC sample for MVP3010	sbs	N0.5 E-1	10	0.72		0.18	0.46		0.07	0.37	UJ	0.82
MVP3907	138990308	3/3/1999	Rad. Characterization QC sample for MVP3020	sbs	N-9 E-11	8	0.42		0.16	0.42		0.06	1.00	UJ	0.89
MVP3908[b]	138990308	3/3/1999	Remedial action QC sample for MVP3030	sbs	N-16 E-2	6	6.92		0.55	4.20		0.19	12.54		2.96
MVP3909[b]	138990308	3/3/1999	Rad. Characterization QC sample for MVP3042	sbs	N-21.5 E-14	5	27.89		2.48	2.02		0.56	12.81		8.36
MVP3910	138990308	3/3/1999	Post-remedial action bias QC sample for MVP3060	sfs	N-14 E-13	0.0-0.5	0.73		0.20	0.70		0.08	1.04	UJ	0.81
MVP3911[b]	138990308	3/3/1999	Remedial action QC sample for MVP3070	sbs	N-9 E-5	3	5.62		0.51	2.09		0.16	8.27		2.88
MVP3912	138990308	3/3/1999	Clean overburden QC sample for MVP3080	sbs	N6 E-7	1	0.62		0.19	0.33		0.07	0.87	UJ	0.85
MVP3913[b]	138990308	3/3/1999	Remedial action QC sample for MVP3090	sbs	N3 E-4	8.5	67.97		1.28	4.88		0.33	17.29	U	10.39
MVP3914	138990308	3/3/1999	Post-remedial action composite QC sample for MVP3900	sfs	N0~8 E2~-6	0.0-0.5	0.81		0.18	0.43		0.07	1.79		1.19

NOTES:

COC # - Chain-of-custody number

sfs - Surface soil

sbs - Subsurface soil

QC - Quality control

U - Undetected

UJ - Undetected, but estimated. The result is below the minimum detectable activity level or less than the associated error.

Samples were analyzed at the Thermo NuTech laboratory in Oak Ridge, Tenn.

Gross results are reported. The net result is obtained by subtracting the background concentration for each radionuclide from the reported gross value for that radionuclide.

[a] Data validation - BNI BEIDMS Document ID # 9903037

[b] Samples were taken during the remedial action to identify areas needing additional soil removal.

APPENDIX D

POST-REMEDIAL ACTION DATA FOR 62 TRUDY DRIVE

TABLE D-1
POST-REMEDIAL ACTION DATA FOR 62 TRUDY DRIVE

Sample ID	COC #	Collection Date	Comments	Matrix	Coordinates	Depth (ft)	Lab	Th-232 (pCi/g)	Review Qual.[a]	Error +\-	Ra-226 (pCi/g)	Review Qual.[a]	Error +\-	U-238 (pCi/g)	Review Qual.[a]	Error +\-
Background								1.00			0.70			2.90		
MVP3091	138990221	2/6/1999	Post-RA composite grid 1	sfs	N-14~0 E-14~2	0.0-0.5	MISS	0.89	J	0.05	0.50	J	0.03	2.03	UJ	0.00
MVP3093	138990221	2/6/1999	Post-RA composite grid 2	sfs	N-14~-18 E-14~2	0.0-0.5	MISS	1.16	J	0.05	0.51	J	0.03	1.34	UJ	0.64
MVP3095	138990221	2/6/1999	Post-RA composite grid 3	sfs	N-18~-23 E-14~2	0.0-0.5	MISS	1.17	J	0.06	0.50	J	0.03	2.31	UJ	0.00
MVP3900	138990233	2/10/1999	Post-RA composite grid 4	sfs	N0~8 E2~-6	0.0-0.5	MISS	0.72	J	0.04	0.48	J	0.03	1.96	UJ	0.00
MVP3902	138990233	2/10/1999	Post-RA composite grid 5	sfs	N0~8 E-6~-14	0.0-0.5	MISS	0.64	J	0.04	0.43	J	0.03	2.02	UJ	0.00
MVP3067	138981236	12/17/1998	Post-RA composite underpins	sfs	N-14~-21.5 E-7.5~-13	0.0-0.5	MISS	0.53	J	0.04	0.38	J	0.02	1.41	UJ	0.00
MVP3072	138981245	12/30/1998	Post-RA bias	sfs	N-11 E-5	0.0-0.5	MISS	0.86		0.05	0.58		0.03	2.15	UJ	0.00
MVP3092	138990221	2/6/1999	Post-RA bias grid 1	sfs	N-12 E1.5	0.0-0.5	MISS	1.54	J	0.06	0.66	J	0.04	3.02	UJ	0.68
MVP3094	138990221	2/6/1999	Post-RA bias grid 2	sfs	N-14.5 E-4	0.0-0.5	MISS	4.25	J	0.12	1.14	J	0.05	4.36	J	1.10
MVP3096	138990221	2/6/1999	Post-RA bias grid 3	sfs	N-20 E-7	0.0-0.5	MISS	2.61	J	0.09	0.60	J	0.04	2.37	UJ	0.92
MVP3901	138990233	2/10/1999	Post-RA bias grid 4	sfs	N1 E-3	0.0-0.5	MISS	0.93	J	0.05	0.51	J	0.03	2.07	UJ	0.00
MVP3903	138990233	2/10/1999	Post-RA bias grid 5	sfs	N1 E-7	0.0-0.5	MISS	0.93	J	0.05	0.48	J	0.03	1.89	UJ	0.00
MVP3904	138990233	2/10/1999	Post-RA bias grid 5 (field dup.)	sfs	N1 E-7	0.0-0.5	MISS	1.75	J	0.07	0.63	J	0.04	2.54	UJ	0.00
MVP3040	138981218	12/9/1998	Post-RA bias (UP# 1)	sfs	N-14 E-8	0.0-0.5	MISS	0.38	J	0.03	0.25	J	0.02	1.41	UJ	0.00
MVP3043	138981219	12/10/1998	Post-RA bias (UP# 2)	sfs	N-21.5 E-13	0.0-0.5	MISS	0.72	J	0.05	0.40	J	0.03	0.30	UJ	0.61
MVP3045	138981221	12/11/1998	Post-RA bias (UP# 3)	sfs	N-17 E-13	0.0-0.5	MISS	0.52	J	0.04	0.31	J	0.02	1.61	UJ	0.00
MVP3049	138981221	12/11/1998	Post-RA bias (UP# 4)	sfs	N-21.5 E-10	0.0-0.5	MISS	0.72	J	0.05	0.46	J	0.03	1.93	UJ	0.00
MVP3053	138981226	12/14/1998	Post-RA bias (UP# 5)	sfs	N-19 E-13	0.0-0.5	MISS	0.45	J	0.03	0.30	J	0.02	1.58	UJ	0.00
MVP3054	138981226	12/14/1998	Post-RA bias (UP# 6)	sfs	N-19 E-7.5	0.0-0.5	MISS	0.84	J	0.05	0.51	J	0.03	2.07	UJ	0.00
MVP3058	138981230	12/15/1998	Post-RA bias (UP# 7)	sfs	N-21 E-7.5	0.0-0.5	MISS	0.48	J	0.04	0.31	J	0.02	1.59	UJ	0.00

TABLE D-1
POST-REMEDIAL ACTION DATA FOR 62 TRUDY DRIVE

Sample ID	COC #	Collection Date	Comments	Matrix	Coordinates	Depth (ft)	Lab	Th-232 (pCi/g)	Review Qual.[a]	Error +\-	Ra-226 (pCi/g)	Review Qual.[a]	Error +\-	U-238 (pCi/g)	Review Qual.[a]	Error +\-
Background								1.00			0.70			2.90		
MVP3060	138981230	12/15/1998	Post-RA bias (UP# 8)	sfs	N-14 E-13	0.0-0.5	MISS	1.12		0.06	0.63	J	0.03	2.40	UJ	0.00
MVP3063	138981236	12/17/1998	Post-RA bias (UP# 9)	sfs	N-17 E-7.5	0.0-0.5	MISS	0.50	J	0.03	0.37	J	0.02	1.52	UJ	0.00
MVP3065	138981236	12/17/1998	Post-RA bias (UP# 10)	sfs	N-14 E-10	0.0-0.5	MISS	0.58	J	0.04	0.41	J	0.02	1.57	UJ	0.00

NOTES:
COC # - Chain-of-custody number
RA - Remedial action
sfs - Surface soil
UP # - Underpin number
J - Estimated, qualitatively correct but quantitatively suspect.
UJ - Undetected, but estimated. The result is below the minimum detectable activity level or less than the associated error.
Gross results are reported. The net result is obtained by subtracting the background concentration for each radionuclide from the reported gross value for that radionuclide.
[a] Data validation - BNI BEIDMS Document ID #s 98G1117, 98G1118, 98G1119, 98G1120, 98G1122, 98G1124, 99G1003, 99G1013, 99G1014, 99G1018, 99G1019

APPENDIX E

RADIOLOGICAL DATA FOR CLEAN OVERBURDEN SOIL

TABLE E-1
RADIOLOGICAL DATA FOR MAYWOOD VICINITY PROPERTIES CLEAN OVERBURDEN SAMPLES

Property	Document ID	COC #	Collection Date	Sample ID	Matrix	Coordinates	Depth (ft)	Th-232 (pCi/g)	Qual. review	Error +\-	Ra-226 (pCi/g)	Qual. review	Error +\-	U-238 (pCi/g)	Qual. review	Error +\-
Background								1.00			0.70			2.90		
106 COLUMBIA LANE	98G1097	138980946	9/28/1998	MVP2313	sbs	N12 E10	3	0.76	J	0.04	0.55	J	0.03	1.89	UJ	0.00
106 COLUMBIA LANE	98G1097	138980946	9/28/1998	MVP2314	sbs	N12 E13	3	0.56	J	0.04	0.41	J	0.02	1.89	UJ	0.00
106 COLUMBIA LANE	98G1097	138980946	9/28/1998	MVP2315	sbs	N12 E11	4	0.73	J	0.05	0.48	J	0.03	1.93	UJ	0.00
106 COLUMBIA LANE	98G1097	138980946	9/28/1998	MVP2316	sbs	N15 E13	4	0.75	J	0.05	0.53	J	0.03	1.87	UJ	0.00
106 COLUMBIA LANE	98G1097	138980946	9/28/1998	MVP2317	sbs	N15 E9	4	0.75	J	0.04	0.47	J	0.02	1.88	UJ	0.00
106 COLUMBIA LANE	98G1098	138980949	9/29/1998	MVP2318	sbs	N17 E12	3	0.68	J	0.04	0.45	J	0.02	1.74	UJ	0.00
106 COLUMBIA LANE	98G1098	138980949	9/29/1998	MVP2319	sbs	N19 E10	3.5	0.57	J	0.04	0.34	J	0.02	1.63	UJ	0.00
106 COLUMBIA LANE	98G1098	138980949	9/29/1998	MVP2320	sbs	N17 E7	3	0.64	J	0.05	0.47	J	0.02	1.82	UJ	0.00
106 COLUMBIA LANE	98G1098	138980949	9/29/1998	MVP2321	sbs	N11 E6	3	0.76	J	0.05	0.49	J	0.03	1.91	UJ	0.00
106 COLUMBIA LANE	98G1098	138980949	9/29/1998	MVP2322	sbs	N17 E5	3	0.67	J	0.04	0.50	J	0.03	1.80	UJ	0.00
106 COLUMBIA LANE	98G1098	138980951	9/30/1998	MVP2323	sbs	N9 E8	4	0.51	J	0.04	0.36	J	0.03	1.70	UJ	0.00
106 COLUMBIA LANE	98G1098	138980951	9/30/1998	MVP2324	sbs	N9 E5	4	0.89	J	0.05	0.57	J	0.03	1.99	UJ	0.00
106 COLUMBIA LANE	98G1099	138981001	10/1/1998	MVP2325	sbs	N13 E4	4	0.74	J	0.05	0.56	J	0.03	1.86	UJ	0.00
106 COLUMBIA LANE	98G1099	138981001	10/1/1998	MVP2326	sbs	N18 E6	3	0.76	J	0.05	0.49	J	0.03	1.91	UJ	0.00
106 COLUMBIA LANE	98G1099	138981001	10/1/1998	MVP2327	sbs	N8 E2	3.5	0.69	J	0.05	0.51	J	0.03	1.87	UJ	0.00
106 COLUMBIA LANE	98G1099	138981001	10/1/1998	MVP2328	sbs	N5 E3	4	0.81	J	0.05	0.63	J	0.03	0.79	UJ	0.64
106 COLUMBIA LANE	98G1099	138981002	10/6/1998	MVP2329	sbs	N-2 E10	4	0.80	J	0.05	0.52	J	0.03	1.94	UJ	0.00
106 COLUMBIA LANE	98G1099	138981002	10/6/1998	MVP2330	sbs	N-1 E8	4	0.92	J	0.05	0.54	J	0.03	2.00	UJ	0.00
106 COLUMBIA LANE	98G1099	138981002	10/6/1998	MVP2331	sbs	N-6 E10	6.5	0.55	J	0.04	0.39	J	0.03	0.49	UJ	0.57
106 COLUMBIA LANE	98G1099	138981002	10/6/1998	MVP2332	sbs	N-5 E9	4	1.36	J	0.06	0.55	J	0.03	0.64	UJ	0.81
106 COLUMBIA LANE	98G1099	138981002	10/6/1998	MVP2333	sbs	N-7 E15	5	0.58	J	0.04	0.41	J	0.03	1.87	UJ	0.00
106 COLUMBIA LANE	98G1099	138981002	10/6/1998	MVP2334	sbs	N-6 E-6	1	1.02	J	0.05	0.66	J	0.03	2.05	UJ	0.00
106 COLUMBIA LANE	98G1099	138981002	10/6/1998	MVP2335	sbs	N1 E3	2	0.86	J	0.05	0.48	J	0.03	2.02	UJ	0.00
106 COLUMBIA LANE	98G1099	138981012	10/7/1998	MVP2336	sbs	N-1 E-2	2	0.65	J	0.04	0.46	J	0.02	1.70	UJ	0.00
106 COLUMBIA LANE	98G1102	138981020	10/12/1998	MVP2345	sbs	N10 E-6	2	0.90	J	0.05	0.59	J	0.03	1.96	UJ	0.00
106 COLUMBIA LANE	98G1102	138981020	10/12/1998	MVP2346	sbs	N10 E0	3.5	1.07	J	0.05	0.48	J	0.03	1.42	UJ	0.66
60 TRUDY DRIVE	98G1027	138990262	2/19/1999	MVP2924	sbs	N9 E8	4	1.26	J	0.06	0.51	J	0.03	2.16	UJ	0.00
60 TRUDY DRIVE	98G1027	138990262	2/19/1999	MVP2925	sbs	N4 E8	4	0.80	J	0.04	0.43	J	0.03	2.05	UJ	0.00
62 TRUDY DRIVE	98G1110	138981122	11/18/1998	MVP3016	sbs	N-21 E-2	1	1.36	J	0.06	0.58	J	0.03	1.75	UJ	0.77
62 TRUDY DRIVE	98G1110	138981122	11/18/1998	MVP3017	sbs	N-20 E-6	2	1.06	J	0.05	0.59	J	0.03	2.15	UJ	0.00
62 TRUDY DRIVE	98G1111	138981122	11/18/1998	MVP3018	sbs	N-19 E-2	1	1.25	J	0.06	0.58	J	0.03	2.24	UJ	0.00
62 TRUDY DRIVE	98G1115	138981205	12/3/1998	MVP3033	sbs	N-13 E-2	4	0.84	J	0.04	0.51	J	0.03	1.83	UJ	0.00
62 TRUDY DRIVE	98G1116	138981209	12/4/1998	MVP3036	sbs	N-12.5 E-3	4	0.98	J	0.06	0.60	J	0.03	2.20	UJ	0.00
62 TRUDY DRIVE	99G1025	138990208	2/3/1999	MVP3080	sbs	N6 E-7	1	0.74	J	0.05	0.47	J	0.03	1.90	UJ	0.00
62 TRUDY DRIVE	99G1025	138990208	2/3/1999	MVP3081	sbs	N6 E-7	4.5	0.82	J	0.05	0.50	J	0.03	0.76	UJ	0.57

NOTES:

sbs - Subsurface soil

Samples were analyzed at the Maywood site field laboratory.

J - Estimate, qualitatively correct but quantitatively suspect.

UJ - Undetected, but estimated. The result is below the minimum detectable activity or less than the associated error.

TABLE E-2
SUM-OF-RATIOS FOR RADIOLOGICAL DATA FOR MAYWOOD VICINITY PROPERTIES
CLEAN OVERBURDEN SAMPLES

Property	COC #	Collection Date	Sample ID	Matrix	Coordinates	Depth (ft)	Th-232 (pCi/g)	Error +\-	Ra-226 (pCi/g)	Error +\-	U-238 (pCi/g)	Error +\-	Sum Ratios
106 COLUMBIA LANE	138980946	9/28/1998	MVP2313	sbs	N12 E10	3	0.00	0.04	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138980946	9/28/1998	MVP2314	sbs	N12 E13	3	0.00	0.04	0.00	0.02	0.00	0.00	0.000
106 COLUMBIA LANE	138980946	9/28/1998	MVP2315	sbs	N12 E11	4	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138980946	9/28/1998	MVP2316	sbs	N15 E13	4	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138980946	9/28/1998	MVP2317	sbs	N15 E9	4	0.00	0.04	0.00	0.02	0.00	0.00	0.000
106 COLUMBIA LANE	138980949	9/29/1998	MVP2318	sbs	N17 E12	3	0.00	0.04	0.00	0.02	0.00	0.00	0.000
106 COLUMBIA LANE	138980949	9/29/1998	MVP2319	sbs	N19 E10	3.5	0.00	0.04	0.00	0.02	0.00	0.00	0.000
106 COLUMBIA LANE	138980949	9/29/1998	MVP2320	sbs	N17 E7	3	0.00	0.05	0.00	0.02	0.00	0.00	0.000
106 COLUMBIA LANE	138980949	9/29/1998	MVP2321	sbs	N11 E6	3	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138980949	9/29/1998	MVP2322	sbs	N17 E5	3	0.00	0.04	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138980951	9/30/1998	MVP2323	sbs	N9 E8	4	0.00	0.04	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138980951	9/30/1998	MVP2324	sbs	N9 E5	4	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981001	10/1/1998	MVP2325	sbs	N13 E4	4	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981001	10/1/1998	MVP2326	sbs	N18 E6	3	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981001	10/1/1998	MVP2327	sbs	N8 E2	3.5	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981001	10/1/1998	MVP2328	sbs	N5 E3	4	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981002	10/6/1998	MVP2329	sbs	N-2 E10	4	0.00	0.05	0.00	0.03	0.00	0.64	0.000
106 COLUMBIA LANE	138981002	10/6/1998	MVP2330	sbs	N-1 E8	4	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981002	10/6/1998	MVP2331	sbs	N-6 E10	6.5	0.00	0.04	0.00	0.03	0.00	0.57	0.000
106 COLUMBIA LANE	138981002	10/6/1998	MVP2332	sbs	N-5 E9	4	0.36	0.06	0.00	0.03	0.00	0.81	0.072
106 COLUMBIA LANE	138981002	10/6/1998	MVP2333	sbs	N-7 E15	5	0.00	0.04	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981002	10/6/1998	MVP2334	sbs	N-6 E-6	1	0.02	0.05	0.00	0.03	0.00	0.00	0.004
106 COLUMBIA LANE	138981002	10/6/1998	MVP2335	sbs	N1 E3	2	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981012	10/7/1998	MVP2336	sbs	N-1 E-2	2	0.00	0.04	0.00	0.02	0.00	0.00	0.000
106 COLUMBIA LANE	138981020	10/12/1998	MVP2345	sbs	N10 E-6	2	0.00	0.05	0.00	0.03	0.00	0.00	0.000
106 COLUMBIA LANE	138981020	10/12/1998	MVP2346	sbs	N10 E0	3.5	0.07	0.05	0.00	0.03	0.00	0.66	0.014
60 TRUDY DRIVE	138990262	2/19/1999	MVP2924	sbs	N9 E8	4	0.26	0.06	0.00	0.03	0.00	0.00	0.052
60 TRUDY DRIVE	138990262	2/19/1999	MVP2925	sbs	N4 E8	4	0.00	0.04	0.00	0.03	0.00	0.00	0.000

TABLE E-2
SUM-OF-RATIOS FOR RADIOLOGICAL DATA FOR MAYWOOD VICINITY PROPERTIES
CLEAN OVERBURDEN SAMPLES

Property	COC #	Collection Date	Sample ID	Matrix	Coordinates	Depth (ft)	Th-232 (pCi/g)	Error +\-	Ra-226 (pCi/g)	Error +\-	U-238 (pCi/g)	Error +\-	Sum Ratios
62 TRUDY DRIVE	138981122	11/18/1998	MVP3016	sbs	N-21 E-2	1	0.36	0.06	0.00	0.03	0.00	0.77	0.072
62 TRUDY DRIVE	138981122	11/18/1998	MVP3017	sbs	N-20 E-6	2	0.06	0.05	0.00	0.03	0.00	0.00	0.012
62 TRUDY DRIVE	138981122	11/18/1998	MVP3018	sbs	N-19 E-2	1	0.25	0.06	0.00	0.03	0.00	0.00	0.050
62 TRUDY DRIVE	138981205	12/3/1998	MVP3033	sbs	N-13 E-2	4	0.00	0.04	0.00	0.03	0.00	0.00	0.000
62 TRUDY DRIVE	138981209	12/4/1998	MVP3036	sbs	N-12.5 E-3	4	0.00	0.06	0.00	0.03	0.00	0.00	0.000
62 TRUDY DRIVE	138990208	2/3/1999	MVP3080	sbs	N6 E-7	1	0.00	0.05	0.00	0.03	0.00	0.00	0.000
62 TRUDY DRIVE	138990208	2/3/1999	MVP3081	sbs	N6 E-7	4.5	0.00	0.05	0.00	0.03	0.00	0.57	0.000

NOTES:
sbs - Subsurface soil
Samples were analyzed at the Maywood site field laboratory.
Net results reported. The net result is obtained by subtracting the background concentration for each radionuclide from the reported value for that radionuclide. If the result of a radionuclide is negative, then the value for that radionuclide is reported zero.
Background concentrations: Th-232, 1.00 pCi/g; Ra-226, 0.70 pCi/g; and U-238, 2.90 pCi/g.

APPENDIX F

CHEMICAL DATA FOR CLEAN OVERBURDEN SOIL

TABLE F-1
CHEMICAL DATA FOR CLEAN OVERBURDEN SAMPLES COLLECTED FROM MAYWOOD VICINITY PROPERTIES

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Review Qualifier	Unit
Overburden Soil from Lodi Park Pile Staged at Lodi Park							
MVP1806	9809L578	138980905	9/2/98	Chloromethane	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Bromomethane	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Vinyl chloride	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Chloroethane	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Methylene chloride	15	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Acetone	8	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Carbon disulfide	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,1-Dichloroethene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,1-Dichloroethane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,2-Dichloroethene (total)	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Chloroform	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,2-Dichloroethane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2-Butanone	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,1,1-Trichloroethane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Carbon tetrachloride	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Bromodichloromethane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,2-Dichloropropane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	cis-1,3-Dichloropropene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	trans-1,3-Dichloropropene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Trichloroethene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Dibromochloromethane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,1,2-Trichloroethane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Benzene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Bromoform	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4-methyl-2-pentanone	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2-Hexanone	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Tetrachloroethene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,1,2,2-Tetrachloroethane	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Toluene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Chlorobenzene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Ethylbenzene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Styrene	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Xylene (total)	6	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Vinyl acetate	11	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Phenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	bis (2-chloroethyl) ether	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2-Chlorophenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,3-Dichlorobenzene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,4-Dichlorobenzene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,2-Dichlorobenzene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2-Methyl phenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4- Methyl phenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	N-Nitroso-di-n-propylamine	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Hexachloroethane	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Nitrobenzene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Isophorone	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2-Nitrophenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4-Dimethyl phenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Cabazole	64	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	bis (2-Chloroethoxy) methane	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4-Dichlorophenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	1,2,4-Trichlorobenzene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Naphthalene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4-Chloroaniline	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Hexachlorobutadiene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4-Chloro-3-methyl phenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2-Methylnaphthalene	34	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Hexachlorocyclopentadiene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4,6-Trichlorophenol	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4,5-Trichlorophenol	840	U	UG/KG

TABLE F-1
CHEMICAL DATA FOR CLEAN OVERBURDEN SAMPLES COLLECTED FROM MAYWOOD VICINITY PROPERTIES

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Review Qualifier	Unit
MVP1806	9809L578	138980905	9/2/98	2-Chloronaphthalene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2-Nitroaniline	840	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Dimethylphthalate	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Acenaphthylene	32	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,6-Dinitrotoluene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	3-Nitroaniline	840	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Acenaphthene	66	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4-Dinitrophenol	840	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4-Nitrophenol	840	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Dibenzofuran	43	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4-Dinitrotoluene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Diethylphthalate	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4-Chlorophenyl-phenylether	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Fluorene	100	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	4-Nitroaniline	840	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4,6-Dinitro-2-methylphenol	840	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	N-Nitrosodiphenylamine	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	4-Bromophenyl-phenylether	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Hexachlorobenzene	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Pentachlorophenol	840	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Phenanthrene	710		UG/KG
MVP1806	9809L578	138980905	9/2/98	Anthracene	200	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Di-n-butylphthalate	1700	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Fluoranthene	990		UG/KG
MVP1806	9809L578	138980905	9/2/98	2,2'-oxybis(1-cloropropane)	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Pyrene	960		UG/KG
MVP1806	9809L578	138980905	9/2/98	Butylbenzylphthalate	17	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	3,3'-Dichlorobenzidine	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Benzo (a) anthracene	440		UG/KG
MVP1806	9809L578	138980905	9/2/98	Chrysene	460		UG/KG
MVP1806	9809L578	138980905	9/2/98	bis (2-ethylhexyl) phthalate	58	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Di-n-octyl phthalate	330	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	Benzo (b) fluoranthene	320	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Benzo (k) fluoranthene	360		UG/KG
MVP1806	9809L578	138980905	9/2/98	Benzo (a) pyrene	370		UG/KG
MVP1806	9809L578	138980905	9/2/98	Indeno (1,2,3-cd) pyrene	210	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Dibenzo (a,h) anthracene	82	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Benzo (g,h,i) perylene	230	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Aluminum	7720		MG/KG
MVP1806	9809L578	138980905	9/2/98	Antimony	0.42	UJ	MG/KG
MVP1806	9809L578	138980905	9/2/98	Arsenic	5		MG/KG
MVP1806	9809L578	138980905	9/2/98	Barium	77.2		MG/KG
MVP1806	9809L578	138980905	9/2/98	Beryllium	0.48		MG/KG
MVP1806	9809L578	138980905	9/2/98	Cadmium	0.26		MG/KG
MVP1806	9809L578	138980905	9/2/98	Calcium	4980		MG/KG
MVP1806	9809L578	138980905	9/2/98	Chromium	23.8		MG/KG
MVP1806	9809L578	138980905	9/2/98	Cobalt	5.9		MG/KG
MVP1806	9809L578	138980905	9/2/98	Copper	20.9		MG/KG
MVP1806	9809L578	138980905	9/2/98	Iron	15200		MG/KG
MVP1806	9809L578	138980905	9/2/98	Lead	41.2		MG/KG
MVP1806	9809L578	138980905	9/2/98	Magnesium	3790		MG/KG
MVP1806	9809L578	138980905	9/2/98	Manganese	428	J	MG/KG
MVP1806	9809L578	138980905	9/2/98	Mercury	0.11	J	MG/KG
MVP1806	9809L578	138980905	9/2/98	Nickel	11.5		MG/KG
MVP1806	9809L578	138980905	9/2/98	Potassium	726		MG/KG
MVP1806	9809L578	138980905	9/2/98	Selenium	0.73		MG/KG
MVP1806	9809L578	138980905	9/2/98	Silver	0.12	U	MG/KG
MVP1806	9809L578	138980905	9/2/98	Sodium	135		MG/KG
MVP1806	9809L578	138980905	9/2/98	Thallium	1.4		MG/KG
MVP1806	9809L578	138980905	9/2/98	Vanadium	21.9		MG/KG
MVP1806	9809L578	138980905	9/2/98	Zinc	60.8		MG/KG

TABLE F-1
CHEMICAL DATA FOR CLEAN OVERBURDEN SAMPLES COLLECTED FROM MAYWOOD VICINITY PROPERTIES

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Review Qualifier	Unit
MVP1806	9809L578	138980905	9/2/98	Arochlor-1016	190	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Arochlor-1221	380	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Arochlor-1232	190	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Arochlor-1242	190	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Arochlor-1248	270	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Arochlor-1254	190	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Arochlor-1260	190	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Aldrin	I	R	UG/KG
MVP1806	9809L578	138980905	9/2/98	alpha-BHC	9.6	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	beta-BHC	9.6	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	delta-BHC	17	NJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	gamma-BHC (lindane)	19	NJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	alpha-chlordane	20	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	gamma-chlordane	27	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	4,4'-DDD	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	4,4'-DDE	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	4,4'-DDT	26	J	UG/KG
MVP1806	9809L578	138980905	9/2/98	Dieldrin	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Endosulfan I	9.6	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Endosulfan II	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Endosulfan sulfate	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Endrin	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Endrin aldehyde	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Endrin ketone	19	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Heptachlor	9.6	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Heptachlor epoxide	9.6	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Methoxychlor	96	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	Toxaphene	960	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4-D	38	UJ	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4,5-T	19	U	UG/KG
MVP1806	9809L578	138980905	9/2/98	2,4,5-TP (silvex)	19	U	UG/KG
Overburden Soil from Lodi Park Pile Staged at Lodi Park							
MVP1809	9812L717	138981237	12/17/98	Chloromethane	11	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Bromomethane	11	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Vinyl chloride	11	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Chloroethane	11	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Methylene chloride	8	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Acetone	10	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Carbon disulfide	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,1-Dichloroethene	6	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,1-Dichloroethane	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,2-Dichloroethene (total)	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Chloroform	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,2-Dichloroethane	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Butanone	11	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,1,1-Trichloroethane	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Carbon tetrachloride	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Bromodichloromethane	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,2-Dichloropropane	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	cis-1,3-Dichloropropene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	trans-1,3-Dichloropropene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Trichloroethene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dibromochloromethane	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,1,2-Trichloroethane	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Benzene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Bromoform	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4-methyl-2-pentanone	11	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Hexanone	11	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Tetrachloroethene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,1,2,2-Tetrachloroethane	6	U	UG/KG

TABLE F-1
CHEMICAL DATA FOR CLEAN OVERBURDEN SAMPLES COLLECTED FROM MAYWOOD VICINITY PROPERTIES

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Review Qualifier	Unit
MVP1809	9812L717	138981237	12/17/98	Toluene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Chlorobenzene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Ethylbenzene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Styrene	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Xylene (total)	6	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Phenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	bis (2-chloroethyl) ether	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Chlorophenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,3-Dichlorobenzene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,4-Dichlorobenzene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,2-Dichlorobenzene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Methyl phenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4- Methyl phenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	N-Nitroso-di-n-propylamine	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Hexachloroethane	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Nitrobenzene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Isophorone	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Nitrophenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4-Dimethyl phenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,2'-oxybis(1-chloropropane)	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	bis (2-Chloroethoxy) methane	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4-Dichlorophenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	1,2,4-Trichlorobenzene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Naphthalene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4-Chloroaniline	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Hexachlorobutadiene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4-Chloro-3-methyl phenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Methylnaphthalene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Hexachlorocyclopentadiene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4,6-Trichlorophenol	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4,5-Trichlorophenol	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Chloronaphthalene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2-Nitroaniline	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dimethylphthalate	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Acenaphthylene	28	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,6-Dinitrotoluene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	3-Nitroaniline	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Acenaphthene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4-Dinitrophenol	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4-Nitrophenol	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dibenzofuran	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4-Dinitrotoluene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Diethylphthalate	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4-Chlorophenyl-phenylether	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Fluorene	33	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	4-Nitroaniline	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4,6-Dinitro-2-methylphenol	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	N-Nitrosodiphenylamine	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	4-Bromophenyl-phenylether	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Hexachlorobenzene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Pentachlorophenol	940	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Phenanthrene	280	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Anthracene	45	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Di-n-butylphthalate	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Fluoranthene	240	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Carbazole	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Pyrene	330	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Butylbenzylphthalate	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	3,3'-Dichlorobenzidine	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Benzo (a) anthracene	120	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Chrysene	180	J	UG/KG

TABLE F-1
CHEMICAL DATA FOR CLEAN OVERBURDEN SAMPLES COLLECTED FROM MAYWOOD VICINITY PROPERTIES

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Review Qualifier	Unit
MVP1809	9812L717	138981237	12/17/98	bis (2-ethylhexyl) phthalate	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Di-n-octyl phthalate	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Benzo (b) fluoranthene	82	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Benzo (k) fluoranthene	88	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Benzo (a) pyrene	110	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Indeno (1,2,3-cd) pyrene	52	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dibenzo (a,h) anthracene	380	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Benzo (g,h,i) perylene	68	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	Aluminum	8600		MG/KG
MVP1809	9812L717	138981237	12/17/98	Antimony	0.39	UJ	MG/KG
MVP1809	9812L717	138981237	12/17/98	Arsenic	3.3		MG/KG
MVP1809	9812L717	138981237	12/17/98	Barium	48		MG/KG
MVP1809	9812L717	138981237	12/17/98	Beryllium	0.39		MG/KG
MVP1809	9812L717	138981237	12/17/98	Cadmium	0.24		MG/KG
MVP1809	9812L717	138981237	12/17/98	Calcium	4230		MG/KG
MVP1809	9812L717	138981237	12/17/98	Chromium	16.8		MG/KG
MVP1809	9812L717	138981237	12/17/98	Cobalt	6.2		MG/KG
MVP1809	9812L717	138981237	12/17/98	Copper	22.7		MG/KG
MVP1809	9812L717	138981237	12/17/98	Iron	14100		MG/KG
MVP1809	9812L717	138981237	12/17/98	Lead	27.7		MG/KG
MVP1809	9812L717	138981237	12/17/98	Magnesium	3290		MG/KG
MVP1809	9812L717	138981237	12/17/98	Manganese	242		MG/KG
MVP1809	9812L717	138981237	12/17/98	Mercury	0.04		MG/KG
MVP1809	9812L717	138981237	12/17/98	Nickel	12.4		MG/KG
MVP1809	9812L717	138981237	12/17/98	Potassium	501		MG/KG
MVP1809	9812L717	138981237	12/17/98	Selenium	0.4	U	MG/KG
MVP1809	9812L717	138981237	12/17/98	Silver	0.06	U	MG/KG
MVP1809	9812L717	138981237	12/17/98	Sodium	148		MG/KG
MVP1809	9812L717	138981237	12/17/98	Thallium	0.46		MG/KG
MVP1809	9812L717	138981237	12/17/98	Vanadium	31.6		MG/KG
MVP1809	9812L717	138981237	12/17/98	Zinc	48.5		MG/KG
MVP1809	9812L717	138981237	12/17/98	Arochlor-1016	380	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Arochlor-1221	750	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Arochlor-1232	380	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Arochlor-1242	380	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Arochlor-1248	380	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Arochlor-1254	380	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Arochlor-1260	380	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Aldrin	30	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	alpha-BHC	19	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	beta-BHC	19	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	delta-BHC	19	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	gamma-BHC (lindane)	19	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	alpha-chlordane	62	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	gamma-chlordane	58	J	UG/KG
MVP1809	9812L717	138981237	12/17/98	4,4'-DDD	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	4,4'-DDE	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	4,4'-DDT	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dieldrin	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Endosulfan I	19	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Endosulfan II	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Endosulfan sulfate	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Endrin	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Endrin aldehyde	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Endrin ketone	38	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Heptachlor	19	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Heptachlor epoxide	19	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Methoxychlor	190	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	Toxaphene	1900	UJ	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4-D	38	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4,5-T	19	U	UG/KG

TABLE F-1
CHEMICAL DATA FOR CLEAN OVERBURDEN SAMPLES COLLECTED FROM MAYWOOD VICINITY PROPERTIES

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Review Qualifier	Unit
MVP1809	9812L717	138981237	12/17/98	2,4,5-TP (silvex)	19	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dalapon	190	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dicamba	75	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dichloroprop	190	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	2,4-DB	190	U	UG/KG
MVP1809	9812L717	138981237	12/17/98	Dinoseb	19	UJ	UG/KG

NOTES:
U - Analyte was analyzed for, but not detected.
J - Estimated value
UJ - Analyte was analyzed for but not detected, but must be estimated for quality control purposes.
NJ - This is an estimated value. The analyte is presumed to be present although the peaks in the retention time window showed poor comparison and could not be dismissed.
R - Rejected
I - Interference

APPENDIX G

RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL RECEIVED FROM VENDORS

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
Borrow Soil from RACE Excavation, Inc., Franklin Lakes, NJ							
MVP1815	9901L010	138990139	1/28/99	Chloromethane	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Bromomethane	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Vinyl chloride	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Chloroethane	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Methylene chloride	3	UJ	UG/KG
MVP1815	9901L010	138990139	1/28/99	Acetone	8	UJ	UG/KG
MVP1815	9901L010	138990139	1/28/99	Carbon disulfide	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,1-Dichloroethene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,1-Dichloroethane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,2-Dichloroethene (cis)	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,2-Dichloroethene (trans)	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Chloroform	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,2-Dichloroethane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Butanone	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,1,1-Trichloroethane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Carbon tetrachloride	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Bromodichloromethane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,2-Dichloropropane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	cis-1,3-Dichloropropene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	trans-1,3-Dichloropropene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Trichloroethene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dibromochloromethane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,1,2-Trichloroethane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Bromoform	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4-methyl-2-pentanone	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Hexanone	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Tetrachloroethene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,1,2,2-Tetrachloroethane	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Toluene	6		UG/KG
MVP1815	9901L010	138990139	1/28/99	Chlorobenzene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Ethylbenzene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Styrene	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Xylene (total)	6	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Vinyl acetate	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-chloroethylvinylether	11	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	N-Nitrosodimethylamine	200	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Phenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	bis (2-chloroethyl) ether	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Chlorophenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,3-Dichlorobenzene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,4-Dichlorobenzene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzyl alcohol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,2-Dichlorobenzene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Methyl phenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	bis (2-chloroisopropyl) ether	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4- Methyl phenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	N-Nitroso-di-n-propylamine	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Hexachloroethane	390	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1815	9901L010	138990139	1/28/99	Nitrobenzene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Isophorone	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Nitrophenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4-Dimethyl phenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzoic acid	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	bis (2-Chloroethoxy) methane	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4-Dichlorophenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	1,2,4-Trichlorobenzene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Naphthalene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4-Chloroaniline	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Hexachlorobutadiene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4-Chloro-3-methyl phenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Methylnaphthalene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Hexachlorocyclopentadiene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4,6-Trichlorophenol	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4,5-Trichlorophenol	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Chloronaphthalene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2-Nitroaniline	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dimethylphthalate	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Acenaphthylene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,6-Dinitrotoluene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	3-Nitroaniline	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Acenaphthene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4-Dinitrophenol	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4-Nitrophenol	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dibenzofuran	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4-Dinitrotoluene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Diethylphthalate	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4-Chlorophenyl-phenylether	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Fluorene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4-Nitroaniline	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4,6-Dinitro-2-methylphenol	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	N-Nitrosodiphenylamine	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4-Bromophenyl-phenylether	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Hexachlorobenzene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Pentachlorophenol	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Phenanthrene	94	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Anthracene	26	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Di-n-butylphthalate	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Fluoranthene	86	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzidine	980	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Pyrene	100	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Butylbenzylphthalate	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	3,3'-Dichlorobenzidine	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzo (a) anthracene	35	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Chrysene	40	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	bis (2-ethylhexyl) phthalate	50	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Di-n-octyl phthalate	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzo (b) fluoranthene	22	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzo (k) fluoranthene	23	J	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzo (a) pyrene	31	J	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1815	9901L010	138990139	1/28/99	Indeno (1,2,3-cd) pyrene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dibenzo (a,h) anthracene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Benzo (g,h,i) perylene	390	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Aluminum	16000		MG/KG
MVP1815	9901L010	138990139	1/28/99	Antimony	0.19	U	MG/KG
MVP1815	9901L010	138990139	1/28/99	Arsenic	2.3		MG/KG
MVP1815	9901L010	138990139	1/28/99	Barium	52.4		MG/KG
MVP1815	9901L010	138990139	1/28/99	Beryllium	0.71		MG/KG
MVP1815	9901L010	138990139	1/28/99	Cadmium	0.19		MG/KG
MVP1815	9901L010	138990139	1/28/99	Calcium	1780	J	MG/KG
MVP1815	9901L010	138990139	1/28/99	Chromium	36.2	J	MG/KG
MVP1815	9901L010	138990139	1/28/99	Cobalt	8.9		MG/KG
MVP1815	9901L010	138990139	1/28/99	Copper	32.7		MG/KG
MVP1815	9901L010	138990139	1/28/99	Iron	20800		MG/KG
MVP1815	9901L010	138990139	1/28/99	Lead	6.3		MG/KG
MVP1815	9901L010	138990139	1/28/99	Magnesium	3980	J	MG/KG
MVP1815	9901L010	138990139	1/28/99	Manganese	192		MG/KG
MVP1815	9901L010	138990139	1/28/99	Mercury	0.02	U	MG/KG
MVP1815	9901L010	138990139	1/28/99	Nickel	20.8		MG/KG
MVP1815	9901L010	138990139	1/28/99	Potassium	636		MG/KG
MVP1815	9901L010	138990139	1/28/99	Selenium	0.35		MG/KG
MVP1815	9901L010	138990139	1/28/99	Silver	0.07	U	MG/KG
MVP1815	9901L010	138990139	1/28/99	Sodium	168		MG/KG
MVP1815	9901L010	138990139	1/28/99	Thallium	0.55		MG/KG
MVP1815	9901L010	138990139	1/28/99	Vanadium	77.3		MG/KG
MVP1815	9901L010	138990139	1/28/99	Zinc	49.7		MG/KG
MVP1815	9901L010	138990139	1/28/99	Arochlor-1016	39	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Arochlor-1221	79	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Arochlor-1232	39	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Arochlor-1242	39	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Arochlor-1248	39	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Arochlor-1254	39	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Arochlor-1260	39	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Aldrin	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	alpha-BHC	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	beta-BHC	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	delta-BHC	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	gamma-BHC (lindane)	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	alpha-chlordane	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	gamma-chlordane	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4,4'-DDD	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4,4'-DDE	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	4,4'-DDT	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dieldrin	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Endosulfan I	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Endosulfan II	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Endosulfan sulfate	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Endrin	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Endrin aldehyde	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Endrin ketone	3.9	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Heptachlor	2	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1815	9901L010	138990139	1/28/99	Heptachlor epoxide	2	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Methoxychlor	20	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Toxaphene	200	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4-D	39	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4,5-T	20	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4,5-TP (silvex)	20	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dalapon	200	UJ	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dicamba	79	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dichloroprop	200	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	2,4-DB	200	U	UG/KG
MVP1815	9901L010	138990139	1/28/99	Dinoseb	20	UJ	UG/KG
Borrow Soil from RACE Excavation, Inc., Franklin Lakes, NJ							
MVP1816	9901L010	138990139	1/28/99	Chloromethane	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Bromomethane	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Vinyl chloride	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Chloroethane	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Methylene chloride	4	UJ	UG/KG
MVP1816	9901L010	138990139	1/28/99	Acetone	3	UJ	UG/KG
MVP1816	9901L010	138990139	1/28/99	Carbon disulfide	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,1-Dichloroethene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,1-Dichloroethane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,2-Dichloroethene (cis)	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,2-Dichloroethene (trans)	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Chloroform	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,2-Dichloroethane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Butanone	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,1,1-Trichloroethane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Carbon tetrachloride	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Bromodichloromethane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,2-Dichloropropane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	cis-1,3-Dichloropropene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	trans-1,3-Dichloropropene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Trichloroethene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dibromochloromethane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,1,2-Trichloroethane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Bromoform	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4-methyl-2-pentanone	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Hexanone	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Tetrachloroethene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,1,2,2-Tetrachloroethane	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Toluene	1	J	UG/KG
MVP1816	9901L010	138990139	1/28/99	Chlorobenzene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Ethylbenzene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Styrene	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Xylene (total)	6	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Vinyl acetate	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-chloroethylvinylether	12	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	N-Nitrosodimethylamine	200	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Phenol	390	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1816	9901L010	138990139	1/28/99	bis (2-chloroethyl) ether	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Chlorophenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,3-Dichlorobenzene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,4-Dichlorobenzene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzyl alcohol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,2-Dichlorobenzene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Methyl phenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	bis (2-chloroisopropyl) ether	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4- Methyl phenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	N-Nitroso-di-n-propylamine	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Hexachloroethane	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Nitrobenzene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Isophorone	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Nitrophenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4-Dimethyl phenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzoic acid	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	bis (2-Chloroethoxy) methane	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4-Dichlorophenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	1,2,4-Trichlorobenzene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Naphthalene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4-Chloroaniline	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Hexachlorobutadiene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4-Chloro-3-methyl phenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Methylnaphthalene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Hexachlorocyclopentadiene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4,6-Trichlorophenol	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4,5-Trichlorophenol	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Chloronaphthalene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2-Nitroaniline	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dimethylphthalate	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Acenaphthylene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,6-Dinitrotoluene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	3-Nitroaniline	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Acenaphthene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4-Dinitrophenol	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4-Nitrophenol	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dibenzofuran	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4-Dinitrotoluene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Diethylphthalate	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4-Chlorophenyl-phenylether	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Fluorene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4-Nitroaniline	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4,6-Dinitro-2-methylphenol	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	N-Nitrosodiphenylamine	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4-Bromophenyl-phenylether	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Hexachlorobenzene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Pentachlorophenol	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Phenanthrene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Anthracene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Di-n-butylphthalate	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Fluoranthene	24	J	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1816	9901L010	138990139	1/28/99	Benzidine	980	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Pyrene	26	J	UG/KG
MVP1816	9901L010	138990139	1/28/99	Butylbenzylphthalate	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	3,3'-Dichlorobenzidine	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzo (a) anthracene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Chrysene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	bis (2-ethylhexyl) phthalate	27	J	UG/KG
MVP1816	9901L010	138990139	1/28/99	Di-n-octyl phthalate	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzo (b) fluoranthene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzo (k) fluoranthene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzo (a) pyrene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Indeno (1,2,3-cd) pyrene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dibenzo (a,h) anthracene	390	J	UG/KG
MVP1816	9901L010	138990139	1/28/99	Benzo (g,h,i) perylene	390	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Aluminum	16700		MG/KG
MVP1816	9901L010	138990139	1/28/99	Antimony	0.23	U	MG/KG
MVP1816	9901L010	138990139	1/28/99	Arsenic	3		MG/KG
MVP1816	9901L010	138990139	1/28/99	Barium	57.4		MG/KG
MVP1816	9901L010	138990139	1/28/99	Beryllium	0.74		MG/KG
MVP1816	9901L010	138990139	1/28/99	Cadmium	0.25		MG/KG
MVP1816	9901L010	138990139	1/28/99	Calcium	1890	J	MG/KG
MVP1816	9901L010	138990139	1/28/99	Chromium	31.7	J	MG/KG
MVP1816	9901L010	138990139	1/28/99	Cobalt	9.7		MG/KG
MVP1816	9901L010	138990139	1/28/99	Copper	34.1		MG/KG
MVP1816	9901L010	138990139	1/28/99	Iron	23700		MG/KG
MVP1816	9901L010	138990139	1/28/99	Lead	6.5		MG/KG
MVP1816	9901L010	138990139	1/28/99	Magnesium	3910	J	MG/KG
MVP1816	9901L010	138990139	1/28/99	Manganese	217		MG/KG
MVP1816	9901L010	138990139	1/28/99	Mercury	0.02	U	MG/KG
MVP1816	9901L010	138990139	1/28/99	Nickel	21.1		MG/KG
MVP1816	9901L010	138990139	1/28/99	Potassium	720		MG/KG
MVP1816	9901L010	138990139	1/28/99	Selenium	0.37	U	MG/KG
MVP1816	9901L010	138990139	1/28/99	Silver	1.1		MG/KG
MVP1816	9901L010	138990139	1/28/99	Sodium	191		MG/KG
MVP1816	9901L010	138990139	1/28/99	Thallium	0.57		MG/KG
MVP1816	9901L010	138990139	1/28/99	Vanadium	84.1		MG/KG
MVP1816	9901L010	138990139	1/28/99	Zinc	49.5		MG/KG
MVP1816	9901L010	138990139	1/28/99	Arochlor-1016	39	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Arochlor-1221	79	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Arochlor-1232	39	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Arochlor-1242	39	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Arochlor-1248	39	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Arochlor-1254	39	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Arochlor-1260	39	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Aldrin	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	alpha-BHC	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	beta-BHC	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	delta-BHC	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	gamma-BHC (lindane)	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	alpha-chlordane	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	gamma-chlordane	2	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1816	9901L010	138990139	1/28/99	4,4'-DDD	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4,4'-DDE	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	4,4'-DDT	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dieldrin	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Endosulfan I	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Endosulfan II	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Endosulfan sulfate	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Endrin	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Endrin aldehyde	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Endrin ketone	3.9	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Heptachlor	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Heptachlor epoxide	2	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Methoxychlor	20	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Toxaphene	200	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4-D	39	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4,5-T	20	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4,5-TP (silvex)	20	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dalapon	200	UJ	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dicamba	79	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dichloroprop	200	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	2,4-DB	200	U	UG/KG
MVP1816	9901L010	138990139	1/28/99	Dinoseb	20	UJ	UG/KG
Backfill							
MVP3915	9903L309	138990310	3/2/99	Chloromethane	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Bromomethane	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Vinyl chloride	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Chloroethane	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Methylene chloride	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Acetone	7	UJ	UG/KG
MVP3915	9903L309	138990310	3/2/99	Carbon disulfide	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,1-Dichloroethene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,1-Dichloroethane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,2-Dichloroethene (cis)	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,2-Dichloroethene (trans)	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Chloroform	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,2-Dichloroethane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Butanone	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,1,1-Trichloroethane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Carbon tetrachloride	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Bromodichloromethane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,2-Dichloropropane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	cis-1,3-Dichloropropene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	trans-1,3-Dichloropropene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Trichloroethene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dibromochloromethane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,1,2-Trichloroethane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Bromoform	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4-methyl-2-pentanone	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Hexanone	11	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP3915	9903L309	138990310	3/2/99	Tetrachloroethene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,1,2,2-Tetrachloroethane	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Toluene	67		UG/KG
MVP3915	9903L309	138990310	3/2/99	Chlorobenzene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Ethylbenzene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Styrene	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Xylene (total)	6	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Vinyl acetate	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-chloroethylvinylether	11	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	N-Nitrosodimethylamine	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Phenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	bis (2-chloroethyl) ether	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Chlorophenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,3-Dichlorobenzene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,4-Dichlorobenzene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzyl alcohol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,2-Dichlorobenzene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Methyl phenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	bis (2-chloroisopropyl) ether	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4- Methyl phenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	N-Nitroso-di-n-propylamine	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Hexachloroethane	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Nitrobenzene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Isophorone	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Nitrophenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4-Dimethyl phenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzoic acid	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	bis (2-Chloroethoxy) methane	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4-Dichlorophenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	1,2,4-Trichlorobenzene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Naphthalene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4-Chloroaniline	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Hexachlorobutadiene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4-Chloro-3-methyl phenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Methylnaphthalene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Hexachlorocyclopentadiene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4,6-Trichlorophenol	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4,5-Trichlorophenol	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Chloronaphthalene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2-Nitroaniline	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dimethylphthalate	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Acenaphthylene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,6-Dinitrotoluene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	3-Nitroaniline	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Acenaphthene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4-Dinitrophenol	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4-Nitrophenol	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dibenzofuran	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4-Dinitrotoluene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Diethylphthalate	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4-Chlorophenyl-phenylether	380	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP3915	9903L309	138990310	3/2/99	Fluorene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4-Nitroaniline	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4,6-Dinitro-2-methylphenol	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	N-Nitrosodiphenylamine	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4-Bromophenyl-phenylether	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Hexachlorobenzene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Pentachlorophenol	960	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Phenanthrene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Anthracene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Di-n-butylphthalate	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Fluoranthene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzidine	1900	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Pyrene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Butylbenzylphthalate	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	3,3'-Dichlorobenzidine	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzo (a) anthracene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Chrysene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	bis (2-ethylhexyl) phthalate	22	J	UG/KG
MVP3915	9903L309	138990310	3/2/99	Di-n-octyl phthalate	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzo (b) fluoranthene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzo (k) fluoranthene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzo (a) pyrene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Indeno (1,2,3-cd) pyrene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dibenzo (a,h) anthracene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Benzo (g,h,i) perylene	380	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Aluminum	10100		MG/KG
MVP3915	9903L309	138990310	3/2/99	Antimony	0.24	U	MG/KG
MVP3915	9903L309	138990310	3/2/99	Arsenic	2		MG/KG
MVP3915	9903L309	138990310	3/2/99	Barium	46.6		MG/KG
MVP3915	9903L309	138990310	3/2/99	Beryllium	0.39		MG/KG
MVP3915	9903L309	138990310	3/2/99	Cadmium	0.09		MG/KG
MVP3915	9903L309	138990310	3/2/99	Calcium	1620		MG/KG
MVP3915	9903L309	138990310	3/2/99	Chromium	20.2		MG/KG
MVP3915	9903L309	138990310	3/2/99	Cobalt	7.7		MG/KG
MVP3915	9903L309	138990310	3/2/99	Copper	28.7		MG/KG
MVP3915	9903L309	138990310	3/2/99	Iron	14300		MG/KG
MVP3915	9903L309	138990310	3/2/99	Lead	7.1		MG/KG
MVP3915	9903L309	138990310	3/2/99	Magnesium	2490		MG/KG
MVP3915	9903L309	138990310	3/2/99	Manganese	160		MG/KG
MVP3915	9903L309	138990310	3/2/99	Mercury	0.02	U	MG/KG
MVP3915	9903L309	138990310	3/2/99	Nickel	14.2		MG/KG
MVP3915	9903L309	138990310	3/2/99	Potassium	407		MG/KG
MVP3915	9903L309	138990310	3/2/99	Selenium	0.38	U	MG/KG
MVP3915	9903L309	138990310	3/2/99	Silver	0.1	U	MG/KG
MVP3915	9903L309	138990310	3/2/99	Sodium	111		MG/KG
MVP3915	9903L309	138990310	3/2/99	Thallium	0.5		MG/KG
MVP3915	9903L309	138990310	3/2/99	Vanadium	54.8		MG/KG
MVP3915	9903L309	138990310	3/2/99	Zinc	36.8		MG/KG
MVP3915	9903L309	138990310	3/2/99	Arochlor-1016	38	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Arochlor-1221	76	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Arochlor-1232	38	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP3915	9903L309	138990310	3/2/99	Arochlor-1242	38	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Arochlor-1248	38	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Arochlor-1254	38	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Arochlor-1260	38	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Aldrin	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	alpha-BHC	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	beta-BHC	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	delta-BHC	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	gamma-BHC (lindane)	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	alpha-chlordane	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	gamma-chlordane	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4,4'-DDD	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4,4'-DDE	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	4,4'-DDT	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dieldrin	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Endosulfan I	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Endosulfan II	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Endosulfan sulfate	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Endrin	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Endrin aldehyde	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Endrin ketone	3.8	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Heptachlor	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Heptachlor epoxide	1.9	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Methoxychlor	19	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Toxaphene	190	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4-D	38	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4,5-T	19	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4,5-TP (silvex)	19	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dalapon	190	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dicamba	76	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dichloroprop	190	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	2,4-DB	190	U	UG/KG
MVP3915	9903L309	138990310	3/2/99	Dinoseb	19	R	UG/KG
Top Soil							
MVP4084	9903L309	138990311	3/2/99	Chloromethane	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Bromomethane	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Vinyl chloride	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Chloroethane	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Methylene chloride	13	B	UG/KG
MVP4084	9903L309	138990311	3/2/99	Acetone	11	UJ	UG/KG
MVP4084	9903L309	138990311	3/2/99	Carbon disulfide	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,1-Dichloroethene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,1-Dichloroethane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,2-Dichloroethene (cis)	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,2-Dichloroethene (trans)	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Chloroform	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,2-Dichloroethane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Butanone	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,1,1-Trichloroethane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Carbon tetrachloride	6	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP4084	9903L309	138990311	3/2/99	Bromodichloromethane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,2-Dichloropropane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	cis-1,3-Dichloropropene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	trans-1,3-Dichloropropene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Trichloroethene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dibromochloromethane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,1,2-Trichloroethane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Bromoform	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4-methyl-2-pentanone	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Hexanone	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Tetrachloroethene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,1,2,2-Tetrachloroethane	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Toluene	30		UG/KG
MVP4084	9903L309	138990311	3/2/99	Chlorobenzene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Ethylbenzene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Styrene	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Xylene (total)	6	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Vinyl acetate	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-chloroethylvinylether	13	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	N-Nitrosodimethylamine	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Phenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	bis (2-chloroethyl) ether	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Chlorophenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,3-Dichlorobenzene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,4-Dichlorobenzene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzyl alcohol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,2-Dichlorobenzene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Methyl phenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	bis (2-chloroisopropyl) ether	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4- Methyl phenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	N-Nitroso-di-n-propylamine	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Hexachloroethane	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Nitrobenzene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Isophorone	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Nitrophenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4-Dimethyl phenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzoic acid	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	bis (2-Chloroethoxy) methane	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4-Dichlorophenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	1,2,4-Trichlorobenzene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Naphthalene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4-Chloroaniline	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Hexachlorobutadiene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4-Chloro-3-methyl phenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Methylnaphthalene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Hexachlorocyclopentadiene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4,6-Trichlorophenol	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4,5-Trichlorophenol	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Chloronaphthalene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2-Nitroaniline	2200	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Qualifier Review	Unit
MVP4084	9903L309	138990311	3/2/99	Dimethylphthalate	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Acenaphthylene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,6-Dinitrotoluene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	3-Nitroaniline	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Acenaphthene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4-Dinitrophenol	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4-Nitrophenol	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dibenzofuran	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4-Dinitrotoluene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Diethylphthalate	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4-Chlorophenyl-phenylether	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Fluorene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4-Nitroaniline	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4,6-Dinitro-2-methylphenol	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	N-Nitrosodiphenylamine	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4-Bromophenyl-phenylether	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Hexachlorobenzene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Pentachlorophenol	2200	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Phenanthrene	81	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Anthracene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Di-n-butylphthalate	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Fluoranthene	160	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzidine	4500	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Pyrene	150	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Butylbenzylphthalate	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	3,3'-Dichlorobenzidine	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzo (a) anthracene	95	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Chrysene	120	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	bis (2-ethylhexyl) phthalate	180	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Di-n-octyl phthalate	140	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzo (b) fluoranthene	120	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzo (k) fluoranthene	100	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzo (a) pyrene	110	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Indeno (1,2,3-cd) pyrene	89	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dibenzo (a,h) anthracene	900	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Benzo (g,h,i) perylene	90	J	UG/KG
MVP4084	9903L309	138990311	3/2/99	Aluminum	7490		MG/KG
MVP4084	9903L309	138990311	3/2/99	Antimony	0.27	UJ	MG/KG
MVP4084	9903L309	138990311	3/2/99	Arsenic	4.9		MG/KG
MVP4084	9903L309	138990311	3/2/99	Barium	49.7		MG/KG
MVP4084	9903L309	138990311	3/2/99	Beryllium	0.45		MG/KG
MVP4084	9903L309	138990311	3/2/99	Cadmium	0.2		MG/KG
MVP4084	9903L309	138990311	3/2/99	Calcium	3160		MG/KG
MVP4084	9903L309	138990311	3/2/99	Chromium	15.1		MG/KG
MVP4084	9903L309	138990311	3/2/99	Cobalt	5.3		MG/KG
MVP4084	9903L309	138990311	3/2/99	Copper	27.1		MG/KG
MVP4084	9903L309	138990311	3/2/99	Iron	12300		MG/KG
MVP4084	9903L309	138990311	3/2/99	Lead	31		MG/KG
MVP4084	9903L309	138990311	3/2/99	Magnesium	2380		MG/KG
MVP4084	9903L309	138990311	3/2/99	Manganese	214		MG/KG
MVP4084	9903L309	138990311	3/2/99	Mercury	0.05		MG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concentration	Qualifier Review	Unit
MVP4084	9903L309	138990311	3/2/99	Nickel	11.3		MG/KG
MVP4084	9903L309	138990311	3/2/99	Potassium	414		MG/KG
MVP4084	9903L309	138990311	3/2/99	Selenium	0.43	U	MG/KG
MVP4084	9903L309	138990311	3/2/99	Silver	0.11	U	MG/KG
MVP4084	9903L309	138990311	3/2/99	Sodium	124		MG/KG
MVP4084	9903L309	138990311	3/2/99	Thallium	0.44	U	MG/KG
MVP4084	9903L309	138990311	3/2/99	Vanadium	31.4		MG/KG
MVP4084	9903L309	138990311	3/2/99	Zinc	62.4		MG/KG
MVP4084	9903L309	138990311	3/2/99	Arochlor-1016	90	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Arochlor-1221	180	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Arochlor-1232	90	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Arochlor-1242	90	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Arochlor-1248	90	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Arochlor-1254	90	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Arochlor-1260	90	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Aldrin	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	alpha-BHC	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	beta-BHC	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	delta-BHC	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	gamma-BHC (lindane)	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	alpha-chlordane	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	gamma-chlordane	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4,4'-DDD	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4,4'-DDE	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	4,4'-DDT	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dieldrin	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Endosulfan I	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Endosulfan II	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Endosulfan sulfate	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Endrin	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Endrin aldehyde	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Endrin ketone	9	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Heptachlor	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Heptachlor epoxide	4.5	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Methoxychlor	45	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Toxaphene	450	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4-D	45	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4,5-T	22	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4,5-TP (silvex)	22	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dalapon	220	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dicamba	90	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dichloroprop	220	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	2,4-DB	220	U	UG/KG
MVP4084	9903L309	138990311	3/2/99	Dinoseb	22	UJ	UG/KG
UNIMIN @ Cedar Lakes, NJ							
MVP1820	9903L318	138990320	3/3/99	Chloromethane	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Bromomethane	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Vinyl chloride	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Chloroethane	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Methylene chloride	13	B	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1820	9903L318	138990320	3/3/99	Acetone	6	UJ	UG/KG
MVP1820	9903L318	138990320	3/3/99	Carbon disulfide	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,1-Dichloroethene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,1-Dichloroethane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,2-Dichloroethene (cis)	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,2-Dichloroethene (trans)	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Chloroform	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,2-Dichloroethane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Butanone	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,1,1-Trichloroethane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Carbon tetrachloride	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Bromodichloromethane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,2-Dichloropropane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	cis-1,3-Dichloropropene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	trans-1,3-Dichloropropene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Trichloroethene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dibromochloromethane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,1,2-Trichloroethane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Bromoform	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4-methyl-2-pentanone	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Hexanone	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Tetrachloroethene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,1,2,2-Tetrachloroethane	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Toluene	48		UG/KG
MVP1820	9903L318	138990320	3/3/99	Chlorobenzene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Ethylbenzene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Styrene	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Xylene (total)	6	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Vinyl acetate	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-chloroethylvinylether	11	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	N-Nitrosodimethylamine	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Phenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	bis (2-chloroethyl) ether	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Chlorophenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,3-Dichlorobenzene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,4-Dichlorobenzene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzyl alcohol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	1,2-Dichlorobenzene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Methyl phenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	bis (2-chloroisopropyl) ether	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4- Methyl phenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	N-Nitroso-di-n-propylamine	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Hexachloroethane	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Nitrobenzene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Isophorone	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Nitrophenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4-Dimethyl phenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzoic acid	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	bis (2-Chloroethoxy) methane	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4-Dichlorophenol	370	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1820	9903L318	138990320	3/3/99	1,2,4-Trichlorobenzene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Naphthalene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4-Chloroaniline	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Hexachlorobutadiene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4-Chloro-3-methyl phenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Methylnaphthalene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Hexachlorocyclopentadiene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4,6-Trichlorophenol	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4,5-Trichlorophenol	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Chloronaphthalene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2-Nitroaniline	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dimethylphthalate	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Acenaphthylene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,6-Dinitrotoluene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	3-Nitroaniline	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Acenaphthene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4-Dinitrophenol	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4-Nitrophenol	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dibenzofuran	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4-Dinitrotoluene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Diethylphthalate	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4-Chlorophenyl-phenylether	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Fluorene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4-Nitroaniline	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4,6-Dinitro-2-methylphenol	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	N-Nitrosodiphenylamine	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4-Bromophenyl-phenylether	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Hexachlorobenzene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Pentachlorophenol	940	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Phenanthrene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Anthracene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Di-n-butylphthalate	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Fluoranthene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzidine	1900	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Pyrene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Butylbenzylphthalate	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	3,3'-Dichlorobenzidine	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzo (a) anthracene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Chrysene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	bis (2-ethylhexyl) phthalate	37	J	UG/KG
MVP1820	9903L318	138990320	3/3/99	Di-n-octyl phthalate	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzo (b) fluoranthene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzo (k) fluoranthene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzo (a) pyrene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Indeno (1,2,3-cd) pyrene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dibenzo (a,h) anthracene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Benzo (g,h,i) perylene	370	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Aluminum	5480		MG/KG
MVP1820	9903L318	138990320	3/3/99	Antimony	0.22	UJ	MG/KG
MVP1820	9903L318	138990320	3/3/99	Arsenic	3.2		MG/KG
MVP1820	9903L318	138990320	3/3/99	Barium	9.2		MG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1820	9903L318	138990320	3/3/99	Beryllium	0.1		MG/KG
MVP1820	9903L318	138990320	3/3/99	Cadmium	0.04	U	MG/KG
MVP1820	9903L318	138990320	3/3/99	Calcium	74.2		MG/KG
MVP1820	9903L318	138990320	3/3/99	Chromium	13.1		MG/KG
MVP1820	9903L318	138990320	3/3/99	Cobalt	0.33		MG/KG
MVP1820	9903L318	138990320	3/3/99	Copper	3.6		MG/KG
MVP1820	9903L318	138990320	3/3/99	Iron	9710		MG/KG
MVP1820	9903L318	138990320	3/3/99	Lead	5.4		MG/KG
MVP1820	9903L318	138990320	3/3/99	Magnesium	60.8		MG/KG
MVP1820	9903L318	138990320	3/3/99	Manganese	7.4		MG/KG
MVP1820	9903L318	138990320	3/3/99	Mercury	0.02	U	MG/KG
MVP1820	9903L318	138990320	3/3/99	Nickel	1.4		MG/KG
MVP1820	9903L318	138990320	3/3/99	Potassium	137		MG/KG
MVP1820	9903L318	138990320	3/3/99	Selenium	0.34	U	MG/KG
MVP1820	9903L318	138990320	3/3/99	Silver	0.09	U	MG/KG
MVP1820	9903L318	138990320	3/3/99	Sodium	13		MG/KG
MVP1820	9903L318	138990320	3/3/99	Thallium	0.35	U	MG/KG
MVP1820	9903L318	138990320	3/3/99	Vanadium	19.4		MG/KG
MVP1820	9903L318	138990320	3/3/99	Zinc	2.4		MG/KG
MVP1820	9903L318	138990320	3/3/99	Arochlor-1016	37	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Arochlor-1221	75	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Arochlor-1232	37	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Arochlor-1242	37	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Arochlor-1248	37	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Arochlor-1254	37	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Arochlor-1260	37	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Aldrin	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	alpha-BHC	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	beta-BHC	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	delta-BHC	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	gamma-BHC (lindane)	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	alpha-chlordane	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	gamma-chlordane	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4,4'-DDD	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4,4'-DDE	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	4,4'-DDT	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dieldrin	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Endosulfan I	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Endosulfan II	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Endosulfan sulfate	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Endrin	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Endrin aldehyde	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Endrin ketone	3.7	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Heptachlor	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Heptachlor epoxide	1.9	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Methoxychlor	19	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Toxaphene	190	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4-D	37	UJ	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4,5-T	19	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4,5-TP (silvex)	19	UJ	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dalapon	190	UJ	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1820	9903L318	138990320	3/3/99	Dicamba	75	UJ	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dichloroprop	190	UJ	UG/KG
MVP1820	9903L318	138990320	3/3/99	2,4-DB	190	U	UG/KG
MVP1820	9903L318	138990320	3/3/99	Dinoseb	19	UJ	UG/KG
Top Soil from RACE Excavation, Inc., Franklin Lakes, NJ							
MVP1803	98G1045	138980637	6/10/1998	Thorium-232	0.43	uj	PCI/G
MVP1803	98G1045	138980637	6/10/1998	Radium-226	0.26	j	PCI/G
MVP1803	98G1045	138980637	6/10/1998	Uranium-238	3.1	uj	PCI/G
Fill Material from RACE Excavation, Inc. Franklin Lakes, NJ							
MVP1804	98G1045	138980637	6/10/1998	Thorium-232	0.56	j	PCI/G
MVP1804	98G1045	138980637	6/10/1998	Radium-226	0.38	j	PCI/G
MVP1804	98G1045	138980637	6/10/1998	Uranium-238	1.82	uj	PCI/G
UNIMIN @ Cedar Lakes, NJ							
MVP1821	99G1031	138990321	3/3/99	Thorium-232	0.5	J	PCI/G
MVP1821	99G1031	138990321	3/3/99	Radium-226	0.33	J	PCI/G
MVP1821	99G1031	138990321	3/3/99	Uranium-238	0.12	UJ	PCI/G
Top Soil, RACE Excavation, NJ							
MVP1822	9903L337	138990326	3/4/99	Chloromethane	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Bromomethane	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Vinyl chloride	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Chloroethane	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Methylene chloride	9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Acetone	7	UJ	UG/KG
MVP1822	9903L337	138990326	3/4/99	Carbon disulfide	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,1-Dichloroethene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,1-Dichloroethane	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,2-Dichloroethene (cis)	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,2-Dichloroethene (trans)	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Chloroform	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,2-Dichloroethane	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Butanone	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,1,1-Trichloroethane	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Carbon tetrachloride	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Bromodichloromethane	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,2-Dichloropropane	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	cis-1,3-Dichloropropene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	trans-1,3-Dichloropropene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Trichloroethene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dibromochloromethane	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,1,2-Trichloroethane	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Bromoform	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4-methyl-2-pentanone	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Hexanone	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Tetrachloroethene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,1,2,2-Tetrachloroethane	6	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1822	9903L337	138990326	3/4/99	Toluene	8		UG/KG
MVP1822	9903L337	138990326	3/4/99	Chlorobenzene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Ethylbenzene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Styrene	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Xylene (total)	6	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Vinyl acetate	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-chloroethylvinylether	12	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	N-Nitrosodimethylamine	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Phenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	bis (2-chloroethyl) ether	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Chlorophenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,3-Dichlorobenzene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,4-Dichlorobenzene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzyl alcohol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,2-Dichlorobenzene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Methyl phenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	bis (2-chloroisopropyl) ether	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4- Methyl phenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	N-Nitroso-di-n-propylamine	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Hexachloroethane	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Nitrobenzene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Isophorone	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Nitrophenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4-Dimethyl phenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzoic acid	72	J	UG/KG
MVP1822	9903L337	138990326	3/4/99	bis (2-Chloroethoxy) methane	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4-Dichlorophenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	1,2,4-Trichlorobenzene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Naphthalene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4-Chloroaniline	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Hexachlorobutadiene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4-Chloro-3-methyl phenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Methylnaphthalene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Hexachlorocyclopentadiene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4,6-Trichlorophenol	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4,5-Trichlorophenol	980	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Chloronaphthalene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2-Nitroaniline	980	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dimethylphthalate	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Acenaphthylene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,6-Dinitrotoluene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	3-Nitroaniline	980	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Acenaphthene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4-Dinitrophenol	980	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4-Nitrophenol	980	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dibenzofuran	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4-Dinitrotoluene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Diethylphthalate	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4-Chlorophenyl-phenylether	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Fluorene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4-Nitroaniline	980	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1822	9903L337	138990326	3/4/99	4,6-Dinitro-2-methylphenol	980	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	N-Nitrosodiphenylamine	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4-Bromophenyl-phenylether	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Hexachlorobenzene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Pentachlorophenol	980	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Phenanthrene	22	J	UG/KG
MVP1822	9903L337	138990326	3/4/99	Anthracene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Di-n-butylphthalate	57	J	UG/KG
MVP1822	9903L337	138990326	3/4/99	Fluoranthene	27	J	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzidine	2000	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Pyrene	28	J	UG/KG
MVP1822	9903L337	138990326	3/4/99	Butylbenzylphthalate	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	3,3'-Dichlorobenzidine	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzo (a) anthracene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Chrysene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	bis (2-ethylhexyl) phthalate	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Di-n-octyl phthalate	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzo (b) fluoranthene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzo (k) fluoranthene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzo (a) pyrene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Indeno (1,2,3-cd) pyrene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dibenzo (a,h) anthracene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Benzo (g,h,i) perylene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Aluminum	7800		MG/KG
MVP1822	9903L337	138990326	3/4/99	Antimony	0.22	UJ	MG/KG
MVP1822	9903L337	138990326	3/4/99	Arsenic	1.2		MG/KG
MVP1822	9903L337	138990326	3/4/99	Barium	26.8		MG/KG
MVP1822	9903L337	138990326	3/4/99	Beryllium	0.29		MG/KG
MVP1822	9903L337	138990326	3/4/99	Cadmium	0.04		MG/KG
MVP1822	9903L337	138990326	3/4/99	Calcium	1040		MG/KG
MVP1822	9903L337	138990326	3/4/99	Chromium	13.6		MG/KG
MVP1822	9903L337	138990326	3/4/99	Cobalt	5.1		MG/KG
MVP1822	9903L337	138990326	3/4/99	Copper	21.6		MG/KG
MVP1822	9903L337	138990326	3/4/99	Iron	11300		MG/KG
MVP1822	9903L337	138990326	3/4/99	Lead	4.2		MG/KG
MVP1822	9903L337	138990326	3/4/99	Magnesium	2100		MG/KG
MVP1822	9903L337	138990326	3/4/99	Manganese	114		MG/KG
MVP1822	9903L337	138990326	3/4/99	Mercury	0.02	U	MG/KG
MVP1822	9903L337	138990326	3/4/99	Nickel	10		MG/KG
MVP1822	9903L337	138990326	3/4/99	Potassium	255		MG/KG
MVP1822	9903L337	138990326	3/4/99	Selenium	0.34	U	MG/KG
MVP1822	9903L337	138990326	3/4/99	Silver	0.08	U	MG/KG
MVP1822	9903L337	138990326	3/4/99	Sodium	62.5		MG/KG
MVP1822	9903L337	138990326	3/4/99	Thallium	0.35	U	MG/KG
MVP1822	9903L337	138990326	3/4/99	Vanadium	39.5		MG/KG
MVP1822	9903L337	138990326	3/4/99	Zinc	28.3		MG/KG
MVP1822	9903L337	138990326	3/4/99	Arochlor-1016	78	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Arochlor-1221	160	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Arochlor-1232	78	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Arochlor-1242	78	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Arochlor-1248	78	U	UG/KG

TABLE G-1
RADIOLOGICAL AND CHEMICAL DATA FOR BACKFILL MATERIAL RECEIVED FROM VENDORS

Sample ID	Document ID	COC #	Collection Date	Analyte	Concen-tration	Qualifier Review	Unit
MVP1822	9903L337	138990326	3/4/99	Arochlor-1254	78	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Arochlor-1260	78	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Aldrin	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	alpha-BHC	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	beta-BHC	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	delta-BHC	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	gamma-BHC (lindane)	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	alpha-chlordane	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	gamma-chlordane	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4,4'-DDD	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4,4'-DDE	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	4,4'-DDT	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dieldrin	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Endosulfan I	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Endosulfan II	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Endosulfan sulfate	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Endrin	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Endrin aldehyde	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Endrin ketone	7.8	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Heptachlor	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Heptachlor epoxide	3.9	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Methoxychlor	39	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Toxaphene	390	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4-D	39	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4,5-T	20	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4,5-TP (silvex)	20	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dalapon	200	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dicamba	78	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dichloroprop	200	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	2,4-DB	200	U	UG/KG
MVP1822	9903L337	138990326	3/4/99	Dinoseb	20	UJ	UG/KG

NOTES:

U - Analyte was analyzed for, but not detected.

J - Estimated value

UJ - Analyte was analyzed for, but not detected, but is estimated for quality control purposes.

B - The analyte was found in the laboratory blank as well as in the sample. This indicates possible laboratory contamination.

R - Rejected