FUSRAP
Maywood Superfund Site

Annual Environmental Monitoring Report, 2004

Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:

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100 West Hunter Avenue
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Prepared for:

US Army Corps
of Engineers®

Contract No. DACW41-99-D-9001

August 2005, Revision 0

ANNUAL ENVIRONMENTAL MONITORING REPORT, 2004

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, LODI, AND ROCHELLE PARK, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT No. DACW41-99-D-9001
TASK ORDER 0003
WAD 03, WBS 07

Submitted to:

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza
New York, New York 10007

Submitted by:

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RECORD OF REVISIONS

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Revision 0	Issue to Regulators for review	August 2005

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

ABBREVIATIONS AND ACRONYMS

AEC	Atomic Energy Commission
AL	Action Level
ASTM	American Society for Testing and Materials
BEE	Baseline Ecological Evaluation
BNI	Bechtel National, Incorporated
Bq	Becquerel
CAA	Clean Air Act
CAP88-PC	Clean Air Act Assessment Package 1988 – Personal Computer
CDQMP	Chemical Data Quality Management Plan
CFR	Code of Federal Regulations
cm	centimeter
CSG	casing
DCA	dichloroethane
DCE	dichloroethene
DOE	U.S. Department of Energy
Eh	oxidation / reduction potential
EML	Environmental Measurements Laboratory
EMP	Environmental Monitoring Program
EPA	U.S. Environmental Protection Agency
ER-L	Effects Range-Low
ER-M	Effects Range-Medium
fl oz	Fluid Ounce
FMSS	FUSRAP Maywood Superfund Site
ft	feet
ft/ft	feet/feet
FUSRAP	Formerly Utilized Sites Remedial Action Program
g	gram
gal	gallon
GEPP	General Environmental Protection Plan
GW	Groundwater
GWQS	Ground Water Quality Standard
GWRI	Groundwater Remedial Investigation
ha	hectare
HEPA	High Efficiency Particulate Air
ICRP	International Commission on Radiological Protection
IG	Instruction Guides
in	inch
kg	kilogram
km	kilometer
L	liter
lb	pound
LEL	Lowest Effects Level
m	meter
m^3	cubic meters
mi	mile
MCL	Maximum Contaminant Level
MCW	Maywood Chemical Works
MeV	million electron volts
mg/kg	milligram per kilogram

MISS	Maywood Interim Storage Site
mL	milliliter
mL/min	millimeter per minute
mrem	millirem
mrem/yr	millirem per year
mSem	millisiemens per centimeter
mSv	millisievert
mV	millivolt
µg	micrograms
µg/g	micrograms per gram
µg/L	micrograms per liter
NA	Not Applicable
NE	not established
NJ	New Jersey
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NGVD	National Geodetic Vertical Datum
NRC	Nuclear Regulatory Commission
NTU	nephelometric turbidity units
oz	ounce
PCE	tetrachloroethene
pCi	picocurie
pCi/g	picocuries per gram
pCi/L	picocuries per liter
PQL	Practical Quantitation Limit
Ra	radium
Ra-226	radium-226
Ra-228	radium-228
RCRA	Resource Conservation and Recovery Act
Rn	radon
Rn-220	radon-220
Rn-222	radon-222
ROD	Record of Decision
SCC	Soil Cleanup Criteria
SEL	Severe Effects Level
SDWA	Safe Drinking Water Act
SI	Systeme Internationale
SMCL	Secondary Maximum Contaminant Level
SOP	Standard Operation Procedure
SQL	Sample Quantitation Limit
TCE	trichloroethene
TCRA	Time Critical Removal Action
TDS	total dissolved solids
TEDE	Total Effective Dose Equivalent
TETLD	Tissue-equivalent Thermo-luminescent Dosimeter
Th	thorium
Th-228	thorium-228
Th-230	thorium-230
Th-232	thorium-232
TIC	Top of Inner Casing
U	uranium
U-238	uranium-238
$U_{(tot)}$	total uranium

USACE	U. S. Army Corps of Engineers
VOC	Volatile Organic Compound
VP	Vicinity Property
WL	Working Level
yd^3	cubic yard

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EXECUTIVE SUMMARY

The Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (FMSS) is comprised of the Maywood Interim Storage Site (MISS) and 23 vicinity properties (VPs) that are in the process of being remediated. The FMSS is located in Bergen County, New Jersey (NJ) and managed by the U.S. Army Corps of Engineers (USACE) under FUSRAP. In the early history of the FMSS, from 1916 to 1959, the former Maywood Chemical Works (MCW) extracted radioactive thorium (Th) and rare earth metals from monazite sand resulting in contamination at the FMSS with low levels of Th and lower levels of uranium (U) and radium (Ra). These residues or constituents on concern are the focus of this report. The constituents of concern include Th-232, Ra-226, U-238, and total U [$U_{(tot)}$] as described in the *Record of Decision for Soils and Buildings at the FUSRAP Maywood Superfund Site, Maywood, New Jersey*, August 2003 [ROD] (USACE 2003a). Additional constituents of concern may be identified through a record of decision for the groundwater operable unit. Comparison of the 2004 results for other metals and volatile organic compounds (VOCs) is for information only and may not be attributable to the FMSS.

Per the requirements of the *General Environmental Protection Plan, FUSRAP Maywood Superfund Site, Maywood, New Jersey*, November 24, 1999 (USACE 1999a) [GEPP], an Environmental Monitoring Program (EMP) was established for the FMSS. One of the main objectives of the EMP is to ensure that the public and the environment are adequately protected from contaminants present at the FMSS. This is accomplished through annual sampling and monitoring of the air, surface water, sediment, and groundwater. This report presents the results of the EMP that was conducted for calendar year 2004.

Air

Data obtained during 2004 was compared to the historical background conditions and to applicable regulatory criteria in the Code of Federal Regulations Title 40, Part 61 (40 CFR 61)[EPA 2004a], Subpart H and Q, and NJ Administrative Code (NJAC) 7:12 Soil Remediation Standards for Radioactive Materials (NJDEP 2000).

Gamma Radiation: Calculated doses, above background, to the hypothetically maximally exposed resident and worker from direct gamma radiation at the MISS in 2004, based on the measured Tissue-equivalent Thermo-luminescent Dosimeter (TETLD) results, are 29.02 millirems per year (mrem/yr) and 6.68 mrem/yr, respectively. This is well below the Nuclear Regulatory Commission (NRC) standard, specified in 10 CFR 20, of 100 mrem/yr (NRC 2005).

Airborne Particulates: The airborne particulate dose to the hypothetically maximally exposed individual in the year 2004 was a worker with 27% occupancy time located approximately 30 feet (10 meters) southeast of the property located at 80 Hancock Street. The airborne particulate dose to that individual, considering all site conditions throughout the year, was 0.0078 mrem/year, which is well below the 10 mrem/year standard specified in the 40 CFR 61, Subpart H (EPA 2004a).

Measured radon-222 (Rn-222) concentrations for 2004 ranged from non-detect to 0.3 picocuries per liter (pCi/L), which is well below the New Jersey Department of Environmental Protection (NJDEP) guideline of 3 pCi/L and U.S. Environmental Protection Agency (EPA) action level (AL) of 4 pCi/L. Radon-220 (Rn-220) concentrations ranged from non-detect to a maximum of 3.32 pCi/L, which is also below the EPA AL.

The measured Rn-222 flux concentrations for the soil storage pile located inside the fabric structure at the MISS ranged from 1.04E-01 pCi/m^2/s to 4.51E-01 pCi/m^2/s and thus, are well in compliance with the 40 CFR 61 Subpart Q standard of 20 pCi/m^2/s.

Surface Water

The Federal Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs) and NJ Ground Water Quality Standards (GWQS) for Class IIA aquifers (NJDEP 1993) were used as conservative criteria to evaluate monitoring results for chemical contaminants in surface water. Comparison to the Federal MCL throughout the Executive Summary may in fact not be the MCL but secondary drinking water standards. For simplicity, both the Federal MCL and secondary drinking water standards will be referred to as Federal MCLs.

All surface water samples collected in 2004 were below the radiological criterion with the exception of SWSD007. The concentration for combined Ra-226 and Ra-228 at this location was 5.76 pCi/L, slightly above the 5.0 pCi/L criteria.

Metals that exceeded both the MCLs and GWQS in Lodi Brook and Westerly Brook include aluminum, iron and manganese. Concentrations of sodium exceeded the GWQS at all locations sampled in Lodi Brook and Westerly Brook. The concentration of lead exceeded the GWQS in Westerly Brook at one location. In Lodi Brook, there were also exceedances of the Federal MCL for arsenic at two sampling locations, and an exceedance of the NJ MCL and GWQS for arsenic at three sampling locations. **Table ES-1** presents a summary of the locations that exceeded the criteria.

Table ES-1
Summary of Surface Water Locations that Exceed the Metals Criteria

Criteria	Aluminum (µg/L)	Arsenic (µg/L)	Iron (µg/L)	Lead (µg/L)	Manganese (µg/L)	Sodium (µg/L)
Federal MCL	200	10	300	15	50	NE
NJ MCL	200	5	300	15	50	50,000
NJ GWQS	200	8	300	10	50	50,000
Sampling Location						
SWSD001[1]	236 J	9.9	813 J		561 J	76,900
SWSD002[1]		15.4	983 J		573	77,700
SWSD003[1]	283 J		3,160 J		684 J	50,400
SWSD004[1]		13.2	850 J		655 J	78,300
SWSD005[2]					127 J	69,900
SWSD006[2]	306 J		990 J	12.1	134	54,200
Dup					130	56,800
SWSD007[2]	408 J		625 J		540	
Dup			382 J		155 J	51,800
SWSD010[2]			340 J		239	69,800
SWSD011[2]					104 J	71,400
SWSD012[2]					121 J	68,500
SWSD013[2]					179 J	65,300
SWSD014[2]					159 J	62,600
SWSD015[2]					103 J	64,500
Locations	4 of 13	3 of 13	7 of 13	1 of 13	13 of 13	13 of 13

Notes: [1] Westerly Brook
[2] Lodi Brook
NE = not established
J = Reported as an estimated value

Sediment

In the absence of regulatory criteria for radionuclides in sediment, the limits established in the ROD for soil (USACE 2003a) were used to evaluate the shallow streambed sediment. The measured concentration of various radionuclides in sediment samples collected in Lodi Brook and Westerly Brook did not exceed the soil cleanup criteria established in the ROD. The maximum concentration of Ra-226 (2.22 picoCuries/gram [pCi/g]) and Th-232 (2.45 pCi/g) was found in the eastern tributary of Lodi Brook at location SWSD006. Although there is no ROD soil cleanup criterion for Ra-228, a maximum concentration of 15.20 pCi/g was reported at SWSD007. The radiological results for sediment are within the historical range and confirm the continued presence of radiological concentrations above background levels in the streambed sediment of the eastern tributary of Lodi Brook.

For chemical contamination, the proposed NJAC 7:26D Residential Direct Contact Soil Cleanup Criteria and Non-Residential Direct Contact Soil Cleanup Criteria (SCC) [NJDEP 1992] were used to evaluate streambed sediment. The measured concentrations for metals in Lodi Brook and Westerly Brook did not exceed the proposed SCC. Additionally, concentrations of eight metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) exceeded the screening criteria used as part of the Baseline Ecological Evaluation (BEE) [NJDEP1998]. These screening criteria are for evaluation purposes only, not cleanup standards. Maximum concentrations of these eight metals were reported at three sampling locations (SWSD006, SWSD007, and SWSD010) within a central open-channel flow portion of the FMSS. This area does not receive direct runoff from the MISS, but receives runoff from VPs that are scheduled for remediation of contaminated soil.

Groundwater

Although groundwater at the FMSS is not used as a public drinking water supply, GWQS and MCLs were used as a conservative basis of comparison for radiological and chemical concentrations in groundwater.

In 2004, there were exceedances of the Gross Alpha, Gross Beta, Ra-228, Total Ra (Ra-226 + Ra-228), and $U_{(tot)}$ criteria in groundwater samples. See **Table ES-2** for a summary of the locations where there were exceedances. The results for 2004 are within the historical range for Ra, Th, and U (gross alpha and gross beta have been monitored only in the past 4 years). All exceedances were reported at on-site groundwater monitoring wells, except the gross beta exceedance in monitoring well B38W17B. Maximum concentrations of gross alpha, R-228, total Ra, and $U_{(tot)}$ were reported at the on-site shallow (overburden) monitoring well MISS05A. The maximum concentration of gross beta was reported at the deep (bedrock) monitoring well MISS05B.

Table ES-2
Summary of Groundwater Locations that Exceed the Radiological Criteria

Criteria	**Gross Alpha (pCi/L)**	**Gross Beta (pCi/L)**	**Ra-228 (pCi/L)**	**Total Ra (pCi/L)**	**Total Uranium (μg/L)**
Federal MCL	15	NE	5	5	30
NJ MCL	15	50	5	5	30
NJ GWQS	15	50	5	5	30
Sampling Location					
B38W17B		86.60			
B38W18D Dup	128.00 134.00		5.25	8.60 7.45	
MISS05A	486.00 J	197.00	12.90	16.30	110.55
MISS05B		501.00			
Locations	2 of 22	3 of 22	2 of 22	2 of 22	1 of 22

Note: NE = not established
J = Reported as an estimated value

There were exceedances for six metals (aluminum, arsenic, iron, manganese, lead, and sodium). These were the same six metals reported as exceedances for the surface water samples. Aluminum concentrations exceeded the MCL and GWQS in five monitoring wells. Concentration of arsenic exceeded the NJ MCL and GWQS in five monitoring wells. One of these five wells did not exceed the Federal MCL for arsenic. Concentrations of iron and manganese exceeded both the MCLs and GWQS at most wells. Lead concentrations exceeded the MCLs and GWQS at two wells. An additional well exceeded only the GWQS for lead. Sodium concentrations exceeded the NJ MCL and GWQS at 11 of 12 monitoring wells sampled. **Table ES-3** presents a summary of the locations where exceedances were present.

Table ES-3
Summary of Groundwater Locations that Exceed the Metals Criteria

Criteria	Aluminum (μg/L)	Arsenic (μg/L)	Iron (μg/L)	Lead (μg/L)	Manganese (μg/L)	Sodium (μg/L)
Federal MCL	200	10	300	15	50	NE
NJ MCL	200	5	300	15	50	50,000
NJ GWQS	200	8	300	10	50	50,000
Sampling Location						
B38W01S			24,500		2,560	
B38W02D					1,040	
B38W14D	1,560		1,260		60.7	
B38W14S					256	
B38W15D					698	256,000 J
Dup					703	264,000 J
B38W15S	632		1,370	18.6	1,330	213,000 J
B38W17A			725		225	
B38W17B			5,540		3,510	156,000
B38W18D	404	9.7	20,400		4,950	81,600
Dup	257		18,700		4,640	75,900
B38W19D		41.1	4,770		3,450	359,000
B38W19S			5,660		634	
B38W24D			25,300		4,820	
B38W24S			17,700		2,070	
B38W25D			18,000		4,230	232,000 J
MISS01AA			808		65.3	
MISS01B			3,970		425	59,600
MISS02A		2,740	2,410		262	214,000
MISS02B			13,000		4,270	217,000
MISS05A	3,970	108	61,300	33.7	1,340	
MISS05B			7,290		8,890	1,460,000
MISS07A	2,270		2,200	11.2	81.7	
MISS07B		70.5	19,200		3,490	1,130,000
Locations	5 of 22	5 of 22	19 of 22	3 of 22	21 of 22	11 of 22

Note: NE = not established
J = Reported as an estimated value

Table ES-4 summarizes the groundwater monitoring wells that exceeded the MCLs and GWQS for volatile organic compounds (VOCs). Exceedances included tetrachloroethene (PCE) and its degradation products: dichloroethenes (DCEs) and trichloroethene (TCE); 1,1,2-trichloroethane, 1,1-DCE, 1,2-dichloroethane (1,2-DCA), benzene, bromoform, carbon tetrachloride, and methylene chloride. VOCs are present in both on-site (primarily in bedrock) and off-site (shallow and bedrock) groundwater. The detection of VOCs in groundwater in 2004 is consistent with historical results.

Table ES-4
Summary of Groundwater Locations that Exceed the VOC Criteria

Criteria	1,1,2-Trichloro-ethane (µg/L)	1,1-DCE (µg/L)	1,2-DCA (µg/L)	Benzene (µg/L)	Bromo-form (µg/L)	Carbon Tetra-chloride (µg/L)	Methylene Chloride (µg/L)	PCE (µg/L)	TCE (µg/L)
Federal MCL	5	7	5	5	80	5	5	5	5
NJ MCL	3	2	2	1	80	2	3	1	1
NJ GWQS	3	2	2	1	4	2	3	1	1
Sampling Location									
B38W14D	5 UJ		8 UJ		5 UJ	4 UJ	16 UJ	450 UJ	85 UJ
B38W14S								85 UJ	15 UJ
B38W15D Dup		5 5					12 UJ 7 UJ	570 520	95 87
B38W15S									2
MISS01B								16	2 UJ
MISS05B	10 UJ		16 UJ	400	10 UJ	8 UJ	16 UJ	12 UJ	8 UJ
MISS07B								29	2
Locations	2 of 22	1 of 22	2 of 22	1 of 22	2 of 22	2 of 22	3 of 22	6 of 22	7 of 22

Note: UJ = analyte was not detected but was estimated.

Summary

Overall, the results described in this Executive Summary are within the historical ranges and comparable to results reported in previous years. No significant changes were observed. Based on the results of the 2004 EMP, the objectives of the EMP as follows have been met:

- To ensure that the public and the environment are adequately protected from contaminants present at the FMSS;
- To compare EMP results to relevant Federal, State, and local laws and regulations (e.g., comparing the monitoring results with applicable criteria);
- To characterize and define trends in the physical and chemical condition of the environmental media; and,
- To identify and quantify new or existing environmental quality problems.

At this time there is no need to revise the EMP since all objectives have been met. As the remedial action progresses, the media sampled and the locations for these samples will continue to be evaluated on a case-by-case basis to ensure that the objectives of the EMP continue to be met. Any changes to the EMP will be made in consultation with the appropriate regulatory agencies.

1.0 INTRODUCTION

The Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (FMSS) is located in Bergen County, New Jersey (NJ), approximately 12 miles (mi) (20 kilometers [km]) northwest of New York City and 13 mi (21 km) northeast of Newark, NJ (Appendix D, **Figure D-1**). The FMSS includes the 11.7-acre (4.7-hectare [ha]) federally-owned Maywood Interim Storage Site (MISS) and over 85 vicinity properties (VPs) in Maywood, Lodi, and Rochelle Park. The MISS is bordered to the west by NJ Route 17, to the north by the New York Susquehanna and Western Railway line, and to the south and east by commercial and industrial properties.

The former Maywood Chemical Works (MCW) site was constructed in 1895. During the years 1916 to 1959, MCW extracted radioactive thorium (Th) and rare earth metals from monazite sand for production of mantles for gas lanterns. The waste materials generated during this process contained Th-232 and associated decay products, with lesser amounts of radionuclides in the uranium-238 (U-238) decay series. Slurry containing waste from these operations was pumped into two earthen-diked retention ponds west of the plant. Some process waste sands were combined with tea and coca leaves from other MCW operations, and then removed from the site and used as mulch and fill material on nearby properties. Additional waste was transported off-site by the Lodi Brook, which ran southward along the facility property line and into the Borough of Lodi. Thorium residues in the brook settled onto adjacent properties where buildings and residences were subsequently built. In 1959, the former MCW facility was sold to the Stepan Company.

In 1961, the Atomic Energy Commission (AEC) issued a radioactive material license to the Stepan Company for radioactive material storage and remediation of the facility. Between 1966 and 1968, contaminated material was removed from the property west of NJ Route 17 and buried in three pits on the Stepan Company site.

In 1983, the EPA added the FMSS to the National Priorities List, and the following year cleanup of radioactive contamination at the FMSS was assigned to the U.S. Department of Energy (DOE) by Congress. To expedite remediation of the FMSS, the DOE purchased an 11.7-acre (4.7 ha) portion of the Stepan Company property for use as an interim storage facility for radiologically-contaminated materials (DOE 1992) removed from the VPs. This property referred to as the MISS was the initial focus of the Environmental Monitoring Program (EMP). The soil stockpile was removed for off-site disposal in 1996. On October 13, 1997, the FY 1998 Energy and Water Appropriations Bill transferred management of FUSRAP from the DOE to the U.S. Army Corps of Engineers (USACE). The USACE became a successor to the DOE as of March 17, 1999. FUSRAP activities presently continue with the USACE on the MISS and remaining 23 commercial VPs.

In keeping with the remedial activities and objectives of FUSRAP, an ongoing EMP has been conducted at the FMSS per the requirements of the *General Environmental Protection Plan, FUSRAP Maywood Superfund Site, Maywood, New Jersey*, November 24, 1999 (USACE 1999a) [GEPP]. This program has been designed to ensure the following objectives:

- To ensure that the public and the environment are adequately protected from contaminants present at the FMSS;
- To compare EMP results to relevant Federal, State, and local environmental laws (e.g., comparing the monitoring results with applicable criteria);
- To characterize and define trends in the physical and chemical condition of the environmental media; and,

- To identify and quantify new or existing environmental quality problems.

These monitoring activities include the monitoring of credible transport pathways; the selection of suitable monitoring locations; and appropriate sampling methods, techniques, and analyses.

This report has been prepared to satisfy applicable monitoring requirements and to address the above objectives. A detailed description of the measured parameters, evaluation criteria, sampling locations, monitoring methodology, interpretation of results, and conclusions is presented in this report.

1.1 MEASURED PARAMETERS

The key elements of the 2004 EMP were:

- Continuous Monitoring
  - Measurement of external gamma radiation.
  - Measurement of radon (Rn) gas concentrations in air (from Rn-220 and Rn-222).
- Quarterly Monitoring
  - Groundwater level measurements of 34 monitoring wells.
- Annual Monitoring / Sampling
  - Sampling and analysis of streambed sediment for radioactive constituents and metals.
  - Sampling and analysis of surface water for radioactive constituents and metals.
  - Sampling and analysis of groundwater for radioactive constituents, metals, and volatile organic compounds (VOCs).
  - Measurement of Rn flux for soil stockpile at MISS.

1.2 CALCULATED ELEMENTS

As part of the EMP, calculations were performed to determine the dose to the hypothetically maximally exposed individual (off-site) from external gamma radiation at the MISS as well as airborne particulate dose to the hypothetical maximally exposed individual (off-site) from airborne particulates generated from activities associated with the MISS. In addition, the cumulative dose to the hypothetical maximally exposed individual from external gamma radiation at MISS as well as airborne particulates generated by activities associated with MISS was calculated.

The following briefly describes the methodology for performing the above calculations and the results. More detailed discussions of these calculations and the results with regard to regulatory compliance issues are provided in Sections 5.0, 6.0, and Appendices E and F.

- External gamma radiation dose rates are measured continuously at various locations at MISS using Tissue-equivalent Thermo-Luminescent Dosimeters (TETLDs). When the readings are corrected for shelter / absorption and background concentration, and normalized to exactly one year’s exposure, these detectors provide a measurement of the annual external gamma radiation at that location.
- The corrected readings from the TETLDs are used to calculate the external gamma radiation dose to a hypothetical maximally exposed resident and worker conservatively assumed to be located 50 feet (ft) (15.2 meters [m]) from the side of the property with the highest radiation readings.

This is a conservative approach since the nearest receptor is located over 200 ft (61.0 m) from the monitoring location with the highest radiation readings.

- The computer program used to model potential off-site exposure from airborne emissions is the Clean Air Act Assessment Package - 1988 Personal Computer program (CAP88-PC), Version 2.0. Airborne emissions contributing to off-site exposure can occur from areas where the radioactively contaminated soil is exposed to the elements (weather) and from operations that generate airborne emissions.
- The CAP88-PC, Version 2.0 model determines the hypothetical maximally exposed individual based on the radionuclide emissions, local meteorological data, and other factors. The model can calculate the effective dose equivalent for any receptor of interest (e.g., residences, schools, workers).
- Although the emission of Rn gas is not considered in this analysis, the daughters of Rn gas generated by the decay of Rn-226 in dust off-site are accounted for by the model in the computation of the effective dose equivalents for the various internal and external exposure pathways.

1.3 UNIT CONVERSIONS

Tables 1-1 and **1-2** list the units of measurement and appropriate abbreviations used in this document. Conventional units for radioactivity are used because the regulatory guidelines are generally provided in these terms; Système Internationale (SI) units of measurement are used in the discussion of all other parameters. Unit conversions are provided in the text for water level information only.

Table 1-1
Units of Measurement and Conversion Factors - Radioactivity

Parameter	Conventional Units	SI Units	Conversion Factor
Dose	millirem (mrem)	milliSievert (mSv)	1 mrem = 0.01 mSv
Activity	picocurie (pCi)	Becquerel (Bq)	1 pCi = 0.037 Bq

Table 1-2
Units of Measurement and Conversion Factors - Mass, Length, Area, and Volume

Parameter	SI Units	English Units	Conversion Factor
Mass	gram (g)	ounce (oz)	1 g = 0.035 oz
	kilogram (kg)	pound (lb)	1 kg = 2.2046 lb
Length	centimeter (cm)	inch (in.)	1 cm = 0.394 in.
	meter (m)	feet (ft)	1 m = 3.281 ft
	kilometer (km)	mile (mi)	1 km = 0.621 mi
Area	hectare (ha)	Acre	1 ha = 2.47 acres
Volume	milliliter (mL)	fluid ounce (fl oz)	1 mL = 0.0338 fl oz
	liter (L)	gallon (gal)	1 L = 0.264 gal
	cubic meter (m^3)	cubic yard (yd^3)	1 m^3 = 1.308 yd^3

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2.0 EVALUATION CRITERIA

Regulatory and other criteria used to evaluate the results of the 2004 EMP program at the MISS are summarized as follows, categorized by media and parameters.

2.1 EXTERNAL GAMMA RADIATION AND AIR (RADON GAS AND AIRBORNE PARTICULATES)

The criteria for evaluating the calculated maximum doses from external gamma radiation and inhalation of radioactive particulates, and the measured concentrations of Rn gas are shown in **Table 2-1** and discussed below:

- **10 Code of Federal Regulations (CFR) 20**
  Dose limits for members of the public from Nuclear Regulatory Commission (NRC) licensed activities are presented in this NRC standard. While the FMSS project is not licensed by the NRC, the project is contractually required to meet the requirements of 10 CFR 20. The primary dose limit is expressed as a total effective dose equivalent (TEDE). The limit of 100 millirem per year (mrem/yr) TEDE above background from all sources for a period of a year is specified in this standard. External gamma radiation dose and the calculated doses from all releases are included in the calculation of the TEDE. The 100 mrem/yr TEDE above background specified in this standard includes all pathways (NRC 2005).
- **40 CFR 192**
  The applicable limit for Rn in air is provided in this standard as 0.02 Working Levels (WLs), including background. A working level is any combination of short-lived Rn decay products in 1 L of air that will result in the ultimate emission of 1.3 x 10^5 million electron volts (MeV) of potential alpha energy. The WL of 0.02 is applied to buildings only, where ventilation and other effective methods could be provided to maintain this limit. U.S. Environmental Protection Agency (EPA) guidance documents related to Rn in homes refer to an AL of 4 pCi/L. Rn concentrations that exceed the Action Level (AL) of 4 pCi/L require mitigation (EPA 1992b).
- **New Jersey Administrative Code (NJAC) 7:28-12**
  The applicable limit for Rn-222 is 3.0 pCi/L (111 Bq/m^3). This guideline was established by the New Jersey Department of Environmental Protection (NJDEP) as the standard for remediation of real property contaminated by radioactive materials (NJDEP 2000).
- **40 CFR 61, Subparts H & Q**
  Section 112 of the Clean Air Act (CAA) authorized EPA to promulgate the National Emission Standards for Hazardous Air Pollutants (NESHAP), which is applicable at the MISS under Subpart H (i.e., for non-Rn, radioactive constituents in particles) and Subpart Q (for Rn emissions)[EPA 2004a]. Compliance with Subpart H is verified by applying the EPA-approved CAP88-PC, Version 2.0 (DOE 1997c). Until the storage pile was removed in 1996, compliance with Subpart Q was verified by semi-annual monitoring for Rn-222 flux. Rn flux monitoring was resumed in 2000 for the storage pile created as a result of a Time Critical Removal Action (TCRA) for the swale, remediation and restoration of a portion of the 96 Park Way property, and operation of the pilot facility. Rn flux monitoring was performed during the year 2004 in the fabric structure that is used to store the soil stockpiles at MISS for only a short period of time (see Appendix E, Section 4).

Table 2-1
Summary of Radiological Criteria for
External Gamma Radiation and Air

Parameter	NRC Standard	EPA Standard or Guideline	NJDEP Guideline
Rn-222 [a]	10 pCi/L [b]	4 pCi/L [c]	3.0 pCi/L [d]
Rn-220 [a]	20 pCi/L [b]	-- [e]	
Rn Flux [a]		20 pCi $m^{-2}s^{-1}$ [f]	
Radionuclide Emissions [a] (airborne particulates and radioactive gases)	10 mrem/yr [g]	10 mrem/yr [h]	
TEDE [a] (total contribution from all sources [i])	100 mrem/yr [j]		

Notes: [a] The strictest standards or guidelines for each parameter are used to assess/evaluate regulatory compliance issues.

[b] NRC 10 CFR 20 Appendix B assuming no Rn daughters are present (NRC 2005).

[c] Equivalent to Title 40 Part 192 limit as presented in the EPA's *A Citizen's Guide to Radon* (EPA 2004d).

[d] NJAC 7:28-12.8(a) (NJDEP 2000).

[e] Provisions applicable to Rn-222 shall apply to Rn-220 (40 CFR 192.41, provisions) (EPA 2004d).

[f] EPA standard 40 CFR 61, Subpart Q (EPA 2004a).

[g] NRC standard from 10 CFR 20.1101(d) for particulate and Rn-220 emissions only; excludes Rn-222 and its decay products (NRC 2005).

[h] EPA standard from 40 CFR 61, Subpart H, for particulate emissions only; excludes Rn-222 and Rn-220 (EPA 2004a).

[i] Contributing sources at the MISS consist of external gamma radiation exposure, radionuclide emissions listed above, and ingested radionuclides in water and soil / sediment.

[j] NRC standard from 10 CFR 20.1301(a); background is excluded in the calculation of dose.

2.2 SEDIMENT, SURFACE WATER, AND GROUNDWATER - RADIOLOGICAL CONSTITUENTS

The criteria for evaluating the measured concentrations of radionuclides in sediment, surface water, and groundwater at the MISS are shown in **Table 2-2** and discussed below:

- **Soil Cleanup Criteria for the FMSS**
  The cleanup criteria established in the *Record of Decision for Soils and Buildings at the FUSRAP Maywood Superfund Site*, August 2003 [ROD] (USACE 2003a) for soils at the FMSS were used to evaluate the radiological results for sediment. Specifically, an average of 5 pCi/g of Ra-226 and Th-232 combined above background was used to evaluate sediment concentrations. In addition, an average of 100 pCi/g above background for total uranium ($U_{(tot)}$), which equates to 50 pCi/g of U-238 for all properties addressed in the ROD, was used to evaluate sediment concentrations.

- **40 CFR 141 and NJAC 7:10**
  The regulations in 40 CFR 141 set maximum permissible levels of organic, inorganic, radiological, and microbial contaminants in drinking water by specifying the Federal Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCL) for each. MCLs have been promulgated for $U_{(tot)}$, combined concentrations of Ra-226 and Ra-228, and gross alpha. Although groundwater at the FMSS is not a public drinking water supply, the MCLs for drinking water, except Th-230 and Th-232, are considered relevant and appropriate and are used as a conservative basis for evaluating analytical results. The NJ drinking water regulations (NJAC 7:10) incorporate, by reference, the Federal drinking water standards unless a more stringent NJ

standard for a hazardous contaminant has been promulgated. The NJDEP has adopted the Federal MCLs and have added a maximum contaminant level for gross beta of 50 pCi/L. The MCLs for drinking water were also used to conservatively evaluate surface water. Analysis was performed for specific radiological contaminants known to exist at the FMSS [gross alpha, gross beta, Ra-226 and Ra-228, Th-230 and Th-232, and $U_{(tot)}$]. For $U_{(tot)}$, comparisons are made to the Federal/State MCL (NJAC 7:9-6) of 30 micrograms per liter (µg/L). **Table 2-2** summarizes these radiological criteria for water and sediment.

Table 2-2
Summary of Radiological Criteria for Surface Water, Groundwater, and Sediment

Parameter	MCL (Surface Water and Groundwater	NJ GWQS (Surface Water and Groundwater)	ROD Soil Cleanup Criteria (Sediment)
Gross Alpha	15 pCi/L [a]	15 pCi/L [f]	
Gross Beta	50 pCi/L [b]		
Ra-226	5 pCi/L [c]	5 pCi/L [c]	5 pCi/g [d]
Ra-228	5 pCi/L [c]	5 pCi/L [c]	
Th-230			
Th-232			5 pCi/g [d]
$U_{(tot)}$	30 µg/L	30 µg/L [e]	100 pCi/g [d]

Notes: [a] 15 pCi/L but excluding radon and uranium (40 CFR 141.66) (EPA 2004b).

[b] If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated (40 CFR 141.26). Naturally occurring potassium-40 [K-40] beta particle activity may be excluded from the calculation of gross beta activity per Federal Register Vol. 65 No. 236.

[c] MCL/GWQS for the combined concentration of Ra-226 and Ra-228 in drinking water.

[d] Soil cleanup criteria established in the ROD for the combined Ra-226 and Th-232 concentration, above background, as well as the $U_{(tot)}$ concentration, above background, are used as the basis for evaluating the analytical results for sediment.

[e] NJDEP has established an MCL/GWQS for $U_{(tot)}$ in drinking water of 30 µg/L. The reported U-238 concentration in pCi/L was divided by the specific activity of U-238 (0.3365 pCi/µg) to obtain the $U_{(tot)}$ in µg/L and then compared to the equivalent NJDEP MCL/GWQS for $U_{(tot)}$ in drinking water of 30 µg/L.

[f] 15 pCi/L but excluding radon and $U_{(tot)}$.

2.3 SEDIMENT - CHEMICAL PARAMETERS

The criteria for evaluating the detected concentrations of chemical parameters in sediment at the MISS are shown in Table 2-3 and discussed below:

- **NJ Proposed Cleanup Standards for Contaminated Sites**
  These standards are currently being provided as guidance by the NJDEP. Because there are no standards for sediment, the NJDEP proposed soil cleanup criteria for residential and nonresidential properties were used for evaluating results of analyses for metals in sediment (NJDEP 1992).
- **Guidance for Sediment Quality Evaluations**
  To aid in the identification of contaminants of potential ecological concern, site-related sediment data are compared to established screening level criteria in the Baseline Ecological Evaluation (BEE). An exceedance above the Freshwater Lowest Effects Levels (LEL) or Marine/Estuarine Effects Range Low (ER-L) in the BEE indicates a potential risk (not cleanup) to the benthic

community and a need for further investigation. Higher evaluation levels also include Freshwater Severe Effects Level (SEL) and Marine/Estuarine Effects Range-Medium (ER-M) (NJDEP1998).

Table 2-3
Summary of Metals Criteria Used for Sediment

Parameter	Residential Direct Contact Soil Cleanup Criteria [a]	Non-Residential Direct Contact Soil Cleanup Criteria [a]	Lowest Effects Level [b]	Severe Effects Level [b]	Effects Range Low [b]	Effects Range Medium [b]
Aluminum, Total						
Antimony, Total	14 mg/kg	340 mg/kg				
Arsenic, Total	20 mg/kg	20 mg/kg	6 mg/kg	33 mg/kg		
Barium, Total	700 mg/kg	47,000 mg/kg				
Beryllium, Total	2 mg/kg	2 mg/kg				
Boron, Total						
Cadmium, Total	39 mg/kg	100 mg/kg	0.6 mg/kg	10 mg/kg		
Calcium, Total						
Chromium, Total			26 mg/kg	110 mg/kg		
Cobalt, Total						
Copper, Total	600 mg/kg	600 mg/kg	16 mg/kg	110 mg/kg		
Iron, Total						
Lead, Total	400 mg/kg	600 mg/kg	31 mg/kg	250 mg/kg		
Lithium, Total						
Magnesium, Total						
Manganese, Total						
Mercury, Total	14 mg/kg	270 mg/kg	0.2 mg/kg	2 mg/kg		
Nickel, Total	250 mg/kg	2,400 mg/kg	16 mg/kg	75 mg/kg		
Potassium, Total						
Selenium, Total	63 mg/kg	3,100 mg/kg				
Silver, Total	110 mg/kg	4,100 mg/kg			1.0 mg/kg	3.7 mg/kg
Sodium, Total						
Thallium, Total	2 mg/kg	2 mg/kg				
Vanadium, Total	370 mg/kg	7,100 mg/kg				
Zinc, Total	1,500 mg/kg	1,500 mg/kg	120 mg/kg	820 mg/kg		

Notes: [a] NJAC 7:26D *Proposed Cleanup Standards for Contaminated Sites* (NJDEP 1992).
[b] NJDEP *Guidance For Sediment Quality Evaluations*, 1998 (NJDEP 1998).
mg/kg = milligram per kilogram

2.4 GROUNDWATER AND SURFACE WATER - CHEMICAL PARAMETERS

Although the groundwater at the FMSS is not used as a public drinking water supply, MCLs and NJ Ground Water Quality Standards (GWQSs) are used in this document as a basis for comparison of chemical analytical results. The more stringent of the MCL or GWQS as shown in **Table 2-4** and **Table 2-5** were used to evaluate regulatory compliance issues for groundwater and surface water. To compare the results to these criteria, groundwater and surface water samples were analyzed for target compound list VOCs, target analyte list metals, and boron. Analytes that do not have regulatory criteria are not listed on **Tables 2-4** and **2-5**.

- **40 CFR 141**
  As noted above, the SDWA is the primary Federal law applicable to the operation of a public water system and the development of drinking water quality standards. The regulations establish MCLs for organic, inorganic, and microbial contaminants in drinking water. In some cases, secondary maximum contaminant levels (SMCLs), which are not Federally enforceable (40 CFR 143), are provided as guidelines for the various states. MCLs for drinking water were used to conservatively evaluate groundwater and surface water monitoring results.

- **GWQS - Class IIA**
  Groundwater in NJ is classified according to its hydrogeological characteristics and uses. The primary designated use for Class IIA groundwater is as a potable water supply, although Class IIA uses also include agricultural and industrial water. The GWQSs (NJAC 7:9-6) specify the groundwater quality criteria for various constituents and the corresponding practical quantitation limits (PQLs) for Class II groundwater. Consistent with the NJ requirements, the higher of the two is used for comparison purposes.

Table 2-4
Summary of Metals Criteria Used for Surface Water and Groundwater

Parameter	Federal SDWA MCLs, Secondary Standards and Action Levels [a]	Higher of Practical Quantitation Level and GWQS [b]	Higher of Practical Quantitation Level and GWQS [c]
Aluminum, Total	200 µg/L	200 µg/L	200 µg/L
Antimony, Total	6 µg/L	20 µg/L	6 µg/L
Arsenic, Total	10 µg/L	8 µg/L	3 µg/L
Barium, Total	2,000 µg/L	2,000 µg/L	2,000 µg/L
Beryllium, Total	4 µg/L	20 µg/L	1 µg/L
Cadmium, Total	5 µg/L	4 µg/L	4 µg/L
Chromium, Total	100 µg/L	100 µg/L	70 µg/L
Copper, Total	1,300 µg/L	1,000 µg/L	1,300 µg/L
Iron, Total	300 µg/L	300 µg/L	300 µg/L
Lead, Total	15 µg/L	10 µg/L	5 µg/L
Manganese, Total	50 µg/L	50 µg/L	50 µg/L
Mercury, Total	2 µg/L	2 µg/L	2 µg/L
Nickel, Total		100 µg/L	100 µg/L
Selenium, Total	50 µg/L	50 µg/L	40 µg/L
Silver, Total	100 µg/L	30 µg/L	40 µg/L
Sodium, Total		50,000 µg/L	50,000 µg/L
Thallium, Total	2 µg/L	10 µg/L	2 µg/L
Zinc, Total	5,000 µg/L	5,000 µg/L	2,000 µg/L

Notes: [a] EPA standard from 40 CFR 141 (EPA 2004b).

[b] NJAC 7:9-6 NJ Ground Water Quality Standards (NJDEP 1993).

[C] NJDEP Ground Water Quality Standards: Proposed Readoption and Recodification with Amendments, NJAC 7:9-6 as NJAC 7:9C (Published in the NJ Register, October 4, 2004).

Table 2-5
Summary of VOCs Criteria Used for Groundwater

Parameter	Federal SDWA MCLs, Secondary Standards and Action Levels [a]	Higher of Practical Quantitation Level and GWQS [b]	Higher of Practical Quantitation Level and GWQS [c]
1,1,1-Trichloroethane	200 µg/L	30 µg/L	30 µg/L
1,1,2,2-Tetrachloroethane		10 µg/L	1 µg/L
1,1,2-Trichloroethane	5 µg/L	3 µg/L	3 µg/L
1,1-Dichloroethane		50 µg/L	50 µg/L
1,1-Dichloroethene	7 µg/L	2 µg/L	1 µg/L
1,2-Dichloroethane	5 µg/L	2 µg/L	2 µg/L
1,2-Dichloropropane	5 µg/L	1 µg/L	1 µg/L
2-Butanone		300 µg/L	300 µg/L
4-Methyl-2-pentanone		400 µg/L	Delete
Acetone		700 µg/L	6000 µg/L
Benzene	5 µg/L	1 µg/L	1 µg/L
Bromodichloromethane	80 µg/L	1 µg/L	1 µg/L
Bromoform	80 µg/L	4 µg/L	4 µg/L
Bromomethane		10 µg/L	10 µg/L
Carbon disulfide		800 µg/L	700 µg/L
Carbon tetrachloride	5 µg/L	2 µg/L	1 µg/L
Chlorobenzene	100 µg/L	50 µg/L	50 µg/L
Chloroform	80 µg/L	6 µg/L	70 µg/L
Chloromethane		30 µg/L	Delete
cis-1,2-Dichloroethene	70 µg/L	70 µg/L	70 µg/L
Dibromochloromethane		10 µg/L	1 µg/L
Ethylbenzene	700 µg/L	700 µg/L	700 µg/L
Methylene Chloride	5 µg/L	3 µg/L	3 µg/L
Styrene	100 µg/L	100 µg/L	100 µg/L
Tetrachloroethene	5 µg/L	1 µg/L	1 µg/L
Toluene	1000 µg/L	1000 µg/L	1000 µg/L
Total Xylene	10000 µg/L	1000 µg/L	1000 µg/L
trans-1,2-Dichloroethene	100 µg/L	100 µg/L	100 µg/L
Trichloroethene	5 µg/L	1 µg/L	1 µg/L
Vinyl chloride	2 µg/L	5 µg/L	1 µg/L

Notes: [a] EPA standard from 40 CFR 141 (EPA 2004b).

[b] NJAC 7:9-6 NJ Ground Water Quality Standards (NJDEP 1993).

[C] NJDEP Ground Water Quality Standards: Proposed Readoption and Recodification with Amendments, NJAC 7:9-6 as NJAC 7:9C (Published in the NJ Register, October 4, 2004).

3.0 SAMPLING LOCATIONS AND RATIONALE

Contamination at the MISS is present in the former retention ponds, on the ground surface, and in on-site structures. Exposure to members of the public by this radioactively-contaminated material at the MISS is unlikely because of site access restrictions (e.g., fences) and engineering controls (e.g., dust suppression, pile covers, truck decontamination, etc.). Potential pathways include direct exposure to external gamma radiation, inhalation of Rn or radioactively-contaminated particulates in air, and contact with or ingestion of contaminated streambed sediments, surface water, or groundwater. There are no drinking water wells within the area sampled for groundwater. In addition, surface water is not used as potable water. The EMP has been developed to evaluate and monitor these potential exposure routes through periodic sampling and analysis for radioactive and chemical constituents. In Appendix D, **Figures D-2**, **D-3A**, and **D-3B** show the EMP sampling locations at the MISS and VPs, and indicate the type of media sampled at each location. In Appendix A, **Table A-1** summarizes the 2004 monitoring program at the MISS for external gamma radiation, Rn gas, groundwater, surface water, and sediment.

Measurements of external gamma radiation are taken along fence line locations surrounding the MISS in order to assess potential exposure levels to the public and site workers (Appendix D, **Figure D-2**).

Atmospheric monitoring of Rn gas is conducted on-site, both in known areas of contamination and at fence line locations (Appendix D, **Figure D-2**).

Surface water and sediment sampling includes the analysis for radioactive constituents and metals along Westerly Brook and Lodi Brook (**Table 3-1**, Appendix D, **Figures D-3A** and **D-3B**). Sampling locations along Lodi and Westerly Brook are used to assess both upstream and downstream conditions. Because Lodi Brook receives drainage from areas of known contamination, sampling is also conducted along the eastern and western tributaries of this stream.

Water level measurements and groundwater samples from monitoring wells enable the assessment of groundwater flow patterns and are used to evaluate groundwater quality upgradient and downgradient of the site, in the source area and at the MISS / Stepan Company boundary (Appendix D, **Figure D-2**). Groundwater in both the surficial unconsolidated sediments and bedrock is monitored at the MISS.

Table 3-1
Description and Rational for Surface Water and Sediment Sampling Locations

Location	Watercourse	Description of Location	Rational for Selection
SWSD001	Westerly Brook	Located downstream of the MISS at the point where the Westerly Brook stormwater culvert discharges into Saddle Brook.	Downstream of the MISS. Potential area where sediments may accumulate prior to discharge to Saddle River.
SWSD002	Westerly Brook	Located downstream of the MISS. The location is in an area where Westerly Brook is in open channel flow.	Downstream of the MISS in the first area downstream of the MISS where Westerly Brook is in open channel flow. Potential area where sediments may accumulate.

Location	Watercourse	Description of Location	Rational for Selection
SWSD003	Westerly Brook	Located approximately 100 ft (30.5 m) upstream of the MISS. The location is in an area where Westerly Brook is in open channel flow.	Upstream of the MISS and it's close proximity to the MISS. Serves as a background location.
SWSD004	Westerly Brook	Located downstream of the MISS. The location is in a catch basin where a portion of Westerly Brook is located in a stormwater culvert.	Initial sampling location downstream of the MISS where sediments may accumulate and where surface water can be sampled.
SWSD005	Lodi Brook	Located south of the MISS on an FMSS VP. The location is at the confluence of the eastern and western tributaries of Lodi Brook, and in an area where Lodi Brook is in open channel flow.	Downstream of the MISS and is located on a VP.
SWSD006	Lodi Brook	Located south of the MISS on an FMSS VP. Eastern tributary of Lodi Brook that is in open channel flow. Does not receive stormwater runoff from the MISS.	Located on a VP and near the head waters to Lodi Brook where there is usually sufficient flow in Lodi Brook for surface water and sediment sampling.
SWSD007	Lodi Brook	Located south of the MISS on an FMSS VP that is in open channel flow. Does not receive stormwater runoff from the MISS.	Located on a VP.
SWSD008	Lodi Brook	Located south of the MISS on an FMSS VP. Does not receive stormwater runoff from the MISS.	Located on a VP. Forms a portion of the headwaters of Lodi Brook in an area designated as wetlands.
SWSD009	Lodi Brook	Located south of the MISS on an FMSS VP. Does not receive stormwater runoff from the MISS.	Located on a VP. Forms a portion of the headwaters of Lodi Brook in an area designated as wetlands.
SWSD010	Lodi Brook	Located south of the MISS on an FMSS VP. Lodi Brook is in open channel flow.	Located on a VP. Downstream of the MISS and VPs.
SWSD011	Lodi Brook	Located south of the MISS on an FMSS VP. Located in a stormwater catch basin to the Lodi Brook stormwater culvert.	Located on a VP. Downstream of the MISS and VPs. Sediment may/should collect in the catch basin.
SWSD012	Lodi Brook	Located south of the MISS on an FMSS VP. Located in a stormwater catch basin to the Lodi Brook stormwater culvert.	Located on a VP. Downstream of the MISS and VPs. Sediment may/should collect in the catch basin.
SWSD013	Lodi Brook	Located south of the MISS on an FMSS VP. Located in a stormwater catch basin to the Lodi Brook stormwater culvert.	Located on a VP. Downstream of the MISS and VPs. Sediment may/should collect in the catch basin.
SWSD014	Lodi Brook	Located south of the MISS on an FMSS VP. Located in a stormwater catch basin to the Lodi Brook stormwater culvert.	Located on a VP. Downstream of the MISS and VPs. Sediment may/should collect in the catch basin.
SWSD015	Lodi Brook	Located south of the MISS on an FMSS VP. The point where the Lodi Brook stormwater culvert discharges into Saddle Brook.	Location where Lodi Brook discharges into Saddle River. Downstream of the MISS and VPs.

4.0 MONITORING METHODOLOGY

Standard analytical methods approved and published by EPA, the American Society for Testing and Materials (ASTM), and State of NJ were used for chemical (i.e., all non-radiological) analyses. The laboratories conducting the radiological analyses adhere to EPA-approved methods and procedures developed by the Environmental Measurements Laboratory (EML), ASTM, and State of NJ. All laboratories analyzing FUSRAP chemical and radiological samples are certified by NJDEP and validated by USACE. A detailed listing of the specific procedures and the data quality objectives for the monitoring conducted in the 2004 program is provided in the FMSS Chemical Data Quality Management Plan (CDQMP) (USACE 2003b).

Environmental monitoring activities were conducted in accordance with the CDQMP and Standard Operating Procedures (SOPs) listed in **Table 4-1**. The monitoring activities are based on guidelines provided in *RCRA Ground Water Monitoring: Draft Technical Guidance* (EPA 1992a); *Test Methods for Evaluating Solid Waste, Physical / Chemical Methods,* SW-846 (EPA 1997); and *A Compendium of Superfund Field Operations Methods* (EPA 1987). Groundwater samples were collected using the USEPA Region II memo dated March 20, 1988, titled *Final USEPA Region II Low Stress (Low Flow) Groundwater Sampling Standard Operating Procedure* (EPA 1988).

Table 4-1
FUSRAP Standard Operating Procedures (SOPs) and Instruction Guides (IG) used for Environmental Monitoring Activities

SOP Number	SOP Title
SOP 410-1	Groundwater Level Measurement (USACE 2003b)
SOP 506-1	Decontamination (USACE 2003b)
SOP 302-1	Surface Water Sampling (USACE 2003b)
SOP 301-1	Sediment Sampling (USACE 2003b)
191-IG-029 Rev. 0	Radon / Thoron and TETLD Exchange (Bechtel National, Incorporated [BNI] 1993)
SOP 304-1	Purging and Sampling Monitoring Wells (USACE 2003b)

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5.0 ANALYTICAL DATA AND INTERPRETATION OF RESULTS

This section presents the data and interpretation of results for the 2004 EMP. Data for 2004 are presented in Appendix A, **Tables A-2** through **A-13**.

The analytical method for analysis of $U_{(tot)}$ yields results in values expressed as µg/L and µg/g for water and sediment samples, respectively. To allow direct comparison of results to relevant standards and the ROD soil cleanup criteria, the data must be converted to pCi/L and pCi/g units, as appropriate.

The MCL for $U_{(tot)}$ in drinking water is 30 µg/L. Regulatory compliance was determined by comparing the measured value for $U_{(tot)}$ to the MCL of 30 µg/L. The reported U-238 concentration in pCi/L was divided by the specific activity of U-238 (0.3365 pCi/µg) to obtain the $U_{(tot)}$ in µg/L and then compared to the MCL for $U_{(tot)}$ in drinking water of 30 µg/L. U-238 is used to measure $U_{(tot)}$ since natural U is composed of greater than 99.27 percent U-238, by mass. The historic data for sediment and groundwater are presented in Appendix B, **Tables B-1** through **B-4**.

5.1 EXTERNAL GAMMA RADIATION

External gamma radiation dose rates are measured using TETLDs that are placed at the MISS and offsite. The TETLDs continuously measure external gamma radiation dose rates throughout the year. Locations of TETLDs are shown on Appendix D, **Figure D-2**. Each TETLD measures a cumulative dose over the period of exposure (approximately 1 year). When corrected for shelter / absorption and background, and normalized to exactly 1 year's exposure, these detectors provide a measurement of the annual external gamma radiation dose at that location. TETLD results for the 2004 external gamma radiation dose (i.e., both raw and corrected data) are summarized in Appendix A, **Table A-2**.

The corrected data are used to calculate the external gamma radiation dose to a hypothetical maximally exposed individual conservatively assumed to be located 50 ft from the fenceline. Identification of this hypothetical individual is a function of the fenceline dose, the distance of the individual from the fenceline, and the amount of time that the individual spends at the specific location. The data from the side of the site displaying the highest radiation readings (i.e., location 21) are averaged, and the external gamma dose rate at the distance to individuals at the nearest commercial / industrial facility and residence is then determined. The calculated doses above background to the hypothetical maximally exposed resident (assuming 100% occupancy) and worker (assuming 23% occupancy, 8 hours per day, 5 days per week, 52 weeks per year) from direct gamma radiation at the MISS in 2004 were 29.02 mrem/yr and 6.68 mrem/yr, respectively (see Calc 102682-0307-001 in Appendix F) which are well below the NRC standard of 100 mrem/yr. Location 21 (see Appendix D, **Figure D-2**) is used to determine the average background rate. This value varies each year. The calculated doses to the hypothetical maximally exposed resident and worker from direct gamma radiation at the MISS in 2003 were 29.3 mrem/yr and 6.74 mrem/yr, respectively.

5.2 RADON-220 (RN-220) AND RADON-222 (RN-222)

Results of the 2004 monitoring for Rn gas (Rn-220 and Rn-222) are presented in Appendix A, **Table A-3**; detector locations are shown on Appendix D, **Figure D-2**. At each location, two types of detectors are exposed. One detector type, the RadTrack®, allows both isotopes of Rn to enter. The other detector type, the RadTrack®-modified, contains a membrane that specifically excludes Rn-220. Rn-222 results are reported as received from the laboratory (i.e., the data are obtained directly from the

RadTrack®-modified detectors). Rn-220 concentrations are calculated using the RadTrack® and RadTrack®-modified data.

Rn-222 concentrations for 2004 ranged from non-detect to 0.3 pCi/L, below the NJDEP remedial action requirement (NJAC 7:28-12[NJDEP 2000]) of 3.0 pCi/L and EPA AL of 4 pCi/L. Rn-220 concentrations ranged from non-detect to a maximum of 3.32 pCi/L (location 24) and 2.95 pCi/L (location 4), which is below the EPA AL of 4 pCi/L. The maximum concentration of Rn-222 and Rn-220 combined is 3.52 pCi/L (location 24). The maximum annual average result is approximately 2.5 pCi/L (location 24).

As with most low concentrations of gases in an open, unconfined area, the Rn emitted from this area dissipates quickly and does not significantly affect the general population, which is located off-site. The closest residential inhabitants live to the northeast, approximately 200 ft (61 m). Locations 32 and 33 (Appendix D, **Figure D-2**) were installed in 1996 in order to examine Rn gas concentrations in this area. Rn-220 results at these two off-site locations were well below the NJDEP's guideline and EPA's AL and were significantly lower than the concentrations detected on-site.

5.3 AIRBORNE PARTICULATE DOSE

To determine the annual effective dose from airborne emissions of radioactive particulates generated during the year 2004 at the MISS and VPs, multiple potential sources were considered (see Appendix E):

- Soil preparation laboratory at the MISS;
- In-situ wind erosion at the MISS;
- Seventeen soil load-outs at the MISS;
- Remedial actions at 80 Hancock Street;
- Remedial actions at 80 Industrial Avenue;
- Remedial actions at 8 Mill Street;
- Remedial actions at 170 Gregg Street;
- Remedial actions at 85-101 NJ Route 17 North;
- Remedial actions at 167 NJ Route 17 North;
- Remedial actions at 200 NJ Route 17 North;
- Remedial actions at 23 West Howcroft; and,
- Remedial actions at 149-151 Maywood Avenue.

The particulate release rates from the preceding multiple potential sources were calculated using the methodology contained in the "Industrial Wind Erosion" section of EPA's AP-42 (EPA 1995). The emissions of particulate matter from the exhaust system for the soil sample preparation laboratory was determined based on the number of soil samples prepared, the average quantity of particulate emissions resulting from the grinding of the samples, and the removal efficiency of the High Efficiency Particulate Air (HEPA) filter.

The radionuclide emission rates were based on the particulate release rates and the average radionuclide source concentrations obtained from soil measurements for each of the above operations. Specifically, the source concentrations for the isotopes U-238, Ra-226, and Th-232 were based on the average values obtained from the measurements of these radionuclides in surface soil samples for the in situ soil (DOE 1987), and average values measured in soil samples for seventeen soil load-outs and remedial actions at nine VPs. Unknown radionuclide source concentrations were based on the known source concentrations assuming secular equilibrium in the decay chains (Shlein 1992).

Although the emission of Rn gas is not considered in this analysis, the daughters of Rn generated by the decay of Rn-226 in dust off-site is accounted for by the model in the computation of the effective dose equivalents for the various internal and external exposure pathways. The radionuclide emissions for the year from each of the above sources were entered into the CAP88-PC, Version 2.0 to perform the following two calculations:

1. Estimation of the hypothetical doses from airborne radioactive particulates at downwind distances corresponding to individuals located at the nearest residences and nearest commercial / industrial facilities as measured from the centers of the above sources. Analyses were performed separately for the 17 soil load-outs and remedial actions at nine VPs given the differences in receptor locations most affected by each of these areas. The in situ wind erosion and the exhaust hood emissions were found to be negligible, and thus were not included in the modeling analyses (see Appendix E, Annual NESHAP Compliance Report for Year 2004, Sections 1.5.11 and 1.5.12). Where individual receptors are affected by more than one emission source, doses caused by those sources were added. The hypothetical doses were based on the CAP88-PC, Version 2.0 default assumption that the receptor occupies the location 100% of the time (i.e., 24 hours per day, 7 days per week, 52 weeks per yr). The occupancy factor of 100%, although conservative, is considered to be appropriate for a resident. To estimate the dose to an employee working normal hours, an occupancy factor of 27% (i.e., 9 hours per day, 5 days per week, 52 weeks per yr) was applied to the CAP88-PC, Version 2.0 result. The hypothetical individual receiving the highest of these calculated doses was then identified as the individual maximally exposed to the airborne particulate dose. Since this dose is based in part on wind direction and not simply the distance from the site, this hypothetical maximally–exposed individual may not be the same as the person identified in the dose calculation for external gamma radiation (Section 5.1).
2. The hypothetical collective dose from airborne radioactive particulates for the population within 50 mi (80 km) of the site was estimated using a population file (generated from county population densities) to determine the number of people in graduated, concentric grid sections radiating outward to 50 mi (80 km) from the center of the site.

The CAP88-PC, Version 2.0 model determines the maximally exposed individual based on the radionuclide emissions, local meteorological data, and other factors. The model can calculate the effective dose equivalent for any receptor of interest (e.g., residences, schools, workers).

The CAP88-PC, Version 2.0 program computes radionuclide concentrations in air, rates of deposition on ground surfaces, concentrations in food, and intake rates to people from ingestion of food produced in the assessment area. By coupling the output of the atmospheric transport models with terrestrial food chain models from the U.S. NRC Regulatory Guide 1.109 (“Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I”), the program estimates the radionuclide concentrations in produce, leafy vegetables, milk, and meat consumed by humans. The population distribution array used in the computer model was calculated from known land surrounding the site and the year 2000 census figures. The program calculates the effective dose equivalent by combining the inhalation and ingestion intake rates and the air and ground surface concentrations with dose conversion factors, using the weighting factors in “Recommendations of the International Commission on Radiological Protection” (International Commission on Radiological Protection [ICRP] 1977). CAP88-PC, Version 2.0 calculates dose to the gonads, breast, lungs, red marrow, thyroid, and endosteum in addition to the 50-year effective dose equivalent. Doses can be tabulated as a function of radionuclide, pathway, location, and organ as shown in the calculation presented in Appendix E.

The hypothetical maximally exposed individual in 2004 was a worker with 27% occupancy time located approximately 30 ft (10 m) southeast of the property located at 80 Hancock Street. The 2004 airborne particulate dose to that individual, considering all site contributions throughout the year, was

0.0078 mrem/yr, which is well below the 10 mrem/yr standard specified in 40 CFR 61, Subpart H. The second calculation noted above indicates that the hypothetical airborne particulate collective dose to the population in 2004, within 50 mi (80 km) of the site, was 0.016 person-rem/yr.

5.4 SURFACE WATER AND SEDIMENT

Surface watercourses and drainage near the MISS and VPs include Westerly and Lodi Brooks (Appendix D, **Figures D-3A** and **D-3B**). Westerly Brook flows through a culvert after it enters the northwestern corner of the MISS. The subsurface culvert redirects Westerly Brook to the west, south, and then to the west again, along the northern and western property boundaries. After leaving the MISS, the culvert remains below grade for approximately 1100 ft (335 m) before it terminates. At this point, Westerly Brook reemerges and resumes its westward course. Ultimately, Westerly Brook discharges into the Saddle River. Lodi Brook begins on the property located at 149-151 Maywood Avenue in a low marshy area that collects runoff from the 149-151 Maywood Avenue and Stepan Company properties; from there it flows southward under NJ Route 17 remaining underground in a stormwater culvert for most of its course. Exceptions to this are small sections on both sides of Interstate 80 and a small section along NJ Route 17. From this area, the Lodi Brook flows approximately 1.8 mi (2.9 km) downstream of the confluence of Westerly Brook and the Saddle River before joining the Saddle River.

5.4.1 Surface Water

A total of 13 (four locations along Westerly Brook and nine locations along Lodi Brook) were sampled in 2004 (Appendix D, **Figures D-3A** and **D-3B**). On Westerly Brook, upstream location SWSD003, and downstream locations SWSD004, SWSD002, and SWSD001 of the MISS were sampled. On Lodi Brook, locations that were sampled included: SWSD006 and SWSD007 (on the eastern tributary of Lodi Brook); SWSD005 (at the confluence of the eastern and western tributaries of Lodi Brook); SWSD010, SWSD011, SWSD012, SWSD013, and SWSD014 (downstream of the MISS and VPs along Lodi Brook). Locations SWSD008 and SWSD009 on Lodi Brook were not sampled due to stagnant water. The western tributary of Lodi Brook drains portions of the MISS, Stepan Company, and 149-151 Maywood Avenue properties. Location SWSD015, which is not shown on the Appendix D **Figures D-3A** or **D-3B**, was also sampled (where Lodi Brook meets the Saddle River). Background sampling was conducted in Westerly Brook, upstream (north) of the site, at SWSD003.

Surface water samples in 2004 were collected and analyzed for radioactive constituents and metals. According to the 1992 Environmental Surveillance Report submitted by BNI, the radiological results for surface water samples were at background levels for the previous 5 years (1986-1991). Thus, surface water sampling for radionuclides and metals (except for lithium) was discontinued at that time. However, because the surface water samples collected during the Groundwater Remedial Investigation (GWRI) in 1999 indicated the presence of contamination in both Lodi and Westerly Brook, the surface water sampling was resumed (USACE 1999b). In addition, it is a prudent and protective practice to sample surface water during the ongoing remedial activities that started in 1999. All samples were analyzed for gross alpha, gross beta, Ra, Th, U, and metals.

Radioactive Constituents

Surface water samples collected in 2004 at Westerly Brook (SWSD001, SWSD002, SWSD003, and SWSD004) and Lodi Brook (SWSD005, SWSD006, SWSD007, SWSD010, SWSD011, SWSD012, SWSD013, SWSD014, and SWSD015) did not exhibit elevated concentrations of the analyzed radionuclides except for SWSD007. The concentration for combined Ra-226 and Ra-228 at this location was 5.76 pCi/L (Appendix A, **Table A-4**; Appendix D, **Figures D-3A** and **D-3B**).

Metals

Although surface water is not used as a source of potable water, the MCLs and GWQS were used as a basis for evaluation of the results. These regulatory standards are provided in **Table 2-4**, and Appendix A, **Table A-5** along with detected concentrations of metals in surface water.

Monitoring results revealed elevated concentrations in surface water for aluminum, arsenic, iron, lead, manganese, and sodium above either the MCL, GWQS, or both. Two locations on Westerly Brook (SWSD001 and SWSD003) and two locations on Lodi Brook (SWSD006 and SWSD007) had an exceedance for aluminum. All four locations sampled on Westerly Brook had an exceedance for both iron and manganese. All nine locations sampled on Lodi Brook had an exceedance for manganese and three locations had an exceedance for iron. The GWQS for arsenic was exceeded in Westerly Brook at three locations (SWSD001, SWSD002, and SWSD0004). Two of the three locations also exceeded the MCL. There were no exceedances for arsenic in Lodi Brook. Lead exceeded the GWQS at one location in Lodi Brook (SWSD006). There were no exceedances for lead in Westerly Brook. The GWQS for sodium was exceeded at all 13 surface water sampling locations. **Table 5-1** presents a summary of the surface water locations that exceeded the metals criteria.

Table 5-1
Summary of Surface Water Locations that Exceed the Metals Criteria

Criteria	Aluminum (µg/L)	Arsenic (µg/L)	Iron (µg/L)	Lead (µg/L)	Manganese (µg/L)	Sodium (µg/L)
Federal MCL	200	10	300	15	50	
NJ MCL	200	5	300	15	50	50,000
NJ GWQS	200	8	300	10	50	50,000
Sampling Location						
SWSD001 [1]	236 J [3]	9.9 [4]	813 J [3]		561 J [3]	76,900 [4]
SWSD002 [1]		15.4 [3]	983 J [3]		573 [3]	77,700 [4]
SWSD003 [1]	283 J [3]		3,160 J [3]		684 J [3]	50,400 [4]
SWSD004 [1]		13.2 [3]	850 J [3]		655 J [3]	78,300 [4]
SWSD005 [2]					127 J [3]	69,900 [4]
SWSD006 [2] Dup	306 J [3]		990 J [3]	12.1 [4]	134 [3] 130 [3]	54,200 [4] 56,800 [4]
SWSD007 [2] Dup	408 J [3]		625 J [3] 382 J [3]		540 [3] 155 J [3]	 51,800 [4]
SWSD010 [2]			340 J [3]		239 [3]	69,800 [4]
SWSD011 [2]					104 J [3]	71,400 [4]
SWSD012 [2]					121 J [3]	68,500 [4]
SWSD013 [2]					179 J [3]	65,300 [4]
SWSD014 [2]					159 J [3]	62,600 [4]
SWSD015 [2]					103 J [3]	64,500 [4]
Locations	4 of 13	3 of 13	7 of 13	1 of 13	13 of 13	13 of 13

Notes: [1] Westerly Brook
[2] Lodi Brook
[3] Exceeds both the MCL and GWQS.
[4] Exceeds the GWQS.
J = Reported as an estimated value

5.4.2 Sediment

The sediment sampling program was extended in 2001 to include more sample locations downstream of both Westerly and Lodi Brook to identify if a pattern of contaminant migration downstream from the FMSS exists. As shown on Appendix D, **Figures D-3A** and **D-3B**, sediment sample locations including one upstream location (SWSD003) and two downstream locations (SWSD001, SWSD002) in Westerly Brook, and one upstream location and five downstream locations in Lodi Brook. Sediment samples at SWSD008, and SWSD009 were not collected due to stagnant water (soil present could not be verified as sediment laden); at location SWSD004, a sediment sample was not collected due to significant flow (lack of available sediment in catch basin).

Field Parameters

In Appendix A, **Table A-10** presents a summary of field parameters measured during annual sampling surface water sampling activities at the FMSS. Field parameters include temperature, pH, oxidation / reduction potential (Eh), turbidity, specific conductance, and dissolved oxygen. In the case of surface water, these parameters are monitored prior to sample collection.

Radioactive Constituents

Consistent with historical results, the sediment samples collected in Westerly Brook (SWSD001, SWSD002, and SWSD003) were below the ROD soil cleanup criteria (see Appendix A, **Table A-6A**).

In Lodi Brook, the combined concentration of Ra-226 and Th-232 at all sediment sampling locations were below the ROD soil cleanup criteria (Appendix D, **Figures D-3A** and **D-3B**). The highest combined concentration of Ra-226 (2.22 pCi/g) and Th-232 (2.45 pCi/g) occurred at SWSD006 in 2004. In 2003, the highest combined concentration of Ra-226 (3.77 pCi/g) and Th-232 (5.10 pCi/g) was reported at SWSD007. This was the only sediment sampling location that exceeded the ROD soil cleanup criteria in 2003.

The reported total uranium ($U_{(tot)}$) concentrations at all monitoring locations were well below the ROD soil cleanup criteria of 100 pCi/g above background with a maximum $U_{(tot)}$ concentration of 4.27 pCi/g reported at SWSD006. In 2003, the $U_{(tot)}$ concentrations at all monitoring locations were also below the ROD soil cleanup criteria with a maximum reported $U_{(tot)}$ concentration of 4.06 pCi/g at SWSD007.

The background soil concentration for Ra-226, Th-232, and U-238 in the vicinity of the FMSS are approximately 0.90 pCi/g, 0.71 pCi/g, and 1.33 pCi/g respectively (USACE 2004).

The sampling results for 2004 confirm the continued presence of radiological concentrations, above background, but below the ROD soil cleanup criteria in the streambed sediment of the upstream location where Lodi Brook originates.

Metals

Metals concentrations in sediment were compared to the proposed SCC and to sediment screening values in the *Guidance for Sediment Quality Evaluations* (NJDEP 1998) to evaluate their significance.

The residential, and less stringent nonresidential, SCC provide a basis for evaluating metal concentrations in sediment for the mixed land use area around the FMSS (NJDEP 1992). These criteria, as appropriate for the zoning of a given sampling location, are provided in Appendix A, **Table A-6B** along with the detected concentrations of metals in sediment. Sampling locations SWSD003 (upstream/background), SWSD005, SWSD006, SWSD007, SWSD010, and SWSD015 are in areas zoned as light industrial (nonresidential), while sampling locations SWSD001, SWSD002, SWSD011, SWSD012, SWSD013, and SWSD014 are in areas zoned for residential use.

In Lodi Brook and Westerly Brook, there were no exceedances of the applicable SCC. Although lead was detected at SWSD013 at a concentration of 397 mg/kg, which is slightly below the SCC of 400 mg/kg. The results for 2004 are generally consistent with prior years. In 2003, all sediment locations sampled were below the SCC with the exception of the upstream background location SWSD003 (zinc) and location SWSD006 (arsenic).

Sediment Screening Values in the BEE

To aid in the identification of contaminants of potential ecological concern, site-related metal concentrations in sediment are compared to the LEL and SEL concentrations listed in the screening level criteria presented in the "Guidance for Sediment Quality Evaluations" (NJDEP 1998). Note that LEL and SEL values are only established for eight metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc). For silver, the NJDEP recommends the ER-L and the ER-M Marine/Estuarine Sediment Screening Guidelines be utilized as surrogates.

As shown in **Table 5-2**, various metal concentrations exceeded the LEL used in the BEE at every location sampled. There were exceedances of the LEL concentrations for arsenic, copper, lead, and zinc in both Westerly Brook and Lodi Brook. In Lodi Brook there were also exceedances for cadmium, chromium, nickel, and mercury. At locations SWSD006 and SWSD007 the copper and lead results were qualified as J since the samples were determined to be non-homogeneous, and therefore non-representative as duplicate pairs. As shown in **Table 5-3**, the metal concentrations did not exceed the SEL concentrations in Westerly Brook. In Lodi Brook the metal concentrations exceeded the SEL at four locations, SWSD006, SWSD007, SWSD010, and SWSD013 (Appendix D, **Figure D-3A** and **D-3B**).

Table 5-2
Summary of Metals in Sediment that Exceed the LEL

Sample Location	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)
SWSD001 [1]	7.9 J			30.7 J	48.3 J			165 J
SWSD002 [1]	6.1 J			25.8 J	52 J			178 J
SWSD003 [1]				35.5 J	83.7 J			156 J
SWSD005 [2]				30 J	38.4 J			
SWSD006 [2]	8.3 J		55.1 J	54.2 J	139 J			128 J
Dup	14.6 J	5 J	64 J	140 J	414 J	0.61 J	22.9 J	623 J
SWSD007 [2]				18.8 J	108 J			
Dup	16.6 J		189 J	138 J	357 J	0.61 J	25.4 J	958 J
SWSD010 [2]	10.5 J	1.8 J	82.7 J	198 J	190 J	0.95 J	29.3 J	741 J
SWSD011 [2]			28.9 J	71.9 J	149 J			262 J
SWSD012 [2]			29.2 J	40.8 J	86.8 J		21.1 J	197 J
SWSD013 [2]			95.1 J	64 J	397 J		25.7 J	360 J
SWSD014 [2]				49.8 J	84.2 J			143 J
SWSD015 [2]				34.2 J	145 J			156 J
Locations	5 of 12	2 of 12	6 of 12	12 of 12	12 of 12	3 of 12	5 of 12	11 of 12

Notes: [1] Westerly Brook
[2] Lodi Brook

J = Reported as an estimated value

Table 5-3
Summary of Metals in Sediment that Exceed the SEL

Sample Location	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Zinc (mg/kg)
SWSD006 [1]		140 J	414 J	
SWSD007 [1]	189 J	138 J	357 J	958 J
SWSD010 [1]		198 J		
SWSD013 [1]			397 J	
Locations	1 of 12	3 of 12	3 of 12	1 of 12

Note: [1] Lodi Brook

J = Reported as an estimated value.

5.5 GROUNDWATER

The locations of groundwater monitoring wells at the MISS are shown on Appendix D, **Figure D-2**. During 2004, 22 of the 24 monitoring wells in the groundwater monitoring network were sampled. Monitoring wells MISS06A and B38W25S were not sampled during 2004. There was insufficient flow in monitoring well MISS06A and well B38W25S was partially collapsed. Background information, descriptions of activities performed under the groundwater monitoring program, and monitoring results are discussed below.

5.5.1 Groundwater Quality

Natural System

Groundwater within the FMSS flows in both the bedrock and the overlying unconsolidated sediments (i.e., overburden). Bedrock is composed of fractured sandstone and shale belonging to the Passaic Formation. Unconsolidated sediments are composed of interbedded sand and clay of glacial origin. Although there is no continuous confining layer present across the FMSS, the *Remedial Investigation Report for the Maywood Site, New Jersey*, December 1992 (DOE 1992), indicated that the unconsolidated overburden deposits may be divided into three units that interfinger with the underlying and overlying unit (DOE 1992). The lower lithostratigraphic unit is characterized as consisting of stratified, moderately well sorted to well sorted fine grained sands and silts, with varying amounts of organic material. The middle lithostratigraphic unit consists of layers of clayey silt and silty clay with clayey to clean sand. The upper lithostratigraphic unit consists of undifferentiated deposits of sand, silt, and gravel. These deposits are poorly to moderately sorted.

Bulk groundwater flow is predominantly horizontal; however, hydraulic head elevations obtained within the FMSS indicate that there is a downward component of groundwater flow within the MISS /Stepan Company property, and an apparent upward component of groundwater flow near groundwater discharge points such as the Saddle River and Lodi Brook. Additional information on groundwater flow at the FMSS is presented in the following sections.

Water Level Measurements

Water level measurements are obtained quarterly from 34 monitoring wells (Appendix D, **Figure D-2**). Of these 34 monitoring wells, 15 are completed in unconsolidated overburden deposits, while 19 are completed in bedrock. In previous years, water levels were obtained from well B38W06B. However, this well was damaged and was abandoned by a licensed driller in 2002. During the synoptic gauging year 2004, four rounds of water levels were obtained as part of the EMP. The four synoptic gauging rounds were performed on March 1st, April 22nd, August 25th, and November 2nd, 2004. Water Level Record Sheets for the four synoptic water level gauging rounds are provided in Appendix C. Water levels fluctuate in response to short and long term seasonal changes in precipitation and evapo-transpiration. In the unconsolidated deposits, groundwater levels measured during the four gauging rounds varied as shown in **Table 5-4**.

Table 5-4
Minimum and Maximum Water Level Elevations in Overburden Monitoring Wells
Synoptic Gauging Year 2004

Parameter	Measurement Date			
	3/1/04	**4/22/04**	**8/25/04**	**11/2/04**
Minimum GW* Elevation (ft NGVD)	41.75	42.15	39.49	39.39
Maximum GW Elevation (ft NGVD)**	53.07	54.04	52.21	52.29
Well Depicting Minimum (GW Elevation)	B38W15S	B38W15S	B38W14S	B38W14S
Well Depicting Maximum (GW Elevation)	MISS02A	MISS02A	MISS02A	MISS02A

Note: * GW – Groundwater ** NGVD – National Geodetic Vertical Datum - 1929

Table A-7 in Appendix A, presents the surveyed elevation of the top of inner casing (TOC), depth to water below TOC, and groundwater elevations for the 15 monitoring wells gauged and completed in the unconsolidated deposits. Minimum water level fluctuations (0.1 ft) were measured in well B38W14S. The minimum groundwater elevation (39.39 ft NGVD) was measured on November 2nd, whereas, the maximum groundwater elevation (39.49 ft NGVD) measured in this well occurred on August 25th. It should be noted that water levels were not obtained from this well during the March 1st and April 22nd synoptic gauging rounds due to accessibility. The maximum water level fluctuation (2.74 ft) was measured in well MISS04A. In this well, groundwater elevation ranged from 47.58 ft NGVD (November 2nd) to 50.32 ft NGVD (April 22nd). The minimum and maximum water level measurements were measured in monitoring wells B38W14S (39.39 ft NGVD, November 2, 2004) and in MISS02A (54.04 ft NGVD, April 22nd, 2004).

In the bedrock aquifer, groundwater levels measured during the four gauging rounds ranged as given in **Table 5-5**:

Table 5-5
Minimum and Maximum Water Level Elevations in Bedrock Monitoring Wells
Synoptic Gauging Year 2004

Parameter	Measurement Date			
	3/1/04	4/22/04	8/25/04	11/2/04
Minimum GW Elevation (ft NGVD)	42.64	42.94	41.84	41.06
Maximum GW Elevation (ft NGVD)	62.65	63.55	62.26	60.05
Well Depicting Minimum GW Elevation	B38W15D	B38W15D	B38W14D	B38W14D
Well Depicting Maximum GW Elevation	B38W02D	B38W02D	B38W02D	B38W02D

Table A-8 in Appendix A, presents the surveyed elevation of the TOC, depth to water below TOC, and groundwater elevations for the 19 bedrock monitoring wells. As depicted in **Table A-8**, wells MISS-02B and B38W02D showed the minimum and maximum water level fluctuations that occurred throughout the 2004 synoptic gauging program. Well MISS-02B varied by 0.40 feet, and B38W02D varied by 3.50 feet. For monitoring well MISS-02B, the minimum (49.98 ft NGVD) and maximum (50.38 ft NGVD) groundwater elevations occurred during the months of November and April 2004, respectively. With respect to B38W02D, the minimum (60.05 ft NGVD) and maximum (63.55 ft NGVD) groundwater elevations similarly occurred during the months of November and April 2004, respectively.

Groundwater Flow System

Water table contour maps for the unconsolidated deposits and bedrock potentiometric surface maps are presented in Appendix D, **Figures D-4** through **D-7**. **Figures D-4** and **D-5** present the groundwater flow for wells completed in the overburden soils; **Figures D-6** and **D-7** present the potentiometric surface maps for the wells completed in bedrock. Water table contour maps and potentiometric surface contour maps were prepared for the April 22nd and November 2nd synoptic gauging rounds, respectively. These two gauging rounds were chosen for depiction since the maximum water level fluctuations occurred during those two gauging rounds. Lateral groundwater flow at the MISS is strongly controlled by the morphology of the bedrock surface. The bedrock slopes westward across the site, flattens, and then rises to a subtle ridge along the Saddle River (DOE 1992). Horizontal hydraulic gradients reflect this configuration and flatten off-site, to the west. A figure depicting the contours of the bedrock surface excerpted from the Remedial Investigation Report, are presented in Appendix D, **Figure D-8** (DOE 1992). Bedrock highs exist in the northeast portion of the FMSS within the Stepan Company property and locally within the MISS. These bedrock highs form a local groundwater divide and control the direction of groundwater flow in the overburden and bedrock aquifers.

During the 2004 synoptic gauging rounds, the horizontal hydraulic gradient within the overburden varied spatially but typically ranged from approximately 0.007 ft/ft to 0.01 ft/ft off-site and 0.010 ft/ft to 0.015 ft/ft within the MISS/Stepan Company property. The direction of groundwater flow in the overburden aquifer is predominantly to the west-southwest towards the Saddle River. However, as a result of a bedrock high in the northeastern portion of the MISS in proximity to MISS02A, there is a radial component to groundwater flow in the overburden, refer to Appendix D, **Figures D-4** and **D-5**.

The direction of groundwater flow in bedrock is presented in Appendix D, **Figures D-6** and **D-7**. As depicted in these figures, groundwater flow is dictated by the presence of a groundwater high. This roughly coincides with a bedrock high located in the northeast corner of the site in the vicinity of the Stepan Company property, as shown on Appendix D, **Figure D-8**. In Appendix D, **Figures D-6** and **D-7** depict the groundwater divide, with groundwater flowing predominantly to the west-southwest, with a component of groundwater flow to the northwest. In the bedrock aquifer, the horizontal hydraulic gradients ranged from approximately 0.004 ft/ft to 0.005 ft/ft west of NJ Route 17, and ranged from 0.0125 ft/ft to 0.015 ft/ft within the MISS/Stepan Company property during the 2004 synoptic gauging rounds.

Based on the synoptic gauging rounds, information regarding the vertical component of groundwater flow may be inferred. As depicted in Appendix A, **Table A-9**, 13 well clusters were used to determine if a horizontal or vertical gradient (either upward or downward) exists between overburden and bedrock wells or whether the groundwater is in a transitional "horizontal" flow system. Of the nine well clusters located within the MISS/Stepan Company property, the overburden well depicted a greater hydraulic head than the wells completed in bedrock in eight of the nine well clusters. Data obtained from well cluster B38W24S/D appears to be consistent with previous years data and indicates an upward gradient, based on data collected in August and November 2004. The data presented in Appendix A, **Table A-9** principally indicates that the MISS/Stepan Company property represents a recharge area for the unconsolidated/overburden aquifer. At well cluster B38W24, bedrock may be recharging the overburden aquifer, or the bedrock aquifer may be under confined conditions.

Water levels measured in off-site monitoring wells in 2004 principally indicate that for well clusters B38W12A/12B and B38W15S/15D, the hydraulic heads in the bedrock aquifer were consistently higher than the heads in the overburden aquifer, indicating flow from the bedrock aquifer to the overburden aquifer. These wells are located in proximity to a drainage swale/Lodi Brook (B38W12A/12B) and the Saddle River (B38W15S/15D). Access to well cluster B38W14S/D was an issue during the March and April 2004 synoptic gauging rounds, however, the August and November water levels indicates an upward gradient. This well is also located in proximity to the Saddle River. The other off-site well cluster, B38W17A/17B, displayed a transitional/horizontal component of groundwater flow in August/November 2004, and a slight downward gradient in March/April 2004. This well appears to be located transitionally between a recharge and a discharge area.

Field Parameters

In Appendix A, **Table A-10** presents a summary of field parameters measured during annual sampling activities at the FMSS. Field parameters include temperature, pH, oxidation / reduction potential (Eh), turbidity, specific conductance, and dissolved oxygen. In the case of groundwater, these parameters are monitored during the purging of the wells to determine when to commence sample collection. Field procedures require these parameters to reach a stable condition prior to sampling. Measurements are taken systematically during the purging procedure and are recorded in field logbooks. In Appendix A, **Table A-10** represents the stabilized values.

Water Quality Parameters

Groundwater quality at the FMSS had been evaluated historically for the standard parameters carbonate, bicarbonate, chloride, nitrate, sulfate, and total dissolved solids (TDS). Analyses for these parameters were discontinued after 1996, since the above compounds had not been detected in the groundwater for several years.

5.5.2 Groundwater - Radiological Constituents

Groundwater samples collected between June and July 2004 from both on-site and off-site monitoring wells (Appendix D, **Figure D-2**) were analyzed for radiological constituents. Ten (10) shallow wells and 12 deep wells were sampled for radionuclides, metals, and VOCs. The location of these wells, with respect to the MISS, is given in **Table 5-6**:

Table 5-6
Locations of Wells with Respect to the MISS

Well Type	Location
Upgradient Wells	B38W-01S, 02D
On-site Wells	MISS-1AA, 1B, 2A, 2B, 5A, 5B, 6A, 7A, 7B B38W-19S, 19D, 18D, 24S, 24D, 25S, 25D
Downgradient Wells	B38W-14S, 14D, 15S, 15D, 17A, 17B

Note: In 2004, monitoring well B38W25S was not sampled due to plugged casing and monitoring well MISS06A was not sampled due to insufficient flow ("dry").

Results are provided in Appendix A, **Table A-11**. Groundwater monitoring wells that exceeded the MCL and GWQS are summarized in **Table 5-7** below.

Table 5-7
Summary of Groundwater Wells that Exceeded the Radiological Criteria

Criteria	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Ra-228 (pCi/L)	Total Ra (pCi/L)	Total Uranium (pCi/L)
Federal MCL	15		5	5	30
NJ MCL	15	50	5	5	30
NJ GWQS	15	50	5	5	30
Sampling Location					
B38W17B		86.60			
B38W18D Dup	128.00 134.00		5.25	8.60 7.45	
MISS05A	486.00 J	197.00	12.90	16.30	110.55
MISS05B		501.00			
Locations	2 of 22	3 of 22	2 of 22	2 of 22	1 of 22

Note: J = Reported as an estimated value

In 2004, the gross alpha concentrations exceeded the MCL and GWQS (15 pCi/L) in two on-site monitoring well (B38W18D and MISS05A). As per the Federal Standards, the U results were subtracted from the gross alpha results to obtain corrected gross alpha values. In 2003, gross alpha criteria were exceeded in four monitoring wells with a maximum concentration of 220 pCi/L at B38W15S; three wells were on-site wells and one well was downgradient.

Gross beta results exceeded the MCL and GWQS (50 pCi/L) in one downgradient well (B38W17B) and two on-site wells (MISS05A and MISS 05B). In 2003, gross beta criteria were exceeded in six wells with a maximum concentration of 2,910 pCi/L at MISS05B; four of these wells were on-site and two were downgradient.

Consistent with historical results, Ra-226 was detected in most groundwater samples, but at concentrations below the MCL and GWQS for combined Ra (Ra-226 and Ra-228) of 5 pCi/L. The measured concentrations ranged from 0.01 pCi/L to a maximum of 4.40 pCi/L at MISS05A. In 2003, the maximum Ra-226 concentration occurred at B38W25D with a value of 1.33 pCi/L.

The Ra-228 concentration exceeded the MCL and GWQS (5 pCi/L) for combined radium in wells MISS05A and B38W18D. All other detected concentrations were below the MCL and GWQS for combined Ra. In 2003, the maximum Ra-228 concentration was detected at MISS06A with a value of 5.47 pCi/L.

The combined Ra (Ra-226 and Ra-228 or total radium) concentrations exceeded the MCL and GWQS (5 pCi/L) in two wells; B38W18D and MISS05A. For the rest of the wells, the combined concentrations of Ra-226 and Ra-228 were less than the MCL and GWQS. Although the Safe Drinking Water Act (SDWA) does not apply because groundwater at the MISS is not used as a source of drinking water, the combined Ra-226 and Ra-228 concentrations were compared to the SDWA Ra standard to evaluate groundwater quality. In 2003, the highest combined Ra concentrations were detected at MISS06A (6.08 pCi/L).

Consistent with historical results, the detected concentrations of Th-228 at the various sampling locations, with the exception of wells B38W18D and MISS05A, were not elevated. The maximum concentration of Th-228 (13.80 pCi/L) occurred at MISS05A. The concentration at B38W18D was 4.80 pCi/L. In 2003, the maximum Th-228 concentration occurred at B38W18D with a measured value of 0.32 pCi/L.

Consistent with historical results, Th-230 was detected in almost all of the groundwater samples with low concentrations. The maximum concentration of Th-230 (3.90 pCi/L) occurred at MISS05A. The second highest concentration of Th-230 (1.12 pCi/L) occurred at B38W19D. In 2003, Th-230 was also detected in most of the groundwater samples with a maximum concentration of 0.71 pCi/L at B38W19D.

Consistent with historical results, the detected concentrations of Th-232 at the various sampling locations, with the exception of wells B38W18D and MISS05A were low. The maximum concentration of Th-232 (26.50 pCi/L) was detected at MISS05A. The second highest concentration of Th-230 (6.30 pCi/L) occurred at B38W18D. In 2003, the maximum Th-232 concentration also occurred at B38W18D with a measured concentration of 0.22 pCi/L.

The combined concentrations of Th-228, Th-230, and Th-232 were low at all of the monitoring locations except for wells B38W18D and MISS05A. The maximum combined concentrations of Th-228, Th-230, and Th-232 occurred at MISS05A with a value of 44.20 pCi/L. The value at B38W18D was 7.86 pCi/L. In 2003, the maximum combined concentration of Th-228, Th-230, and Th-232 occurred at MISS06A with a value of 0.72 pCi/L.

Consistent with historical results, the $U_{(tot)}$ concentrations in groundwater were much less than the MCL with one exception. The maximum $U_{(tot)}$ concentration occurred at MISS05A with a value of 77.92 pCi/L (110.55 µg/L). The $U_{(tot)}$ concentration at MISS05A was reported to be above the MCL and GWQS of 30 µg/L. MISS05A is an overburden monitoring well located on-site near a former retention pond and areas of contaminated soil. The maximum concentration of $U_{(tot)}$ detected off-site was 6.02 pCi/L (5.17 µg/L) at monitoring well B38W15D, located southwest (down-gradient) of the site. In 2003, the maximum concentration of $U_{(tot)}$ detected off-site was also found at B38W15D with a concentration of 6.30 pCi/L (5.79 µg/L).

5.5.3 Groundwater - Metals

Metals detected in groundwater are reported in Appendix A, **Table A-12**. **Table 5-8** summarizes the groundwater monitoring wells that exceeded the MCL and GWQS for metals.

Table 5-8
Summary of Groundwater Wells that Exceeded the Metals Criteria

Criteria	Aluminum (µg/L)	Arsenic (µg/L)	Iron (µg/L)	Lead (µg/L)	Manganese (µg/L)	Sodium (µg/L)
Federal MCL	200	10	300	15	50	
NJ MCL	200	5	300	15	50	50,000
NJ GWQS	200	8	300	10	50	50,000
Sampling Location						
B38W01S			24,500 [1]		2,560 [1]	
B38W02D					1,040 [1]	
B38W14D	1,560 [1]		1,260 [1]		60.7 [1]	
B38W14S					256 [1]	
B38W15D Dup					698 [1] 703 [1]	256,000 J [2] 264,000 J [2]
B38W15S	632 [1]		1,370 [1]	18.6 [1]	1,330 [1]	213,000 J [2]
B38W17A			725 [1]		225 [2]	
B38W17B			5,540 [1]		3,510 [1]	156,000 [2]
B38W18D Dup	404 [1] 257 [1]	9.7 [2]	20,400 [1] 18,700 [1]		4,950 [1] 4,640 [1]	81,600 [2] 75,900 [2]
B38W19D		41.1 [1]	4,770 [1]		3,450 [1]	359,000 [2]
B38W19S			5,660 [1]		634 [1]	
B38W24D			25,300 [1]		4,820 [1]	
B38W24S			17,700 [1]		2,070 [1]	
B38W25D			18,000 [1]		4,230 [1]	232,000 J [2]
MISS01AA			808 [1]		65.3 [1]	
MISS01B			3,970 [1]		425 [1]	59,600 [2]
MISS02A		2,740 [1]	2,410 [1]		262 [1]	214,000 [2]
MISS02B			13,000 [1]		4,270 [1]	217,000 [2]
MISS05A	3,970 [1]	108 [1]	61,300 [1]	33.7 [1]	1,340 [1]	
MISS05B			7,290 [1]		8,890 [1]	1,460,000 [2]
MISS07A	2,270 [1]		2,200 [1]	11.2 [2]	81.7 [1]	
MISS07B		70.5 [1]	19,200 [1]		3,490 [1]	1,130,000 [2]
Locations	5 of 22	5 of 22	19 of 22	3 of 22	21 of 22	11 of 22

Notes:
[1] Exceeds both the MCL and GWQS.
[2] Exceeds the GWQS.
J = Reported as an estimated value.

Common metals that occur in abundance at the background locations (B38W01S and B38W02D) and in most of the monitoring wells include iron and manganese. These metals often exceed GWQS. The concentration of iron ranged from 725 µg/L to a maximum concentration of 61,300 µg/L at MISS05A. The concentration of manganese ranged from 60.7 µg/L to a maximum of 8,890 µg/L at MISS05A.

Aluminum was detected in five (three on-site and two downgradient) wells that exceeded the MCL and GWQS of 200 µg/L. Aluminum was detected in wells MISS05A, MISS07A, B38W14D, B38W15S, and

B38W18D. In 2003, the maximum aluminum concentration was reported in well B38W14D with a value of 1010 µg/L.

Antimony was not detected in any of the monitoring wells during the year 2004. In 2003, antimony was also not detected in any of the monitoring wells. Historically, there have been occasional exceedances of the MCL for antimony at various monitoring wells (B38W17A, MISS05A, MISS06A, and MISS07B).

In 2004, arsenic concentrations in groundwater exceeded the Federal MCL (10 µg/L) in four wells and the NJ MCL (5 µg/L) and GWQS (8 µg/L) in five on-site wells MISS02A, MISS05A, MISS07B, B38W19D, and B38W18D (B38W18D did not exceed the Federal MCL). These wells have historically exhibited comparable concentrations for the metal.

Cadmium was detected in two wells, B38W15S and MISS07A, with concentrations of 2.7 µg/L and 1.6 µg/L, respectively. The concentration of cadmium at these two wells did not exceed the MCL of 5 µg/L and GWQS of 4 µg/L. In 2003, the maximum cadmium concentration occurred at MISS06A with a value of 5.6 µg/L.

Lead was detected in wells B38W15S and MISS05A that exceeded the MCL of 15 µg/L and GWQS of 10 µg/L. Lead was also detected in well MISS07A that exceeded the GWQS. In 2003, the maximum lead concentration occurred at B38W14D with a value of 16.8 µg/L. Historically, there have been occasional exceedances of the MCL for lead at various wells (B38W14S, B38W15D, B38W17A, and MISS06A).

Sodium was detected in half the wells sampled at a level that exceeded the GWQS of 50,000 µg/L. There is no Federal SDWA MCL for sodium. The highest concentrations were found at wells MISS05B (1,460,000 µg/L) and MISS07B (1,130,000 µg/L). These two on-site wells lie adjacent to NJ Route 17.

Lithium is a metal present at the site as a result of MCW site processing activities. However, no MCL or GWQS have been set. Samples are analyzed for this parameter to establish a database of information on its distribution. Lithium was detected in most wells with the highest concentrations reported at MISS02A (10,700 µg/L), MISS05B (10,200 µg/L) and MISS02B (8,260 µg/L). In 2003, lithium was detected in many monitoring wells with the highest concentrations reported at MISS02A (6,200 µg/L), MISS02B (9,590 µg/L), and MISS07B (7,770 µg/L). Historically, lithium concentrations have consistently been highest at MISS02B.

5.5.4 Groundwater - Volatile Organic Compounds

Groundwater samples were also analyzed for VOCs. The pattern of groundwater contamination with VOCs in 2004 (Appendix A, **Table A-13**) is consistent with historical results (Appendix B, **Table B-4**). **Table 5-9** summarize the groundwater monitoring wells that exceeded the MCL and GWQS for VOCs.

Table 5-9
Summary of Groundwater Well that Exceeded the VOC Criteria

Criteria	1,1,2-Trichloro-ethane (µg/L)	1,1-DCE (µg/L)	1,2-DCA (µg/L)	Benzene (µg/L)	Bromo-form (µg/L)	Carbon Tetra-chloride (µg/L)	Methylene Chloride (µg/L)	PCE (µg/L)	TCE (µg/L)
Federal MCL	5	7	5	5	80	5	5	5	5
NJ MCL	3	2	2	1	80	2	3	1	1
NJ GWQS	3	2	2	1	4	2	3	1	1
Sampling Location									
B38W14D	5 UJ		8 UJ		5 UJ	4 UJ	16 UJ	450 UJ	85 UJ
B38W14S								85 UJ	15 UJ
B38W15D Dup		5 5					12 UJ 7 UJ	570 520	95 87
B38W15S									2
MISS01B								16	2 UJ
MISS05B	10 UJ		16 UJ	400	10 UJ	8 UJ	16 UJ	12 UJ	8 UJ
MISS07B								29	2
Locations	2 of 22	1 of 22	2 of 22	1 of 22	2 of 22	2 of 22	3 of 22	6 of 22	7 of 22

Note: UJ = analyte was not detected but is estimated.

The organic constituents in groundwater are tetrachloroethene (PCE) and its degradation products: dichloroethenes (DCEs) and trichloroethene (TCE); 1,1,2-trichloroethane, 1,1-DCE, 1,2-dichloroethane (1,2-DCA), benzene, bromoform, carbon tetrachloride, and methylene chloride. As seen historically at off-site wells B38W14D, B38W14S, and B38W15D, some or all of these compounds were detected in concentrations that exceeded the MCL and GWQS. The denser compounds were all detected in higher concentrations in the deep wells. Historically PCE, TCE, and DCEs have been identified in on-site deep wells MISS01B and MISS07B, but not in their shallow counterparts.

Benzene was not detected in the shallow wells. In the deep wells, benzene was identified in two well B38W25D (0.4 µg/L) and MISS05B (400 µg/L). The benzene concentration in well MISS05B exceeded both the MCL of 5 µg/L and GWQS of 1 µg/L. In 2003, benzene was identified in four deep wells (B38W17B, B38W19D, MISS02B, and MISS05B) at concentrations from 0.2 µg/L at MISS02B to a concentration of 2.0 µg/L at MISS05B.

6.0 CONCLUSIONS

6.1 EXTERNAL GAMMA RADIATION

The 2004 monitors for gamma radiation (TETLDs) were collected at 14 site locations and 1 off-site background location (Appendix D, **Figure D-2**).

The calculated doses, above background, from direct gamma exposure at the MISS to a hypothetical maximally-exposed resident and worker assumed to be located 50 ft (15.2 m) from the fenceline at location 21 were 29.02 mrem/yr and 6.68 mrem/yr, respectively (Calc. 102682-0307-001) (see Appendix F). This is a conservative approach since the nearest receptor is located approximately 200 ft (61.0 m) from location 21. The results obtained from the gamma radiation monitors are consistent with historical data and all locations will continue to be monitored during 2005.

6.2 RADON-220 (RN-220) AND RADON-222 (RN-222)

Cumulative Rn measurements were collected at 14 site locations and one off-site background location (Appendix D, **Figure D-2** and Appendix A, **Table A-3**). Measured Rn-222 concentrations ranged from non-detect to 0.3 pCi/L and therefore were well below the NJDEP's remedial action requirement of 3.0 pCi/L and the EPA's AL of 4 pCi/L(EPA 1992b).

Rn-220 concentrations ranged from non-detect to a maximum of 3.32 pCi/L (location 24), which is below the EPA's AL of 4 pCi/L. This value is the highest concentration obtained from any of the 15 monitoring locations. The next highest value is 2.95 pCi/L (location 4). The maximum combined concentration of Rn-222 and Rn-220 is 3.52 pCi/L (location 24). The results of Rn monitoring are consistent with last year results and all locations will continue to be monitored during 2005.

Rn-222 flux monitoring was performed for the soil storage pile located inside the fabric structure at the DOE-owned MISS to determine compliance with 40 CFR 61, Subpart Q (see Appendix E, Section 4.0). Specifically, the Subpart Q standard requires that no source (i.e., storage pile) at a DOE facility shall emit more than 20 pCi/m^2/s of radon-222, as an average for the entire source, into the ambient air.

To determine the Rn-222 flux from the storage pile, charcoal canisters were placed on the stockpile inside the fabric structure at six locations for a period of 24 hours. The charcoal canisters were then sent to a laboratory for analysis. The Rn-222 concentrations obtained from the flux monitoring ranged from 1.04E-01 pCi/m^2/s to 4.51E-01 pCi/m^2/s and thus, are well in compliance with the Subpart Q standard of 20 pCi/m^2/s.

6.3 AIRBORNE PARTICULATE DOSE

The airborne particulate dose to the hypothetical maximally exposed individual in 2004 was a worker with 27% occupancy located approximately 30 ft (10 m) southeast of the property located at 80 Hancock Street. The 2004 airborne particulate dose to that individual, considering all site contributions throughout the year, was 0.0078 mrem/yr. This is well below the 10 mrem/yr standard specified in 40 CFR 61, Subpart H. The hypothetical airborne particulate collective dose to the population within 50 mi (80 km) of the site was 0.016 person-rem/yr.

6.4 CUMULATIVE DOSE FROM EXTERNAL GAMMA RADIATION AND AIRBORNE PARTICULATE

The location of the maximally exposed individual from direct gamma radiation and the location of the hypothetical maximally exposed individual from airborne particulates are different. The hypothetical maximally exposed individual from direct gamma radiation emitted at MISS in 2004 occurred 50 ft (15.2 m) from location 21, which is located on the southern perimeter of the site. The calculated doses from external gamma radiation exposure at the above location for the hypothetical maximally exposed individual was 29.02 mrem/yr (see Section 5.1).

The hypothetical maximally exposed individual from airborne particulates, as determined by the dispersion modeling performed for the Annual NESHAP Compliance Report – Year 2004 (see Appendix E), occurred at a business located approximately 30 ft (10 m) southeast of the property located at 80 Hancock Street. The calculated annual effective dose from airborne particulates to the hypothetical maximally exposed individual was 0.0078 mrem/yr. The maximum annual effective dose is almost entirely the result of the internal doses received from the inhalation of dust particles with a small contribution from the ingestion of plant borne dust.

Conservatively adding the above calculated doses for the hypothetical maximally exposed individuals from external gamma radiation and airborne particulates results in a hypothetical maximum cumulative dose of 29.03 mrem/yr for the year 2004. This value is well below the applicable NRC standard of 100 mrem/yr (from all sources, excluding Rn).

6.5 SURFACE WATER

Surface water samples in 2004 were collected and analyzed for radiological constituents and metals (Appendix A, **Tables A-4** and **A-5**, respectively). All surface water samples collected in 2004 were below the radiological criterion with the exception of SWSD007. The concentration for combined Ra-226 and Ra-228 at this location was 5.76 pCi/L. In 2003, surface water samples were below the Federal and NJ criteria.

The measured concentrations of iron and manganese exceeded the MCL and GWQS at a majority or all locations. Concentrations of sodium exceeded the GWQS at all locations. The MCL and GWQS for aluminum was exceeded in Westerly Brook at SWSD001 (236 µg/L) and SWSD003 (283 µg/L), and Lodi Brook at SWSD006 (306µg/L) and SWSD007 (408µg/L). The MCL and GWQS for arsenic were exceeded in Westerly Brook at two locations, SWSD002 (15.4 µg/L), and SWSD004 (13.2 µg/L). Location SWSD001 (9.9 µg/L) exceeded the GWQS and NJ MCL, but not the Federal MCL. The GWQS for lead was exceeded in Lodi Brook at SWSD006 (12.1 µg/L). Surface water will continue to be monitored during 2005.

6.6 SEDIMENT

Because there are no radiological standards for sediment, the ROD soil cleanup criteria, as stated in Section 2.2, are used as a basis for evaluating the analytical results. In 2004, radionuclide concentrations in sediment samples collected in Westerly Brook (SWSD001, SWSD002, and SWSD003) were within the background concentration and below the ROD soil cleanup criteria. In Lodi Brook (SWSD005 through SWSD015), radionuclide concentrations in sediment ranged from background to above background, but below the ROD soil cleanup criteria. The highest combined concentration of Ra-226 and Th-232 was found at SWSD006 (2.22 pCi/L and 2.45 pCi/L respectively). Also, the $U_{(tot)}$ concentrations at all monitoring locations were well below the ROD soil cleanup criteria of 100 pCi/g above background. The results for 2004 confirm the continued presence of radiological concentrations above background in the streambed sediment of the northern section of Lodi Brook.

In Lodi Brook and Westerly Brook, there were no exceedances of the proposed SCC. Additionally, concentrations of eight metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) exceeded the screening criteria used as part of the BEE. These screening criteria are for evaluation purposes only, not cleanup standards. Maximum concentrations of these eight metals were reported at three sampling locations (SWSD006, SWSD007, and SWSD010) within a central open-channel flow portion of the FMSS. This area does not receive direct runoff from the MISS, but is scheduled for removal of contaminated soil. Sediment will continue to be monitored for radionuclides and metals during 2005.

6.7 GROUNDWATER

Although groundwater at the FMSS is not a source of drinking water, MCLs and GWQS were conservatively used for evaluating groundwater data.

Concentrations of gross alpha or gross beta in groundwater exceeded the MCLs and GWQS in four groundwater monitoring wells. Concentrations of all other radionuclides sampled in groundwater in 2004 (Ra-226, Ra-228, Th-230, Th-232, and $U_{(tot)}$) were well below the MCLs and GWQS except for wells MISS05A, and B38W18D. The Ra-228 concentration exceeded the MCL and GWQS for combined radium in well MISS05A (12.90 pCi/L) and well B38W18D (5.25 pCi/L). The combined Ra (Ra-226 and Ra-228) concentrations exceeded the MCL and GWQS in two wells; MISS05A (16.30 pCi/L) and well B38W18D (8.60 pCi/L and 7.45 pCi/L). The concentration of $U_{(tot)}$ at all sampling location were below the MCL and GWQS, except one on-site shallow overburden well, MISS05A. Consistent with historical results, the highest concentration of $U_{(tot)}$ was detected in well MISS05A.

The following exceedances of the metals and VOC criteria were noted:

- Aluminum was detected in five wells that exceeded the MCL and GWQS standard of 200 µg/L. Aluminum was detected in wells MISS05A (3,970 µg/L), MISS07A (2,270 µg/L), B38W14D (1,560 µg/L), B38W15S (632 µg/L), and B38W18D (404 µg/L).

- The presence of arsenic at concentrations above MCL was identified in four on-site monitoring wells; MISS02A (2,740 µg/L), MISS05A (108 µg/L), and MISS07B (70.5 µg/L), and B38W19D (41.1 µg/L). One other on-site monitoring well, B38W18D (9.7 µg/L) exceeded the GWQS for arsenic (8 µg/L). Lead was detected in one on-site monitoring well MISS 05A (33.7 µg/L) and one downgradient monitoring well B38W15S (18.6 µg/L) at a concentration that exceeded the MCL of 15 µg/L and GWQS limit of 10 µg/L. Lead was also detected in one on-site monitoring well MISS07A with a concentration of 11.2 µg/L that exceeded the GWQS (10 µg/L).

- The concentration of iron detected in the majority of the monitoring wells was above the metals criteria. In addition, the concentrations of manganese and sodium were detected in all monitoring wells above the metals criteria. This most likely is an indicator that the three constituents are present in background at levels that exceed the criteria.

- 1,1,2-trichlorothane was detected in monitoring wells B38W14D (5 µg/L) and MISS05B (10 µg/L) which are above the NJ MCL and GWQS. The concentration of 1,1,2-trichlorothane in well MISS05B was also above the Federal MCL.

- 1,1-DCE was detected in monitoring well B38W15D (5 µg/L) above the NJ MCL and GWQS.

- 1,2-DCA was detected in monitoring wells B38W14D (8 µg/L) and MISS05B (16 µg/L) above the Federal and NJ MCL and the GWQS.

- Benzene was not detected in the shallow wells. In the deep wells, benzene was detected in well B38W25D (0.4 µg/L) and MISS05B (400 µg/L). Well MISS05B exceeded both the MCL and GWQS. In 2003, benzene was not detected in the shallow wells. In the deep wells, the maximum benzene concentration of 2.0 µg/L was reported at MISS05B.

- Bromoform was detected in monitoring wells B38W14D (5 µg/L) and MISS05B (10 µg/L) above the GWQS. The MCL for bromoform was not exceeded.

- Carbon tetrachloride was detected in monitoring wells B38W14D (4 µg/L) and MISS05B (8 µg/L) above the NJ MCL and GWQS. The concentration of carbon tetrachloride in well MISS05B was also above the Federal MCL.

- Methylene chloride was detected in monitoring wells B38W14D (16 µg/L), B38W15D (12 and 7 µg/L), and MISS05B (16 µg/L) above the Federal and NJ MCLs, and the GWQS.

- PCE and its degradation products were present in monitoring wells both on-site and off-site at concentrations exceeding the MCL and GWQS. Overall, the results for VOCs are within the historical range; no significant increases or decreases in contaminant concentrations were observed.

Lithium was detected in many wells with the highest concentrations reported at MISS02A (10,700 µg/L), MISS05B (10,200 µg/L) and MISS02B (8,260 µg/L). Historically, lithium concentrations have consistently been the highest at MISS02B. No MCL or GWQS have been established for lithium.

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APPENDIX A
ANALYTICAL DATA FOR THE YEAR 2004

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APPENDIX A ANALYTICAL DATA FOR THE YEAR 2004

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Table A-1
2004 Environmental Monitoring Program Summary
for
External Gamma Radiation and Radon Gas
Maywood Interim Storage Site - 2004

Air Monitoring																										
Measured Parameter	Station Identification	Number of Analyses or Measurements																								
		No. of Sample Locations				Sample Duplicate				Ship Blank				Contingency Sample				Matrix Spike				Matrix Spike Duplicate				Total Analyses per Year
		Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
LABORATORY MEASUREMENTS																										
External gamma radiation (TETLDs)	4, 5, 10, 12, 19, 20,	15		15						1		1		16		16										64
Radon-222/Radon-220	21, 22, 23, 24, 25,	15		15		1		1																		32
Radon-222	30, 31, 32, 33	15		15		1		1																		32

Table A-1 (cont)
2004 Environmental Monitoring Program Summary
for
Groundwater
Maywood Interim Storage Site - 2004

Measured Parameter	Station Identification	Number of Analyses or Measurements: No. of Sample Locations				Rinsate Blank				Trip Blank				Sample Duplicate				Matrix Spike				Matrix Spike Duplicate				Total Analyses per Year
		Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
FIELD MEASUREMENTS																										
Chemical/Physical	MISS01AA, MISS01B, MISS02A,																									
Dissolved oxygen	MISS02B, MISS05A, MISS05B,		18	4																						22
Eh[a]	MISS07B, MISS07A,		18	4																						22
Turbidity	B38W01S, B38W02D, B38W14S,		18	4																						22
Temperature	B38W14D, B38W15S, B38W15D,		18	4																						22
Specific conductivity	B38W17A, B38W17B, B38W18D,		18	4																						22
pH	B38W19S, B38W19D, B38W24S,		18	4																						22
	B38W24D, B38W25D.																									
LABORATORY MEASURMENTS																										
Radiological																										
iso-U/Total uranium	MISS01AA, MISS01B, MISS02A,		18	4			16	5							2	1										46
Thorium-230/232	MISS02B, MISS05A, MISS05B,		18	4			16	5							2	1										46
Radium-226/228	MISS07B, MISS07A,		18	4			16	5							2	1										46
Gross Alpha	B38W01S, B38W02D, B38W14S,		18	4			16	5							2	1										46
Gross Beta	B38W14D, B38W15S, B38W15D,		18	4			16	5							2	1										46
Chemical	B38W17A, B38W17B, B38W18D,																									
TAL Metals[b]	B38W19S, B38W19D, B38W24S,		18	4			16	5							2				1	1			1	1		49
	B38W24D, B38W25D.																									
Volatile organic compounds[b]			18	4			16	5			10	4			2				1	1			1	1		63

Table A-1 (cont)
2004 Environmental Monitoring Program Summary
for
Surface Water and Sediment
Maywood Interim Storage Site - 2004

Surface Water and Sediment Monitoring																										
Measured Parameter	Station Identification	Number of Analyses or Measurements																								Total Analyses per Year
		Samples				Rinsate Blank				Trip Blank				Sample Duplicate				Matrix Spike				Matrix Spike Duplicate				
		Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				Calendar Year Quarter				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
FIELD MEASUREMENTS																										
Chemical/Physical																										
Dissolved oxygen	SWSD-001, SWSD-002,			13																						13
Eh[a]	SWSD-003, SWSD-004,			13																						13
Turbidity	SWSD-005, SWSD-006,			13																						13
Temperature	SWSD-007, SWSD-010,			13																						13
Specific conductivity	SWSD-011, SWSD-012,			13																						13
pH	SWSD-013, SWSD-014,			13																						13
	SWSD-015.																									
LABORATORY MEASURMENTS																										
SEDIMENT																										
Radiological																										
Iso/Total uranium	SWSD-001, SWSD-002,			12				1								2										15
Thorium-228/230/232	SWSD-003, SWSD-005,			12				1								2										15
Radium-226/228	SWSD-006, SWSD-007,			12				1								2										15
Chemical	SWSD-010, SWSD-011,																									
MET-TAL	SWSD-012, SWSD-013,			12				1								2				1				1		17
	SWSD-014, SWSD-015.																									
SURFACE WATER																										
Radiological																										
Iso/Total uranium	SWSD-001, SWSD-002,			13				1								2										16
Thorium-228/230/232	SWSD-003, SWSD-004,			13				1								2										16
Radium-226/228	SWSD-005, SWSD-006,			13				1								2										16
Gross Alpha	SWSD-007, SWSD-010,			13				1								2										16
Gross Beta	SWSD-011, SWSD-012,			13				1								2										16
Chemical	SWSD-013, SWSD-014,																									
MET-TAL	SWSD-015.			13				1								2				1				1		18

[a] Oxidation/reduction potential (Eh).

[b] See Table 14 for a comprehensive list of metals.

Table A-2
2004 External Gamma Radiation Dose Rates
Maywood Interim Storage Site - 2004

2/2/2004 to 8/04/2004 TETLD[a]			2/2/2004 to 2/1/05 TETLD[a]		
Monitoring Location[b]	**Readings** (mrem)	**Corrected**[c] (mrem/yr)	**Monitoring Location**[b]	**Readings** (mrem)	**Corrected**[c] (mrem/yr)
MISS Perimeter					
4	77.0	45.4	4	128.0	61.6
	81.0	54.0		122.0	55.4
5	86.0	65.9	5	139.0	74.1
	88.0	69.3		143.0	77.7
10	121.0	140.5	10	209.0	148.5
	120.0	136.7		214.0	154.0
12	65.0	19.8[d]	12	102.0	34.3
	65.0	21.1[d]		121.0	54.5
20	50.0	0.0	20	85.0	15.6
	51.0	0.0		81.0	10.9
21	362.0	652.7	21	620.0	590.9
	341.0	609.2		648.0	620.4
22	83.0	58.6	22	146.0	81.6
	85.0	62.1		155.0	90.4
23	81.0	54.8	23	143.0	77.7
	86.0	64.6		150.0	85.2
24	186.0	277.9	24	325.0	273.4
	192.0	291.1		327.0	275.5
25	322.0	569.2	25	520.0	483.4
	329.0	584.1		614.0	583.8
30	55.0	0.0	30	84.0	14.9
	58.0	5.8		95.0	25.9
31	74.0	39.5	31	140.0	74.5
	79.0	51.0		141.0	75.4
32	36.0	0.0	32	63.0	0.0
	35.0	0.0		64.0	0.0
33	40.0	0.0	33	69.0	0.0
	39.0	0.0		69.0	0.0
Background	71.0	Average Background	Background	67.0	Average Background
19	40.0	118.4	19	74.0	75.8

[a] TETLD = Tissue-equivalent thermoluminescent dosimeter. There are two TETLDs per station.
[b] Monitoring locations are shown on Figure D-2.
[c] TETLD readings are corrected for shelter/absorption factor (s/a = 1.075) and are normalized to one year's exposure. Average corrected background is then subtracted from all other corrected readings.
[d] The corrected results are slightly different since the reading is actually the mean of five readings. When calculating the corrected result, the equation considers the sum of the five readings before the corrected result is detemined.

* TETLD was lost or damaged in Processing. Unable to report a reading.

Table A-3
2004 Radon Gas Concentrations
Maywood Interim Storage Site - 2004

Monitoring Location [a]		Average Daily Concentration (pCi/L)			
		02/2/2004 to 08/04/2004		08/05/2004 to 2/01/2005	
		Radon-220[b]	Radon-222[c]	Radon-220[b]	Radon-222[c]
MISS perimeter	4	1.28	0.2*	2.95	0.2
	5	0.76	0.2*	1.24	0.2
	10	0.12	0.2*	0.77	0.2*
	12	0.56	0.2*	1.92	0.2*
	20	0.04	0.2*	0.84	0.2*
	21	2.35	0.2*	1.62	0.2
Duplicate[d]	21	1.80	0.2*	1.63	0.2*
	22	0.02	0.2*	0.09	0.3
	23	1.48	0.2*	0.96	0.2*
	24	1.72	0.2*	3.32	0.2*
	25	0.55	0.2*	0.64	0.2*
	30	0.70	0.2*	0.40	0.2*
	31	2.46	0.2*	1.85	0.2*
	32	0.05	0.2*	0.03	0.2
	33	0.00	0.2*	0.29	0.2*
Background	19	0.00	0.2*	0.00*	0.2*

(*) Indicates detection limit is reported. Actual result is less than this value.

[a] Monitoring locations are shown on Figure D-2.

[b] Radon-220 gas concentrations are calculated according to the method outlined in FUSRAP committed calculation 191-CV-028, Rev. 1, using data from RadTrack® and RadTack®-modified detectors.

[c] The EPA Action Level for radon-222 is 4.0 pCi/L and assumes that radon 220 is present and in equilibrium, 40 CFR 192 (October 1999).

[d] A quality control duplicate is collected at the same time and location, and is analyzed by the same method in order to evaluate precision in sampling and analysis.

Table A-4
2004 Surface Water Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result[a] (pCi/L)	Result[f] (µg/L)	Error	Qualifier[b]	MDA[c] (pCi/L)	State/Federal[d] Standards (pCi/L)	State/Federal[d] Standards (µg/L)
Samples collected in Westerly Brook:									
SWSD001	7/12/2004	GALPHA	0.19		0.79	U	1.40	15	
(23a-024855)	7/12/2004	GBETA	4.31		0.81		0.86	50	
[F4G130171]	7/12/2004	Ra-226	0.15		0.12	UJ	0.18	5[g]	
	7/12/2004	Ra-228	0.60		0.41	UJ	0.65	5[g]	
	7/12/2004	Th-228	0.04		0.22	U	0.36		
	7/12/2004	Th-230	0.28		0.19	J	0.14		
	7/12/2004	Th-232	0.03		0.088	UJ	0.08		
	7/12/2004	Total Thorium	0.35						
	7/12/2004	U-234	0.63		0.29		0.26		
	7/12/2004	U-235	0.01		0.11	U	0.22		
	7/12/2004	U-238	0.46		0.23		0.16		
	7/12/2004	Total Uranium	1.10	1.37					30
SWSD002	7/12/2004	GALPHA	1.35		0.91		1.30	15	
(23a-024857)	7/12/2004	GBETA	6.80		1		0.90	50	
[F4G130171]	7/12/2004	Ra-226	0.18		0.11		0.15	5[g]	
	7/12/2004	Ra-228	0.30		0.37	U	0.61	5[g]	
	7/12/2004	Th-228	0.14		0.26	UJ	0.36		
	7/12/2004	Th-230	0.25		0.19	J	0.20		
	7/12/2004	Th-232	0.12		0.13	UJ	0.16		
	7/12/2004	Total Thorium	0.51						
	7/12/2004	U-234	0.58		0.23		0.15		
	7/12/2004	U-235	0.00		0	U	0.10		
	7/12/2004	U-238	0.19		0.14		0.13		
	7/12/2004	Total Uranium	0.77	0.56					30
SWSD003	7/12/2004	GALPHA	0.79		0.88	UJ	1.40	15	
(23a-024859)	7/12/2004	GBETA	1.33		0.58		0.86	50	
[F4G130171]	7/12/2004	Ra-226	0.21		0.14		0.20	5[g]	
	7/12/2004	Ra-228	0.18		0.38	U	0.63	5[g]	
	7/12/2004	Th-228	0.20		0.55	UJ	0.79		
	7/12/2004	Th-230	0.12		0.24	UJ	0.37		
	7/12/2004	Th-232	0.00		0	U	0.50		
	7/12/2004	Total Thorium	0.32						
	7/12/2004	U-234	0.45		0.22		0.19		
	7/12/2004	U-235	0.00		0	U	0.20		
	7/12/2004	U-238	0.25		0.18		0.20		
	7/12/2004	Total Uranium	0.70	0.74					30
SWSD004	7/12/2004	GALPHA	0.00		0.72	U	1.30	15	
(23a-024861)	7/12/2004	GBETA	5.80		1		1.10	50	
[F4G130171]	7/12/2004	Ra-226	0.17		0.14	UJ	0.21	5[g]	
	7/12/2004	Ra-228	0.45		0.37	UJ	0.59	5[g]	
	7/12/2004	Th-228	0.16		0.42	UJ	0.61		
	7/12/2004	Th-230	0.45		0.31	J	0.27		
	7/12/2004	Th-232	0.02		0.11	U	0.23		
	7/12/2004	Total Thorium	0.63						
	7/12/2004	U-234	0.80		0.27		0.12		
	7/12/2004	U-235	0.04		0.082	UJ	0.13		
	7/12/2004	U-238	0.25		0.16		0.13		
	7/12/2004	Total Uranium	1.09	0.74					30

Table A-4
2004 Surface Water Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result[a] (pCi/L)	Result[f] (μg/L)	Error	Qualifier[b]	MDA[c] (pCi/L)	State/Federal[d] Standards (pCi/L)	State/Federal[d] Standards (μg/L)
Samples collected in Lodi Brook:									
SWSD005	7/8/2004	GALPHA	1.10		1.1	U	1.80	15	
(22a-024863)	7/8/2004	GBETA	3.80		1		1.40	50	
[F4G090137]	7/8/2004	Ra-226	0.00		0	J	0.00	5[g]	
	7/8/2004	Ra-228	0.00		0.43	U	0.74	5[g]	
	7/8/2004	Th-228	0.13		0.29	UJ	0.43		
	7/8/2004	Th-230	0.33		0.24	J	0.20		
	7/8/2004	Th-232	0.00		0	U	0.10		
	7/8/2004	Total Thorium	0.46						
	7/8/2004	U-234	0.27		0.21		0.25		
	7/8/2004	U-235	0.03		0.12	U	0.21		
	7/8/2004	U-238	0.22		0.16		0.16		
	7/8/2004	Total Uranium	0.52	0.65					30
SWSD006	7/7/2004	GALPHA	1.70		1.4		2.10	15	
(22a-024865)	7/7/2004	GBETA	0.87		0.69		1.20	50	
[F4G080124]	7/7/2004	Ra-226	0.38		0.22		1.80	5[g]	
	7/7/2004	Ra-228	0.04		0.4	U	1.10	5[g]	
	7/7/2004	Th-228	0.11		0.16	UJ	0.29		
	7/7/2004	Th-230	0.23		0.17	J	0.69		
	7/7/2004	Th-232	0.11		0.14	UJ	0.22		
	7/7/2004	Total Thorium	0.45						
	7/7/2004	U-234	0.23		0.15		0.08		
	7/7/2004	U-235	0.11		0.12	UJ	0.18		
	7/7/2004	U-238	0.18		0.13		0.10		
	7/7/2004	Total Uranium	0.52	0.53					30
SWSD006	7/7/2004	GALPHA	1.80		1.4	R	0.13	15	
Duplicate	7/7/2004	GBETA	1.44		0.74	J	0.10	50	
(22a-024929)	7/7/2004	Ra-226	0.16		0.22	U	2.20	5[g]	
[F4G080124]	7/7/2004	Ra-228	0.55		0.51	UJ	1.10	5[g]	
	7/7/2004	Th-228	0.08		0.19	U	0.37		
	7/7/2004	Th-230	0.38		0.26	J	0.82		
	7/7/2004	Th-232	0.00		0.11	U	0.31		
	7/7/2004	Total Thorium	0.46						
	7/7/2004	U-234	0.13		0.11		0.10		
	7/7/2004	U-235	0.00		0	U	0.07		
	7/7/2004	U-238	0.08		0.092	UJ	0.11		
	7/7/2004	Total Uranium	0.21	0.23					30
SWSD007	7/7/2004	GALPHA	27.30		4.2	R	1.70	15	
(22a-024867)	7/7/2004	GBETA	10.30		1.5	J	1.40	50	
[F4G080124]	7/7/2004	Ra-226	1.17		0.35		0.32	5[g]	
	7/7/2004	Ra-228	4.59		0.86	J	0.92	5[g]	
	7/7/2004	Th-228	1.05		0.57		0.53		
	7/7/2004	Th-230	0.31		0.29	UJ	0.31		
	7/7/2004	Th-232	0.94		0.47		0.26		
	7/7/2004	Total Thorium	2.30						
	7/7/2004	U-234	2.99		0.55	J	0.10		
	7/7/2004	U-235	0.10		0.11	UJ	0.12		
	7/7/2004	U-238	2.47		0.49	U	0.10		
	7/7/2004	Total Uranium	5.56	7.34					30

Table A-4
2004 Surface Water Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result[a] (pCi/L)	Result[f] (µg/L)	Error	Qualifier[b]	MDA[c] (pCi/L)	State/Federal[d] Standards (pCi/L)	State/Federal[d] Standards (µg/L)
SWSD007	7/7/2004	GALPHA	9.80		2.7	R	2.50	15	
Duplicate	7/7/2004	GBETA	3.27		0.85	J	1.00	50	
(22a-024931)	7/7/2004	Ra-226	0.98		0.37		0.42	5[g]	
[F4G080124]	7/7/2004	Ra-228	1.40		0.64	J	0.97	5[g]	
	7/7/2004	Th-228	0.51		0.41		0.49		
	7/7/2004	Th-230	0.32		0.23	J	0.22		
	7/7/2004	Th-232	0.26		0.2		0.18		
	7/7/2004	Total Thorium	1.09						
	7/7/2004	U-234	0.74		0.27	J	0.10		
	7/7/2004	U-235	0.06		0.098	UJ	0.08		
	7/7/2004	U-238	0.56		0.23	J	0.10		
	7/7/2004	Total Uranium	1.36	1.66					30
SWSD010	7/8/2004	GALPHA	1.80		1.2		1.70	15	
(22a-024873)	7/8/2004	GBETA	3.10		1.1		1.50	50	
[F4G090137]	7/8/2004	Ra-226	0.00		0	J	0.00	5[g]	
	7/8/2004	Ra-228	0.69		0.39	U	0.69	5[g]	
	7/8/2004	Th-228	0.02		0.24	U	0.40		
	7/8/2004	Th-230	0.31		0.22	J	0.18		
	7/8/2004	Th-232	0.02		0.086	U	0.18		
	7/8/2004	Total Thorium	0.35						
	7/8/2004	U-234	0.46		0.22		0.15		
	7/8/2004	U-235	0.02		0.061	U	0.12		
	7/8/2004	U-238	0.30		0.17		0.10		
	7/8/2004	Total Uranium	0.78	0.89					30
SWSD011	7/8/2004	GALPHA	1.80		1.3	J	1.80	15	
(22a-024875)	7/8/2004	GBETA	6.80		1.3		1.50	50	
[F4G090137]	7/8/2004	Ra-226	0.00		0	J	0.00	5[g]	
	7/8/2004	Ra-228	0.15		0.35	U	0.61	5[g]	
	7/8/2004	Th-228	0.00		0	U	0.50		
	7/8/2004	Th-230	0.23		0.19	J	0.18		
	7/8/2004	Th-232	0.00		0	U	0.20		
	7/8/2004	Total Thorium	0.23						
	7/8/2004	U-234	0.43		0.21		0.16		
	7/8/2004	U-235	0.06		0.11	U	0.18		
	7/8/2004	U-238	0.30		0.18		0.15		
	7/8/2004	Total Uranium	0.79	0.89					30
SWSD012	7/8/2004	GALPHA	3.80		1.7		2.00	15	
(22a-024877)	7/8/2004	GBETA	3.50		1.1		1.60	50	
[F4G090137]	7/8/2004	Ra-226	0.00		0	J	0.00	5[g]	
	7/8/2004	Ra-228	0.11		0.35	U	0.59	5[g]	
	7/8/2004	Th-228	0.00		0	U	0.40		
	7/8/2004	Th-230	0.28		0.19	J	0.14		
	7/8/2004	Th-232	0.03		0.11	U	0.19		
	7/8/2004	Total Thorium	0.31						
	7/8/2004	U-234	0.35		0.21		0.18		
	7/8/2004	U-235	0.01		0.076	U	0.17		
	7/8/2004	U-238	0.34		0.19		0.12		
	7/8/2004	Total Uranium	0.70	1.01					30

Table A-4
2004 Surface Water Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result[a] (pCi/L)	Result[f] (µg/L)	Error	Qualifier[b]	MDA[c] (pCi/L)	State/Federal[d] Standards (pCi/L)	State/Federal[d] Standards (µg/L)
SWSD013	7/8/2004	GALPHA	3.40		1.6		1.90	15	
(22a-024879)	7/8/2004	GBETA	4.00		1.4		2.10	50	
[F4G090137]	7/8/2004	Ra-226	0.10		0.05	J	0.06	5[g]	
	7/8/2004	Ra-228	0.05		0.32	U	0.55	5[g]	
	7/8/2004	Th-228	0.00		0	U	0.20		
	7/8/2004	Th-230	0.21		0.16	J	0.07		
	7/8/2004	Th-232	0.02		0.058	U	0.12		
	7/8/2004	Total Thorium	0.23						
	7/8/2004	U-234	0.62		0.3		0.20		
	7/8/2004	U-235	0.00		0.11	U	0.25		
	7/8/2004	U-238	0.45		0.25		0.14		
	7/8/2004	Total Uranium	1.07	1.34					30
SWSD014	7/9/2004	GALPHA	3.20		1.5		1.70	15	
(22a-024881)	7/9/2004	GBETA	3.60		1.4		2.00	50	
[F4G100110]	7/9/2004	Ra-226	0.04		0.12	U	0.21	5[g]	
	7/9/2004	Ra-228	0.26		0.52	U	0.86	5[g]	
	7/9/2004	Th-228	0.00		0	U	0.09		
	7/9/2004	Th-230	0.19		0.16	J	0.14		
	7/9/2004	Th-232	0.06		0.097	UJ	0.14		
	7/8/2004	Total Thorium	0.25						
	7/9/2004	U-234	1.00		0.31		0.10		
	7/9/2004	U-235	0.02		0.06	U	0.12		
	7/9/2004	U-238	0.58		0.23		0.10		
	7/8/2004	Total Uranium	1.60	1.72					30
SWSD015	7/8/2004	GALPHA	1.90		1.4	UJ	2.00	15	
(22a-024883)	7/8/2004	GBETA	3.10		1.1		1.50	50	
[F4G090137]	7/8/2004	Ra-226	0.00		0	J	0.00	5[g]	
	7/8/2004	Ra-228	0.11		0.37	U	0.63	5[g]	
	7/8/2004	Th-228	0.00		0	U	0.10		
	7/8/2004	Th-230	0.26		0.18	J	0.08		
	7/8/2004	Th-232	0.02		0.064	U	0.13		
	7/8/2004	Total Thorium	0.28						
	7/8/2004	U-234	1.10		0.32		0.13		
	7/8/2004	U-235	0.05		0.095	UJ	0.07		
	7/8/2004	U-238	0.55		0.23		0.13		
	7/8/2004	Total Uranium	1.70	1.63					30

[a]Results reported with ± radiological error equal to 2 sigma (95% confidence level),
[b]USACE data qualifier flags based on the CDQMP-QAPP.
U = The analyte was not detected.
J = Reported as an estimated value.
R= Rejected by validation.
[c] Minimum Detectable Activity (MDA)
[d] SDWA standards (40CFR141), New Jersey Groundwater Standards (NJAC 7:9-6).
[e]Locations SWSD008 and SWSD009 were not sampled due to stagnant water.
[f]The NJDEP has established a MCL for total uranium in drinking water of 30 ug/L. The reported U-238 in pCi/L was divided by the specific activity of U-238 (0.3365 pCi/ug) to obtain the total uranium in ug/L and then compared to NJDEP MCL of 30 ug/L.
[g] 5 pCi/L is the New Jersey and Federal standard for the combined concentration of Radium-226 and Radium-228 in in drinking water.

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
Samples collected in Westerly Brook:							
SWSD001	7/12/2004	Aluminum, Total	236	J	60	200	200
(23a-024855)	7/12/2004	Antimony, Total	5.4	U	4.6	6	20
[207074]	7/12/2004	Arsenic, Total	9.9		3.5	10	8
	7/12/2004	Barium, Total	115		0.86	2000	2000
	7/12/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/12/2004	Boron, Total	140	J	27		
	7/12/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/12/2004	Calcium, Total	102000		54		
	7/12/2004	Chromium, Total	1.8	U	1.4	100	100
	7/12/2004	Cobalt, Total	1.8	U	1.7		
	7/12/2004	Copper, Total	9.2		2.6	1300	1000
	7/12/2004	Iron, Total	813	J	53	300	300
	7/12/2004	Lead, Total	6.1		3.6	15	10
	7/12/2004	Lithium, Total	414		50		
	7/12/2004	Magnesium, Total	14700		24		
	7/12/2004	Manganese, Total	561	J	2.8	50	50
	7/12/2004	Mercury, Total	0.07	U	0.18	2	2
	7/12/2004	Nickel, Total	2.3	J	1.8		100
	7/12/2004	Potassium, Total	25400	J	100		
	7/12/2004	Selenium, Total	5	U	5	50	50
	7/12/2004	Silver, Total	1.1	U	0.93	100	30
	7/12/2004	Sodium, Total	76900		93		50000
	7/12/2004	Thallium, Total	0.2198	U	1	2	10
	7/12/2004	Vanadium, Total	1.5	J	1		
	7/12/2004	Zinc, Total	34.5		11	5000	5000
SWSD002	7/12/2004	Aluminum, Total	92	UJ	60	200	200
(23a-024857)	7/12/2004	Antimony, Total	5.4	U	4.6	6	20
[207074]	7/12/2004	Arsenic, Total	15.4		3.5	10	8
	7/12/2004	Barium, Total	113		0.86	2000	2000
	7/12/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/12/2004	Boron, Total	144	J	27		
	7/12/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/12/2004	Calcium, Total	104000		54		
	7/12/2004	Chromium, Total	1.3	U	1.4	100	100
	7/12/2004	Cobalt, Total	1.8	U	1.7		
	7/12/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/12/2004	Iron, Total	983	J	53	300	300
	7/12/2004	Lead, Total	3	U	3.6	15	10
	7/12/2004	Lithium, Total	437		50		
	7/12/2004	Magnesium, Total	15000		24		
	7/12/2004	Manganese, Total	573	J	2.8	50	50
	7/12/2004	Mercury, Total	0.07	U	0.18	2	2
	7/12/2004	Nickel, Total	2	J	1.8		100
	7/12/2004	Potassium, Total	26000	J	100		
	7/12/2004	Selenium, Total	5	U	5	50	50
	7/12/2004	Silver, Total	1.1	U	0.93	100	30
	7/12/2004	Sodium, Total	77700		93		50000
	7/12/2004	Thallium, Total	0.2198	U	1	2	10
	7/12/2004	Vanadium, Total	1.5	U	1		
	7/12/2004	Zinc, Total	11.4	J	11	5000	5000

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
SWSD003	7/12/2004	Aluminum, Total	283	J	60	200	200
(23a-024859)	7/12/2004	Antimony, Total	5.4	U	4.6	6	20
[207074]	7/12/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/12/2004	Barium, Total	231		0.86	2000	2000
	7/12/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/12/2004	Boron, Total	69.7	J	27		
	7/12/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/12/2004	Calcium, Total	87200		54		
	7/12/2004	Chromium, Total	1.3	U	1.4	100	100
	7/12/2004	Cobalt, Total	1.8	U	1.7		
	7/12/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/12/2004	Iron, Total	3160	J	53	300	300
	7/12/2004	Lead, Total	7.4		3.6	15	10
	7/12/2004	Lithium, Total	24.7	U	50		
	7/12/2004	Magnesium, Total	9880		24		
	7/12/2004	Manganese, Total	684	J	2.8	50	50
	7/12/2004	Mercury, Total	0.07	U	0.18	2	2
	7/12/2004	Nickel, Total	2.4	J	1.8		100
	7/12/2004	Potassium, Total	3830	J	100		
	7/12/2004	Selenium, Total	5	U	5	50	50
	7/12/2004	Silver, Total	1.1	U	0.93	100	30
	7/12/2004	Sodium, Total	50400		93		50000
	7/12/2004	Thallium, Total	0.2198	U	1	2	10
	7/12/2004	Vanadium, Total	2.6		1		
	7/12/2004	Zinc, Total	45.8		11	5000	5000
SWSD004	7/12/2004	Aluminum, Total	92	UJ	60	200	200
(23a-024861)	7/12/2004	Antimony, Total	5.4	U	4.6	6	20
[207074]	7/12/2004	Arsenic, Total	13.2		3.5	10	8
	7/12/2004	Barium, Total	106		0.86	2000	2000
	7/12/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/12/2004	Boron, Total	148	J	27		
	7/12/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/12/2004	Calcium, Total	102000		54		
	7/12/2004	Chromium, Total	1.3	U	1.4	100	100
	7/12/2004	Cobalt, Total	1.8	U	1.7		
	7/12/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/12/2004	Iron, Total	850	J	53	300	300
	7/12/2004	Lead, Total	3	U	3.6	15	10
	7/12/2004	Lithium, Total	449		50		
	7/12/2004	Magnesium, Total	14500		24		
	7/12/2004	Manganese, Total	655	J	2.8	50	50
	7/12/2004	Mercury, Total	0.07	U	0.18	2	2
	7/12/2004	Nickel, Total	1.9	U	1.8		100
	7/12/2004	Potassium, Total	28200	J	100		
	7/12/2004	Selenium, Total	5	U	5	50	50
	7/12/2004	Silver, Total	1.1	U	0.93	100	30
	7/12/2004	Sodium, Total	78300		93		50000
	7/12/2004	Thallium, Total	0.2198	U	1	2	10
	7/12/2004	Vanadium, Total	1.5	U	1		
	7/12/2004	Zinc, Total	11.8	J	11	5000	5000

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
Samples collected in Lodi Brook:							
SWSD005	7/8/2004	Aluminum, Total	92	UJ	60	200	200
(22a-024863)	7/8/2004	Antimony, Total	5.4	U	4.6	6	20
[207063]	7/8/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/8/2004	Barium, Total	120		0.86	2000	2000
	7/8/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/8/2004	Boron, Total	138	J	27		
	7/8/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/8/2004	Calcium, Total	65900		54		
	7/8/2004	Chromium, Total	1.3	U	1.4	100	100
	7/8/2004	Cobalt, Total	1.8	U	1.7		
	7/8/2004	Copper, Total	10.1		2.6	1300	1000
	7/8/2004	Iron, Total	215	J	53	300	300
	7/8/2004	Lead, Total	3	U	3.6	15	10
	7/8/2004	Lithium, Total	24.3	UJ	50		
	7/8/2004	Magnesium, Total	18000		24		
	7/8/2004	Manganese, Total	127	J	2.8	50	50
	7/8/2004	Mercury, Total	0.07	U	0.18	2	2
	7/8/2004	Nickel, Total	1.9	U	1.8		100
	7/8/2004	Potassium, Total	6680	J	100		
	7/8/2004	Selenium, Total	5	UJ	5	50	50
	7/8/2004	Silver, Total	1.1	U	0.93	100	30
	7/8/2004	Sodium, Total	69900		93		50000
	7/8/2004	Thallium, Total	1.3	U	1	2	10
	7/8/2004	Vanadium, Total	1.5	U	1		
	7/8/2004	Zinc, Total	19	J	11	5000	5000
SWSD006	7/7/2004	Aluminum, Total	306	J	60	200	200
(22a-024865)	7/7/2004	Antimony, Total	5.4	U	4.6	6	20
[207063]	7/7/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/7/2004	Barium, Total	95.5		0.86	2000	2000
	7/7/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/7/2004	Boron, Total	55.8	J	27		
	7/7/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/7/2004	Calcium, Total	54600		54		
	7/7/2004	Chromium, Total	2.5	U	1.4	100	100
	7/7/2004	Cobalt, Total	1.8	U	1.7		
	7/7/2004	Copper, Total	5		2.6	1300	1000
	7/7/2004	Iron, Total	990	J	53	300	300
	7/7/2004	Lead, Total	12.1		3.6	15	10
	7/7/2004	Lithium, Total	7.1	U	50		
	7/7/2004	Magnesium, Total	7760		24		
	7/7/2004	Manganese, Total	134		2.8	50	50
	7/7/2004	Mercury, Total	0.07	U	0.18	2	2
	7/7/2004	Nickel, Total	1.9	J	1.8		100
	7/7/2004	Potassium, Total	1720	J	100		
	7/7/2004	Selenium, Total	5	UJ	5	50	50
	7/7/2004	Silver, Total	1.1	U	0.93	100	30
	7/7/2004	Sodium, Total	54200		93		50000
	7/7/2004	Thallium, Total	0.44	U	1	2	10
	7/7/2004	Vanadium, Total	3.2		1		
	7/7/2004	Zinc, Total	21.3		11	5000	5000

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
SWSD006 Duplicate (22a-024929) [207063]	7/7/2004	Aluminum, Total	92	UJ	60	200	200
	7/7/2004	Antimony, Total	5.4	U	4.6	6	20
	7/7/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/7/2004	Barium, Total	83		0.86	2000	2000
	7/7/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/7/2004	Boron, Total	59	J	27		
	7/7/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/7/2004	Calcium, Total	57700		54		
	7/7/2004	Chromium, Total	1.5	U	1.4	100	100
	7/7/2004	Cobalt, Total	1.8	U	1.7		
	7/7/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/7/2004	Iron, Total	223	J	53	300	300
	7/7/2004	Lead, Total	3	U	3.6	15	10
	7/7/2004	Lithium, Total	7.1	U	50		
	7/7/2004	Magnesium, Total	8150		24		
	7/7/2004	Manganese, Total	130		2.8	50	50
	7/7/2004	Mercury, Total	0.07	U	0.18	2	2
	7/7/2004	Nickel, Total	2	J	1.8		100
	7/7/2004	Potassium, Total	1880	J	100		
	7/7/2004	Selenium, Total	5	UJ	5	50	50
	7/7/2004	Silver, Total	1.1	U	0.93	100	30
	7/7/2004	Sodium, Total	56800		93		50000
	7/7/2004	Thallium, Total	0.44	U	1	2	10
	7/7/2004	Vanadium, Total	2	J	1		
	7/7/2004	Zinc, Total	11	U	11	5000	5000
SWSD007 (22a-024867) [207063]	7/7/2004	Aluminum, Total	408	J	60	200	200
	7/7/2004	Antimony, Total	5.4	U	4.6	6	20
	7/7/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/7/2004	Barium, Total	117		0.86	2000	2000
	7/7/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/7/2004	Boron, Total	355	J	27		
	7/7/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/7/2004	Calcium, Total	133000		54		
	7/7/2004	Chromium, Total	6.6	U	1.4	100	100
	7/7/2004	Cobalt, Total	1.8	U	1.7		
	7/7/2004	Copper, Total	5.5		2.6	1300	1000
	7/7/2004	Iron, Total	625	J	53	300	300
	7/7/2004	Lead, Total	5.3	J	3.6	15	10
	7/7/2004	Lithium, Total	84.9	J	50		
	7/7/2004	Magnesium, Total	16700		24		
	7/7/2004	Manganese, Total	540	J	2.8	50	50
	7/7/2004	Mercury, Total	0.07	U	0.18	2	2
	7/7/2004	Nickel, Total	4.4	J	1.8		100
	7/7/2004	Potassium, Total	11600	J	100		
	7/7/2004	Selenium, Total	5	UJ	5	50	50
	7/7/2004	Silver, Total	1.1	U	0.93	100	30
	7/7/2004	Sodium, Total	46500		93		50000
	7/7/2004	Thallium, Total	0.44	U	1	2	10
	7/7/2004	Vanadium, Total	5.3		1		
	7/7/2004	Zinc, Total	22.1		11	5000	5000

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
SWSD007	7/7/2004	Aluminum, Total	151	J	60	200	200
Duplicate	7/7/2004	Antimony, Total	5.4	U	4.6	6	20
(22a-024931)	7/7/2004	Arsenic, Total	3.9	U	3.5	10	8
[207063]	7/7/2004	Barium, Total	80.1		0.86	2000	2000
	7/7/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/7/2004	Boron, Total	104	J	27		
	7/7/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/7/2004	Calcium, Total	71300		54		
	7/7/2004	Chromium, Total	2.6	U	1.4	100	100
	7/7/2004	Cobalt, Total	1.8	U	1.7		
	7/7/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/7/2004	Iron, Total	382	J	53	300	300
	7/7/2004	Lead, Total	4.1	J	3.6	15	10
	7/7/2004	Lithium, Total	33.2	UJ	50		
	7/7/2004	Magnesium, Total	9120		24		
	7/7/2004	Manganese, Total	155	J	2.8	50	50
	7/7/2004	Mercury, Total	0.07	U	0.18	2	2
	7/7/2004	Nickel, Total	2.2	J	1.8		100
	7/7/2004	Potassium, Total	3820	J	100		
	7/7/2004	Selenium, Total	5	UJ	5	50	50
	7/7/2004	Silver, Total	1.1	U	0.93	100	30
	7/7/2004	Sodium, Total	51800		93		50000
	7/7/2004	Thallium, Total	0.44	U	1	2	10
	7/7/2004	Vanadium, Total	3.9		1		
	7/7/2004	Zinc, Total	14	J	11	5000	5000
SWSD010	7/8/2004	Aluminum, Total	92	UJ	60	200	200
(22a-024873)	7/8/2004	Antimony, Total	5.4	U	4.6	6	20
[207063]	7/8/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/8/2004	Barium, Total	122		0.86	2000	2000
	7/8/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/8/2004	Boron, Total	140	J	27		
	7/8/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/8/2004	Calcium, Total	68700		54		
	7/8/2004	Chromium, Total	2.1	U	1.4	100	100
	7/8/2004	Cobalt, Total	1.8	U	1.7		
	7/8/2004	Copper, Total	9.3		2.6	1300	1000
	7/8/2004	Iron, Total	340	J	53	300	300
	7/8/2004	Lead, Total	3	U	3.6	15	10
	7/8/2004	Lithium, Total	82.8	J	50		
	7/8/2004	Magnesium, Total	18200		24		
	7/8/2004	Manganese, Total	239	J	2.8	50	50
	7/8/2004	Mercury, Total	0.07	U	0.18	2	2
	7/8/2004	Nickel, Total	2.8	J	1.8		100
	7/8/2004	Potassium, Total	6270	J	100		
	7/8/2004	Selenium, Total	5	UJ	5	50	50
	7/8/2004	Silver, Total	1.1	U	0.93	100	30
	7/8/2004	Sodium, Total	69800		93		50000
	7/8/2004	Thallium, Total	0.44	U	1	2	10
	7/8/2004	Vanadium, Total	1.5	U	1		
	7/8/2004	Zinc, Total	19.9	J	11	5000	5000

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
SWSD011	7/8/2004	Aluminum, Total	92	UJ	60	200	200
(22a-024875)	7/8/2004	Antimony, Total	5.4	U	4.6	6	20
[207063]	7/8/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/8/2004	Barium, Total	117		0.86	2000	2000
	7/8/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/8/2004	Boron, Total	138	J	27		
	7/8/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/8/2004	Calcium, Total	68400		54		
	7/8/2004	Chromium, Total	1.6	U	1.4	100	100
	7/8/2004	Cobalt, Total	1.8	U	1.7		
	7/8/2004	Copper, Total	9.4		2.6	1300	1000
	7/8/2004	Iron, Total	186	J	53	300	300
	7/8/2004	Lead, Total	3	U	3.6	15	10
	7/8/2004	Lithium, Total	34.7	UJ	50		
	7/8/2004	Magnesium, Total	18100		24		
	7/8/2004	Manganese, Total	104	J	2.8	50	50
	7/8/2004	Mercury, Total	0.07	U	0.18	2	2
	7/8/2004	Nickel, Total	2.5	J	1.8		100
	7/8/2004	Potassium, Total	6560	J	100		
	7/8/2004	Selenium, Total	5	UJ	5	50	50
	7/8/2004	Silver, Total	1.1	U	0.93	100	30
	7/8/2004	Sodium, Total	71400		93		50000
	7/8/2004	Thallium, Total	0.44	U	1	2	10
	7/8/2004	Vanadium, Total	1.5	U	1		
	7/8/2004	Zinc, Total	17	J	11	5000	5000
SWSD012	7/8/2004	Aluminum, Total	92	UJ	60	200	200
(22a-024877)	7/8/2004	Antimony, Total	5.4	U	4.6	6	20
[207063]	7/8/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/8/2004	Barium, Total	120		0.86	2000	2000
	7/8/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/8/2004	Boron, Total	126	J	27		
	7/8/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/8/2004	Calcium, Total	73500		54		
	7/8/2004	Chromium, Total	1.5	U	1.4	100	100
	7/8/2004	Cobalt, Total	1.8	U	1.7		
	7/8/2004	Copper, Total	8		2.6	1300	1000
	7/8/2004	Iron, Total	217	J	53	300	300
	7/8/2004	Lead, Total	3	U	3.6	15	10
	7/8/2004	Lithium, Total	40.7	UJ	50		
	7/8/2004	Magnesium, Total	17200		24		
	7/8/2004	Manganese, Total	121	J	2.8	50	50
	7/8/2004	Mercury, Total	0.07	U	0.18	2	2
	7/8/2004	Nickel, Total	2.2	J	1.8		100
	7/8/2004	Potassium, Total	6410	J	100		
	7/8/2004	Selenium, Total	5	UJ	5	50	50
	7/8/2004	Silver, Total	1.1	U	0.93	100	30
	7/8/2004	Sodium, Total	68500		93		50000
	7/8/2004	Thallium, Total	0.44	U	1	2	10
	7/8/2004	Vanadium, Total	1.6	J	1		
	7/8/2004	Zinc, Total	19.5	J	11	5000	5000

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
SWSD013	7/8/2004	Aluminum, Total	92	UJ	60	200	200
(22a-024879)	7/8/2004	Antimony, Total	5.4	U	4.6	6	20
[207063]	7/8/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/8/2004	Barium, Total	135		0.86	2000	2000
	7/8/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/8/2004	Boron, Total	133	J	27		
	7/8/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/8/2004	Calcium, Total	92200		54		
	7/8/2004	Chromium, Total	1.3	U	1.4	100	100
	7/8/2004	Cobalt, Total	1.8	U	1.7		
	7/8/2004	Copper, Total	7.3		2.6	1300	1000
	7/8/2004	Iron, Total	147	J	53	300	300
	7/8/2004	Lead, Total	3	U	3.6	15	10
	7/8/2004	Lithium, Total	47.7	UJ	50		
	7/8/2004	Magnesium, Total	19700		24		
	7/8/2004	Manganese, Total	179	J	2.8	50	50
	7/8/2004	Mercury, Total	0.07	U	0.18	2	2
	7/8/2004	Nickel, Total	2.1	J	1.8		100
	7/8/2004	Potassium, Total	8330	J	100		
	7/8/2004	Selenium, Total	5	UJ	5	50	50
	7/8/2004	Silver, Total	1.1	U	0.93	100	30
	7/8/2004	Sodium, Total	65300		93		50000
	7/8/2004	Thallium, Total	0.44	U	1	2	10
	7/8/2004	Vanadium, Total	1.5	U	1		
	7/8/2004	Zinc, Total	14.4	J	11	5000	5000
SWSD014	7/9/2004	Aluminum, Total	92	UJ	60	200	200
(22a-024881)	7/9/2004	Antimony, Total	5.4	U	4.6	6	20
[207074]	7/9/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/9/2004	Barium, Total	114		0.86	2000	2000
	7/9/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/9/2004	Boron, Total	140	J	27		
	7/9/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/9/2004	Calcium, Total	65600		54		
	7/9/2004	Chromium, Total	1.6	U	1.4	100	100
	7/9/2004	Cobalt, Total	1.8	U	1.7		
	7/9/2004	Copper, Total	8.1		2.6	1300	1000
	7/9/2004	Iron, Total	147	J	53	300	300
	7/9/2004	Lead, Total	3	U	3.6	15	10
	7/9/2004	Lithium, Total	33.4	UJ	50		
	7/9/2004	Magnesium, Total	18000		24		
	7/9/2004	Manganese, Total	159	J	2.8	50	50
	7/9/2004	Mercury, Total	0.07	U	0.18	2	2
	7/9/2004	Nickel, Total	3	J	1.8		100
	7/9/2004	Potassium, Total	6450	J	100		
	7/9/2004	Selenium, Total	5	U	5	50	50
	7/9/2004	Silver, Total	1.1	U	0.93	100	30
	7/9/2004	Sodium, Total	62600		93		50000
	7/9/2004	Thallium, Total	0.44	U	1	2	10
	7/9/2004	Vanadium, Total	1.5	U	1		
	7/9/2004	Zinc, Total	24.8		11	5000	5000

Table A-5
2004 Surface Water Anaytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Data Collected	Analyte[a]	Result (µg/L)	Data Qualifier[b]	Reporting Limits (ug/L)	Related Regulations	
						Federal[c] (ug/L)	State[d] (ug/L)
SWSD015	7/8/2004	Aluminum, Total	92	UJ	60	200	200
(22a-024883)	7/8/2004	Antimony, Total	5.4	U	4.6	6	20
[207074]	7/8/2004	Arsenic, Total	5.1	J	3.5	10	8
	7/8/2004	Barium, Total	109		0.86	2000	2000
	7/8/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/8/2004	Boron, Total	132	J	27		
	7/8/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/8/2004	Calcium, Total	63600		54		
	7/8/2004	Chromium, Total	1.3	U	1.4	100	100
	7/8/2004	Cobalt, Total	1.8	U	1.7		
	7/8/2004	Copper, Total	6.9		2.6	1300	1000
	7/8/2004	Iron, Total	131	J	53	300	300
	7/8/2004	Lead, Total	3	U	3.6	15	10
	7/8/2004	Lithium, Total	36	UJ	50		
	7/8/2004	Magnesium, Total	16800		24		
	7/8/2004	Manganese, Total	103	J	2.8	50	50
	7/8/2004	Mercury, Total	0.07	U	0.18	2	2
	7/8/2004	Nickel, Total	1.9	U	1.8		100
	7/8/2004	Potassium, Total	5550	J	100		
	7/8/2004	Selenium, Total	5	UJ	5	50	50
	7/8/2004	Silver, Total	1.1	U	0.93	100	30
	7/8/2004	Sodium, Total	64500		93		50000
	7/8/2004	Thallium, Total	0.44	U	1	2	10
	7/8/2004	Vanadium, Total	1.5	U	1		
	7/8/2004	Zinc, Total	14.5	J	11	5000	5000

[a]All analytes were reported, detected and undetected.

[b] USACE qualifier flags based on the CDQMP-QAPP: J = Reported as an estimated value, U= analyte was not detected.

[c] Federal SDWA MCLs, Secondary Standards and Action Levels, 40 CFR 141. Regulations pertain to drinking water quality and are listed for comparison purposes only. Not established (NE).

[d] New Jersey Class IIA Groundwater Quality Standards NJAC 7:9-6. The New Jersey limit is the higher of the GWQC and the PQL.

[e]Locations SWSD008, SWSD009 were not sampled due to stagnant water.

[f]Monitoring well SWSD003 is the background location for surface water locations.

Table A-6A
2004 Sediment Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location [f] (Sample ID) [SDG Number]	Date Collected	Analyte	Result[a] (pCi/g)	Error	Qualifier[b]	MDA[c] (pCi/g)	Cleanup Criteria[d] (pCi/g)
Samples collected in Westerly Brook:							
SWSD001	7/12/2004	Ra-226	0.77	0.2		0.15	5[g]
(23a-024856)	7/12/2004	Ra-228	0.96	0.42		0.63	
[F4G130171]	7/12/2004	Th-228	0.75	0.25		0.10	
	7/12/2004	Th-230	0.65	0.22	J	0.06	
	7/12/2004	Th-232	0.65	0.22		0.03	5[g]
	7/12/2004	U-234	0.44	0.14		0.07	
	7/12/2004	U-235	0.04	0.059	UJ	0.08	
	7/12/2004	U-238	0.56	0.16		0.05	
	7/12/2004	Total Uranium	1.04				100
SWSD002	7/12/2004	Ra-226	0.47	0.16		0.14	5[g]
(23a-024858)	7/12/2004	Ra-228	0.33	0.37	U	0.61	
[F4G130171]	7/12/2004	Th-228	0.36	0.18		0.16	
	7/12/2004	Th-230	0.60	0.23	J	0.07	
	7/12/2004	Th-232	0.43	0.18		0.09	5[g]
	7/12/2004	U-234	0.39	0.14		0.08	
	7/12/2004	U-235	0.00	0.038	U	0.09	
	7/12/2004	U-238	0.23	0.11	J	0.07	100
	7/12/2004	Total Uranium	0.62				
SWSD003	7/12/2004	Ra-226	0.29	0.14		0.18	5[g]
(23a-024860)	7/12/2004	Ra-228	0.19	0.42	U	0.70	
[F4G130171]	7/12/2004	Th-228	0.20	0.11		0.11	
	7/12/2004	Th-230	0.35	0.15	J	0.08	
	7/12/2004	Th-232	0.27	0.13		0.07	5[g]
	7/12/2004	U-234	0.31	0.13		0.09	
	7/12/2004	U-235	0.02	0.048	U	0.08	
	7/12/2004	U-238	0.17	0.094	J	0.06	100
	7/12/2004	Total Uranium	0.50				
Samples collected in Lodi Brook:							
SWSD005	7/8/2004	Ra-226	0.00	0	U	0.00	5[g]
(22a-024864)	7/8/2004	Ra-228	0.64	0.4	J	0.63	
[F4G090137]	7/8/2004	Th-228	0.89	0.21		0.05	
	7/8/2004	Th-230	0.78	0.2		0.06	
	7/8/2004	Th-232	0.80	0.2		0.03	5[g]
	7/8/2004	Total Radium	2.36	0.4		0.19	
	7/8/2004	U-234	0.40	0.14		0.06	
	7/8/2004	U-235	0.01	0.038	UJ	0.04	
	7/8/2004	U-238	0.47	0.15		0.05	100
	7/8/2004	Total Uranium	0.88				
SWSD006	7/7/2004	Ra-226	2.27	0.42	J	0.25	5[g]
(22a-024866)	7/7/2004	Ra-228	1.80	0.54		0.73	
[F4G080124]	7/7/2004	Th-228	2.15	0.36	J	0.09	
	7/7/2004	Th-230	1.65	0.31		0.03	
	7/7/2004	Th-232	2.14	0.36		0.07	5[g]
	7/7/2004	U-234	2.54	0.38		0.08	
	7/7/2004	U-235	0.12	0.081		0.06	
	7/7/2004	U-238	1.61	0.29		0.05	100
	7/7/2004	Total Uranium	4.27				

Table A-6A
2004 Sediment Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location [f] (Sample ID) [SDG Number]	Date Collected	Analyte	Result[a] (pCi/g)	Error	Qualifier[b]	MDA[c] (pCi/g)	Cleanup Criteria[d] (pCi/g)
SWSD006	7/7/2004	Ra-226	2.22	0.41	J	0.26	5[g]
Duplicate	7/7/2004	Ra-228	3.98	0.7		0.71	
(22a-024930)	7/7/2004	Th-228	2.69	0.38		0.06	
[F4G080124]	7/7/2004	Th-230	0.32	0.11	J	0.02	
	7/7/2004	Th-232	2.45	0.36		0.04	5[g]
	7/7/2004	U-234	1.43	0.26		0.03	
	7/7/2004	U-235	0.04	0.053	UJ	0.06	
	7/7/2004	U-238	1.05	0.22		0.03	100
	7/7/2004	Total Uranium	2.52				
SWSD007	7/7/2004	Ra-226	0.91	0.26	J	0.25	5[g]
(22a-024868)	7/7/2004	Ra-228	0.99	0.44	J	0.65	
[F4G080124]	7/7/2004	Th-228	0.58	0.18	J	0.12	
	7/7/2004	Th-230	0.24	0.1	J	0.05	
	7/7/2004	Th-232	0.67	0.18	J	0.03	5[g]
	7/7/2004	U-234	0.37	0.13	J	0.06	
	7/7/2004	U-235	0.05	0.061	UJ	0.04	
	7/7/2004	U-238	0.40	0.14	J	0.07	100
	7/7/2004	Total Uranium	0.82				
SWSD007	7/7/2004	Ra-226	0.12	0.13	UJ	0.20	5[g]
Duplicate	7/7/2004	Ra-228	15.20	1.7	J	0.70	
(22a-024932)	7/7/2004	Th-228	3.40	0.47	J	0.06	
[F4G080124]	7/7/2004	Th-230	0.97	0.22	J	0.03	
	7/7/2004	Th-232	3.62	0.49	J	0.03	5[g]
	7/7/2004	U-234	2.21	0.33	J	0.04	
	7/7/2004	U-235	0.10	0.076		0.03	
	7/7/2004	U-238	1.87	0.3	J	0.03	100
	7/7/2004	Total Uranium	4.18				
SWSD010	7/8/2004	Ra-226	0.00	0	U	0.00	5[g]
(22a-024874)	7/8/2004	Ra-228	2.36	0.52		0.62	
[F4G090137]	7/8/2004	Th-228	2.47	0.39		0.06	
	7/8/2004	Th-230	1.08	0.23		0.05	
	7/8/2004	Th-232	2.47	0.39		0.03	5[g]
	7/8/2004	U-234	1.10	0.22		0.03	
	7/8/2004	U-235	0.01	0.034	UJ	0.03	
	7/8/2004	U-238	0.80	0.18		0.04	100
	7/8/2004	Total Uranium	1.91				
SWSD011	7/8/2004	Ra-226	0.00	0	U	0.00	5[g]
(22a-024876)	7/8/2004	Ra-228	0.78	0.39	J	0.59	
[F4G090137]	7/8/2004	Th-228	1.64	0.29		0.04	
	7/8/2004	Th-230	0.53	0.15		0.06	
	7/8/2004	Th-232	1.69	0.3		0.06	5[g]
	7/8/2004	U-234	0.59	0.17		0.03	
	7/8/2004	U-235	0.00	0	U	0.04	
	7/8/2004	U-238	0.52	0.16		0.06	100
	7/8/2004	Total Uranium	1.11				

Table A-6A
2004 Sediment Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location [f] (Sample ID) [SDG Number]	Date Collected	Analyte	Result[a] (pCi/g)	Error	Qualifier[b]	MDA[c] (pCi/g)	Cleanup Criteria[d] (pCi/g)
SWSD012	7/8/2004	Ra-226	0.00	0	U	0.00	5[g]
(22a-024878)	7/8/2004	Ra-228	0.96	0.44		0.66	
[F4G090137]	7/8/2004	Th-228	0.78	0.19		0.04	
	7/8/2004	Th-230	0.17	0.085	J	0.05	
	7/8/2004	Th-232	0.72	0.18		0.04	5[g]
	7/8/2004	U-234	0.51	0.16		0.03	
	7/8/2004	U-235	0.03	0.049	UJ	0.04	
	7/8/2004	U-238	0.38	0.14	J	0.06	100
	7/8/2004	Total Uranium	0.92				
SWSD013	7/8/2004	Ra-226	0.00	0	U	0.00	5[g]
(22a-024880)	7/8/2004	Ra-228	1.75	0.47		0.62	
[F4G090137]	7/8/2004	Th-228	0.77	0.19		0.05	
	7/8/2004	Th-230	0.70	0.18		0.03	
	7/8/2004	Th-232	0.97	0.22		0.03	5[g]
	7/8/2004	U-234	0.41	0.13		0.03	
	7/8/2004	U-235	0.05	0.053	UJ	0.03	
	7/8/2004	U-238	0.35	0.12	J	0.03	100
	7/8/2004	Total Uranium	0.81				
SWSD014	7/9/2004	Ra-226	0.41	0.2	J	0.24	5[g]
(22a-024882)	7/9/2004	Ra-228	0.97	0.49		0.74	
[F4G100110]	7/9/2004	Th-228	0.68	0.24		0.14	
	7/9/2004	Th-230	0.48	0.19	J	0.07	
	7/9/2004	Th-232	0.39	0.17		0.09	5[g]
	7/9/2004	U-234	0.38	0.13		0.03	
	7/9/2004	U-235	0.07	0.063		0.03	
	7/9/2004	U-238	0.41	0.13		0.04	100
	7/9/2004	Total Uranium	0.86				
SWSD015	7/8/2004	Ra-226	0.00	0	U	0.00	5[g]
(22a-024884)	7/8/2004	Ra-228	0.58	0.37	U	0.58	
[F4G090137]	7/8/2004	Th-228	0.68	0.18		0.07	
	7/8/2004	Th-230	0.43	0.14	J	0.05	
	7/8/2004	Th-232	0.48	0.15		0.05	5[g]
	7/8/2004	U-234	0.49	0.15		0.03	
	7/8/2004	U-235	0.01	0.037	UJ	0.04	
	7/8/2004	U-238	0.34	0.12	J	0.05	
	7/8/2004	Total Uranium	0.84				100

J = Reported as an estimated value. U= analyte was not detected.

[c]Minimum Detectable Activity (MDA)

[d] Soil cleanup criteria established by the *Record of Decision for Soils and Building at the FUSRAP Maywood Superfund Site* is used as the basis for evaluating analytical results for sediment.

[e] A quality control duplicate is collected at the same time and location and is analyzed by the same method in order to evaluate precision in sampling and analysis.

[f] Sediment samples could not be collected at above ground locations SWSD008 and SWSD009 in Lodi Brook due to stagnant water. Sediment samples could not be collected at the underground locations SWSD004 in Westerly Brook due to significant flow.

[g]The ROD soil cleanup criteria for the combined concentration of Ra-226 and Th-232 above background.

Table A-6B
2004 Sediment Analytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte[a]	Results (mg/kg)	Data Qualifier[b]	Reporting Limits (mg/kg)	State Proposed Criteria[c] (mg/kg)	Lowest Effects Level (LEL)[h] (mg/kg)	Severe Effects Level (SEL)[h] (mg/kg)
Samples collected in Westerly Brook[f]:								
SWSD001	7/12/2004	Aluminum, Total	4480	J	31.2	NE		
residential	7/12/2004	Antimony, Total	1.8	UJ	1.8	14		
(23a-024856)	7/12/2004	Arsenic, Total	7.9	J	1.9	20	6	33
[207074]	7/12/2004	Barium, Total	57	J	0.29	700		
	7/12/2004	Beryllium, Total	0.78	UJ	0.78	2		
	7/12/2004	Boron, Total	9680	UJ	9680	NE		
	7/12/2004	Cadmium, Total	1.6	UJ	1.6	39	0.6	10
	7/12/2004	Calcium, Total	3980	J	18.1	NE		
	7/12/2004	Chromium, Total	12.6	J	0.53	NE	26	110
	7/12/2004	Cobalt, Total	5	J	0.66	NE		
	7/12/2004	Copper, Total	30.7	J	1.2	600	16	110
	7/12/2004	Iron, Total	12900	J	15.9	NE		
	7/12/2004	Lead, Total	48.3	J	1.2	400	31	250
	7/12/2004	Lithium, Total	6.2	U	6	NE		
	7/12/2004	Magnesium, Total	3630	J	14.4	NE		
	7/12/2004	Manganese, Total	984	J	1	NE		
	7/12/2004	Mercury, Total	0.067	J	0.015	14	0.2	2
	7/12/2004	Nickel, Total	12.8	J	0.69	250	16	75
	7/12/2004	Potassium, Total	307	J	62.4	NE		
	7/12/2004	Selenium, Total	2.5	UJ	2.5	63		
	7/12/2004	Silver, Total	0.5	UJ	0.5	110	1.0[g]	3.7[g]
	7/12/2004	Sodium, Total	282	J	31.2	NE		
	7/12/2004	Thallium, Total	0.013	U	1.3	2		
	7/12/2004	Vanadium, Total	15.9	J	0.56	370		
	7/12/2004	Zinc, Total	165	J	5.9	1500	120	820
SWSD002	7/12/2004	Aluminum, Total	2840	J	30.1	NE		
residential	7/12/2004	Antimony, Total	1.7	UJ	1.7	14		
(23a-024858)	7/12/2004	Arsenic, Total	6.1	J	1.8	20	6	33
[207074]	7/12/2004	Barium, Total	60.1	J	0.28	700		
	7/12/2004	Beryllium, Total	0.75	UJ	0.75	2		
	7/12/2004	Boron, Total	11300	J	9340	NE		
	7/12/2004	Cadmium, Total	1.5	UJ	1.5	39	0.6	10
	7/12/2004	Calcium, Total	3650	J	17.5	NE		
	7/12/2004	Chromium, Total	8.5	J	0.51	NE	26	110
	7/12/2004	Cobalt, Total	3.2	J	0.63	NE		
	7/12/2004	Copper, Total	25.8	J	1.2	600	16	110
	7/12/2004	Iron, Total	9310	J	15.4	NE		
	7/12/2004	Lead, Total	52	J	1.1	400	31	250
	7/12/2004	Lithium, Total	5.5	U	6.2	NE		
	7/12/2004	Magnesium, Total	2330	J	13.9	NE		
	7/12/2004	Manganese, Total	165	J	0.96	NE		
	7/12/2004	Mercury, Total	0.027	J	0.014	14	0.2	2
	7/12/2004	Nickel, Total	11.6	J	0.66	250	16	75
	7/12/2004	Potassium, Total	237	J	60.3	NE		
	7/12/2004	Selenium, Total	2.4	UJ	2.4	63		
	7/12/2004	Silver, Total	0.48	UJ	0.48	110	1.0[g]	3.7[g]
	7/12/2004	Sodium, Total	158	J	30.1	NE		
	7/12/2004	Thallium, Total	0.013	U	1.3	2		
	7/12/2004	Vanadium, Total	10.8	J	0.54	370		
	7/12/2004	Zinc, Total	178	J	5.7	1500	120	820

Table A-6B
2004 Sediment Analytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte[a]	Results (mg/kg)	Data Qualifier[b]	Reporting Limits (mg/kg)	State Proposed Criteria[c] (mg/kg)	Lowest Effects Level (LEL) [h] (mg/kg)	Severe Effects Level (SEL) [h] (mg/kg)
SWSD003	7/12/2004	Aluminum, Total	3400	J	25.7	NE		
non-residential	7/12/2004	Antimony, Total	1.5	UJ	1.5	340		
(23a-024860)	7/12/2004	Arsenic, Total	2.1	J	1.6	20	6	33
[207074]	7/12/2004	Barium, Total	69.9	J	0.24	47000		
	7/12/2004	Beryllium, Total	0.64	UJ	0.64	2		
	7/12/2004	Boron, Total	7970	UJ	7970	NE		
	7/12/2004	Cadmium, Total	1.3	UJ	1.3	100	0.6	10
	7/12/2004	Calcium, Total	3060	J	14.9	NE		
	7/12/2004	Chromium, Total	11.3	J	0.44	NE	26	110
	7/12/2004	Cobalt, Total	4.5	J	0.54	NE		
	7/12/2004	Copper, Total	35.5	J	1	600	16	110
	7/12/2004	Iron, Total	8650	J	13.1	NE		
	7/12/2004	Lead, Total	83.7	J	0.98	600	31	250
	7/12/2004	Lithium, Total	4.9	U	6.2	NE		
	7/12/2004	Magnesium, Total	2040	J	11.8	NE		
	7/12/2004	Manganese, Total	837	J	0.82	NE		
	7/12/2004	Mercury, Total	0.03	J	0.017	270	0.2	2
	7/12/2004	Nickel, Total	11.7	J	0.57	2400	16	75
	7/12/2004	Potassium, Total	275	J	51.4	NE		
	7/12/2004	Selenium, Total	2.1	UJ	2.1	3100		
	7/12/2004	Silver, Total	0.41	UJ	0.41	4100	1.0[g]	3.7[g]
	7/12/2004	Sodium, Total	162	J	25.7	NE		
	7/12/2004	Thallium, Total	0.013	U	1.3	2		
	7/12/2004	Vanadium, Total	11.8	J	0.46	7100		
	7/12/2004	Zinc, Total	156	J	4.9	1500	120	820
Samples collected in Lodi Brook[e]:								
SWSD005	7/8/2004	Aluminum, Total	6290	J	24.3	NE		
nonresidential	7/8/2004	Antimony, Total	1.4	UJ	1.4	340		
(22a-024864)	7/8/2004	Arsenic, Total	3.2	J	1.5	20	6	33
[207063]	7/8/2004	Barium, Total	66.8	J	0.22	47000		
	7/8/2004	Beryllium, Total	0.61	UJ	0.61	2		
	7/8/2004	Boron, Total	11300	J	7530	NE		
	7/8/2004	Cadmium, Total	1.2	UJ	1.2	100	0.6	10
	7/8/2004	Calcium, Total	8150	J	14.1	NE		
	7/8/2004	Chromium, Total	14.5	J	0.41	NE	26	110
	7/8/2004	Cobalt, Total	5.6	J	0.51	NE		
	7/8/2004	Copper, Total	30	J	0.97	600	16	110
	7/8/2004	Iron, Total	13700	J	12.4	NE		
	7/8/2004	Lead, Total	38.4	J	0.92	600	31	250
	7/8/2004	Lithium, Total	15	J	6	NE		
	7/8/2004	Magnesium, Total	3550	J	11.2	NE		
	7/8/2004	Manganese, Total	338	J	0.78	NE		
	7/8/2004	Mercury, Total	0.044	J	0.017	270	0.2	2
	7/8/2004	Nickel, Total	11.5	J	0.53	2400	16	75
	7/8/2004	Potassium, Total	909	J	48.6	NE		
	7/8/2004	Selenium, Total	1.9	UJ	1.9	3100		
	7/8/2004	Silver, Total	0.39	UJ	0.39	4100	1.0[g]	3.7[g]
	7/8/2004	Sodium, Total	327	J	24.3	NE		
	7/8/2004	Thallium, Total	2.6	J	1.2	2		
	7/8/2004	Vanadium, Total	21	J	0.44	7100		
	7/8/2004	Zinc, Total	88.4	J	4.6	1500	120	820

Table A-6B
2004 Sediment Analytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte[a]	Results (mg/kg)	Data Qualifier[b]	Reporting Limits (mg/kg)	State Proposed Criteria[c] (mg/kg)	Lowest Effects Level (LEL) [h] (mg/kg)	Severe Effects Level (SEL) [h] (mg/kg)
SWSD006	7/7/2004	Aluminum, Total	8860	J	40.1	NE		
nonresidential	7/7/2004	Antimony, Total	2.3	UJ	2.3	340		
(22a-024866)	7/7/2004	Arsenic, Total	8.3	J	2.4	20	6	33
[207063]	7/7/2004	Barium, Total	555	J	0.37	47000		
	7/7/2004	Beryllium, Total	1	UJ	1	2		
	7/7/2004	Boron, Total	12400	UJ	12400	NE		
	7/7/2004	Cadmium, Total	2	UJ	2	100	0.6	10
	7/7/2004	Calcium, Total	7440	J	23.2	NE		
	7/7/2004	Chromium, Total	55.1	J	0.68	NE	26	110
	7/7/2004	Cobalt, Total	4.6	J	0.84	NE		
	7/7/2004	Copper, Total	54.2	J	1.6	600	16	110
	7/7/2004	Iron, Total	10900	J	20.4	NE		
	7/7/2004	Lead, Total	139	J	1.5	600	31	250
	7/7/2004	Lithium, Total	20.5	J	9.4	NE		
	7/7/2004	Magnesium, Total	1900	J	18.4	NE		
	7/7/2004	Manganese, Total	209	J	1.3	NE		
	7/7/2004	Mercury, Total	0.25	J	0.019	270	0.2	2
	7/7/2004	Nickel, Total	14.1	J	0.88	2400	16	75
	7/7/2004	Potassium, Total	263	J	80.1	NE		
	7/7/2004	Selenium, Total	3.2	UJ	3.2	3100		
	7/7/2004	Silver, Total	0.64	UJ	0.64	4100	1.0[g]	3.7[g]
	7/7/2004	Sodium, Total	201	J	40.1	NE		
	7/7/2004	Thallium, Total	1.9	J	1.9	2		
	7/7/2004	Vanadium, Total	50.6	J	0.72	7100		
	7/7/2004	Zinc, Total	128	J	7.6	1500	120	820
SWSD006	7/7/2004	Aluminum, Total	7320	J	70	NE		
nonresidential	7/7/2004	Antimony, Total	4	UJ	4	340		
Duplicate[d]	7/7/2004	Arsenic, Total	14.6	J	4.3	20	6	33
(22a-024930)	7/7/2004	Barium, Total	553	J	0.64	47000		
[207063]	7/7/2004	Beryllium, Total	1.7	UJ	1.7	2		
	7/7/2004	Boron, Total	21700	UJ	21700	NE		
	7/7/2004	Cadmium, Total	5	J	3.5	100	0.6	10
	7/7/2004	Calcium, Total	11600	J	40.6	NE		
	7/7/2004	Chromium, Total	64	J	1.2	NE	26	110
	7/7/2004	Cobalt, Total	6.9	J	1.5	NE		
	7/7/2004	Copper, Total	140	J	2.8	600	16	110
	7/7/2004	Iron, Total	22300	J	35.7	NE		
	7/7/2004	Lead, Total	414	J	2.7	600	31	250
	7/7/2004	Lithium, Total	32.2	J	23.7	NE		
	7/7/2004	Magnesium, Total	2280	J	32.2	NE		
	7/7/2004	Manganese, Total	371	J	2.2	NE		
	7/7/2004	Mercury, Total	0.61	J	0.039	270	0.2	2
	7/7/2004	Nickel, Total	22.9	J	1.5	2400	16	75
	7/7/2004	Potassium, Total	438	J	140	NE		
	7/7/2004	Selenium, Total	5.6	UJ	5.6	3100		
	7/7/2004	Silver, Total	1.1	UJ	1.1	4100	1.0[g]	3.7[g]
	7/7/2004	Sodium, Total	450	J	70	NE		
	7/7/2004	Thallium, Total	8.1	J	4.8	2		
	7/7/2004	Vanadium, Total	46.1	J	1.3	7100		
	7/7/2004	Zinc, Total	623	J	13.3	1500	120	820

Table A-6B
2004 Sediment Analytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte[a]	Results (mg/kg)	Data Qualifier[b]	Reporting Limits (mg/kg)	State Proposed Criteria[c] (mg/kg)	Lowest Effects Level (LEL) [h] (mg/kg)	Severe Effects Level (SEL) [h] (mg/kg)
SWSD007	7/7/2004	Aluminum, Total	3260	J	23.9	NE		
nonresidential	7/7/2004	Antimony, Total	1.4	UJ	1.4	340		
(22a-024868)	7/7/2004	Arsenic, Total	1.5	UJ	1.5	20	6	33
[207063]	7/7/2004	Barium, Total	36.7	J	0.22	47000		
	7/7/2004	Beryllium, Total	0.6	UJ	0.6	2		
	7/7/2004	Boron, Total	7400	UJ	7400	NE		
	7/7/2004	Cadmium, Total	1.2	UJ	1.2	100	0.6	10
	7/7/2004	Calcium, Total	4390	J	13.9	NE		
	7/7/2004	Chromium, Total	14.8	J	0.41	NE	26	110
	7/7/2004	Cobalt, Total	3	J	0.5	NE		
	7/7/2004	Copper, Total	18.8	J	0.96	600	16	110
	7/7/2004	Iron, Total	8780	J	12.2	NE		
	7/7/2004	Lead, Total	108	J	0.91	600	31	250
	7/7/2004	Lithium, Total	5.8	J	6.6	NE		
	7/7/2004	Magnesium, Total	2020	J	11	NE		
	7/7/2004	Manganese, Total	134	J	0.76	NE		
	7/7/2004	Mercury, Total	0.067	J	0.017	270	0.2	2
	7/7/2004	Nickel, Total	8.3	J	0.53	2400	16	75
	7/7/2004	Potassium, Total	307	J	47.8	NE		
	7/7/2004	Selenium, Total	1.9	UJ	1.9	3100		
	7/7/2004	Silver, Total	0.38	UJ	0.38	4100	1.0[g]	3.7[g]
	7/7/2004	Sodium, Total	180	J	23.9	NE		
	7/7/2004	Thallium, Total	1.9	J	1.3	2		
	7/7/2004	Vanadium, Total	16.1	J	0.43	7100		
	7/7/2004	Zinc, Total	83.3	J	4.5	1500	120	820
SWSD007	7/7/2004	Aluminum, Total	10600	J	72.8	NE		
nonresidential	7/7/2004	Antimony, Total	4.2	UJ	4.2	340		
Duplicate[d]	7/7/2004	Arsenic, Total	16.6	J	4.4	20	6	33
(22a-024932)	7/7/2004	Barium, Total	594	J	0.67	47000		
[207063]	7/7/2004	Beryllium, Total	1.8	UJ	1.8	2		
	7/7/2004	Boron, Total	27900	J	22600	NE		
	7/7/2004	Cadmium, Total	3.6	UJ	3.6	100	0.6	10
	7/7/2004	Calcium, Total	12900	J	42.2	NE		
	7/7/2004	Chromium, Total	189	J	1.2	NE	26	110
	7/7/2004	Cobalt, Total	7	J	1.5	NE		
	7/7/2004	Copper, Total	138	J	2.9	600	16	110
	7/7/2004	Iron, Total	19600	J	37.1	NE		
	7/7/2004	Lead, Total	357	J	2.8	600	31	250
	7/7/2004	Lithium, Total	59.5	J	14.2	NE		
	7/7/2004	Magnesium, Total	3580	J	33.5	NE		
	7/7/2004	Manganese, Total	309	J	2.3	NE		
	7/7/2004	Mercury, Total	0.61	J	0.039	270	0.2	2
	7/7/2004	Nickel, Total	25.4	J	1.6	2400	16	75
	7/7/2004	Potassium, Total	602	J	146	NE		
	7/7/2004	Selenium, Total	5.8	UJ	5.8	3100		
	7/7/2004	Silver, Total	1.2	UJ	1.2	4100	1.0[g]	3.7[g]
	7/7/2004	Sodium, Total	713	J	72.8	NE		
	7/7/2004	Thallium, Total	1.6	J	2.9	2		
	7/7/2004	Vanadium, Total	48.5	J	1.3	7100		
	7/7/2004	Zinc, Total	958	J	13.8	1500	120	820

Table A-6B
2004 Sediment Analytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte[a]	Results (mg/kg)	Data Qualifier[b]	Reporting Limits (mg/kg)	State Proposed Criteria[c] (mg/kg)	Lowest Effects Level (LEL) [h] (mg/kg)	Severe Effects Level (SEL) [h] (mg/kg)
SWSD010	7/8/2004	Aluminum, Total	9890	J	32.5	NE		
nonresidential	7/8/2004	Antimony, Total	1.9	UJ	1.9	340		
(22a-024874)	7/8/2004	Arsenic, Total	10.5	J	2	20	6	33
[207063]	7/8/2004	Barium, Total	363	J	0.3	47000		
	7/8/2004	Beryllium, Total	0.81	UJ	0.81	2		
	7/8/2004	Boron, Total	22100	J	10100	NE		
	7/8/2004	Cadmium, Total	1.8	J	1.6	100	0.6	10
	7/8/2004	Calcium, Total	12800	J	18.8	NE		
	7/8/2004	Chromium, Total	82.7	J	0.55	NE	26	110
	7/8/2004	Cobalt, Total	9.3	J	0.68	NE		
	7/8/2004	Copper, Total	198	J	1.3	600	16	110
	7/8/2004	Iron, Total	28200	J	16.6	NE		
	7/8/2004	Lead, Total	190	J	1.2	600	31	250
	7/8/2004	Lithium, Total	27.4	J	6.7	NE		
	7/8/2004	Magnesium, Total	5700	J	14.9	NE		
	7/8/2004	Manganese, Total	1740	J	1	NE		
	7/8/2004	Mercury, Total	0.95	J	0.017	270	0.2	2
	7/8/2004	Nickel, Total	29.3	J	0.71	2400	16	75
	7/8/2004	Potassium, Total	872	J	65	NE		
	7/8/2004	Selenium, Total	2.6	UJ	2.6	3100		
	7/8/2004	Silver, Total	0.96	J	0.52	4100	1.0[g]	3.7[g]
	7/8/2004	Sodium, Total	608	J	32.5	NE		
	7/8/2004	Thallium, Total	3.9	J	1.3	2		
	7/8/2004	Vanadium, Total	42.6	J	0.58	7100		
	7/8/2004	Zinc, Total	741	J	6.2	1500	120	820
SWSD011	7/8/2004	Aluminum, Total	5210	J	20.9	NE		
residential	7/8/2004	Antimony, Total	1.2	UJ	1.2	14		
(22a-024876)	7/8/2004	Arsenic, Total	3.4	J	1.3	20	6	33
[207063]	7/8/2004	Barium, Total	73.3	J	0.19	700		
	7/8/2004	Beryllium, Total	0.52	UJ	0.52	2		
	7/8/2004	Boron, Total	6470	UJ	6470	NE		
	7/8/2004	Cadmium, Total	1	UJ	1	39	0.6	10
	7/8/2004	Calcium, Total	11900	J	12.1	NE		
	7/8/2004	Chromium, Total	28.9	J	0.35	NE	26	110
	7/8/2004	Cobalt, Total	7.7	J	0.44	NE		
	7/8/2004	Copper, Total	71.9	J	0.83	600	16	110
	7/8/2004	Iron, Total	34700	J	10.6	NE		
	7/8/2004	Lead, Total	149	J	0.79	400	31	250
	7/8/2004	Lithium, Total	10.5	J	6.5	NE		
	7/8/2004	Magnesium, Total	6270	J	9.6	NE		
	7/8/2004	Manganese, Total	578	J	0.67	NE		
	7/8/2004	Mercury, Total	0.044	J	0.013	14	0.2	2
	7/8/2004	Nickel, Total	22.7	J	0.46	250	16	75
	7/8/2004	Potassium, Total	319	J	41.7	NE		
	7/8/2004	Selenium, Total	1.7	UJ	1.7	63		
	7/8/2004	Silver, Total	0.33	UJ	0.33	110	1.0[g]	3.7[g]
	7/8/2004	Sodium, Total	355	J	20.9	NE		
	7/8/2004	Thallium, Total	6.8	J	1.3	2		
	7/8/2004	Vanadium, Total	18.1	J	0.38	370		
	7/8/2004	Zinc, Total	262	J	4	1500	120	820

Table A-6B
2004 Sediment Analytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte[a]	Results (mg/kg)	Data Qualifier[b]	Reporting Limits (mg/kg)	State Proposed Criteria[c] (mg/kg)	Lowest Effects Level (LEL) [h] (mg/kg)	Severe Effects Level (SEL) [h] (mg/kg)
SWSD012	7/8/2004	Aluminum, Total	4050	J	31.7	NE		
residential	7/8/2004	Antimony, Total	1.8	UJ	1.8	14		
(22a-024878)	7/8/2004	Arsenic, Total	1.9	UJ	1.9	20	6	33
[207063]	7/8/2004	Barium, Total	69	J	0.29	700		
	7/8/2004	Beryllium, Total	0.79	UJ	0.79	2		
	7/8/2004	Boron, Total	9840	UJ	9840	NE		
	7/8/2004	Cadmium, Total	1.6	UJ	1.6	39	0.6	10
	7/8/2004	Calcium, Total	8710	J	18.4	NE		
	7/8/2004	Chromium, Total	29.2	J	0.54	NE	26	110
	7/8/2004	Cobalt, Total	4.6	J	0.67	NE		
	7/8/2004	Copper, Total	40.8	J	1.3	600	16	110
	7/8/2004	Iron, Total	19200	J	16.2	NE		
	7/8/2004	Lead, Total	86.8	J	1.2	400	31	250
	7/8/2004	Lithium, Total	7.3	J	6.6	NE		
	7/8/2004	Magnesium, Total	3390	J	14.6	NE		
	7/8/2004	Manganese, Total	645	J	1	NE		
	7/8/2004	Mercury, Total	0.044	J	0.016	14	0.2	2
	7/8/2004	Nickel, Total	21.1	J	0.7	250	16	75
	7/8/2004	Potassium, Total	317	J	63.5	NE		
	7/8/2004	Selenium, Total	2.5	UJ	2.5	63		
	7/8/2004	Silver, Total	0.51	UJ	0.51	110	1.0[g]	3.7[g]
	7/8/2004	Sodium, Total	357	J	31.7	NE		
	7/8/2004	Thallium, Total	3.5	J	1.3	2		
	7/8/2004	Vanadium, Total	16.4	J	0.57	370		
	7/8/2004	Zinc, Total	197	J	6	1500	120	820
SWSD013	7/8/2004	Aluminum, Total	4220	J	30.6	NE		
residential	7/8/2004	Antimony, Total	2.4	J	1.7	14		
(22a-024880)	7/8/2004	Arsenic, Total	3.9	J	1.9	20	6	33
[207063]	7/8/2004	Barium, Total	76.7	J	0.28	700		
	7/8/2004	Beryllium, Total	0.76	UJ	0.76	2		
	7/8/2004	Boron, Total	17100	J	9480	NE		
	7/8/2004	Cadmium, Total	1.5	UJ	1.5	39	0.6	10
	7/8/2004	Calcium, Total	7310	J	17.7	NE		
	7/8/2004	Chromium, Total	95.1	J	0.52	NE	26	110
	7/8/2004	Cobalt, Total	8.8	J	0.64	NE		
	7/8/2004	Copper, Total	64	J	1.2	600	16	110
	7/8/2004	Iron, Total	29800	J	15.6	NE		
	7/8/2004	Lead, Total	397	J	1.2	400	31	250
	7/8/2004	Lithium, Total	11.4	J	6.1	NE		
	7/8/2004	Magnesium, Total	4010	J	14.1	NE		
	7/8/2004	Manganese, Total	805	J	0.98	NE		
	7/8/2004	Mercury, Total	0.027	J	0.014	14	0.2	2
	7/8/2004	Nickel, Total	25.7	J	0.67	250	16	75
	7/8/2004	Potassium, Total	289	J	61.2	NE		
	7/8/2004	Selenium, Total	2.4	UJ	2.4	63		
	7/8/2004	Silver, Total	0.49	UJ	0.49	110	1.0[g]	3.7[g]
	7/8/2004	Sodium, Total	344	J	30.6	NE		
	7/8/2004	Thallium, Total	6.8	J	1.2	2		
	7/8/2004	Vanadium, Total	17.3	J	0.55	370		
	7/8/2004	Zinc, Total	360	J	5.8	1500	120	820

Table A-6B
2004 Sediment Analytical Results - Metals
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte[a]	Results (mg/kg)	Data Qualifier[b]	Reporting Limits (mg/kg)	State Proposed Criteria[c] (mg/kg)	Lowest Effects Level (LEL)[h] (mg/kg)	Severe Effects Level (SEL)[h] (mg/kg)
SWSD014	7/9/2004	Aluminum, Total	4080	J	27	NE		
residential	7/9/2004	Antimony, Total	1.5	UJ	1.5	14		
(22a-024882)	7/9/2004	Arsenic, Total	1.6	UJ	1.6	20	6	33
[207074]	7/9/2004	Barium, Total	51.5	J	0.25	700		
	7/9/2004	Beryllium, Total	0.68	UJ	0.68	2		
	7/9/2004	Boron, Total	8380	UJ	8380	NE		
	7/9/2004	Cadmium, Total	1.4	UJ	1.4	39	0.6	10
	7/9/2004	Calcium, Total	7030	J	15.7	NE		
	7/9/2004	Chromium, Total	18.1	J	0.46	NE	26	110
	7/9/2004	Cobalt, Total	5.5	J	0.57	NE		
	7/9/2004	Copper, Total	49.8	J	1.1	600	16	110
	7/9/2004	Iron, Total	14500	J	13.8	NE		
	7/9/2004	Lead, Total	84.2	J	1	400	31	250
	7/9/2004	Lithium, Total	3.1		5.9	NE		
	7/9/2004	Magnesium, Total	5200	J	12.4	NE		
	7/9/2004	Manganese, Total	611	J	0.87	NE		
	7/9/2004	Mercury, Total	0.063	J	0.011	14	0.2	2
	7/9/2004	Nickel, Total	14.4	J	0.59	250	16	75
	7/9/2004	Potassium, Total	384	J	54.1	NE		
	7/9/2004	Selenium, Total	2.2	UJ	2.2	63		
	7/9/2004	Silver, Total	0.43	UJ	0.43	110	1.0[g]	3.7[g]
	7/9/2004	Sodium, Total	169	J	27	NE		
	7/9/2004	Thallium, Total	0.42	UJ	1.2	2		
	7/9/2004	Vanadium, Total	16.4	J	0.49	370		
	7/9/2004	Zinc, Total	143	J	5.1	1500	120	820
SWSD015	7/8/2004	Aluminum, Total	2940	J	30.5	NE		
nonresidential	7/8/2004	Antimony, Total	1.7	UJ	1.7	340		
(22a-024884)	7/8/2004	Arsenic, Total	1.9	J	1.9	20	6	33
[207074]	7/8/2004	Barium, Total	42	J	0.28	47000		
	7/8/2004	Beryllium, Total	0.76	UJ	0.76	2		
	7/8/2004	Boron, Total	11500	J	9450	NE		
	7/8/2004	Cadmium, Total	1.5	UJ	1.5	100	0.6	10
	7/8/2004	Calcium, Total	6600	J	17.7	NE		
	7/8/2004	Chromium, Total	17.4	J	0.52	NE	26	110
	7/8/2004	Cobalt, Total	3.3	J	0.64	NE		
	7/8/2004	Copper, Total	34.2	J	1.2	600	16	110
	7/8/2004	Iron, Total	14900	J	15.6	NE		
	7/8/2004	Lead, Total	145	J	1.2	600	31	250
	7/8/2004	Lithium, Total	6.8	J	7	NE		
	7/8/2004	Magnesium, Total	2730	J	14	NE		
	7/8/2004	Manganese, Total	393	J	0.98	NE		
	7/8/2004	Mercury, Total	0.043	J	0.016	270	0.2	2
	7/8/2004	Nickel, Total	10.7	J	0.67	2400	16	75
	7/8/2004	Potassium, Total	271	J	61	NE		
	7/8/2004	Selenium, Total	2.4	UJ	2.4	3100		
	7/8/2004	Silver, Total	0.49	UJ	0.49	4100	1.0[g]	3.7[g]
	7/8/2004	Sodium, Total	239	J	30.5	NE		
	7/8/2004	Thallium, Total	4.2	J	1.4	2		
	7/8/2004	Vanadium, Total	11.7	J	0.55	7100		
	7/8/2004	Zinc, Total	156	J	5.8	1500	120	820

[a] All analytes were reported, detected and undetected.

[b] USACE qualifier flags based on the CDQMP-QAPP: J = Reported as an estimated value, U= analyte was not detected.

[c] New Jersey Proposed Cleanup Standards for Contaminated Sites: Residential and Non-residential Soil Cleanup Standards (N.J.A.C. 7:26). Residential or non-residential limits are presented, depending upon the zoning of the sampling location.

[d] A quality control duplicate is collected at the same time and location, and is analyzed by the same method in order to evaluate precision in sampling and analysis.

[e] Sediment samples could not be collected at above ground locations SWSD008, SWSD009 in Lodi Brook due to stagnant water.

[f] Sediment samples could not be collected at the underground location SWSD004 in Westerly Brook due to significant flow.

[g] Since the biological activity of non-polar organics is not expected to differ greatly in the estuarine/marine environment, NJDEP recommends the Effects Range-Low and the Effects Range-Medium Marine/Estuarine Sediment Screening Guidelines to be used as surrogates.

[h] New Jesey Department of Environmental Protection Guidance for Sediment Quality Evaluations, 1988.

NE= Not established.

Table A-7
Depth to Groundwater and Groundwater Elevation for Overburden Monitoring Wells
Maywood Interim Storage Site - 2004

Well	Surveyed Easting	Surveyed Northing	Top of Inner Casing, ft NGVD	Water Level, ft below TOC	GW Elevation, Ft NGVD	Fluctuation (ft)	Measurement Date
B38W01S	2164807.07	752837.37	56.57	6.04	50.53	0.53	3/1/2004
B38W01S	2164807.07	752837.37	56.57	5.9	50.67		4/22/2004
B38W01S	2164807.07	752837.37	56.57	6.15	50.42		8/25/2004
B38W01S	2164807.07	752837.37	56.57	6.43	50.14		11/2/2004
B38W12A	2165389.47	750774.64	49.96	5.35	44.61	0.94	3/1/2004
B38W12A	2165389.47	750774.64	49.96	5.1	44.86		4/22/2004
B38W12A	2165389.47	750774.64	49.96	6	43.96		8/25/2004
B38W12A	2165389.47	750774.64	49.96	6.04	43.92		11/2/2004
B38W14S	2163384.82	752600.98	43.89	4.4	39.49	0.10	8/25/2004
B38W14S	2163384.82	752600.98	43.89	4.5	39.39		11/2/2004
B38W15S	2163472.30	752364.90	46.75	5	41.75	0.86	3/1/2004
B38W15S	2163472.30	752364.90	46.75	4.6	42.15		4/22/2004
B38W15S	2163472.30	752364.90	46.75	4.99	41.76		8/25/2004
B38W15S	2163472.30	752364.90	46.75	5.46	41.29		11/2/2004
B38W17A	2163922.90	752019.80	53.24	8.42	44.82	1.27	3/1/2004
B38W17A	2163922.90	752019.80	53.24	7.9	45.34		4/22/2004
B38W17A	2163922.90	752019.80	53.24	8.53	44.71		8/25/2004
B38W17A	2163922.90	752019.80	53.24	9.17	44.07		11/2/2004
B38W19S	2164049.13	752513.62	59.91	14.95	44.96	1.11	3/1/2004
B38W19S	2164049.13	752513.62	59.91	14.5	45.41		4/22/2004
B38W19S	2164049.13	752513.62	59.91	14.93	44.98		8/25/2004
B38W19S	2164049.13	752513.62	59.91	15.61	44.30		11/2/2004
B38W24S	2164291.43	752193.57	55.04	8.85	46.19	0.73	8/25/2004
B38W24S	2164291.43	752193.57	55.04	9.58	45.46		11/2/2004
B38W25S	2164346.85	752513.00	57.50	6.8	50.70	0.40	3/1/2004
B38W25S	2164346.85	752513.00	57.50	6.4	51.10		8/25/2004
MISS01AA	2164101.98	752963.64	62.70	15.02	47.68	1.31	3/1/2004
MISS01AA	2164101.98	752963.64	62.70	14.44	48.26		4/22/2004
MISS01AA	2164101.98	752963.64	62.70	14.7	48.00		8/25/2004
MISS01AA	2164101.98	752963.64	62.70	15.75	46.95		11/2/2004
MISS02A	2164706.13	752788.00	61.47	8.4	53.07	1.83	3/1/2004
MISS02A	2164706.13	752788.00	61.47	7.43	54.04		4/22/2004
MISS02A	2164706.13	752788.00	61.47	9.26	52.21		8/25/2004
MISS02A	2164706.13	752788.00	61.47	9.18	52.29		11/2/2004
MISS03A	2164437.77	752302.00	58.52	7.29	51.23	2.34	3/1/2004
MISS03A	2164437.77	752302.00	58.52	6.29	52.23		4/22/2004
MISS03A	2164437.77	752302.00	58.52	7.45	51.07		8/25/2004
MISS03A	2164437.77	752302.00	58.52	8.63	49.89		11/2/2004
MISS04A	2164349.46	752109.73	57.17	8.1	49.07	2.74	3/1/2004
MISS04A	2164349.46	752109.73	57.17	6.85	50.32		4/22/2004
MISS04A	2164349.46	752109.73	57.17	8.45	48.72		8/25/2004
MISS04A	2164349.46	752109.73	57.17	9.59	47.58		11/2/2004
MISS05A	2164044.20	752360.40	58.65	12.08	46.57	1.99	3/1/2004
MISS05A	2164044.20	752360.40	58.65	11.04	47.61		4/22/2004
MISS05A	2164044.20	752360.40	58.65	12.19	46.46		8/25/2004
MISS05A	2164044.20	752360.40	58.65	13.03	45.62		11/2/2004
MISS06A	2164224.78	752645.21	58.26	11	47.26	1.38	3/1/2004
MISS06A	2164224.78	752645.21	58.26	10.62	47.64		4/22/2004
MISS06A	2164224.78	752645.21	58.26	9.62	48.64		8/25/2004
MISS06A	2164224.78	752645.21	58.26	10.91	47.35		11/2/2004
MISS07A	2164053.10	752657.57	55.60	8.6	47.00	0.85	3/1/2004
MISS07A	2164053.10	752657.57	55.60	8.15	47.45		4/22/2004
MISS07A	2164053.10	752657.57	55.60	8.53	47.07		8/25/2004
MISS07A	2164053.10	752657.57	55.60	9	46.60		11/2/2004

Notes:
ft - Feet
NGVD - National Geodetic Vertical Datum - 1929
TOC - Top of Casing

Table A-8
Depth to Groundwater and Groundwater Elevation for Bedrock Monitoring Wells
Maywood Interim Storage Site - 2004

Well	Surveyed Easting	Surveyed Northing	Top of Inner Casing, ft NGVD	Water Level, ft below TOC	GW Elevation, Ft NGVD	Fluctuation (ft)	Measurement Date
B38W02D	2165243.12	752558.09	78.04	15.39	62.65	3.50	3/1/2004
B38W02D	2165243.12	752558.09	78.04	14.49	63.55		4/22/2004
B38W02D	2165243.12	752558.09	78.04	15.78	62.26		8/25/2004
B38W02D	2165243.12	752558.09	78.04	17.99	60.05		11/2/2004
B38W03B	2164513.81	752253.19	58.27	9.39	48.88	1.83	3/1/2004
B38W03B	2164513.81	752253.19	58.27	8.13	50.14		4/22/2004
B38W03B	2164513.81	752253.19	58.27	9.19	49.08		8/25/2004
B38W03B	2164513.81	752253.19	58.27	9.96	48.31		11/2/2004
B38W04B	2164950.28	752093.58	65.64	9.58	56.06	1.15	3/1/2004
B38W04B	2164950.28	752093.58	65.64	9.12	56.52		4/22/2004
B38W04B	2164950.28	752093.58	65.64	9.48	56.16		8/25/2004
B38W04B	2164950.28	752093.58	65.64	10.27	55.37		11/2/2004
B38W05B	2165366.54	752175.88	70.98	10.53	60.45	1.27	8/25/2004
B38W05B	2165366.54	752175.88	70.98	11.80	59.18		11/2/2004
B38W07B	2164168.21	751974.70	54.98	8.53	46.45	1.94	3/1/2004
B38W07B	2164168.21	751974.70	54.98	7.70	47.28		4/22/2004
B38W07B	2164168.21	751974.70	54.98	8.80	46.18		8/25/2004
B38W07B	2164168.21	751974.70	54.98	9.64	45.34		11/2/2004
B38W12B	2165393.54	750766.32	49.64	4.97	44.67	1.10	3/1/2004
B38W12B	2165393.54	750766.32	49.64	4.53	45.11		4/22/2004
B38W12B	2165393.54	750766.32	49.64	5.36	44.28		8/25/2004
B38W12B	2165393.54	750766.32	49.64	5.63	44.01		11/2/2004
B38W14D	2163391.63	752597.24	43.79	1.95	41.84	0.78	8/25/2004
B38W14D	2163391.63	752597.24	43.79	2.73	41.06		11/2/2004
B38W15D	2163475.63	752368.54	47.04	4.40	42.64	0.63	3/1/2004
B38W15D	2163475.63	752368.54	47.04	4.10	42.94		4/22/2004
B38W15D	2163475.63	752368.54	47.04	4.20	42.84		8/25/2004
B38W15D	2163475.63	752368.54	47.04	4.73	42.31		11/2/2004
B38W17B	2163927.32	752021.78	53.28	8.53	44.75	1.15	3/1/2004
B38W17B	2163927.32	752021.78	53.28	8.05	45.23		4/22/2004
B38W17B	2163927.32	752021.78	53.28	8.57	44.71		8/25/2004
B38W17B	2163927.32	752021.78	53.28	9.20	44.08		11/2/2004
B38W18D	2164783.97	752505.39	57.85	3.79	54.06	0.83	3/1/2004
B38W18D	2164783.97	752505.39	57.85	3.45	54.40		4/22/2004
B38W18D	2164783.97	752505.39	57.85	3.70	54.15		8/25/2004
B38W18D	2164783.97	752505.39	57.85	4.28	53.57		11/2/2004
B38W19D	2164045.10	752522.83	59.98	15.25	44.73	0.79	3/1/2004
B38W19D	2164045.10	752522.83	59.98	15.00	44.98		4/22/2004
B38W19D	2164045.10	752522.83	59.98	15.20	44.78		8/25/2004
B38W19D	2164045.10	752522.83	59.98	15.79	44.19		11/2/2004
B38W24D	2164291.33	752193.57	54.91	8.34	46.57	1.41	3/1/2004
B38W24D	2164291.33	752193.57	54.91	7.70	47.21		4/22/2004
B38W24D	2164291.33	752193.57	54.91	8.32	46.59		8/25/2004
B38W24D	2164291.33	752193.57	54.91	9.11	45.80		11/2/2004
B38W25D	2164346.85	752513.00	57.66	7.13	50.53	1.77	3/1/2004
B38W25D	2164346.85	752513.00	57.66	6.02	51.64		4/22/2004
B38W25D	2164346.85	752513.00	57.66	7.79	49.87		11/2/2004
MISS01B	2164092.32	752964.86	61.98	15.50	46.48	0.60	3/1/2004
MISS01B	2164092.32	752964.86	61.98	15.30	46.68		4/22/2004
MISS01B	2164092.32	752964.86	61.98	15.40	46.58		8/25/2004
MISS01B	2164092.32	752964.86	61.98	15.90	46.08		11/2/2004
MISS02B	2164709.45	752771.91	61.38	11.02	50.36	0.40	3/1/2004
MISS02B	2164709.45	752771.91	61.38	11.00	50.38		4/22/2004
MISS02B	2164709.45	752771.91	61.38	11.10	50.28		8/25/2004
MISS02B	2164709.45	752771.91	61.38	11.40	49.98		11/2/2004

Table A-8
Depth to Groundwater and Groundwater Elevation for Bedrock Monitoring Wells
Maywood Interim Storage Site - 2004

Well	Surveyed Easting	Surveyed Northing	Top of Inner Casing, ft NGVD	Water Level, ft below TOC	GW Elevation, Ft NGVD	Fluctuation (ft)	Measurement Date
MISS03B	2164451.46	752296.78	57.66	9.30	48.36	1.21	3/1/2004
MISS03B	2164451.46	752296.78	57.66	8.71	48.95		4/22/2004
MISS03B	2164451.46	752296.78	57.66	9.10	48.56		8/25/2004
MISS03B	2164451.46	752296.78	57.66	9.92	47.74		11/2/2004
MISS04B	2164353.55	752096.08	56.42	10.25	46.17	1.02	3/1/2004
MISS04B	2164353.55	752096.08	56.42	9.82	46.60		4/22/2004
MISS04B	2164353.55	752096.08	56.42	10.30	46.12		8/25/2004
MISS04B	2164353.55	752096.08	56.42	10.84	45.58		11/2/2004
MISS05B	2164044.40	752371.68	59.76	14.97	44.79	1.00	3/1/2004
MISS05B	2164044.40	752371.68	59.76	14.60	45.16		4/22/2004
MISS05B	2164044.40	752371.68	59.76	15.02	44.74		8/25/2004
MISS05B	2164044.40	752371.68	59.76	15.60	44.16		11/2/2004
MISS07B	2164048.77	752652.98	55.77	10.34	45.43	0.69	3/1/2004
MISS07B	2164048.77	752652.98	55.77	10.12	45.65		4/22/2004
MISS07B	2164048.77	752652.98	55.77	10.25	45.52		8/25/2004
MISS07B	2164048.77	752652.98	55.77	10.81	44.96		11/2/2004

Notes:
ft - Feet
NGVD - National Geodetic Vertical Datum - 1929
TOC - Top of Casing

Table A-9
Vertical Gradient Calculation for Monitoring Well Clusters
Maywood Interim Storage Site - 2004

Well	Source	Well Type	GW Elv. NGVD - 3/1/2004	GW Elv. NGVD - 4/22/2004	GW Elv. NGVD - 8/25/2004	GW Elv. NGVD - 11/2/2004
On-Site (MISS/Stepan Property) Well Clusters						
B38W19S	cluster	Overburden	44.96	45.41	44.98	44.30
B38W19D	cluster	Bedrock	44.73	44.98	44.78	44.19
		Hydraulic Head Difference, ft.	0.23	0.43	0.20	0.11
		Gradient Direction	Downward	Downward	Downward	Downward
B38W24S	cluster	Overburden	NG	NG	46.19	45.46
B38W24D	cluster	Bedrock	46.57	47.21	46.59	45.80
		Hydraulic Head Difference, ft.	NA	NA	-0.40	-0.34
		Gradient Direction	NA	NA	Upward	Upward
B38W25S	cluster	Overburden	50.70	NG	51.10	NG
B38W25D	cluster	Bedrock	50.53	51.64	NG	49.87
		Hydraulic Head Difference, ft.	0.17	NA	NA	NA
		Gradient Direction	Downward	NA	NA	NA
MISS01AA	cluster	Overburden	47.68	48.26	48.00	46.95
MISS01B	cluster	Bedrock	46.48	46.68	46.58	46.08
		Hydraulic Head Difference, ft.	1.20	1.58	1.42	0.87
		Gradient Direction	Downward	Downward	Downward	Downward
MISS02A	cluster	Overburden	53.07	54.04	52.21	52.29
MISS02B	cluster	Bedrock	50.36	50.38	50.28	49.98
		Hydraulic Head Difference, ft.	2.71	3.66	1.93	2.31
		Gradient Direction	Downward	Downward	Downward	Downward
MISS03A	cluster	Overburden	51.23	52.23	51.07	49.89
MISS03B	cluster	Bedrock	48.36	48.95	48.56	47.74
		Hydraulic Head Difference, ft.	2.87	3.28	2.51	2.15
		Gradient Direction	Downward	Downward	Downward	Downward
MISS04A	cluster	Overburden	49.07	50.32	48.72	47.58
MISS04B	cluster	Bedrock	46.17	46.60	46.12	45.58
		Hydraulic Head Difference, ft.	2.90	3.72	2.60	2.00
		Gradient Direction	Downward	Downward	Downward	Downward
MISS05A	cluster	Overburden	46.57	47.61	46.46	45.62
MISS05B	cluster	Bedrock	44.79	45.16	44.74	44.16
		Hydraulic Head Difference, ft.	1.78	2.45	1.72	1.46
		Gradient Direction	Downward	Downward	Downward	Downward
MISS07A	cluster	Overburden	47.00	47.45	47.07	46.60
MISS07B	cluster	Bedrock	45.43	45.65	45.52	44.96
		Hydraulic Head Difference, ft.	1.57	1.80	1.55	1.64
		Gradient Direction	Downward	Downward	Downward	Downward
Off-Site Well Clusters						
B38W12A	cluster	Overburden	44.61	44.86	43.96	43.92
B38W12B	cluster	Bedrock	44.67	45.11	44.28	44.01
		Hydraulic Head Difference, ft.	-0.06	-0.25	-0.32	-0.09
		Gradient Direction	Upward	Upward	Upward	Upward
B38W14S	cluster	Overburden	NG	NG	39.49	39.39
B38W14D	cluster	Bedrock	NG	NG	41.84	41.06
		Hydraulic Head Difference, ft.	NA	NA	-2.35	-1.67
		Gradient Direction	NA	NA	Upward	Upward

Table A-9
Vertical Gradient Calculation for Monitoring Well Clusters
Maywood Interim Storage Site - 2004

Well	Source	Well Type	GW Elv. NGVD - 3/1/2004	GW Elv. NGVD - 4/22/2004	GW Elv. NGVD - 8/25/2004	GW Elv. NGVD - 11/2/2004
B38W15S	cluster	Overburden	41.75	42.15	41.76	41.29
B38W15D	cluster	Bedrock	42.64	42.94	42.84	42.31
		Hydraulic Head Difference, ft.	-0.89	-0.79	-1.08	-1.02
		Gradient Direction	Upward	Upward	Upward	Upward
B38W17A	cluster	Overburden	44.82	45.34	44.71	44.07
B38W17B	cluster	Bedrock	44.75	45.23	44.71	44.08
		Hydraulic Head Difference, ft.	0.07	0.11	0.00	-0.01
		Gradient Direction	Downward	Downward	Horizontal	Horizontal

Notes:
Elv. - Elevation
NA - Not Applicable
NG - Not Gauged
NGVD - National Geodetic Vertical Datum of 1929
ft. - Feet
Negative Hydraulic Head Difference depicts an upward vertical gradient
Positive Hydraulic Head Difference depicts a downward vertical gradient

Table A-10
2004 Field Parameter Summary
Maywood Interim Storage Site - 2004

Sampling Location	Date	Temp (C)	Specific Conductance[a] (mS/cm)	pH	Eh (mV)[b]	DO (mg/l)	Turbidity (NTU)[c]	Discharge (mL/min)[e]
GROUNDWATER								
MISS01AA	06/21/04	17.20	2.60	7.04	70.00	2.92	95.10	135
MISS01B	06/22/04	16.07	1.04	7.01	-91	1.82	27.1	350
MISS02A	06/18/04	19.83	3.77	6.72	-128	3.60	42.6	50
MISS02B	06/18/04	14.72	4.91	6.75	-125	2.54	8.2	335
MISS05A	06/24/04	15.96	2.89	6.82	-44.0	8.98	0.10	80
MISS05B	06/23/04	12.80	18.8	6.36	-96.0	2.27	3.50	400
MISS06A	[h]	[h]	[h]	[h]	[h]	[h]	[h]	[h]
MISS07A	06/28/04	20.67	.395	7.89	44.3	9.13	56.7	0
MISS07B	06/28/04	16.43	5.920	7.10	-140.7	4.24	43.1	120
B38W01S	07/06/04	13.65	1.938	6.63	-122.8	2.92	6.5	480
B38W02D	07/06/04	16.23	.492	6.73	26.8	1.02	4.2	90
B38W14D	06/29/04	14.49	1.061	6.99	1.2	.48	11.7	300
B38W14S	06/29/04	16.64	.954	7.15	12.2	.97	0.6	315
B38W15D	06/30/04	16.10	1.870	7.38	-19.2	2.32	0.0	330
B38W15S	06/30/04	18.02	1.668	7.26	-153	1.62	1.6	100
B38W17A	06/17/04	22.29	0.629	4.97	551.7	0.54	16.4	60
B38W17B	06/16/04	15.15	1.851	4.68	350	0.46	0.0	230
B38W18D	06/22/04	17.61	1.99	5.71	26	2.25	7.6	240
B38W19D	06/24/04	16.25	3.928	6.74	-82.5	2.26	0.9	305
B38W19S	06/25/04	18.92	2.43	7.31	-64.2	10.11	0.0	95
B38W24D	07/01/04	18.85	.735	6.17	-125.7	0.70	0.8	280
B38W24S	06/28/04	25.22	.357	5.89	-52.9	0.92	4.8	230
B38W25D	07/09/04	16.13	3.320	6.36	-135.5	1.70	2.6	265
B38W25S								
SURFACE WATER								
SWSD001	07/12/04	18.81	1.019	7.60	64.2	6.26	3.70	f
SWSD002	07/12/04	17.49	1.06	7.46	-61.90	7.93	2.10	f
SWSD003	07/12/04	20.33	0.628	7.67	-71.20	8.10	10.0	f
SWSD004	07/12/04	17.92	1.093	7.48	-48.8	7.47	49.4	f
SWSD005	07/08/04	31.96	0.866	7.86	42.4	11.38	3.60	f
SWSD006	07/07/04	27.39	0.621	8.12	27.2	5.70	8.10	f
SWSD007	07/07/04	25.23	0.980	7.65	50.81	8.61	34.4	f
SWSD008	[g]	[g]	[g]	[g]	[g]	[g]	[g]	f
SWSD009	[g]	[g]	[g]	[g]	[g]	[g]	[g]	f
SWSD010	07/08/04	30.49	0.858	7.76	30.0	13.73	4.4	f
SWSD011	07/08/04	30.16	0.866	7.99	43.4	13.33	2.6	f
SWSD012	07/08/04	29.65	0.426	8.17	-40.1	29.02	35.50	f
SWSD013	07/08/04	28.81	0.963	8.02	-12.00	25.43	90.7	f
SWSD014	07/09/04	27.42	0.906	7.87	7.5	7.60	79.3	f
SWSD015	07/08/04	27.57	0.845	8.37	4.6	19.98	6.5	f

[a] Specific conductance, measured in milliSiemens/centimeter (mS/cm).
[b] Oxidation/reduction potential (Eh), measured in milliVolts (mV).
[c] Nephelometric turbidity units (NTU).
[d] Well is dry.
[e] Milliliters per minute (mL/min).
[f] Parameter not applicable.
[g] Surface water was not available for sampling due to stagnant conditions.
[h] Abandoned monitoring well location.

Table A-11
2004 Groundwater Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result (pCi/L)	Result[a] (μg/L)	Error (pCi/L)	Data Qualifier	MDA (pCi/L)	State/Federal Standards (pCi/L)	State/Federal Standards (ug/L)
Monitoring Wells Completed in Unconsolidated Sediment									
B38W01S	7/6/2004	GALPHA	1.70		± 1.2	UJ	1.70	15	
(12a-024854)	7/6/2004	GBETA	8.40		± 1.5		1.60	50	
[F4G070143]	7/6/2004	Ra-226	0.27		± 0.16		0.21	5 (h)	
	7/6/2004	Ra-228	0.50		± 0.32	UJ	0.50	5 (h)	
	7/6/2004	Th-228	0.00		± 0	U	0.40		
	7/6/2004	Th-230	0.07		± 0.11	UJ	0.16		
	7/6/2004	Th-232	0.00		± 0.11	U	0.19		
	7/6/2004	Total Thorium	0.07						
	7/6/2004	U-234	0.12		± 0.16	UJ	0.22		
	7/6/2004	U-235	0.00		± 0	U	0.08		
	7/6/2004	U-238	0.03		± 0.083	U	0.15		
	7/6/2004	Total Uranium	0.15	0.08					30
B38W14S	6/29/2004	GALPHA	0.80		± 1.3	R	2.20	15	
(19a-024841)	6/29/2004	GBETA	3.00		± 1.1	R	1.50	50	
[F4F300133]	6/29/2004	Ra-226	0.03		± 0.1	U	0.19	5 (h)	
	6/29/2004	Ra-228	0.00		± 0	R	0.00	5 (h)	
	6/29/2004	Th-228	0.12		± 0.13	U	0.21		
	6/29/2004	Th-230	0.17		± 0.14	J	0.15		
	6/29/2004	Th-232	0.03		± 0.052	UJ	0.07		
	6/29/2004	Total Thorium	0.32						
	6/29/2004	U-234	1.40		± 0.37		0.16		
	6/29/2004	U-235	0.10		± 0.11	UJ	0.13		
	6/29/2004	U-238	0.66		± 0.25		0.06		
	6/29/2004	Total Uranium	2.16	1.96					30
B38W15S	6/30/2004	GALPHA	0.80		± 0.9		1.50	15	
(20a-024843)	6/30/2004	GBETA	32.50		± 3.5		1.30	50	
[F4G010140]	6/30/2004	Ra-226	0.23		± 0.15		0.20	5 (h)	
	6/30/2004	Ra-228	0.90		± 0.51		0.79	5 (h)	
	6/30/2004	Th-228	0.08		± 0.12	UJ	0.17		
	6/30/2004	Th-230	0.25		± 0.17	J	0.14		
	6/30/2004	Th-232	0.02		± 0.058	U	0.12		
	6/30/2004	Total Thorium	0.35						
	6/30/2004	U-234	0.44		± 0.2		0.10		
	6/30/2004	U-235	0.03		± 0.078	UJ	0.07		
	6/30/2004	U-238	0.33		± 0.18		0.06		
	6/30/2004	Total Uranium	0.80	0.98					30
B38W17A	6/17/2004	GALPHA	0.40		± 0.94	U	1.60	15	
(20a-024845)	6/17/2004	GBETA	18.90		± 2.2		1.20	50	
[F4F180142]	6/17/2004	Ra-226	0.01		± 0.21	UJ	0.19	5 (h)	
	6/17/2004	Ra-228	0.34		± 0.34	UJ	0.55	5 (h)	
	6/17/2004	Th-228	-0.08		± 0.095	U	0.35		
	6/17/2004	Th-230	0.18		± 0.15	J	0.15		
	6/17/2004	Th-232	0.02		± 0.08	U	0.21		
	6/17/2004	Total Thorium	0.12						
	6/17/2004	U-234	0.09		± 0.13	UJ	0.17		
	6/17/2004	U-235	0.00		± 0	U	0.10		
	6/17/2004	U-238	0.05		± 0.079	UJ	0.12		
	6/17/2004	Total Uranium	0.14	0.14					30

Table A-11
2004 Groundwater Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result (pCi/L)	Result[a] (µg/L)	Error (pCi/L)	Data Qualifier	MDA (pCi/L)	State/Federal Standards (pCi/L)	State/Federal Standards (ug/L)
B38W19S (12b-024848) [F4F260118 except for GA/GB, F4H300117]	6/25/2004	GALPHA	4.40		± 3	UJ	4.60	15	
	6/25/2004	GBETA	17.80		± 2.9		3.30	50	
	6/25/2004	Ra-226	0.81		± 0.23		0.21	5 (h)	
	6/25/2004	Ra-228	2.79		± 0.58		0.67	5 (h)	
	6/25/2004	Th-228	0.02		± 0.084	U	0.22		
	6/25/2004	Th-230	0.25		± 0.18	J	0.13		
	6/25/2004	Th-232	0.03		± 0.056	UJ	0.08		
	6/25/2004	Total Thorium	0.30						
	6/25/2004	U-234	0.14		± 0.14	UJ	0.17		
	6/25/2004	U-235	0.01		± 0.06	U	0.13		
	6/25/2004	U-238	0.09		± 0.0998	UJ	0.06		
	6/25/2004	Total Uranium	0.24	0.26					30
B38W24S (10a-024850) [F4F290150]	6/28/2004	GALPHA	0.20		± 0.3	R	0.49	15	
	6/28/2004	GBETA	5.38		± 0.77	R	0.76	50	
	6/28/2004	Ra-226	0.15		± 0.14	UJ	0.21	5 (h)	
	6/28/2004	Ra-228	0.15		± 0.36	U	0.60	5 (h)	
	6/28/2004	Th-228	0.08		± 0.11	U	0.20		
	6/28/2004	Th-230	0.22		± 0.16	J	0.07		
	6/28/2004	Th-232	0.02		± 0.056	U	0.13		
	6/28/2004	Total Thorium	0.32						
	6/28/2004	U-234	0.09		± 0.1	UJ	0.12		
	6/28/2004	U-235	0.01		± 0.058	U	0.13		
	6/28/2004	U-238	0.01		± 0.052	U	0.11		
	6/28/2004	Total Uranium	0.11	0.04					30
MISS01AA (12b-024831) [F4F220237 except for iso-Th and iso-U, which are in F4H300117]	6/21/2004	GALPHA	7.30		± 3.7		5.10	15	
	6/21/2004	GBETA	6.10		± 3.8		6.00	50	
	6/21/2004	Ra-226	0.23		± 0.12		0.16	5 (h)	
	6/21/2004	Ra-228	0.77		± 0.28		0.39	5 (h)	
	6/21/2004	Th-228	0.18		± 0.47	UJ	0.67		
	6/21/2004	Th-230	0.85		± 0.4	J	0.24		
	6/21/2004	Th-232	0.00		± 0	U	0.20		
	6/21/2004	Total Thorium	1.03						
	6/21/2004	U-234	0.05		± 0.14	U	0.23		
	6/21/2004	U-235	0.07		± 0.12	UJ	0.18		
	6/21/2004	U-238	0.19		± 0.16		0.15		
	6/21/2004	Total Uranium	0.31	0.56					30
MISS02A (12b-024833) [190107]	6/18/2004	GALPHA	1.20		± 6.5	U	11.00	15	
	6/18/2004	GBETA	27.80		± 5.1		5.60	50	
	6/18/2004	Ra-226	0.05		± 0.036	UJ	0.05	5 (h)	
	6/18/2004	Ra-228	0.15		± 0.1	UJ	0.16	5 (h)	
	6/18/2004	Th-228	0.05		± 0.083	U	0.16		
	6/18/2004	Th-230	0.48		± 0.26	J	0.14		
	6/18/2004	Th-232	0.07		± 0.1	U	0.18		
	6/18/2004	Total Thorium	0.60						
	6/18/2004	U-234	0.11		± 0.12	UJ	0.14		
	6/18/2004	U-235	0.00		± 0	U	0.10		
	6/18/2004	U-238	0.06		± 0.078	UJ	0.10		
	6/18/2004	Total Uranium	0.17	0.18					30

Table A-11
2004 Groundwater Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result (pCi/L)	Result[a] (µg/L)	Error (pCi/L)	Data Qualifier	MDA (pCi/L)	State/Federal Standards (pCi/L)	State/Federal Standards (ug/L)
MISS05A	6/24/2004	GALPHA	486.00		± 53	J	9.00	15	
(12b-024835)	6/24/2004	GBETA	197.00		± 20		5.00	50	
[250191except for	6/24/2004	Ra-226	3.40		± 0.55		0.22	5 (h)	
GA/GB, which are	6/24/2004	Ra-228	12.90		± 1.6		0.80	5 (h)	
in F4H300117]	6/24/2004	Th-228	13.80		± 3.1		0.10		
	6/24/2004	Th-230	3.90		± 1		0.07		
	6/24/2004	Th-232	26.50		± 5.7		0.07		
	6/24/2004	Total Thorium	44.20						
	6/24/2004	U-234	38.70		± 3.7		0.20		
	6/24/2004	U-235	2.02		± 0.51		0.08		
	6/24/2004	U-238	37.20		± 3.6		0.10		
	6/24/2004	Total Uranium	77.92	110.55					30
MISS07A	7/9/2004	GALPHA	4.70		± 1.3		0.90	15	
(12b-024838)	7/9/2004	GBETA	6.80		± 1.5		1.70	50	
[F4G100110]	7/9/2004	Ra-226	0.15		± 0.13	UJ	0.20	5 (h)	
	7/9/2004	Ra-228	0.25		± 0.4	UJ	0.66	5 (h)	
	7/9/2004	Th-228	0.09		± 0.098	UJ	0.06		
	7/9/2004	Th-230	0.44		± 0.2	J	0.06		
	7/9/2004	Th-232	0.09		± 0.098	UJ	0.06		
	7/9/2004	Total Thorium	0.61						
	7/9/2004	U-234	0.52		± 0.22		0.10		
	7/9/2004	U-235	0.00		± 0	U	0.07		
	7/9/2004	U-238	0.19		± 0.13		0.10		
	7/9/2004	Total Uranium	0.71	0.56					30
Monitoring Wells Completed in Bedrock									
B38W02D	7/6/2004	GALPHA	1.03		± 0.68		0.94	15	
(12a-024840)	7/6/2004	GBETA	0.46		± 0.88	U	1.50	50	
[F4G070143]	7/6/2004	Ra-226	0.20		± 0.13		0.18	5 (h)	
	7/6/2004	Ra-228	0.34		± 0.38	U	0.63	5 (h)	
	7/6/2004	Th-228	0.00		± 0	U	0.40		
	7/6/2004	Th-230	0.20		± 0.17	J	0.18		
	7/6/2004	Th-232	0.07		± 0.097	UJ	0.13		
	7/6/2004	Total Thorium	0.27						
	7/6/2004	U-234	0.36		± 0.26		0.28		
	7/6/2004	U-235	0.00		± 0.11	U	0.25		
	7/6/2004	U-238	0.16		± 0.17	UJ	0.20		
	7/6/2004	Total Uranium	0.52	0.48					30
B38W02D	7/6/2004	GALPHA	1.04		± 0.65		0.88	15	
Duplicate	7/6/2004	GBETA	0.38		± 0.85	U	1.40	50	
(12a-024925)	7/6/2004	Ra-226	0.15		± 0.13	UJ	0.20	5 (h)	
[F4G070143]	7/6/2004	Ra-228	0.32		± 0.31	UJ	0.50	5 (h)	
	7/6/2004	Th-228	0.11		± 0.22	UJ	0.32		
	7/6/2004	Th-230	0.18		± 0.15	J	0.15		
	7/6/2004	Th-232	0.00		± 0	U	0.10		
	7/6/2004	Total Thorium	0.29						
	7/6/2004	U-234	0.41		± 0.22		0.19		
	7/6/2004	U-235	0.08		± 0.1	UJ	0.12		
	7/6/2004	U-238	0.16		± 0.13		0.13		
	7/6/2004	Total Uranium	0.65	0.48					30

Table A-11
2004 Groundwater Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result (pCi/L)	Result[a] (µg/L)	Error (pCi/L)	Data Qualifier	MDA (pCi/L)	State/Federal Standards (pCi/L)	State/Federal Standards (ug/L)
B38W14D (19a-024842) [F4F300133 except for GA/GB, which are in F4H300117]	6/29/2004	GALPHA	0.44		± 0.78		1.30	15	
	6/29/2004	GBETA	0.83		± 0.78		1.30	50	
	6/29/2004	Ra-226	0.11		± 0.12	UJ	0.18	5 (h)	
	6/29/2004	Ra-228	-0.27		± 0.5	U	0.87	5 (h)	
	6/29/2004	Th-228	0.16		± 0.18	U	0.33		
	6/29/2004	Th-230	0.18		± 0.16	J	0.18		
	6/29/2004	Th-232	0.08		± 0.1	UJ	0.14		
	6/29/2004	Total Thorium	0.42						
	6/29/2004	U-234	0.68		± 0.28		0.21		
	6/29/2004	U-235	0.02		± 0.069	UJ	0.07		
	6/29/2004	U-238	0.47		± 0.22		0.14		
	6/29/2004	Total Uranium	1.17	1.40					30
B38W15D (20a-024844) [F4G010140]	6/30/2004	GALPHA	2.20		± 1.4		1.90	15	
	6/30/2004	GBETA	9.90		± 1.5		1.30	50	
	6/30/2004	Ra-226	0.12		± 0.14	U	0.23	5 (h)	
	6/30/2004	Ra-228	0.32		± 0.47	U	0.77	5 (h)	
	6/30/2004	Th-228	0.08		± 0.092	UJ	0.11		
	6/30/2004	Th-230	0.24		± 0.15	J	0.06		
	6/30/2004	Th-232	0.00		± 0	U	0.06		
	6/30/2004	Total Thorium	0.32						
	6/30/2004	U-234	4.23		± 0.66		0.09		
	6/30/2004	U-235	0.05		± 0.09	UJ	0.07		
	6/30/2004	U-238	1.74		± 0.4		0.06		
	6/30/2004	Total Uranium	6.02	5.17					30
B38W15D Duplicate (20a-024918) [F4G010140]	6/30/2004	GALPHA	5.10		± 1.6		1.50	15	
	6/30/2004	GBETA	9.50		± 1.4		1.00	50	
	6/30/2004	Ra-226	0.26		± 0.17		0.24	5 (h)	
	6/30/2004	Ra-228	0.17		± 0.44	U	0.73	5 (h)	
	6/30/2004	Th-228	0.06		± 0.084	UJ	0.06		
	6/30/2004	Th-230	0.24		± 0.15	J	0.11		
	6/30/2004	Th-232	0.00		± 0	U	0.06		
	6/30/2004	Total Thorium	0.30						
	6/30/2004	U-234	3.59		± 0.58		0.05		
	6/30/2004	U-235	0.12		± 0.12	UJ	0.07		
	6/30/2004	U-238	1.53		± 0.36		0.09		
	6/30/2004	Total Uranium	5.24	4.55					30
B38W17B (20a-024846) [F4F180161]	6/16/2004	GALPHA	2.90		± 3.7	U	6.10	15	
	6/16/2004	GBETA	86.60		± 9.5		3.50	50	
	6/16/2004	Ra-226	0.27		± 0.13		0.17	5 (h)	
	6/16/2004	Ra-228	1.17		± 0.35		0.48	5 (h)	
	6/16/2004	Th-228	0.03		± 0.08	U	0.19		
	6/16/2004	Th-230	0.38		± 0.22	J	0.07		
	6/16/2004	Th-232	0.03		± 0.054	UJ	0.07		
	6/16/2004	Total Thorium	0.44						
	6/16/2004	U-234	0.12		± 0.14	UJ	0.16		
	6/16/2004	U-235	0.00		± 0	U	0.20		
	6/16/2004	U-238	0.08		± 0.1	UJ	0.13		
	6/16/2004	Total Uranium	0.20	0.24					30

Table A-11
2004 Groundwater Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result (pCi/L)	Result[a] (μg/L)	Error (pCi/L)	Data Qualifier	MDA (pCi/L)	State/Federal Standards (pCi/L)	State/Federal Standards (ug/L)
B38W18D	6/22/2004	GALPHA	128.00		± 15		3.00	15	
(12b-024847)	6/22/2004	GBETA	34.60		± 4.6		3.90	50	
[F4F230128]	6/22/2004	Ra-226	3.35		± 0.52		0.20	5 (h)	
	6/22/2004	Ra-228	5.25		± 0.71		0.51	5 (h)	
	6/22/2004	Th-228	4.80		± 1.3		0.30		
	6/22/2004	Th-230	1.12		± 0.45	J	0.18		
	6/22/2004	Th-232	6.30		± 1.6		0.09		
	6/22/2004	Total Thorium	12.22						
	6/22/2004	U-234	1.81		± 0.51		0.26		
	6/22/2004	U-235	0.09		± 0.11	UJ	0.14		
	6/22/2004	U-238	1.83		± 0.5		0.17		
	6/22/2004	Total Uranium	3.73	5.44					30
B38W18D	6/22/2004	GALPHA	134.00		± 16		3.00	15	
Duplicate	6/22/2004	GBETA	31.30		± 4.3		4.00	50	
(12b-024900)	6/22/2004	Ra-226	2.83		± 0.47		0.25	5 (h)	
[F4F230128]	6/22/2004	Ra-228	4.62		± 0.67		0.55	5 (h)	
	6/22/2004	Th-228	3.52		± 0.93		0.22		
	6/22/2004	Th-230	0.81		± 0.33	J	0.14		
	6/22/2004	Th-232	3.53		± 0.93		0.12		
	6/22/2004	Total Thorium	7.86						
	6/22/2004	U-234	1.49		± 0.46		0.26		
	6/22/2004	U-235	0.15		± 0.15	J	0.08		
	6/22/2004	U-238	1.31		± 0.41		0.18		
	6/22/2004	Total Uranium	2.95	3.89					30
B38W19D	6/24/2004	GALPHA	1.90		± 4.9	R	8.30	15	
(12b-024849)	6/24/2004	GBETA	346.00		± 36	R	8.00	50	
[F4F250191]	6/24/2004	Ra-226	0.22		± 0.15		0.20	5 (h)	
	6/24/2004	Ra-228	0.57		± 0.47	UJ	0.75	5 (h)	
	6/24/2004	Th-228	0.04		± 0.1	U	0.24		
	6/24/2004	Th-230	0.24		± 0.19	J	0.09		
	6/24/2004	Th-232	0.00		± 0	U	0.09		
	6/24/2004	Total Thorium	0.28						
	6/24/2004	U-234	0.08		± 0.17	UJ	0.26		
	6/24/2004	U-235	0.00		± 0	U	0.10		
	6/24/2004	U-238	0.10		± 0.13	UJ	0.17		
	6/24/2004	Total Uranium	0.18	0.30					30
B38W24D	7/1/2004	GALPHA	1.00		± 1.1	U	1.80	15	
(10a-024851)	7/1/2004	GBETA	4.80		± 1.3		1.70	50	
[F4G020121]	7/1/2004	Ra-226	0.14		± 0.049	J	0.04	5 (h)	
	7/1/2004	Ra-228	0.39		± 0.37	UJ	0.59	5 (h)	
	7/1/2004	Th-228	0.03		± 0.074	U	0.13		
	7/1/2004	Th-230	0.20		± 0.14	J	0.10		
	7/1/2004	Th-232	0.00		± 0	U	0.06		
	7/1/2004	Total Thorium	0.23						
	7/1/2004	U-234	0.08		± 0.088	UJ	0.05		
	7/1/2004	U-235	0.00		± 0	U	0.07		
	7/1/2004	U-238	0.06		± 0.078	UJ	0.05		
	7/1/2004	Total Uranium	0.14	0.18					30

Table A-11
2004 Groundwater Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result (pCi/L)	Result[a] (μg/L)	Error (pCi/L)	Data Qualifier	MDA (pCi/L)	State/Federal Standards (pCi/L)	State/Federal Standards (ug/L)
B38W25D	7/9/2004	GALPHA	1.35		± 0.86		1.20	15	
(12b-024853)	7/9/2004	GBETA	8.90		± 1.5		1.60	50	
[F4G100110]	7/9/2004	Ra-226	1.00		± 0.26		0.20	5 (h)	
	7/9/2004	Ra-228	1.66		± 0.54		0.76	5 (h)	
	7/9/2004	Th-228	0.04		± 0.094	UJ	0.15		
	7/9/2004	Th-230	0.19		± 0.14	J	0.06		
	7/9/2004	Th-232	0.04		± 0.069	UJ	0.10		
	7/9/2004	Total Thorium	0.27						
	7/9/2004	U-234	0.02		± 0.055	U	0.11		
	7/9/2004	U-235	0.00		± 0		0.10		
	7/9/2004	U-238	0.07		± 0.089	UJ	0.11		
	7/9/2004	Total Uranium	0.09	0.21					30
MISS01B	6/22/2004	GALPHA	5.90		± 2.1		2.50	15	
(12b-024832)	6/22/2004	GBETA	13.80		± 2.4		2.70	50	
[F4F230128]	6/22/2004	Ra-226	0.12		± 0.14	UJ	0.22	5 (h)	
	6/22/2004	Ra-228	0.22		± 0.33	U	0.54	5 (h)	
	6/22/2004	Th-228	0.07		± 0.13	U	0.29		
	6/22/2004	Th-230	0.16		± 0.14	J	0.16		
	6/22/2004	Th-232	0.12		± 0.01	U	0.12		
	6/22/2004	Total Thorium	0.35						
	6/22/2004	U-234	0.63		± 0.26		0.19		
	6/22/2004	U-235	0.03		± 0.078	U	0.14		
	6/22/2004	U-238	0.65		± 0.25		0.14		
	6/22/2004	Total Uranium	1.31	1.93					30
MISS02B	6/18/2004	GALPHA	-0.09		± 2	U	3.60	15	
(12b-024834)	6/18/2004	GBETA	-1.40		± 3.1	U	5.30	50	
[F4F190107]	6/18/2004	Ra-226	0.01		± 0.031	U	0.06	5 (h)	
	6/18/2004	Ra-228	0.07		± 0.19	U	0.32	5 (h)	
	6/18/2004	Th-228	-0.07		± 0.055	R	0.39		
	6/18/2004	Th-230	0.44		0.31	J	0.26		
	6/18/2004	Th-232	0.05		± 0.092	UJ	0.12		
	6/18/2004	Total Thorium	0.41		±				
	6/18/2004	U-234	0.19		± 0.17		0.15		
	6/18/2004	U-235	0.04		0.12	UJ	0.11		
	6/18/2004	U-238	0.26		0.2		0.15		
	6/18/2004	Total Uranium	0.49	0.77					30
MISS05B	6/23/2004	GALPHA	12.00		± 24		40.00	15	
(12b-024836)	6/23/2004	GBETA	501.00		± 57		32.00	50	
[F4F240149	6/23/2004	Ra-226	0.73		± 0.21		0.17	5 (h)	
except for	6/23/2004	Ra-228	0.73		± 0.33	J	0.47	5 (h)	
GA/GB, which are	6/23/2004	Th-228	0.04		± 0.097	R	0.23		
in F4H300117]	6/23/2004	Th-230	0.23		0.17	R	0.13		
	6/23/2004	Th-232	0.00		± 0.011	R	0.13		
	6/23/2004	Total Thorium	0.27		±				
	6/23/2004	U-234	0.12		± 0.13	R	0.16		
	6/23/2004	U-235	0.01		0.073	R	0.16		
	6/23/2004	U-238	0.12		0.13	R	0.14		
	6/23/2004	Total Uranium	0.25	0.36					30

Table A-11
2004 Groundwater Analytical Results - Radioactive Constituents
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte	Result (pCi/L)	Result[a] (µg/L)	Error (pCi/L)	Data Qualifier	MDA (pCi/L)	State/Federal Standards (pCi/L)	State/Federal Standards (ug/L)
MISS07B (12b-024839) [F4F290150 except for GA/GB, which are in F4H300117]	6/28/2004	GALPHA	0.15		± 0.86	U	1.50	15	
	6/28/2004	GBETA	1.70		± 0.82	J	1.30	50	
	6/28/2004	Ra-226	0.18		± 0.17	UJ	0.26	5 (h)	
	6/28/2004	Ra-228	0.37		± 0.38	UJ	0.61	5 (h)	
	6/28/2004	Th-228	0.05		± 0.078	U	0.13		
	6/28/2004	Th-230	0.38		± 0.22	J	0.07		
	6/28/2004	Th-232	0.00		± 0	U	0.07		
	6/28/2004	Total Thorium	0.43						
	6/28/2004	U-234	3.73		± 0.65		0.19		
	6/28/2004	U-235	0.13		± 0.12	J	0.12		
	6/28/2004	U-238	1.94		± 0.45		0.10		
	6/28/2004	Total Uranium	5.80	5.77					30

U = The analyte was not detected.

UJ = Analyte was not detected; estimated value reported. The result is below the MDA or less than the associated error term.

J= Reported as an estimated value. R= Rejected by validation.

[a] Results reported with (±) radiological error quoted at 2 sigma (95 percent confidence level).

[b] USACE data qualifier flags based on the CDQMP-QAPP;

[c] Minimum Detectable Activity (MDA).

[d] Federal and State SDWA standards.

[e] Monitoring wells B38W01S and B38W02D are the background locations for wells that are completed in overburden and bedrock wells respectively.

[f] A quality control duplicate is collected at the same time and location, and is analyzed by the same method in order to evaluate precision in sampling and analysis.

[g] The federal MCL of 50 pCi/L was used as standard to evaluate measured gross beta.

[h] 5 pCi/L is the New Jersey and Federal standard for the combined concentration of Radium-226 and Radium-228 in drinking water.

[I] The NJDEP has established a MCL for total uranium in drinking water of 30 ug/L. The reported U-238 in pCi/L was divided by the specific activity of U-238 (0.3365 pCi/mg) to obtain the total uranium in mg/L and then compared to NJDEP MCL of 30 mg/L.

[j] The gross alpha concentrations were determined by subtracting the total uranium concentrations from the reported gross alpha values.

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations Federal [c] (ug/L)	State [d] (ug/L)
Monitoring Wells Completed in Unconsolidated Sediment:							
B38W01S [e] (12a-024854) [207019 except for Li/Ti which is F4G070143]	7/6/2004	Aluminum, Total	132		60	200	200
	7/6/2004	Antimony, Total	5.4	U	4.6	6	20
	7/6/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/6/2004	Barium, Total	15		0.86	2000	2000
	7/6/2004	Beryllium, Total	1.5		0.64	4	20
	7/6/2004	Boron, Total	238		27		
	7/6/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/6/2004	Calcium, Total	344000		54		
	7/6/2004	Chromium, Total	5.4	U	1.4	100	100
	7/6/2004	Cobalt, Total	1.8	U	1.7		
	7/6/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/6/2004	Iron, Total	24500		53	300	300
	7/6/2004	Lead, Total	3	U	3.6	15	10
	7/6/2004	Lithium, Total	1130	U	50		
	7/6/2004	Magnesium, Total	27900		24		
	7/6/2004	Manganese, Total	2560		2.8	50	50
	7/6/2004	Mercury, Total	0.07	U	0.18	2	2
	7/6/2004	Nickel, Total	7.6		1.8		100
	7/6/2004	Potassium, Total	36900		100		
	7/6/2004	Selenium, Total	5	UJ	5	50	50
	7/6/2004	Silver, Total	1.1	U	0.93	100	30
	7/6/2004	Sodium, Total	37700	J	93		50000
	7/6/2004	Thallium, Total	0.44		2	2	10
	7/6/2004	Vanadium, Total	1.5	U	1		
	7/6/2004	Zinc, Total	11	U	11	5000	5000
B38W14S (19a-024841) [206948 except for Li/Ti which is F4F300133]	6/29/2004	Aluminum, Total	92	U	60	200	200
	6/29/2004	Antimony, Total	5.4	U	4.6	6	20
	6/29/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/29/2004	Barium, Total	108		0.86	2000	2000
	6/29/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/29/2004	Boron, Total	79.9		27		
	6/29/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/29/2004	Calcium, Total	106000		54		
	6/29/2004	Chromium, Total	3.8	U	1.4	100	100
	6/29/2004	Cobalt, Total	1.8	U	1.7		
	6/29/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/29/2004	Iron, Total	54	U	53	300	300
	6/29/2004	Lead, Total	3	U	3.6	15	10
	6/29/2004	Lithium, Total	215		50		
	6/29/2004	Magnesium, Total	30400		24		
	6/29/2004	Manganese, Total	256		2.8	50	50
	6/29/2004	Mercury, Total	0.07	U	0.18	2	2
	6/29/2004	Nickel, Total	7		1.8		100
	6/29/2004	Potassium, Total	6420		100		
	6/29/2004	Selenium, Total	5	UJ	5	50	50
	6/29/2004	Silver, Total	1.1	U	0.93	100	30
	6/29/2004	Sodium, Total	48800		93		50000
	6/29/2004	Thallium, Total	0.44	U	2	2	10
	6/29/2004	Vanadium, Total	2.1		1		
	6/29/2004	Zinc, Total	11.2	J	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
B38W15S (20a-024843) [207019 except for Li/Ti which is F4G010140]	6/30/2004	Aluminum, Total	632		60	200	200
	6/30/2004	Antimony, Total	5.4	U	4.6	6	20
	6/30/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/30/2004	Barium, Total	29.1		0.86	2000	2000
	6/30/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/30/2004	Boron, Total	519		27		
	6/30/2004	Cadmium, Total	2.7		0.94	5	4
	6/30/2004	Calcium, Total	50800		54		
	6/30/2004	Chromium, Total	35.5		1.4	100	100
	6/30/2004	Cobalt, Total	1.8	U	1.7		
	6/30/2004	Copper, Total	97.6		2.6	1300	1000
	6/30/2004	Iron, Total	1370		53	300	300
	6/30/2004	Lead, Total	18.6		3.6	15	10
	6/30/2004	Lithium, Total	1840		50		
	6/30/2004	Magnesium, Total	16400		24		
	6/30/2004	Manganese, Total	1330		2.8	50	50
	6/30/2004	Mercury, Total	0.07	U	0.18	2	2
	6/30/2004	Nickel, Total	31.6		1.8		100
	6/30/2004	Potassium, Total	108000		100		
	6/30/2004	Selenium, Total	5	UJ	5	50	50
	6/30/2004	Silver, Total	1.1	U	0.93	100	30
	6/30/2004	Sodium, Total	213000	J	93		50000
	6/30/2004	Thallium, Total	0.44	U	1	2	10
	6/30/2004	Vanadium, Total	3.5		1		
	6/30/2004	Zinc, Total	35.8	U	11	5000	5000
B38W17A (20a-024845) [206882 except for Li/Tl which is F4F180142]	6/17/2004	Aluminum, Total	92	U	60	200	200
	6/17/2004	Antimony, Total	5.4	U	4.6	6	20
	6/17/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/17/2004	Barium, Total	50.5		0.86	2000	2000
	6/17/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/17/2004	Boron, Total	51.8	J	27		
	6/17/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/17/2004	Calcium, Total	60900		54		
	6/17/2004	Chromium, Total	36.7	J	1.4	100	100
	6/17/2004	Cobalt, Total	2.5	J	1.7		
	6/17/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/17/2004	Iron, Total	725		53	300	300
	6/17/2004	Lead, Total	3	U	3.6	15	10
	6/17/2004	Lithium, Total	280		50		
	6/17/2004	Magnesium, Total	6640		24		
	6/17/2004	Manganese, Total	225		2.8	50	50
	6/17/2004	Mercury, Total	0.07	U	0.18	2	2
	6/17/2004	Nickel, Total	75.7		1.8		100
	6/17/2004	Potassium, Total	19600		100		
	6/17/2004	Selenium, Total	5	UJ	5	50	50
	6/17/2004	Silver, Total	1.1	U	0.93	100	30
	6/17/2004	Sodium, Total	43400		93		50000
	6/17/2004	Thallium, Total	0.44	U	1	2	10
	6/17/2004	Vanadium, Total	1.5	U	1		
	6/17/2004	Zinc, Total	11	U	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
B38W19S	6/25/2004	Aluminum, Total	460	U	60	200	200
(12b-024848)	6/25/2004	Antimony, Total	27	U	4.6	6	20
[206948 except	6/25/2004	Arsenic, Total	19.5	U	3.5	10	8
for Li/Ti which is	6/25/2004	Barium, Total	41.4		0.86	2000	2000
F4F260118]	6/25/2004	Beryllium, Total	2.7	U	0.64	4	20
	6/25/2004	Boron, Total	548		27		
	6/25/2004	Cadmium, Total	5.5	U	0.94	5	4
	6/25/2004	Calcium, Total	667000		54		
	6/25/2004	Chromium, Total	10.6	U	1.4	100	100
	6/25/2004	Cobalt, Total	9	U	1.7		
	6/25/2004	Copper, Total	21.5	U	2.6	1300	1000
	6/25/2004	Iron, Total	5660		53	300	300
	6/25/2004	Lead, Total	15	U	3.6	15	10
	6/25/2004	Lithium, Total	1030		50		
	6/25/2004	Magnesium, Total	26900		24		
	6/25/2004	Manganese, Total	634		2.8	50	50
	6/25/2004	Mercury, Total	0.07	U	0.18	2	2
	6/25/2004	Nickel, Total	9.5	U	1.8		100
	6/25/2004	Potassium, Total	15600		100		
	6/25/2004	Selenium, Total	25	UJ	5	50	50
	6/25/2004	Silver, Total	5.5	U	0.93	100	30
	6/25/2004	Sodium, Total	17300		93		50000
	6/25/2004	Thallium, Total	0.44	U	1	2	10
	6/25/2004	Vanadium, Total	7.5	U	1		
	6/25/2004	Zinc, Total	55	U	11	5000	5000
B38W24S	6/28/2004	Aluminum, Total	92	U	60	200	200
(10a-024850)	6/28/2004	Antimony, Total	5.4	U	4.6	6	20
[206948 except	6/28/2004	Arsenic, Total	3.9	U	3.5	10	8
for Li/Tl which is	6/28/2004	Barium, Total	46		0.86	2000	2000
F4F290150]	6/28/2004	Beryllium, Total	1.1	J	0.64	4	20
	6/28/2004	Boron, Total	98.2		27		
	6/28/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/28/2004	Calcium, Total	35700		54		
	6/28/2004	Chromium, Total	1.6	U	1.4	100	100
	6/28/2004	Cobalt, Total	1.8	U	1.7		
	6/28/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/28/2004	Iron, Total	17700		53	300	300
	6/28/2004	Lead, Total	3	U	3.6	15	10
	6/28/2004	Lithium, Total	35.8	UJ	50		
	6/28/2004	Magnesium, Total	4700		24		
	6/28/2004	Manganese, Total	2070		2.8	50	50
	6/28/2004	Mercury, Total	0.07	U	0.18	2	2
	6/28/2004	Nickel, Total	1.9	U	1.8		100
	6/28/2004	Potassium, Total	6970		100		
	6/28/2004	Selenium, Total	5	UJ	5	50	50
	6/28/2004	Silver, Total	1.1	U	0.93	100	30
	6/28/2004	Sodium, Total	10800		93		50000
	6/28/2004	Thallium, Total	0.44	U	1	2	10
	6/28/2004	Vanadium, Total	1.5	U	1		
	6/28/2004	Zinc, Total	17.3	J	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
MISS01AA (12b-024831) [206882 except for Li/Tl which is F4F220237]	6/21/2004	Aluminum, Total	92	U	60	200	200
	6/21/2004	Antimony, Total	5.4	U	4.6	6	20
	6/21/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/21/2004	Barium, Total	6.9		0.86	2000	2000
	6/21/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/21/2004	Boron, Total	395		27		
	6/21/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/21/2004	Calcium, Total	488000		54		
	6/21/2004	Chromium, Total	4.7	U	1.4	100	100
	6/21/2004	Cobalt, Total	1.8	U	1.7		
	6/21/2004	Copper, Total	4.4	J	2.6	1300	1000
	6/21/2004	Iron, Total	808		53	300	300
	6/21/2004	Lead, Total	3	U	3.6	15	10
	6/21/2004	Lithium, Total	205	R	50		
	6/21/2004	Magnesium, Total	37700		24		
	6/21/2004	Manganese, Total	65.3		2.8	50	50
	6/21/2004	Mercury, Total	0.07	U	0.18	2	2
	6/21/2004	Nickel, Total	3.4	J	1.8		100
	6/21/2004	Potassium, Total	1290		100		
	6/21/2004	Selenium, Total	5	UJ	5	50	50
	6/21/2004	Silver, Total	1.1	U	0.93	100	30
	6/21/2004	Sodium, Total	6530		93		50000
	6/21/2004	Thallium, Total	0.92	R	1	2	10
	6/21/2004	Vanadium, Total	4.8		1		
	6/21/2004	Zinc, Total	12.6	J	11	5000	5000
MISS02A (12b-024833) [206882 except for Li/Tl which is F4F190107]	6/18/2004	Aluminum, Total	149		60	200	200
	6/18/2004	Antimony, Total	5.4	U	4.6	6	20
	6/18/2004	Arsenic, Total	2740		3.5	10	8
	6/18/2004	Barium, Total	4.1		0.86	2000	2000
	6/18/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/18/2004	Boron, Total	1150		27		
	6/18/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/18/2004	Calcium, Total	169000		54		
	6/18/2004	Chromium, Total	11.9	J	1.4	100	100
	6/18/2004	Cobalt, Total	1.8	U	1.7		
	6/18/2004	Copper, Total	29.9		2.6	1300	1000
	6/18/2004	Iron, Total	2410		53	300	300
	6/18/2004	Lead, Total	5.6	J	3.6	15	10
	6/18/2004	Lithium, Total	10700		50		
	6/18/2004	Magnesium, Total	17900		24		
	6/18/2004	Manganese, Total	262		2.8	50	50
	6/18/2004	Mercury, Total	0.43		0.18	2	2
	6/18/2004	Nickel, Total	11.9		1.8		100
	6/18/2004	Potassium, Total	7370		100		
	6/18/2004	Selenium, Total	5	UJ	5	50	50
	6/18/2004	Silver, Total	1.1	U	0.93	100	30
	6/18/2004	Sodium, Total	214000		93		50000
	6/18/2004	Thallium, Total	0.44	U	1	2	10
	6/18/2004	Vanadium, Total	1.5	U	1		
	6/18/2004	Zinc, Total	11	U	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
MISS05A (12b-024835) [206948 except for Li/Tl which F4F250191]	6/24/2004	Aluminum, Total	3970		60	200	200
	6/24/2004	Antimony, Total	27	U	4.6	6	20
	6/24/2004	Arsenic, Total	108		3.5	10	8
	6/24/2004	Barium, Total	41.8		0.86	2000	2000
	6/24/2004	Beryllium, Total	2.9	J	0.64	4	20
	6/24/2004	Boron, Total	368		27		
	6/24/2004	Cadmium, Total	5.5	U	0.94	5	4
	6/24/2004	Calcium, Total	619000		54		
	6/24/2004	Chromium, Total	18.7		1.4	100	100
	6/24/2004	Cobalt, Total	22.5		1.7		
	6/24/2004	Copper, Total	36.5		2.6	1300	1000
	6/24/2004	Iron, Total	61300		53	300	300
	6/24/2004	Lead, Total	33.7		3.6	15	10
	6/24/2004	Lithium, Total	804		50		
	6/24/2004	Magnesium, Total	49400		24		
	6/24/2004	Manganese, Total	1340		2.8	50	50
	6/24/2004	Mercury, Total	0.07	U	0.18	2	2
	6/24/2004	Nickel, Total	15.3	J	1.8		100
	6/24/2004	Potassium, Total	43500		100		
	6/24/2004	Selenium, Total	25	UJ	5	50	50
	6/24/2004	Silver, Total	5.5	U	0.93	100	30
	6/24/2004	Sodium, Total	19600		93		50000
	6/24/2004	Thallium, Total	0.52	U	1	2	10
	6/24/2004	Vanadium, Total	60.4		1		
	6/24/2004	Zinc, Total	72	J	11	5000	5000
MISS07A (12b-024838) [207019 except for Li/Tl which is F4G100110]	6/30/2004	Aluminum, Total	2270		60	200	200
	6/30/2004	Antimony, Total	5.4	U	4.6	6	20
	6/30/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/30/2004	Barium, Total	83.7		0.86	2000	2000
	6/30/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/30/2004	Boron, Total	48.1	J	27		
	6/30/2004	Cadmium, Total	1.6	J	0.94	5	4
	6/30/2004	Calcium, Total	67800		54		
	6/30/2004	Chromium, Total	6.2	U	1.4	100	100
	6/30/2004	Cobalt, Total	1.8	U	1.7		
	6/30/2004	Copper, Total	6.9		2.6	1300	1000
	6/30/2004	Iron, Total	2200		53	300	300
	6/30/2004	Lead, Total	11.2		3.6	15	10
	6/30/2004	Lithium, Total	236		50		
	6/30/2004	Magnesium, Total	4630		24		
	6/30/2004	Manganese, Total	81.7		2.8	50	50
	6/30/2004	Mercury, Total	0.07	U	0.18	2	2
	6/30/2004	Nickel, Total	3	J	1.8		100
	6/30/2004	Potassium, Total	3560		100		
	6/30/2004	Selenium, Total	5	UJ	5	50	50
	6/30/2004	Silver, Total	1.1	U	0.93	100	30
	6/30/2004	Sodium, Total	20400	J	93		50000
	6/30/2004	Thallium, Total	0.44	U	1	2	10
	6/30/2004	Vanadium, Total	4.1		1		
	6/30/2004	Zinc, Total	33.1	U	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations Federal [c] (ug/L)	Related Regulations State [d] (ug/L)
Monitoring Wells Completed in Bedrock							
B38W02D [e]	7/6/2004	Aluminum, Total	95.4	J	60	200	200
(12b-024840)	7/6/2004	Antimony, Total	5.4	U	4.6	6	20
[207019 except	7/6/2004	Arsenic, Total	3.9	U	3.5	10	8
for Li/Tl which is	7/6/2004	Barium, Total	345		0.86	2000	2000
F4G070143]	7/6/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/6/2004	Boron, Total	27	U	27		
	7/6/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/6/2004	Calcium, Total	90100		54		
	7/6/2004	Chromium, Total	70.4		1.4	100	100
	7/6/2004	Cobalt, Total	1.8	U	1.7		
	7/6/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/6/2004	Iron, Total	217		53	300	300
	7/6/2004	Lead, Total	3	U	3.6	15	10
	7/6/2004	Lithium, Total	10.3	U	50		
	7/6/2004	Magnesium, Total	4690		24		
	7/6/2004	Manganese, Total	1040		2.8	50	50
	7/6/2004	Mercury, Total	0.07	U	0.18	2	2
	7/6/2004	Nickel, Total	10.9		1.8		100
	7/6/2004	Potassium, Total	761		100		
	7/6/2004	Selenium, Total	5	UJ	5	50	50
	7/6/2004	Silver, Total	1.1	U	0.93	100	30
	7/6/2004	Sodium, Total	9800	J	93		50000
	7/6/2004	Thallium, Total	0.76	U	2	2	10
	7/6/2004	Vanadium, Total	1.5	U	1		
	7/6/2004	Zinc, Total	11	U	11	5000	5000
B38W14D	6/29/2004	Aluminum, Total	1560		60	200	200
(19a-024842)	6/29/2004	Antimony, Total	5.4	U	4.6	6	20
[206948 except	6/29/2004	Arsenic, Total	3.9	U	3.5	10	8
for Li/Tl which is	6/29/2004	Barium, Total	171		0.86	2000	2000
F4F300133]	6/29/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/29/2004	Boron, Total	61.9		27		
	6/29/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/29/2004	Calcium, Total	139000		54		
	6/29/2004	Chromium, Total	8.2	U	1.4	100	100
	6/29/2004	Cobalt, Total	1.8	U	1.7		
	6/29/2004	Copper, Total	6		2.6	1300	1000
	6/29/2004	Iron, Total	1260		53	300	300
	6/29/2004	Lead, Total	3	U	3.6	15	10
	6/29/2004	Lithium, Total	26.2	UJ	50		
	6/29/2004	Magnesium, Total	34300		24		
	6/29/2004	Manganese, Total	60.7		2.8	50	50
	6/29/2004	Mercury, Total	0.07	U	0.18	2	2
	6/29/2004	Nickel, Total	8.4		1.8		100
	6/29/2004	Potassium, Total	3500		100		
	6/29/2004	Selenium, Total	5	UJ	5	50	50
	6/29/2004	Silver, Total	1.1	U	0.93	100	30
	6/29/2004	Sodium, Total	47600		93		50000
	6/29/2004	Thallium, Total	0.44	U	2	2	10
	6/29/2004	Vanadium, Total	2.7		1		
	6/29/2004	Zinc, Total	13.2	J	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
B38W15D (20a-024844) [207019 except for Li/Tl which is F4G010140]	6/30/2004	Aluminum, Total	92	U	60	200	200
	6/30/2004	Antimony, Total	5.4	U	4.6	6	20
	6/30/2004	Arsenic, Total	7.4		3.5	10	8
	6/30/2004	Barium, Total	16.4		0.86	2000	2000
	6/30/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/30/2004	Boron, Total	477		27		
	6/30/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/30/2004	Calcium, Total	69100		54		
	6/30/2004	Chromium, Total	2.2	U	1.4	100	100
	6/30/2004	Cobalt, Total	2.2	J	1.7		
	6/30/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/30/2004	Iron, Total	54	U	53	300	300
	6/30/2004	Lead, Total	3	U	3.6	15	10
	6/30/2004	Lithium, Total	2420		50		
	6/30/2004	Magnesium, Total	26200		24		
	6/30/2004	Manganese, Total	698		2.8	50	50
	6/30/2004	Mercury, Total	0.07	U	0.18	2	2
	6/30/2004	Nickel, Total	9.7		1.8		100
	6/30/2004	Potassium, Total	43300		100		
	6/30/2004	Selenium, Total	5	UJ	5	50	50
	6/30/2004	Silver, Total	1.1	U	0.93	100	30
	6/30/2004	Sodium, Total	256000	J	93		50000
	6/30/2004	Thallium, Total	0.44	U	1	2	10
	6/30/2004	Vanadium, Total	2.8		1		
	6/30/2004	Zinc, Total	17.7	U	11	5000	5000
B38W15D Duplicate (20a-024918) [207019 except for Li/Tl which is F4G010140]	6/30/2004	Aluminum, Total	92	U	60	200	200
	6/30/2004	Antimony, Total	5.4	U	4.6	6	20
	6/30/2004	Arsenic, Total	5.6	J	3.5	10	8
	6/30/2004	Barium, Total	18		0.86	2000	2000
	6/30/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/30/2004	Boron, Total	486		27		
	6/30/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/30/2004	Calcium, Total	70300		54		
	6/30/2004	Chromium, Total	2.3	U	1.4	100	100
	6/30/2004	Cobalt, Total	2	J	1.7		
	6/30/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/30/2004	Iron, Total	54	U	53	300	300
	6/30/2004	Lead, Total	3	U	3.6	15	10
	6/30/2004	Lithium, Total	2400		50		
	6/30/2004	Magnesium, Total	26700		24		
	6/30/2004	Manganese, Total	703		2.8	50	50
	6/30/2004	Mercury, Total	0.07	U	0.18	2	2
	6/30/2004	Nickel, Total	6.9		1.8		100
	6/30/2004	Potassium, Total	44700		100		
	6/30/2004	Selenium, Total	5	UJ	5	50	50
	6/30/2004	Silver, Total	1.1	U	0.93	100	30
	6/30/2004	Sodium, Total	264000	J	93		50000
	6/30/2004	Thallium, Total	0.44		2	2	10
	6/30/2004	Vanadium, Total	2.9	U	1		
	6/30/2004	Zinc, Total	13.1	U	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
B38W17B (20a-024846) [206882 except for Li/Tl which is F4F180161]	6/16/2004	Aluminum, Total	92	U	60	200	200
	6/16/2004	Antimony, Total	5.4	U	4.6	6	20
	6/16/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/16/2004	Barium, Total	61.5		0.86	2000	2000
	6/16/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/16/2004	Boron, Total	300		27		
	6/16/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/16/2004	Calcium, Total	200000		54		
	6/16/2004	Chromium, Total	1.3	U	1.4	100	100
	6/16/2004	Cobalt, Total	1.8	U	1.7		
	6/16/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/16/2004	Iron, Total	5540		53	300	300
	6/16/2004	Lead, Total	3	U	3.6	15	10
	6/16/2004	Lithium, Total	1930		50		
	6/16/2004	Magnesium, Total	20700		24		
	6/16/2004	Manganese, Total	3510		2.8	50	50
	6/16/2004	Mercury, Total	0.07	U	0.18	2	2
	6/16/2004	Nickel, Total	2.7	J	1.8		100
	6/16/2004	Potassium, Total	99200		100		
	6/16/2004	Selenium, Total	5	UJ	5	50	50
	6/16/2004	Silver, Total	1.1	U	0.93	100	30
	6/16/2004	Sodium, Total	156000		93		50000
	6/16/2004	Thallium, Total	0.44	U	1	2	10
	6/16/2004	Vanadium, Total	1.5	U	1		
	6/16/2004	Zinc, Total	11	U	11	5000	5000
B38W18D (12b-024847) [206882 except for Li/Tl which is F4F230128]	6/22/2004	Aluminum, Total	404		60	200	200
	6/22/2004	Antimony, Total	5.4	U	4.6	6	20
	6/22/2004	Arsenic, Total	9.7		3.5	10	8
	6/22/2004	Barium, Total	26.9		0.86	2000	2000
	6/22/2004	Beryllium, Total	0.96	J	0.64	4	20
	6/22/2004	Boron, Total	345		27		
	6/22/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/22/2004	Calcium, Total	223000		54		
	6/22/2004	Chromium, Total	56.2	J	1.4	100	100
	6/22/2004	Cobalt, Total	19.9		1.7		
	6/22/2004	Copper, Total	7.6		2.6	1300	1000
	6/22/2004	Iron, Total	20400		53	300	300
	6/22/2004	Lead, Total	3.6	J	3.6	15	10
	6/22/2004	Lithium, Total	3200	R	50		
	6/22/2004	Magnesium, Total	19200		24		
	6/22/2004	Manganese, Total	4950		2.8	50	50
	6/22/2004	Mercury, Total	0.07	U	0.18	2	2
	6/22/2004	Nickel, Total	43		1.8		100
	6/22/2004	Potassium, Total	9690		100		
	6/22/2004	Selenium, Total	5	UJ	5	50	50
	6/22/2004	Silver, Total	1.1	U	0.93	100	30
	6/22/2004	Sodium, Total	81600		93		50000
	6/22/2004	Thallium, Total	0.92	R	1	2	10
	6/22/2004	Vanadium, Total	1.5	U	1		
	6/22/2004	Zinc, Total	128		11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
B38W18D Duplicate (12b-024900) [206882 except for Li/Tl which is F4F230128]	6/22/2004	Aluminum, Total	257		60	200	200
	6/22/2004	Antimony, Total	5.4	U	4.6	6	20
	6/22/2004	Arsenic, Total	7.7		3.5	10	8
	6/22/2004	Barium, Total	24.7		0.86	2000	2000
	6/22/2004	Beryllium, Total	0.87	J	0.64	4	20
	6/22/2004	Boron, Total	320		27		
	6/22/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/22/2004	Calcium, Total	208000		54		
	6/22/2004	Chromium, Total	41.6	J	1.4	100	100
	6/22/2004	Cobalt, Total	18.2		1.7		
	6/22/2004	Copper, Total	6.2		2.6	1300	1000
	6/22/2004	Iron, Total	18700		53	300	300
	6/22/2004	Lead, Total	3	U	3.6	15	10
	6/22/2004	Lithium, Total	3170	R	50		
	6/22/2004	Magnesium, Total	17900		24		
	6/22/2004	Manganese, Total	4640		2.8	50	50
	6/22/2004	Mercury, Total	0.07	U	0.18	2	2
	6/22/2004	Nickel, Total	36.4		1.8		100
	6/22/2004	Potassium, Total	9010		100		
	6/22/2004	Selenium, Total	5	UJ	5	50	50
	6/22/2004	Silver, Total	1.1	U	0.93	100	30
	6/22/2004	Sodium, Total	75900		93		50000
	6/22/2004	Thallium, Total	0.92	R	2	2	10
	6/22/2004	Vanadium, Total	1.5	U	1		
	6/22/2004	Zinc, Total	113		11	5000	5000
B38W19D (12b-024849) [206948 except for Lt/Tl which is F4F250191]	6/24/2004	Aluminum, Total	460	U	60	200	200
	6/24/2004	Antimony, Total	27	U	4.6	6	20
	6/24/2004	Arsenic, Total	41.1		3.5	10	8
	6/24/2004	Barium, Total	36.6		0.86	2000	2000
	6/24/2004	Beryllium, Total	2.7	U	0.64	4	20
	6/24/2004	Boron, Total	1240		27		
	6/24/2004	Cadmium, Total	5.5	U	0.94	5	4
	6/24/2004	Calcium, Total	313000		54		
	6/24/2004	Chromium, Total	6.5	U	1.4	100	100
	6/24/2004	Cobalt, Total	9	U	1.7		
	6/24/2004	Copper, Total	21.5	U	2.6	1300	1000
	6/24/2004	Iron, Total	4770		53	300	300
	6/24/2004	Lead, Total	15	U	3.6	15	10
	6/24/2004	Lithium, Total	5300		50		
	6/24/2004	Magnesium, Total	48600		24		
	6/24/2004	Manganese, Total	3450		2.8	50	50
	6/24/2004	Mercury, Total	0.07	U	0.18	2	2
	6/24/2004	Nickel, Total	9.5	U	1.8		100
	6/24/2004	Potassium, Total	393000		100		
	6/24/2004	Selenium, Total	25	UJ	5	50	50
	6/24/2004	Silver, Total	5.5	U	0.93	100	30
	6/24/2004	Sodium, Total	359000		93		50000
	6/24/2004	Thallium, Total	0.44	U	1	2	10
	6/24/2004	Vanadium, Total	7.5	U	1		
	6/24/2004	Zinc, Total	55	U	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
B38W24D (10a-024851) [207019 except for Li/Tl which is F4G020121]	7/1/2004	Aluminum, Total	92	U	60	200	200
	7/1/2004	Antimony, Total	5.4	U	4.6	6	20
	7/1/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/1/2004	Barium, Total	53.4		0.86	2000	2000
	7/1/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/1/2004	Boron, Total	89.5		27		
	7/1/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/1/2004	Calcium, Total	86400		54		
	7/1/2004	Chromium, Total	1.6	U	1.4	100	100
	7/1/2004	Cobalt, Total	1.8	U	1.7		
	7/1/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/1/2004	Iron, Total	25300		53	300	300
	7/1/2004	Lead, Total	3	U	3.6	15	10
	7/1/2004	Lithium, Total	39.9	U	50		
	7/1/2004	Magnesium, Total	9660		24		
	7/1/2004	Manganese, Total	4820		2.8	50	50
	7/1/2004	Mercury, Total	0.07	U	0.18	2	2
	7/1/2004	Nickel, Total	1.9	U	1.8		100
	7/1/2004	Potassium, Total	10900		100		
	7/1/2004	Selenium, Total	5	UJ	5	50	50
	7/1/2004	Silver, Total	1.1	U	0.93	100	30
	7/1/2004	Sodium, Total	27500	J	93		50000
	7/1/2004	Thallium, Total	0.44	U	1	2	10
	7/1/2004	Vanadium, Total	1.5	U	1		
	7/1/2004	Zinc, Total	11	U	11	5000	5000
B38W25D (12b-024853) [207019 except for Li/Tl which is F4G100110]	7/9/2004	Aluminum, Total	92	U	60	200	200
	7/9/2004	Antimony, Total	5.4	U	4.6	6	20
	7/9/2004	Arsenic, Total	3.9	U	3.5	10	8
	7/9/2004	Barium, Total	237		0.86	2000	2000
	7/9/2004	Beryllium, Total	0.54	U	0.64	4	20
	7/9/2004	Boron, Total	113		27		
	7/9/2004	Cadmium, Total	1.1	U	0.94	5	4
	7/9/2004	Calcium, Total	323000		54		
	7/9/2004	Chromium, Total	6.3	U	1.4	100	100
	7/9/2004	Cobalt, Total	1.8	U	1.7		
	7/9/2004	Copper, Total	4.3	U	2.6	1300	1000
	7/9/2004	Iron, Total	18000		53	300	300
	7/9/2004	Lead, Total	3	U	3.6	15	10
	7/9/2004	Lithium, Total	1090		50		
	7/9/2004	Magnesium, Total	17200		24		
	7/9/2004	Manganese, Total	4230		2.8	50	50
	7/9/2004	Mercury, Total	0.07	U	0.18	2	2
	7/9/2004	Nickel, Total	3.9		1.8		100
	7/9/2004	Potassium, Total	108000		100		
	7/9/2004	Selenium, Total	5	UJ	5	50	50
	7/9/2004	Silver, Total	1.1	U	0.93	100	30
	7/9/2004	Sodium, Total	232000	J	93		50000
	7/9/2004	Thallium, Total	0.44	U	1	2	10
	7/9/2004	Vanadium, Total	1.5	U	1		
	7/9/2004	Zinc, Total	11	U	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations Federal [c] (ug/L)	State [d] (ug/L)
MISS01B (12b-024832) [206882 except for Li/Tl which is F4F230128]	6/22/2004	Aluminum, Total	92	U	60	200	200
	6/22/2004	Antimony, Total	5.4	U	4.6	6	20
	6/22/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/22/2004	Barium, Total	92.4		0.86	2000	2000
	6/22/2004	Beryllium, Total	0.54	U	0.64	4	20
	6/22/2004	Boron, Total	75		27		
	6/22/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/22/2004	Calcium, Total	98900		54		
	6/22/2004	Chromium, Total	2.6	U	1.4	100	100
	6/22/2004	Cobalt, Total	1.8	U	1.7		
	6/22/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/22/2004	Iron, Total	3970		53	300	300
	6/22/2004	Lead, Total	3	U	3.6	15	10
	6/22/2004	Lithium, Total	94.2	R	50		
	6/22/2004	Magnesium, Total	18700		24		
	6/22/2004	Manganese, Total	425		2.8	50	50
	6/22/2004	Mercury, Total	0.07	U	0.18	2	2
	6/22/2004	Nickel, Total	3.5		1.8		100
	6/22/2004	Potassium, Total	18500		100		
	6/22/2004	Selenium, Total	5	UJ	5	50	50
	6/22/2004	Silver, Total	1.1	U	0.93	100	30
	6/22/2004	Sodium, Total	59600		93		50000
	6/22/2004	Thallium, Total	0.92	R	1	2	10
	6/22/2004	Vanadium, Total	4.7		1		
	6/22/2004	Zinc, Total	11	U	11	5000	5000
MISS02B (12b-024834) [206882 except for Li/Tl which is F4F190107]	6/18/2004	Aluminum, Total	92	U	60	200	200
	6/18/2004	Antimony, Total	5.4	U	4.6	6	20
	6/18/2004	Arsenic, Total	3.9	U	3.5	10	8
	6/18/2004	Barium, Total	11.5		0.86	2000	2000
	6/18/2004	Beryllium, Total	0.74	J	0.64	4	20
	6/18/2004	Boron, Total	1050		27		
	6/18/2004	Cadmium, Total	1.1	U	0.94	5	4
	6/18/2004	Calcium, Total	256000		54		
	6/18/2004	Chromium, Total	16	J	1.4	100	100
	6/18/2004	Cobalt, Total	9.4	U	1.7		
	6/18/2004	Copper, Total	4.3	U	2.6	1300	1000
	6/18/2004	Iron, Total	13000		53	300	300
	6/18/2004	Lead, Total	3	U	3.6	15	10
	6/18/2004	Lithium, Total	8260		50		
	6/18/2004	Magnesium, Total	34600		24		
	6/18/2004	Manganese, Total	4270		2.8	50	50
	6/18/2004	Mercury, Total	0.07	U	0.18	2	2
	6/18/2004	Nickel, Total	12		1.8		100
	6/18/2004	Potassium, Total	73200		100		
	6/18/2004	Selenium, Total	5	UJ	5	50	50
	6/18/2004	Silver, Total	1.1	U	0.93	100	30
	6/18/2004	Sodium, Total	217000		93		50000
	6/18/2004	Thallium, Total	0.44	U	1	2	10
	6/18/2004	Vanadium, Total	1.8	J	1		
	6/18/2004	Zinc, Total	11	U	11	5000	5000

Table A-12
2004 Groundwater Analytical Results - Metals
Maywood Interim Storage Site

Sampling Location (Sample ID) [SDG Number]	Date Collected	Detected Analyte [a]	Result (ug/L)	Data Qualifiers [b]	Reporting Limit (ug/L)	Related Regulations	
						Federal [c] (ug/L)	State [d] (ug/L)
MISS05B (12b-024836) [206948 except for Li/Tl which is F4F240149]	6/23/2004	Aluminum, Total	460	U	60	200	200
	6/23/2004	Antimony, Total	27	U	4.6	6	20
	6/23/2004	Arsenic, Total	19.5	U	3.5	10	8
	6/23/2004	Barium, Total	412		0.86	2000	2000
	6/23/2004	Beryllium, Total	2.7	U	0.64	4	20
	6/23/2004	Boron, Total	1880		27		
	6/23/2004	Cadmium, Total	5.5	U	0.94	5	4
	6/23/2004	Calcium, Total	721000		54		
	6/23/2004	Chromium, Total	6.5	U	1.4	100	100
	6/23/2004	Cobalt, Total	9	U	1.7		
	6/23/2004	Copper, Total	21.5	U	2.6	1300	1000
	6/23/2004	Iron, Total	7290		53	300	300
	6/23/2004	Lead, Total	15	U	3.6	15	10
	6/23/2004	Lithium, Total	10200		50		
	6/23/2004	Magnesium, Total	236000		24		
	6/23/2004	Manganese, Total	8890		2.8	50	50
	6/23/2004	Mercury, Total	0.07	U	0.18	2	2
	6/23/2004	Nickel, Total	9.5	U	1.8		100
	6/23/2004	Potassium, Total	606000		100		
	6/23/2004	Selenium, Total	25	UJ	5	50	50
	6/23/2004	Silver, Total	5.5	U	0.93	100	30
	6/23/2004	Sodium, Total	1460000		93		50000
	6/23/2004	Thallium, Total	0.44	U	1	2	10
	6/23/2004	Vanadium, Total	7.5	U	1		
	6/23/2004	Zinc, Total	55	U	11	5000	5000
MISS07B (12b-024839) [206948 except for Li/Tl which is F4F290150]	6/28/2004	Aluminum, Total	460	U	60	200	200
	6/28/2004	Antimony, Total	27	U	4.6	6	20
	6/28/2004	Arsenic, Total	70.5		3.5	10	8
	6/28/2004	Barium, Total	15.1		0.86	2000	2000
	6/28/2004	Beryllium, Total	2.7	U	0.64	4	20
	6/28/2004	Boron, Total	1370		27		
	6/28/2004	Cadmium, Total	5.5	U	0.94	5	4
	6/28/2004	Calcium, Total	200000		54		
	6/28/2004	Chromium, Total	7	U	1.4	100	100
	6/28/2004	Cobalt, Total	9	U	1.7		
	6/28/2004	Copper, Total	21.5	U	2.6	1300	1000
	6/28/2004	Iron, Total	19200		53	300	300
	6/28/2004	Lead, Total	15	U	3.6	15	10
	6/28/2004	Lithium, Total	6880		50		
	6/28/2004	Magnesium, Total	64700		24		
	6/28/2004	Manganese, Total	3490		2.8	50	50
	6/28/2004	Mercury, Total	0.07	U	0.18	2	2
	6/28/2004	Nickel, Total	15.5	J	1.8		100
	6/28/2004	Potassium, Total	34600		100		
	6/28/2004	Selenium, Total	25	U	5	50	50
	6/28/2004	Silver, Total	5.5	U	0.93	100	30
	6/28/2004	Sodium, Total	1130000		93		50000
	6/28/2004	Thallium, Total	0.44	U	1	2	10
	6/28/2004	Vanadium, Total	27.8		1		
	6/28/2004	Zinc, Total	55	U	11	5000	5000

[a] All analytes were reported, detected and undetected.

[b] USACE data qualifier flags based on the CDQMP-QAPP: J = Reported as an estimated value, U= analyte was not detectec

[c] Federal SDWA MCLs, 40 CFR 141. Regulations pertain to drinking water quality and are listed for comparison purposes only.

[d] New Jersey Class IIA Groundwater Quality Standards NJAC 7:9-6. The higher of the the Practical Quantitation Level and Groundwater Quality Criteria is noted.

[e] Monitoring wells B38W01S and B38W02D are the background locations for wells completed in overburden and bedrock wells respectively.

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (μg/L)	Date Qualifiers [b]	Reporting Limit (μg/L)	Related Regulation Federal [c] (μg/L)	Related Regulation State [d] (μg/L)
Monitoring Wells Completed in Unconsolidated Sediment:							
B38W01S [e] (12a-024854) [207019]	7/6/2004	1,1,1-Trichloroethane (TCA)	0.2	U	0.1	200	30
	7/6/2004	1,1,2,2-Tetrachloroethane	0.4	U	0.2		10
	7/6/2004	1,1,2-Trichloroethane	0.6	U	0.1	5	3
	7/6/2004	1,1-Dichloroethane (1,1-DCA)	0.2	U	0.08		50
	7/6/2004	1,1-Dichloroethene (1,1-DCE)	0.2	U	0.3	7	2
	7/6/2004	1,2-Dichloroethane (1,2-DCA)	0.6	U	0.2	5	2
	7/6/2004	1,2-Dichloropropane	0.2	U	0.1	5	1
	7/6/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	7/6/2004	2-Hexanone	0.4	UJ	0.9		
	7/6/2004	4-Methyl-2-pentanone (MIBK)	0.2	UJ	0.4		400
	7/6/2004	Acetone	1	UJ	1		700
	7/6/2004	Benzene	0.1	U	0.08	5	1
	7/6/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.2	U	0.1	80	1
	7/6/2004	Bromoform	0.4	U	0.1	80	4
	7/6/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.6	UJ	0.2		10
	7/6/2004	Carbon disulfide	0.1	U	0.1		800
	7/6/2004	Carbon tetrachloride	0.4	U	0.08	5	2
	7/6/2004	Chlorobenzene (Monochlorobenzene)	0.2	UJ	0.06	100	50
	7/6/2004	Chloroethane	0.2	UJ	0.2		
	7/6/2004	Chloroform	0.2	U	0.1	80	6
	7/6/2004	Chloromethane (Methyl Chloride)	0.4	UJ	0.3		30
	7/6/2004	cis-1,2-Dichloroethene	0.2	U	0.08	70	70
	7/6/2004	cis-1,3-Dichloropropene	0.2	U	0.1		
	7/6/2004	Dibromochloromethane (Chlorodibromomethane)	0.2	U	0.1		10
	7/6/2004	Ethylbenzene	0.2	U	0.06	700	700
	7/6/2004	Methylene Chloride	0.4	UJ	0.2	5	3
	7/6/2004	Styrene	0.2	U	0.1	100	100
	7/6/2004	Tetrachloroethene (PCE)	0.4	U	0.1	5	1
	7/6/2004	Toluene	0.2	U	0.04	1000	1000
	7/6/2004	Total Xylene	0.8	UJ	0.1	10000	1000
	7/6/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	7/6/2004	trans-1,3-Dichloropropene	0.4	UJ	0.2		
	7/6/2004	Trichloroethene (TCE)	0.2	U	0.08	5	1
	7/6/2004	Vinyl chloride	0.4	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W14S (19a-024841) [206948]	6/29/2004	1,1,1-Trichloroethane (TCA)	1	U	0.1	200	30
	6/29/2004	1,1,2,2-Tetrachloroethane	2	U	0.2		10
	6/29/2004	1,1,2-Trichloroethane	1	UJ	0.1	5	3
	6/29/2004	1,1-Dichloroethane (1,1-DCA)	0.8	U	0.08		50
	6/29/2004	1,1-Dichloroethene (1,1-DCE)	3	U	0.3	7	2
	6/29/2004	1,2-Dichloroethane (1,2-DCA)	2	UJ	0.2	5	2
	6/29/2004	1,2-Dichloropropane	1	U	0.1	5	1
	6/29/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	15	UJ	2		300
	6/29/2004	2-Hexanone	9	UJ	0.9		
	6/29/2004	4-Methyl-2-pentanone (MIBK)	4	UJ	0.4		400
	6/29/2004	Acetone	12	UJ	1		700
	6/29/2004	Benzene	0.8	U	0.08	5	1
	6/29/2004	Bromodichloromethane (Dichlorobrobromomethane)	1	U	0.1	80	1
	6/29/2004	Bromoform	1	UJ	0.1	80	4
	6/29/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	2	R	0.2		10
	6/29/2004	Carbon disulfide	1	U	0.1		800
	6/29/2004	Carbon tetrachloride	0.8	UJ	0.08	5	2
	6/29/2004	Chlorobenzene (Monochlorobenzene)	0.6	UJ	0.06	100	50
	6/29/2004	Chloroethane	2	U	0.2		
	6/29/2004	Chloroform	1	U	0.1	80	6
	6/29/2004	Chloromethane (Methyl Chloride)	3	U	0.3		30
	6/29/2004	cis-1,2-Dichloroethene	14		0.08	70	70
	6/29/2004	cis-1,3-Dichloropropene	1	U	0.1		
	6/29/2004	Dibromochloromethane (Chlorodibromomethane)	1	U	0.1		10
	6/29/2004	Ethylbenzene	0.6	UJ	0.06	700	700
	6/29/2004	Methylene Chloride	2	UJ	0.2	5	3
	6/29/2004	Styrene	1	U	0.1	100	100
	6/29/2004	Tetrachloroethene (PCE)	85		0.1	5	1
	6/29/2004	Toluene	0.4	UJ	0.04	1000	1000
	6/29/2004	Total Xylene	1	UJ	0.1	10000	1000
	6/29/2004	trans-1,2-Dichloroethene	2	U	0.2	100	100
	6/29/2004	trans-1,3-Dichloropropene	2	U	0.2		
	6/29/2004	Trichloroethene (TCE)	15		0.08	5	1
	6/29/2004	Vinyl chloride	2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W15S (20a-024843) [207019]	6/30/2004	1,1,1-Trichloroethane (TCA)	0.2	J	0.1	200	30
	6/30/2004	1,1,2,2-Tetrachloroethane	0.4	U	0.2		10
	6/30/2004	1,1,2-Trichloroethane	0.6	U	0.1	5	3
	6/30/2004	1,1-Dichloroethane (1,1-DCA)	2		0.08		50
	6/30/2004	1,1-Dichloroethene (1,1-DCE)	0.4	J	0.3	7	2
	6/30/2004	1,2-Dichloroethane (1,2-DCA)	0.6	U	0.2	5	2
	6/30/2004	1,2-Dichloropropane	0.4		0.1	5	1
	6/30/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/30/2004	2-Hexanone	0.4	UJ	0.9		
	6/30/2004	4-Methyl-2-pentanone (MIBK)	0.2	UJ	0.4		400
	6/30/2004	Acetone	3	UJ	1		700
	6/30/2004	Benzene	0.1	U	0.08	5	1
	6/30/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.2	U	0.1	80	1
	6/30/2004	Bromoform	0.4	U	0.1	80	4
	6/30/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.6	R	0.2		10
	6/30/2004	Carbon disulfide	0.1	U	0.1		800
	6/30/2004	Carbon tetrachloride	0.4	U	0.08	5	2
	6/30/2004	Chlorobenzene (Monochlorobenzene)	0.2	UJ	0.06	100	50
	6/30/2004	Chloroethane	0.2	U	0.2		
	6/30/2004	Chloroform	0.2	U	0.1	80	6
	6/30/2004	Chloromethane (Methyl Chloride)	0.4	U	0.3		30
	6/30/2004	cis-1,2-Dichloroethene	8		0.08	70	70
	6/30/2004	cis-1,3-Dichloropropene	0.2	U	0.1		
	6/30/2004	Dibromochloromethane (Chlorodibromomethane)	0.2	U	0.1		10
	6/30/2004	Ethylbenzene	0.2	U	0.06	700	700
	6/30/2004	Methylene Chloride	0.4	UJ	0.2	5	3
	6/30/2004	Styrene	0.2	U	0.1	100	100
	6/30/2004	Tetrachloroethene (PCE)	2	U	0.1	5	1
	6/30/2004	Toluene	0.2	U	0.04	1000	1000
	6/30/2004	Total Xylene	0.8	UJ	0.1	10000	1000
	6/30/2004	trans-1,2-Dichloroethene	6		0.2	100	100
	6/30/2004	trans-1,3-Dichloropropene	0.4	U	0.2		
	6/30/2004	Trichloroethene (TCE)	2		0.08	5	1
	6/30/2004	Vinyl chloride	11	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W17A (20a-024845) [206882]	6/17/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/17/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/17/2004	1,1,2-Trichloroethane	0.1	U	0.1	5	3
	6/17/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/17/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/17/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.2	5	2
	6/17/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/17/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/17/2004	2-Hexanone	0.9	UJ	0.9		
	6/17/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/17/2004	Acetone	1	UJ	1		700
	6/17/2004	Benzene	0.08	U	0.08	5	1
	6/17/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/17/2004	Bromoform	0.1	U	0.1	80	4
	6/17/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	UJ	0.2		10
	6/17/2004	Carbon disulfide	0.1	U	0.1		800
	6/17/2004	Carbon tetrachloride	0.08	U	0.08	5	2
	6/17/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/17/2004	Chloroethane	0.2	U	0.2		
	6/17/2004	Chloroform	0.1	U	0.1	80	6
	6/17/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/17/2004	cis-1,2-Dichloroethene	0.08	U	0.08	70	70
	6/17/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/17/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/17/2004	Ethylbenzene	0.06	U	0.06	700	700
	6/17/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/17/2004	Styrene	0.1	U	0.1	100	100
	6/17/2004	Tetrachloroethene (PCE)	0.1	U	0.1	5	1
	6/17/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/17/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/17/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/17/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/17/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/17/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W19S (12b-024848) [206948]	6/25/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/25/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/25/2004	1,1,2-Trichloroethane	0.1	UJ	0.1	5	3
	6/25/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/25/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/25/2004	1,2-Dichloroethane (1,2-DCA)	0.2	UJ	0.2	5	2
	6/25/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/25/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/25/2004	2-Hexanone	0.9	UJ	0.9		
	6/25/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/25/2004	Acetone	1	UJ	1		700
	6/25/2004	Benzene	0.08	U	0.08	5	1
	6/25/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/25/2004	Bromoform	0.1	UJ	0.1	80	4
	6/25/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	R	0.2		10
	6/25/2004	Carbon disulfide	0.1	U	0.1		800
	6/25/2004	Carbon tetrachloride	0.08	UJ	0.08	5	2
	6/25/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/25/2004	Chloroethane	0.2	U	0.2		
	6/25/2004	Chloroform	0.1	U	0.1	80	6
	6/25/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/25/2004	cis-1,2-Dichloroethene	0.08	UJ	0.08	70	70
	6/25/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/25/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/25/2004	Ethylbenzene	0.06	UJ	0.06	700	700
	6/25/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/25/2004	Styrene	0.1	U	0.1	100	100
	6/25/2004	Tetrachloroethene (PCE)	0.1	UJ	0.1	5	1
	6/25/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/25/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/25/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/25/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/25/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/25/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W24S (10a-024850) [206948]	6/28/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/28/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/28/2004	1,1,2-Trichloroethane	0.1	UJ	0.1	5	3
	6/28/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/28/2004	1,1-Dichloroethene (1,1-DCE)	0.3	UJ	0.3	7	2
	6/28/2004	1,2-Dichloroethane (1,2-DCA)	0.2	UJ	0.2	5	2
	6/28/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/28/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	R	2		300
	6/28/2004	2-Hexanone	0.9	UJ	0.9		
	6/28/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/28/2004	Acetone	1	UJ	1		700
	6/28/2004	Benzene	0.08	U	0.08	5	1
	6/28/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/28/2004	Bromoform	0.1	UJ	0.1	80	4
	6/28/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	R	0.2		10
	6/28/2004	Carbon disulfide	0.1	U	0.1		800
	6/28/2004	Carbon tetrachloride	0.08	UJ	0.08	5	2
	6/28/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/28/2004	Chloroethane	0.2	U	0.2		
	6/28/2004	Chloroform	0.1	UJ	0.1	80	6
	6/28/2004	Chloromethane (Methyl Chloride)	0.3	UJ	0.3		30
	6/28/2004	cis-1,2-Dichloroethene	0.08	UJ	0.08	70	70
	6/28/2004	cis-1,3-Dichloropropene	0.1	UJ	0.1		
	6/28/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/28/2004	Ethylbenzene	0.06	UJ	0.06	700	700
	6/28/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/28/2004	Styrene	0.1	U	0.1	100	100
	6/28/2004	Tetrachloroethene (PCE)	0.1	UJ	0.1	5	1
	6/28/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/28/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/28/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/28/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/28/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/28/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS01AA (12b-024831) [206882]	6/21/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/21/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/21/2004	1,1,2-Trichloroethane	0.1	U	0.1	5	3
	6/21/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/21/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/21/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.2	5	2
	6/21/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/21/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/21/2004	2-Hexanone	0.9	UJ	0.9		
	6/21/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/21/2004	Acetone	4	UJ	1		700
	6/21/2004	Benzene	0.08	U	0.08	5	1
	6/21/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/21/2004	Bromoform	0.1	U	0.1	80	4
	6/21/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	UJ	0.2		10
	6/21/2004	Carbon disulfide	0.1	U	0.1		800
	6/21/2004	Carbon tetrachloride	0.08	U	0.08	5	2
	6/21/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/21/2004	Chloroethane	0.2	U	0.2		
	6/21/2004	Chloroform	0.1	U	0.1	80	6
	6/21/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/21/2004	cis-1,2-Dichloroethene	0.08	U	0.08	70	70
	6/21/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/21/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/21/2004	Ethylbenzene	0.06	U	0.06	700	700
	6/21/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/21/2004	Styrene	0.1	U	0.1	100	100
	6/21/2004	Tetrachloroethene (PCE)	0.1	U	0.1	5	1
	6/21/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/21/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/21/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/21/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/21/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/21/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS02A (12b-024833) [206882]	6/18/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/18/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/18/2004	1,1,2-Trichloroethane	0.1	U	0.1	5	3
	6/18/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/18/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/18/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.2	5	2
	6/18/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/18/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/18/2004	2-Hexanone	0.9	UJ	0.9		
	6/18/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/18/2004	Acetone	2	UJ	1		700
	6/18/2004	Benzene	0.08	U	0.08	5	1
	6/18/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/18/2004	Bromoform	0.1	U	0.1	80	4
	6/18/2004	Bromomethane (Methly Bromomethane or Methyl Bromide)	0.2	UJ	0.2		10
	6/18/2004	Carbon disulfide	0.1	U	0.1		800
	6/18/2004	Carbon tetrachloride	0.08	U	0.08	5	2
	6/18/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/18/2004	Chloroethane	0.2	U	0.2		
	6/18/2004	Chloroform	0.1	U	0.1	80	6
	6/18/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/18/2004	cis-1,2-Dichloroethene	0.08	U	0.08	70	70
	6/18/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/18/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/18/2004	Ethylbenzene	0.06	U	0.06	700	700
	6/18/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/18/2004	Styrene	0.1	U	0.1	100	100
	6/18/2004	Tetrachloroethene (PCE)	0.1	U	0.1	5	1
	6/18/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/18/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/18/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/18/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/18/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/18/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS05A (12b-024835) [206948]	6/24/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/24/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/24/2004	1,1,2-Trichloroethane	0.1	UJ	0.1	5	3
	6/24/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/24/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/24/2004	1,2-Dichloroethane (1,2-DCA)	0.2	UJ	0.2	5	2
	6/24/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/24/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/24/2004	2-Hexanone	0.9	UJ	0.9		
	6/24/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/24/2004	Acetone	6	UJ	1		700
	6/24/2004	Benzene	0.08	U	0.08	5	1
	6/24/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/24/2004	Bromoform	0.1	UJ	0.1	80	4
	6/24/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	R	0.2		10
	6/24/2004	Carbon disulfide	0.1	U	0.1		800
	6/24/2004	Carbon tetrachloride	0.08	UJ	0.08	5	2
	6/24/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/24/2004	Chloroethane	0.2	U	0.2		
	6/24/2004	Chloroform	0.1	U	0.1	80	6
	6/24/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/24/2004	cis-1,2-Dichloroethene	0.08	UJ	0.08	70	70
	6/24/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/24/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/24/2004	Ethylbenzene	0.06	UJ	0.06	700	700
	6/24/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/24/2004	Styrene	0.1	U	0.1	100	100
	6/24/2004	Tetrachloroethene (PCE)	0.1	UJ	0.1	5	1
	6/24/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/24/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/24/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/24/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/24/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/24/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS07A (12b-024838) [207019]	6/30/2004	1,1,1-Trichloroethane (TCA)	0.2	U	0.1	200	30
	6/30/2004	1,1,2,2-Tetrachloroethane	0.4	U	0.2		10
	6/30/2004	1,1,2-Trichloroethane	0.6	U	0.1	5	3
	6/30/2004	1,1-Dichloroethane (1,1-DCA)	0.2	U	0.08		50
	6/30/2004	1,1-Dichloroethene (1,1-DCE)	0.2	U	0.3	7	2
	6/30/2004	1,2-Dichloroethane (1,2-DCA)	0.6	U	0.2	5	2
	6/30/2004	1,2-Dichloropropane	0.2	U	0.1	5	1
	6/30/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	3	R	2		300
	6/30/2004	2-Hexanone	0.4	UJ	0.9		
	6/30/2004	4-Methyl-2-pentanone (MIBK)	0.2	UJ	0.4		400
	6/30/2004	Acetone	1	R	1		700
	6/30/2004	Benzene	0.1	U	0.08	5	1
	6/30/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.2	U	0.1	80	1
	6/30/2004	Bromoform	0.4	U	0.1	80	4
	6/30/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.6	R	0.2		10
	6/30/2004	Carbon disulfide	0.1	U	0.1		800
	6/30/2004	Carbon tetrachloride	0.4	U	0.08	5	2
	6/30/2004	Chlorobenzene (Monochlorobenzene)	0.2	UJ	0.06	100	50
	6/30/2004	Chloroethane	0.2	U	0.2		
	6/30/2004	Chloroform	0.2	U	0.1	80	6
	6/30/2004	Chloromethane (Methyl Chloride)	0.4	UJ	0.3		30
	6/30/2004	cis-1,2-Dichloroethene	0.2	U	0.08	70	70
	6/30/2004	cis-1,3-Dichloropropene	0.2	U	0.1		
	6/30/2004	Dibromochloromethane (Chlorodibromomethane)	0.2	U	0.1		10
	6/30/2004	Ethylbenzene	0.2	U	0.06	700	700
	6/30/2004	Methylene Chloride	0.4	UJ	0.2	5	3
	6/30/2004	Styrene	0.2	U	0.1	100	100
	6/30/2004	Tetrachloroethene (PCE)	0.4	U	0.1	5	1
	6/30/2004	Toluene	0.2	U	0.04	1000	1000
	6/30/2004	Total Xylene	0.8	UJ	0.1	10000	1000
	6/30/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/30/2004	trans-1,3-Dichloropropene	0.4	U	0.2		
	6/30/2004	Trichloroethene (TCE)	0.2	U	0.08	5	1
	6/30/2004	Vinyl chloride	0.4	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
Monitorng Wells Completed in Bedrock:							
B38W02D (12a-024840) [207019]	7/6/2004	1,1,1-Trichloroethane (TCA)	0.2	U	0.1	200	30
	7/6/2004	1,1,2,2-Tetrachloroethane	0.4	U	0.2		10
	7/6/2004	1,1,2-Trichloroethane	0.6	U	0.1	5	3
	7/6/2004	1,1-Dichloroethane (1,1-DCA)	0.2	U	0.08		50
	7/6/2004	1,1-Dichloroethene (1,1-DCE)	0.2	R	0.3	7	2
	7/6/2004	1,2-Dichloroethane (1,2-DCA)	0.6	U	0.2	5	2
	7/6/2004	1,2-Dichloropropane	0.2	U	0.1	5	1
	7/6/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	7/6/2004	2-Hexanone	0.4	UJ	0.9		
	7/6/2004	4-Methyl-2-pentanone (MIBK)	0.2	UJ	0.4		400
	7/6/2004	Acetone	2	UJ	1		700
	7/6/2004	Benzene	0.1	U	0.08	5	1
	7/6/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.2	U	0.1	80	1
	7/6/2004	Bromoform	0.4	U	0.1	80	4
	7/6/2004	Bromomethane (Methly Bromomethane or Methyl Bromide)	0.6	UJ	0.2		10
	7/6/2004	Carbon disulfide	0.1	R	0.1		800
	7/6/2004	Carbon tetrachloride	0.4	U	0.08	5	2
	7/6/2004	Chlorobenzene (Monochlorobenzene)	0.2	UJ	0.06	100	50
	7/6/2004	Chloroethane	0.2	R	0.2		
	7/6/2004	Chloroform	0.2	U	0.1	80	6
	7/6/2004	Chloromethane (Methyl Chloride)	0.4	UJ	0.3		30
	7/6/2004	cis-1,2-Dichloroethene	0.2	U	0.08	70	70
	7/6/2004	cis-1,3-Dichloropropene	0.2	U	0.1		
	7/6/2004	Dibromochloromethane (Chlorodibromomethane)	0.2	U	0.1		10
	7/6/2004	Ethylbenzene	0.2	U	0.06	700	700
	7/6/2004	Methylene Chloride	0.4	UJ	0.2	5	3
	7/6/2004	Styrene	0.2	U	0.1	100	100
	7/6/2004	Tetrachloroethene (PCE)	0.4	U	0.1	5	1
	7/6/2004	Toluene	0.2	U	0.04	1000	1000
	7/6/2004	Total Xylene	0.8	UJ	0.1	10000	1000
	7/6/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	7/6/2004	trans-1,3-Dichloropropene	0.4	UJ	0.2		
	7/6/2004	Trichloroethene (TCE)	0.2	U	0.08	5	1
	7/6/2004	Vinyl chloride	0.4	R	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W14D (19a-024842) [206948]	6/29/2004	1,1,1-Trichloroethane (TCA)	5	U	0.1	200	30
	6/29/2004	1,1,2,2-Tetrachloroethane	9	U	0.2		10
	6/29/2004	1,1,2-Trichloroethane	5	UJ	0.1	5	3
	6/29/2004	1,1-Dichloroethane (1,1-DCA)	4	U	0.08		50
	6/29/2004	1,1-Dichloroethene (1,1-DCE)	14	U	0.3	7	2
	6/29/2004	1,2-Dichloroethane (1,2-DCA)	8	UJ	0.2	5	2
	6/29/2004	1,2-Dichloropropane	7	U	0.1	5	1
	6/29/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	68	UJ	2		300
	6/29/2004	2-Hexanone	45	UJ	0.9		
	6/29/2004	4-Methyl-2-pentanone (MIBK)	19	UJ	0.4		400
	6/29/2004	Acetone	93	UJ	1		700
	6/29/2004	Benzene	4	U	0.08	5	1
	6/29/2004	Bromodichloromethane (Dichlorobrobromomethane)	5	U	0.1	80	1
	6/29/2004	Bromoform	5	UJ	0.1	80	4
	6/29/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	9	R	0.2		10
	6/29/2004	Carbon disulfide	5	U	0.1		800
	6/29/2004	Carbon tetrachloride	4	UJ	0.08	5	2
	6/29/2004	Chlorobenzene (Monochlorobenzene)	3	UJ	0.06	100	50
	6/29/2004	Chloroethane	12	U	0.2		
	6/29/2004	Chloroform	6		0.1	80	6
	6/29/2004	Chloromethane (Methyl Chloride)	13	U	0.3		30
	6/29/2004	cis-1,2-Dichloroethene	62		0.08	70	70
	6/29/2004	cis-1,3-Dichloropropene	5	U	0.1		
	6/29/2004	Dibromochloromethane (Chlorodibromomethane)	5	U	0.1		10
	6/29/2004	Ethylbenzene	3	UJ	0.06	700	700
	6/29/2004	Methylene Chloride	16	UJ	0.2	5	3
	6/29/2004	Styrene	5	U	0.1	100	100
	6/29/2004	Tetrachloroethene (PCE)	450		0.1	5	1
	6/29/2004	Toluene	2	UJ	0.04	1000	1000
	6/29/2004	Total Xylene	7	UJ	0.1	10000	1000
	6/29/2004	trans-1,2-Dichloroethene	10	U	0.2	100	100
	6/29/2004	trans-1,3-Dichloropropene	8	U	0.2		
	6/29/2004	Trichloroethene (TCE)	83		0.08	5	1
	6/29/2004	Vinyl chloride	10	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W15D (20a-024844) [207019]	6/30/2004	1,1,1-Trichloroethane (TCA)	4	U	0.1	200	30
	6/30/2004	1,1,2,2-Tetrachloroethane	8	U	0.2		10
	6/30/2004	1,1,2-Trichloroethane	12	U	0.1	5	3
	6/30/2004	1,1-Dichloroethane (1,1-DCA)	3	U	0.08		50
	6/30/2004	1,1-Dichloroethene (1,1-DCE)	5		0.3	7	2
	6/30/2004	1,2-Dichloroethane (1,2-DCA)	12	U	0.2	5	2
	6/30/2004	1,2-Dichloropropane	4	U	0.1	5	1
	6/30/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	32	R	2		300
	6/30/2004	2-Hexanone	8	UJ	0.9		
	6/30/2004	4-Methyl-2-pentanone (MIBK)	4	UJ	0.4		400
	6/30/2004	Acetone	28	R	1		700
	6/30/2004	Benzene	2	U	0.08	5	1
	6/30/2004	Bromodichloromethane (Dichlorobrobromomethane)	3	U	0.1	80	1
	6/30/2004	Bromoform	8	U	0.1	80	4
	6/30/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	12	R	0.2		10
	6/30/2004	Carbon disulfide	3	U	0.1		800
	6/30/2004	Carbon tetrachloride	8	U	0.08	5	2
	6/30/2004	Chlorobenzene (Monochlorobenzene)	4	UJ	0.06	100	50
	6/30/2004	Chloroethane	4	U	0.2		
	6/30/2004	Chloroform	3	U	0.1	80	6
	6/30/2004	Chloromethane (Methyl Chloride)	8	UJ	0.3		30
	6/30/2004	cis-1,2-Dichloroethene	58		0.08	70	70
	6/30/2004	cis-1,3-Dichloropropene	4	U	0.1		
	6/30/2004	Dibromochloromethane (Chlorodibromomethane)	4	U	0.1		10
	6/30/2004	Ethylbenzene	4	U	0.06	700	700
	6/30/2004	Methylene Chloride	12	UJ	0.2	5	3
	6/30/2004	Styrene	4	U	0.1	100	100
	6/30/2004	Tetrachloroethene (PCE)	570		0.1	5	1
	6/30/2004	Toluene	4	U	0.04	1000	1000
	6/30/2004	Total Xylene	16	UJ	0.1	10000	1000
	6/30/2004	trans-1,2-Dichloroethene	14		0.2	100	100
	6/30/2004	trans-1,3-Dichloropropene	8	U	0.2		
	6/30/2004	Trichloroethene (TCE)	95		0.08	5	1
	6/30/2004	Vinyl chloride	8	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W15D Duplicate (20a-024918) [207019]	6/30/2004	1,1,1-Trichloroethane (TCA)	4	U	0.1	200	30
	6/30/2004	1,1,2,2-Tetrachloroethane	8	U	0.2		10
	6/30/2004	1,1,2-Trichloroethane	12	UJ	0.1	5	3
	6/30/2004	1,1-Dichloroethane (1,1-DCA)	3	U	0.08		50
	6/30/2004	1,1-Dichloroethene (1,1-DCE)	5		0.3	7	2
	6/30/2004	1,2-Dichloroethane (1,2-DCA)	12	U	0.2	5	2
	6/30/2004	1,2-Dichloropropane	4	U	0.1	5	1
	6/30/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	32	UJ	2		300
	6/30/2004	2-Hexanone	8	UJ	0.9		
	6/30/2004	4-Methyl-2-pentanone (MIBK)	4	UJ	0.4		400
	6/30/2004	Acetone	36	UJ	1		700
	6/30/2004	Benzene	2	U	0.08	5	1
	6/30/2004	Bromodichloromethane (Dichlorobrobromomethane)	3	U	0.1	80	1
	6/30/2004	Bromoform	8	U	0.1	80	4
	6/30/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	12	R	0.2		10
	6/30/2004	Carbon disulfide	3	U	0.1		800
	6/30/2004	Carbon tetrachloride	8	U	0.08	5	2
	6/30/2004	Chlorobenzene (Monochlorobenzene)	4	UJ	0.06	100	50
	6/30/2004	Chloroethane	4	U	0.2		
	6/30/2004	Chloroform	3	U	0.1	80	6
	6/30/2004	Chloromethane (Methyl Chloride)	8	U	0.3		30
	6/30/2004	cis-1,2-Dichloroethene	59		0.08	70	70
	6/30/2004	cis-1,3-Dichloropropene	4	U	0.1		
	6/30/2004	Dibromochloromethane (Chlorodibromomethane)	4	U	0.1		10
	6/30/2004	Ethylbenzene	4	U	0.06	700	700
	6/30/2004	Methylene Chloride	7	UJ	0.2	5	3
	6/30/2004	Styrene	4	U	0.1	100	100
	6/30/2004	Tetrachloroethene (PCE)	520		0.1	5	1
	6/30/2004	Toluene	2	J	0.04	1000	1000
	6/30/2004	Total Xylene	16	UJ	0.1	10000	1000
	6/30/2004	trans-1,2-Dichloroethene	16		0.2	100	100
	6/30/2004	trans-1,3-Dichloropropene	8	U	0.2		
	6/30/2004	Trichloroethene (TCE)	87		0.08	5	1
	6/30/2004	Vinyl chloride	8	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W17B (20a-024846) [206882]	6/16/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/16/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/16/2004	1,1,2-Trichloroethane	0.1	U	0.1	5	3
	6/16/2004	1,1-Dichloroethane (1,1-DCA)	0.1		0.08		50
	6/16/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/16/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.2	5	2
	6/16/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/16/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/16/2004	2-Hexanone	0.9	UJ	0.9		
	6/16/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/16/2004	Acetone	4	UJ	1		700
	6/16/2004	Benzene	0.08	U	0.08	5	1
	6/16/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/16/2004	Bromoform	0.1	U	0.1	80	4
	6/16/2004	Bromomethane (Methly Bromomethane or Methyl Bromide)	0.2	UJ	0.2		10
	6/16/2004	Carbon disulfide	0.1	U	0.1		800
	6/16/2004	Carbon tetrachloride	0.08	U	0.08	5	2
	6/16/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/16/2004	Chloroethane	0.2	U	0.2		
	6/16/2004	Chloroform	0.1	U	0.1	80	6
	6/16/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/16/2004	cis-1,2-Dichloroethene	0.8		0.08	70	70
	6/16/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/16/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/16/2004	Ethylbenzene	0.06	U	0.06	700	700
	6/16/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/16/2004	Styrene	0.1	U	0.1	100	100
	6/16/2004	Tetrachloroethene (PCE)	0.2		0.1	5	1
	6/16/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/16/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/16/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/16/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/16/2004	Trichloroethene (TCE)	0.3	UJ	0.08	5	1
	6/16/2004	Vinyl chloride	0.5		0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W18D (12b-024847) [206882]	6/22/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.2	200	30
	6/22/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.1		10
	6/22/2004	1,1,2-Trichloroethane	0.1	U	0.08	5	3
	6/22/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.3		50
	6/22/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.2	7	2
	6/22/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.1	5	2
	6/22/2004	1,2-Dichloropropane	0.1	U	2	5	1
	6/22/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	0.9		300
	6/22/2004	2-Hexanone	0.9	UJ	0.4		
	6/22/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	1		400
	6/22/2004	Acetone	1	UJ	0.08		700
	6/22/2004	Benzene	0.08	U	0.1	5	1
	6/22/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/22/2004	Bromoform	0.1	U	0.2	80	4
	6/22/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	UJ	0.1		10
	6/22/2004	Carbon disulfide	0.1	U	0.08		800
	6/22/2004	Carbon tetrachloride	0.08	U	0.06	5	2
	6/22/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.2	100	50
	6/22/2004	Chloroethane	0.2	U	0.1		
	6/22/2004	Chloroform	0.1	U	0.3	80	6
	6/22/2004	Chloromethane (Methyl Chloride)	0.3	U	0.08		30
	6/22/2004	cis-1,2-Dichloroethene	0.08	U	0.1	70	70
	6/22/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/22/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.06		10
	6/22/2004	Ethylbenzene	0.06	U	0.2	700	700
	6/22/2004	Methylene Chloride	0.2	UJ	0.1	5	3
	6/22/2004	Styrene	0.1	U	0.1	100	100
	6/22/2004	Tetrachloroethene (PCE)	0.1	U	0.04	5	1
	6/22/2004	Toluene	0.04	UJ	0.1	1000	1000
	6/22/2004	Total Xylene	0.1	UJ	0.2	10000	1000
	6/22/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/22/2004	trans-1,3-Dichloropropene	0.2	U	0.08		
	6/22/2004	Trichloroethene (TCE)	0.08	UJ	0.2	5	1
	6/22/2004	Vinyl chloride	0.2	U	0.1	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W18D Duplicate (12b-024900) [206882]	6/22/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.2	200	30
	6/22/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.1		10
	6/22/2004	1,1,2-Trichloroethane	0.1	U	0.08	5	3
	6/22/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.3		50
	6/22/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.2	7	2
	6/22/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.1	5	2
	6/22/2004	1,2-Dichloropropane	0.1	U	2	5	1
	6/22/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	0.9		300
	6/22/2004	2-Hexanone	0.9	UJ	0.4		
	6/22/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	1		400
	6/22/2004	Acetone	1	UJ	0.08		700
	6/22/2004	Benzene	0.08	U	0.1	5	1
	6/22/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/22/2004	Bromoform	0.1	U	0.2	80	4
	6/22/2004	Bromomethane (Methly Bromomethane or Methyl Bromide)	0.2	UJ	0.1		10
	6/22/2004	Carbon disulfide	0.1	U	0.08		800
	6/22/2004	Carbon tetrachloride	0.08	U	0.06	5	2
	6/22/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.2	100	50
	6/22/2004	Chloroethane	0.2	U	0.1		
	6/22/2004	Chloroform	0.1	U	0.3	80	6
	6/22/2004	Chloromethane (Methyl Chloride)	0.3	U	0.08		30
	6/22/2004	cis-1,2-Dichloroethene	0.08	U	0.1	70	70
	6/22/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/22/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.06		10
	6/22/2004	Ethylbenzene	0.06	U	0.2	700	700
	6/22/2004	Methylene Chloride	0.2	UJ	0.1	5	3
	6/22/2004	Styrene	0.1	U	0.1	100	100
	6/22/2004	Tetrachloroethene (PCE)	0.1	U	0.04	5	1
	6/22/2004	Toluene	0.04	UJ	0.1	1000	1000
	6/22/2004	Total Xylene	0.1	UJ	0.2	10000	1000
	6/22/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/22/2004	trans-1,3-Dichloropropene	0.2	U	0.08		
	6/22/2004	Trichloroethene (TCE)	0.08	UJ	0.2	5	1
	6/22/2004	Vinyl chloride	0.2	U	0.1	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W19D (12b-024849) [206948]	6/24/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/24/2004	1,1,2-Trichloroethane	0.1	UJ	0.1	5	3
	6/24/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/24/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/24/2004	1,2-Dichloroethane (1,2-DCA)	0.2	UJ	0.2	5	2
	6/24/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/24/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/24/2004	2-Hexanone	0.9	UJ	0.9		
	6/24/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/24/2004	Acetone	1	UJ	1		700
	6/24/2004	Benzene	0.08	U	0.08	5	1
	6/24/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/24/2004	Bromoform	0.1	UJ	0.1	80	4
	6/24/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	R	0.2		10
	6/24/2004	Carbon disulfide	0.1	U	0.1		800
	6/24/2004	Carbon tetrachloride	0.08	UJ	0.08	5	2
	6/24/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/24/2004	Chloroethane	0.2	U	0.2		
	6/24/2004	Chloroform	0.1	U	0.1		6
	6/24/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/24/2004	cis-1,2-Dichloroethene	0.2	J	0.08	70	70
	6/24/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/24/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/24/2004	Ethylbenzene	0.06	UJ	0.06	700	700
	6/24/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/24/2004	Styrene	0.1	U	0.1	100	100
	6/24/2004	Tetrachloroethene (PCE)	0.1	UJ	0.1	5	1
	6/24/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/24/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/24/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/24/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/24/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/24/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W24D (10a-024851) [207019]	7/1/2004	1,1,1-Trichloroethane (TCA)	0.2	U	0.1	200	30
	7/1/2004	1,1,2,2-Tetrachloroethane	0.4	U	0.2		10
	7/1/2004	1,1,2-Trichloroethane	0.6	UJ	0.1	5	3
	7/1/2004	1,1-Dichloroethane (1,1-DCA)	0.2	U	0.08		50
	7/1/2004	1,1-Dichloroethene (1,1-DCE)	0.2	U	0.3	7	2
	7/1/2004	1,2-Dichloroethane (1,2-DCA)	0.6	U	0.2	5	2
	7/1/2004	1,2-Dichloropropane	0.2	U	0.1	5	1
	7/1/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	7/1/2004	2-Hexanone	0.4	UJ	0.9		
	7/1/2004	4-Methyl-2-pentanone (MIBK)	0.2	UJ	0.4		400
	7/1/2004	Acetone	7	UJ	1		700
	7/1/2004	Benzene	0.1	U	0.08	5	1
	7/1/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.2	U	0.1	80	1
	7/1/2004	Bromoform	0.4	U	0.1	80	4
	7/1/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.6	R	0.2		10
	7/1/2004	Carbon disulfide	0.1	U	0.1		800
	7/1/2004	Carbon tetrachloride	0.4	U	0.08	5	2
	7/1/2004	Chlorobenzene (Monochlorobenzene)	0.2	UJ	0.06	100	50
	7/1/2004	Chloroethane	0.2	U	0.2		
	7/1/2004	Chloroform	0.2	U	0.1	80	6
	7/1/2004	Chloromethane (Methyl Chloride)	0.4	U	0.3		30
	7/1/2004	cis-1,2-Dichloroethene	0.2		0.08	70	70
	7/1/2004	cis-1,3-Dichloropropene	0.2	U	0.1		
	7/1/2004	Dibromochloromethane (Chlorodibromomethane)	0.2	U	0.1		10
	7/1/2004	Ethylbenzene	0.2	U	0.06	700	700
	7/1/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	7/1/2004	Styrene	0.2	U	0.1	100	100
	7/1/2004	Tetrachloroethene (PCE)	0.4	U	0.1	5	1
	7/1/2004	Toluene	0.2	U	0.04	1000	1000
	7/1/2004	Total Xylene	0.8	UJ	0.1	10000	1000
	7/1/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	7/1/2004	trans-1,3-Dichloropropene	0.4	U	0.2		
	7/1/2004	Trichloroethene (TCE)	0.2	U	0.08	5	1
	7/1/2004	Vinyl chloride	0.4	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
B38W25D (12b-024853) [207019]	7/9/2004	1,1,1-Trichloroethane (TCA)	0.2	U	0.1	200	30
	7/9/2004	1,1,2,2-Tetrachloroethane	0.4	U	0.2		10
	7/9/2004	1,1,2-Trichloroethane	0.6	U	0.1	5	3
	7/9/2004	1,1-Dichloroethane (1,1-DCA)	0.2	U	0.08		50
	7/9/2004	1,1-Dichloroethene (1,1-DCE)	0.2	U	0.3	7	2
	7/9/2004	1,2-Dichloroethane (1,2-DCA)	0.6	U	0.2	5	2
	7/9/2004	1,2-Dichloropropane	0.2	U	0.1	5	1
	7/9/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	7/9/2004	2-Hexanone	0.4	UJ	0.9		
	7/9/2004	4-Methyl-2-pentanone (MIBK)	0.2	UJ	0.4		400
	7/9/2004	Acetone	3	UJ	1		700
	7/9/2004	Benzene	0.4		0.08	5	1
	7/9/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.2	U	0.1	80	1
	7/9/2004	Bromoform	0.4	U	0.1	80	4
	7/9/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.6	UJ	0.2		10
	7/9/2004	Carbon disulfide	0.1	U	0.1		800
	7/9/2004	Carbon tetrachloride	0.4	U	0.08	5	2
	7/9/2004	Chlorobenzene (Monochlorobenzene)	0.2	UJ	0.06	100	50
	7/9/2004	Chloroethane	0.2	UJ	0.2		
	7/9/2004	Chloroform	0.2		0.1	80	6
	7/9/2004	Chloromethane (Methyl Chloride)	0.4	UJ	0.3		30
	7/9/2004	cis-1,2-Dichloroethene	0.2	U	0.08	70	70
	7/9/2004	cis-1,3-Dichloropropene	0.2	U	0.1		
	7/9/2004	Dibromochloromethane (Chlorodibromomethane)	0.2	U	0.1		10
	7/9/2004	Ethylbenzene	0.2	U	0.06	700	700
	7/9/2004	Methylene Chloride	0.4	UJ	0.2	5	3
	7/9/2004	Styrene	0.2	U	0.1	100	100
	7/9/2004	Tetrachloroethene (PCE)	0.4	U	0.1	5	1
	7/9/2004	Toluene	0.2	U	0.04	1000	1000
	7/9/2004	Total Xylene	0.8	UJ	0.1	10000	1000
	7/9/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	7/9/2004	trans-1,3-Dichloropropene	0.4	UJ	0.2		
	7/9/2004	Trichloroethene (TCE)	0.2	U	0.08	5	1
	7/9/2004	Vinyl chloride	0.4	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS01B (12b-024832) [206882]	6/22/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
	6/22/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
	6/22/2004	1,1,2-Trichloroethane	0.1	U	0.1	5	3
	6/22/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/22/2004	1,1-Dichloroethene (1,1-DCE)	0.2	J	0.3	7	2
	6/22/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.2	5	2
	6/22/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/22/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	R	2		300
	6/22/2004	2-Hexanone	0.9	UJ	0.9		
	6/22/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/22/2004	Acetone	1	UJ	1		700
	6/22/2004	Benzene	0.08	U	0.08	5	1
	6/22/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/22/2004	Bromoform	0.1	U	0.1	80	4
	6/22/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	UJ	0.2		10
	6/22/2004	Carbon disulfide	0.1	U	0.1		800
	6/22/2004	Carbon tetrachloride	0.08	U	0.08	5	2
	6/22/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/22/2004	Chloroethane	0.2	U	0.2		
	6/22/2004	Chloroform	0.5		0.1	80	6
	6/22/2004	Chloromethane (Methyl Chloride)	0.3	UJ	0.3		30
	6/22/2004	cis-1,2-Dichloroethene	12		0.08	70	70
	6/22/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/22/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/22/2004	Ethylbenzene	0.06	U	0.06	700	700
	6/22/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/22/2004	Styrene	0.1	U	0.1	100	100
	6/22/2004	Tetrachloroethene (PCE)	16		0.1	5	1
	6/22/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/22/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/22/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/22/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/22/2004	Trichloroethene (TCE)	2	UJ	0.08	5	1
	6/22/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS02B	6/18/2004	1,1,1-Trichloroethane (TCA)	0.1	U	0.1	200	30
(12b-024834)	6/18/2004	1,1,2,2-Tetrachloroethane	0.2	U	0.2		10
[206882]	6/18/2004	1,1,2-Trichloroethane	0.1	U	0.1	5	3
	6/18/2004	1,1-Dichloroethane (1,1-DCA)	0.08	U	0.08		50
	6/18/2004	1,1-Dichloroethene (1,1-DCE)	0.3	U	0.3	7	2
	6/18/2004	1,2-Dichloroethane (1,2-DCA)	0.2	U	0.2	5	2
	6/18/2004	1,2-Dichloropropane	0.1	U	0.1	5	1
	6/18/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	2	UJ	2		300
	6/18/2004	2-Hexanone	0.9	UJ	0.9		
	6/18/2004	4-Methyl-2-pentanone (MIBK)	0.4	UJ	0.4		400
	6/18/2004	Acetone	2	UJ	1		700
	6/18/2004	Benzene	0.08	U	0.08	5	1
	6/18/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.1	U	0.1	80	1
	6/18/2004	Bromoform	0.1	U	0.1	80	4
	6/18/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.2	UJ	0.2		10
	6/18/2004	Carbon disulfide	0.1	U	0.1		800
	6/18/2004	Carbon tetrachloride	0.08	U	0.08	5	2
	6/18/2004	Chlorobenzene (Monochlorobenzene)	0.06	UJ	0.06	100	50
	6/18/2004	Chloroethane	0.2	U	0.2		
	6/18/2004	Chloroform	0.1	U	0.1	80	6
	6/18/2004	Chloromethane (Methyl Chloride)	0.3	U	0.3		30
	6/18/2004	cis-1,2-Dichloroethene	0.08	U	0.08	70	70
	6/18/2004	cis-1,3-Dichloropropene	0.1	U	0.1		
	6/18/2004	Dibromochloromethane (Chlorodibromomethane)	0.1	U	0.1		10
	6/18/2004	Ethylbenzene	0.06	U	0.06	700	700
	6/18/2004	Methylene Chloride	0.2	UJ	0.2	5	3
	6/18/2004	Styrene	0.1	U	0.1	100	100
	6/18/2004	Tetrachloroethene (PCE)	0.1	U	0.1	5	1
	6/18/2004	Toluene	0.04	UJ	0.04	1000	1000
	6/18/2004	Total Xylene	0.1	UJ	0.1	10000	1000
	6/18/2004	trans-1,2-Dichloroethene	0.2	U	0.2	100	100
	6/18/2004	trans-1,3-Dichloropropene	0.2	U	0.2		
	6/18/2004	Trichloroethene (TCE)	0.08	UJ	0.08	5	1
	6/18/2004	Vinyl chloride	0.2	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS05B (12b-024836) [206948]	6/23/2004	1,1,1-Trichloroethane (TCA)	10	U	0.1	200	30
	6/23/2004	1,1,2,2-Tetrachloroethane	18	U	0.2		10
	6/23/2004	1,1,2-Trichloroethane	10	UJ	0.1	5	3
	6/23/2004	1,1-Dichloroethane (1,1-DCA)	8	U	0.08		50
	6/23/2004	1,1-Dichloroethene (1,1-DCE)	28	U	0.3	7	2
	6/23/2004	1,2-Dichloroethane (1,2-DCA)	16	UJ	0.2	5	2
	6/23/2004	1,2-Dichloropropane	14	U	0.1	5	1
	6/23/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	150	UJ	2		300
	6/23/2004	2-Hexanone	90	UJ	0.9		
	6/23/2004	4-Methyl-2-pentanone (MIBK)	38	UJ	0.4		400
	6/23/2004	Acetone	190	UJ	1		700
	6/23/2004	Benzene	400		0.08	5	1
	6/23/2004	Bromodichloromethane (Dichlorobrobromomethane)	10	U	0.1	80	1
	6/23/2004	Bromoform	10	UJ	0.1	80	4
	6/23/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	18	R	0.2		10
	6/23/2004	Carbon disulfide	10	U	0.1		800
	6/23/2004	Carbon tetrachloride	8	UJ	0.08	5	2
	6/23/2004	Chlorobenzene (Monochlorobenzene)	6	UJ	0.06	100	50
	6/23/2004	Chloroethane	24	U	0.2		
	6/23/2004	Chloroform	10	U	0.1	80	6
	6/23/2004	Chloromethane (Methyl Chloride)	26	U	0.3		30
	6/23/2004	cis-1,2-Dichloroethene	8	UJ	0.08	70	70
	6/23/2004	cis-1,3-Dichloropropene	10	U	0.1		
	6/23/2004	Dibromochloromethane (Chlorodibromomethane)	10	U	0.1		10
	6/23/2004	Ethylbenzene	6	UJ	0.06	700	700
	6/23/2004	Methylene Chloride	16	UJ	0.2	5	3
	6/23/2004	Styrene	10	U	0.1	100	100
	6/23/2004	Tetrachloroethene (PCE)	12	UJ	0.1	5	1
	6/23/2004	Toluene	20	J	0.04	1000	1000
	6/23/2004	Total Xylene	14	UJ	0.1	10000	1000
	6/23/2004	trans-1,2-Dichloroethene	20	U	0.2	100	100
	6/23/2004	trans-1,3-Dichloropropene	16	U	0.2		
	6/23/2004	Trichloroethene (TCE)	8	UJ	0.08	5	1
	6/23/2004	Vinyl chloride	20	U	0.2	2	5

Table A-13
2004 Groundwater Analytical Results - Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Sampling Location (Sample ID) [SDG Number]	Date Collected	Analyte [a]	Result (µg/L)	Date Qualifiers [b]	Reporting Limit (µg/L)	Related Regulation	
						Federal [c] (µg/L)	State [d] (µg/L)
MISS07B (12b-024839) [206948]	6/28/2004	1,1,1-Trichloroethane (TCA)	0.2	U	0.1	200	30
	6/28/2004	1,1,2,2-Tetrachloroethane	0.4		0.2		10
	6/28/2004	1,1,2-Trichloroethane	0.2	UJ	0.1	5	3
	6/28/2004	1,1-Dichloroethane (1,1-DCA)	0.4		0.08		50
	6/28/2004	1,1-Dichloroethene (1,1-DCE)	1		0.3	7	2
	6/28/2004	1,2-Dichloroethane (1,2-DCA)	0.3	UJ	0.2	5	2
	6/28/2004	1,2-Dichloropropane	0.3	U	0.1	5	1
	6/28/2004	2-Butanone (MEK or Methyl Ethyl Ketone)	3	UJ	2		300
	6/28/2004	2-Hexanone	2	UJ	0.9		
	6/28/2004	4-Methyl-2-pentanone (MIBK)	0.8	UJ	0.4		400
	6/28/2004	Acetone	3	UJ	1		700
	6/28/2004	Benzene	0.2	U	0.08	5	1
	6/28/2004	Bromodichloromethane (Dichlorobrobromomethane)	0.2	U	0.1		1
	6/28/2004	Bromoform	0.2	UJ	0.1	80	4
	6/28/2004	Bromomethane (Methly Bromomethane or Methyl Bromide`	0.4	R	0.2	80	10
	6/28/2004	Carbon disulfide	0.2	U	0.1		800
	6/28/2004	Carbon tetrachloride	0.2	UJ	0.08	5	2
	6/28/2004	Chlorobenzene (Monochlorobenzene)	0.1	UJ	0.06	100	50
	6/28/2004	Chloroethane	0.5	U	0.2		
	6/28/2004	Chloroform	0.2	U	0.1	80	6
	6/28/2004	Chloromethane (Methyl Chloride)	0.5	U	0.3		30
	6/28/2004	cis-1,2-Dichloroethene	3		0.08	70	70
	6/28/2004	cis-1,3-Dichloropropene	0.2	U	0.1		
	6/28/2004	Dibromochloromethane (Chlorodibromomethane)	0.2	U	0.1		10
	6/28/2004	Ethylbenzene	0.1	UJ	0.06	700	700
	6/28/2004	Methylene Chloride	0.3	UJ	0.2	5	3
	6/28/2004	Styrene	0.2		0.1	100	100
	6/28/2004	Tetrachloroethene (PCE)	29		0.1	5	1
	6/28/2004	Toluene	0.08	UJ	0.04	1000	1000
	6/28/2004	Total Xylene	0.3	UJ	0.1	10000	1000
	6/28/2004	trans-1,2-Dichloroethene	1		0.2	100	100
	6/28/2004	trans-1,3-Dichloropropene	0.3	U	0.2		
	6/28/2004	Trichloroethene (TCE)	2		0.08	5	1
	6/28/2004	Vinyl chloride	0.4	U	0.2	2	5

[a] All analytes were reported, detected and undetected.

[b] USACE and laboratory data qualifier flags based on the CDQMP-QAPP; U= Analyte was analyzed for but not detected; J = Reported as an estimated value. Data quality evaluation indicates that the analytical result is an estimate of the actual value; UJ= Analyte was analyzed for but not detected, it must be estimated due to quality control consideration.

[c] Federal SDWA MCLs, 40 CFR 141 (October 1999).

[d] New Jersey Class IIA Groundwater Quality Standards, NJAC 7:9-6 (October 1999). Analytes for which the published PQL is greater than the GWQC are noted as such: GWQC / PQL.

[e] Monitoring well B38W01S is the background location for wells that are completed in unconsolidated sediment.

Table A-14
2004 List of Analytes and Reporting Limits for
Metals and Volatile Organic Compounds
Maywood Interim Storage Site - 2004

Groundwater Metals	Reporting Limit (mg/L)
Aluminum, Total	60
Antimony, Total	4.6
Arsenic, Total	3.5
Barium, Total	0.86
Beryllium, Total	0.64
Boron, Total	27
Cadmium, Total	0.94
Chromium, Total	1.4
Cobalt, Total	1.7
Copper, Total	2.6
Iron, Total	53
Lead, Total	3.6
Lithium	50
Manganese, Total	2.8
Mercury, Total	0.18
Nickel, Total	1.8
Selenium, Total	5
Silver, Total	0.93
Thallium, Total	1
Vanadium, Total	1
Zinc, Total	11

Groundwater Volatile Organic Compounds	Reporting Limit (µg/L)
1,1,1-Trichloroethane	0.1
1,1,2,2-Tetrachloroethane	0.2
1,1,2-Trichloroethane	0.1
1,1-Dichloroethane	0.08
1,1-Dichloroethene	0.3
1,2-Dichloroethane	0.2
1,2-Dichloropropane	0.1
2-Butanone	2
2-Hexanone	0.9
4-Methyl-2-pentanone	0.4
Acetone	1
Benzene	0.08
Bromodichloromethane	0.1
Bromoform	0.1
Bromomethane	0.2
Carbon disulfide	0.1
Carbon tetrachloride	0.08
Chlorobenzene	0.06
Chloroethane	0.2
Chloroform	0.1
Chloromethane	0.3
cis-1,2-Dichloroethene	0.08
cis-1,3-Dichloropropene	0.1
Dibromochloromethane	0.1
Ethylbenzene	0.06
Methylene Chloride	0.2
Styrene	0.1
Tetrachloroethene	0.1
Toluene	0.04
Total Xylene	0.1
trans-1,2-Dichloroethene	0.2
trans-1,3-Dichloropropene	0.2
Trichloroethene	0.08
Vinyl chloride	0.2

APPENDIX B
HISTORICAL RESULTS

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APPENDIX B HISTORICAL RESULTS

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Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (µg/g)	Qualifier
SWSD002	04/10/92	Radium-226	0.55		J
SWSD002	10/26/92	Radium-226	0.25		
SWSD002	04/21/93	Radium-226	0.44		
SWSD002	10/07/93	Radium-226	0.57		J
SWSD002	05/30/94	Radium-226	0.47		
SWSD002	05/08/95	Radium-226	0.48		
SWSD002	11/13/95	Radium-226	0.30		
SWSD002	05/08/96	Radium-226	0.41		
SWSD002	10/15/96	Radium-226	0.57		
SWSD002	05/05/97	Radium-226	0.67		
SWSD002	06/02/98	Radium-226	0.31		
SWSD002	11/03/98	Radium-226	0.52		
SWSD002	05/21/99	Radium-226	0.36		
SWSD002	07/24/00	Radium-226	0.58		J
SWSD002	07/16/01	Radium-226	0.66		J
SWSD002	07/22/02	Radium-226	0.18		U
SWSD002	07/08/03	Radium-226	0.89		J
SWSD002	07/12/04	Radium-226	0.47		
SWSD003	04/10/92	Radium-226	0.52		J
SWSD003	10/26/92	Radium-226	0.45		
SWSD003	04/21/93	Radium-226	0.35		
SWSD003	10/07/93	Radium-226	0.39		J
SWSD003	05/30/94	Radium-226	0.46		
SWSD003	05/08/95	Radium-226	0.55		
SWSD003	11/13/95	Radium-226	0.29		
SWSD003	05/08/96	Radium-226	0.52		
SWSD003	10/15/96	Radium-226	0.70		
SWSD003	05/05/97	Radium-226	0.49		
SWSD003	06/02/98	Radium-226	0.28		
SWSD003	11/03/98	Radium-226	0.28		
SWSD003	05/21/99	Radium-226	0.3		
SWSD003	07/16/01	Radium-226	0.24		J
SWSD003	07/22/02	Radium-226	0.51		J
SWSD003	07/08/03	Radium-226	1.02		
SWSD003	07/12/04	Radium-226	0.29		J
SWSD005	04/10/92	Radium-226	0.51		J
SWSD005	10/26/92	Radium-226	0.44		
SWSD005	04/21/93	Radium-226	0.35		UJ
SWSD005	10/07/93	Radium-226	0.00		UJ
SWSD005	05/30/94	Radium-226	0.76		
SWSD005	05/30/94	Radium-226	0.87		J
SWSD005	08/31/94	Radium-226	1.30		U
SWSD005	05/08/95	Radium-226	1.50		
SWSD005	05/08/95	Radium-226	1.70		
SWSD005	11/13/95	Radium-226	1.28		
SWSD005	11/13/95	Radium-226	2.79		
SWSD005	05/08/96	Radium-226	0.50		
SWSD005	10/15/96	Radium-226	0.97		
SWSD005	05/05/97	Radium-226	0.90		
SWSD005	06/02/98	Radium-226	1.26		
SWSD005	11/03/98	Radium-226	1.01		
SWSD005	05/21/99	Radium-226	1.44		
SWSD005	07/16/01	Radium-226	0.87		J

Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (μg/g)	Qualifier
SWSD005	07/22/02	Radium-226	0.64		J
SWSD005	07/08/03	Radium-226	1.95		
SWSD005	07/08/04	Radium-226	0.00		U
SWSD006	05/30/94	Radium-226	3.10		
SWSD006	08/31/94	Radium-226	2.90		
SWSD006	05/08/95	Radium-226	1.30		
SWSD006	11/13/95	Radium-226	4.45		
SWSD006	05/08/96	Radium-226	0.99		
SWSD006	10/15/96	Radium-226	4.50		
SWSD006	05/05/97	Radium-226	3.50		
SWSD006	06/02/98	Radium-226	4.65		
SWSD006	11/03/98	Radium-226	3.86		
SWSD006	05/21/99	Radium-226	8.04		
SWSD006	07/20/00	Radium-226	0.64		J
SWSD006	07/16/01	Radium-226	1.41		J
SWSD006	07/23/02	Radium-226	3.51		
SWSD006	07/08/03	Radium-226	2.54		
SWSD006	07/07/04	Radium-226	2.27		J
SWSD006	07/07/04	Radium-226	2.22		J
SWSD007	08/31/94	Radium-226	0.99		U
SWSD007	05/08/95	Radium-226	5.40		
SWSD007	11/13/95	Radium-226	3.32		
SWSD007	05/08/96	Radium-226	3.70		
SWSD007	05/08/96	Radium-226	3.29		
SWSD007	10/15/96	Radium-226	5.05		
SWSD007	10/15/96	Radium-226	4.04		
SWSD007	05/05/97	Radium-226	4.25		
SWSD007	05/05/97	Radium-226	5.23		
SWSD007	06/02/98	Radium-226	6.97		
SWSD007	11/03/98	Radium-226	2.22		
SWSD007	05/21/99	Radium-226	1.07		
SWSD007	07/20/00	Radium-226	-0.07		R
SWSD007	07/16/01	Radium-226	0.89		J
SWSD007	07/11/02	Radium-226	6.58		
SWSD007	07/08/03	Radium-226	3.77		
SWSD007	07/07/04	Radium-226	0.91		J
SWSD007	07/07/04	Radium-226	0.12		J
SWSD002	04/10/92	Radium-228	0.98		J
SWSD002	10/26/92	Radium-228	0.29		J
SWSD002	04/21/93	Radium-228	0.44		UJ
SWSD002	10/07/93	Radium-228	0.00		UJ
SWSD002	05/30/94	Radium-228	0.81		J
SWSD002	11/13/95	Radium-228	1.60		
SWSD002	05/08/96	Radium-228	0.60		
SWSD002	10/15/96	Radium-228	0.72		
SWSD002	05/05/97	Radium-228	0.56		
SWSD002	06/02/98	Radium-228	0.55		
SWSD002	11/03/98	Radium-228	0.54		
SWSD002	05/21/99	Radium-228	0.74		
SWSD002	07/24/00	Radium-228	0.31		J
SWSD002	07/16/01	Radium-228	0.85		J
SWSD002	07/22/02	Radium-228	0.61		J
SWSD002	07/08/03	Radium-228	1.06		

Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (μg/g)	Qualifier
SWSD002	07/12/04	Radium-228	0.33		U
SWSD003	04/10/92	Radium-228	0.74		J
SWSD003	10/26/92	Radium-228	0.65		J
SWSD003	04/21/93	Radium-228	0.77		
SWSD003	10/07/93	Radium-228	0.00		UJ
SWSD003	11/13/95	Radium-228	0.90		
SWSD003	05/08/96	Radium-228	0.40		U
SWSD003	10/15/96	Radium-228	0.43		
SWSD003	05/05/97	Radium-228	0.45		
SWSD003	06/02/98	Radium-228	0.4		
SWSD003	11/03/98	Radium-228	0.65		
SWSD003	05/21/99	Radium-228	0.35		
SWSD003	07/16/01	Radium-228	0.21		UJ
SWSD003	07/22/02	Radium-228	0.57		UJ
SWSD003	07/22/02	Radium-228	0.59		J
SWSD003	07/12/04	Radium-228	0.19		U
SWSD005	04/10/92	Radium-228	0.73		J
SWSD005	10/26/92	Radium-228	0.47		J
SWSD005	04/21/93	Radium-228	0.69		
SWSD005	10/07/93	Radium-228	0.00		UJ
SWSD005	05/30/94	Radium-228	3.00		J
SWSD005	05/30/94	Radium-228	3.60		J
SWSD005	11/13/95	Radium-228	1.60		
SWSD005	11/13/95	Radium-228	13.60		
SWSD005	05/08/96	Radium-228	0.90		
SWSD005	10/15/96	Radium-228	3.34		
SWSD005	05/05/97	Radium-228	2.84		
SWSD005	06/02/98	Radium-228	2.32		
SWSD005	11/03/98	Radium-228	4.41		
SWSD005	05/21/99	Radium-228	3.13		
SWSD005	07/20/00	Radium-228	2.39		J
SWSD005	07/16/01	Radium-228	3.45		
SWSD005	07/11/02	Radium-228	1.64		
SWSD005	07/08/03	Radium-228	2.68		
SWSD005	07/08/04	Radium-228	0.64		J
SWSD006	05/30/94	Radium-228	19.60		J
SWSD006	11/13/95	Radium-228	9.60		
SWSD006	05/08/96	Radium-228	5.15		
SWSD006	10/15/96	Radium-228	20.33		
SWSD006	05/05/97	Radium-228	17.33		
SWSD006	06/02/98	Radium-228	16.22		J
SWSD006	11/03/98	Radium-228	17.74		
SWSD006	05/21/99	Radium-228	7.67		
SWSD006	07/20/00	Radium-228	0.39		J
SWSD006	07/16/01	Radium-228	4.09		
SWSD006	07/23/02	Radium-228	17.7		
SWSD006	07/08/03	Radium-228	3.39		
SWSD006	07/07/04	Radium-228	1.8		
SWSD006	07/07/04	Radium-228	3.98		
SWSD007	11/13/95	Radium-228	11.70		
SWSD007	05/08/96	Radium-228	14.22		
SWSD007	05/08/96	Radium-228	8.16		
SWSD007	10/15/96	Radium-228	22.41		

Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (μg/g)	Qualifier
SWSD007	10/15/96	Radium-228	16.79		
SWSD007	05/05/97	Radium-228	8.75		
SWSD007	05/05/97	Radium-228	8.78		
SWSD007	06/02/98	Radium-228	16.46		J
SWSD007	11/03/98	Radium-228	8.49		
SWSD007	05/21/99	Radium-228	1.79		
SWSD007	07/20/00	Radium-228	1.42		J
SWSD007	07/16/01	Radium-228	2.91		J
SWSD007	07/11/02	Radium-228	20.0		
SWSD007	07/08/03	Radium-228	5.0		
SWSD007	07/07/04	Radium-228	0.99		J
SWSD007	07/07/04	Radium-228	15.20		J
SWSD002	05/08/96	Thorium-230	1.11		U
SWSD002	10/15/96	Thorium-230	0.67		
SWSD002	05/05/97	Thorium-230	0.80		U
SWSD002	06/02/98	Thorium-230	0.52		U
SWSD002	11/03/98	Thorium-230	0.91		
SWSD002	05/21/99	Thorium-230	0.55		U
SWSD002	07/24/00	Thorium-230	0.90		J
SWSD002	07/16/01	Thorium-230	0.47		
SWSD002	07/22/02	Thorium-230	0.35		J
SWSD002	07/08/03	Thorium-230	0.50		J
SWSD002	07/12/04	Thorium-230	0.60		J
SWSD003	05/08/96	Thorium-230	1.33		U
SWSD003	10/15/96	Thorium-230	0.47		
SWSD003	05/05/97	Thorium-230	0.66		U
SWSD003	06/02/98	Thorium-230	0.52		U
SWSD003	11/03/98	Thorium-230	0.64		
SWSD003	05/21/99	Thorium-230	0.96		
SWSD003	07/16/01	Thorium-230	0.4		
SWSD003	07/22/02	Thorium-230	0.84		J
SWSD003	07/08/03	Thorium-230	0.57		J
SWSD003	07/12/04	Thorium-230	0.35		J
SWSD005	05/08/96	Thorium-230	0.97		U
SWSD005	10/15/96	Thorium-230	1.33		
SWSD005	05/05/97	Thorium-230	2.08		
SWSD005	06/02/98	Thorium-230	0.7		U
SWSD005	11/03/98	Thorium-230	1.42		
SWSD005	05/21/99	Thorium-230	1.81		
SWSD005	07/20/00	Thorium-230	0.64		J
SWSD005	07/16/01	Thorium-230	2.00		
SWSD005	07/08/03	Thorium-230	0.82		J
SWSD005	07/08/04	Thorium-230	0.78		
SWSD006	05/08/96	Thorium-230	1.48		U
SWSD006	10/15/96	Thorium-230	4.72		
SWSD006	05/05/97	Thorium-230	3.54		
SWSD006	06/02/98	Thorium-230	3.28		J
SWSD006	11/03/98	Thorium-230	4.29		
SWSD006	05/21/99	Thorium-230	1.62		
SWSD006	07/20/00	Thorium-230	0.27		J
SWSD006	07/16/01	Thorium-230	1.49		
SWSD006	07/23/02	Thorium-230	2.96		
SWSD006	07/08/03	Thorium-230	1.27		J

Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (μg/g)	Qualifier
SWSD006	07/07/04	Thorium-230	1.65		
SWSD006	07/07/04	Thorium-230	0.32		J
SWSD007	05/08/96	Thorium-230	3.19		
SWSD007	05/08/96	Thorium-230	1.81		
SWSD007	10/15/96	Thorium-230	4.52		
SWSD007	10/15/96	Thorium-230	3.31		
SWSD007	05/05/97	Thorium-230	2.64		
SWSD007	05/05/97	Thorium-230	2.09		
SWSD007	06/02/98	Thorium-230	3.37		J
SWSD007	11/03/98	Thorium-230	2.42		
SWSD007	05/21/99	Thorium-230	1.18		
SWSD007	07/20/00	Thorium-230	0.51		J
SWSD007	07/16/01	Thorium-230	6.64		
SWSD007	07/16/01	Thorium-230	1.59		
SWSD007	07/07/04	Thorium-230	0.24		J
SWSD007	07/07/04	Thorium-230	0.97		J
SWSD002	04/10/92	Thorium-232	0.80		
SWSD002	10/26/92	Thorium-232	0.42		
SWSD002	04/21/93	Thorium-232	0.70		
SWSD002	10/07/93	Thorium-232	0.59		
SWSD002	05/30/94	Thorium-232	0.71		
SWSD002	05/08/95	Thorium-232	0.50		
SWSD002	11/13/95	Thorium-232	0.39		U
SWSD002	05/08/96	Thorium-232	0.44		
SWSD002	10/15/96	Thorium-232	0.62		
SWSD002	05/05/97	Thorium-232	0.33		
SWSD002	06/02/98	Thorium-232	0.33		
SWSD002	11/03/98	Thorium-232	0.5		U
SWSD002	05/21/99	Thorium-232	0.39		U
SWSD002	07/24/00	Thorium-232	0.35		J
SWSD002	07/16/01	Thorium-232	0.35		J
SWSD002	07/22/02	Thorium-232	0.35		J
SWSD002	07/08/03	Thorium-232	0.44		J
SWSD002	07/12/04	Thorium-232	0.43		
SWSD003	04/10/92	Thorium-232	0.85		J
SWSD003	10/26/92	Thorium-232	0.65		
SWSD003	04/21/93	Thorium-232	0.66		
SWSD003	10/07/93	Thorium-232	0.00		UJ
SWSD003	05/30/94	Thorium-232	0.65		UJ
SWSD003	05/08/95	Thorium-232	0.56		
SWSD003	11/13/95	Thorium-232	0.32		U
SWSD003	05/08/96	Thorium-232	0.57		
SWSD003	10/15/96	Thorium-232	0.30		
SWSD003	05/05/97	Thorium-232	0.37		
SWSD003	06/02/98	Thorium-232	0.39		
SWSD003	11/03/98	Thorium-232	0.57		U
SWSD003	05/21/99	Thorium-232	0.48		U
SWSD003	07/16/01	Thorium-232	0.34		J
SWSD003	07/22/02	Thorium-232	0.61		J
SWSD003	07/08/03	Thorium-232	0.4		J
SWSD003	07/12/04	Thorium-232	0.27		
SWSD005	04/10/92	Thorium-232	0.76		J
SWSD005	10/26/92	Thorium-232	0.55		

Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (µg/g)	Qualifier
SWSD005	04/21/93	Thorium-232	0.65		
SWSD005	10/07/93	Thorium-232	0.00		UJ
SWSD005	05/30/94	Thorium-232	3.20		J
SWSD005	05/30/94	Thorium-232	3.60		
SWSD005	08/31/94	Thorium-232	1.00		
SWSD005	05/08/95	Thorium-232	2.40		
SWSD005	05/08/95	Thorium-232	2.20		
SWSD005	11/13/95	Thorium-232	2.53		
SWSD005	11/13/95	Thorium-232	12.62		
SWSD005	05/08/96	Thorium-232	0.92		
SWSD005	10/15/96	Thorium-232	3.18		
SWSD005	05/05/97	Thorium-232	2.94		
SWSD005	06/02/98	Thorium-232	2.33		
SWSD005	11/03/98	Thorium-232	4		
SWSD005	05/21/99	Thorium-232	3.56		
SWSD005	07/20/00	Thorium-232	1.73		
SWSD005	07/16/01	Thorium-232	6.91		J
SWSD005	07/11/02	Thorium-232	1.16		
SWSD005	07/08/03	Thorium-232	1.32		J
SWSD005	07/08/04	Thorium-232	0.80		
SWSD006	05/30/94	Thorium-232	20.90		
SWSD006	08/31/94	Thorium-232	16.80		
SWSD006	05/08/95	Thorium-232	2.50		
SWSD006	11/13/95	Thorium-232	11.47		
SWSD006	05/08/96	Thorium-232	4.93		
SWSD006	10/15/96	Thorium-232	21.66		
SWSD006	05/05/97	Thorium-232	17.34		
SWSD006	06/02/98	Thorium-232	15.78		J
SWSD006	11/03/98	Thorium-232	17.97		
SWSD006	05/21/99	Thorium-232	8.13		
SWSD006	07/20/00	Thorium-232	0.33		J
SWSD006	07/16/01	Thorium-232	4.19		J
SWSD006	07/23/02	Thorium-232	15.2		
SWSD006	07/08/03	Thorium-232	3.14		J
SWSD006	07/07/04	Thorium-232	2.14		
SWSD006	07/07/04	Thorium-232	2.45		
SWSD007	08/31/94	Thorium-232	1.10		
SWSD007	05/08/95	Thorium-232	14.60		
SWSD007	11/13/95	Thorium-232	9.49		
SWSD007	05/08/96	Thorium-232	14.75		
SWSD007	05/08/96	Thorium-232	7.63		
SWSD007	10/15/96	Thorium-232	18.47		
SWSD007	10/15/96	Thorium-232	22.50		
SWSD007	05/05/97	Thorium-232	7.39		
SWSD007	05/05/97	Thorium-232	8.54		
SWSD007	06/02/98	Thorium-232	17.08		J
SWSD007	11/03/98	Thorium-232	8.76		
SWSD007	05/21/99	Thorium-232	1.9		
SWSD007	07/20/00	Thorium-232	0.33		J
SWSD007	07/16/01	Thorium-232	3.06		
SWSD007	07/11/02	Thorium-232	17.6		
SWSD007	07/08/03	Thorium-232	5.5		J
SWSD007	07/07/04	Thorium-232	0.67		J

Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (µg/g)	Qualifier
SWSD007	07/07/04	Thorium-232	3.62		J
SWSD002	04/10/92	Total Uranium	2.90	4.29	
SWSD002	10/26/92	Total Uranium	1.42	2.10	
SWSD002	04/21/93	Total Uranium	1.62	2.40	J
SWSD002	10/07/93	Total Uranium	0.88	1.30	U
SWSD002	05/30/94	Total Uranium	0.88	1.30	
SWSD002	05/08/95	Total Uranium	0.74	1.10	U
SWSD002	11/13/95	Total Uranium	1.10	1.62	U
SWSD002	05/08/96	Total Uranium	1.16	1.72	
SWSD002	10/15/96	Total Uranium	1.20	1.77	U
SWSD002	05/05/97	Total Uranium	0.93	1.38	
SWSD002	06/02/98	Total Uranium	1.23	1.91	
SWSD002	11/03/98	Total Uranium	2.01	3.12	U
SWSD002	05/21/99	Total Uranium	1.27	1.87	
SWSD002	00/24/00	Total Uranium	0.84	1.24	
SWSD002	07/16/01	Total Uranium	1.61	2.13	
SWSD002	07/22/02	Total Uranium	0.63	1.87	
SWSD002	07/08/03	Total Uranium	1.01		
SWSD002	07/12/04	Total Uranium	0.62		
SWSD003	04/10/92	Total Uranium	2.72	4.02	
SWSD003	10/26/92	Total Uranium	2.10	3.10	
SWSD003	04/21/93	Total Uranium	2.57	3.80	J
SWSD003	10/07/93	Total Uranium	0.81	1.20	U
SWSD003	05/30/94	Total Uranium	0.68	1.00	U
SWSD003	05/08/95	Total Uranium	1.29	1.90	U
SWSD003	11/13/95	Total Uranium	1.27	1.88	U
SWSD003	05/08/96	Total Uranium	1.02	1.50	U
SWSD003	10/15/96	Total Uranium	1.16	1.72	U
SWSD003	05/05/97	Total Uranium	1.06	1.56	
SWSD003	06/02/98	Total Uranium	1.11	1.72	
SWSD003	11/03/98	Total Uranium	2.13	3.3	U
SWSD003	05/21/99	Total Uranium	1.19	1.76	
SWSD003	07/16/01	Total Uranium	0.77	1.13	
SWSD003	07/22/02	Total Uranium	0.62	0.8	
SWSD003	07/08/03	Total Uranium	0.97		
SWSD003	07/12/04	Total Uranium	0.50		
SWSD005	04/10/92	Total Uranium	2.94	4.34	
SWSD005	10/26/92	Total Uranium	2.30	3.40	
SWSD005	04/21/93	Total Uranium	2.71	4.00	J
SWSD005	10/07/93	Total Uranium	0.74	1.10	U
SWSD005	05/30/94	Total Uranium	1.42	2.10	
SWSD005	05/30/94	Total Uranium	1.56	2.30	
SWSD005	08/31/94	Total Uranium	1.49	2.20	U
SWSD005	05/08/95	Total Uranium	1.42	2.10	U
SWSD005	05/08/95	Total Uranium	1.22	1.80	U
SWSD005	11/13/95	Total Uranium	1.66	2.45	U
SWSD005	11/13/95	Total Uranium	3.22	4.76	
SWSD005	05/08/96	Total Uranium	1.21	1.79	
SWSD005	10/15/96	Total Uranium	1.79	2.64	
SWSD005	05/05/97	Total Uranium	1.20	1.77	
SWSD005	06/02/98	Total Uranium	1.24	1.92	
SWSD005	11/03/98	Total Uranium	3.97	6.17	
SWSD005	05/21/99	Total Uranium	1.18	1.75	

Table B-1
Historical Results for Radioactive Parameters in Sediment
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (pCi/g)	Result (µg/g)	Qualifier
SWSD005	07/20/00	Total Uranium	1.79	2.65	
SWSD005	07/16/01	Total Uranium	2.51	3.15	
SWSD005	07/11/02	Total Uranium	0.65	1.04	
SWSD005	07/08/03	Total Uranium	1.75		
SWSD005	07/08/04	Total Uranium	0.88		
SWSD006	05/30/94	Total Uranium	7.04	10.40	
SWSD006	08/31/94	Total Uranium	9.27	13.70	
SWSD006	05/08/95	Total Uranium	1.35	2.00	U
SWSD006	11/13/95	Total Uranium	7.18	10.61	
SWSD006	05/08/96	Total Uranium	2.86	4.22	
SWSD006	10/15/96	Total Uranium	8.86	13.09	
SWSD006	05/05/97	Total Uranium	7.39	10.91	
SWSD006	06/02/98	Total Uranium	8.06	12.51	
SWSD006	11/03/98	Total Uranium	10.05	15.61	
SWSD006	05/21/99	Total Uranium	12.41	18.33	
SWSD006	07/20/00	Total Uranium	0.7	1.03	
SWSD006	07/16/01	Total Uranium	4.18	5.26	
SWSD006	07/23/02	Total Uranium	14.55	21.1	
SWSD006	07/08/03	Total Uranium	2.15		
SWSD006	07/07/04	Total Uranium	4.27		
SWSD006	07/07/04	Total Uranium	2.52		
SWSD007	08/31/94	Total Uranium	2.03	3.00	U
SWSD007	05/08/95	Total Uranium	6.16	9.10	
SWSD007	11/13/95	Total Uranium	6.11	9.03	
SWSD007	05/08/96	Total Uranium	5.84	8.62	
SWSD007	05/08/96	Total Uranium	3.97	5.86	
SWSD007	10/15/96	Total Uranium	8.88	13.12	
SWSD007	10/15/96	Total Uranium	8.77	12.96	
SWSD007	05/05/97	Total Uranium	5.29	7.82	
SWSD007	05/05/97	Total Uranium	5.04	7.44	
SWSD007	06/02/98	Total Uranium	5.13	8.02	
SWSD007	11/03/98	Total Uranium	5.15	7.99	
SWSD007	05/21/99	Total Uranium	2.00	3.00	
SWSD007	07/20/00	Total Uranium	1.57	2.32	
SWSD007	07/16/01	Total Uranium	7.50		
SWSD007	07/11/02	Total Uranium	7.66	11.80	
SWSD007	07/08/03	Total Uranium	4.06		
SWSD007	07/07/04	Total Uranium	0.82		
SWSD007	07/07/04	Total Uranium	4.18		

J = reported as an estimated value.
R = rejected value.
U = analyte was not detected.
UJ = analyte was not detected but is estimated.

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
B38W19D	23-Jul-93	RADIUM-226	0.04	UJ	0.08	pCi/L
B38W19D	16-May-94	RADIUM-226	1.3	U	0.37	pCi/L
B38W19D	10-May-95	RADIUM-226	0.09	UJ	0.1	pCi/L
B38W19D	16-May-96	RADIUM-226	0.19		0.12	pCi/L
B38W19D	16-May-97	RADIUM-226	0.29		0.16	pCi/L
B38W19D	17-Jun-98	RADIUM-226	0.15	UJ	0.2	pCi/L
B38W19D	27-May-99	RADIUM-226	0.33	UJ	0.26	pCi/L
B38W19D	12-Jul-00	RADIUM-226	0.16	UJ	0.13	pCi/L
B38W19D	13-Jun-01	RADIUM-226	0.28	J	0.17	pCi/L
B38W19D	9-Jul-02	RADIUM-226	0.53	J	0.21	pCi/L
B38W19D	11-Jul-03	RADIUM-226	0.46	J	0.2	pCi/L
B38W19D	24-Jun-04	RADIUM-226	0.22		0.15	pCi/L
B38W19S	27-May-94	RADIUM-226	0.78		0.28	pCi/L
B38W19S	17-May-95	RADIUM-226	0.11		0.09	pCi/L
B38W19S	10-May-96	RADIUM-226	0.11		0.09	pCi/L
B38W19S	29-Jun-98	RADIUM-226	0.32	UJ	0.24	pCi/L
B38W19S	14-May-99	RADIUM-226	0.35	UJ	0.3	pCi/L
B38W19S	13-Jun-01	RADIUM-226	0.51	J	0.23	pCi/L
B38W19S	9-Jul-02	RADIUM-226	0.32	J	0.15	pCi/L
B38W19S	11-Jul-03	RADIUM-226	0.72	J	0.3	pCi/L
B38W19S	25-Jun-04	RADIUM-226	0.81		0.23	pCi/L
B38W25S	3-Aug-93	RADIUM-226	0.34		0.22	pCi/L
B38W25S	24-May-94	RADIUM-226	0.37		0.19	pCi/L
B38W25S	15-May-95	RADIUM-226	0.16		0.12	pCi/L
B38W25S	15-May-96	RADIUM-226	0.26	UJ	0	pCi/L
B38W25S	5-Jun-97	RADIUM-226	0.13	UJ	0.1	pCi/L
B38W25S	1-Jul-98	RADIUM-226	0.13	UJ	0.17	pCi/L
B38W25S	17-May-99	RADIUM-226	0.08	UJ	0.13	pCi/L
B38W25S	10-Jul-01	RADIUM-226	0.32	J	0.18	pCi/L
B38W25S	10-Jul-02	RADIUM-226	0.45			pCi/L
B38W25S	15-Jul-03	RADIUM-226	0.56	J	0.25	pCi/L
MISS02B	20-Jul-93	RADIUM-226	0.05	UJ	0.1	pCi/L
MISS02B	13-May-94	RADIUM-226	2	U	0.46	pCi/L
MISS02B	9-May-95	RADIUM-226	0.1		0.09	pCi/L
MISS02B	14-May-96	RADIUM-226	0.11	UJ	0.11	pCi/L
MISS02B	19-May-97	RADIUM-226	0.28		0.16	pCi/L
MISS02B	10-Jun-98	RADIUM-226	0.35		0.24	pCi/L
MISS02B	18-May-99	RADIUM-226	0.46		0.31	pCi/L
MISS02B	23-Jun-00	RADIUM-226	0.25	J	0.33	pCi/L
MISS02B	5-Jul-01	RADIUM-226	0.23	J	0.17	pCi/L
MISS02B	8-Jul-02	RADIUM-226	0.04	UJ	0.2	pCi/L

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
MISS02B	11-Jul-03	RADIUM-226	0.18	UJ	0.16	pCi/L
MISS02B	18-Jun-04	RADIUM-226	0.01	U	0.031	pCi/L
MISS05A	27-May-94	RADIUM-226	1.33		0.54	pCi/L
MISS05A	12-May-95	RADIUM-226	0.2	UJ	0.18	pCi/L
MISS05A	10-May-96	RADIUM-226	0.04	UJ	0.06	pCi/L
MISS05A	2-Jun-97	RADIUM-226	0.52		0.27	pCi/L
MISS05A	29-Jun-98	RADIUM-226	0.23	UJ	0.24	pCi/L
MISS05A	14-May-99	RADIUM-226	0.68		0.48	pCi/L
MISS05A	19-Jun-01	RADIUM-226	0.6	J	0.28	pCi/L
MISS05A	1-Aug-02	RADIUM-226	0.36	J	0.15	pCi/L
MISS05A	14-Jul-03	RADIUM-226	0.32	UJ	0.28	pCi/L
MISS05A	24-Jun-04	RADIUM-226	3.4		0.55	pCi/L
B38W19D	16-May-96	RADIUM-228	0.04	UJ	0.08	pCi/L
B38W19D	16-May-97	RADIUM-228	0.08	UJ	0.12	pCi/L
B38W19D	17-Jun-98	RADIUM-228	0.04	UJ	0.18	pCi/L
B38W19D	27-May-99	RADIUM-228	0.13	UJ	0.39	pCi/L
B38W19D	12-Jul-00	RADIUM-228	0.43	U	0.4	pCi/L
B38W19D	13-Jun-01	RADIUM-228	0.7	UJ	0.69	pCi/L
B38W19D	9-Jul-02	RADIUM-228	0.89	J	0.49	pCi/L
B38W19D	11-Jul-03	RADIUM-228	0.71	J	0.38	pCi/L
B38W19D	24-Jun-04	RADIUM-228	0.57	UJ	0.47	pCi/L
B38W19S	10-May-96	RADIUM-228	0.11	UJ	0.15	pCi/L
B38W19S	29-Jun-98	RADIUM-228	0.26	UJ	0.27	pCi/L
B38W19S	14-May-99	RADIUM-228	0.48	UJ	0.15	pCi/L
B38W19S	13-Jun-01	RADIUM-228	2.49	J	0.72	pCi/L
B38W19S	9-Jul-02	RADIUM-228	2.33		0.66	pCi/L
B38W19S	11-Jul-03	RADIUM-228	4.33		0.81	pCi/L
B38W19S	25-Jun-04	RADIUM-228	2.79		0.58	pCi/L
B38W25S	15-May-96	RADIUM-228	0.21		0.19	pCi/L
B38W25S	5-Jun-97	RADIUM-228	0.13	UJ	0.15	pCi/L
B38W25S	1-Jul-98	RADIUM-228	0.3	UJ	0.31	pCi/L
B38W25S	17-May-99	RADIUM-228	0.12	UJ	0.22	pCi/L
B38W25S	7-Jul-00	RADIUM-228	0.17	U	0.42	pCi/L
B38W25S	10-Jul-01	RADIUM-228	0.76	UJ	0.72	pCi/L
B38W25S	10-Jul-02	RADIUM-228	1.13		0.5	pCi/L
B38W25S	15-Jul-03	RADIUM-228	0.06	U	0.39	pCi/L
MISS02B	14-May-96	RADIUM-228	0.09	UJ	0.12	pCi/L
MISS02B	19-May-97	RADIUM-228	0.05	UJ	0.14	pCi/L
MISS02B	10-Jun-98	RADIUM-228	0.01	UJ	0.12	pCi/L
MISS02B	18-May-99	RADIUM-228	0.02	UJ	0.17	pCi/L
MISS02B	23-Jun-00	RADIUM-228	0.32	U	0.33	pCi/L

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
MISS02B	5-Jul-01	RADIUM-228	1.36	J	1.05	pCi/L
MISS02B	8-Jul-02	RADIUM-228	0.71	J	0.39	pCi/L
MISS02B	30-Jun-03	RADIUM-228	0.44	UJ	0.44	pCi/L
MISS02B	18-Jun-04	RADIUM-228	0.07	U	0.19	pCi/L
MISS05A	10-May-96	RADIUM-228	0.14	UJ	0.21	pCi/L
MISS05A	2-Jun-97	RADIUM-228	0.67		0.44	pCi/L
MISS05A	29-Jun-98	RADIUM-228	0.55		0.42	pCi/L
MISS05A	14-May-99	RADIUM-228	0.16	UJ	0.31	pCi/L
MISS05A	19-Jun-01	RADIUM-228	2.05	J	0.85	pCi/L
MISS05A	1-Jul-02	RADIUM-228	4.02		0.75	pCi/L
MISS05A	14-Jul-03	RADIUM-228	1.25	UJ	0.87	pCi/L
MISS05A	24-Jun-04	RADIUM-228	12.9		1.6	pCi/L
B38W19D	16-May-96	THORIUM-228	0.04	UJ	0.08	pCi/L
B38W19D	16-May-97	THORIUM-228	0.08	UJ	0.12	pCi/L
B38W19D	17-Jun-98	THORIUM-228	0.04	UJ	0.18	pCi/L
B38W19D	17-May-99	THORIUM-228	0.13	U	0.39	pCi/L
B38W19D	13-Jun-01	THORIUM-228	0.42	UJ	0.44	pCi/L
B38W19D	9-Jul-02	THORIUM-228	0.23	UJ	0.22	pCi/L
B38W19D	11-Jul-03	THORIUM-228	0.35	U	0.095	pCi/L
B38W19D	24-Jun-04	THORIUM-228	0.04	UJ	0.1	pCi/L
B38W19S	10-May-96	THORIUM-228	0.11	UJ	0.15	pCi/L
B38W19S	29-Jun-98	THORIUM-228	0.26	UJ	0.27	pCi/L
B38W19S	14-May-99	THORIUM-228	0.48	U	0.15	pCi/L
B38W19S	13-Jun-01	THORIUM-228	0.36	UJ	0.35	pCi/L
B38W19S	9-Jul-02	THORIUM-228	0.19	UJ	0.17	pCi/L
B38W19S	11-Jul-03	THORIUM-228	0.01	U	0.07	pCi/L
B38W19S	25-Jun-04	THORIUM-228	0.02	U	0.084	pCi/L
B38W25S	15-May-96	THORIUM-228	0.21		0.19	pCi/L
B38W25S	15-May-96	THORIUM-228	0.21	UJ	0.19	pCi/L
B38W25S	5-Jun-97	THORIUM-228	0.13	UJ	0.15	pCi/L
B38W25S	1-Jul-98	THORIUM-228	0.3	UJ	0.31	pCi/L
B38W25S	17-May-99	THORIUM-228	0.12	UJ	0.22	pCi/L
B38W25S	7-Jul-00	THORIUM-228	0.46	J	0.32	pCi/L
B38W25S	10-Jul-01	THORIUM-228	0.53	U	0.14	pCi/L
B38W25S	10-Jul-02	THORIUM-228	0.24	J	0.16	pCi/L
B38W25S	15-Jul-03	THORIUM-228	0.03	UJ	0.066	pCi/L
MISS02B	14-May-96	THORIUM-228	0.09	UJ	0.12	pCi/L
MISS02B	19-May-97	THORIUM-228	0.05	UJ	0.14	pCi/L
MISS02B	10-Jun-98	THORIUM-228	0.01	UJ	0.12	pCi/L
MISS02B	18-May-99	THORIUM-228	0.02	UJ	0.17	pCi/L
MISS02B	23-Jun-00	THORIUM-228	0.04	U	0.09	pCi/L

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
MISS02B	5-Jul-01	THORIUM-228	0.23	UJ	0.26	pCi/L
MISS02B	8-Jul-02	THORIUM-228	0.09	U	0.13	pCi/L
MISS02B	30-Jun-03	THORIUM-228	0.08	U	0.12	pCi/L
MISS02B	18-Jun-04	THORIUM-228	-0.07	R	0.055	pCi/L
MISS05A	10-May-96	THORIUM-228	0.14	UJ	0.21	pCi/L
MISS05A	2-Jun-97	THORIUM-228	0.67		0.44	pCi/L
MISS05A	29-Jun-98	THORIUM-228	0.55		0.42	pCi/L
MISS05A	14-May-99	THORIUM-228	0.16	UJ	0.31	pCi/L
MISS05A	19-Jun-01	THORIUM-228	0.07	U	0.2	pCi/L
MISS05A	1-Jul-02	THORIUM-228	0.14	UJ	0.14	pCi/L
MISS05A	14-Jul-03	THORIUM-228	0.19	U	0.021	pCi/L
MISS05A	24-Jun-04	THORIUM-228	13.8		3.1	pCi/L
B38W19D	10-May-95	THORIUM-230	0.37	U	0.23	pCi/L
B38W19D	16-May-96	THORIUM-230	0.24		0.2	pCi/L
B38W19D	16-May-97	THORIUM-230	0.5	U	0.3	pCi/L
B38W19D	17-Jun-98	THORIUM-230	0.17	UJ	0.24	pCi/L
B38W19D	27-May-99	THORIUM-230	0.67	UJ	0.57	pCi/L
B38W19D	12-Jul-00	THORIUM-230	0.11	UJ	0.12	pCi/L
B38W19D	13-Jun-01	THORIUM-230	0.72	UJ	0.6	pCi/L
B38W19D	9-Jul-02	THORIUM-230	1.15	J	0.19	pCi/L
B38W19D	11-Jul-03	THORIUM-230	0.71	J	0.38	pCi/L
B38W19D	24-Jun-04	THORIUM-230	0.24	J	0.19	pCi/L
B38W19S	17-May-95	THORIUM-230	0.35	U	0.25	pCi/L
B38W19S	10-May-96	THORIUM-230	3.4	J	1.03	pCi/L
B38W19S	29-Jun-98	THORIUM-230	0.17	UJ	0.21	pCi/L
B38W19S	29-May-99	THORIUM-230	0.07	UJ	0.17	pCi/L
B38W19S	13-Jun-01	THORIUM-230	1.51	J	0.7	pCi/L
B38W19S	9-Jul-02	THORIUM-230	0.1	UJ	0.12	pCi/L
B38W19S	11-Jul-03	THORIUM-230	0.48	J	0.28	pCi/L
B38W19S	25-Jun-04	THORIUM-230	0.25	J	0.18	pCi/L
B38W25S	15-May-95	THORIUM-230	0.14	UJ	0.16	pCi/L
B38W25S	15-May-96	THORIUM-230	0.5		0.3	pCi/L
B38W25S	5-Jun-97	THORIUM-230	0.44	U	0.29	pCi/L
B38W25S	1-Jul-98	THORIUM-230	0.14	UJ	0.2	pCi/L
B38W25S	17-May-99	THORIUM-230	0.26	UJ	0.26	pCi/L
B38W25S	7-Jul-00	THORIUM-230	0.38	J	0.28	pCi/L
B38W25S	10-Jul-01	THORIUM-230	0.65	J	0.42	pCi/L
B38W25S	10-Jul-02	THORIUM-230	0.59	J	0.27	pCi/L
B38W25S	15-Jul-03	THORIUM-230	0.16	J	0.15	pCi/L
MISS02B	9-May-95	THORIUM-230	0.08	UJ	0.12	pCi/L
MISS02B	14-May-96	THORIUM-230	0.38		0.26	pCi/L

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
MISS02B	19-May-97	THORIUM-230	0.81	U	0.4	pCi/L
MISS02B	10-Jun-98	THORIUM-230	0.18	UJ	0.22	pCi/L
MISS02B	18-May-99	THORIUM-230	0.59		0.4	pCi/L
MISS02B	23-Jun-00	THORIUM-230	0.4	J	0.25	pCi/L
MISS02B	5-Jul-01	THORIUM-230	0.66	J	0.42	pCi/L
MISS02B	8-Jul-02	THORIUM-230	0.49	J	0.25	pCi/L
MISS02B	30-Jun-03	THORIUM-230	0.13	J	0.12	pCi/L
MISS02B	18-Jun-04	THORIUM-230	0.44	J	0.31	pCi/L
MISS05A	12-May-95	THORIUM-230	0.43	U	0.28	pCi/L
MISS05A	10-May-96	THORIUM-230	1.7	J	0.77	pCi/L
MISS05A	2-Jun-97	THORIUM-230	0.92		0.52	pCi/L
MISS05A	29-Jun-98	THORIUM-230	0.28	UJ	0.3	pCi/L
MISS05A	14-May-99	THORIUM-230	0.69		0.48	pCi/L
MISS05A	19-Jun-01	THORIUM-230	1.25	J	0.67	pCi/L
MISS05A	1-Aug-02	THORIUM-230	0.57	J	0.25	pCi/L
MISS05A	14-Jul-03	THORIUM-230	0.53	J	0.28	pCi/L
MISS05A	24-Jun-04	THORIUM-230	3.90		1	pCi/L
MISS07B	11-May-95	THORIUM-230	0.34	U	0.22	pCi/L
MISS07B	16-May-96	THORIUM-230	0.26	U	0.22	pCi/L
MISS07B	16-May-97	THORIUM-230	0.44	U	0.27	pCi/L
MISS07B	27-May-99	THORIUM-230	0.39	U	0.88	pCi/L
MISS07B	12-Jul-00	THORIUM-230	0.37	J	0.24	pCi/L
MISS07B	11-Jun-01	THORIUM-230	0.19	U	0.38	pCi/L
MISS07B	11-Jul-02	THORIUM-230	0.48	J	0.26	pCi/L
MISS07B	14-Jul-03	THORIUM-230	0.23	J	0.18	pCi/L
MISS07B	28-Jun-04	THORIUM-230	0.38	J	0.22	pCi/L
B38W19D	23-Jul-93	THORIUM-232	0.14	UJ	0.29	pCi/L
B38W19D	16-May-94	THORIUM-232	0.04	UJ	0.07	pCi/L
B38W19D	10-May-95	THORIUM-232	0.09	UJ		pCi/L
B38W19D	16-May-96	THORIUM-232	0.19	UJ	0	pCi/L
B38W19D	16-May-97	THORIUM-232	0.29	U	0.22	pCi/L
B38W19D	17-Jun-98	THORIUM-232	0.15	UJ	0.2	pCi/L
B38W19D	27-May-99	THORIUM-232	0.22	UJ	0.32	pCi/L
B38W19D	12-Jul-00	THORIUM-232	0.01	U	0.05	pCi/L
B38W19D	13-Jun-01	THORIUM-232	0.52	UJ	0.5	pCi/L
B38W19D	9-Jul-02	THORIUM-232	0.0	U	0.0	pCi/L
B38W19D	11-Jul-03	THORIUM-232	0.0	U	0.1	pCi/L
B38W19D	24-Jun-04	THORIUM-232	0.0	U	0.0	pCi/L
B38W19S	27-May-94	THORIUM-232	0.04	UJ	0.09	pCi/L
B38W19S	17-May-95	THORIUM-232	-0.01	UJ	0.02	pCi/L
B38W19S	10-May-96	THORIUM-232	0.24	UJ	0	pCi/L

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
B38W19S	29-Jun-98	THORIUM-232	0.03	UJ	0.11	pCi/L
B38W19S	14-May-99	THORIUM-232	0.02	UJ	0.1	pCi/L
B38W19S	13-Jun-01	THORIUM-232	0.3	UJ	0.32	pCi/L
B38W19S	0-Jul-02	THORIUM-232	0.0	U	0.0	pCi/L
B38W19S	11-Jul-03	THORIUM-232	0.1	U	0.1	pCi/L
B38W19S	25-Jun-04	THORIUM-232	0.03	UJ	0.056	pCi/L
B38W25S	3-Aug-93	THORIUM-232	0.24		0.16	pCi/L
B38W25S	24-May-94	THORIUM-232	0.13	UJ	0	pCi/L
B38W25S	15-May-95	THORIUM-232	0.06	UJ	0.11	pCi/L
B38W25S	15-May-96	THORIUM-232	0.08	UJ	0.12	pCi/L
B38W25S	5-Jun-97	THORIUM-232	0.17	UJ	0.18	pCi/L
B38W25S	1-Jul-98	THORIUM-232	0.04	UJ	0.11	pCi/L
B38W25S	17-May-99	THORIUM-232	0.13	UJ	0.18	pCi/L
B38W25S	7-Jul-00	THORIUM-232	0.13	U	0.17	pCi/L
B38W25S	10-Jul-01	THORIUM-232	0.03	UJ	0.13	pCi/L
B38W25S	10-Jul-02	THORIUM-232	0.03	U	0.07	pCi/L
B38W25S	15-Jul-03	THORIUM-232	0.07	UJ	0.09	pCi/L
MISS02B	20-Jul-93	THORIUM-232	0	UJ	0	pCi/L
MISS02B	9-May-95	THORIUM-232	0.07	UJ	0.12	pCi/L
MISS02B	14-May-96	THORIUM-232	0.25	UJ	0	pCi/L
MISS02B	19-May-97	THORIUM-232	0.14	UJ	0.16	pCi/L
MISS02B	10-Jun-98	THORIUM-232	0.05	UJ	0.11	pCi/L
MISS02B	18-May-99	THORIUM-232	0.04	UJ	0.11	pCi/L
MISS02B	23-Jun-00	THORIUM-232	0.02	U	0.06	pCi/L
MISS02B	5-Jul-01	THORIUM-232	0.54		0.39	pCi/L
MISS02B	8-Jul-02	THORIUM-232	0.08	J	0.09	pCi/L
MISS02B	30-Jun-03	THORIUM-232	0.13	U	0.01	pCi/L
MISS02B	18-Jun-04	THORIUM-232	0.05	UJ	0.092	pCi/L
MISS05A	27-May-94	THORIUM-232	0.4	J	0.29	pCi/L
MISS05A	12-May-95	THORIUM-232	0.23		0.2	pCi/L
MISS05A	10-May-96	THORIUM-232	0.21	UJ	0.25	pCi/L
MISS05A	2-Jun-97	THORIUM-232	0.13	UJ	0.19	pCi/L
MISS05A	29-Jun-98	THORIUM-232	0.04	UJ	0.17	pCi/L
MISS05A	14-May-99	THORIUM-232	0.17	UJ	0.26	pCi/L
MISS05A	19-Jun-01	THORIUM-232	0.29	UJ	0.3	pCi/L
MISS05A	1-Jul-02	THORIUM-232	0.08	UJ	0.09	pCi/L
MISS05A	14-Jul-03	THORIUM-232	0.08	U	0	pCi/L
MISS05A	24-Jun-04	THORIUM-232	26.5		5.7	pCi/L
B38W19D	23-Jul-93	TOTAL URANIUM	0.36		0.04	ug/L
B38W19D	16-May-94	TOTAL URANIUM	0.35		0.04	ug/L
B38W19D	10-May-95	TOTAL URANIUM	0.29		0.03	ug/L

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
B38W19D	16-May-96	TOTAL URANIUM	1.27		0.03	ug/L
B38W19D	16-May-97	TOTAL URANIUM	0.3		0.01	ug/L
B38W19D	17-Jun-98	TOTAL URANIUM	0.03	UJ	0	ug/L
B38W19D	27-May-99	TOTAL URANIUM	0.26	UJ	0.02	ug/L
B38W19D	12-Jul-00	TOTAL URANIUM	1.82			ug/L
B38W19D	13-Jun-01	TOTAL URANIUM	1.00			ug/L
B38W19D	9-Jul-02	TOTAL URANIUM	0.68			ug/L
B38W19D	11-Jul-03	TOTAL URANIUM	0.48			ug/L
B38W19D	24-Jun-04	TOTAL URANIUM	0.30			ug/L
B38W19S	27-May-94	TOTAL URANIUM	0.38		0.04	ug/L
B38W19S	17-May-95	TOTAL URANIUM	1.4		0.15	ug/L
B38W19S	10-May-96	TOTAL URANIUM	0.58		0.01	ug/L
B38W19S	29-Jun-98	TOTAL URANIUM	0.03	UJ	0	ug/L
B38W19S	14-May-99	TOTAL URANIUM	0.02	UJ	0.01	ug/L
B38W19S	13-Jun-01	TOTAL URANIUM	0.89			ug/L
B38W19S	9-Jul-02	TOTAL URANIUM	1.13			ug/L
B38W19S	11-Jul-03	TOTAL URANIUM	0.3			ug/L
B38W19S	25-Jun-04	TOTAL URANIUM	0.26			ug/L
B38W25S	3-Aug-93	TOTAL URANIUM	0.5		0.05	ug/L
B38W25S	24-May-94	TOTAL URANIUM	0.06		0.01	ug/L
B38W25S	15-May-95	TOTAL URANIUM	0.09		0.01	ug/L
B38W25S	15-May-96	TOTAL URANIUM	0.45		0.01	ug/L
B38W25S	5-Jun-97	TOTAL URANIUM	0.5		0.01	ug/L
B38W25S	1-Jul-98	TOTAL URANIUM	0.03	UJ	0	ug/L
B38W25S	17-May-99	TOTAL URANIUM	0.17	UJ	0.01	ug/L
B38W25S	7-Jul-00	TOTAL URANIUM	0.41			ug/L
B38W25S	10-Jul-01	TOTAL URANIUM	3.74			ug/L
B38W25S	10-Jul-02	TOTAL URANIUM	0.68			ug/L
B38W25S	15-Jul-03	TOTAL URANIUM	0.56			ug/L
MISS02B	20-Jul-93	TOTAL URANIUM	0.33		0.04	ug/L
MISS02B	13-May-94	TOTAL URANIUM	0.29		0.03	ug/L
MISS02B	9-May-95	TOTAL URANIUM	0.29		0.03	ug/L
MISS02B	14-May-96	TOTAL URANIUM	0.68		0.02	ug/L
MISS02B	19-May-97	TOTAL URANIUM	0.28		0.02	ug/L
MISS02B	10-Jun-98	TOTAL URANIUM	0.03	UJ	0	ug/L
MISS02B	18-May-99	TOTAL URANIUM	0.12		0.01	ug/L
MISS02B	23-Jun-00	TOTAL URANIUM	0.48			ug/L
MISS02B	5-Jul-01	TOTAL URANIUM	2.98			ug/L
MISS02B	8-Jul-02	TOTAL URANIUM	0.45			ug/L
MISS02B	30-Jun-03	TOTAL URANIUM	0.27			ug/L
MISS02B	18-Jun-04	TOTAL URANIUM	0.77			ug/L

Table B-2
Historical Results for Radioactive Parameters in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte Name	Result	Qualifier	Error	Units
MISS05A	27-May-94	TOTAL URANIUM	86.8		10.3	ug/L
MISS05A	12-May-95	TOTAL URANIUM	41.2		4.8	ug/L
MISS05A	10-May-96	TOTAL URANIUM	140		8.6	ug/L
MISS05A	15-OCT-96	TOTAL URANIUM	139.05		8.95	ug/L
MISS05A	2-Jun-97	TOTAL URANIUM	96.15		6.03	ug/L
MISS05A	29-Jun-98	TOTAL URANIUM	181.71		12.18	ug/L
MISS05A	14-May-99	TOTAL URANIUM	110.46		2.51	ug/L
MISS05A	19-Jun-01	TOTAL URANIUM	52.87			ug/L
MISS05A	1-Aug-02	TOTAL URANIUM	103.71			ug/L
MISS05A	14-Jul-03	TOTAL URANIUM	160.48			ug/L
MISS05A	24-Jun-04	TOTAL URANIUM	110.55			ug/L

J = reported as an estimated value.

R = rejected value.

U = analyte was not detected.

UJ = analyte was not detected but is estimated.

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W01S	17-Jul-02	REG	ALUMINUM	127	J
B38W01S	27-Jun-03	REG	ALUMINUM	101	J
B38W01S	6-Jul-04	REG	ALUMINUM	132	
B38W15S	16-Jul-02	REG	ALUMINUM	102	J
B38W15S	30-Jun-04	REG	ALUMINUM	632	
MISS02A	22-Jun-00	REG	ALUMINUM	360	
MISS02A	5-Jul-01	REG	ALUMINUM	29.5	
MISS02A	8-Jul-02	REG	ALUMINUM	505	J
MISS02A	30-Jun-03	REG	ALUMINUM	96.7	J
MISS02A	18-Jun-04	REG	ALUMINUM	149	
MISS05A	24-Jun-04	REG	ALUMINUM	3970	
MISS07A	30-Jun-04	REG	ALUMINUM	2270	
B38W02D	6-Jul-04	REG	ALUMINUM	95.4	J
B38W17A	19-Jun-00	REG	ALUMINUM	785	
B38W17A	14-Jun-01	REG	ALUMINUM	128	
B38W17B	19-Jun-00	REG	ALUMINUM	40.6	J
B38W17B	14-Jun-01	REG	ALUMINUM	68.6	
B38W14D	10-Jul-03	REG	ALUMINUM	1010	
B38W14D	29-Jun-04	REG	ALUMINUM	1560	
B38W18D	3-Jul-02	DUP	ALUMINUM	164	J
B38W18D	2-Jul-03	REG	ALUMINUM	497	
B38W18D	22-Jun-04	REG	ALUMINUM	404	
B38W18D	22-Jun-04	DUP	ALUMINUM	257	
B38W15D	6-Jul-98	REG	ANTIMONY	0.7	
B38W15D	26-Jun-00	REG	ANTIMONY	2.1	
B38W15D	27-Jun-01	REG	ANTIMONY	1.9	
B38W15S	6-Jul-98	REG	ANTIMONY	0.75	
B38W15S	27-Jun-01	REG	ANTIMONY	1.9	
B38W17A	28-Jul-93	REG	ANTIMONY	445	
B38W17A	2-Jul-98	REG	ANTIMONY	1	
B38W17A	19-Jun-00	REG	ANTIMONY	37.6	
B38W17A	14-Jun-01	REG	ANTIMONY	1.9	
B38W19S	29-Jun-98	REG	ANTIMONY	0.65	
B38W24D	2-Jul-98	REG	ANTIMONY	0.6	
B38W24D	5-Jul-01	REG	ANTIMONY	1.9	
B38W24S	2-Jul-98	REG	ANTIMONY	0.7	
B38W24S	27-Jun-01	REG	ANTIMONY	1.9	
B38W25D	12-May-95	REG	ANTIMONY	2.9	
B38W25D	15-May-97	REG	ANTIMONY	2	
B38W25D	1-Jul-98	REG	ANTIMONY	0.65	
B38W25D	10-Jul-01	REG	ANTIMONY	1.9	
B38W25S	15-May-95	REG	ANTIMONY	1.5	
B38W25S	10-Jul-01	REG	ANTIMONY	1.9	
MISS02A	10-May-95	REG	ANTIMONY	2.4	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	15-May-97	DUP	ANTIMONY	5.1	
MISS02A	11-Jun-98	DUP	ANTIMONY	3.2	
MISS02A	18-May-99	DUP	ANTIMONY	3.9	
MISS02A	5-Jul-01	REG	ANTIMONY	1.9	
MISS05A	27-May-94	REG	ANTIMONY	36.4	
MISS05A	12-May-95	REG	ANTIMONY	1.8	
MISS05A	29-Jun-98	REG	ANTIMONY	1.2	
MISS05A	14-May-99	REG	ANTIMONY	0.7	
MISS05A	19-Jun-01	REG	ANTIMONY	1.9	
MISS06A	24-May-94	REG	ANTIMONY	34.9	
MISS06A	1-Jul-98	REG	ANTIMONY	1.8	
MISS06A	17-May-99	REG	ANTIMONY	0.81	
MISS06A	20-Jun-01	REG	ANTIMONY	1.9	
MISS07B	18-May-94	REG	ANTIMONY	25.7	
MISS07B	18-May-95	REG	ANTIMONY	25.7	
MISS07B	11-Jun-01	REG	ANTIMONY	1.9	
B38W02D	30-Jun-98	REG	ARSENIC	0.75	
B38W02D	20-May-99	REG	ARSENIC	0.61	
B38W02D	28-Jun-01	REG	ARSENIC	2.3	
B38W14S	4-Aug-93	REG	ARSENIC	2.1	J
B38W14S	4-Jun-97	REG	ARSENIC	4.7	
B38W14S	17-May-99	REG	ARSENIC	0.52	
B38W14S	2-Jul-01	REG	ARSENIC	2.3	
B38W15D	2-Aug-93	REG	ARSENIC	6.8	J
B38W15D	26-May-94	REG	ARSENIC	2.6	J
B38W15D	13-May-96	REG	ARSENIC	5.4	
B38W15D	3-Jun-97	REG	ARSENIC	5.7	
B38W15D	6-Jul-98	REG	ARSENIC	7.5	
B38W15D	26-Jun-00	REG	ARSENIC	11.1	
B38W15D	27-Jun-01	DUP	ARSENIC	4.6	
B38W15D	16-Jul-02	REG	ARSENIC	13.9	J
B38W15D	1-Jul-03	REG	ARSENIC	9.9	
B38W15D	30-Jun-04	REG	ARSENIC	7.4	
B38W15D	30-Jun-04	DUP	ARSENIC	5.6	J
B38W15S	2-Aug-93	REG	ARSENIC	3.9	J
B38W15S	19-May-95	REG	ARSENIC	4.9	
B38W15S	19-May-95	DUP	ARSENIC	4.8	
B38W15S	3-Jun-97	REG	ARSENIC	2.6	
B38W15S	6-Jul-98	REG	ARSENIC	3.1	
B38W15S	27-Jun-01	REG	ARSENIC	4.4	
B38W17A	28-Jul-93	REG	ARSENIC	8.9	
B38W17A	2-Jul-98	REG	ARSENIC	2.9	
B38W17A	14-Jun-01	REG	ARSENIC	2.3	
B38W17B	3-Jun-97	REG	ARSENIC	1.8	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W17B	2-Jul-98	REG	ARSENIC	1.3	
B38W17B	13-May-99	REG	ARSENIC	0.76	
B38W17B	14-Jun-01	REG	ARSENIC	2.3	
B38W18D	21-Jul-93	REG	ARSENIC	2.5	
B38W18D	8-Jun-98	REG	ARSENIC	1.7	
B38W18D	20-May-99	REG	ARSENIC	2.3	
B38W18D	6-Jul-00	REG	ARSENIC	8.2	J
B38W18D	20-Jun-01	REG	ARSENIC	2.3	
B38W18D	3-Jul-02	REG	ARSENIC	8.7	
B38W18D	2-Jul-03	REG	ARSENIC	9.6	
B38W18D	22-Jun-04	REG	ARSENIC	9.7	
B38W18D	22-Jun-04	DUP	ARSENIC	7.7	
B38W19D	23-Jul-93	REG	ARSENIC	93	
B38W19D	16-May-94	REG	ARSENIC	68.7	
B38W19D	10-May-95	REG	ARSENIC	48.8	J
B38W19D	16-May-96	REG	ARSENIC	50.5	
B38W19D	16-May-97	REG	ARSENIC	59.5	
B38W19D	17-Jun-98	REG	ARSENIC	60.8	
B38W19D	27-May-99	REG	ARSENIC	55.1	J
B38W19D	12-Jul-00	REG	ARSENIC	70.3	
B38W19D	13-Jun-01	REG	ARSENIC	69.8	
B38W19D	9-Jul-02	REG	ARSENIC	71	
B38W19D	11-Jul-03	REG	ARSENIC	53.9	
B38W19D	24-Jun-04	REG	ARSENIC	41.1	
B38W19S	27-May-94	REG	ARSENIC	8.6	
B38W19S	10-May-96	REG	ARSENIC	5.4	
B38W19S	29-Jun-98	REG	ARSENIC	18.1	
B38W19S	14-May-99	REG	ARSENIC	17.8	
B38W19S	13-Jun-01	REG	ARSENIC	28.7	
B38W24S	2-Jul-98	REG	ARSENIC	1.8	
B38W24S	27-Jun-01	REG	ARSENIC	2.3	
B38W24D	22-Jun-00	REG	ARSENIC	2.1	J
B38W24D	15-Jul-02	REG	ARSENIC	8.4	J
B38W25D	15-May-97	REG	ARSENIC	2.9	
B38W25D	1-Jul-98	REG	ARSENIC	1.1	
B38W25D	10-Jul-01	REG	ARSENIC	2.3	
B38W25S	3-Aug-93	REG	ARSENIC	3.9	J
B38W25S	15-May-95	DUP	ARSENIC	2.5	
B38W25S	5-Jun-97	REG	ARSENIC	1.3	
B38W25S	1-Jul-98	REG	ARSENIC	2.8	
B38W25S	17-May-99	REG	ARSENIC	2.3	
B38W25S	7-Jul-00	REG	ARSENIC	13.4	
B38W25S	10-Jul-01	REG	ARSENIC	20.8	
B38W25S	15-Jul-03	REG	ARSENIC	24.1	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS01AA	31-Jul-93	REG	ARSENIC	2.8	J
MISS01AA	18-May-95	REG	ARSENIC	18.7	
MISS01AA	23-May-97	REG	ARSENIC	4.2	
MISS01AA	18-Jun-98	REG	ARSENIC	5.2	
MISS01AA	12-May-99	REG	ARSENIC	6.5	
MISS01AA	20-Jun-01	REG	ARSENIC	2.3	
MISS01B	21-Jul-93	REG	ARSENIC	3.6	
MISS01B	16-May-94	REG	ARSENIC	3.6	
MISS01B	10-May-95	REG	ARSENIC	2.7	J
MISS01B	18-Jun-98	REG	ARSENIC	2.1	
MISS01B	25-May-99	REG	ARSENIC	1.1	J
MISS01B	19-Jun-01	REG	ARSENIC	2.3	
MISS02A	20-Jul-93	REG	ARSENIC	2840	
MISS02A	12-May-94	REG	ARSENIC	6600	J
MISS02A	10-May-95	REG	ARSENIC	6000	J
MISS02A	16-May-96	REG	ARSENIC	6360	
MISS02A	15-May-97	REG	ARSENIC	5660	
MISS02A	15-May-97	DUP	ARSENIC	5580	
MISS02A	11-Jun-98	REG	ARSENIC	4310	
MISS02A	11-Jun-98	DUP	ARSENIC	5150	
MISS02A	18-May-99	DUP	ARSENIC	6350	
MISS02A	22-Jun-00	REG	ARSENIC	3520	
MISS02A	5-Jul-01	REG	ARSENIC	2210	
MISS02A	8-Jul-02	REG	ARSENIC	2110	
MISS02A	30-Jun-03	REG	ARSENIC	2770	
MISS02A	18-Jun-04	REG	ARSENIC	2740	
MISS05A	27-May-94	REG	ARSENIC	3.5	
MISS05A	12-May-95	REG	ARSENIC	3.8	
MISS05A	2-Jun-97	REG	ARSENIC	16.6	
MISS05A	29-Jun-98	REG	ARSENIC	16.4	
MISS05A	14-May-99	REG	ARSENIC	2	
MISS05A	19-Jun-01	REG	ARSENIC	2.3	
MISS05A	24-Jun-04	REG	ARSENIC	108	
MISS05B	23-Jul-93	REG	ARSENIC	16.6	
MISS05B	17-May-94	REG	ARSENIC	11.9	J
MISS05B	11-May-95	REG	ARSENIC	10.9	J
MISS05B	16-May-96	REG	ARSENIC	10.6	
MISS05B	14-May-97	REG	ARSENIC	10.1	J
MISS05B	30-Jun-98	REG	ARSENIC	9.9	
MISS05B	11-Jul-00	REG	ARSENIC	20.5	
MISS05B	18-Jun-01	REG	ARSENIC	24.3	
MISS05B	31-Jul-02	REG	ARSENIC	20.2	
MISS05B	16-Jul-03	REG	ARSENIC	29	J
MISS06A	3-Jun-97	REG	ARSENIC	3.4	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS06A	1-Jul-98	REG	ARSENIC	5.4	
MISS06A	17-May-99	REG	ARSENIC	2.2	
MISS06A	10-Jul-00	REG	ARSENIC	4	J
MISS06A	20-Jun-01	REG	ARSENIC	2.3	
MISS07B	16-Jun-98	REG	ARSENIC	57.3	
MISS07B	27-May-99	REG	ARSENIC	49.9	J
MISS07B	12-Jul-00	REG	ARSENIC	52.6	
MISS07B	11-Jun-01	REG	ARSENIC	82.8	
MISS07B	11-Jul-02	DUP	ARSENIC	56.5	J
MISS07B	14-Jul-03	REG	ARSENIC	82.9	
MISS07B	28-Jun-04	REG	ARSENIC	70.5	
B38W01S	23-May-94	REG	BARIUM	17.8	
B38W01S	21-May-95	REG	BARIUM	13.1	
B38W01S	17-May-96	REG	BARIUM	14.4	
B38W01S	4-Jun-97	REG	BARIUM	16.8	
B38W01S	7-Jul-98	REG	BARIUM	16.3	
B38W01S	11-Jul-01	DUP	BARIUM	15.1	
B38W01S	17-Jul-02	REG	BARIUM	12.6	
B38W01S	27-Jun-03	REG	BARIUM	16.1	
B38W01S	6-Jul-04	REG	BARIUM	15	
B38W02D	27-Jul-93	REG	BARIUM	385	
B38W02D	19-May-94	REG	BARIUM	342	
B38W02D	20-May-95	REG	BARIUM	298	
B38W02D	17-May-96	REG	BARIUM	349	
B38W02D	4-Jun-97	REG	BARIUM	391	
B38W02D	30-Jun-98	REG	BARIUM	364	
B38W02D	20-May-99	REG	BARIUM	342	
B38W02D	13-Jul-00	REG	BARIUM	299	
B38W02D	28-Jun-01	REG	BARIUM	332	
B38W02D	17-Jul-02	REG	BARIUM	431	
B38W02D	27-Jun-03	REG	BARIUM	368	
B38W02D	6-Jul-04	REG	BARIUM	345	
MISS07B	16-Jun-98	REG	BARIUM	28.1	
MISS07B	27-May-99	REG	BARIUM	21.4	
MISS07B	11-Jun-01	REG	BARIUM	20.6	
MISS07B	11-Jul-02	DUP	BARIUM	15.9	J
MISS07B	14-Jul-03	REG	BARIUM	17.8	
B38W14D	4-Aug-93	REG	BARIUM	106	
B38W14D	20-May-95	REG	BARIUM	73.6	
B38W14D	17-May-96	REG	BARIUM	97.3	
B38W14D	4-Jun-97	REG	BARIUM	113	
B38W14D	7-Jul-98	REG	BARIUM	111	
B38W14D	7-Jul-98	DUP	BARIUM	113	
B38W14D	17-May-99	DUP	BARIUM	116	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W14D	5-Jul-00	REG	BARIUM	105	
B38W14D	2-Jul-01	REG	BARIUM	88.6	
B38W14D	24-Jul-02	REG	BARIUM	109	
B38W14D	10-Jul-03	REG	BARIUM	144	
B38W14D	29-Jun-04	REG	BARIUM	171	
B38W14S	4-Aug-93	REG	BARIUM	106	
B38W14S	20-May-95	REG	BARIUM	61.6	
B38W14S	17-May-96	REG	BARIUM	85.2	
B38W14S	17-May-96	DUP	BARIUM	77.8	
B38W14S	4-Jun-97	REG	BARIUM	90	
B38W14S	7-Jul-98	REG	BARIUM	108	
B38W14S	17-May-99	REG	BARIUM	86.6	
B38W14S	5-Jul-00	REG	BARIUM	91.3	
B38W14S	2-Jul-01	REG	BARIUM	85.6	
B38W14S	24-Jul-02	REG	BARIUM	92.9	
B38W14S	10-Jul-03	REG	BARIUM	103	
B38W14S	29-Jun-04	REG	BARIUM	108	
B38W15D	2-Aug-93	REG	BARIUM	32.4	
B38W15D	26-May-94	REG	BARIUM	30.3	
B38W15D	19-May-95	REG	BARIUM	22.3	
B38W15D	13-May-96	REG	BARIUM	39.4	
B38W15D	3-Jun-97	REG	BARIUM	27.5	
B38W15D	6-Jul-98	REG	BARIUM	22.6	
B38W15D	26-Jun-00	REG	BARIUM	30.2	
B38W15D	27-Jun-01	DUP	BARIUM	15.9	
B38W15D	16-Jul-02	REG	BARIUM	22.2	
B38W15D	1-Jul-03	REG	BARIUM	26.1	
B38W15D	30-Jun-04	REG	BARIUM	16.4	
B38W15D	30-Jun-04	DUP	BARIUM	18	
B38W15S	2-Aug-93	REG	BARIUM	50	
B38W15S	26-May-94	REG	BARIUM	34	
B38W15S	19-May-95	REG	BARIUM	50.9	
B38W15S	19-May-95	DUP	BARIUM	46.1	
B38W15S	13-May-96	REG	BARIUM	35.7	
B38W15S	3-Jun-97	REG	BARIUM	32.2	
B38W15S	6-Jul-98	REG	BARIUM	32.5	
B38W15S	26-Jun-00	REG	BARIUM	37.6	
B38W15S	27-Jun-01	REG	BARIUM	46	
B38W15S	16-Jul-02	REG	BARIUM	35.1	
B38W15S	1-Jul-03	REG	BARIUM	29	
B38W15S	30-Jun-04	REG	BARIUM	29.1	
B38W17A	28-Jul-93	REG	BARIUM	299	
B38W17A	25-May-94	REG	BARIUM	46.9	
B38W17A	20-May-95	REG	BARIUM	36.4	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W17A	13-May-96	REG	BARIUM	60.3	
B38W17A	3-Jun-97	REG	BARIUM	49.3	
B38W17A	2-Jul-98	REG	BARIUM	78.1	
B38W17A	13-May-99	REG	BARIUM	63.1	
B38W17A	19-Jun-00	REG	BARIUM	94.1	
B38W17A	20-Jun-00	REG	BARIUM	44.7	
B38W17A	2-Jul-02	REG	BARIUM	53.3	
B38W17A	26-Jun-03	REG	BARIUM	64.3	
B38W17A	17-Jun-04	REG	BARIUM	50.5	
B38W17B	29-Jul-93	REG	BARIUM	64.9	
B38W17B	25-May-94	REG	BARIUM	89.4	
B38W17B	20-May-95	REG	BARIUM	71.8	
B38W17B	13-May-96	REG	BARIUM	98.3	
B38W17B	3-Jun-97	REG	BARIUM	96.5	
B38W17B	2-Jul-98	REG	BARIUM	71.6	
B38W17B	13-May-99	REG	BARIUM	89.1	
B38W17B	19-Jun-00	REG	BARIUM	69.4	
B38W17B	14-Jun-01	DUP	BARIUM	75.4	
B38W17B	2-Jul-02	REG	BARIUM	62.9	
B38W17B	26-Jun-03	REG	BARIUM	79.9	
B38W17B	16-Jun-04	REG	BARIUM	61.5	
B38W18D	21-Jul-93	REG	BARIUM	13.1	
B38W18D	13-May-94	REG	BARIUM	14.7	
B38W18D	15-May-95	REG	BARIUM	22.7	
B38W18D	14-May-96	REG	BARIUM	22.1	
B38W18D	9-May-97	REG	BARIUM	17.2	
B38W18D	8-Jun-98	REG	BARIUM	18.8	
B38W18D	20-May-99	REG	BARIUM	20.8	
B38W18D	6-Jul-00	REG	BARIUM	22.9	
B38W18D	20-Jun-01	REG	BARIUM	19	
B38W18D	3-Jul-02	DUP	BARIUM	27.8	
B38W18D	2-Jul-03	DUP	BARIUM	28	
B38W18D	22-Jun-04	REG	BARIUM	26.9	
B38W18D	22-Jun-04	DUP	BARIUM	24.7	
B38W19D	16-May-94	REG	BARIUM	30.8	
B38W19D	10-May-95	REG	BARIUM	22.4	
B38W19D	16-May-96	REG	BARIUM	29.7	
B38W19D	16-May-97	REG	BARIUM	29.5	
B38W19D	17-Jun-98	REG	BARIUM	32.4	
B38W19D	23-Jul-93	REG	BARIUM	23.9	
B38W19D	23-May-99	REG	BARIUM	31	
B38W19D	12-Jul-00	REG	BARIUM	26.9	
B38W19D	13-Jun-01	REG	BARIUM	33.2	
B38W19D	9-Jul-02	REG	BARIUM	34.9	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W19D	11-Jul-03	REG	BARIUM	36.9	
B38W19D	24-Jun-04	REG	BARIUM	36.6	
B38W19S	27-May-94	REG	BARIUM	50.2	
B38W19S	17-May-95	REG	BARIUM	47.5	
B38W19S	10-May-96	REG	BARIUM	43.1	
B38W19S	29-Jun-98	REG	BARIUM	42.7	
B38W19S	14-May-99	REG	BARIUM	43.2	
B38W19S	13-Jun-01	REG	BARIUM	36.5	
B38W19S	9-Jul-02	REG	BARIUM	32.6	
B38W19S	11-Jul-03	REG	BARIUM	31.1	
B38W19S	25-Jun-04	REG	BARIUM	41.4	
B38W24D	9-Aug-93	REG	BARIUM	49.6	
B38W24D	18-May-94	REG	BARIUM	41.2	
B38W24D	17-May-95	REG	BARIUM	24.6	
B38W24D	9-May-96	REG	BARIUM	56.2	
B38W24D	2-Jun-97	REG	BARIUM	50.6	
B38W24D	2-Jul-98	REG	BARIUM	96.5	
B38W24D	13-May-99	REG	BARIUM	45.6	
B38W24D	22-Jun-00	REG	BARIUM	240	J
B38W24D	5-Jul-01	REG	BARIUM	52.7	
B38W24D	15-Jul-02	REG	BARIUM	30.6	
B38W24D	7-Jul-03	REG	BARIUM	71.7	
B38W24D	1-Jul-04	REG	BARIUM	53.4	
B38W24S	5-Aug-93	REG	BARIUM	45	
B38W24S	25-May-94	REG	BARIUM	46	
B38W24S	17-May-95	REG	BARIUM	45.6	
B38W24S	9-May-96	REG	BARIUM	39.4	
B38W24S	2-Jun-97	REG	BARIUM	43.9	
B38W24S	2-Jul-98	REG	BARIUM	43.3	
B38W24S	2-May-99	DUP	BARIUM	39.1	
B38W24S	21-Jun-00	REG	BARIUM	36.2	
B38W24S	27-Jun-01	REG	BARIUM	34.1	
B38W24S	15-Jul-02	REG	BARIUM	34.2	
B38W24S	7-Jul-03	REG	BARIUM	40.8	
B38W24S	28-Jun-04	REG	BARIUM	46	
B38W25D	3-Aug-93	REG	BARIUM	49	
B38W25D	18-May-94	REG	BARIUM	51.7	
B38W25D	12-May-95	REG	BARIUM	62.7	
B38W25D	15-May-96	REG	BARIUM	54.5	
B38W25D	15-May-97	REG	BARIUM	48.3	
B38W25D	1-Jul-98	REG	BARIUM	48.1	
B38W25D	26-May-99	REG	BARIUM	58.4	
B38W25D	7-Jul-00	REG	BARIUM	61.4	
B38W25D	10-Jul-01	DUP	BARIUM	61.4	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W25D	10-Jul-02	REG	BARIUM	92.2	J
B38W25D	15-Jul-03	REG	BARIUM	312	
B38W25D	9-Jul-04	REG	BARIUM	237	
B38W25S	3-Aug-93	REG	BARIUM	126	
B38W25S	24-May-94	REG	BARIUM	50.5	
B38W25S	15-May-95	REG	BARIUM	68.5	
B38W25S	15-May-95	DUP	BARIUM	43.1	
B38W25S	15-May-96	REG	BARIUM	39	
B38W25S	15-May-96	DUP	BARIUM	39.4	
B38W25S	5-Jun-97	REG	BARIUM	47	
B38W25S	1-Jul-98	REG	BARIUM	112	
B38W25S	17-May-99	REG	BARIUM	73.6	
B38W25S	7-Jul-00	REG	BARIUM	166	
B38W25S	10-Jul-01	REG	BARIUM	198	
B38W25S	10-Jul-02	REG	BARIUM	294	J
B38W25S	15-Jul-03	REG	BARIUM	339	
MISS01AA	31-Jul-93	REG	BARIUM	159	
MISS01AA	23-May-94	REG	BARIUM	19.5	
MISS01AA	18-May-95	REG	BARIUM	10.6	
MISS01AA	9-May-96	REG	BARIUM	14.4	
MISS01AA	23-May-97	REG	BARIUM	7	
MISS01AA	18-Jun-98	REG	BARIUM	8.1	
MISS01AA	12-May-99	REG	BARIUM	8.7	
MISS01AA	20-Jun-00	REG	BARIUM	6.9	
MISS01AA	20-Jun-01	REG	BARIUM	9	
MISS01AA	11-Jul-02	REG	BARIUM	6.4	J
MISS01AA	9-Jul-03	REG	BARIUM	7.7	J
MISS01AA	21-Jun-04	REG	BARIUM	6.9	
MISS01B	21-Jul-93	REG	BARIUM	72.9	
MISS01B	21-Jul-93	REG	BARIUM	69.6	
MISS01B	16-May-94	REG	BARIUM	82.9	
MISS01B	10-May-95	REG	BARIUM	66.9	
MISS01B	15-May-96	REG	BARIUM	98.3	
MISS01B	18-Jun-98	REG	BARIUM	80	
MISS01B	25-May-99	REG	BARIUM	73.5	
MISS01B	20-Jun-00	REG	BARIUM	66.7	
MISS01B	19-Jun-01	REG	BARIUM	71.4	
MISS01B	18-Jul-02	DUP	BARIUM	66.8	
MISS01B	9-Jul-03	REG	BARIUM	86.6	
MISS01B	22-Jun-04	REG	BARIUM	92.4	
MISS02A	20-Jul-93	REG	BARIUM	10	
MISS02A	12-May-94	REG	BARIUM	10.1	J
MISS02A	10-May-95	REG	BARIUM	12	
MISS02A	16-May-96	REG	BARIUM	9.5	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	15-May-97	DUP	BARIUM	8.4	
MISS02A	11-Jun-98	DUP	BARIUM	6.2	
MISS02A	18-May-99	DUP	BARIUM	21	
MISS02A	22-Jun-00	REG	BARIUM	8.6	
MISS02A	5-Jul-01	REG	BARIUM	1.5	
MISS02A	8-Jul-02	REG	BARIUM	9.4	J
MISS02A	18-Jun-04	REG	BARIUM	4.1	
MISS02B	20-Jul-93	REG	BARIUM	13.3	
MISS02B	13-May-94	REG	BARIUM	7.8	
MISS02B	9-May-95	REG	BARIUM	18.1	
MISS02B	14-May-96	REG	BARIUM	9.2	
MISS02B	19-May-97	REG	BARIUM	9	
MISS02B	10-Jun-98	REG	BARIUM	10	
MISS02B	18-May-99	REG	BARIUM	11	
MISS02B	23-Jun-00	REG	BARIUM	11.4	
MISS02B	5-Jul-01	REG	BARIUM	10.3	
MISS02B	8-Jul-02	REG	BARIUM	10.5	J
MISS02B	30-Jun-03	REG	BARIUM	13.2	
MISS02B	18-Jun-04	REG	BARIUM	11.5	
MISS05A	27-May-94	REG	BARIUM	28.2	
MISS05A	12-May-95	REG	BARIUM	37.8	
MISS05A	10-May-96	REG	BARIUM	32	
MISS05A	2-Jun-97	REG	BARIUM	23.1	
MISS05A	29-Jun-98	REG	BARIUM	18.4	
MISS05A	14-May-99	REG	BARIUM	20.3	
MISS05A	19-Jun-01	REG	BARIUM	17.2	
MISS05A	1-Aug-02	REG	BARIUM	16.1	
MISS05A	14-Jul-03	REG	BARIUM	15.4	
MISS05A	24-Jun-04	REG	BARIUM	41.8	
MISS05B	23-Jul-93	REG	BARIUM	52.2	
MISS05B	17-May-94	REG	BARIUM	89.9	
MISS05B	11-May-95	REG	BARIUM	128	
MISS05B	16-May-96	REG	BARIUM	38.3	
MISS05B	14-May-97	REG	BARIUM	37.9	
MISS05B	30-Jun-98	REG	BARIUM	26.3	
MISS05B	11-Jul-00	REG	BARIUM	41.6	
MISS05B	18-Jun-01	REG	BARIUM	62.2	
MISS05B	31-Jul-02	REG	BARIUM	125	
MISS05B	16-Jul-03	REG	BARIUM	54.7	
MISS05B	23-Jun-04	REG	BARIUM	412	
MISS06A	4-Aug-93	REG	BARIUM	80.3	
MISS06A	24-May-94	REG	BARIUM	44.3	
MISS06A	16-May-95	REG	BARIUM	122	
MISS06A	10-May-96	REG	BARIUM	39.4	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS06A	3-Jun-97	REG	BARIUM	57.9	
MISS06A	1-Jul-98	REG	BARIUM	48.1	
MISS06A	17-May-99	REG	BARIUM	48	
MISS06A	10-Jul-00	REG	BARIUM	51.4	
MISS06A	20-Jun-01	REG	BARIUM	54.8	
MISS06A	10-Jul-02	REG	BARIUM	33.1	J
MISS06A	2-Jul-03	REG	BARIUM	67.5	
MISS07A	30-Jun-04	REG	BARIUM	83.7	
MISS07B	12-Jul-00	REG	BARIUM	20	
MISS07B	11-Jul-02	DUP	BARIUM	15.9	J
MISS07B	14-Jul-03	REG	BARIUM	17.8	
MISS07B	28-Jun-04	REG	BARIUM	15.1	
B38W01S	28-Jul-93	REG	BERYLLIUM	4	
B38W01S	23-May-94	REG	BERYLLIUM	1.1	
B38W01S	21-May-95	REG	BERYLLIUM	3.1	
B38W01S	17-May-96	REG	BERYLLIUM	2.3	
B38W01S	4-Jun-97	REG	BERYLLIUM	2.7	
B38W01S	7-Jul-98	REG	BERYLLIUM	1.9	
B38W01S	11-Jul-01	DUP	BERYLLIUM	2.2	
B38W01S	17-Jul-02	REG	BERYLLIUM	1.6	J
B38W01S	27-Jun-03	REG	BERYLLIUM	1.8	
B38W01S	6-Jul-04	REG	BERYLLIUM	1.5	
B38W02D	4-Jun-97	REG	BERYLLIUM	0.24	
B38W02D	28-Jun-01	REG	BERYLLIUM	0.2	
MISS07B	16-Jun-98	REG	BERYLLIUM	0.14	
MISS07B	11-Jun-01	REG	BERYLLIUM	0.36	
B38W14D	4-Jun-97	REG	BERYLLIUM	0.2	
B38W14D	2-Jul-01	REG	BERYLLIUM	0.2	
B38W14S	4-Jun-97	REG	BERYLLIUM	0.28	
B38W14S	2-Jul-01	REG	BERYLLIUM	0.2	
B38W15D	26-May-94	REG	BERYLLIUM	0.5	
B38W15D	3-Jun-97	REG	BERYLLIUM	0.24	
B38W15D	27-Jun-01	REG	BERYLLIUM	0.2	
B38W15S	3-Jun-97	REG	BERYLLIUM	0.2	
B38W15S	27-Jun-01	REG	BERYLLIUM	0.2	
B38W17A	28-Jul-93	REG	BERYLLIUM	2.7	
B38W17A	3-Jun-97	REG	BERYLLIUM	0.2	
B38W17A	19-Jun-00	REG	BERYLLIUM	0.21	J
B38W17A	14-Jun-01	REG	BERYLLIUM	0.24	
B38W17B	3-Jun-97	REG	BERYLLIUM	0.26	
B38W17B	14-Jun-01	REG	BERYLLIUM	0.44	
B38W18D	15-May-95	REG	BERYLLIUM	1.1	
B38W18D	14-May-96	REG	BERYLLIUM	0.84	
B38W18D	9-May-97	REG	BERYLLIUM	0.46	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W18D	8-Jun-98	REG	BERYLLIUM	0.86	
B38W18D	20-May-99	DUP	BERYLLIUM	0.99	
B38W18D	6-Jul-00	REG	BERYLLIUM	0.52	J
B38W18D	20-Jun-01	REG	BERYLLIUM	0.2	
B38W18D	2-Jul-03	REG	BERYLLIUM	1.3	J
B38W18D	22-Jun-04	REG	BERYLLIUM	0.96	J
B38W18D	22-Jun-04	DUP	BERYLLIUM	0.87	J
B38W24D	2-Jun-97	REG	BERYLLIUM	0.52	
B38W24D	2-Jul-98	REG	BERYLLIUM	0.82	
B38W24D	13-May-99	REG	BERYLLIUM	0.42	
B38W24D	5-Jul-01	REG	BERYLLIUM	0.64	
B38W24S	25-May-94	REG	BERYLLIUM	1.5	
B38W24S	17-May-95	REG	BERYLLIUM	0.77	
B38W24S	9-May-96	REG	BERYLLIUM	2	
B38W24S	2-Jun-97	REG	BERYLLIUM	6.3	
B38W24S	2-Jul-98	REG	BERYLLIUM	4.5	
B38W24S	13-May-99	REG	BERYLLIUM	1.1	
B38W24S	21-Jun-00	REG	BERYLLIUM	1.1	
B38W24S	27-Jun-01	REG	BERYLLIUM	1.4	
B38W24S	15-Jul-02	REG	BERYLLIUM	1.4	J
B38W24S	7-Jul-03	REG	BERYLLIUM	1.4	
B38W24S	28-Jun-04	REG	BERYLLIUM	1.1	J
B38W25S	3-Aug-93	REG	BERYLLIUM	1.1	
B38W25S	5-Jun-97	REG	BERYLLIUM	0.3	
B38W25S	10-Jul-01	REG	BERYLLIUM	0.3	
MISS02B	20-Jul-93	REG	BERYLLIUM	1.8	
MISS02B	14-May-96	REG	BERYLLIUM	0.68	
MISS02B	19-May-97	REG	BERYLLIUM	0.66	
MISS02B	10-Jun-98	REG	BERYLLIUM	0.74	
MISS02B	18-May-99	REG	BERYLLIUM	0.84	
MISS02B	23-Jun-00	REG	BERYLLIUM	0.57	J
MISS02B	5-Jul-01	REG	BERYLLIUM	0.3	
MISS02B	18-Jun-04	REG	BERYLLIUM	0.74	J
MISS05A	2-Jun-97	REG	BERYLLIUM	0.48	
MISS05A	29-Jun-98	REG	BERYLLIUM	0.14	
MISS05A	19-Jun-01	REG	BERYLLIUM	0.2	
MISS05A	24-Jun-04	REG	BERYLLIUM	2.9	J
B38W01S	28-Jul-93	REG	BORON	516	
B38W01S	23-May-94	REG	BORON	496	
B38W01S	21-May-95	REG	BORON	444	
B38W01S	4-Jun-97	REG	BORON	373	
B38W01S	7-Jul-98	REG	BORON	270	
B38W01S	11-Jul-01	DUP	BORON	276	
B38W01S	17-Jul-02	REG	BORON	239	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W01S	27-Jun-03	REG	BORON	282	
B38W01S	6-Jul-04	REG	BORON	238	
B38W02D	20-May-95	REG	BORON	125	
B38W02D	4-Jun-97	REG	BORON	23.3	
B38W02D	30-Jun-98	REG	BORON	24.8	
B38W02D	20-May-99	REG	BORON	24.2	
B38W02D	28-Jun-01	REG	BORON	19.7	
B38W14D	4-Aug-93	REG	BORON	63.9	
B38W14D	20-May-95	REG	BORON	108	
B38W14D	4-Jun-97	REG	BORON	49.8	
B38W14D	7-Jul-98	DUP	BORON	49.8	
B38W14D	17-May-99	REG	BORON	47.5	
B38W14D	2-Jul-01	REG	BORON	42.2	
B38W14D	24-Jul-02	REG	BORON	76	J
B38W14D	10-Jul-03	REG	BORON	54.2	
B38W14D	29-Jun-04	REG	BORON	61.9	
B38W14S	4-Aug-93	REG	BORON	68	
B38W14S	20-May-95	REG	BORON	142	
B38W14S	4-Jun-97	REG	BORON	40.6	
B38W14S	7-Jul-98	REG	BORON	39.3	
B38W14S	17-May-99	REG	BORON	38.6	
B38W14S	2-Jul-01	REG	BORON	34.5	
B38W14S	24-Jul-02	REG	BORON	82.1	J
B38W14S	10-Jul-03	REG	BORON	56.4	
B38W14S	29-Jun-04	REG	BORON	79.9	
B38W15D	2-Aug-93	REG	BORON	297	
B38W15D	26-May-94	REG	BORON	520	
B38W15D	19-May-95	REG	BORON	338	
B38W15D	13-May-96	REG	BORON	521	
B38W15D	3-Jun-97	REG	BORON	415	
B38W15D	6-Jul-98	REG	BORON	235	
B38W15D	27-Jun-01	DUP	BORON	210	
B38W15D	16-Jul-02	REG	BORON	616	
B38W15D	1-Jul-03	REG	BORON	700	
B38W15D	30-Jun-04	REG	BORON	477	
B38W15D	30-Jun-04	DUP	BORON	486	
B38W15S	2-Aug-93	REG	BORON	532	
B38W15S	26-May-94	REG	BORON	425	
B38W15S	19-May-95	REG	BORON	608	
B38W15S	19-May-95	DUP	BORON	566	
B38W15S	13-May-96	REG	BORON	432	
B38W15S	3-Jun-97	REG	BORON	492	
B38W15S	6-Jul-98	REG	BORON	455	
B38W15S	27-Jun-01	REG	BORON	642	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W15S	16-Jul-02	REG	BORON	713	
B38W15S	1-Jul-03	REG	BORON	616	
B38W15S	30-Jun-04	REG	BORON	519	
B38W17A	20-May-95	REG	BORON	156	
B38W17A	13-May-96	REG	BORON	143	
B38W17A	3-Jun-97	REG	BORON	72.3	
B38W17A	2-Jul-98	REG	BORON	63.7	
B38W17A	13-May-99	REG	BORON	66.2	
B38W17A	14-Jun-01	REG	BORON	62.4	
B38W17A	2-Jul-02	REG	BORON	63	J
B38W17A	26-Jun-03	REG	BORON	66.3	
B38W17A	17-Jun-04	REG	BORON	51.8	J
B38W17B	29-Jul-93	REG	BORON	392	
B38W17B	25-May-94	REG	BORON	355	
B38W17B	20-May-95	REG	BORON	382	
B38W17B	13-May-96	REG	BORON	303	
B38W17B	3-Jun-97	REG	BORON	365	
B38W17B	2-Jul-98	REG	BORON	289	
B38W17B	13-May-99	REG	BORON	317	
B38W17B	14-Jun-01	REG	BORON	315	
B38W17B	2-Jul-02	REG	BORON	267	
B38W17B	26-Jun-03	REG	BORON	250	
B38W17B	16-Jun-04	REG	BORON	300	
B38W18D	21-Jul-93	REG	BORON	491	
B38W18D	13-May-94	REG	BORON	449	J
B38W18D	15-May-95	REG	BORON	425	
B38W18D	9-May-97	REG	BORON	405	
B38W18D	8-Jun-98	REG	BORON	425	
B38W18D	20-May-99	REG	BORON	366	
B38W18D	20-Jun-01	REG	BORON	173	
B38W18D	3-Jul-02	DUP	BORON	348	
B38W18D	2-Jul-03	DUP	BORON	387	
B38W18D	22-Jun-04	REG	BORON	345	
B38W18D	22-Jun-04	DUP	BORON	320	
B38W19D	23-Jul-93	REG	BORON	2020	
B38W19D	16-May-94	REG	BORON	1020	
B38W19D	10-May-95	REG	BORON	885	
B38W19D	16-May-96	REG	BORON	762	J
B38W19D	16-May-97	REG	BORON	879	
B38W19D	17-Jun-98	REG	BORON	962	
B38W19D	27-May-99	REG	BORON	1120	
B38W19D	13-Jun-01	REG	BORON	717	
B38W19D	9-Jul-02	REG	BORON	1100	
B38W19D	11-Jul-03	REG	BORON	563	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W19D	24-Jun-04	REG	BORON	1240	
B38W19S	27-May-94	REG	BORON	1130	
B38W19S	17-May-95	REG	BORON	1240	
B38W19S	10-May-96	REG	BORON	1030	
B38W19S	29-Jun-98	REG	BORON	741	
B38W19S	14-May-99	REG	BORON	756	
B38W19S	13-Jun-01	REG	BORON	746	
B38W19S	9-Jul-02	REG	BORON	801	
B38W19S	11-Jul-03	REG	BORON	631	
B38W19S	25-Jun-04	REG	BORON	548	
B38W24D	9-Aug-93	REG	BORON	142	
B38W24D	9-May-96	REG	BORON	138	
B38W24D	2-Jun-97	REG	BORON	90.4	
B38W24D	2-Jul-98	REG	BORON	76.6	
B38W24D	13-May-99	REG	BORON	98.3	
B38W24D	5-Jul-01	REG	BORON	89.4	
B38W24D	15-Jul-02	REG	BORON	89.7	
B38W24D	7-Jul-03	REG	BORON	96.2	
B38W24D	1-Jul-04	REG	BORON	89.5	
B38W24S	5-Aug-93	REG	BORON	104	
B38W24S	17-May-95	REG	BORON	132	
B38W24S	9-May-96	REG	BORON	105	
B38W24S	2-Jun-97	REG	BORON	79.3	
B38W24S	2-Jul-98	REG	BORON	82	
B38W24S	13-May-99	REG	BORON	104	
B38W24S	27-Jun-01	REG	BORON	92.8	
B38W24S	15-Jul-02	REG	BORON	108	
B38W24S	7-Jul-03	REG	BORON	101	
B38W24S	28-Jun-04	REG	BORON	98.2	
B38W25D	3-Aug-93	REG	BORON	168	
B38W25D	18-May-94	REG	BORON	172	
B38W25D	12-May-95	REG	BORON	236	J
B38W25D	15-May-96	REG	BORON	159	
B38W25D	15-May-97	REG	BORON	154	
B38W25D	1-Jul-98	REG	BORON	138	
B38W25D	26-May-99	REG	BORON	146	
B38W25D	10-Jul-01	REG	BORON	128	
B38W25D	9-Jul-04	REG	BORON	113	
B38W25S	3-Aug-93	REG	BORON	134	
B38W25S	15-May-95	REG	BORON	227	
B38W25S	15-May-95	DUP	BORON	171	
B38W25S	15-May-96	REG	BORON	150	
B38W25S	15-May-96	DUP	BORON	142	
B38W25S	5-Jun-97	REG	BORON	126	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W25S	1-Jul-98	REG	BORON	98.4	
B38W25S	17-May-99	REG	BORON	79.6	
B38W25S	10-Jul-01	REG	BORON	79.3	
MISS01AA	31-Jul-93	REG	BORON	189	
MISS01AA	23-May-94	REG	BORON	204	
MISS01AA	18-May-95	REG	BORON	222	
MISS01AA	9-May-96	REG	BORON	178	
MISS01AA	23-May-97	REG	BORON	234	
MISS01AA	18-Jun-98	REG	BORON	270	
MISS01AA	12-May-99	REG	BORON	278	
MISS01AA	20-Jun-01	REG	BORON	376	
MISS01AA	11-Jul-02	REG	BORON	260	J
MISS01AA	9-Jul-03	REG	BORON	293	
MISS01AA	21-Jun-04	REG	BORON	395	
MISS01B	21-Jul-93	REG	BORON	106	
MISS01B	21-Jul-93	REG	BORON	85.3	
MISS01B	15-May-96	REG	BORON	94.9	
MISS01B	18-Jun-98	REG	BORON	72.1	
MISS01B	25-May-99	REG	BORON	61.6	
MISS01B	19-Jun-01	REG	BORON	62.4	
MISS01B	18-Jul-02	DUP	BORON	54.8	J
MISS01B	9-Jul-03	REG	BORON	75.4	
MISS01B	22-Jun-04	REG	BORON	75	
MISS02A	20-Jul-93	REG	BORON	1300	
MISS02A	12-May-94	REG	BORON	897	J
MISS02A	10-May-95	REG	BORON	1190	
MISS02A	16-May-96	REG	BORON	878	J
MISS02A	15-May-97	REG	BORON	1000	
MISS02A	15-May-97	DUP	BORON	910	
MISS02A	11-Jun-98	DUP	BORON	818	
MISS02A	18-May-99	REG	BORON	1680	
MISS02A	5-Jul-01	REG	BORON	977	
MISS02A	8-Jul-02	REG	BORON	2080	
MISS02A	30-Jun-03	REG	BORON	1070	
MISS02A	18-Jun-04	REG	BORON	1150	
MISS02B	20-Jul-93	REG	BORON	2150	
MISS02B	13-May-94	REG	BORON	1260	J
MISS02B	9-May-95	REG	BORON	1220	
MISS02B	14-May-96	REG	BORON	1680	
MISS02B	19-May-97	REG	BORON	1450	
MISS02B	10-Jun-98	REG	BORON	1620	
MISS02B	18-May-99	REG	BORON	1580	
MISS02B	5-Jul-01	REG	BORON	4110	
MISS02B	8-Jul-02	REG	BORON	1190	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (μg/L)	Qualifier
MISS02B	30-Jun-03	REG	BORON	1660	
MISS02B	18-Jun-04	REG	BORON	1050	
MISS05A	27-May-94	REG	BORON	420	
MISS05A	12-May-95	REG	BORON	588	J
MISS05A	10-May-96	REG	BORON	385	
MISS05A	2-Jun-97	REG	BORON	402	
MISS05A	29-Jun-98	REG	BORON	291	
MISS05A	14-May-99	REG	BORON	352	
MISS05A	19-Jun-01	REG	BORON	326	
MISS05A	1-Aug-02	REG	BORON	452	
MISS05A	14-Jul-03	REG	BORON	303	
MISS05A	24-Jun-04	REG	BORON	368	
MISS05B	17-May-94	REG	BORON	747	
MISS05B	11-May-95	REG	BORON	665	J
MISS05B	14-May-97	REG	BORON	662	
MISS05B	30-Jun-98	REG	BORON	281	
MISS05B	23-Jul-93	REG	BORON	806	
MISS05B	18-Jun-01	REG	BORON	371	
MISS05B	31-Jul-02	REG	BORON	429	
MISS05B	16-Jul-03	REG	BORON	267	
MISS05B	23-Jun-04	REG	BORON	1880	
MISS06A	4-Aug-93	REG	BORON	1800	
MISS06A	24-May-94	REG	BORON	498	J
MISS06A	16-May-95	REG	BORON	2080	
MISS06A	10-May-96	REG	BORON	326	
MISS06A	3-Jun-97	REG	BORON	482	
MISS06A	1-Jul-98	REG	BORON	327	
MISS06A	17-May-99	REG	BORON	352	
MISS06A	20-Jun-01	REG	BORON	165	
MISS06A	2-Jul-03	REG	BORON	147	
MISS07A	30-Jun-04	REG	BORON	48.1	J
MISS07B	22-Jul-93	REG	BORON	1180	
MISS07B	18-May-94	REG	BORON	757	
MISS07B	11-May-95	REG	BORON	1210	J
MISS07B	16-May-96	REG	BORON	963	
MISS07B	16-May-97	REG	BORON	1050	
MISS07B	16-Jun-98	REG	BORON	1260	
MISS07B	27-May-99	REG	BORON	1670	
MISS07B	11-Jun-01	REG	BORON	2860	
MISS07B	11-Jul-02	REG	BORON	2120	
MISS07B	14-Jul-03	REG	BORON	17.8	
MISS07B	28-Jun-04	REG	BORON	1370	
B38W01S	23-May-94	REG	CADMIUM	2.4	
B38W01S	4-Jun-97	REG	CADMIUM	0.66	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W01S	7-Jul-98	REG	CADMIUM	1.2	
B38W01S	11-Jul-01	REG	CADMIUM	0.37	
B38W14D	4-Aug-93	REG	CADMIUM	9.7	J
B38W14D	4-Jun-97	REG	CADMIUM	1	
B38W14D	7-Jul-98	DUP	CADMIUM	2.4	
B38W14D	7-Jul-98	REG	CADMIUM	2.4	
B38W14D	5-Jul-00	REG	CADMIUM	2.9	
B38W14D	2-Jul-01	REG	CADMIUM	4.7	
B38W14S	4-Aug-93	REG	CADMIUM	9.5	J
B38W14S	4-Jun-97	REG	CADMIUM	1.3	
B38W14S	7-Jul-98	REG	CADMIUM	11.9	
B38W14S	5-Jul-00	REG	CADMIUM	1.1	
B38W14S	2-Jul-01	REG	CADMIUM	0.48	
B38W15D	2-Aug-93	REG	CADMIUM	6.4	
B38W15D	6-Jul-98	REG	CADMIUM	0.44	
B38W15D	27-Jun-01	DUP	CADMIUM	0.82	
B38W15S	3-Jun-97	REG	CADMIUM	2.6	
B38W15S	6-Jul-98	REG	CADMIUM	2.2	
B38W15S	27-Jun-01	REG	CADMIUM	0.51	
B38W15S	16-Jul-02	REG	CADMIUM	3.4	J
B38W15S	30-Jun-04	REG	CADMIUM	2.7	
B38W17A	2-Jul-98	REG	CADMIUM	0.79	
B38W17A	14-Jun-01	REG	CADMIUM	0.3	
B38W17B	3-Jun-97	REG	CADMIUM	0.33	
B38W17B	2-Jul-98	REG	CADMIUM	0.36	
B38W17B	14-Jun-01	REG	CADMIUM	0.3	
B38W19D	16-May-97	REG	CADMIUM	0.44	
B38W19D	17-Jun-98	REG	CADMIUM	0.26	
B38W19D	13-Jun-01	REG	CADMIUM	0.3	
B38W19S	29-Jun-98	REG	CADMIUM	0.54	
B38W19S	13-Jun-01	REG	CADMIUM	0.3	
B38W24D	2-Jul-98	REG	CADMIUM	2.6	
B38W24D	5-Jul-01	REG	CADMIUM	0.69	
B38W24D	7-Jul-03	REG	CADMIUM	1.1	
B38W24S	2-Jul-98	REG	CADMIUM	0.79	
B38W24S	27-Jun-01	REG	CADMIUM	0.44	
B38W25S	5-Jun-97	REG	CADMIUM	0.4	
B38W25S	1-Jul-98	REG	CADMIUM	1.4	
B38W25S	7-Jul-00	REG	CADMIUM	1.4	
B38W25S	10-Jul-01	REG	CADMIUM	0.46	
MISS01AA	31-Jul-93	REG	CADMIUM	7	
MISS01AA	23-May-97	REG	CADMIUM	1.4	
MISS01AA	18-Jun-98	REG	CADMIUM	0.82	
MISS01AA	20-Jun-01	REG	CADMIUM	0.3	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	12-May-94	REG	CADMIUM	7.9	
MISS02A	15-May-97	REG	CADMIUM	0.46	
MISS02A	15-May-97	DUP	CADMIUM	0.32	
MISS02A	5-Jul-01	REG	CADMIUM	0.3	
MISS02B	23-Jun-00	REG	CADMIUM	0.97	
MISS05A	29-Jun-98	REG	CADMIUM	0.98	
MISS05A	19-Jun-01	REG	CADMIUM	0.3	
MISS05B	30-Jun-98	REG	CADMIUM	0.48	
MISS05B	18-Jun-01	REG	CADMIUM	0.3	
MISS06A	3-Jun-97	REG	CADMIUM	2.6	
MISS06A	1-Jul-98	REG	CADMIUM	2.2	
MISS06A	10-Jul-00	REG	CADMIUM	1.5	
MISS06A	20-Jun-01	REG	CADMIUM	2.7	
MISS06A	2-Jul-03	REG	CADMIUM	5.6	
MISS07A	30-Jun-04	REG	CADMIUM	1.6	J
B38W01S	28-Jul-93	REG	CALCIUM	427000	
B38W01S	23-May-94	REG	CALCIUM	392000	
B38W01S	21-May-95	REG	CALCIUM	371000	
B38W01S	17-May-96	REG	CALCIUM	420000	
B38W01S	4-Jun-97	REG	CALCIUM	433000	
B38W01S	7-Jul-98	REG	CALCIUM	404000	
B38W01S	17-Jul-02	REG	CALCIUM	308000	
B38W01S	27-Jun-03	REG	CALCIUM	363000	
B38W01S	6-Jul-04	REG	CALCIUM	344000	
B38W02D	27-Jul-93	REG	CALCIUM	89000	
B38W02D	19-May-94	REG	CALCIUM	77700	
B38W02D	20-May-95	REG	CALCIUM	73700	
B38W02D	17-May-96	REG	CALCIUM	87700	
B38W02D	4-Jun-97	REG	CALCIUM	88700	
B38W02D	30-Jun-98	REG	CALCIUM	84700	
B38W02D	20-May-99	REG	CALCIUM	95600	
B38W02D	13-Jul-00	REG	CALCIUM	86300	
B38W02D	17-Jul-02	REG	CALCIUM	84400	
B38W02D	27-Jun-03	REG	CALCIUM	73500	
B38W02D	6-Jul-04	REG	CALCIUM	90100	
B38W14D	4-Aug-93	REG	CALCIUM	97900	J
B38W14D	20-May-95	REG	CALCIUM	77400	
B38W14D	17-May-96	REG	CALCIUM	111000	
B38W14D	4-Jun-97	REG	CALCIUM	110000	
B38W14D	7-Jul-98	DUP	CALCIUM	109000	
B38W14D	17-May-99	DUP	CALCIUM	119000	
B38W14D	5-Jul-00	REG	CALCIUM	102000	
B38W14D	24-Jul-02	REG	CALCIUM	100000	
B38W14D	10-Jul-03	REG	CALCIUM	124000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W14D	29-Jun-04	REG	CALCIUM	139000	
B38W14S	4-Aug-93	REG	CALCIUM	47800	J
B38W14S	20-May-95	REG	CALCIUM	70800	
B38W14S	17-May-96	REG	CALCIUM	99700	
B38W14S	17-May-96	DUP	CALCIUM	90600	
B38W14S	4-Jun-97	REG	CALCIUM	90500	
B38W14S	7-Jul-98	REG	CALCIUM	85200	
B38W14S	17-May-99	REG	CALCIUM	95600	
B38W14S	5-Jul-00	REG	CALCIUM	94600	
B38W14S	24-Jul-02	REG	CALCIUM	98400	
B38W14S	10-Jul-03	REG	CALCIUM	102000	
B38W14S	29-Jun-04	REG	CALCIUM	106000	
B38W15D	2-Aug-93	REG	CALCIUM	48600	
B38W15D	26-May-94	REG	CALCIUM	92800	
B38W15D	19-May-95	REG	CALCIUM	58700	J
B38W15D	13-May-96	REG	CALCIUM	98600	J
B38W15D	3-Jun-97	REG	CALCIUM	71300	
B38W15D	6-Jul-98	REG	CALCIUM	44400	
B38W15D	26-Jun-00	REG	CALCIUM	102000	
B38W15D	16-Jul-02	REG	CALCIUM	80400	
B38W15D	1-Jul-03	REG	CALCIUM	101000	
B38W15D	30-Jun-04	REG	CALCIUM	69100	
B38W15D	30-Jun-04	DUP	CALCIUM	70300	
B38W15S	2-Aug-93	REG	CALCIUM	75700	
B38W15S	26-May-94	REG	CALCIUM	55100	
B38W15S	19-May-95	REG	CALCIUM	80500	J
B38W15S	19-May-95	DUP	CALCIUM	75100	J
B38W15S	13-May-96	REG	CALCIUM	52500	J
B38W15S	3-Jun-97	REG	CALCIUM	57200	
B38W15S	6-Jul-98	REG	CALCIUM	55400	
B38W15S	26-Jun-00	REG	CALCIUM	80500	
B38W15S	16-Jul-02	REG	CALCIUM	82200	
B38W15S	1-Jul-03	REG	CALCIUM	66700	
B38W15S	30-Jun-04	REG	CALCIUM	50800	
B38W17A	28-Jul-93	REG	CALCIUM	133000	
B38W17A	25-May-94	REG	CALCIUM	75000	
B38W17A	20-May-95	REG	CALCIUM	57300	
B38W17A	13-May-96	REG	CALCIUM	93800	J
B38W17A	3-Jun-97	REG	CALCIUM	53400	
B38W17A	2-Jul-98	REG	CALCIUM	60800	
B38W17A	17-May-99	DUP	CALCIUM	88300	
B38W17A	19-Jun-00	REG	CALCIUM	54000	
B38W17A	2-Jul-02	REG	CALCIUM	77700	
B38W17A	26-Jun-03	REG	CALCIUM	83000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W17A	17-Jun-04	REG	CALCIUM	60900	
B38W17B	29-Jul-93	REG	CALCIUM	219000	J
B38W17B	25-May-94	REG	CALCIUM	291000	
B38W17B	20-May-95	REG	CALCIUM	223000	
B38W17B	13-May-96	REG	CALCIUM	309000	J
B38W17B	3-Jun-97	REG	CALCIUM	313000	
B38W17B	2-Jul-98	REG	CALCIUM	235000	
B38W17B	13-May-99	REG	CALCIUM	303000	
B38W17B	19-Jun-00	REG	CALCIUM	258000	
B38W17B	2-Jul-02	REG	CALCIUM	230000	
B38W17B	26-Jun-03	REG	CALCIUM	266000	
B38W17B	16-Jun-04	REG	CALCIUM	200000	
B38W18D	21-Jul-93	REG	CALCIUM	151000	
B38W18D	13-May-94	REG	CALCIUM	164000	J
B38W18D	15-May-95	REG	CALCIUM	154000	
B38W18D	14-May-96	REG	CALCIUM	166000	
B38W18D	9-May-97	REG	CALCIUM	154000	
B38W18D	8-Jun-98	REG	CALCIUM	162000	
B38W18D	20-May-99	REG	CALCIUM	161000	
B38W18D	6-Jul-00	REG	CALCIUM	143000	
B38W18D	3-Jul-02	REG	CALCIUM	189000	
B38W18D	2-Jul-03	DUP	CALCIUM	232000	
B38W18D	22-Jun-04	REG	CALCIUM	223000	
B38W18D	22-Jun-04	DUP	CALCIUM	208000	
B38W19D	23-Jul-93	REG	CALCIUM	214000	
B38W19D	16-May-94	REG	CALCIUM	296000	
B38W19D	10-May-95	REG	CALCIUM	180000	
B38W19D	16-May-96	REG	CALCIUM	262000	
B38W19D	16-May-97	REG	CALCIUM	256000	
B38W19D	17-Jun-98	REG	CALCIUM	226000	
B38W19D	17-Jun-98	REG	CALCIUM	209000	
B38W19D	27-May-99	REG	CALCIUM	258000	
B38W19D	12-Jul-00	REG	CALCIUM	192000	
B38W19D	9-Jul-02	REG	CALCIUM	234000	
B38W19D	11-Jul-03	REG	CALCIUM	224000	
B38W19D	24-Jun-04	REG	CALCIUM	313000	
B38W19S	27-May-94	REG	CALCIUM	629000	
B38W19S	17-May-95	REG	CALCIUM	657000	
B38W19S	10-May-96	REG	CALCIUM	611000	J
B38W19S	29-Jun-98	REG	CALCIUM	670000	
B38W19S	27-May-99	REG	CALCIUM	654000	
B38W19S	9-Jul-02	REG	CALCIUM	582000	
B38W19S	11-Jul-03	REG	CALCIUM	661000	
B38W19S	25-Jun-04	REG	CALCIUM	667000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W24D	9-Aug-93	REG	CALCIUM	80700	J
B38W24D	18-May-94	REG	CALCIUM	81300	
B38W24D	17-May-95	REG	CALCIUM	69700	
B38W24D	9-May-96	REG	CALCIUM	98300	J
B38W24D	2-Jun-97	REG	CALCIUM	83600	
B38W24D	2-Jul-98	REG	CALCIUM	82900	
B38W24D	14-May-99	REG	CALCIUM	98800	
B38W24D	22-Jun-00	REG	CALCIUM	89800	
B38W24D	15-Jul-02	REG	CALCIUM	68600	
B38W24D	7-Jul-03	REG	CALCIUM	85000	
B38W24D	1-Jul-04	REG	CALCIUM	86400	
B38W24S	5-Aug-93	REG	CALCIUM	42600	J
B38W24S	25-May-94	REG	CALCIUM	54000	
B38W24S	17-May-95	REG	CALCIUM	57000	
B38W24S	9-May-96	REG	CALCIUM	61300	J
B38W24S	2-Jun-97	REG	CALCIUM	43900	
B38W24S	2-Jul-98	REG	CALCIUM	41000	
B38W24S	13-May-99	REG	CALCIUM	67100	
B38W24S	21-Jun-00	REG	CALCIUM	56700	
B38W24S	15-Jul-02	REG	CALCIUM	52200	
B38W24S	7-Jul-03	REG	CALCIUM	40000	
B38W24S	28-Jun-04	REG	CALCIUM	35700	
B38W25D	3-Aug-93	REG	CALCIUM	152000	
B38W25D	18-May-94	REG	CALCIUM	117000	
B38W25D	12-May-95	REG	CALCIUM	144000	
B38W25D	15-May-96	REG	CALCIUM	134000	J
B38W25D	15-May-97	REG	CALCIUM	109000	J
B38W25D	1-Jul-98	REG	CALCIUM	109000	
B38W25D	26-May-99	REG	CALCIUM	109000	
B38W25D	7-Jul-00	REG	CALCIUM	99500	
B38W25D	10-Jul-02	REG	CALCIUM	126000	
B38W25D	15-Jul-03	REG	CALCIUM	361000	
B38W25D	9-Jul-04	REG	CALCIUM	323000	
B38W25S	3-Aug-93	REG	CALCIUM	255000	
B38W25S	24-May-94	REG	CALCIUM	189000	J
B38W25S	15-May-95	REG	CALCIUM	208000	
B38W25S	15-May-95	DUP	CALCIUM	199000	
B38W25S	15-May-96	REG	CALCIUM	162000	J
B38W25S	15-May-96	DUP	CALCIUM	183000	J
B38W25S	5-Jun-97	REG	CALCIUM	169000	
B38W25S	1-Jul-98	REG	CALCIUM	144000	
B38W25S	1-May-99	REG	CALCIUM	185000	
B38W25S	7-Jul-00	REG	CALCIUM	186000	
B38W25S	10-Jul-02	REG	CALCIUM	187000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W25S	15-Jul-03	REG	CALCIUM	122000	
MISS01AA	31-Jul-93	REG	CALCIUM	616000	J
MISS01AA	23-May-94	REG	CALCIUM	564000	
MISS01AA	18-May-95	REG	CALCIUM	714000	
MISS01AA	9-May-96	REG	CALCIUM	555000	J
MISS01AA	23-May-97	REG	CALCIUM	616000	
MISS01AA	18-Jun-98	REG	CALCIUM	645000	
MISS01AA	12-May-99	REG	CALCIUM	645000	
MISS01AA	20-Jun-00	REG	CALCIUM	544000	
MISS01AA	11-Jul-02	REG	CALCIUM	569000	
MISS01AA	9-Jul-03	REG	CALCIUM	640000	
MISS01AA	21-Jun-04	REG	CALCIUM	488000	
MISS01B	21-Jul-93	REG	CALCIUM	92200	
MISS01B	16-May-94	REG	CALCIUM	90800	
MISS01B	10-May-95	REG	CALCIUM	84500	
MISS01B	15-May-96	REG	CALCIUM	97100	J
MISS01B	18-Jun-98	REG	CALCIUM	91900	
MISS01B	25-May-99	REG	CALCIUM	96600	
MISS01B	18-Jul-02	REG	CALCIUM	62900	
MISS01B	9-Jul-03	REG	CALCIUM	90600	
MISS01B	22-Jun-04	REG	CALCIUM	98900	
MISS02A	20-Jul-93	REG	CALCIUM	164000	
MISS02A	12-May-94	REG	CALCIUM	79400	J
MISS02A	10-May-95	REG	CALCIUM	54500	
MISS02A	16-May-96	REG	CALCIUM	67600	
MISS02A	15-May-97	REG	CALCIUM	66700	J
MISS02A	15-May-97	DUP	CALCIUM	62400	J
MISS02A	11-Jun-98	DUP	CALCIUM	106000	
MISS02A	81-May-99	REG	CALCIUM	116000	
MISS02A	22-Jun-00	REG	CALCIUM	116000	
MISS02A	8-Jul-02	REG	CALCIUM	225000	
MISS02A	30-Jun-03	REG	CALCIUM	184000	
MISS02A	18-Jun-04	REG	CALCIUM	169000	
MISS02B	20-Jul-93	REG	CALCIUM	295000	
MISS02B	13-May-94	REG	CALCIUM	221000	J
MISS02B	9-May-95	REG	CALCIUM	248000	
MISS02B	14-May-96	REG	CALCIUM	275000	
MISS02B	19-May-97	REG	CALCIUM	272000	
MISS02B	10-Jun-98	REG	CALCIUM	304000	
MISS02B	18-May-99	DUP	CALCIUM	304000	
MISS02B	23-Jun-00	REG	CALCIUM	240000	
MISS02B	8-Jul-02	REG	CALCIUM	255000	
MISS02B	30-Jun-03	REG	CALCIUM	268000	
MISS02B	18-Jun-04	REG	CALCIUM	256000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS05A	27-May-94	REG	CALCIUM	582000	
MISS05A	12-May-95	REG	CALCIUM	683000	
MISS05A	10-May-96	REG	CALCIUM	603000	J
MISS05A	2-Jun-97	REG	CALCIUM	612000	
MISS05A	29-Jun-98	REG	CALCIUM	591000	
MISS05A	14-May-99	REG	CALCIUM	677000	
MISS05A	1-Aug-02	REG	CALCIUM	554000	
MISS05A	14-Jul-03	REG	CALCIUM	636000	
MISS05A	24-Jun-04	REG	CALCIUM	619000	
MISS05B	23-Jul-93	REG	CALCIUM	315000	
MISS05B	17-May-94	REG	CALCIUM	339000	
MISS05B	11-May-95	REG	CALCIUM	295000	
MISS05B	16-May-96	REG	CALCIUM	322000	
MISS05B	14-May-97	REG	CALCIUM	340000	
MISS05B	30-Jun-98	REG	CALCIUM	143000	
MISS05B	11-Jul-00	REG	CALCIUM	201000	
MISS05B	31-Jul-02	REG	CALCIUM	355000	
MISS05B	16-Jul-03	REG	CALCIUM	275000	
MISS05B	23-Jun-04	REG	CALCIUM	721000	
MISS06A	4-Aug-93	REG	CALCIUM	218000	J
MISS06A	24-May-94	REG	CALCIUM	249000	J
MISS06A	16-May-95	REG	CALCIUM	292000	
MISS06A	10-May-96	REG	CALCIUM	225000	J
MISS06A	3-Jun-97	REG	CALCIUM	273000	
MISS06A	1-Jul-98	REG	CALCIUM	198000	
MISS06A	17-May-99	DUP	CALCIUM	252000	
MISS06A	10-Jul-00	REG	CALCIUM	168000	
MISS06A	10-Jul-02	REG	CALCIUM	171000	
MISS06A	2-Jul-03	REG	CALCIUM	295000	
MISS07A	30-Jun-04	REG	CALCIUM	67800	
MISS07B	22-Jul-93	REG	CALCIUM	180000	
MISS07B	22-Jul-93	REG	CALCIUM	175000	
MISS07B	16-Jun-98	REG	CALCIUM	160000	
MISS07B	27-May-99	DUP	CALCIUM	250000	
MISS07B	12-Jul-00	REG	CALCIUM	138000	
MISS07B	11-Jul-02	REG	CALCIUM	254000	
MISS07B	14-Jul-03	REG	CALCIUM	302000	
MISS07B	28-Jun-04	REG	CALCIUM	200000	
B38W02D	27-Jul-93	REG	CHROMIUM	7.9	
B38W02D	17-May-96	REG	CHROMIUM	38.3	
B38W02D	4-Jun-97	REG	CHROMIUM	20.8	
B38W02D	30-Jun-98	REG	CHROMIUM	371	
B38W02D	20-May-99	REG	CHROMIUM	9.7	
B38W02D	13-Jul-00	REG	CHROMIUM	98.4	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W02D	28-Jun-01	REG	CHROMIUM	48.9	
B38W02D	17-Jul-02	REG	CHROMIUM	9.7	J
B38W02D	27-Jun-03	REG	CHROMIUM	3.9	
B38W02D	6-Jul-04	REG	CHROMIUM	70.4	
B38W14D	4-Jun-97	REG	CHROMIUM	21.2	
B38W14D	7-Jul-98	REG	CHROMIUM	3.9	
B38W14D	7-Jul-98	DUP	CHROMIUM	2.6	
B38W14D	17-May-99	REG	CHROMIUM	1	
B38W14D	2-Jul-01	REG	CHROMIUM	8.7	
B38W14D	24-Jul-02	REG	CHROMIUM	5.5	
B38W14D	10-Jul-03	REG	CHROMIUM	6.9	
B38W14S	20-May-95	REG	CHROMIUM	35.9	
B38W14S	17-May-96	REG	CHROMIUM	345	
B38W14S	17-May-96	DUP	CHROMIUM	296	
B38W14S	4-Jun-97	REG	CHROMIUM	354	
B38W14S	7-Jul-98	REG	CHROMIUM	420	
B38W14S	17-May-99	REG	CHROMIUM	67.2	
B38W14S	5-Jul-00	REG	CHROMIUM	7.5	
B38W14S	2-Jul-01	REG	CHROMIUM	0.9	
B38W15D	2-Aug-93	REG	CHROMIUM	9.3	
B38W15D	3-Jun-97	REG	CHROMIUM	2.2	
B38W15D	6-Jul-98	REG	CHROMIUM	6.5	
B38W15D	27-Jun-01	REG	CHROMIUM	19.5	
B38W15D	16-Jul-02	REG	CHROMIUM	1.8	J
B38W15S	3-Jun-97	REG	CHROMIUM	1.8	
B38W15S	6-Jul-98	REG	CHROMIUM	5.5	
B38W15S	27-Jun-01	REG	CHROMIUM	2.9	
B38W15S	16-Jul-02	REG	CHROMIUM	2	J
B38W15S	30-Jun-04	REG	CHROMIUM	35.5	
B38W17A	28-Jul-93	REG	CHROMIUM	21000	
B38W17A	25-May-94	REG	CHROMIUM	122	
B38W17A	20-May-95	REG	CHROMIUM	56.6	
B38W17A	13-May-96	REG	CHROMIUM	632	
B38W17A	3-Jun-97	REG	CHROMIUM	1880	
B38W17A	2-Jul-98	REG	CHROMIUM	5350	
B38W17A	13-May-99	REG	CHROMIUM	66.3	
B38W17A	19-Jun-00	REG	CHROMIUM	1590	
B38W17A	14-Jun-01	REG	CHROMIUM	3.9	
B38W17A	2-Jul-02	REG	CHROMIUM	102	
B38W17A	26-Jun-03	REG	CHROMIUM	3.4	
B38W17A	17-Jun-04	REG	CHROMIUM	36.7	J
B38W17B	3-Jun-97	REG	CHROMIUM	0.84	
B38W17B	2-Jul-98	REG	CHROMIUM	2.8	
B38W17B	13-May-99	REG	CHROMIUM	1.4	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W17B	19-Jun-00	REG	CHROMIUM	12.9	
B38W17B	14-Jun-01	REG	CHROMIUM	3.6	
B38W17B	2-Jul-02	REG	CHROMIUM	4.4	
B38W17B	26-Jun-03	REG	CHROMIUM	3.1	
B38W18D	21-Jul-93	REG	CHROMIUM	27.2	
B38W18D	13-May-94	REG	CHROMIUM	25.8	J
B38W18D	15-May-95	REG	CHROMIUM	29.9	
B38W18D	14-May-96	REG	CHROMIUM	30.8	J
B38W18D	9-May-97	REG	CHROMIUM	26.9	
B38W18D	8-Jun-98	REG	CHROMIUM	83.4	
B38W18D	20-May-99	REG	CHROMIUM	39.5	
B38W18D	6-Jul-00	REG	CHROMIUM	28	
B38W18D	20-Jun-01	REG	CHROMIUM	10.3	
B38W18D	3-Jul-02	DUP	CHROMIUM	28.6	
B38W18D	2-Jul-03	REG	CHROMIUM	72.4	
B38W18D	22-Jun-04	REG	CHROMIUM	56.2	J
B38W18D	22-Jun-04	DUP	CHROMIUM	41.6	J
B38W19D	16-May-94	REG	CHROMIUM	5.1	
B38W19D	16-May-97	REG	CHROMIUM	3.4	
B38W19D	12-Jul-00	REG	CHROMIUM	2.8	
B38W19D	13-Jun-01	REG	CHROMIUM	5	
B38W19S	29-Jun-98	REG	CHROMIUM	2.9	
B38W19S	14-May-99	REG	CHROMIUM	2.6	
B38W19S	13-Jun-01	REG	CHROMIUM	0.9	
B38W24D	9-Aug-93	REG	CHROMIUM	8.9	J
B38W24D	18-May-94	REG	CHROMIUM	6.2	
B38W24D	9-May-96	REG	CHROMIUM	6.2	
B38W24D	2-Jul-98	REG	CHROMIUM	17.9	
B38W24D	13-May-99	REG	CHROMIUM	6.4	
B38W24D	5-Jul-01	REG	CHROMIUM	5.4	
B38W24D	7-Jul-03	REG	CHROMIUM	3.3	
B38W24S	25-May-94	REG	CHROMIUM	4.9	
B38W24S	2-Jun-97	REG	CHROMIUM	4.5	
B38W24S	21-Jun-00	REG	CHROMIUM	5.6	
B38W24S	27-Jun-01	REG	CHROMIUM	0.9	
B38W25D	18-May-94	REG	CHROMIUM	8.8	
B38W25D	12-May-95	REG	CHROMIUM	36.5	J
B38W25D	15-May-97	REG	CHROMIUM	6.2	
B38W25D	1-Jul-98	REG	CHROMIUM	3.2	
B38W25D	7-Jul-00	REG	CHROMIUM	5.3	
B38W25D	10-Jul-01	DUP	CHROMIUM	5.4	
B38W25S	3-Aug-93	REG	CHROMIUM	210	
B38W25S	15-May-95	REG	CHROMIUM	14.6	
B38W25S	15-May-95	DUP	CHROMIUM	12.7	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W25S	15-May-96	REG	CHROMIUM	4.9	
B38W25S	5-Jun-97	REG	CHROMIUM	20.7	
B38W25S	1-Jul-98	REG	CHROMIUM	50.7	
B38W25S	17-May-99	REG	CHROMIUM	106	
B38W25S	7-Jul-00	REG	CHROMIUM	48.4	
B38W25S	10-Jul-01	REG	CHROMIUM	3.5	
MISS01AA	31-Jul-93	REG	CHROMIUM	54.9	
MISS01AA	23-May-94	REG	CHROMIUM	285	
MISS01AA	23-May-97	REG	CHROMIUM	2.1	
MISS01AA	18-Jun-98	REG	CHROMIUM	7.4	
MISS01AA	12-May-99	REG	CHROMIUM	1	
MISS01AA	20-Jun-00	REG	CHROMIUM	4.4	
MISS01AA	20-Jun-01	REG	CHROMIUM	0.9	
MISS01B	20-Jun-00	REG	CHROMIUM	1.7	J
MISS01B	18-Jul-02	REG	CHROMIUM	6.4	J
MISS01B	9-Jul-03	REG	CHROMIUM	5.5	
MISS02A	20-Jul-93	REG	CHROMIUM	157	
MISS02A	12-May-94	REG	CHROMIUM	15.1	J
MISS02A	10-May-95	REG	CHROMIUM	94.5	
MISS02A	15-May-97	REG	CHROMIUM	24.3	
MISS02A	15-May-97	DUP	CHROMIUM	22.3	
MISS02A	11-Jun-98	DUP	CHROMIUM	26.8	
MISS02A	18-May-99	REG	CHROMIUM	94.1	
MISS02A	22-Jun-00	REG	CHROMIUM	69.2	
MISS02A	5-Jul-01	REG	CHROMIUM	19.7	
MISS02A	8-Jul-02	REG	CHROMIUM	81.1	
MISS02A	30-Jun-03	REG	CHROMIUM	4.9	
MISS02A	18-Jun-04	REG	CHROMIUM	11.9	J
MISS02B	20-Jul-93	REG	CHROMIUM	5.1	
MISS02B	9-May-95	REG	CHROMIUM	5.3	
MISS02B	19-May-97	REG	CHROMIUM	5.1	
MISS02B	10-Jun-98	REG	CHROMIUM	6.2	
MISS02B	18-May-99	REG	CHROMIUM	7.5	
MISS02B	23-Jun-00	REG	CHROMIUM	24.1	
MISS02B	5-Jul-01	REG	CHROMIUM	24.9	
MISS02B	30-Jun-03	REG	CHROMIUM	10.7	J
MISS02B	18-Jun-04	REG	CHROMIUM	16	J
MISS05A	24-Jun-04	REG	CHROMIUM	18.7	
MISS05B	11-May-95	REG	CHROMIUM	10.9	
MISS05B	14-May-97	REG	CHROMIUM	2.9	
MISS05B	30-Jun-98	REG	CHROMIUM	10.8	
MISS05B	11-Jul-00	REG	CHROMIUM	2.4	
MISS05B	18-Jun-01	REG	CHROMIUM	5.9	
MISS06A	10-Jul-00	REG	CHROMIUM	16.8	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS07B	14-Jul-03	REG	CHROMIUM	7.2	J
B38W07B	16-Jun-98	REG	CHROMIUM	1.6	
B38W02D	4-Jun-97	REG	COBALT	1.1	
B38W02D	30-Jun-98	REG	COBALT	1.6	
B38W02D	13-Jul-00	REG	COBALT	1.4	J
B38W02D	28-Jun-01	REG	COBALT	42.1	
B38W02D	2-Jul-03	REG	COBALT	28.8	
B38W14D	7-Jul-98	REG	COBALT	0.42	
B38W14D	2-Jul-01	REG	COBALT	13.5	
B38W14S	4-Aug-93	REG	COBALT	20.1	
B38W14S	4-Jun-97	REG	COBALT	0.97	
B38W14S	7-Jul-98	REG	COBALT	2.2	
B38W14S	17-May-99	REG	COBALT	1.5	
B38W14S	2-Jul-01	REG	COBALT	0.8	
B38W15D	3-Jun-97	REG	COBALT	2.5	
B38W15D	6-Jul-98	REG	COBALT	1.4	
B38W15D	27-Jun-01	DUP	COBALT	21.4	
B38W15D	16-Jul-02	DUP	COBALT	2.3	J
B38W15D	1-Jul-03	REG	COBALT	2.8	J
BWW15D	30-Jun-04	REG	COBALT	2.2	J
BWW15D	30-Jun-04	DUP	COBALT	2	J
B38W15S	3-Jun-97	REG	COBALT	1.4	
B38W15S	6-Jul-98	REG	COBALT	0.69	
B38W15S	2-Jul-01	REG	COBALT	0.8	
B38W17A	28-Jul-93	REG	COBALT	57	
B38W17A	25-May-94	REG	COBALT	5.8	
B38W17A	3-Jun-97	REG	COBALT	1.6	
B38W17A	2-Jul-98	REG	COBALT	8.1	
B38W17A	13-May-99	DUP	COBALT	1.2	
B38W17A	19-Jun-00	REG	COBALT	13	
B38W17A	14-Jun-01	REG	COBALT	1.6	
B38W17A	17-Jun-04	REG	COBALT	2.5	J
B38W18D	21-Jul-93	REG	COBALT	17.7	
B38W18D	13-May-94	REG	COBALT	19.1	J
B38W18D	15-May-95	REG	COBALT	18.5	
B38W18D	14-May-96	REG	COBALT	16.9	
B38W18D	9-May-97	REG	COBALT	11.5	
B38W18D	8-Jun-98	REG	COBALT	13.3	
B38W18D	20-May-99	REG	COBALT	15.7	
B38W18D	20-Jun-01	REG	COBALT	49.2	
B38W18D	3-Jul-02	DUP	COBALT	19	
B38W18D	2-Jul-03	DUP	COBALT	20.3	
B38W18D	22-Jun-04	REG	COBALT	19.9	
B38W18D	22-Jun-04	DUP	COBALT	18.2	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W19D	12-Jul-00	REG	COBALT	0.5	J
B38W19D	13-Jun-01	REG	COBALT	14.2	
B38W24D	9-Aug-93	REG	COBALT	12	B
B38W24D	2-Jul-98	REG	COBALT	0.74	
B38W24D	5-Jul-01	REG	COBALT	1.2	
B38W24S	21-Jun-00	REG	COBALT	0.72	J
B38W24S	15-Jul-02	REG	COBALT	11.1	
B38W25S	3-Aug-93	REG	COBALT	14.6	B
B38W25S	15-May-95	REG	COBALT	3.6	
B38W25S	5-Jun-97	REG	COBALT	1.5	
B38W25S	1-Jul-98	REG	COBALT	2.4	
B38W25S	17-May-99	REG	COBALT	3.2	
B38W25S	10-Jul-01	REG	COBALT	24	
B38W25S	10-Jul-02	REG	COBALT	18.7	
MISS02A	15-May-97	REG	COBALT	1	
MISS02A	15-May-97	DUP	COBALT	0.98	
MISS02A	11-Jun-98	DUP	COBALT	1.1	
MISS02A	18-May-99	DUP	COBALT	2.2	
MISS02A	5-Jul-01	REG	COBALT	1	
MISS02B	13-May-94	REG	COBALT	7	J
MISS02B	9-May-95	REG	COBALT	5.4	
MISS02B	19-May-97	REG	COBALT	3.3	
MISS02B	10-Jun-98	REG	COBALT	2.8	
MISS02B	18-May-99	REG	COBALT	3	
MISS02B	5-Jul-01	REG	COBALT	11	
MISS02B	30-Jun-03	REG	COBALT	22.4	
MISS05A	12-May-95	REG	COBALT	9.1	
MISS05A	2-Jun-97	REG	COBALT	1.4	
MISS05A	29-Jun-98	REG	COBALT	1.3	
MISS05A	14-May-99	REG	COBALT	14.1	
MISS05A	19-Jun-01	REG	COBALT	2.8	
MISS05A	1-Aug-02	REG	COBALT	3.8	J
MISS05A	24-Jun-04	REG	COBALT	22.5	
MISS06A	24-May-94	REG	COBALT	4.2	
MISS06A	3-Jun-97	REG	COBALT	0.95	
MISS06A	1-Jul-98	REG	COBALT	0.64	
MISS06A	10-Jul-00	REG	COBALT	1.2	J
MISS06A	20-Jun-01	REG	COBALT	0.8	
MISS07B	14-Jul-03	REG	COBALT	12.1	J
B38W07B	16-Jun-98	REG	COBALT	4.4	
B38W07B	27-May-99	DUP	COBALT	5.3	
B38W07B	12-Jul-00	REG	COBALT	3.6	
B38W02D	19-May-94	REG	COPPER	3.8	
B38W02D	4-Jun-97	REG	COPPER	2.4	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W02D	30-Jun-98	REG	COPPER	8.7	
B38W02D	20-May-99	REG	COPPER	2.9	
B38W02D	28-Jun-01	REG	COPPER	4	
B38W14D	4-Aug-93	REG	COPPER	33.1	
B38W14D	20-May-95	REG	COPPER	5.7	
B38W14D	4-Jun-97	REG	COPPER	15.7	
B38W14D	7-Jul-98	REG	COPPER	13	
B38W14D	7-Jul-98	DUP	COPPER	11.8	
B38W14D	17-May-99	DUP	COPPER	3.6	
B38W14D	5-Jul-00	REG	COPPER	21.6	
B38W14D	2-Jul-01	REG	COPPER	19.4	
B38W14D	10-Jul-03	REG	COPPER	11	
B38W14D	29-Jun-04	REG	COPPER	6	
B38W14S	4-Aug-93	REG	COPPER	14.7	B
B38W14S	20-May-95	REG	COPPER	4.1	
B38W14S	4-Jun-97	REG	COPPER	8.9	
B38W14S	7-Jul-98	REG	COPPER	22.3	
B38W14S	17-May-99	REG	COPPER	4.9	
B38W14S	5-Jul-00	REG	COPPER	2.5	
B38W14S	2-Jul-01	REG	COPPER	1.4	
B38W14S	10-Jul-03	REG	COPPER	2.7	J
B38W15D	2-Aug-93	REG	COPPER	33.7	
B38W15D	13-May-96	REG	COPPER	9.7	
B38W15D	3-Jun-97	REG	COPPER	2.6	
B38W15D	6-Jul-98	REG	COPPER	9.2	
B38W15D	26-Jun-00	REG	COPPER	1.3	
B38W15D	27-Jun-01	REG	COPPER	13.6	
B38W15D	16-Jul-02	REG	COPPER	2.1	J
B38W15D	1-Jul-03	REG	COPPER	2.8	J
B38W15S	19-May-95	REG	COPPER	9.3	
B38W15S	19-May-95	DUP	COPPER	6.4	
B38W15S	3-Jun-97	REG	COPPER	5.4	
B38W15S	6-Jul-98	REG	COPPER	21.8	
B38W15S	26-Jun-00	REG	COPPER	4.1	
B38W15S	27-Jun-01	REG	COPPER	18.9	
B38W15S	16-Jul-02	REG	COPPER	16	
B38W15S	30-Jun-04	REG	COPPER	97.6	
B38W17A	28-Jul-93	REG	COPPER	118	
B38W17A	25-May-94	REG	COPPER	7.6	
B38W17A	13-May-96	REG	COPPER	8.4	
B38W17A	3-Jun-97	REG	COPPER	10	
B38W17A	2-Jul-98	REG	COPPER	36.6	
B38W17A	13-May-99	REG	COPPER	2.9	
B38W17A	14-Jun-01	REG	COPPER	2	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W17A	26-Jun-03	REG	COPPER	3.5	J
B38W17B	2-Jul-98	REG	COPPER	2.1	
B38W17B	13-May-99	REG	COPPER	1.2	
B38W17B	14-Jun-01	REG	COPPER	0.7	
B38W18D	6-Jul-00	REG	COPPER	2.4	
B38W18D	20-Jun-01	REG	COPPER	0.78	
B38W18D	2-Jul-03	REG	COPPER	5.9	
B38W18D	22-Jun-04	REG	COPPER	7.6	
B38W18D	22-Jun-04	DUP	COPPER	6.2	
B38W19D	16-May-97	REG	COPPER	3.9	
B38W19D	17-Jun-98	REG	COPPER	1	
B38W19D	13-Jun-01	REG	COPPER	0.7	
B38W19S	17-May-95	REG	COPPER	4.8	
B38W19S	29-Jun-98	REG	COPPER	2.8	
B38W19S	13-Jun-01	REG	COPPER	0.7	
B38W24D	9-Aug-93	REG	COPPER	6	B
B38W24D	18-May-94	REG	COPPER	3.4	
B38W24D	2-Jun-97	REG	COPPER	1.3	
B38W24D	2-Jul-98	REG	COPPER	10.4	
B38W24D	13-May-99	REG	COPPER	3	
B38W24D	5-Jul-01	REG	COPPER	4.6	
B38W24D	15-Jul-02	REG	COPPER	3.2	J
B38W24S	5-Aug-93	REG	COPPER	8.8	B
B38W24S	2-Jun-97	REG	COPPER	24.2	
B38W24S	2-Jul-98	REG	COPPER	2.8	
B38W24S	13-May-99	REG	COPPER	9.4	
B38W24S	27-Jun-01	REG	COPPER	1.3	
B38W25D	15-May-97	REG	COPPER	4.6	
B38W25D	1-Jul-98	REG	COPPER	1.3	
B38W25D	7-Jul-00	REG	COPPER	0.54	J
B38W25D	10-Jul-01	DUP	COPPER	2	
B38W25S	3-Aug-93	REG	COPPER	52.4	
B38W25S	5-Jun-97	REG	COPPER	1	
B38W25S	1-Jul-98	REG	COPPER	7.3	
B38W25S	17-May-99	REG	COPPER	2.8	
B38W25S	7-Jul-00	REG	COPPER	5.2	
B38W25S	10-Jul-01	REG	COPPER	1.7	
MISS01AA	31-Jul-93	REG	COPPER	31.1	
MISS01AA	23-May-94	REG	COPPER	11.7	
MISS01AA	23-May-97	REG	COPPER	3.9	
MISS01AA	20-Jun-01	REG	COPPER	0.7	
MISS01AA	21-Jun-04	REG	COPPER	4.4	J
MISS02A	20-Jul-93	REG	COPPER	126	
MISS02A	12-May-94	REG	COPPER	103	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	10-May-95	REG	COPPER	173	
MISS02A	16-May-96	REG	COPPER	169	
MISS02A	15-May-97	REG	COPPER	112	
MISS02A	15-May-97	DUP	COPPER	114	
MISS02A	11-Jun-98	DUP	COPPER	96.2	
MISS02A	18-May-99	REG	COPPER	366	
MISS02A	5-Jul-01	REG	COPPER	20.8	
MISS02A	8-Jul-02	REG	COPPER	76.1	
MISS02A	30-Jun-03	REG	COPPER	34.9	
MISS02A	18-Jun-04	REG	COPPER	29.9	
MISS02B	13-May-94	REG	COPPER	166	J
MISS02B	9-May-95	REG	COPPER	6	
MISS02B	19-May-97	REG	COPPER	3.4	
MISS02B	10-Jun-98	REG	COPPER	1.1	
MISS02B	23-Jun-00	REG	COPPER	1.7	
MISS02B	5-Jul-01	REG	COPPER	2	
MISS05A	10-May-96	REG	COPPER	6	
MISS05A	2-Jun-97	REG	COPPER	3.7	
MISS05A	29-Jun-98	REG	COPPER	4.1	
MISS05A	14-May-99	REG	COPPER	1.7	
MISS05A	19-Jun-01	REG	COPPER	1.4	
MISS05A	14-Jul-03	REG	COPPER	14.6	J
MISS05A	24-Jun-04	REG	COPPER	36.5	
MISS05B	11-May-95	REG	COPPER	4.9	
MISS05B	30-Jun-98	REG	COPPER	3.4	
MISS05B	18-Jun-01	REG	COPPER	0.7	
MISS06A	4-Aug-93	REG	COPPER	22.9	
MISS06A	24-May-94	REG	COPPER	21.8	
MISS06A	16-May-95	REG	COPPER	31.3	
MISS06A	10-May-96	REG	COPPER	27.2	
MISS06A	3-Jun-97	REG	COPPER	50.1	
MISS06A	1-Jul-98	REG	COPPER	44	
MISS06A	17-May-99	REG	COPPER	29.4	
MISS06A	20-Jun-01	REG	COPPER	17.6	
MISS06A	10-Jul-02	REG	COPPER	12.8	J
MISS06A	2-Jul-03	REG	COPPER	11.9	
MISS07A	30-Jun-04	REG	COPPER	6.9	
B38W07B	16-Jun-98	REG	COPPER	4.9	
MISS07B	11-Jul-02	REG	COPPER	7.6	J
B38W01S	28-Jul-93	REG	IRON	31000	
B38W01S	23-May-94	REG	IRON	27500	
B38W01S	21-May-95	REG	IRON	22100	
B38W01S	17-May-96	REG	IRON	24700	
B38W01S	4-Jun-97	REG	IRON	28100	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W01S	7-Jul-98	REG	IRON	28900	J
B38W01S	11-Jul-01	DUP	IRON	23200	
B38W01S	17-Jul-02	DUP	IRON	22400	
B38W01S	27-Jun-03	REG	IRON	24600	
B38W01S	6-Jul-04	REG	IRON	24500	
B38W02D	19-May-94	REG	IRON	33.1	
B38W02D	20-May-95	REG	IRON	72.4	
B38W02D	17-May-96	REG	IRON	737	
B38W02D	4-Jun-97	REG	IRON	183	J
B38W02D	30-Jun-98	REG	IRON	580	J
B38W02D	20-May-99	REG	IRON	28.8	
B38W02D	13-Jul-00	REG	IRON	202	
B38W02D	28-Jun-01	REG	IRON	362	
B38W02D	17-Jul-02	REG	IRON	104	J
B38W02D	6-Jul-04	REG	IRON	217	
B38W07B	16-Jun-98	REG	IRON	9160	
B38W07B	27-May-99	REG	IRON	5920	
B38W07B	12-Jul-00	REG	IRON	6390	
B38W14D	4-Aug-93	REG	IRON	320	
B38W14D	20-May-95	REG	IRON	32.4	
B38W14D	7-Jul-98	REG	IRON	274	J
B38W14D	7-Jul-98	DUP	IRON	204	J
B38W14D	17-May-99	REG	IRON	64.2	J
B38W14D	2-Jul-01	REG	IRON	217	
B38W14D	24-Jul-02	REG	IRON	692	
B38W14D	10-Jul-03	REG	IRON	980	
B38W14D	29-Jun-04	REG	IRON	1260	
B38W14S	4-Aug-93	REG	IRON	403	
B38W14S	20-May-95	REG	IRON	324	
B38W14S	17-May-96	REG	IRON	820	
B38W14S	17-May-96	DUP	IRON	743	
B38W14S	4-Jun-97	REG	IRON	1200	J
B38W14S	7-Jul-98	REG	IRON	2540	J
B38W14S	17-May-99	REG	IRON	528	J
B38W14S	5-Jul-00	REG	IRON	340	
B38W14S	2-Jul-01	REG	IRON	82.4	
B38W14S	24-Jul-02	REG	IRON	172	
B38W15D	2-Aug-93	REG	IRON	709	
B38W15D	3-Jun-97	REG	IRON	160	J
B38W15D	6-Jul-98	REG	IRON	593	J
B38W15D	27-Jun-01	REG	IRON	301	
B38W15S	2-Aug-93	REG	IRON	537	
B38W15S	26-May-94	REG	IRON	400	
B38W15S	19-May-95	REG	IRON	1720	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W15S	19-May-95	DUP	IRON	1450	
B38W15S	13-May-96	REG	IRON	530	J
B38W15S	3-Jun-97	REG	IRON	675	J
B38W15S	6-Jul-98	REG	IRON	1010	J
B38W15S	26-Jun-00	REG	IRON	546	
B38W15S	27-Jun-01	REG	IRON	1210	
B38W15S	16-Jul-02	REG	IRON	577	
B38W15S	1-Jul-03	REG	IRON	329	
B38W15S	30-Jun-04	REG	IRON	1370	
B38W17A	28-Jul-93	REG	IRON	116000	
B38W17A	25-May-94	REG	IRON	829	
B38W17A	20-May-95	REG	IRON	688	
B38W17A	13-May-96	REG	IRON	3280	J
B38W17A	3-Jun-97	REG	IRON	11700	J
B38W17A	2-Jul-98	REG	IRON	27900	J
B38W17A	13-May-99	REG	IRON	377	
B38W17A	19-Jun-00	REG	IRON	12500	
B38W17A	14-Jun-01	REG	IRON	189	
B38W17A	2-Jul-02	REG	IRON	867	
B38W17A	26-Jun-03	REG	IRON	126	
B38W17A	17-Jun-04	REG	IRON	725	
B38W17B	29-Jul-93	REG	IRON	6520	J
B38W17B	25-May-94	REG	IRON	10200	
B38W17B	20-May-95	REG	IRON	6570	
B38W17B	13-May-96	REG	IRON	11400	J
B38W17B	3-Jun-97	REG	IRON	9470	J
B38W17B	2-Jul-98	REG	IRON	6890	J
B38W17B	13-May-99	REG	IRON	8350	
B38W17B	19-Jun-00	REG	IRON	8490	
B38W17B	14-Jun-01	REG	IRON	8450	
B38W17B	2-Jul-02	REG	IRON	6840	
B38W17B	26-Jul-03	REG	IRON	7920	
B38W17B	16-Jun-04	REG	IRON	5540	
B38W18D	21-Jul-93	REG	IRON	16000	J
B38W18D	13-May-94	REG	IRON	12900	J
B38W18D	15-May-95	REG	IRON	14400	
B38W18D	14-May-96	REG	IRON	14200	
B38W18D	9-May-97	REG	IRON	12100	
B38W18D	8-Jun-98	REG	IRON	13500	
B38W18D	20-May-99	REG	IRON	14800	
B38W18D	6-Jul-00	REG	IRON	11600	
B38W18D	20-Jun-01	REG	IRON	647	
B38W18D	3-Jul-02	DUP	IRON	16000	
B38W18D	2-Jul-03	REG	IRON	22400	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W18D	22-Jun-04	REG	IRON	20400	
B38W18D	22-Jun-04	DUP	IRON	18700	
B38W19D	23-Jul-93	REG	IRON	3030	J
B38W19D	16-May-94	REG	IRON	4090	
B38W19D	10-May-95	REG	IRON	2630	J
B38W19D	16-May-96	REG	IRON	3530	
B38W19D	16-May-97	REG	IRON	3260	J
B38W19D	17-Jun-98	REG	IRON	3110	J
B38W19D	17-Jun-98	REG	IRON	3160	
B38W19D	27-May-99	REG	IRON	3670	
B38W19D	12-Jul-00	REG	IRON	3110	
B38W19D	13-Jun-01	REG	IRON	3870	
B38W19D	9-Jul-02	REG	IRON	3890	
B38W19D	1-Jul-03	REG	IRON	3950	
B38W19D	24-Jun-04	REG	IRON	4770	
B38W19S	27-May-94	REG	IRON	3240	
B38W19S	17-May-95	REG	IRON	1300	
B38W19S	10-May-96	REG	IRON	4590	J
B38W19S	29-Jun-98	REG	IRON	5980	J
B38W19S	14-May-99	REG	IRON	6600	
B38W19S	13-Jun-01	REG	IRON	2500	
B38W19S	9-Jul-02	REG	IRON	1070	
B38W19S	11-Jul-03	REG	IRON	2880	
B38W19S	25-Jun-04	REG	IRON	5660	
B38W24D	9-Aug-93	REG	IRON	22900	J
B38W24D	18-May-94	REG	IRON	21800	
B38W24D	17-May-95	REG	IRON	17500	
B38W24D	9-May-96	REG	IRON	28600	J
B38W24D	2-Jun-97	REG	IRON	26600	J
B38W24D	2-Jul-98	REG	IRON	25600	J
B38W24D	13-May-99	REG	IRON	27000	
B38W24D	22-Jun-00	REG	IRON	37900	
B38W24D	5-Jul-01	REG	IRON	28600	
B38W24D	15-Jul-02	REG	IRON	19400	
B38W24D	7-Jul-03	REG	IRON	30300	
B38W24D	1-Jul-04	REG	IRON	25300	
B38W24S	5-Aug-93	REG	IRON	34800	
B38W24S	25-May-94	REG	IRON	35900	
B38W24S	17-May-95	REG	IRON	46500	
B38W24S	9-May-96	REG	IRON	33400	J
B38W24S	2-Jun-97	REG	IRON	51100	J
B38W24S	2-Jul-98	REG	IRON	31700	J
B38W24S	13-May-99	DUP	IRON	36100	
B38W24S	21-Jun-00	REG	IRON	31900	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W24S	27-Jun-01	REG	IRON	24700	
B38W24S	15-Jul-02	REG	IRON	30000	
B38W24S	7-Jul-03	REG	IRON	22000	
B38W24S	28-Jun-04	REG	IRON	17700	
B38W25D	3-Aug-93	REG	IRON	5380	
B38W25D	18-May-94	REG	IRON	5550	
B38W25D	12-May-95	REG	IRON	6760	
B38W25D	15-May-96	REG	IRON	6460	J
B38W25D	15-May-97	REG	IRON	5640	J
B38W25D	1-Jul-98	REG	IRON	4620	J
B38W25D	26-May-99	REG	IRON	4980	
B38W25D	7-Jul-00	REG	IRON	5270	
B38W25D	10-Jul-01	DUP	IRON	4770	
B38W25D	10-Jul-02	DUP	IRON	6460	
B38W25D	15-Jul-03	REG	IRON	23700	
B38W25D	9-Jul-04	REG	IRON	18000	
B38W25S	3-Aug-93	REG	IRON	19700	
B38W25S	24-May-94	REG	IRON	9080	J
B38W25S	15-May-95	REG	IRON	14600	
B38W25S	15-May-95	DUP	IRON	12000	
B38W25S	15-May-96	REG	IRON	9620	J
B38W25S	15-May-96	DUP	IRON	10200	J
B38W25S	5-Jun-97	REG	IRON	6260	J
B38W25S	1-Jul-98	REG	IRON	7490	J
B38W25S	17-May-99	REG	IRON	10400	J
B38W25S	7-Jul-00	REG	IRON	14000	
B38W25S	10-Jul-01	REG	IRON	30900	
B38W25S	10-Jul-02	REG	IRON	47100	
B38W25S	15-Jul-03	REG	IRON	53000	
MISS01AA	31-Jul-93	REG	IRON	9340	
MISS01AA	23-May-94	REG	IRON	2210	
MISS01AA	18-May-95	REG	IRON	360	
MISS01AA	9-May-96	REG	IRON	725	J
MISS01AA	23-May-97	REG	IRON	571	
MISS01AA	18-Jun-98	REG	IRON	512	
MISS01AA	12-May-99	REG	IRON	2790	
MISS01AA	20-Jun-00	REG	IRON	490	
MISS01AA	20-Jun-01	REG	IRON	731	
MISS01AA	9-Jul-03	REG	IRON	331	J
MISS01AA	21-Jul-04	REG	IRON	808	
MISS01B	21-Jul-93	REG	IRON	1620	J
MISS01B	16-May-94	REG	IRON	7780	
MISS01B	10-May-95	REG	IRON	1030	J
MISS01B	15-May-96	REG	IRON	6260	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS01B	18-Jun-98	REG	IRON	2080	
MISS01B	25-May-99	REG	IRON	1060	
MISS01B	20-Jun-00	REG	IRON	4970	
MISS01B	19-Jun-01	REG	IRON	3990	
MISS01B	18-Jul-02	REG	IRON	13700	
MISS01B	9-Jul-03	REG	IRON	15700	
MISS01B	22-Jun-04	REG	IRON	3970	
MISS02A	20-Jul-93	REG	IRON	914	
MISS02A	12-May-94	REG	IRON	402	J
MISS02A	10-May-95	REG	IRON	892	J
MISS02A	16-May-96	REG	IRON	584	
MISS02A	15-May-97	REG	IRON	426	J
MISS02A	15-May-97	DUP	IRON	500	J
MISS02A	11-Jun-98	REG	IRON	1070	
MISS02A	11-Jun-98	DUP	IRON	1440	
MISS02A	18-May-99	REG	IRON	1010	
MISS02A	22-Jun-00	REG	IRON	5410	
MISS02A	5-Jul-01	REG	IRON	863	
MISS02A	8-Jul-02	REG	IRON	4810	
MISS02A	30-Jun-03	REG	IRON	165	
MISS02A	18-Jun-04	REG	IRON	2410	
MISS02B	20-Jul-93	REG	IRON	19300	
MISS02B	13-May-94	REG	IRON	6800	J
MISS02B	9-May-95	REG	IRON	8690	
MISS02B	14-May-96	REG	IRON	7880	
MISS02B	19-May-97	REG	IRON	8880	J
MISS02B	10-Jun-98	REG	IRON	8140	
MISS02B	18-May-99	REG	IRON	8620	
MISS02B	23-Jun-00	REG	IRON	15500	
MISS02B	5-Jul-01	REG	IRON	37000	
MISS02B	8-Jul-02	REG	IRON	11200	
MISS02B	30-Jun-03	REG	IRON	10700	
MISS02B	18-Jun-04	REG	IRON	13000	
MISS05A	27-May-94	REG	IRON	9770	
MISS05A	12-May-95	REG	IRON	15800	
MISS05A	10-May-96	REG	IRON	6590	J
MISS05A	2-Jun-97	REG	IRON	31600	J
MISS05A	29-Jun-98	REG	IRON	15900	J
MISS05A	14-May-99	REG	IRON	2190	
MISS05A	19-Jun-01	REG	IRON	1530	
MISS05A	1-Aug-02	REG	IRON	706	
MISS05A	14-Jul-03	REG	IRON	293	J
MISS05A	24-Jun-04	REG	IRON	61300	
MISS05B	23-Jul-93	REG	IRON	2660	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS05B	17-May-94	REG	IRON	2780	
MISS05B	11-May-95	REG	IRON	3180	J
MISS05B	16-May-96	REG	IRON	2910	
MISS05B	14-May-97	REG	IRON	2560	
MISS05B	30-Jun-98	REG	IRON	13800	J
MISS05B	18-Jun-01	REG	IRON	14900	
MISS05B	31-Jul-02	REG	IRON	6220	
MISS05B	16-Jul-03	REG	IRON	5880	
MISS05B	23-Jun-04	REG	IRON	7290	
MISS06A	4-Aug-93	REG	IRON	225	
MISS06A	24-May-94	REG	IRON	455	J
MISS06A	16-May-95	REG	IRON	333	
MISS06A	10-May-96	REG	IRON	157	J
MISS06A	3-Jun-97	REG	IRON	759	J
MISS06A	1-Jul-98	REG	IRON	1320	J
MISS06A	17-May-99	REG	IRON	370	J
MISS06A	22-Jul-00	REG	IRON	1910	
MISS06A	20-Jun-01	REG	IRON	308	
MISS06A	2-Jul-03	REG	IRON	99.3	J
MISS07A	30-Jun-04	REG	IRON	2200	
MISS07B	11-Jul-02	REG	IRON	13100	
MISS07B	14-Jul-03	REG	IRON	16500	
MISS07B	28-Jun-04	REG	IRON	19200	
B38W02D	17-May-96	REG	LEAD	1.4	
B38W02D	4-Jun-97	REG	LEAD	2.8	
B38W02D	30-Jun-98	REG	LEAD	7.1	
B38W02D	28-Jun-01	REG	LEAD	2.6	
B38W14D	20-May-95	REG	LEAD	2.8	J
B38W14D	7-Jul-98	DUP	LEAD	1.7	
B38W14D	17-May-99	REG	LEAD	0.86	
B38W14D	2-Jul-01	REG	LEAD	2.6	
B38W14D	10-Jul-03	REG	LEAD	16.8	
B38W14S	20-May-95	REG	LEAD	2.9	J
B38W14S	17-May-96	REG	LEAD	1.2	
B38W14S	17-May-96	DUP	LEAD	1.8	
B38W14S	4-Jun-97	REG	LEAD	5.6	
B38W14S	7-Jul-98	REG	LEAD	23.9	
B38W14S	17-May-99	REG	LEAD	2.5	
B38W14S	2-Jul-01	REG	LEAD	2.6	
B38W15D	2-Aug-93	REG	LEAD	27.5	J
B38W15D	3-Jun-97	REG	LEAD	1.8	
B38W15D	6-Jul-98	REG	LEAD	3.3	
B38W15D	27-Jun-01	REG	LEAD	2.6	
B38W15S	2-Aug-93	REG	LEAD	2.3	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W15S	26-May-94	REG	LEAD	3	J
B38W15S	19-May-95	REG	LEAD	2	
B38W15S	19-May-95	DUP	LEAD	2.4	
B38W15S	3-Jun-97	REG	LEAD	4	
B38W15S	6-Jul-98	REG	LEAD	5.3	
B38W15S	27-Jun-01	REG	LEAD	5	
B38W15S	30-Jun-04	REG	LEAD	18.6	
B38W17A	28-Jul-93	REG	LEAD	36.6	J
B38W17A	20-May-95	REG	LEAD	2.8	J
B38W17A	13-May-96	REG	LEAD	1.1	J
B38W17A	3-Jun-97	REG	LEAD	2.3	
B38W17A	2-Jul-98	REG	LEAD	1.3	
B38W17A	14-Jun-01	REG	LEAD	2.6	
B38W18D	14-May-96	REG	LEAD	1	
B38W18D	8-Jun-98	REG	LEAD	0.45	
B38W18D	20-May-99	REG	LEAD	1.1	
B38W18D	6-Jul-00	REG	LEAD	1.9	J
B38W18D	20-Jun-01	REG	LEAD	2.6	
B38W18D	22-Jun-04	REG	LEAD	3.6	J
B38W19S	29-Jun-98	REG	LEAD	0.35	
B38W19S	13-Jun-01	REG	LEAD	2.6	
B38W24D	2-Jul-98	REG	LEAD	2.4	
B38W24D	13-May-99	REG	LEAD	1.2	
B38W24D	5-Jul-01	REG	LEAD	2.6	
B38W24S	17-May-95	REG	LEAD	1.8	
B38W24S	2-Jul-98	REG	LEAD	0.85	
B38W24S	27-Jun-01	REG	LEAD	2.6	
B38W25S	15-May-96	REG	LEAD	1.5	J
B38W25S	5-Jun-97	REG	LEAD	0.6	
B38W25S	1-Jul-98	REG	LEAD	1.3	
B38W25S	17-May-99	REG	LEAD	0.66	
B38W25S	10-Jul-01	REG	LEAD	2.6	
MISS01AA	31-Jul-93	REG	LEAD	4.1	J
MISS01AA	18-May-95	REG	LEAD	2	
MISS01AA	18-Jun-98	REG	LEAD	9.8	
MISS01AA	12-May-99	REG	LEAD	1.6	
MISS01AA	20-Jun-01	REG	LEAD	2.6	
MISS02A	12-May-94	REG	LEAD	7.3	J
MISS02A	10-May-95	REG	LEAD	3.6	
MISS02A	16-May-96	REG	LEAD	8.1	
MISS02A	15-May-97	REG	LEAD	4.8	J
MISS02A	15-May-97	DUP	LEAD	4.7	J
MISS02A	11-Jun-98	REG	LEAD	3.9	
MISS02A	11-Jun-98	DUP	LEAD	4.9	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	18-May-99	REG	LEAD	11	
MISS02A	22-Jun-00	REG	LEAD	13	
MISS02A	5-Jul-01	REG	LEAD	2.6	
MISS02A	18-Jun-04	REG	LEAD	5.6	J
MISS05A	29-Jun-98	REG	LEAD	11.9	
MISS05A	14-May-99	REG	LEAD	0.35	
MISS05A	19-Jun-01	REG	LEAD	2.6	
MISS05A	24-Jun-04	REG	LEAD	33.7	
MISS05B	17-May-94	REG	LEAD	2.1	J
MISS05B	30-Jun-98	REG	LEAD	0.5	
MISS05B	18-Jun-01	REG	LEAD	2.6	
MISS06A	3-Jun-97	REG	LEAD	13.8	
MISS06A	1-Jul-98	REG	LEAD	17.8	
MISS06A	17-May-99	REG	LEAD	2.9	
MISS06A	10-Jul-00	REG	LEAD	9.6	
MISS06A	20-Jun-01	REG	LEAD	2.6	
MISS07A	30-Jun-04	REG	LEAD	11.2	
B38W01S	28-Jul-93	REG	LITHIUM	2690	
B38W01S	23-May-94	REG	LITHIUM	2410	
B38W01S	17-May-96	REG	LITHIUM	1830	J
B38W01S	4-Jun-97	REG	LITHIUM	2370	
B38W01S	7-Jul-98	REG	LITHIUM	1840	J
B38W01S	11-Jul-01	DUP	LITHIUM	1580	
B38W01S	17-Jul-02	DUP	LITHIUM	1210	
B38W01S	27-Jun-03	REG	LITHIUM	1250	
B38W02D	19-May-94	REG	LITHIUM	30.1	
B38W02D	4-Jun-97	REG	LITHIUM	14.8	
B38W02D	30-Jun-98	REG	LITHIUM	16.5	J
B38W02D	20-May-99	REG	LITHIUM	11.7	
B38W02D	28-Jun-01	REG	LITHIUM	14.3	
B38W02D	17-Jul-02	REG	LITHIUM	16	J
B38W02D	27-Jun-03	REG	LITHIUM	1020	
B38W07B	16-Jun-98	REG	LITHIUM	5480	
B38W07B	27-May-99	REG	LITHIUM	6870	J
B38W14D	4-Aug-93	REG	LITHIUM	49.8	
B38W14D	4-Jun-97	REG	LITHIUM	44.5	
B38W14D	7-Jul-98	DUP	LITHIUM	48.4	J
B38W14D	7-Jul-98	REG	LITHIUM	47.2	J
B38W14D	17-May-99	REG	LITHIUM	34.3	
B38W14D	2-Jul-01	REG	LITHIUM	27.3	
B38W14D	24-Jul-02	REG	LITHIUM	18.6	J
B38W14S	4-Aug-93	REG	LITHIUM	126	
B38W14S	4-Jun-97	REG	LITHIUM	48	
B38W14S	7-Jul-98	REG	LITHIUM	45.5	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W14S	17-May-99	REG	LITHIUM	38	
B38W14S	2-Jul-01	REG	LITHIUM	30.5	
B38W14S	24-Jul-02	REG	LITHIUM	22.9	J
B38W14S	10-Jul-03	REG	LITHIUM	96.6	
B38W14S	29-Jun-04	REG	LITHIUM	215	
B38W15D	2-Aug-93	REG	LITHIUM	1740	
B38W15D	26-May-94	REG	LITHIUM	2750	
B38W15D	13-May-96	REG	LITHIUM	2980	J
B38W15D	3-Jun-97	REG	LITHIUM	2980	
B38W15D	6-Jul-98	REG	LITHIUM	2060	
B38W15D	27-Jun-01	REG	LITHIUM	871	
B38W15D	16-Jul-02	REG	LITHIUM	2530	
B38W15D	1-Jul-03	REG	LITHIUM	2940	
B38W15D	30-Jun-04	REG	LITHIUM	2420	
B38W15D	30-Jun-04	DUP	LITHIUM	2400	
B38W15S	2-Aug-93	REG	LITHIUM	1910	
B38W15S	2-Aug-93	REG	LITHIUM	1970	
B38W15S	26-May-94	REG	LITHIUM	1590	
B38W15S	13-May-96	REG	LITHIUM	1800	J
B38W15S	3-Jun-97	REG	LITHIUM	2590	
B38W15S	6-Jul-98	REG	LITHIUM	2590	
B38W15S	27-Jun-01	REG	LITHIUM	3150	
B38W15S	16-Jul-02	REG	LITHIUM	2560	
B38W15S	1-Jul-03	REG	LITHIUM	2240	
B38W15S	30-Jun-04	REG	LITHIUM	1840	
B38W17A	28-Jul-93	REG	LITHIUM	348	
B38W17A	25-May-94	REG	LITHIUM	347	
B38W17A	13-May-96	REG	LITHIUM	431	J
B38W17A	3-Jun-97	REG	LITHIUM	334	
B38W17A	2-Jul-98	REG	LITHIUM	307	J
B38W17A	13-May-99	DUP	LITHIUM	363	
B38W17A	14-Jun-01	REG	LITHIUM	298	
B38W17A	17-Jun-04	REG	LITHIUM	280	
B38W17B	29-Jul-93	REG	LITHIUM	1650	J
B38W17B	25-May-94	REG	LITHIUM	1060	
B38W17B	13-May-96	REG	LITHIUM	920	J
B38W17B	3-Jun-97	REG	LITHIUM	1740	
B38W17B	2-Jul-98	REG	LITHIUM	1800	J
B38W17B	13-May-99	REG	LITHIUM	1460	J
B38W17B	14-Jun-01	REG	LITHIUM	1810	
B38W17B	16-Jun-04	REG	LITHIUM	1930	
B38W18D	21-Jul-93	REG	LITHIUM	3610	
B38W18D	13-May-94	REG	LITHIUM	3380	J
B38W18D	14-May-96	REG	LITHIUM	3000	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W18D	9-May-97	REG	LITHIUM	3540	
B38W18D	8-Jun-98	REG	LITHIUM	3790	
B38W18D	20-May-99	REG	LITHIUM	2850	
B38W18D	20-Jun-01	REG	LITHIUM	1480	
B38W18D	2-Jul-03	REG	LITHIUM	3020	
B38W19D	23-Jul-93	REG	LITHIUM	6890	
B38W19D	16-May-94	REG	LITHIUM	4600	
B38W19D	16-May-96	REG	LITHIUM	3800	J
B38W19D	16-May-97	REG	LITHIUM	5600	
B38W19D	17-Jun-98	REG	LITHIUM	6220	J
B38W19D	17-Jun-98	REG	LITHIUM	5920	
B38W19D	27-May-99	REG	LITHIUM	6350	J
B38W19D	13-Jun-01	REG	LITHIUM	5250	
B38W19D	9-Jul-02	REG	LITHIUM	4770	
B38W19D	11-Jul-03	REG	LITHIUM	3480	
B38W19D	24-Jun-04	REG	LITHIUM	5300	
B38W19S	27-May-94	REG	LITHIUM	1690	
B38W19S	10-May-96	REG	LITHIUM	1450	J
B38W19S	29-Jun-98	REG	LITHIUM	1700	J
B38W19S	14-May-99	REG	LITHIUM	1400	J
B38W19S	13-Jun-01	REG	LITHIUM	1480	
B38W19S	9-Jul-02	REG	LITHIUM	1250	
B38W19S	11-Jul-03	REG	LITHIUM	960	
B38W19S	25-Jun-04	REG	LITHIUM	1030	
B38W24D	9-Aug-93	REG	LITHIUM	44.1	
B38W24D	18-May-94	REG	LITHIUM	37.5	
B38W24D	9-May-96	REG	LITHIUM	80.1	J
B38W24D	2-Jun-97	REG	LITHIUM	54.3	
B38W24D	2-Jul-98	REG	LITHIUM	46.1	J
B38W24D	13-May-99	REG	LITHIUM	50.4	
B38W24D	5-Jul-01	REG	LITHIUM	50.8	
B38W24S	9-May-96	REG	LITHIUM	56	J
B38W24S	2-Jun-97	REG	LITHIUM	27.5	
B38W24S	2-Jul-98	REG	LITHIUM	26.5	J
B38W24S	13-May-99	DUP	LITHIUM	32.4	
B38W24S	27-Jun-01	REG	LITHIUM	27.2	
B38W24S	15-Jul-02	REG	LITHIUM	35.8	J
B38W24S	28-Jun-04	REG	LITHIUM	35.8	UJ
B38W25D	3-Aug-93	REG	LITHIUM	1330	
B38W25D	18-May-94	REG	LITHIUM	1230	
B38W25D	15-May-96	REG	LITHIUM	1370	J
B38W25D	15-May-97	REG	LITHIUM	1600	
B38W25D	1-Jul-98	REG	LITHIUM	1430	J
B38W25D	26-May-99	REG	LITHIUM	1280	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W25D	10-Jul-01	DUP	LITHIUM	981	
B38W25D	10-Jul-02	DUP	LITHIUM	888	
B38W25D	15-Jul-03	DUP	LITHIUM	1250	
B38W25D	9-Jul-04	REG	LITHIUM	1090	
B38W25S	3-Aug-93	REG	LITHIUM	1360	
B38W25S	24-May-94	REG	LITHIUM	1130	J
B38W25S	15-May-96	DUP	LITHIUM	994	J
B38W25S	5-Jun-97	REG	LITHIUM	1190	
B38W25S	1-Jul-98	REG	LITHIUM	827	J
B38W25S	17-May-99	REG	LITHIUM	793	
B38W25S	10-Jul-01	REG	LITHIUM	610	
B38W25S	10-Jul-02	REG	LITHIUM	623	
B38W25S	15-Jul-03	REG	LITHIUM	531	
MISS01AA	31-Jul-93	REG	LITHIUM	442	
MISS01AA	23-May-94	REG	LITHIUM	240	
MISS01AA	9-May-96	REG	LITHIUM	224	J
MISS01AA	23-May-97	REG	LITHIUM	265	
MISS01AA	18-Jun-98	REG	LITHIUM	258	
MISS01AA	12-May-99	REG	LITHIUM	224	J
MISS01AA	20-Jun-01	REG	LITHIUM	260	
MISS01AA	11-Jul-02	REG	LITHIUM	203	
MISS01AA	9-Jul-03	REG	LITHIUM	165	
MISS01B	21-Jul-93	REG	LITHIUM	114	
MISS01B	16-May-94	REG	LITHIUM	80.8	
MISS01B	15-May-96	REG	LITHIUM	128	J
MISS01B	18-Jun-98	REG	LITHIUM	105	
MISS01B	25-May-99	REG	LITHIUM	95.1	J
MISS01B	19-Jun-01	REG	LITHIUM	66.7	
MISS01B	18-Jul-02	DUP	LITHIUM	43.6	J
MISS01B	9-Jul-03	REG	LITHIUM	65.9	
MISS02A	20-Jul-93	REG	LITHIUM	6990	
MISS02A	12-May-94	REG	LITHIUM	4660	
MISS02A	16-May-96	REG	LITHIUM	4480	J
MISS02A	15-May-97	REG	LITHIUM	7090	
MISS02A	15-May-97	DUP	LITHIUM	6650	
MISS02A	11-Jun-98	DUP	LITHIUM	6110	
MISS02A	11-May-99	REG	LITHIUM	9300	
MISS02A	5-Jul-01	REG	LITHIUM	8150	
MISS02A	8-Jul-02	REG	LITHIUM	8950	
MISS02A	30-Jun-03	REG	LITHIUM	6200	
MISS02A	18-Jun-04	REG	LITHIUM	10700	
MISS02B	20-Jul-93	REG	LITHIUM	14100	
MISS02B	13-May-94	REG	LITHIUM	10200	J
MISS02B	14-May-96	REG	LITHIUM	11900	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02B	19-May-97	REG	LITHIUM	15200	
MISS02B	10-Jun-98	REG	LITHIUM	12800	
MISS02B	18-May-99	DUP	LITHIUM	12200	J
MISS02B	5-Jul-01	REG	LITHIUM	11900	
MISS02B	8-Jul-02	REG	LITHIUM	8160	
MISS02B	30-Jun-03	REG	LITHIUM	9590	
MISS02B	18-Jun-04	REG	LITHIUM	8260	
MISS05A	27-May-94	REG	LITHIUM	677	
MISS05A	10-May-96	REG	LITHIUM	664	J
MISS05A	2-Jun-97	REG	LITHIUM	854	
MISS05A	29-Jun-98	REG	LITHIUM	660	J
MISS05A	14-May-99	REG	LITHIUM	863	J
MISS05A	19-Jun-01	REG	LITHIUM	767	
MISS05A	14-Jul-03	REG	LITHIUM	560	
MISS05A	24-Jun-04	REG	LITHIUM	804	
MISS05B	23-Jul-93	REG	LITHIUM	2520	
MISS05B	17-May-94	REG	LITHIUM	2370	
MISS05B	16-May-96	REG	LITHIUM	2130	J
MISS05B	14-May-97	REG	LITHIUM	2710	
MISS05B	30-Jun-98	REG	LITHIUM	1920	J
MISS05B	18-Jun-01	REG	LITHIUM	3090	
MISS05B	31-Jul-02	REG	LITHIUM	2330	
MISS05B	16-Jul-03	REG	LITHIUM	1290	
MISS05B	23-Jun-04	REG	LITHIUM	10200	
MISS06A	4-Aug-93	REG	LITHIUM	7340	
MISS06A	24-May-94	REG	LITHIUM	2140	J
MISS06A	10-May-96	REG	LITHIUM	1680	J
MISS06A	3-Jun-97	REG	LITHIUM	2780	
MISS06A	1-Jul-98	REG	LITHIUM	2130	J
MISS06A	17-May-99	REG	LITHIUM	2130	
MISS06A	20-Jun-01	REG	LITHIUM	1460	
MISS06A	10-Jul-02	REG	LITHIUM	814	
MISS06A	2-Jul-03	REG	LITHIUM	1450	
MISS07A	30-Jun-04	REG	LITHIUM	236	
MISS07B	11-Jul-02	DUP	LITHIUM	6000	
MISS07B	14-Jul-03	REG	LITHIUM	7770	
B38W01S	28-Jul-93	REG	MAGNESIUM	36900	
B38W01S	23-May-94	REG	MAGNESIUM	35400	
B38W01S	21-May-95	REG	MAGNESIUM	27600	
B38W01S	17-May-96	REG	MAGNESIUM	32800	
B38W01S	4-Jun-97	REG	MAGNESIUM	30300	
B38W01S	7-Jul-98	REG	MAGNESIUM	25600	J
B38W01S	17-Jul-02	REG	MAGNESIUM	27800	
B38W01S	27-Jun-03	REG	MAGNESIUM	32000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W01S	6-Jul-04	REG	MAGNESIUM	27900	
B38W02D	27-Jul-93	REG	MAGNESIUM	3830	B
B38W02D	19-May-94	REG	MAGNESIUM	3480	
B38W02D	20-May-95	REG	MAGNESIUM	3020	
B38W02D	17-May-96	REG	MAGNESIUM	3710	
B38W02D	4-Jun-97	REG	MAGNESIUM	3840	
B38W02D	20-May-99	REG	MAGNESIUM	4020	
B38W02D	13-Jul-00	REG	MAGNESIUM	3740	
B38W02D	17-Jul-02	REG	MAGNESIUM	4410	
B38W02D	27-Jun-03	REG	MAGNESIUM	3720	
B38W02D	6-Jul-04	REG	MAGNESIUM	4690	
B38W07B	16-Jun-98	REG	MAGNESIUM	57500	
B38W07B	27-May-99	DUP	MAGNESIUM	88300	
B38W14D	4-Aug-93	REG	MAGNESIUM	25100	J
B38W14D	20-May-95	REG	MAGNESIUM	19500	
B38W14D	17-May-96	REG	MAGNESIUM	27800	
B38W14D	4-Jun-97	REG	MAGNESIUM	27700	
B38W14D	7-Jul-98	DUP	MAGNESIUM	28700	J
B38W14D	17-May-99	REG	MAGNESIUM	30000	
B38W14D	5-Jul-00	REG	MAGNESIUM	25300	
B38W14D	24-Jul-02	REG	MAGNESIUM	24100	
B38W14D	10-Jul_03	REG	MAGNESIUM	30500	
B38W14D	29-Jun-04	REG	MAGNESIUM	34300	
B38W14S	4-Aug-93	REG	MAGNESIUM	12100	J
B38W14S	20-May-95	REG	MAGNESIUM	20000	
B38W14S	17-May-96	REG	MAGNESIUM	28900	
B38W14S	17-May-96	DUP	MAGNESIUM	26300	
B38W14S	4-Jun-97	REG	MAGNESIUM	25300	
B38W14S	7-Jul-98	REG	MAGNESIUM	25000	J
B38W14S	17-May-99	REG	MAGNESIUM	27400	
B38W14S	5-Jul-00	REG	MAGNESIUM	26600	
B38W14S	24-Jul-02	REG	MAGNESIUM	26900	
B38W14S	10-Jul-03	REG	MAGNESIUM	29500	
B38W14S	29-Jun-04	REG	MAGNESIUM	30400	
B38W15D	2-Aug-93	REG	MAGNESIUM	18100	
B38W15D	26-May-94	REG	MAGNESIUM	35500	
B38W15D	19-May-95	REG	MAGNESIUM	22700	J
B38W15D	13-May-96	REG	MAGNESIUM	37500	
B38W15D	3-Jun-97	REG	MAGNESIUM	26500	
B38W15D	6-Jul-98	REG	MAGNESIUM	17100	J
B38W15D	26-Jun-00	REG	MAGNESIUM	39400	
B38W15D	16-Jul-02	REG	MAGNESIUM	30300	
B38W15D	1-Jul-03	REG	MAGNESIUM	39400	
B38W15D	30-Jun-04	REG	MAGNESIUM	26200	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W15D	30-Jun-04	REG	MAGNESIUM	26700	
B38W15S	2-Aug-93	REG	MAGNESIUM	25200	
B38W15S	26-May-94	REG	MAGNESIUM	19300	
B38W15S	19-May-95	REG	MAGNESIUM	27700	J
B38W15S	19-May-95	DUP	MAGNESIUM	25300	J
B38W15S	13-May-96	REG	MAGNESIUM	17800	
B38W15S	3-Jun-97	REG	MAGNESIUM	19000	
B38W15S	6-Jul-98	REG	MAGNESIUM	18100	J
B38W15S	26-Jun-00	REG	MAGNESIUM	25300	
B38W15S	16-Jul-02	REG	MAGNESIUM	24400	
B38W15S	1-Jul-03	REG	MAGNESIUM	22100	
B38W15S	30-Jun-04	REG	MAGNESIUM	16400	
B38W17A	28-Jul-93	REG	MAGNESIUM	13300	
B38W17A	25-May-94	REG	MAGNESIUM	7340	
B38W17A	20-May-95	REG	MAGNESIUM	5610	
B38W17A	13-May-96	REG	MAGNESIUM	9720	
B38W17A	3-Jun-97	REG	MAGNESIUM	5620	
B38W17A	2-Jul-98	REG	MAGNESIUM	6280	J
B38W17A	13-May-99	DUP	MAGNESIUM	9300	
B38W17A	19-Jun-00	REG	MAGNESIUM	5930	
B38W17A	2-Jul-02	REG	MAGNESIUM	7440	
B38W17A	26-Jun-03	REG	MAGNESIUM	8730	
B38W17A	17-Jun-04	REG	MAGNESIUM	6640	
B38W17B	29-Jul-93	REG	MAGNESIUM	25400	J
B38W17B	25-May-94	REG	MAGNESIUM	26600	
B38W17B	20-May-95	REG	MAGNESIUM	22800	
B38W17B	13-May-96	REG	MAGNESIUM	23500	
B38W17B	3-Jun-97	REG	MAGNESIUM	24900	
B38W17B	13-May-99	REG	MAGNESIUM	25200	
B38W17B	2-Jul-02	REG	MAGNESIUM	18000	
B38W17B	26-Jun-03	REG	MAGNESIUM	16900	
B38W17B	16-Jun-04	REG	MAGNESIUM	20700	
B38W18D	21-Jul-93	REG	MAGNESIUM	13600	
B38W18D	13-May-94	REG	MAGNESIUM	14400	J
B38W18D	15-May-95	REG	MAGNESIUM	14100	
B38W18D	14-May-96	REG	MAGNESIUM	14300	
B38W18D	9-May-97	REG	MAGNESIUM	14000	
B38W18D	8-Jun-98	REG	MAGNESIUM	14400	
B38W18D	20-May-99	REG	MAGNESIUM	14500	
B38W18D	6-Jul-00	REG	MAGNESIUM	12400	
B38W18D	3-Jul-02	DUP	MAGNESIUM	15300	
B38W18D	2-Jul-03	REG	MAGNESIUM	19300	
B38W18D	22-Jun-04	REG	MAGNESIUM	19200	
B38W18D	22-Jun-04	DUP	MAGNESIUM	17900	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W19D	23-Jul-93	REG	MAGNESIUM	37200	
B38W19D	16-May-94	REG	MAGNESIUM	52600	
B38W19D	10-May-95	REG	MAGNESIUM	31200	
B38W19D	16-May-96	REG	MAGNESIUM	43900	
B38W19D	16-May-97	REG	MAGNESIUM	36600	J
B38W19D	17-Jun-98	REG	MAGNESIUM	38900	
B38W19D	27-May-99	REG	MAGNESIUM	42000	
B38W19D	12-Jul-00	REG	MAGNESIUM	31100	
B38W19D	9-Jul-02	REG	MAGNESIUM	36800	
B38W19D	11-Jul-03	REG	MAGNESIUM	30100	
B38W19D	24-Jun-04	REG	MAGNESIUM	48600	
B38W19S	27-May-94	REG	MAGNESIUM	76200	
B38W19S	17-May-95	REG	MAGNESIUM	69000	
B38W19S	10-May-96	REG	MAGNESIUM	62600	
B38W19S	29-Jun-98	REG	MAGNESIUM	43300	J
B38W19S	14-May-99	REG	MAGNESIUM	46100	
B38W19S	9-Jul-02	REG	MAGNESIUM	43400	
B38W19S	11-Jul-03	REG	MAGNESIUM	31400	
B38W19S	25-Jun-04	REG	MAGNESIUM	26900	
B38W24D	9-Aug-93	REG	MAGNESIUM	9710	J
B38W24D	18-May-94	REG	MAGNESIUM	9810	
B38W24D	17-May-95	REG	MAGNESIUM	8290	
B38W24D	9-May-96	REG	MAGNESIUM	11600	
B38W24D	2-Jun-97	REG	MAGNESIUM	10100	
B38W24D	2-Jul-98	REG	MAGNESIUM	9790	J
B38W24D	24-May-99	REG	MAGNESIUM	11400	
B38W24D	22-Jun-00	REG	MAGNESIUM	10700	
B38W24D	15-Jul-02	REG	MAGNESIUM	8730	
B38W24D	7-Jul-03	REG	MAGNESIUM	11700	
B38W24D	1-Jul-04	REG	MAGNESIUM	9660	
B38W24S	5-Aug-93	REG	MAGNESIUM	6330	J
B38W24S	25-May-94	REG	MAGNESIUM	7930	
B38W24S	17-May-95	REG	MAGNESIUM	8430	
B38W24S	9-May-96	REG	MAGNESIUM	8550	
B38W24S	2-Jun-97	REG	MAGNESIUM	6280	
B38W24S	2-Jul-98	REG	MAGNESIUM	5810	J
B38W24S	13-May-99	REG	MAGNESIUM	4910	
B38W24S	21-Jun-00	REG	MAGNESIUM	7830	
B38W24S	15-Jul-02	REG	MAGNESIUM	6810	
B38W24S	7-Jul-03	REG	MAGNESIUM	5490	
B38W24S	28-Jun-04	REG	MAGNESIUM	4700	
B38W25D	3-Aug-93	REG	MAGNESIUM	6810	
B38W25D	18-May-94	REG	MAGNESIUM	5680	
B38W25D	12-May-95	REG	MAGNESIUM	6940	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W25D	15-May-96	REG	MAGNESIUM	6470	
B38W25D	15-May-97	REG	MAGNESIUM	5670	J
B38W25D	1-Jul-98	REG	MAGNESIUM	5520	J
B38W25D	26-May-99	REG	MAGNESIUM	5290	
B38W25D	7-Jul-00	REG	MAGNESIUM	4920	
B38W25D	10-Jul-02	REG	MAGNESIUM	6150	
B38W25D	15-Jul-03	REG	MAGNESIUM	19400	
B38W25D	9-Jul-04	REG	MAGNESIUM	17200	
B38W25S	3-Aug-93	REG	MAGNESIUM	7480	
B38W25S	24-May-94	REG	MAGNESIUM	7290	J
B38W25S	15-May-95	REG	MAGNESIUM	9110	
B38W25S	15-May-95	DUP	MAGNESIUM	7630	
B38W25S	15-May-96	REG	MAGNESIUM	7550	
B38W25S	15-May-96	DUP	MAGNESIUM	7980	
B38W25S	5-Jun-97	REG	MAGNESIUM	7470	
B38W25S	1-Jul-98	REG	MAGNESIUM	7810	J
B38W25S	17-May-99	REG	MAGNESIUM	6150	
B38W25S	7-Jul-00	REG	MAGNESIUM	7520	
B38W25S	10-Jul-02	REG	MAGNESIUM	7770	
B38W25S	15-Jul-03	REG	MAGNESIUM	9300	
MISS01AA	31-Jul-93	REG	MAGNESIUM	23800	
MISS01AA	23-May-94	REG	MAGNESIUM	22200	
MISS01AA	18-May-95	REG	MAGNESIUM	22000	
MISS01AA	9-May-96	REG	MAGNESIUM	24100	
MISS01AA	23-May-97	REG	MAGNESIUM	32100	
MISS01AA	18-Jun-98	REG	MAGNESIUM	33800	
MISS01AA	12-May-99	REG	MAGNESIUM	31700	
MISS01AA	20-Jun-00	REG	MAGNESIUM	23700	
MISS01AA	11-Jul-02	REG	MAGNESIUM	29200	
MISS01AA	9-Jul-03	REG	MAGNESIUM	30100	
MISS01AA	21-Jun-04	REG	MAGNESIUM	37700	
MISS01B	21-Jul-93	REG	MAGNESIUM	18700	
MISS01B	16-May-94	REG	MAGNESIUM	18400	
MISS01B	10-May-95	REG	MAGNESIUM	17600	
MISS01B	15-May-96	REG	MAGNESIUM	19200	
MISS01B	18-Jun-98	REG	MAGNESIUM	18900	
MISS01B	25-May-99	REG	MAGNESIUM	18800	
MISS01B	20-Jun-00	REG	MAGNESIUM	17200	
MISS01B	18-Jul-02	REG	MAGNESIUM	12900	
MISS01B	9-Jul-03	REG	MAGNESIUM	18400	
MISS01B	22-Jun-04	REG	MAGNESIUM	18700	
MISS02A	20-Jul-93	REG	MAGNESIUM	16100	
MISS02A	12-May-94	REG	MAGNESIUM	7980	
MISS02A	10-May-95	REG	MAGNESIUM	3410	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	16-May-96	REG	MAGNESIUM	5980	
MISS02A	15-May-97	REG	MAGNESIUM	7560	J
MISS02A	15-May-97	DUP	MAGNESIUM	7030	J
MISS02A	11-Jun-98	DUP	MAGNESIUM	11800	
MISS02A	18-May-99	REG	MAGNESIUM	5700	
MISS02A	22-Jun-00	REG	MAGNESIUM	7780	
MISS02A	8-Jul-02	REG	MAGNESIUM	14300	
MISS02A	30-Jun-03	REG	MAGNESIUM	29900	
MISS02A	18-Jun-04	REG	MAGNESIUM	17900	
MISS02B	20-Jul-93	REG	MAGNESIUM	42300	
MISS02B	13-May-94	REG	MAGNESIUM	30100	J
MISS02B	9-May-95	REG	MAGNESIUM	33600	
MISS02B	14-May-96	REG	MAGNESIUM	36100	
MISS02B	19-May-97	REG	MAGNESIUM	32500	J
MISS02B	10-Jun-98	REG	MAGNESIUM	34600	
MISS02B	18-May-99	DUP	MAGNESIUM	40500	
MISS02B	23-Jun-00	REG	MAGNESIUM	34200	
MISS02B	8-Jul-02	REG	MAGNESIUM	35200	
MISS02B	30-Jun-03	REG	MAGNESIUM	34900	
MISS02B	18-Jun-04	REG	MAGNESIUM	34600	
MISS05A	27-May-94	REG	MAGNESIUM	48200	
MISS05A	12-May-95	REG	MAGNESIUM	79200	
MISS05A	10-May-96	REG	MAGNESIUM	42700	
MISS05A	2-Jun-97	REG	MAGNESIUM	43300	
MISS05A	29-Jun-98	REG	MAGNESIUM	33100	J
MISS05A	14-May-99	REG	MAGNESIUM	47700	
MISS05A	1-Aug-02	REG	MAGNESIUM	72200	
MISS05A	14-Jul-03	REG	MAGNESIUM	37300	
MISS05A	24-Jun-04	REG	MAGNESIUM	49400	
MISS05B	23-Jul-93	REG	MAGNESIUM	58200	
MISS05B	17-May-94	REG	MAGNESIUM	64400	
MISS05B	11-May-95	REG	MAGNESIUM	52200	J
MISS05B	16-May-96	REG	MAGNESIUM	47400	
MISS05B	14-May-97	REG	MAGNESIUM	60300	
MISS05B	30-Jun-98	REG	MAGNESIUM	19000	J
MISS05B	11-Jul-00	REG	MAGNESIUM	23900	
MISS05B	31-Jul-02	REG	MAGNESIUM	84900	
MISS05B	16-Jul-03	REG	MAGNESIUM	20500	
MISS05B	23-Jun-04	REG	MAGNESIUM	236000	
MISS06A	4-Aug-93	REG	MAGNESIUM	14800	J
MISS06A	24-May-94	REG	MAGNESIUM	9830	J
MISS06A	16-May-95	REG	MAGNESIUM	19200	
MISS06A	10-May-96	REG	MAGNESIUM	8630	
MISS06A	3-Jun-97	REG	MAGNESIUM	13600	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS06A	1-Jul-98	REG	MAGNESIUM	9670	J
MISS06A	17-May-99	DUP	MAGNESIUM	12400	
MISS06A	10-Jul-00	REG	MAGNESIUM	9330	
MISS06A	10-Jul-02	REG	MAGNESIUM	7900	
MISS06A	2-Jul-03	REG	MAGNESIUM	13400	
MISS07A	30-Jun-04	REG	MAGNESIUM	4630	
MISS07B	12-Jul-00	REG	MAGNESIUM	50000	
MISS07B	11-Jul-02	REG	MAGNESIUM	88900	
MISS07B	14-Jul-03	REG	MAGNESIUM	99600	
MISS07B	28-Jun-04	REG	MAGNESIUM	64700	
B38W01S	28-Jul-93	REG	MANGANESE	2880	J
B38W01S	23-May-94	REG	MANGANESE	2910	
B38W01S	21-May-95	REG	MANGANESE	2340	
B38W01S	17-May-96	REG	MANGANESE	2810	
B38W01S	4-Jun-97	REG	MANGANESE	2780	
B38W01S	7-Jul-98	REG	MANGANESE	2270	
B38W01S	11-Jul-01	DUP	MANGANESE	2570	
B38W01S	17-Jul-02	DUP	MANGANESE	2250	
B38W01S	27-Jun-03	REG	MANGANESE	2670	
B38W01S	6-Jul-04	REG	MANGANESE	2560	
B38W02D	27-Jul-93	REG	MANGANESE	2220	J
B38W02D	19-May-94	REG	MANGANESE	2000	
B38W02D	20-May-95	REG	MANGANESE	1240	
B38W02D	17-May-96	REG	MANGANESE	1350	
B38W02D	4-Jun-97	REG	MANGANESE	2480	
B38W02D	30-Jun-98	REG	MANGANESE	3700	
B38W02D	20-May-99	REG	MANGANESE	1130	
B38W02D	13-Jul-00	REG	MANGANESE	2300	
B38W02D	28-Jun-01	REG	MANGANESE	931	
B38W02D	17-Jul-02	REG	MANGANESE	798	
B38W02D	27-Jun-03	REG	MANGANESE	409	
B38W02D	6-Jul-04	REG	MANGANESE	1040	
B38W14D	4-Aug-93	REG	MANGANESE	31.7	
B38W14D	20-May-95	REG	MANGANESE	5.3	
B38W14D	17-May-96	REG	MANGANESE	5.3	
B38W14D	4-Jun-97	REG	MANGANESE	33.5	
B38W14D	7-Jul-98	REG	MANGANESE	14.2	
B38W14D	7-Jul-98	DUP	MANGANESE	13.3	
B38W14D	17-May-99	REG	MANGANESE	6.1	J
B38W14D	5-Jul-00	REG	MANGANESE	11.5	
B38W14D	2-Jul-01	REG	MANGANESE	7.3	
B38W14D	24-Jul-02	REG	MANGANESE	16.1	
B38W14D	10-Jul-03	REG	MANGANESE	32.5	
B38W14D	29-Jun-04	REG	MANGANESE	60.7	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W14S	4-Aug-93	REG	MANGANESE	505	
B38W14S	20-May-95	REG	MANGANESE	7.9	
B38W14S	17-May-96	REG	MANGANESE	22.6	
B38W14S	17-May-96	DUP	MANGANESE	20.3	
B38W14S	4-Jun-97	REG	MANGANESE	15.7	
B38W14S	7-Jul-98	REG	MANGANESE	126	J
B38W14S	17-May-99	REG	MANGANESE	32.1	
B38W14S	5-Jul-00	REG	MANGANESE	76.3	
B38W14S	2-Jul-01	REG	MANGANESE	50.8	
B38W14S	24-Jul-02	REG	MANGANESE	115	
B38W14S	10-Jul-03	REG	MANGANESE	330	
B38W14S	29-Jun-04	REG	MANGANESE	256	
B38W15D	2-Aug-93	REG	MANGANESE	474	J
B38W15D	26-May-94	REG	MANGANESE	944	
B38W15D	19-May-95	REG	MANGANESE	638	J
B38W15D	13-May-96	REG	MANGANESE	1080	J
B38W15D	3-Jun-97	REG	MANGANESE	809	
B38W15D	6-Jul-98	REG	MANGANESE	514	
B38W15D	26-Jun-00	REG	MANGANESE	1060	
B38W15D	27-Jun-01	DUP	MANGANESE	137	
B38W15D	16-Jul-02	REG	MANGANESE	806	
B38W15D	1-Jul-03	REG	MANGANESE	1060	
B38W15D	30-Jun-04	REG	MANGANESE	698	
B38W15D	30-Jun-04	DUP	MANGANESE	703	
B38W15S	2-Aug-93	REG	MANGANESE	1850	J
B38W15S	26-May-94	REG	MANGANESE	1370	
B38W15S	19-May-95	REG	MANGANESE	2170	J
B38W15S	19-May-95	DUP	MANGANESE	1970	J
B38W15S	13-May-96	REG	MANGANESE	1400	J
B38W15S	3-Jun-97	REG	MANGANESE	1540	
B38W15S	6-Jul-98	REG	MANGANESE	1550	
B38W15S	26-Jun-00	REG	MANGANESE	2050	
B38W15S	27-Jun-01	REG	MANGANESE	2300	
B38W15S	16-Jul-02	REG	MANGANESE	2100	
B38W15S	1-Jul-03	REG	MANGANESE	1750	
B38W15S	30-Jun-04	REG	MANGANESE	1330	
B38W17A	28-Jul-93	REG	MANGANESE	1030	J
B38W17A	25-May-94	REG	MANGANESE	57.7	
B38W17A	20-May-95	REG	MANGANESE	55.9	
B38W17A	13-May-96	REG	MANGANESE	38.4	J
B38W17A	3-Jun-97	REG	MANGANESE	59.9	
B38W17A	2-Jul-98	REG	MANGANESE	137	
B38W17A	13-May-99	DUP	MANGANESE	42.7	
B38W17A	19-Jun-00	REG	MANGANESE	2070	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W17A	14-Jun-01	REG	MANGANESE	253	
B38W17A	2-Jul-02	REG	MANGANESE	314	
B38W17A	26-Jun-03	REG	MANGANESE	212	
B38W17A	17-Jun-04	REG	MANGANESE	225	
B38W17B	29-Jul-93	REG	MANGANESE	3940	J
B38W17B	25-May-94	REG	MANGANESE	4650	
B38W17B	20-May-95	REG	MANGANESE	4020	
B38W17B	13-May-96	REG	MANGANESE	4710	J
B38W17B	3-Jun-97	REG	MANGANESE	4860	
B38W17B	2-Jul-98	REG	MANGANESE	3940	
B38W17B	13-May-99	REG	MANGANESE	4920	
B38W17B	19-Jun-00	REG	MANGANESE	3970	
B38W17B	14-Jun-01	REG	MANGANESE	4320	
B38W17B	2-Jul-02	REG	MANGANESE	3010	
B38W17B	26-Jun-03	REG	MANGANESE	3220	
B38W17B	16-Jun-04	REG	MANGANESE	3510	
B38W18D	21-Jul-93	REG	MANGANESE	4010	J
B38W18D	13-May-94	REG	MANGANESE	3800	J
B38W18D	15-May-95	REG	MANGANESE	4010	
B38W18D	14-May-96	REG	MANGANESE	3950	
B38W18D	9-May-97	REG	MANGANESE	2980	
B38W18D	8-Jun-98	REG	MANGANESE	3670	
B38W18D	20-May-99	REG	MANGANESE	4590	
B38W18D	6-Jul-00	REG	MANGANESE	3510	
B38W18D	20-Jun-01	REG	MANGANESE	180	
B38W18D	3-Jul-02	DUP	MANGANESE	4210	
B38W18D	2-Jul-03	DUP	MANGANESE	5330	
B38W18D	22-Jun-04	REG	MANGANESE	4950	
B38W18D	22-Jun-04	DUP	MANGANESE	4640	
B38W19D	23-Jul-93	REG	MANGANESE	2450	J
B38W19D	16-May-94	REG	MANGANESE	3090	
B38W19D	10-May-95	REG	MANGANESE	2030	
B38W19D	16-May-96	REG	MANGANESE	2570	
B38W19D	16-May-97	REG	MANGANESE	2400	
B38W19D	17-Jun-98	REG	MANGANESE	2530	
B38W19D	27-May-99	REG	MANGANESE	2820	
B38W19D	12-Jul-00	REG	MANGANESE	2240	
B38W19D	13-Jun-01	REG	MANGANESE	2190	
B38W19D	9-Jul-02	REG	MANGANESE	2630	
B38W19D	11-Jul-03	REG	MANGANESE	2330	
B38W19D	24-Jun-04	REG	MANGANESE	3450	
B38W19S	27-May-94	REG	MANGANESE	860	
B38W19S	17-May-95	REG	MANGANESE	301	
B38W19S	10-May-96	REG	MANGANESE	744	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W19S	29-Jun-98	REG	MANGANESE	682	
B38W19S	29-May-99	REG	MANGANESE	841	
B38W19S	13-Jun-01	REG	MANGANESE	933	
B38W19S	9-Jul-02	REG	MANGANESE	918	
B38W19S	11-Jul-03	REG	MANGANESE	514	
B38W19S	25-Jun-04	REG	MANGANESE	634	
B38W24D	9-Aug-93	REG	MANGANESE	5620	
B38W24D	18-May-94	REG	MANGANESE	4730	J
B38W24D	17-May-95	REG	MANGANESE	3980	
B38W24D	9-May-96	REG	MANGANESE	6190	J
B38W24D	2-Jun-97	REG	MANGANESE	5600	
B38W24D	2-Jul-98	REG	MANGANESE	4720	
B38W24D	13-May-99	REG	MANGANESE	5860	
B38W24D	22-Jun-00	REG	MANGANESE	5350	
B38W24D	5-Jul-01	REG	MANGANESE	5870	
B38W24D	15-Jul-02	REG	MANGANESE	4720	
B38W24D	7-Jul-03	REG	MANGANESE	6460	
B38W24D	1-Jul-04	REG	MANGANESE	4820	
B38W24S	5-Aug-93	REG	MANGANESE	4720	
B38W24S	25-May-94	REG	MANGANESE	4610	
B38W24S	17-May-95	REG	MANGANESE	5420	
B38W24S	9-May-96	REG	MANGANESE	4430	J
B38W24S	2-Jun-97	REG	MANGANESE	3190	
B38W24S	2-Jul-98	REG	MANGANESE	2910	
B38W24S	13-May-99	DUP	MANGANESE	5040	
B38W24S	21-Jun-00	REG	MANGANESE	3830	
B38W24S	27-Jun-01	REG	MANGANESE	3010	
B38W24S	15-Jul-02	REG	MANGANESE	3600	
B38W24S	7-Jul-03	REG	MANGANESE	2710	
B38W24S	28-Jun-04	REG	MANGANESE	2070	
B38W25D	3-Aug-93	REG	MANGANESE	1620	J
B38W25D	18-May-94	REG	MANGANESE	1380	J
B38W25D	12-May-95	REG	MANGANESE	1740	J
B38W25D	15-May-96	REG	MANGANESE	1610	J
B38W25D	15-May-97	REG	MANGANESE	1380	
B38W25D	1-Jul-98	REG	MANGANESE	1400	
B38W25D	26-May-99	REG	MANGANESE	1390	
B38W25D	7-Jul-00	REG	MANGANESE	1250	
B38W25D	10-Jul-01	DUP	MANGANESE	1280	
B38W25D	10-Jul-02	DUP	MANGANESE	1600	
B38W25D	15-Jul-03	REG	MANGANESE	5010	
B38W25D	9-Jul-04	REG	MANGANESE	4230	
B38W25S	3-Aug-93	REG	MANGANESE	1730	J
B38W25S	24-May-94	REG	MANGANESE	1250	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W25S	15-May-95	REG	MANGANESE	1540	
B38W25S	15-May-95	DUP	MANGANESE	1410	
B38W25S	15-May-96	REG	MANGANESE	1330	J
B38W25S	15-May-96	DUP	MANGANESE	1480	J
B38W25S	5-Jun-97	REG	MANGANESE	1450	
B38W25S	1-Jul-98	REG	MANGANESE	2390	
B38W25S	17-May-99	REG	MANGANESE	2670	J
B38W25S	7-Jul-00	REG	MANGANESE	7120	
B38W25S	10-Jul-01	REG	MANGANESE	7380	
B38W25S	10-Jul-02	REG	MANGANESE	5810	
B38W25S	15-Jul-03	REG	MANGANESE	5540	
MISS01AA	31-Jul-93	REG	MANGANESE	309	J
MISS01AA	23-May-94	REG	MANGANESE	156	
MISS01AA	18-May-95	REG	MANGANESE	8.6	
MISS01AA	9-May-96	REG	MANGANESE	119	J
MISS01AA	23-May-97	REG	MANGANESE	116	
MISS01AA	18-Jun-98	REG	MANGANESE	117	
MISS01AA	12-May-99	REG	MANGANESE	118	
MISS01AA	20-Jun-00	REG	MANGANESE	94.9	
MISS01AA	20-Jun-01	REG	MANGANESE	117	
MISS01AA	11-Jul-02	REG	MANGANESE	73.2	
MISS01AA	9-Jul-03	REG	MANGANESE	102	
MISS01AA	21-Jun-04	REG	MANGANESE	65.3	
MISS01B	21-Jul-93	REG	MANGANESE	236	J
MISS01B	16-May-94	REG	MANGANESE	356	
MISS01B	10-May-95	REG	MANGANESE	271	
MISS01B	15-May-96	REG	MANGANESE	390	J
MISS01B	18-Jun-98	REG	MANGANESE	375	
MISS01B	25-May-99	REG	MANGANESE	359	
MISS01B	20-Jun-00	REG	MANGANESE	291	
MISS01B	19-Jun-01	REG	MANGANESE	320	
MISS01B	18-Jul-02	REG	MANGANESE	192	
MISS01B	9-Jul-03	REG	MANGANESE	379	
MISS01B	22-Jun-04	REG	MANGANESE	425	
MISS02A	20-Jul-93	REG	MANGANESE	96.8	
MISS02A	12-May-94	REG	MANGANESE	21.9	J
MISS02A	10-May-95	REG	MANGANESE	50.6	
MISS02A	16-May-96	REG	MANGANESE	20.9	
MISS02A	15-May-97	DUP	MANGANESE	19.4	
MISS02A	11-Jun-98	DUP	MANGANESE	49.7	
MISS02A	18-May-99	REG	MANGANESE	71	
MISS02A	22-Jun-00	REG	MANGANESE	268	
MISS02A	5-Jul-01	REG	MANGANESE	109	
MISS02A	8-Jul-02	REG	MANGANESE	392	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	30-Jun-03	REG	MANGANESE	85.4	
MISS02A	18-Jun-04	REG	MANGANESE	262	
MISS02B	20-Jul-93	REG	MANGANESE	4500	
MISS02B	13-May-94	REG	MANGANESE	4190	J
MISS02B	9-May-95	REG	MANGANESE	4210	
MISS02B	14-May-96	REG	MANGANESE	5470	
MISS02B	19-May-97	REG	MANGANESE	4630	
MISS02B	10-Jun-98	REG	MANGANESE	5120	
MISS02B	18-May-99	DUP	MANGANESE	5650	
MISS02B	23-Jun-00	REG	MANGANESE	3820	
MISS02B	5-Jul-01	REG	MANGANESE	965	
MISS02B	8-Jul-02	REG	MANGANESE	3380	
MISS02B	30-Jun-03	REG	MANGANESE	4440	
MISS02B	18-Jun-04	REG	MANGANESE	4270	
MISS05A	27-May-94	REG	MANGANESE	728	
MISS05A	12-May-95	REG	MANGANESE	1330	J
MISS05A	10-May-96	REG	MANGANESE	646	J
MISS05A	2-Jun-97	REG	MANGANESE	584	
MISS05A	29-Jun-98	REG	MANGANESE	330	
MISS05A	14-May-99	REG	MANGANESE	688	
MISS05A	19-Jun-01	REG	MANGANESE	722	
MISS05A	1-Aug-02	REG	MANGANESE	551	
MISS05A	14-Jul-03	REG	MANGANESE	234	
MISS05A	24-Jun-04	REG	MANGANESE	1340	
MISS05B	23-Jul-93	REG	MANGANESE	2220	J
MISS05B	17-May-94	REG	MANGANESE	2530	
MISS05B	11-May-95	REG	MANGANESE	2180	
MISS05B	16-May-96	REG	MANGANESE	1920	
MISS05B	14-May-97	REG	MANGANESE	2450	
MISS05B	30-Jun-98	REG	MANGANESE	771	
MISS05B	11-Jul-00	REG	MANGANESE	951	
MISS05B	18-Jun-01	REG	MANGANESE	2250	
MISS05B	31-Jul-02	REG	MANGANESE	3010	
MISS05B	16-Jul-03	REG	MANGANESE	1230	
MISS05B	23-Jun-04	REG	MANGANESE	8890	
MISS06A	4-Aug-93	REG	MANGANESE	826	
MISS06A	24-May-94	REG	MANGANESE	49.7	J
MISS06A	16-May-95	REG	MANGANESE	1540	
MISS06A	10-May-96	REG	MANGANESE	95	J
MISS06A	3-Jun-97	REG	MANGANESE	374	
MISS06A	1-Jul-98	REG	MANGANESE	267	
MISS06A	17-May-99	REG	MANGANESE	58.6	J
MISS06A	10-Jul-00	REG	MANGANESE	228	
MISS06A	20-Jun-01	REG	MANGANESE	13.6	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS06A	10-Jul-02	REG	MANGANESE	46.7	
MISS06A	2-Jul-03	REG	MANGANESE	371	
MISS07A	30-Jun-04	REG	MANGANESE	81.7	
MISS07B	12-Jul-00	REG	MANGANESE	2030	
MISS07B	11-Jul-02	REG	MANGANESE	4660	
MISS07B	14-Jul-03	REG	MANGANESE	5930	
MISS07B	28-Jun-04	REG	MANGANESE	3490	
MISS02A	11-Jun-98	DUP	MERCURY	0.52	J
MISS02A	22-Jun-00	REG	MERCURY	0.45	
MISS02A	5-Jul-01	REG	MERCURY	0.1	
MISS02A	8-Jul-02	REG	MERCURY	0.32	J
MISS02A	30-Jun-03	REG	MERCURY	0.19	J
MISS02A	18-Jun-04	REG	MERCURY	0.43	
B38W14D	5-Jul-00	REG	MERCURY	0.11	J
B38W14D	2-Jul-01	REG	MERCURY	0.1	
B38W24S	21-Jun-00	REG	MERCURY	0.12	J
B38W24S	27-Jun-01	REG	MERCURY	0.1	
B38W02D	20-May-95	REG	MOLYBDENUM	9.7	
B38W02D	4-Jun-97	REG	MOLYBDENUM	2.5	
B38W02D	30-Jun-98	REG	MOLYBDENUM	23.6	
B38W14D	20-May-95	REG	MOLYBDENUM	16.6	
B38W14S	20-May-95	REG	MOLYBDENUM	18.1	
B38W14S	4-Jun-97	REG	MOLYBDENUM	20.5	
B38W14S	7-Jul-98	REG	MOLYBDENUM	29.7	
B38W14S	17-May-99	REG	MOLYBDENUM	9.4	
B38W17A	28-Jul-93	REG	MOLYBDENUM	281	
B38W17A	20-May-95	REG	MOLYBDENUM	18.9	
B38W17A	3-Jun-97	REG	MOLYBDENUM	18.7	
B38W17A	2-Jul-98	REG	MOLYBDENUM	79.1	
B38W17A	13-May-99	REG	MOLYBDENUM	2.6	
B38W18D	8-Jun-98	REG	MOLYBDENUM	9.7	
B38W19S	17-May-95	REG	MOLYBDENUM	20.4	
B38W19S	10-May-96	REG	MOLYBDENUM	10.1	
B38W24D	2-Jul-98	REG	MOLYBDENUM	3.9	
B38W25S	24-May-94	REG	MOLYBDENUM	6.4	
B38W25S	1-Jul-98	REG	MOLYBDENUM	7.6	
B38W25S	17-May-99	REG	MOLYBDENUM	16.6	
MISS01AA	23-May-94	REG	MOLYBDENUM	49.2	J
MISS01AA	18-May-95	REG	MOLYBDENUM	10	
MISS01AA	23-May-97	REG	MOLYBDENUM	1.8	
MISS01AA	18-Jun-98	REG	MOLYBDENUM	3	
MISS02A	12-May-94	REG	MOLYBDENUM	5.9	J
MISS02A	15-May-97	REG	MOLYBDENUM	3.5	
MISS02A	15-May-97	DUP	MOLYBDENUM	3.5	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	11-Jun-98	REG	MOLYBDENUM	3.4	
MISS02A	11-Jun-98	DUP	MOLYBDENUM	3.8	
MISS02A	11-Jun-99	REG	MOLYBDENUM	31.1	
MISS05A	2-Jun-97	REG	MOLYBDENUM	2.5	
MISS05A	29-Jun-98	REG	MOLYBDENUM	3.3	
MISS05A	14-May-99	REG	MOLYBDENUM	1.9	
B38W01S	28-Jul-93	REG	NICKEL	14.8	
B38W01S	4-Jun-97	REG	NICKEL	3.6	
B38W01S	7-Jul-98	REG	NICKEL	2.7	
B38W01S	11-Jul-01	REG	NICKEL	4.9	
B38W01S	6-Jul-04	REG	NICKEL	7.6	
B38W02D	27-Jul-93	REG	NICKEL	14.8	
B38W02D	19-May-94	REG	NICKEL	10.1	
B38W02D	17-May-96	REG	NICKEL	40.8	
B38W02D	4-Jun-97	REG	NICKEL	17.6	
B38W02D	30-Jun-98	REG	NICKEL	41.6	
B38W02D	20-May-99	REG	NICKEL	5.7	
B38W02D	13-Jul-00	REG	NICKEL	32.7	
B38W02D	28-Jun-01	REG	NICKEL	20.2	
B38W02D	17-Jul-02	REG	NICKEL	6.9	J
B38W02D	27-Jun-03	REG	NICKEL	5.7	
B38W02D	6-Jul-04	REG	NICKEL	10.9	
B38W14D	4-Jun-97	REG	NICKEL	18.5	
B38W14D	7-Jul-98	REG	NICKEL	10.2	
B38W14D	7-Jul-98	DUP	NICKEL	9.1	
B38W14D	17-May-99	REG	NICKEL	3.3	
B38W14D	5-Jul-00	REG	NICKEL	12.1	
B38W14D	2-Jul-01	REG	NICKEL	21.6	
B38W14D	24-Jul-02	REG	NICKEL	5.3	
B38W14D	10-Jul-03	REG	NICKEL	4.4	
B38W14D	29-Jun-04	REG	NICKEL	8.4	
B38W14S	4-Aug-93	REG	NICKEL	31.2	
B38W14S	17-May-96	REG	NICKEL	17	
B38W14S	17-May-96	DUP	NICKEL	17	
B38W14S	4-Jun-97	REG	NICKEL	19.7	
B38W14S	7-Jul-98	REG	NICKEL	31.3	
B38W14S	17-May-99	REG	NICKEL	23.5	
B38W14S	5-Jul-00	REG	NICKEL	9.6	
B38W14S	2-Jul-01	REG	NICKEL	4.8	
B38W14S	24-Jul-02	REG	NICKEL	11.2	
B38W14S	10-Jul-03	REG	NICKEL	7.3	
B38W14S	29-Jun-04	REG	NICKEL	7	
B38W15D	26-May-94	REG	NICKEL	30.9	
B38W15D	3-Jun-97	REG	NICKEL	6.8	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W15D	6-Jul-98	REG	NICKEL	8.2	
B38W15D	26-Jun-00	REG	NICKEL	9.7	
B38W15D	27-Jun-01	REG	NICKEL	12	
B38W15D	16-Jul-02	REG	NICKEL	7.2	J
B38W15D	30-Jun-04	REG	NICKEL	9.7	
B38W15D	30-Jun-04	DUP	NICKEL	6.9	
B38W15S	3-Jun-97	REG	NICKEL	3.8	
B38W15S	6-Jul-98	REG	NICKEL	5.2	
B38W15S	26-Jun-00	REG	NICKEL	4.8	
B38W15S	27-Jun-01	REG	NICKEL	6.2	
B38W15S	16-Jul-02	REG	NICKEL	3.7	J
B38W15S	30-Jun-04	REG	NICKEL	31.6	
B38W17A	28-Jul-93	REG	NICKEL	824	
B38W17A	25-May-94	REG	NICKEL	153	
B38W17A	20-May-95	REG	NICKEL	167	
B38W17A	13-May-96	REG	NICKEL	143	
B38W17A	3-Jun-97	REG	NICKEL	148	
B38W17A	2-Jul-98	REG	NICKEL	201	
B38W17A	13-May-99	DUP	NICKEL	120	
B38W17A	19-Jun-00	REG	NICKEL	114	
B38W17A	14-Jun-01	REG	NICKEL	56.3	
B38W17A	2-Jul-02	REG	NICKEL	102	
B38W17A	26-Jun-03	REG	NICKEL	57.7	
B38W17A	17-Jun-04	REG	NICKEL	75.7	
B38W17B	3-Jun-97	REG	NICKEL	1.2	
B38W17B	2-Jul-98	REG	NICKEL	2.4	
B38W17B	13-May-99	REG	NICKEL	1.6	
B38W17B	19-Jun-00	REG	NICKEL	7	
B38W17B	14-Jun-01	REG	NICKEL	4.9	
B38W17B	2-Jul-02	REG	NICKEL	4.1	
B38W17B	26-Jun-03	REG	NICKEL	2.7	J
B38W17B	16-Jun-04	REG	NICKEL	2.7	J
B38W18D	21-Jul-93	REG	NICKEL	37.6	
B38W18D	13-May-94	REG	NICKEL	39.5	J
B38W18D	15-May-95	REG	NICKEL	26.3	
B38W18D	14-May-96	REG	NICKEL	28.4	
B38W18D	9-May-97	REG	NICKEL	17.3	
B38W18D	8-Jun-98	REG	NICKEL	55.5	
B38W18D	20-May-99	REG	NICKEL	24.9	
B38W18D	6-Jul-00	REG	NICKEL	22.7	
B38W18D	20-Jun-01	REG	NICKEL	36.6	
B38W18D	3-Jul-02	DUP	NICKEL	28.4	
B38W18D	2-Jul-03	REG	NICKEL	30.1	
B38W18D	22-Jun-04	REG	NICKEL	43	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (μg/L)	Qualifier
B38W18D	22-Jun-04	DUP	NICKEL	36.4	
B38W19D	16-May-97	REG	NICKEL	3.9	
B38W19D	17-Jun-98	REG	NICKEL	1.9	
B38W19D	27-May-99	REG	NICKEL	1.7	
B38W19D	12-Jul-00	REG	NICKEL	2.2	J
B38W19S	29-Jun-98	REG	NICKEL	4.7	
B38W19S	14-May-99	REG	NICKEL	4.2	
B38W19S	13-Jun-01	REG	NICKEL	3.5	
B38W24D	18-May-94	REG	NICKEL	12.5	
B38W24D	2-Jun-97	REG	NICKEL	1.2	
B38W24D	2-Jul-98	REG	NICKEL	14.7	
B38W24D	13-May-99	REG	NICKEL	4.4	
B38W24D	5-Jul-01	REG	NICKEL	4	
B38W24D	15-Jul-02	REG	NICKEL	4	J
B38W24S	2-Jun-97	REG	NICKEL	5.4	
B38W24S	2-Jul-98	REG	NICKEL	0.85	
B38W24S	21-Jun-00	REG	NICKEL	8	
B38W24S	27-Jun-01	REG	NICKEL	1.2	
B38W24S	15-Jul-02	REG	NICKEL	5.3	J
B38W25D	12-May-95	REG	NICKEL	27.7	
B38W25D	15-May-97	REG	NICKEL	5.3	
B38W25D	1-Jul-98	REG	NICKEL	2.7	
B38W25D	26-May-99	REG	NICKEL	2.7	
B38W25D	7-Jul-00	REG	NICKEL	3.6	
B38W25D	10-Jul-01	DUP	NICKEL	3.3	
B38W25D	9-Jul-04	REG	NICKEL	3.9	
B38W25S	3-Aug-93	REG	NICKEL	134	
B38W25S	15-May-95	REG	NICKEL	22.5	
B38W25S	15-May-95	DUP	NICKEL	30	
B38W25S	5-Jun-97	REG	NICKEL	5.8	
B38W25S	1-Jul-98	REG	NICKEL	35.1	
B38W25S	17-May-99	DUP	NICKEL	78.1	
B38W25S	7-Jul-00	REG	NICKEL	32.4	
B38W25S	10-Jul-01	REG	NICKEL	14.2	
MISS01AA	31-Jul-93	REG	NICKEL	66.5	
MISS01AA	23-May-94	REG	NICKEL	243	
MISS01AA	23-May-97	REG	NICKEL	4.1	
MISS01AA	18-Jun-98	REG	NICKEL	9.9	
MISS01AA	12-May-99	REG	NICKEL	3.6	
MISS01AA	20-Jun-00	REG	NICKEL	4	
MISS01AA	20-Jun-01	REG	NICKEL	1.9	
MISS01AA	21-Jun-04	REG	NICKEL	3.4	J
MISS01B	20-Jun-00	REG	NICKEL	1.9	J
MISS01B	19-Jun-01	REG	NICKEL	4.1	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS01B	18-Jul-02	REG	NICKEL	7.3	J
MISS01B	22-Jun-04	REG	NICKEL	3.5	
MISS02A	12-May-94	REG	NICKEL	27.1	
MISS02A	10-May-95	REG	NICKEL	11.4	
MISS02A	15-May-97	REG	NICKEL	12.2	
MISS02A	15-May-97	DUP	NICKEL	13.5	
MISS02A	11-Jun-98	REG	NICKEL	9.7	
MISS02A	11-Jun-98	DUP	NICKEL	10.4	
MISS02A	18-May-99	REG	NICKEL	31.1	
MISS02A	22-Jun-00	REG	NICKEL	20	
MISS02A	5-Jul-01	REG	NICKEL	4.3	
MISS02A	8-Jul-02	REG	NICKEL	24.4	
MISS02A	18-Jun-04	REG	NICKEL	11.9	
MISS02B	20-Jul-93	REG	NICKEL	22.6	
MISS02B	13-May-94	REG	NICKEL	181	J
MISS02B	19-May-97	REG	NICKEL	9.2	
MISS02B	10-Jun-98	REG	NICKEL	9.2	
MISS02B	18-May-99	REG	NICKEL	9.6	
MISS02B	23-Jun-00	REG	NICKEL	20.9	
MISS02B	5-Jul-01	REG	NICKEL	7.6	
MISS02B	18-Jun-04	REG	NICKEL	12	
MISS05A	10-May-96	REG	NICKEL	10.9	
MISS05A	2-Jun-97	REG	NICKEL	6.1	
MISS05A	29-Jun-98	REG	NICKEL	5	
MISS05A	14-May-99	REG	NICKEL	22.8	
MISS05A	19-Jun-01	REG	NICKEL	5.1	
MISS05A	1-Aug-02	REG	NICKEL	14.1	
MISS05A	24-Jun-04	REG	NICKEL	15.3	J
MISS05B	23-Jul-93	REG	NICKEL	17.7	
MISS05B	14-May-97	REG	NICKEL	4.1	
MISS05B	30-Jun-98	REG	NICKEL	10.8	
MISS05B	18-Jun-01	REG	NICKEL	6.8	
MISS05B	31-Jul-02	REG	NICKEL	2.3	J
MISS06A	10-May-96	REG	NICKEL	17.3	
MISS06A	3-Jun-97	REG	NICKEL	10.6	
MISS06A	1-Jul-98	REG	NICKEL	8.1	
MISS06A	17-May-99	DUP	NICKEL	7.9	
MISS06A	10-Jul-00	REG	NICKEL	21.1	
MISS06A	20-Jun-01	REG	NICKEL	6.5	
MISS07A	30-Jun-04	REG	NICKEL	3	J
MISS07B	12-Jul-00	REG	NICKEL	6.8	
MISS07B	11-Jun-01	REG	NICKEL	8.8	
MISS07B	11-Jul-02	REG	NICKEL	10.6	J
MISS07B	14-Jul-03	REG	NICKEL	17.3	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS07B	28-Jun-04	REG	NICKEL	15.5	J
B38W01S	28-Jul-93	REG	POTASSIUM	59500	
B38W01S	23-May-94	REG	POTASSIUM	54100	
B38W01S	21-May-95	REG	POTASSIUM	44600	
B38W01S	17-May-96	REG	POTASSIUM	49300	
B38W01S	4-Jun-97	REG	POTASSIUM	49500	
B38W01S	7-Jul-98	REG	POTASSIUM	43700	
B38W01S	17-Jul-02	REG	POTASSIUM	57200	
B38W01S	27-Jun-03	REG	POTASSIUM	44100	
B38W01S	6-Jul-04	REG	POTASSIUM	36900	
B38W02D	19-May-94	REG	POTASSIUM	1210	
B38W02D	17-May-96	REG	POTASSIUM	449	
B38W02D	4-Jun-97	REG	POTASSIUM	819	
B38W02D	30-Jun-98	REG	POTASSIUM	941	
B38W02D	20-May-99	REG	POTASSIUM	777	
B38W02D	13-Jul-00	REG	POTASSIUM	847	
B38W02D	17-Jul-02	REG	POTASSIUM	952	
B38W02D	27-Jun-03	REG	POTASSIUM	761	
B38W02D	6-Jul-04	REG	POTASSIUM	761	
B38W14D	4-Aug-93	REG	POTASSIUM	7440	
B38W14D	20-May-95	REG	POTASSIUM	3750	
B38W14D	17-May-96	REG	POTASSIUM	4380	
B38W14D	4-Jun-97	REG	POTASSIUM	5300	
B38W14D	7-Jul-98	REG	POTASSIUM	6020	
B38W14D	7-Jul-98	DUP	POTASSIUM	6110	
B38W14D	17-May-99	REG	POTASSIUM	4140	
B38W14D	5-Jul-00	REG	POTASSIUM	6240	
B38W14D	24-Jul-02	REG	POTASSIUM	6350	
B38W14D	10-Jul-03	REG	POTASSIUM	3020	
B38W14D	29-Jun-04	REG	POTASSIUM	3500	
B38W14S	4-Aug-93	REG	POTASSIUM	5700	
B38W14S	20-May-95	REG	POTASSIUM	2850	
B38W14S	17-May-96	REG	POTASSIUM	3720	
B38W14S	17-May-96	DUP	POTASSIUM	3790	
B38W14S	4-Jun-97	REG	POTASSIUM	5080	
B38W14S	7-Jul-98	REG	POTASSIUM	4930	
B38W14S	17-May-99	REG	POTASSIUM	4810	
B38W14S	5-Jul-00	REG	POTASSIUM	4420	
B38W14S	24-Jul-02	REG	POTASSIUM	7190	
B38W14S	10-Jul-03	REG	POTASSIUM	4670	
B38W14S	29-Jun-04	REG	POTASSIUM	6420	
B38W15D	2-Aug-93	REG	POTASSIUM	41200	
B38W15D	26-May-94	REG	POTASSIUM	58800	
B38W15D	19-May-95	REG	POTASSIUM	43300	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W15D	13-May-96	REG	POTASSIUM	65000	J
B38W15D	3-Jun-97	REG	POTASSIUM	50500	
B38W15D	6-Jul-98	REG	POTASSIUM	44200	
B38W15D	26-Jun-00	REG	POTASSIUM	72700	
B38W15D	16-Jul-02	REG	POTASSIUM	60100	
B38W15D	1-Jul-03	REG	POTASSIUM	72500	
B38W15D	30-Jun-04	REG	POTASSIUM	43300	
B39W15D	30-Jun-04	DUP	POTASSIUM	44700	
B38W15S	2-Aug-93	REG	POTASSIUM	146000	
B38W15S	26-May-94	REG	POTASSIUM	138000	
B38W15S	19-May-95	REG	POTASSIUM	168000	J
B38W15S	19-May-95	DUP	POTASSIUM	154000	J
B38W15S	13-May-96	REG	POTASSIUM	136000	J
B38W15S	3-Jun-97	REG	POTASSIUM	136000	
B38W15S	6-Jul-98	REG	POTASSIUM	120000	
B38W15S	26-Jun-00	REG	POTASSIUM	164000	
B38W15S	16-Jul-02	REG	POTASSIUM	195000	
B38W15S	1-Jul-03	REG	POTASSIUM	136000	J
B38W15S	30-Jun-04	REG	POTASSIUM	108000	
B38W17A	28-Jul-93	REG	POTASSIUM	26600	
B38W17A	25-May-94	REG	POTASSIUM	20300	
B38W17A	20-May-95	REG	POTASSIUM	13900	
B38W17A	13-May-96	REG	POTASSIUM	31000	J
B38W17A	3-Jun-97	REG	POTASSIUM	19200	
B38W17A	2-Jul-98	REG	POTASSIUM	20800	
B38W17A	13-May-99	DUP	POTASSIUM	25000	
B38W17A	19-Jun-00	REG	POTASSIUM	18900	
B38W17A	2-Jul-02	REG	POTASSIUM	32200	
B38W17A	26-Jun-03	REG	POTASSIUM	23600	
B38W17A	17-Jun-04	REG	POTASSIUM	19600	
B38W17B	29-Jul-93	REG	POTASSIUM	78400	J
B38W17B	25-May-94	REG	POTASSIUM	83300	
B38W17B	20-May-95	REG	POTASSIUM	73200	
B38W17B	13-May-96	REG	POTASSIUM	88500	J
B38W17B	3-Jun-97	REG	POTASSIUM	91100	
B38W17B	2-Jul-98	REG	POTASSIUM	88000	
B38W17B	13-May-99	REG	POTASSIUM	98900	
B38W17B	19-Jun-00	REG	POTASSIUM	93300	
B38W17B	2-Jul-02	REG	POTASSIUM	126000	J
B38W17B	26-Jun-03	REG	POTASSIUM	110000	
B38W17B	16-Jun-04	REG	POTASSIUM	99200	
B38W18D	21-Jul-93	REG	POTASSIUM	6910	
B38W18D	13-May-94	REG	POTASSIUM	6240	J
B38W18D	15-May-95	REG	POTASSIUM	6370	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W18D	14-May-96	REG	POTASSIUM	6830	
B38W18D	9-May-97	REG	POTASSIUM	7530	
B38W18D	8-Jun-98	REG	POTASSIUM	8870	
B38W18D	20-May-99	DUP	POTASSIUM	7370	
B38W18D	6-Jul-00	REG	POTASSIUM	6320	
B38W18D	3-Jul-02	REG	POTASSIUM	12600	J
B38W18D	2-Jul-03	DUP	POTASSIUM	10900	J
B38W18D	22-Jun-04	REG	POTASSIUM	9690	
B38W18D	22-Jun-04	DUP	POTASSIUM	9010	
B38W19D	23-Jul-93	REG	POTASSIUM	381000	
B38W19D	16-May-94	REG	POTASSIUM	485000	
B38W19D	10-May-95	REG	POTASSIUM	329000	
B38W19D	16-May-96	REG	POTASSIUM	435000	
B38W19D	16-May-97	REG	POTASSIUM	397000	J
B38W19D	17-Jun-98	REG	POTASSIUM	415000	J
B38W19D	27-May-99	REG	POTASSIUM	408000	
B38W19D	12-Jul-00	REG	POTASSIUM	291000	
B38W19D	9-Jul-02	REG	POTASSIUM	389000	
B38W19D	11-Jul-03	REG	POTASSIUM	343000	
B38W19D	24-Jun-04	REG	POTASSIUM	393000	
B38W19S	27-May-94	REG	POTASSIUM	43500	
B38W19S	17-May-95	REG	POTASSIUM	40400	
B38W19S	10-May-96	REG	POTASSIUM	33500	J
B38W19S	29-Jun-98	REG	POTASSIUM	31800	
B38W19S	14-May-99	REG	POTASSIUM	35500	
B38W19S	9-Jul-02	REG	POTASSIUM	39300	
B38W19S	11-Jul-03	REG	POTASSIUM	14100	
B38W19S	25-Jun-04	REG	POTASSIUM	15600	
B38W24D	9-Aug-93	REG	POTASSIUM	13000	
B38W24D	18-May-94	REG	POTASSIUM	9900	
B38W24D	17-May-95	REG	POTASSIUM	7530	
B38W24D	9-May-96	REG	POTASSIUM	12700	J
B38W24D	2-Jun-97	REG	POTASSIUM	12800	
B38W24D	2-Jul-98	REG	POTASSIUM	12200	
B38W24D	13-May-99	REG	POTASSIUM	12800	
B38W24D	22-Jun-00	REG	POTASSIUM	11600	
B38W24D	15-Jul-02	REG	POTASSIUM	15700	
B38W24D	7-Jul-03	REG	POTASSIUM	12600	
B38W24D	1-Jul-04	REG	POTASSIUM	10900	
B38W24S	5-Aug-93	REG	POTASSIUM	8060	
B38W24S	25-May-94	REG	POTASSIUM	6600	
B38W24S	17-May-95	REG	POTASSIUM	7050	
B38W24S	9-May-96	REG	POTASSIUM	8790	J
B38W24S	2-Jun-97	REG	POTASSIUM	6030	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W24S	2-Jul-98	REG	POTASSIUM	6450	
B38W24S	13-May-99	DUP	POTASSIUM	7710	
B38W24S	21-Jun-00	REG	POTASSIUM	6990	
B38W24S	15-Jul-02	REG	POTASSIUM	12700	
B38W24S	7-Jul-03	REG	POTASSIUM	7080	J
B38W24S	28-Jun-04	REG	POTASSIUM	6970	
B38W25D	3-Aug-93	REG	POTASSIUM	92300	
B38W25D	18-May-94	REG	POTASSIUM	62800	
B38W25D	12-May-95	REG	POTASSIUM	73900	J
B38W25D	15-May-96	REG	POTASSIUM	77800	J
B38W25D	15-May-97	REG	POTASSIUM	61700	J
B38W25D	1-Jul-98	REG	POTASSIUM	56900	
B38W25D	26-May-99	DUP	POTASSIUM	56200	
B38W25D	7-Jul-00	REG	POTASSIUM	48300	
B38W25D	10-Jul-02	REG	POTASSIUM	58800	
B38W25D	15-Jul-03	REG	POTASSIUM	74500	
B38W25D	9-Jul-04	REG	POTASSIUM	108000	
B38W25S	3-Aug-93	REG	POTASSIUM	167000	
B38W25S	24-May-94	REG	POTASSIUM	89600	J
B38W25S	15-May-95	REG	POTASSIUM	88400	
B38W25S	15-May-95	DUP	POTASSIUM	88800	
B38W25S	15-May-96	REG	POTASSIUM	72800	J
B38W25S	15-May-96	DUP	POTASSIUM	77900	J
B38W25S	5-Jun-97	REG	POTASSIUM	71400	
B38W25S	1-Jul-98	REG	POTASSIUM	45900	
B38W25S	17-May-99	REG	POTASSIUM	74400	
B38W25S	7-Jul-00	REG	POTASSIUM	59900	
B38W25S	10-Jul-02	REG	POTASSIUM	69400	
B38W25S	15-Jul-03	REG	POTASSIUM	19500	
MISS01AA	31-Jul-93	REG	POTASSIUM	2340	J
MISS01AA	18-May-95	REG	POTASSIUM	1550	
MISS01AA	9-May-96	REG	POTASSIUM	1460	J
MISS01AA	23-May-97	REG	POTASSIUM	1900	
MISS01AA	18-Jun-98	REG	POTASSIUM	2100	
MISS01AA	12-May-99	REG	POTASSIUM	1590	
MISS01AA	20-Jun-00	REG	POTASSIUM	1270	
MISS01AA	11-Jul-02	REG	POTASSIUM	1180	J
MISS01AA	9-Jul-03	REG	POTASSIUM	851	
MISS01AA	21-Jun-04	REG	POTASSIUM	1290	
MISS01B	21-Jul-93	REG	POTASSIUM	6350	
MISS01B	16-May-94	REG	POTASSIUM	5710	
MISS01B	10-May-95	REG	POTASSIUM	6950	
MISS01B	15-May-96	REG	POTASSIUM	15300	J
MISS01B	18-Jun-98	REG	POTASSIUM	13900	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS01B	25-May-99	REG	POTASSIUM	11900	
MISS01B	20-Jun-00	REG	POTASSIUM	9000	
MISS01B	18-Jul-02	DUP	POTASSIUM	10200	
MISS01B	9-Jul-03	REG	POTASSIUM	10700	
MISS01B	22-Jun-04	REG	POTASSIUM	18500	
MISS02A	20-Jul-93	REG	POTASSIUM	9390	
MISS02A	12-May-94	REG	POTASSIUM	2850	
MISS02A	10-May-95	REG	POTASSIUM	4340	
MISS02A	16-May-96	REG	POTASSIUM	3190	
MISS02A	15-May-97	REG	POTASSIUM	5120	J
MISS02A	15-May-97	DUP	POTASSIUM	4940	J
MISS02A	11-Jun-98	REG	POTASSIUM	4790	J
MISS02A	11-Jun-98	DUP	POTASSIUM	5260	J
MISS02A	18-May-99	REG	POTASSIUM	12500	
MISS02A	22-Jun-00	REG	POTASSIUM	9350	J
MISS02A	8-Jul-02	REG	POTASSIUM	13800	J
MISS02A	30-Jun-03	REG	POTASSIUM	4160	
MISS02A	18-Jun-04	REG	POTASSIUM	7370	
MISS02B	20-Jul-93	REG	POTASSIUM	55100	
MISS02B	13-May-94	REG	POTASSIUM	32000	J
MISS02B	9-May-95	REG	POTASSIUM	40300	
MISS02B	14-May-96	REG	POTASSIUM	38000	
MISS02B	19-May-97	REG	POTASSIUM	40100	J
MISS02B	10-Jun-98	REG	POTASSIUM	46200	J
MISS02B	18-May-99	REG	POTASSIUM	70700	
MISS02B	23-Jun-00	REG	POTASSIUM	84400	
MISS02B	8-Jul-02	REG	POTASSIUM	66100	
MISS02B	30-Jun-03	REG	POTASSIUM	64400	
MISS02B	18-Jun-04	REG	POTASSIUM	73200	
MISS05A	27-May-94	REG	POTASSIUM	57800	
MISS05A	12-May-95	REG	POTASSIUM	84600	J
MISS05A	10-May-96	REG	POTASSIUM	53000	J
MISS05A	2-Jun-97	REG	POTASSIUM	64100	
MISS05A	29-Jun-98	REG	POTASSIUM	45000	
MISS05A	14-May-99	REG	POTASSIUM	58300	
MISS05A	1-Aug-02	REG	POTASSIUM	73700	
MISS05A	14-Jul-03	REG	POTASSIUM	31300	
MISS05A	24-Jun-05	REG	POTASSIUM	43500	
MISS05B	23-Jul-93	REG	POTASSIUM	224000	
MISS05B	17-May-94	REG	POTASSIUM	230000	
MISS05B	11-May-95	REG	POTASSIUM	231000	
MISS05B	16-May-96	REG	POTASSIUM	234000	
MISS05B	14-May-97	REG	POTASSIUM	224000	
MISS05B	30-Jun-98	REG	POTASSIUM	162000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS05B	11-Jul-00	REG	POTASSIUM	167000	
MISS05B	31-Jul-02	REG	POTASSIUM	478000	
MISS05B	16-Jul-03	REG	POTASSIUM	149000	J
MISS05B	23-Jun-04	REG	POTASSIUM	606000	
MISS06A	4-Aug-93	REG	POTASSIUM	75400	
MISS06A	24-May-94	REG	POTASSIUM	12100	J
MISS06A	16-May-95	REG	POTASSIUM	97000	
MISS06A	10-May-96	REG	POTASSIUM	12300	J
MISS06A	3-Jun-97	REG	POTASSIUM	22900	
MISS06A	1-Jul-98	REG	POTASSIUM	15000	
MISS06A	17-May-99	REG	POTASSIUM	15800	
MISS06A	10-Jul-00	REG	POTASSIUM	12600	
MISS06A	10-Jul-02	REG	POTASSIUM	10800	
MISS06A	2-Jul-03	REG	POTASSIUM	16500	J
MISS07A	30-Jun-04	REG	POTASSIUM	3560	
MISS07B	12-Jul-00	REG	POTASSIUM	29200	
MISS07B	11-Jul-02	DUP	POTASSIUM	71200	
MISS07B	14-Jul-03	REG	POTASSIUM	69800	
MISS07B	28-Jun-04	REG	POTASSIUM	34600	
B38W02D	30-Jun-98	REG	SILVER	0.78	
B38W02D	28-Jun-01	REG	SILVER	1	
B38W07B	16-Jun-98	REG	SILVER	1.1	J
B38W07B	27-May-99	DUP	SILVER	3	
B38W19D	16-May-94	REG	SILVER	6	
B38W19D	17-Jun-98	REG	SILVER	4.3	
B38W19D	13-Jun-01	REG	SILVER	1	
B38W19S	14-May-99	REG	SILVER	1.5	
B38W24D	18-May-94	REG	SILVER	4.8	
B38W24D	2-Jul-98	REG	SILVER	0.56	
B38W24D	5-Jul-01	REG	SILVER	1	
MISS01AA	18-Jun-98	REG	SILVER	1.3	J
MISS01AA	20-Jun-01	REG	SILVER	1	
MISS01B	16-May-94	REG	SILVER	6.4	
MISS01B	25-May-99	REG	SILVER	1.4	
MISS01B	19-Jun-01	REG	SILVER	1	
MISS02A	11-Jun-98	REG	SILVER	3.5	J
MISS02A	11-Jun-98	DUP	SILVER	0.96	J
MISS02A	18-May-99	REG	SILVER	1.4	
MISS02A	5-Jul-01	REG	SILVER	1	
MISS02B	10-Jun-98	REG	SILVER	1.2	J
MISS02B	18-May-99	REG	SILVER	1.4	
MISS02B	5-Jul-01	REG	SILVER	1	
MISS05A	27-May-94	REG	SILVER	5.6	
MISS05A	14-May-99	REG	SILVER	1.5	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS05A	19-Jun-01	REG	SILVER	1	
B38W01S	28-Jul-93	REG	SODIUM	91100	
B38W01S	23-May-94	REG	SODIUM	80300	
B38W01S	21-May-95	REG	SODIUM	53700	
B38W01S	17-May-96	REG	SODIUM	59900	
B38W01S	4-Jun-97	REG	SODIUM	52200	
B38W01S	7-Jul-98	REG	SODIUM	39500	J
B38W01S	17-Jul-02	REG	SODIUM	37600	
B38W01S	27-Jun-03	REG	SODIUM	45600	
B38W01S	6-Jul-04	REG	SODIUM	37700	J
B38W02D	27-Jul-93	REG	SODIUM	7820	
B38W02D	19-May-94	REG	SODIUM	7060	
B38W02D	20-May-95	REG	SODIUM	6050	
B38W02D	17-May-96	REG	SODIUM	7210	
B38W02D	4-Jun-97	REG	SODIUM	8410	
B38W02D	30-Jun-98	REG	SODIUM	8710	J
B38W02D	20-May-99	REG	SODIUM	8350	
B38W02D	13-Jul-00	REG	SODIUM	9050	
B38W02D	17-Jul-02	REG	SODIUM	9160	
B38W02D	27-Jun-03	REG	SODIUM	9660	
B38W02D	6-Jul-04	REG	SODIUM	9800	
B38W14D	4-Aug-93	REG	SODIUM	29400	
B38W14D	20-May-95	REG	SODIUM	22100	
B38W14D	17-May-96	REG	SODIUM	31100	
B38W14D	4-Jun-97	REG	SODIUM	34800	
B38W14D	7-Jul-98	REG	SODIUM	34500	J
B38W14D	7-Jul-98	DUP	SODIUM	35400	J
B38W14D	17-May-99	REG	SODIUM	38800	
B38W14D	5-Jul-00	REG	SODIUM	34800	
B38W14D	24-Jul-02	REG	SODIUM	34400	
B38W14D	10-Jul-03	REG	SODIUM	42500	
B38W14D	29-Jun-04	REG	SODIUM	47600	
B38W14S	4-Aug-93	REG	SODIUM	11500	
B38W14S	20-May-95	REG	SODIUM	13500	
B38W14S	17-May-96	REG	SODIUM	19500	
B38W14S	17-May-96	DUP	SODIUM	17700	
B38W14S	4-Jun-97	REG	SODIUM	21900	
B38W14S	7-Jul-98	REG	SODIUM	19900	J
B38W14S	17-May-99	REG	SODIUM	22800	
B38W14S	5-Jul-00	REG	SODIUM	23300	
B38W14S	24-Jul-02	REG	SODIUM	25900	
B38W14S	10-Jul-03	REG	SODIUM	35200	
B38W14S	29-Jun-04	REG	SODIUM	48800	
B38W15D	2-Aug-93	REG	SODIUM	229000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W15D	26-May-94	REG	SODIUM	340000	
B38W15D	19-May-95	REG	SODIUM	245000	
B38W15D	13-May-96	REG	SODIUM	361000	J
B38W15D	3-Jun-97	REG	SODIUM	251000	
B38W15D	6-Jul-98	REG	SODIUM	181000	J
B38W15D	26-Jun-00	REG	SODIUM	204000	
B38W15D	16-Jul-02	REG	SODIUM	288000	
B38W15D	1-Jul-03	REG	SODIUM	370000	
B38W15D	30-Jun-04	REG	SODIUM	256000	J
B38W15D	30-Jun-04	DUP	SODIUM	264000	J
B38W15S	2-Aug-93	REG	SODIUM	223000	
B38W15S	26-May-94	REG	SODIUM	205000	
B38W15S	19-May-95	REG	SODIUM	269000	
B38W15S	19-May-95	DUP	SODIUM	248000	
B38W15S	13-May-96	REG	SODIUM	207000	J
B38W15S	3-Jun-97	REG	SODIUM	207000	
B38W15S	6-Jul-98	REG	SODIUM	187000	J
B38W15S	26-Jun-00	REG	SODIUM	175000	
B38W15S	16-Jul-02	REG	SODIUM	255000	
B38W15S	1-Jul-03	REG	SODIUM	253000	
B38W15S	30-Jun-04	REG	SODIUM	213000	J
B38W17A	28-Jul-93	REG	SODIUM	47000	
B38W17A	25-May-94	REG	SODIUM	37500	
B38W17A	20-May-95	REG	SODIUM	28000	
B38W17A	13-May-96	REG	SODIUM	58100	J
B38W17A	3-Jun-97	REG	SODIUM	33300	
B38W17A	2-Jul-98	REG	SODIUM	32300	J
B38W17A	13-May-99	REG	SODIUM	50800	
B38W17A	19-Jun-00	REG	SODIUM	38100	
B38W17A	2-Jul-02	REG	SODIUM	48300	
B38W17A	26-Jun-03	REG	SODIUM	52100	
B38W17A	17-Jun-04	REG	SODIUM	43400	
B38W17B	29-Jul-93	REG	SODIUM	207000	J
B38W17B	25-May-94	REG	SODIUM	208000	
B38W17B	20-May-95	REG	SODIUM	232000	
B38W17B	13-May-96	REG	SODIUM	194000	J
B38W17B	3-Jun-97	REG	SODIUM	218000	
B38W17B	2-Jul-98	REG	SODIUM	172000	J
B38W17B	13-May-99	REG	SODIUM	197000	
B38W17B	19-Jun-00	REG	SODIUM	211000	
B38W17B	2-Jul-02	REG	SODIUM	118000	
B38W17B	26-Jun-03	REG	SODIUM	100000	
B38W17B	16-Jun-04	REG	SODIUM	156000	
B38W18D	21-Jul-93	REG	SODIUM	28300	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W18D	13-May-94	REG	SODIUM	32800	J
B38W18D	15-May-95	REG	SODIUM	27000	
B38W18D	14-May-96	REG	SODIUM	29700	
B38W18D	9-May-97	REG	SODIUM	29100	
B38W18D	8-Jun-98	REG	SODIUM	34800	
B38W18D	20-May-99	REG	SODIUM	34300	
B38W18D	6-Jul-00	REG	SODIUM	36600	
B38W18D	3-Jul-02	DUP	SODIUM	56000	
B38W18D	2-Jul-03	REG	SODIUM	68100	
B38W18D	22-Jun-04	REG	SODIUM	81600	
B38W18D	22-Jun-04	DUP	SODIUM	75900	
B38W19D	23-Jul-93	REG	SODIUM	469000	
B38W19D	16-May-94	REG	SODIUM	499000	
B38W19D	10-May-95	REG	SODIUM	306000	
B38W19D	16-May-96	REG	SODIUM	391000	
B38W19D	16-May-97	REG	SODIUM	327000	
B38W19D	17-Jun-98	REG	SODIUM	367000	
B38W19D	27-May-99	REG	SODIUM	383000	
B38W19D	12-Jul-00	REG	SODIUM	206000	J
B38W19D	3-Jul-02	REG	SODIUM	274000	
B38W19D	11-Jul-03	REG	SODIUM	227000	
B38W19D	24-Jun-04	REG	SODIUM	359000	
B38W19S	27-May-94	REG	SODIUM	25900	
B38W19S	17-May-95	REG	SODIUM	23700	J
B38W19S	10-May-96	REG	SODIUM	22700	J
B38W19S	29-Jun-98	REG	SODIUM	21300	J
B38W19S	14-May-99	REG	SODIUM	21700	
B38W19S	9-Jul-02	REG	SODIUM	22800	
B38W19S	11-Jul-03	REG	SODIUM	17100	
B38W19S	25-Jun-04	REG	SODIUM	17300	
B38W24D	9-Aug-93	REG	SODIUM	59800	J
B38W24D	18-May-94	REG	SODIUM	46600	
B38W24D	17-May-95	REG	SODIUM	39700	J
B38W24D	9-May-96	REG	SODIUM	54500	J
B38W24D	2-Jun-97	REG	SODIUM	41300	
B38W24D	2-Jul-98	REG	SODIUM	33800	J
B38W24D	13-May-99	REG	SODIUM	40000	
B38W24D	22-Jun-00	REG	SODIUM	34700	
B38W24D	15-Jul-02	REG	SODIUM	29500	
B38W24D	7-Jul-03	REG	SODIUM	37500	
B38W24D	1-Jul-04	REG	SODIUM	27500	J
B38W24S	5-Aug-93	REG	SODIUM	21700	
B38W24S	25-May-94	REG	SODIUM	19800	
B38W24S	17-May-95	REG	SODIUM	18800	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W24S	9-May-96	REG	SODIUM	15700	J
B38W24S	2-Jun-97	REG	SODIUM	12500	
B38W24S	2-Jul-98	REG	SODIUM	12000	J
B38W24S	13-May-99	DUP	SODIUM	15600	
B38W24S	21-Jun-00	REG	SODIUM	13900	
B38W24S	15-Jul-02	REG	SODIUM	14900	
B38W24S	7-Jul-03	REG	SODIUM	12800	J
B38W24S	28-Jun-04	REG	SODIUM	10800	
B38W25D	3-Aug-93	REG	SODIUM	54500	
B38W25D	18-May-94	REG	SODIUM	40200	
B38W25D	12-May-95	REG	SODIUM	43700	J
B38W25D	15-May-96	REG	SODIUM	37600	J
B38W25D	15-May-97	REG	SODIUM	30900	
B38W25D	1-Jul-98	REG	SODIUM	28900	J
B38W25D	26-May-99	REG	SODIUM	27700	
B38W25D	7-Jul-00	REG	SODIUM	28600	
B38W25D	10-Jul-02	REG	SODIUM	33000	
B38W25D	15-Jul-03	REG	SODIUM	185000	
B38W25D	9-Jul-04	REG	SODIUM	232000	J
B38W25S	3-Aug-93	REG	SODIUM	83800	
B38W25S	24-May-94	REG	SODIUM	42200	J
B38W25S	15-May-95	REG	SODIUM	37200	
B38W25S	15-May-95	DUP	SODIUM	37000	
B38W25S	15-May-96	REG	SODIUM	28300	J
B38W25S	15-May-96	DUP	SODIUM	31400	J
B38W25S	5-Jun-97	REG	SODIUM	31800	
B38W25S	1-Jul-98	REG	SODIUM	21600	J
B38W25S	17-May-99	REG	SODIUM	29900	
B38W25S	7-Jul-00	REG	SODIUM	30100	
B38W25S	10-Jul-02	REG	SODIUM	48100	
B38W25S	15-Jul-03	REG	SODIUM	69800	
MISS01AA	31-Jul-93	REG	SODIUM	7400	
MISS01AA	23-May-94	REG	SODIUM	4810	
MISS01AA	18-May-95	REG	SODIUM	5990	J
MISS01AA	9-May-96	REG	SODIUM	3870	J
MISS01AA	23-May-97	REG	SODIUM	5260	
MISS01AA	18-Jun-98	REG	SODIUM	5300	
MISS01AA	12-May-99	REG	SODIUM	5140	
MISS01AA	20-Jun-00	REG	SODIUM	4850	
MISS01AA	11-Jul-02	REG	SODIUM	4640	
MISS01AA	9-Jul-03	REG	SODIUM	4500	
MISS01AA	21-Jun-04	REG	SODIUM	6530	
MISS01B	21-Jul-93	REG	SODIUM	53200	
MISS01B	16-May-94	REG	SODIUM	48100	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS01B	10-May-95	REG	SODIUM	48100	
MISS01B	15-May-96	REG	SODIUM	56900	J
MISS01B	18-Jun-98	REG	SODIUM	49000	
MISS01B	25-May-99	REG	SODIUM	51500	
MISS01B	20-Jun-00	REG	SODIUM	50000	
MISS01B	18-Jul-02	REG	SODIUM	47700	
MISS01B	9-Jul-03	REG	SODIUM	53300	
MISS01B	22-Jun-04	REG	SODIUM	59600	
MISS02A	20-Jul-93	REG	SODIUM	870000	
MISS02A	12-May-94	REG	SODIUM	878000	
MISS02A	10-May-95	REG	SODIUM	986000	
MISS02A	16-May-96	REG	SODIUM	800000	
MISS02A	15-May-97	REG	SODIUM	709000	
MISS02A	15-May-97	DUP	SODIUM	679000	
MISS02A	11-Jun-98	DUP	SODIUM	555000	
MISS02A	22-Jun-00	REG	SODIUM	666000	
MISS02A	8-Jul-02	REG	SODIUM	978000	
MISS02A	30-Jun-03	REG	SODIUM	637000	
MISS02A	18-Jun-04	REG	SODIUM	214000	
MISS02B	20-Jul-93	REG	SODIUM	1310000	
MISS02B	13-May-94	REG	SODIUM	801000	J
MISS02B	9-May-95	REG	SODIUM	932000	J
MISS02B	14-May-96	REG	SODIUM	981000	
MISS02B	19-May-97	REG	SODIUM	959000	
MISS02B	10-Jun-98	REG	SODIUM	973000	
MISS02B	18-May-99	REG	SODIUM	1000000	
MISS02B	23-Jun-00	REG	SODIUM	342000	
MISS02B	8-Jul-02	REG	SODIUM	745000	
MISS02B	30-Jun-03	REG	SODIUM	928000	
MISS02B	18-Jun-04	REG	SODIUM	217000	
MISS05A	27-May-94	REG	SODIUM	17300	
MISS05A	12-May-95	REG	SODIUM	24200	J
MISS05A	10-May-96	REG	SODIUM	14000	J
MISS05A	2-Jun-97	REG	SODIUM	20100	
MISS05A	29-Jun-98	REG	SODIUM	13800	J
MISS05A	14-May-99	REG	SODIUM	18000	
MISS05A	1-Aug-02	REG	SODIUM	30500	
MISS05A	14-Jul-03	REG	SODIUM	15400	
MISS05A	24-Jun-04	REG	SODIUM	19600	
MISS05B	23-Jul-93	REG	SODIUM	321000	
MISS05B	17-May-94	REG	SODIUM	382000	
MISS05B	11-May-95	REG	SODIUM	303000	
MISS05B	16-May-96	REG	SODIUM	272000	
MISS05B	14-May-97	REG	SODIUM	297000	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS05B	30-Jun-98	REG	SODIUM	107000	J
MISS05B	11-Jul-00	REG	SODIUM	94800	
MISS05B	31-Jul-02	REG	SODIUM	384000	
MISS05B	16-Jul-03	REG	SODIUM	54800	J
MISS05B	23-Jun-04	REG	SODIUM	1460000	
MISS06A	4-Aug-93	REG	SODIUM	57300	
MISS06A	24-May-94	REG	SODIUM	15100	J
MISS06A	16-May-95	REG	SODIUM	62600	
MISS06A	10-May-96	REG	SODIUM	10500	J
MISS06A	3-Jun-97	REG	SODIUM	19400	
MISS06A	1-Jul-98	REG	SODIUM	15800	J
MISS06A	17-May-99	DUP	SODIUM	21300	
MISS06A	10-Jul-00	REG	SODIUM	17100	
MISS06A	10-Jul-02	REG	SODIUM	20500	
MISS06A	2-Jul-03	REG	SODIUM	64000	
MISS07A	30-Jun-04	REG	SODIUM	20400	J
MISS07B	27-May-99	REG	SODIUM	1290000	
MISS07B	12-Jul-00	REG	SODIUM	338000	
MISS07B	11-Jul-02	REG	SODIUM	1290000	
MISS07B	14-Jul-03	REG	SODIUM	1470000	
MISS07B	28-Jun-04	REG	SODIUM	1130000	
B38W02D	13-Jul-00	REG	THALLIUM	5.5	J
B38W02D	28-Jun-01	REG	THALLIUM	3.9	
B38W02D	27-Jun-03	REG	THALLIUM	3.5	J
B38W15S	26-Jun-00	REG	THALLIUM	6.2	J
B38W15S	27-Jun-01	REG	THALLIUM	3.9	
B38W18D	6-Jul-00	REG	THALLIUM	7.8	J
B38W18D	20-Jun-01	REG	THALLIUM	3.9	
B38W18D	2-Jul-03	REG	THALLIUM	1.3	J
B38W25S	7-Jul-00	REG	THALLIUM	17.4	
B38W25S	10-Jul-01	REG	THALLIUM	3.9	
MISS02B	23-Jun-00	REG	THALLIUM	7.8	J
MISS02B	5-Jul-01	REG	THALLIUM	3.9	
B38W02D	4-Jun-97	REG	VANADIUM	1.2	
B38W02D	30-Jun-98	REG	VANADIUM	2.7	
B38W02D	20-May-99	REG	VANADIUM	1	
B38W02D	13-Jul-00	REG	VANADIUM	1.8	J
B38W02D	28-Jun-01	REG	VANADIUM	1.5	
B38W14D	17-May-96	REG	VANADIUM	4.7	
B38W14D	7-Jul-98	REG	VANADIUM	1.1	
B38W14D	7-Jul-98	DUP	VANADIUM	0.8	
B38W14D	17-May99	REG	VANADIUM	1.1	
B38W14D	2-Jul-01	REG	VANADIUM	0.92	
B38W14D	24-Jul-02	REG	VANADIUM	1.7	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W14D	10-Jul-03	REG	VANADIUM	2.4	
B38W14D	29-Jun-04	REG	VANADIUM	2.7	
B38W14S	17-May-96	REG	VANADIUM	7.4	
B38W14S	17-May-96	DUP	VANADIUM	7.2	
B38W14S	4-Jun-97	REG	VANADIUM	6.2	
B38W14S	7-Jul-98	REG	VANADIUM	9.8	
B38W14S	17-May-99	REG	VANADIUM	2.9	
B38W14S	2-Jul-01	REG	VANADIUM	2.4	
B38W14S	24-Jul-02	REG	VANADIUM	2.1	J
B38W14S	10-Jul-03	REG	VANADIUM	2.1	
B38W14S	29-Jun-04	REG	VANADIUM	2.1	
B38W15D	26-May-94	REG	VANADIUM	11.9	
B38W15D	13-May-96	REG	VANADIUM	12.3	
B38W15D	3-Jun-97	REG	VANADIUM	4.2	
B38W15D	6-Jul-98	REG	VANADIUM	4.2	
B38W15D	27-Jun-01	DUP	VANADIUM	2.6	
B38W15D	16-Jul-02	REG	VANADIUM	3	J
B38W15D	1-Jul-03	REG	VANADIUM	2.8	
B38W15D	30-Jun-04	REG	VANADIUM	2.8	
B38W15S	2-Aug-93	REG	VANADIUM	13.3	
B38W15S	3-Jun-97	REG	VANADIUM	2.1	
B38W15S	6-Jul-98	REG	VANADIUM	2.2	
B38W15S	27-Jun-01	REG	VANADIUM	2.4	
B38W15S	16-Jul-02	REG	VANADIUM	1.6	J
B38W15S	30-Jun-04	REG	VANADIUM	3.5	
B38W17A	25-May-94	REG	VANADIUM	9.9	
B38W17A	13-May-96	REG	VANADIUM	8.4	
B38W17A	3-Jun-97	REG	VANADIUM	7.2	
B38W17A	2-Jul-98	REG	VANADIUM	28.2	
B38W17A	19-Jun-00	REG	VANADIUM	11.8	
B38W17A	14-Jun-01	REG	VANADIUM	0.7	
B38W17B	25-May-94	REG	VANADIUM	20.8	
B38W17B	20-May-95	REG	VANADIUM	7.6	
B38W17B	13-May-96	REG	VANADIUM	20.6	
B38W17B	3-Jun-97	REG	VANADIUM	2	
B38W17B	2-Jul-98	REG	VANADIUM	1	
B38W17B	13-May-99	REG	VANADIUM	2.1	
B38W17B	19-Jun-00	REG	VANADIUM	1	J
B38W17B	14-Jun-01	REG	VANADIUM	2	
B38W17B	26-Jun-03	REG	VANADIUM	1.3	J
B38W19D	16-May-94	REG	VANADIUM	4.2	
B38W19D	16-May-96	REG	VANADIUM	8.1	
B38W19D	16-May-97	REG	VANADIUM	5.2	
B38W19D	17-Jun-98	REG	VANADIUM	4.2	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W19D	27-May-99	REG	VANADIUM	8.2	
B38W19D	12-Jul-00	REG	VANADIUM	4.5	
B38W19D	13-Jun-01	REG	VANADIUM	4	
B38W19S	27-May-94	REG	VANADIUM	56.6	
B38W19S	17-May-95	REG	VANADIUM	6.7	
B38W19S	10-May-96	REG	VANADIUM	41.9	
B38W19S	29-Jun-98	REG	VANADIUM	1.1	
B38W19S	14-May-99	REG	VANADIUM	2	
B38W19S	13-Jun-01	REG	VANADIUM	0.7	
B38W24D	2-Jun-97	REG	VANADIUM	1.2	
B38W24D	2-Jul-98	REG	VANADIUM	0.8	
B38W24D	13-May-99	REG	VANADIUM	0.8	
B38W24D	5-Jul-01	REG	VANADIUM	0.7	
B38W24S	2-Jun-97	REG	VANADIUM	2.8	
B38W24S	2-Jul-98	REG	VANADIUM	1.1	
B38W24S	13-May-99	REG	VANADIUM	0.89	
B38W24S	27-Jun-01	REG	VANADIUM	0.7	
B38W25S	3-Aug-93	REG	VANADIUM	16.7	J
B38W25S	24-May-94	REG	VANADIUM	15	
B38W25S	15-May-96	REG	VANADIUM	9.3	
B38W25S	15-May-96	DUP	VANADIUM	13.1	
B38W25S	5-Jun-97	REG	VANADIUM	1.3	
B38W25S	1-Jul-98	REG	VANADIUM	1.8	
B38W25S	17-May-99	REG	VANADIUM	1.7	
B38W25S	10-Jul-01	REG	VANADIUM	0.7	
MISS01AA	31-Jul-93	REG	VANADIUM	46.1	J
MISS01AA	23-May-94	REG	VANADIUM	42.1	
MISS01AA	9-May-96	REG	VANADIUM	37.9	
MISS01AA	23-May-97	REG	VANADIUM	0.5	
MISS01AA	18-Jun-98	REG	VANADIUM	4.6	
MISS01AA	12-May-99	REG	VANADIUM	2.8	
MISS01AA	20-Jun-01	REG	VANADIUM	0.81	
MISS01AA	21-Jun-04	REG	VANADIUM	4.8	
MISS01B	16-May-94	REG	VANADIUM	7.4	
MISS01B	15-May-96	REG	VANADIUM	13.6	
MISS01B	18-Jun-98	REG	VANADIUM	2.5	
MISS01B	25-May-99	REG	VANADIUM	3.4	
MISS01B	20-Jun-00	REG	VANADIUM	2.9	J
MISS01B	19-Jun-01	REG	VANADIUM	3.4	
MISS01B	18-Jul-02	REG	VANADIUM	1.8	J
MISS01B	9-Jul-03	REG	VANADIUM	4.4	
MISS01B	22-Jun-04	REG	VANADIUM	4.7	
MISS02A	10-May-95	REG	VANADIUM	10.1	
MISS02A	16-May-96	REG	VANADIUM	6.3	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	15-May-97	REG	VANADIUM	4.7	
MISS02A	15-May-97	DUP	VANADIUM	4.8	
MISS02A	11-Jun-98	REG	VANADIUM	2	
MISS02A	11-Jun-98	DUP	VANADIUM	2.4	
MISS02A	18-May-99	DUP	VANADIUM	9.7	
MISS02A	22-Jun-00	REG	VANADIUM	2.7	J
MISS02A	5-Jul-01	REG	VANADIUM	1.3	
MISS02B	9-May-95	REG	VANADIUM	6.8	
MISS02B	19-May-97	REG	VANADIUM	3.4	
MISS02B	10-Jun-98	REG	VANADIUM	3.4	
MISS02B	18-May-99	DUP	VANADIUM	3.9	
MISS02B	23-Jun-00	REG	VANADIUM	4.7	
MISS02B	5-Jul-01	REG	VANADIUM	2.8	
MISS02B	18-Jun-04	REG	VANADIUM	1.8	J
MISS05A	27-May-94	REG	VANADIUM	50.5	
MISS05A	10-May-96	REG	VANADIUM	41.9	
MISS05A	2-Jun-97	REG	VANADIUM	16.9	
MISS05A	29-Jun-98	REG	VANADIUM	11.3	
MISS05A	14-May-99	REG	VANADIUM	1.6	
MISS05A	19-Jun-01	REG	VANADIUM	0.7	
MISS05A	24-Jun-04	REG	VANADIUM	60.4	
MISS05B	17-May-94	REG	VANADIUM	27.7	
MISS05B	16-May-96	REG	VANADIUM	6	
MISS05B	14-May-97	REG	VANADIUM	3.8	
MISS05B	30-Jun-98	REG	VANADIUM	0.96	
MISS05B	11-Jul-00	REG	VANADIUM	2.1	J
MISS05B	18-Jun-01	REG	VANADIUM	4.7	
MISS05B	31-Jul-02	REG	VANADIUM	2.5	J
MISS06A	4-Aug-93	REG	VANADIUM	21.9	J
MISS06A	24-May-94	REG	VANADIUM	23.6	
MISS06A	10-May-96	REG	VANADIUM	17.6	
MISS06A	3-Jun-97	REG	VANADIUM	1.2	
MISS06A	1-Jul-98	REG	VANADIUM	1.2	
MISS06A	17-May-99	REG	VANADIUM	1.2	
MISS06A	10-Jul-00	REG	VANADIUM	2.1	J
MISS06A	20-Jun-01	REG	VANADIUM	1.6	
MISS07A	30-Jun-04	REG	VANADIUM	4.1	
MISS07B	27-May-99	DUP	VANADIUM	19.6	
MISS07B	12-Jul-00	REG	VANADIUM	13.9	
MISS07B	11-Jun-01	REG	VANADIUM	12.9	
MISS07B	11-Jul-02	DUP	VANADIUM	7	J
MISS07B	14-Jul-03	REG	VANADIUM	20	
MISS07B	28-Jun-04	REG	VANADIUM	27.8	
B38W01S	23-May-94	REG	ZINC	129	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W01S	7-Jul-98	REG	ZINC	13.5	
B38W01S	11-Jul-01	DUP	ZINC	1.6	
B38W02D	27-Jul-93	REG	ZINC	15.2	
B38W02D	17-May-96	REG	ZINC	3.2	
B38W02D	30-Jun-98	REG	ZINC	7.4	
B38W02D	28-Jun-01	REG	ZINC	7.4	
B38W14D	4-Aug-93	REG	ZINC	23.7	
B38W14D	17-May-96	REG	ZINC	4.2	
B38W14D	7-Jul-98	REG	ZINC	21.1	
B38W14D	7-Jul-98	DUP	ZINC	17.9	
B38W14D	5-Jul-00	REG	ZINC	24.7	
B38W14D	2-Jul-01	REG	ZINC	43.3	
B38W14D	10-Jul-03	REG	ZINC	37.4	
B38W14D	29-Jun-04	REG	ZINC	13.2	J
B38W14S	4-Aug-93	REG	ZINC	47.1	
B38W14S	20-May-95	REG	ZINC	40.1	
B38W14S	17-May-96	REG	ZINC	6.5	
B38W14S	17-May-96	DUP	ZINC	5.3	
B38W14S	7-Jul-98	REG	ZINC	40.3	
B38W14S	13-May-99	REG	ZINC	6.9	
B38W14S	2-Jul-01	REG	ZINC	2.8	
B38W14S	29-Jun-04	REG	ZINC	11.2	J
B38W15D	26-May-94	REG	ZINC	67.2	
B38W15D	6-Jul-98	REG	ZINC	11.2	
B38W15D	27-Jun-01	REG	ZINC	22.5	
B38W15S	6-Jul-98	REG	ZINC	13.9	
B38W15S	27-Jun-01	REG	ZINC	9.3	
B38W17A	28-Jul-93	REG	ZINC	147	
B38W17A	25-May-94	REG	ZINC	34.3	
B38W17A	2-Jul-98	REG	ZINC	22	
B38W17A	13-May-99	REG	ZINC	4.9	
B38W17A	19-Jun-00	REG	ZINC	25.8	
B38W17A	14-Jun-01	REG	ZINC	12.1	
B38W17A	26-Jun-03	REG	ZINC	14.5	J
B38W17B	25-May-94	REG	ZINC	42.8	
B38W17B	2-Jul-98	REG	ZINC	3.2	
B38W17B	13-May-99	REG	ZINC	1.6	
B38W17B	14-Jun-01	REG	ZINC	6.3	
B38W18D	21-Jul-93	REG	ZINC	138	
B38W18D	13-May-94	REG	ZINC	226	J
B38W18D	15-May-95	REG	ZINC	152	J
B38W18D	14-May-96	REG	ZINC	102	
B38W18D	9-May-97	REG	ZINC	76.8	
B38W18D	8-Jun-98	REG	ZINC	79.7	

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
B38W18D	20-May-99	DUP	ZINC	81.5	
B38W18D	6-Jul-00	REG	ZINC	91.2	
B38W18D	20-Jun-01	REG	ZINC	112	
B38W18D	2-Jul-03	REG	ZINC	102	
B38W18D	22-Jun-04	REG	ZINC	128	
B38W18D	22-Jun-04	DUP	ZINC	113	
B38W19D	16-May-96	REG	ZINC	4.6	
B38W19D	16-May-97	REG	ZINC	3.1	
B38W19D	17-Jun-98	REG	ZINC	2.9	
B38W19D	27-May-99	REG	ZINC	2.1	
B38W19D	13-Jun-01	REG	ZINC	6.9	
B38W19S	29-Jun-98	REG	ZINC	6.2	
B38W19S	14-May-99	REG	ZINC	1.7	
B38W19S	13-Jun-01	REG	ZINC	2.5	
B38W24D	9-Aug-93	REG	ZINC	38.1	J
B38W24D	2-Jul-98	REG	ZINC	15.4	
B38W24D	13-May-99	REG	ZINC	5.9	
B38W24D	5-Jul-01	REG	ZINC	11.9	
B38W24S	2-Jul-98	REG	ZINC	12.3	
B38W24S	13-May-99	REG	ZINC	30.4	
B38W24S	27-Jun-01	REG	ZINC	6.1	
B38W24S	15-Jul-02	REG	ZINC	67.1	
B38W24S	28-Jun-04	REG	ZINC	17.3	J
B38W25D	15-May-97	REG	ZINC	2.8	
B38W25D	1-Jul-98	REG	ZINC	4.6	
B38W25D	26-May-99	REG	ZINC	4.5	
B38W25D	10-Jul-01	DUP	ZINC	2.8	
B38W25S	3-Aug-93	REG	ZINC	231	J
B38W25S	15-May-96	REG	ZINC	38.2	
B38W25S	15-May-96	DUP	ZINC	31.6	J
B38W25S	1-Jul-98	REG	ZINC	198	
B38W25S	17-May-99	REG	ZINC	29.7	
B38W25S	7-Jul-00	REG	ZINC	530	
B38W25S	10-Jul-01	REG	ZINC	35.9	
MISS01AA	31-Jul-93	REG	ZINC	142	J
MISS01AA	23-May-94	REG	ZINC	88.8	J
MISS01AA	23-May-97	REG	ZINC	4.8	
MISS01AA	20-Jun-01	REG	ZINC	16.6	
MISS01AA	21-Jun-04	REG	ZINC	12.6	J
MISS01B	21-Jul-93	REG	ZINC	13.8	
MISS01B	10-May-95	REG	ZINC	34.6	
MISS01B	25-May-99	REG	ZINC	2.9	
MISS01B	19-Jun-01	REG	ZINC	6.9	
MISS01B	18-Jul-02	REG	ZINC	26.9	J

Table B-3
Historical Results for Detected Selected Metals in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Sample Type	Analyte	Result (µg/L)	Qualifier
MISS02A	20-Jul-93	REG	ZINC	17.3	
MISS02A	12-May-94	REG	ZINC	50	J
MISS02A	10-May-95	REG	ZINC	19.3	
MISS02A	16-May-96	REG	ZINC	4.5	
MISS02A	15-May-97	REG	ZINC	8	
MISS02A	15-May-97	DUP	ZINC	10.5	
MISS02A	11-Jun-98	REG	ZINC	17.7	J
MISS02A	11-Jun-98	DUP	ZINC	11	J
MISS02A	18-May-99	REG	ZINC	36	
MISS02A	22-Jun-00	REG	ZINC	18.8	
MISS02B	13-May-94	REG	ZINC	148	J
MISS02B	9-May-95	REG	ZINC	22	
MISS02B	14-May-96	REG	ZINC	1.8	
MISS02B	19-May-97	REG	ZINC	70.8	
MISS02B	10-Jun-98	REG	ZINC	2.1	J
MISS02B	23-Jun-00	REG	ZINC	109	
MISS02B	5-Jul-01	REG	ZINC	5.4	
MISS05A	27-May-94	REG	ZINC	34.6	
MISS05A	12-May-95	REG	ZINC	34.4	
MISS05A	10-May-96	REG	ZINC	72.1	
MISS05A	29-Jun-98	REG	ZINC	27.4	
MISS05A	14-May-99	REG	ZINC	74.5	
MISS05A	19-Jun-01	REG	ZINC	24.1	
MISS05A	1-Aug-02	REG	ZINC	45.9	J
MISS05A	24-Jun-04	REG	ZINC	72	J
MISS05B	11-May-95	REG	ZINC	98	J
MISS05B	16-May-96	REG	ZINC	7.8	
MISS05B	30-Jun-98	REG	ZINC	39.3	
MISS05B	18-Jun-01	REG	ZINC	5.3	
MISS06A	4-Aug-93	REG	ZINC	1260	
MISS06A	24-May-94	REG	ZINC	1120	
MISS06A	16-May-95	REG	ZINC	865	
MISS06A	10-May-96	REG	ZINC	968	
MISS06A	3-Jun-97	REG	ZINC	1060	
MISS06A	1-Jul-98	REG	ZINC	802	
MISS06A	17-May-99	DUP	ZINC	934	
MISS06A	10-Jul-00	REG	ZINC	495	
MISS06A	10-Jul-02	REG	ZINC	1780	
MISS06A	2-Jul-03	REG	ZINC	3580	
MISS07B	27-May-99	DUP	ZINC	4.8	

J = reported as an estimated value.

R = rejected value.

U = analyte was not detected.

UJ = analyte was not detected but is estimated.

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W14D	4-Aug-93	1,1,1-Trichloroethane	8.00		5
B38W14D	20-May-95	1,1,1-Trichloroethane	6.00		5
B38W14D	4-Jun-97	1,1,1-Trichloroethane	4.00	J	5
B38W14D	07-Jul-98	1,1,1-Trichloroethane	3.00	J	10
B38W14D	20-May-99	1,1,1-Trichloroethane	3.00	J	10
B38W14D	16-Nov-00	1,1,1-Trichloroethane	2.00		1
B38W14D	2-Jul-01	1,1,1-Trichloroethane	2.00		1
B38W14S	20-May-95	1,1,1-Trichloroethane	7.00		5
B38W14S	4-Jun-97	1,1,1-Trichloroethane	4.00	J	5
B38W14S	07-Jul-98	1,1,1-Trichloroethane	4.00	J	5
B38W14S	17-May-99	1,1,1-Trichloroethane	2.00	J	5
B38W14S	2-Jul-01	1,1,1-Trichloroethane	2.00		1
B38W15D	2-Aug-93	1,1,1-Trichloroethane	10.00		5
B38W15D	26-May-94	1,1,1-Trichloroethane	5.00		5
B38W15D	19-May-95	1,1,1-Trichloroethane	7.00		5
B38W15D	13-May-96	1,1,1-Trichloroethane	3.00		2
B38W15D	3-Jun-97	1,1,1-Trichloroethane	3.00	J	5
B38W15D	06-Jul-98	1,1,1-Trichloroethane	5.00		5
B38W15D	9-Nov-00	1,1,1-Trichloroethane	0.60	I	1
B38W15D	27-Jun-01	1,1,1-Trichloroethane	0.50		1
B38W15S	2-Aug-93	1,1,1-Trichloroethane	2.00	J	5
B38W15S	26-May-94	1,1,1-Trichloroethane	2.00	J	5
B38W15S	13-May-96	1,1,1-Trichloroethane	1.00	J	2
MISS07B	13-Oct-92	1,1,1-Trichloroethane	1.00	J	5
MISS07B	12-Aug-93	1,1,1-Trichloroethane	2.00	J	5
MISS07B	18-May-94	1,1,1-Trichloroethane	2.00	J	5
MISS07B	18-May-94	1,1,1-Trichloroethane	2.00	J	5
MISS07B	6-Nov-00	1,1,1-Trichloroethane	0.20	J	1
MISS07B	28-Jun-04	1,1,2,2-Tetrachloroethane	0.40		0.2
B38W14D	4-Aug-93	1,1-Dichloroethane	3.00	J	5
B38W14D	20-May-95	1,1-Dichloroethane	4.00	J	5
B38W14D	4-Jun-97	1,1-Dichloroethane	3.00	J	5
B38W14D	17-May-99	1,1-Dichloroethane	2.00	J	5
B38W14D	16-Nov-00	1,1-Dichloroethane	1.00		1
B38W14D	2-Jul-01	1,1-Dichloroethane	1.00		1
B38W14S	20-May-95	1,1-Dichloroethane	2.00	J	5
B38W14S	4-Jun-97	1,1-Dichloroethane	2.00	J	5
B38W14S	07-Jul-98	1,1-Dichloroethane	1.00	J	5
B38W14S	8-Nov-00	1,1-Dichloroethane	0.20	J	1
B38W14S	2-Jul-01	1,1-Dichloroethane	0.70		1

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W15D	2-Aug-93	1,1-Dichloroethane	6.00		5
B38W15D	26-May-94	1,1-Dichloroethane	4.00	J	5
B38W15D	19-May-95	1,1-Dichloroethane	6.00		5
B38W15D	13-May-96	1,1-Dichloroethane	3.00		2
B38W15D	3-Jun-97	1,1-Dichloroethane	4.00	J	5
B38W15D	06-Jul-98	1,1-Dichloroethane	6.00		5
B38W15D	9-Nov-00	1,1-Dichloroethane	2.00		1
B38W15D	27-Jun-01	1,1-Dichloroethane	1.00		1
B38W15D	16-Jul-02	1,1-Dichloroethane	3.00		5
B38W15S	2-Aug-93	1,1-Dichloroethane	4.00	J	5
B38W15S	26-May-94	1,1-Dichloroethane	6.00		5
B38W15S	19-May-95	1,1-Dichloroethane	4.00	J	5
B38W15S	13-May-96	1,1-Dichloroethane	5.00		2
B38W15S	3-Jun-97	1,1-Dichloroethane	4.00	J	5
B38W15S	06-Jul-98	1,1-Dichloroethane	4.00	J	5
B38W15S	27-Jun-01	1,1-Dichloroethane	1.00		1
B38W15S	30-Jun-04	1,1-Dichloroethane	2.00		0.08
MISS07B	28-Jun-04	1,1-Dichloroethane	0.40		0.08
B38W17B	16-Jun-04	1,1-Dichloroethane	0.10		0.08
B38W14D	4-Aug-93	1,1-Dichloroethene	6.00		5
B38W14D	20-May-95	1,1-Dichloroethene	7.00		5
B38W14D	4-Jun-97	1,1-Dichloroethene	5.00		1
B38W14D	07-Jul-98	1,1-Dichloroethene	3.00	J	10
B38W14D	07-May-99	1,1-Dichloroethene	3.00	J	5
B38W14D	16-Nov-00	1,1-Dichloroethene	4.00		1
B38W14D	2-Jul-01	1,1-Dichloroethene	3.00		1
B38W14D	10-Jul-03	1,1-Dichloroethene	4.00		6
B38W14S	20-May-95	1,1-Dichloroethene	7.00		5
B38W14S	17-May-96	1,1-Dichloroethene	6.00	J	10
B38W14S	4-Jun-97	1,1-Dichloroethene	5.00		1
B38W14S	07-Jul-98	1,1-Dichloroethene	5.00	J	5
B38W14S	17-May-99	1,1-Dichloroethene	2.00	J	5
B38W14S	2-Jul-01	1,1-Dichloroethene	4.00		1
B38W14S	24-Jul-02	1,1-Dichloroethene	1.00		2
B38W14S	10-Jul-03	1,1-Dichloroethene	3.00		1
B38W15D	2-Aug-93	1,1-Dichloroethene	8.00		5
B38W15D	26-May-94	1,1-Dichloroethene	7.00		5
B38W15D	19-May-95	1,1-Dichloroethene	9.00		5
B38W15D	13-May-96	1,1-Dichloroethene	5.00		2
B38W15D	3-Jun-97	1,1-Dichloroethene	7.00		1

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W15D	06-Jul-98	1,1-Dichloroethene	6.00		5
B38W15D	9-Nov-00	1,1-Dichloroethene	2.00		1
B38W15D	27-Jun-01	1,1-Dichloroethene	0.50		1
B38W15D	16-Jul-02	1,1-Dichloroethene	3.00		5
B38W15D	1-Jul-03	1,1-Dichloroethene	2.00		3
B38W15D	30-Jun-04	1,1-Dichloroethene	5.00		0.3
B38W15D	30-Jun-04	1,1-Dichloroethene	5.00		0.3
B38W15S	13-May-96	1,1-Dichloroethene	0.30	J	2
MISS01B	16-May-94	1,1-Dichloroethene	1.00	J	5
MISS01B	21-Dec-00	1,1-Dichloroethene	0.20	J	1
MISS01B	19-Jun-01	1,1-Dichloroethene	0.20		1
MISS01B	9-Jul-03	1,1-Dichloroethene	0.30		0.6
MISS01B	22-Jun-04	1,1-Dichloroethene	0.20	J	0.3
MISS07B	13-Oct-92	1,1-Dichloroethene	2.00	J	5
MISS07B	18-May-94	1,1-Dichloroethene	3.00	J	5
MISS07B	11-May-95	1,1-Dichloroethene	2.00	J	5
MISS07B	16-May-96	1,1-Dichloroethene	2.00	J	2
MISS07B	16-May-97	1,1-Dichloroethene	2.00		1
MISS07B	6-Nov-00	1,1-Dichloroethene	0.70	J	1
MISS07B	11-Jun-01	1,1-Dichloroethene	0.40		1
MISS07B	11-Jul-02	1,1-Dichloroethene	0.30		0.5
MISS07B	28-Jun-04	1,1-Dichloroethene	1.00		0.3
B38W07B	16-Jun-98	1,2-Dichloroethene (Total)	6.00		5
B38W07B	6-Nov-00	1,2-Dichloroethene (Total)	6.00		1
B38W14D	4-Aug-93	1,2-Dichloroethene (Total)	56.00		5
B38W14D	20-May-95	1,2-Dichloroethene (Total)	93.00		5
B38W14D	17-May-96	1,2-Dichloroethene (Total)	83.00		50
B38W14D	4-Jun-97	1,2-Dichloroethene (Total)	78.00		5
B38W14D	07-Jul-98	1,2-Dichloroethene (Total)	71.00		10
B38W14D	17-May-99	1,2-Dichloroethene (Total)	77.00		5
B38W14D	16-Nov-00	1,2-Dichloroethene (Total)	50.00		1
B38W14D	2-Jul-01	1,2-Dichloroethene (Total)	37.00		1
B38W14S	4-Aug-93	1,2-Dichloroethene (Total)	10.00		5
B38W14S	20-May-95	1,2-Dichloroethene (Total)	53.00		5
B38W14S	17-May-96	1,2-Dichloroethene (Total)	29.00		10
B38W14S	17-May-96	1,2-Dichloroethene (Total)	0.90	J	1
B38W14S	4-Jun-97	1,2-Dichloroethene (Total)	43.00		5
B38W14S	07-Jul-98	1,2-Dichloroethene (Total)	44.00		5
B38W14S	17-May-99	1,2-Dichloroethene (Total)	43.00		5
B38W14S	16-Nov-00	1,2-Dichloroethene (Total)	10.00		1

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (μg/L)	Qualifier	Detection Limit (μg/L)
B38W14S	2-Jul-01	1,2-Dichloroethene (Total)	25.00		1
B38W15D	2-Aug-93	1,2-Dichloroethene (Total)	150.00		5
B38W15D	26-May-94	1,2-Dichloroethene (Total)	120.00		5
B38W15D	19-May-95	1,2-Dichloroethene (Total)	160.00		5
B38W15D	13-May-96	1,2-Dichloroethene (Total)	110.00		2
B38W15D	3-Jun-97	1,2-Dichloroethene (Total)	120.00		5
B38W15D	06-Jul-98	1,2-Dichloroethene (Total)	140.00		5
B38W15D	9-Nov-00	1,2-Dichloroethene (Total)	55.00		1
B38W15D	27-Jun-01	1,2-Dichloroethene (Total)	25.00		1
B38W15S	2-Aug-93	1,2-Dichloroethene (Total)	42.00		5
B38W15S	26-May-94	1,2-Dichloroethene (Total)	94.00		5
B38W15S	19-May-95	1,2-Dichloroethene (Total)	6.00		5
B38W15S	19-May-95	1,2-Dichloroethene (Total)	10.00		5
B38W15S	13-May-96	1,2-Dichloroethene (Total)	55.00		2
B38W15S	3-Jun-97	1,2-Dichloroethene (Total)	13.00		5
B38W15S	06-Jul-98	1,2-Dichloroethene (Total)	15.00		5
B38W15S	27-Jun-01	1,2-Dichloroethene (Total)	3.00		1
B38W17B	29-Jul-93	1,2-Dichloroethene (Total)	3.00	J	5
B38W17B	25-May-94	1,2-Dichloroethene (Total)	1.00	J	5
B38W17B	20-May-95	1,2-Dichloroethene (Total)	2.00	J	5
B38W17B	14-Jun-01	1,2-Dichloroethene (Total)	0.30		1
B38W19D	11-Aug-93	1,2-Dichloroethene (Total)	2.00	J	5
B38W19D	16-May-96	1,2-Dichloroethene (Total)	0.30	J	1
B38W19D	7-Nov-00	1,2-Dichloroethene (Total)	0.50	J	1
B38W24D	9-May-96	1,2-Dichloroethene (Total)	0.70	J	1
B38W24D	15-Nov-00	1,2-Dichloroethene (Total)	0.30	J	1
B38W24D	5-Jul-01	1,2-Dichloroethene (Total)	0.50		1
B38W24S	9-May-96	1,2-Dichloroethene (Total)	0.20	J	1
MISS01B	15-Oct-92	1,2-Dichloroethene (Total)	1.00	J	5
MISS01B	21-Jul-93	1,2-Dichloroethene (Total)	5.00	J	5
MISS01B	16-May-94	1,2-Dichloroethene (Total)	31.00		5
MISS01B	10-May-95	1,2-Dichloroethene (Total)	3.00	J	5
MISS01B	15-May-96	1,2-Dichloroethene (Total)	22.00		5
MISS01B	18-Jun-98	1,2-Dichloroethene (Total)	11.00		5
MISS01B	25-May-99	1,2-Dichloroethene (Total)	2.00	J	5
MISS01B	21-Dec-00	1,2-Dichloroethene (Total)	1.00	J	1
MISS01B	19-Jun-01	1,2-Dichloroethene (Total)	2.00		1
MISS05B	6-Nov-00	1,2-Dichloroethene (Total)	0.80	J	1
MISS05B	18-Jun-01	1,2-Dichloroethene (Total)	0.10		1
MISS07B	13-Oct-92	1,2-Dichloroethene (Total)	10.00		5

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
MISS07B	14-Oct-92	1,2-Dichloroethene (Total)	11.00	J	5
MISS07B	15-Oct-92	1,2-Dichloroethene (Total)	9.00		5
MISS07B	16-Oct-92	1,2-Dichloroethene (Total)	10.00		5
MISS07B	17-Oct-92	1,2-Dichloroethene (Total)	8.00		5
MISS07B	18-Oct-92	1,2-Dichloroethene (Total)	7.00		2
MISS07B	19-Oct-92	1,2-Dichloroethene (Total)	7.00		5
MISS07B	20-Oct-92	1,2-Dichloroethene (Total)	6.00		5
MISS07B	21-Oct-92	1,2-Dichloroethene (Total)	6.00		5
MISS07B	22-Oct-92	1,2-Dichloroethene (Total)	6.00		1
MISS07B	11-Jun-01	1,2-Dichloroethene (Total)	5.00		1
B38W14D	23-Oct-92	1,2-Dichloropropane	1.00	J	5
B38W14D	24-Oct-92	1,2-Dichloropropane	1.00	J	5
B38W14D	25-Oct-92	1,2-Dichloropropane	0.40	J	1
B38W14D	2-Jul-01	1,2-Dichloropropane	0.30		1
B38W15D	26-Oct-92	1,2-Dichloropropane	2.00	J	5
B38W15D	27-Oct-92	1,2-Dichloropropane	1.00	J	5
B38W15D	28-Oct-92	1,2-Dichloropropane	0.80	J	2
B38W15D	29-Oct-92	1,2-Dichloropropane	2.00	J	5
B38W15D	30-Oct-92	1,2-Dichloropropane	0.30	J	1
B38W15D	27-Jun-01	1,2-Dichloropropane	0.20		1
B38W15S	31-Oct-92	1,2-Dichloropropane	2.00	J	5
B38W15S	1-Nov-92	1,2-Dichloropropane	0.90	J	2
B38W15S	30-Jun-04	1,2-Dichloropropane	0.40		0.1
MISS02A	2-Nov-92	2-Butanone	23.00		10
MISS02A	3-Nov-92	2-Butanone	4.00	J	5
B38W15D	4-Nov-92	Benzene	0.70	J	2
B38W15D	5-Nov-92	Benzene	0.70	J	1
B38W15D	27-Jun-01	Benzene	0.30		1
B38W15S	6-Nov-92	Benzene	1.00	J	5
B38W15S	7-Nov-92	Benzene	0.50	J	2
B38W15S	8-Nov-92	Benzene	0.20	J	1
B38W19D	9-Nov-92	Benzene	5.00		5
B38W19D	10-Nov-92	Benzene	1.00	J	5
B38W19D	11-Nov-92	Benzene	5.00		1
B38W19D	12-Nov-92	Benzene	1.00		1
B38W19D	9-Aug-02	Benzene	0.70		0.5
B38W19D	11-Jul-03	Benzene	0.50		0.08
B38W24D	13-Nov-92	Benzene	2.00	J	5
B38W24D	14-Nov-92	Benzene	0.40	J	1
B38W24D	15-Nov-92	Benzene	0.20	J	1

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W24D	5-Jul-01	Benzene	0.10		1
B38W25D	9-Jul-04	Benzene	0.40		0.08
MISS02B	16-Nov-92	Benzene	3.00	J	5
MISS02B	17-Nov-92	Benzene	7.00		5
MISS02B	18-Nov-92	Benzene	2.00	J	5
MISS02B	19-Nov-92	Benzene	1.00	J	5
MISS02B	20-Nov-92	Benzene	1.00		1
MISS02B	21-Nov-92	Benzene	0.60	J	1
MISS02B	5-Jul-01	Benzene	0.30		1
MISS02B	8-Jul-02	Benzene	0.20		0.5
MISS02B	30-Jun-03	Benzene	0.20		0.08
MISS05B	22-Nov-92	Benzene	200.00		5
MISS05B	23-Nov-92	Benzene	83.00		5
MISS05B	24-Nov-92	Benzene	170.00		5
MISS05B	25-Nov-92	Benzene	89.00		5
MISS05B	26-Nov-92	Benzene	97.00		2
MISS05B	27-Nov-92	Benzene	62.00		5
MISS05B	28-Nov-92	Benzene	15.00		5
MISS05B	29-Nov-92	Benzene	3500.00		1
MISS05B	31-Jul-02	Benzene	680.00		5
MISS05B	16-Jul-03	Benzene	2.00		0.08
B38W24D	2-Jul-98	Benzene, 1,2-Dichloro-3-Methyl	9.00	NJ	0
B38W17B	2-Jul-98	Benzene, 1,2-Dichloro-3-Methyl	4.00	NJ	0
MISS05B	30-Jun-98	Benzene, 1,2-Dichloro-3-Methyl	10.00	NJ	0
MISS01AA	16-Oct-92	Bis(2-Ethylhexyl)Phthalate	11.00	JB	10
B38W02D	17-May-96	C4-Alkenylbenzene	1.00	J	0
B38W19D	16-May-96	Chlorobenzene	0.60	J	1
B38W19D	7-Nov-00	Chlorobenzene	0.40	J	1
B38W19D	13-Jun-01	Chlorobenzene	0.30		1
B38W19D	9-Jul-02	Chlorobenzene	0.20		0.5
B38W19D	11-Jul-03	Chlorobenzene	0.10		0.06
B38W25S	15-May-96	Chlorobenzene	0.40	J	1
B38W25S	27-Nov-00	Chlorobenzene	0.10	J	1
MISS02B	14-May-96	Chlorobenzene	0.10	J	1
MISS02B	5-Jul-01	Chlorobenzene	0.10		1
MISS05B	16-May-96	Chlorobenzene	0.60	J	2
MISS05B	6-Nov-00	Chlorobenzene	8.00		1
MISS05B	18-Jun-01	Chlorobenzene	1.00		1
MISS07B	6-Nov-00	Chlorobenzene	0.20	J	1
B38W14D	4-Aug-93	Chloroform	7.00		5

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W14D	17-May-96	Chloroform	6.00	J	50
B38W14D	4-Jun-97	Chloroform	6.00		5
B38W14D	17-May-99	Chloroform	2.00	J	5
B38W14D	16-Nov-00	Chloroform	2.00		1
B38W14D	2-Jul-01	Chloroform	2.00		1
B38W14D	10-Jul-03	Chloroform	5.00		2
B38W14S	20-May-95	Chloroform	3.00	J	5
B38W14S	17-May-96	Chloroform	3.00	J	10
B38W14S	4-Jun-97	Chloroform	3.00	J	5
B38W14S	16-Nov-00	Chloroform	6.00		1
B38W14S	2-Jul-01	Chloroform	2.00		1
B38W14S	10-Jul-03	Chloroform	1.00		0.5
B38W15D	13-May-96	Chloroform	0.30	J	2
B38W15D	9-Nov-00	Chloroform	0.20	J	1
B38W15D	27-Jun-01	Chloroform	0.10		1
B38W25D	9-Jul-04	Chloroform	0.20		0.1
MISS01B	15-Oct-92	Chloroform	15.00		5
MISS01B	21-Jul-93	Chloroform	4.00	J	5
MISS01B	16-May-94	Chloroform	2.00	J	5
MISS01B	15-May-96	Chloroform	0.90	J	5
MISS01B	21-Dec-00	Chloroform	0.20	J	1
MISS01B	19-Jun-01	Chloroform	0.20		1
MISS01B	18-Jul-02	Chloroform	7.00		0.5
MISS01B	9-Jul-03	Chloroform	0.20		0.2
MISS01B	22-Jun-04	Chloroform	0.50		0.1
MISS06A	10-May-96	Chloroform	0.20	J	1
MISS06A	21-Dec-00	Chloroform	0.30	J	1
MISS06A	20-Jun-01	Chloroform	0.40		1
MISS06A	10-Jul-02	Chloroform	2.00		0.5
MISS06A	2-Jul-03	Chloroform	0.20		0.1
B38W17B	29-Jul-93	Chlorotoluene	20.00	J	0
B38W17B	3-Jun-97	Chlorotoluene	10.00	J	
MISS05B	12-Aug-93	Chlorotoluene	30.00	J	0
MISS05B	12-Aug-93	Chlorotoluene	20.00	J	0
B38W14D	29-Jun-04	cis-1,2-Dichloroethene	62.00		0.08
B38W14S	29-Jun-04	cis-1,2-Dichloroethene	14.00		0.08
B38W15S	30-Jun-04	cis-1,2-Dichloroethene	8.00		0.08
B38W15D	30-Jun-04	cis-1,2-Dichloroethene	59.00		0.08
B38W15D	30-Jun-04	cis-1,2-Dichloroethene	58.00		0.08
B38W17B	16-Jun-04	cis-1,2-Dichloroethene	0.80		0.08

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W19D	29-Jun-04	cis-1,2-Dichloroethene	0.20	J	0.08
B38W24D	1-Jul-04	cis-1,2-Dichloroethene	0.20		0.08
MISS01B	22-Jun-04	cis-1,2-Dichloroethene	12.00		0.08
MISS07B	28-Jun-04	cis-1,2-Dichloroethene	3.00		0.08
B38W25S	15-May-95	Dichloromethane	1.00	J	5
B38W24D	9-Aug-93	Dichlorotoluene	30.00	J	0
MISS05B	12-Aug-93	Dichlorotoluene	5.00	J	0
B38W24D	9-May-96	Ethylbenzene	0.10	J	1
B38W24D	5-Jul-01	Ethylbenzene	0.20		1
B38W19D	13-Oct-92	N-Nitrosodiphenylamine	3.00	J	10
MISS02B	15-Oct-92	Phenol	1.00	J	10
B38W02D	30-Jun-98	Propane, 2-Methoxy-2-Methyl-	30.00	NJ	0
B38W15D	06-Jul-98	Propane, 2-Methoxy-2-Methyl-	20.00	NJ	0
B38W15S	06-Jul-98	Propane, 2-Methoxy-2-Methyl-	6.00	NJ	0
B38W25S	01-Jul-98	Silanol, Trimethyl-	10.00	NJ	0
MISS07B	28-Jun-04	Styrene	0.20		0.1
B38W18D	08-Jun-98	Sulfur Dioxide	6.00	NJ	0
B38W01S	07-Jul-98	Tetrachloroethene	6.00		5
B38W07B	16-Jun-98	Tetrachloroethene	48.00		5
B38W14D	17-May-96	Tetrachloroethene	1100.00		50
B38W14D	07-Jul-98	Tetrachloroethene	840.00	D	25
B38W14D	17-May-99	Tetrachloroethene	630.00	D	5
B38W14D	16-Nov-00	Tetrachloroethene	300.00		1
B38W14D	2-Jul-01	Tetrachloroethene	170.00		1
B38W14D	24-Jul-02	Tetrachloroethene	640.00		25
B38W14D	10-Jul-03	Tetrachloroethene	400.00		2
B38W14D	29-Jun-04	Tetrachloroethene	450.00		0.1
B38W14S	4-Aug-93	Tetrachloroethene	23.00		5
B38W14S	17-May-96	Tetrachloroethene	360.00		10
B38W14S	17-May-96	Tetrachloroethene	34.00		1
B38W14S	07-Jul-98	Tetrachloroethene	300.00		12
B38W14S	17-May-99	Tetrachloroethene	290.00	D	5
B38W14S	16-Nov-00	Tetrachloroethene	6.00		1
B38W14S	2-Jul-01	Tetrachloroethene	120.00		1
B38W14S	24-Jul-02	Tetrachloroethene	83.00		2
B38W14S	10-Jul-03	Tetrachloroethene	78.00		0.6
B38W14S	29-Jun-04	Tetrachloroethene	85.00		0.1
B38W15S	13-May-96	Tetrachloroethene	0.30	J	2
B38W15D	9-Nov-00	Tetrachloroethene	120.00		1
B38W15D	27-Jun-01	Tetrachloroethene	46.00		1

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W15D	16-Jul-02	Tetrachloroethene	180.00		5
B38W15D	1-Jul-03	Tetrachloroethene	120.00		1
B38W15D	30-Jun-04	Tetrachloroethene	570.00		0.1
B38W15D	30-Jun-04	Tetrachloroethene	520.00		0.1
B38W17B	16-Jun-04	Tetrachloroethene	0.20		0.1
MISS01B	15-Oct-92	Tetrachloroethene	15.00		5
MISS01B	21-Jul-93	Tetrachloroethene	33.00		5
MISS01B	16-May-94	Tetrachloroethene	140.00		5
MISS01B	10-May-95	Tetrachloroethene	20.00		5
MISS01B	15-May-96	Tetrachloroethene	120.00		5
MISS01B	18-Jun-98	Tetrachloroethene	69.00		5
MISS01B	18-May-99	Tetrachloroethene	15.00		5
MISS01B	21-Nov-00	Tetrachloroethene	12.00		1
MISS01B	19-Jun-01	Tetrachloroethene	21.00		1
MISS01B	18-Jul-02	Tetrachloroethene	4.00		0.5
MISS01B	19-Jul-03	Tetrachloroethene	30.00		0.2
MISS01B	22-Jun-04	Tetrachloroethene	16.00		0.1
MISS06A	4-Aug-93	Tetrachloroethene	14.00		5
MISS07B	13-Oct-92	Tetrachloroethene	43.00		5
MISS07B	12-Aug-93	Tetrachloroethene	61.00		5
MISS07B	18-May-94	Tetrachloroethene	94.00		5
MISS07B	18-May-94	Tetrachloroethene	88.00		5
MISS07B	11-May-95	Tetrachloroethene	45.00		5
MISS07B	16-May-96	Tetrachloroethene	61.00		2
MISS07B	16-May-97	Tetrachloroethene	57.00		1
MISS07B	16-Jun-98	Tetrachloroethene	48.00		1
MISS07B	27-May-99	Tetrachloroethene	24.00		5
MISS07B	6-Nov-00	Tetrachloroethene	9.00		1
MISS07B	11-Jun-01	Tetrachloroethene	5.00		1
MISS07B	11-Jul-02	Tetrachloroethene	4.00		0.5
B38W07B	14-Jul-03	Tetrachloroethene	2.00		0.1
B38W07B	28-Jun-04	Tetrachloroethene	29.00		0.1
B38W01S	17-May-96	Toluene	0.20	J	1
B38W01S	8-Nov-00	Toluene	3.00		1
B38W01S	11-Jul-01	Toluene	0.20		1
B38W19D	16-May-96	Toluene	0.10	J	1
B38W19D	7-Nov-00	Toluene	0.40	J	1
B38W24D	9-May-96	Toluene	0.10	J	1
B38W24D	13-May-99	Toluene	2.00	J	5
B38W24D	15-Nov-00	Toluene	0.70	J	1

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
MISS02A	11-Jun-98	Toluene	2.00	J	5
MISS02A	21-Nov-00	Toluene	0.60	J	1
MISS05B	14-Oct-92	Toluene	2.00	J	5
MISS05B	17-May-94	Toluene	1.00	J	5
MISS05B	6-Nov-00	Toluene	6.00		1
MISS05B	31-Jul-02	Toluene	6.00		25
MISS05B	23-Jun-04	Toluene	20.00	J	0.4
B38W15S	30-Jun-04	trans-1,2-Dichloroethene	6.00		0.2
B38W15D	30-Jun-04	trans-1,2-Dichloroethene	16.00		0.2
B38W15D	30-Jun-04	trans-1,2-Dichloroethene	14.00		0.2
MISS07B	28-Jun-04	trans-1,2-Dichloroethene	1.00		0.2
B38W01S	07-Jul-98	Trichloroethene	2.00	J	5
B38W07B	16-Jun-98	Trichloroethene	2.00	J	5
B38W07B	6-Nov-00	Trichloroethene	2.00		1
B38W07B	11-Jun-01	Trichloroethene	0.80		1
B38W07B	11-Jul-02	Trichloroethene	1.00		0.5
B38W07B	28-Jun-04	Trichloroethene	2.00		0.08
B38W14D	17-May-96	Trichloroethene	240.00		50
B38W14D	4-Jun-97	Trichloroethene	200.00		1
B38W14D	07-Jul-98	Trichloroethene	210.00		10
B38W14D	17-May-99	Trichloroethene	160.00		5
B38W14D	16-Nov-00	Trichloroethene	82.00		1
B38W14D	2-Jul-01	Trichloroethene	60.00		1
B38W14D	24-Jul-02	Trichloroethene	160.00		25
B38W14D	10-Jul-03	Trichloroethene	82.00		2
B38W14D	29-Jun-04	Trichloroethene	83.00		0.08
B38W14S	4-Aug-93	Trichloroethene	6.00		5
B38W14S	20-May-95	Trichloroethene	140.00		5
B38W14S	17-May-96	Trichloroethene	77.00		10
B38W14S	17-May-96	Trichloroethene	4.00		1
B38W14S	4-Jun-97	Trichloroethene	91.00		1
B38W14S	7-Jul-98	Trichloroethene	79.00		5
B38W14S	17-May-99	Trichloroethene	67.00		5
B38W14S	8-Nov-00	Trichloroethene	5.00		1
B38W14S	2-Jul-01	Trichloroethene	38.00		1
B38W14S	24-Jul-02	Trichloroethene	22.00		2
B38W14S	10-Jul-03	Trichloroethene	15.00		0.4
B38W14S	29-Jun-04	Trichloroethene	15.00		0.08
B38W15D	26-May-94	Trichloroethene	170.00		5
B38W15D	3-Jun-97	Trichloroethene	170.00		1

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W15D	9-Nov-00	Trichloroethene	30.00		1
B38W15D	27-Jun-01	Trichloroethene	20.00		1
B38W15D	16-Jul-02	Trichloroethene	36.00		5
B38W15D	1-Jul-03	Trichloroethene	27.00		0.08
B38W15D	1-Jul-03	Trichloroethene	87.00		0.08
B38W15D	30-Jun-04	Trichloroethene	87.00		0.08
B38W15D	30-Jun-04	Trichloroethene	95.00		0.08
B38W15S	2-Aug-93	Trichloroethene	1.00	J	5
B38W15S	26-May-94	Trichloroethene	2.00	J	5
B38W15S	13-May-96	Trichloroethene	1.00	J	2
B38W15S	30-Jun-04	Trichloroethene	2.00		0.08
MISS01B	21-Jul-93	Trichloroethene	2.00	J	5
MISS01B	16-May-94	Trichloroethene	9.00		5
MISS01B	10-May-95	Trichloroethene	2.00	J	5
MISS01B	15-May-96	Trichloroethene	9.00		5
MISS01B	18-Jun-98	Trichloroethene	5.00	J	5
MISS01B	21-Dec-00	Trichloroethene	1.00		1
MISS01B	19-Jun-01	Trichloroethene	1.00		1
MISS01B	18-Jul-02	Trichloroethene	0.30		0.5
MISS01B	9-Jul-03	Trichloroethene	8.00		0.2
MISS02A	11-Jun-98	Trichloroethene	1.00	J	5
MISS06A	4-Aug-93	Trichloroethene	1.00	J	5
MISS07B	13-Oct-92	Trichloroethene	2.00	J	5
MISS07B	12-Aug-93	Trichloroethene	4.00	J	5
MISS07B	18-May-94	Trichloroethene	3.00	J	5
MISS07B	18-May-94	Trichloroethene	3.00	J	5
MISS07B	11-May-95	Trichloroethene	3.00	J	5
MISS07B	16-May-96	Trichloroethene	3.00		2
MISS07B	16-May-97	Trichloroethene	2.00		1
MISS07B	16-Jun-98	Trichloroethene	2.00		1
MISS07B	27-May-99	Trichloroethene	2.00	J	5
MISS07B	6-Nov-00	Trichloroethene	2.00		1
MISS07B	11-Jun-01	Trichloroethene	0.80		1
MISS07B	11-Jul-02	Trichloroethene	1.00		0.5
MISS07B	14-Jul-03	Trichloroethene	0.60		0.08
B38W14S	4-Aug-93	Vinyl Chloride	6.00	J	10
B38W15D	2-Aug-93	Vinyl Chloride	4.00	J	10
B38W15D	26-May-94	Vinyl Chloride	3.00	J	10
B38W15D	13-May-96	Vinyl Chloride	1.00	J	4
B38W15D	3-Jun-97	Vinyl Chloride	1.00	J	2

Table B-4
Historical Results for Detected VOCs in Groundwater
Maywood Interim Storage Site - 2004

Station	Date	Analyte	Result (µg/L)	Qualifier	Detection Limit (µg/L)
B38W15D	9-Nov-00	Vinyl Chloride	0.60	J	2
B38W15S	2-Aug-93	Vinyl Chloride	40.00		10
B38W15S	26-May-94	Vinyl Chloride	95.00		10
B38W15S	19-May-95	Vinyl Chloride	4.00	J	10
B38W15S	19-May-95	Vinyl Chloride	5.00	J	10
B38W15S	13-May-96	Vinyl Chloride	54.00		4
B38W15S	3-Jun-97	Vinyl Chloride	9.00		2
B38W15S	06-Jul-98	Vinyl Chloride	12.00		2
B38W17B	25-May-94	Vinyl Chloride	2.00	J	10
B38W17B	20-May-95	Vinyl Chloride	2.00	J	10
B38W17B	14-Jun-01	Vinyl Chloride	0.30		2
B38W17B	16-Jun-04	Vinyl Chloride	0.50		0.2
MISS01B	9-Jul-03	Vinyl Chloride	0.40	J	0.4
MISS07B	18-May-94	Vinyl Chloride	2.00	J	10
MISS07B	18-May-94	Vinyl Chloride	2.00	J	10
MISS07B	16-May-96	Vinyl Chloride	0.80	J	4
MISS07B	16-May-97	Vinyl Chloride	0.80	J	2
MISS07B	6-Nov-00	Vinyl Chloride	1.00	J	2
MISS07B	11-Jul-02	Vinyl Chloride	0.90		0.5
MISS07B	14-Jul-03	Vinyl Chloride	0.80	J	0.2
B38W19D	16-May-96	Xylenes (Total)	0.10	J	1
B38W24D	9-May-96	Xylenes (Total)	0.50	J	1
B38W24D	7-Jul-03	Xylenes (Total)	0.60		0.1
MISS05B	16-May-96	Xylenes (Total)	0.40	J	2
MISS05B	11-Jun-01	Xylenes (Total)	1.00		1

J = reported as an estimated value.
R = rejected value.
U = analyte was not detected.
UJ = analyte was not detected but is estimated.

APPENDIX C
WATER LEVEL MEASUREMENTS FOR THE YEAR 2004

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WATER LEVEL RECORD SHEET

Date: 3/1/2004 **Site:MISS** **Page 1 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration: _________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-1AA	1038		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			62.7	Ground	
	Average	15.02		Other	
MISS-1B	1037		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			61.98	Ground	
	Average	15.50		Other	
MISS-2A	1033		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			61.47	Ground	
	Average	8.4		Other	
MISS-2B	1034		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			61.64	Ground	
	Average	11.02		Other	
MISS-3A	1008		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.52	Ground	
	Average	7.29		Other	
MISS-3B	1005		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.66	Ground	
	Average	9.3		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 3/1/2004 **Site:MISS** **Page 2 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	**Time (24-hour format)**	**Depth to Water (0.01 ft)**	**Remarks**	**Measurement Reference Point**	**X**
MISS-4A	1016		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.17	Ground	
	Average	8.10		Other	
MISS-4B	1014		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			56.42	Ground	
	Average	10.25	Oter cas. bent	Other	
MISS-5A	1022		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.65	Ground	
	Average	12.08		Other	
MISS-5B	1023		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			59.76	Ground	
	Average	14.97		Other	
MISS-6A	1046		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.26	Ground	
	Average	11.00	Prot.Cas.damaged	Other	
MISS-7A	1028		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			55.6	Ground	
	Average	8.6		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 3/1/2004 **Site:MISS** **Page 3 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration:_____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-7B	1027		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			55.77	Ground	
	Average	10.34		Other	
B38W01S	0822		Top of Riser	Protective CSG	
Permit #	1		Elevation:	Riser CSG X	
			60.72	Ground	
	Average	6.04		Other	
B38W02D	0829		Top of Riser	Protective CSG	
Permit # 2614082-9			Elevation:	Riser CSG X	
			67.7	Ground	
	Average	15.39		Other	
B38W03B	0935		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.27	Ground	
	Average	9.39		Other	
B38W04B	0932		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			65.85	Ground	
	Average	9.58		Other	
B38W05B	N/A		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			71.05	Ground	
	Average	NG		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 3/1/2004 **Site:MISS** **Page 4 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W07B	1020		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			54.63	Ground	
	Average	8.53		Other	
B38W12A	0800		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			50.1	Ground	
	Average	5.35		Other	
B38W12B	0801		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			49.78	Ground	
	Average	4.97		Other	
B38W14S	N/A		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			43.89	Ground	
	Average	NG		Other	
B38W14D	N/A		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			43.79	Ground	
	Average	NG		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 3/1/2004 **Site:MISS** **Page 5 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W15S	0810		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			45.7	Ground	
	Average	5.00		Other	
B38W15D	0812		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			45.89	Ground	
	Average	4.40		Other	
B38W17A	0807		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			53.24	Ground	
	Average	8.42		Other	
B38W17B	0809		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			53.28	Ground	
	Average	8.53		Other	
B38W18D	1058		Top of Casing	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.85	Ground	
	Average	3.79		Other	
B38W19S	1026		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			59.91	Ground	
	Average	14.95		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 3/1/2004 **Site:MISS** **Page 6 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration:______________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W19D	1025		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			59.98	Ground	
	Average	15.25		Other	
B38W24S	N/A		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			55.04	Ground	
	Average	NG		Other	
B38W24D	1011		Top of Casing	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			54.91	Ground	
	Average	8.34		Other	
B38W25S	1049		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.44	Ground	
	Average	6.89		Other	
B38W25D	1048		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.24	Ground	
	Average	7.13	Prot Casing damaged	Other	
				Protective CSG	
Permit #				Riser CSG X	
				Ground	
	Average			Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 4/22/2004 **Site:MISS** **Page 1 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration: _________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-1AA	1030		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			62.7	Ground	
	Average	14.44		Other	
MISS-1B	1032		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			61.98	Ground	
	Average	15.3		Other	
MISS-2A	1025		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			61.47	Ground	
	Average	7.43		Other	
MISS-2B	1027		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			61.64	Ground	
	Average	11.00		Other	
MISS-3A	1302		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.52	Ground	
	Average	6.29		Other	
MISS-3B	1303		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.66	Ground	
	Average	8.71		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 4/22/2004 **Site:MISS**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-4A	1300		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.17	Ground	
	Average	6.85		Other	
MISS-4B	1259		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			56.42	Ground	
	Average	9.82	Oter cas. bent	Other	
MISS-5A	1245		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.65	Ground	
	Average	11.04		Other	
MISS-5B	1247		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			59.76	Ground	
	Average	14.6		Other	
MISS-6A	1037		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.26	Ground	
	Average	10.62	Prot.Cas.damaged	Other	
MISS-7A	1254		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			55.6	Ground	
	Average	8.15		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 4/22/2004 **Site:MISS** **Page 3 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-7B	1253		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			55.77	Ground	
	Average	10.12		Other	
B38W01S	1005		Top of Riser	Protective CSG	
Permit #	1		Elevation:	Riser CSG X	
			60.72	Ground	
	Average	5.90		Other	
B38W02D	1011		Top of Riser	Protective CSG	
Permit # 2614082-9			Elevation:	Riser CSG X	
			67.7	Ground	
	Average	14.49		Other	
B38W03B	1057		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.27	Ground	
	Average	8.13		Other	
B38W04B	1053		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			65.85	Ground	
	Average	9.12		Other	
B38W05B	0932		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			71.05	Ground	
	Average	9.82	Casing Bent	Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 4/22/2004 **Site:MISS**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W07B	1242		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			54.63	Ground	
	Average	7.7		Other	
B38W12A	1242		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			50.1	Ground	
	Average	5.10		Other	
B38W12B	0942		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			49.78	Ground	
	Average	4.53		Other	
B38W14S	N/A		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			43.89	Ground	
	Average	NG		Other	
B38W14D	N/A		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			43.79	Ground	
	Average	NG		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 4/22/2004 **Site:MISS** **Page 5 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W15S	0957		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			45.7	Ground	
	Average	4.6		Other	
B38W15D	0954		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			45.89	Ground	
	Average	4.1		Other	
B38W17A	0949		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			53.24	Ground	
	Average	7.90		Other	
B38W17B	0948		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			53.28	Ground	
	Average	8.05		Other	
B38W18D	1103		Top of Casing	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.85	Ground	
	Average	3.45		Other	
B38W19S	1251		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			59.91	Ground	
	Average	14.50		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 4/22/2004 **Site:MISS** **Page 6 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W19D	1349		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			59.98	Ground	
	Average	15.00		Other	
B38W24S	N/A		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			55.04	Ground	
	Average	NG		Other	
B38W24D	1257		Top of Casing	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			54.91	Ground	
	Average	7.70		Other	
B38W25S	1042	Well Collapsed	Top of Riser	Protective CSG	
Permit #		at 3.5'	Elevation:	Riser CSG X	
			57.44	Ground	
	Average			Other	
B38W25D	1040		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.24	Ground	
	Average	6.02		Other	
				Protective CSG	
Permit #				Riser CSG X	
				Ground	
	Average			Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 8/25/2004 **Site:MISS** **Page 1 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ____________
☐ Calibration of electric sounder
Date of last calibration: ______________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-1AA	0947		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			62.7	Ground	
	Average	14.70	Hinge rusted off	Other	
MISS-1B	0945		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			61.98	Ground	
	Average	15.40		Other	
MISS-2A	0943		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			61.47	Ground	
	Average	9.26		Other	
MISS-2B	0942		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			61.64	Ground	
	Average	11.10		Other	
MISS-3A	0912		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.52	Ground	
	Average	7.45		Other	
MISS-3B	0910		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			57.66	Ground	
	Average	9.10	slight casing dam.	Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 8/25/2004 **Site:MISS** **Page 2 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-4A	0921		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			57.17	Ground	
	Average	8.45		Other	
MISS-4B	0920		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			56.42	Ground	
	Average	10.30		Other	
MISS-5A	0928		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.65	Ground	
	Average	12.19		Other	
MISS-5B	0927		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			59.76	Ground	
	Average	15.02		Other	
MISS-6A	1000		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.26	Ground	
	Average	15.02		Other	
MISS-7A	0940		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			55.6	Ground	
	Average	8.53		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 8/25/2004 **Site:MISS** **Page 3 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-7B	0935		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			55.77	Ground	
	Average	10.25		Other	
B38W01S	0850		Top of Riser	Protective CSG	X
Permit #	1		Elevation:	Riser CSG X	
			60.72	Ground	
	Average	6.15		Other	
B38W02D	0855		Top of Riser	Protective CSG	X
Permit # 2614082-9			Elevation:	Riser CSG X	
			67.7	Ground	
	Average	15.78		Other	
B38W03B	0936		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.27	Ground	
	Average	9.19		Other	
B38W04B	910		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			65.85	Ground	
	Average	9.48		Other	
B38W05B	900		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			71.05	Ground	
	Average	10.53	Casing Badly Bent	Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 8/25/2004 **Site:MISS** **Page 4 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	**Time (24-hour format)**	**Depth to Water (0.01 ft)**	**Remarks**	**Measurement Reference Point**	**X**
B38W07B	0924		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			54.63	Ground	
	Average	8.8		Other	
B38W12A	0822		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			50.1	Ground	
	Average	6.00		Other	
B38W12B	0820		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			49.78	Ground	
	Average	5.36		Other	
B38W14S	1010		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			43.89	Ground	
	Average	4.4		Other	
B38W14D	1012		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			43.79	Ground	
	Average	6.95		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 8/25/2004 **Site:MISS**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W15S	840		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			45.7	Ground	
	Average	4.99		Other	
B38W15D	0838		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			45.89	Ground	
	Average	4.20		Other	
B38W17A	0835		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			53.24	Ground	
	Average	8.53		Other	
B38W17B	0835		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			53.28	Ground	
	Average	8.57		Other	
B38W18D	1045		Top of Casing	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			57.85	Ground	
	Average	3.70		Other	
B38W19S	0930		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			59.91	Ground	
	Average	14.93		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 8/25/2004 **Site:MISS** **Page 6 of 6**

Measured by: M. Hanashy

G. Moyer

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration:_____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W19D	0931		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			59.98	Ground	
	Average	15.2		Other	
B38W24S	0913		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			55.04	Ground	
	Average	8.85		Other	
B38W24D	0914		Top of Casing	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			54.91	Ground	
	Average	8.32		Other	
B38W25S	1006		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			57.44	Ground	
	Average	Blocked	Broken Well Cap	Other	
B38W25D	1005		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			58.24	Ground	
	Average	6.40	Broken Well Cap	Other	
				Protective CSG	
Permit #				Riser CSG X	
				Ground	
	Average			Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date11/02/2004 **Site:MISS** **Page 1 of 6**

Measured by: M. LaBanc

A. Planeta

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration: _________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-1AA	1150		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			62.7	Ground	
	Average	15.75	Broken Lid	Other	
MISS-1B	1152		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			61.98	Ground	
	Average	15.90		Other	
MISS-2A	1156		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			61.47	Ground	
	Average	9.18		Other	
MISS-2B	1158		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			61.64	Ground	
	Average	11.40		Other	
MISS-3A	1042		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.52	Ground	
	Average	8.63		Other	
MISS-3B	1040		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			57.66	Ground	
	Average	9.92		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 11/02/2004 **Site:MISS** **Page 2 of 6**

Measured by: M. LaBanc

A. Planeta

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration:_____________________

Well No. (Enter Complete Well No.)	**Time** (24-hour format)	**Depth to Water** (0.01 ft)	**Remarks**	**Measurement Reference Point**	**X**
MISS-4A	1109		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			57.17	Ground	
	Average	9.59		Other	
MISS-4B	1106		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			56.42	Ground	
	Average	10.84	Oter cas. bent	Other	
MISS-5A	1125		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.65	Ground	
	Average	13.03		Other	
MISS-5B	1123		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			59.76	Ground	
	Average	15.60		Other	
MISS-6A	1139		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.26	Ground	
	Average	10.91		Other	
MISS-7A	1134		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			55.6	Ground	
	Average	9.00		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 11/2/2004 **Site:MISS** **Page 3 of 6**

Measured by: M. LaBanc

A. Planeta

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
MISS-7B	1133		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			55.77	Ground	
	Average	10.81		Other	
B38W01S	0932		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			60.72	Ground	
	Average	6.43		Other	
B38W02D	0942		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			67.7	Ground	
	Average	17.99		Other	
B38W03B	1044		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.27	Ground	
	Average	9.96		Other	
B38W04B	1050		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			65.85	Ground	
	Average	10.27		Other	
B38W05B	0950		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			71.05	Ground	
	Average	11.80	Casing Bent	Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 11/2/2004 **Site:MISS** **Page 4 of 6**

Measured by: M. LaBanc

A. Planeta

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other ______________
☐ Calibration of electric sounder
Date of last calibration:_____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W07B	1118		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			54.63	Ground	
	Average	9.64		Other	
B38W12A	0830		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			50.1	Ground	
	Average	6.04		Other	
B38W12B	0825		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			49.78	Ground	
	Average	5.63		Other	
B38W14S	0913		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			43.89	Ground	
	Average	4.5		Other	
B38W14D	0915		Top of Riser	Protective CSG	
Permit #			Elevation:	Riser CSG X	
			43.79	Ground	
	Average	2.73		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 11/2/2004 **Site:MISS** **Page 5 of 6**

Measured by: M. LaBanc

A. Planeta

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	Time (24-hour format)	Depth to Water (0.01 ft)	Remarks	Measurement Reference Point	X
B38W15S	0901		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			45.7	Ground	
	Average	5.46		Other	
B38W15D	0856		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			45.89	Ground	
	Average	4.73		Other	
B38W17A	0847		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			53.24	Ground	
	Average	9.17		Other	
B38W17B	0849		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			53.28	Ground	
	Average	9.20		Other	
B38W18D	1030		Top of Casing	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			57.85	Ground	
	Average	4.28		Other	
B38W19S	1129		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			59.91	Ground	
	Average	15.61		Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

WATER LEVEL RECORD SHEET

Date: 11/2/2004 **Site:MISS** **Page 6 of 6**

Measured by: M. LaBanc

A. Planeta

☐ Battery Check ☐ F Funct. Check ☐ Physical Exam.
☐ Electric Sounder ☐ Chalked Tape ☐ Other _____________
☐ Calibration of electric sounder
Date of last calibration:____________________

Well No. (Enter Complete Well No.)	**Time (24-hour format)**	**Depth to Water (0.01 ft)**	**Remarks**	**Measurement Reference Point**	**X**
B38W19D	1131		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			59.98	Ground	
	Average	15.79		Other	
B38W24S	1057		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			55.04	Ground	
	Average	9.58		Other	
B38W24D	1103		Top of Casing	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			54.91	Ground	
	Average	9.11		Other	
B38W25S	1142		Top of Riser	Protective CSG	X
Permit #		Casing plugged	Elevation:	Riser CSG X	
		at 49" BTOR	57.44	Ground	
	Average			Other	
B38W25D	1144		Top of Riser	Protective CSG	X
Permit #			Elevation:	Riser CSG X	
			58.24	Ground	
	Average	7.79		Other	
				Protective CSG	
Permit #				Riser CSG X	
				Ground	
	Average			Other	

X - if well head and pad are in good condition
FUSRAP SOP: SW-MWD-410- 0
Rev:

APPENDIX D
FIGURES

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APPENDIX D FIGURES

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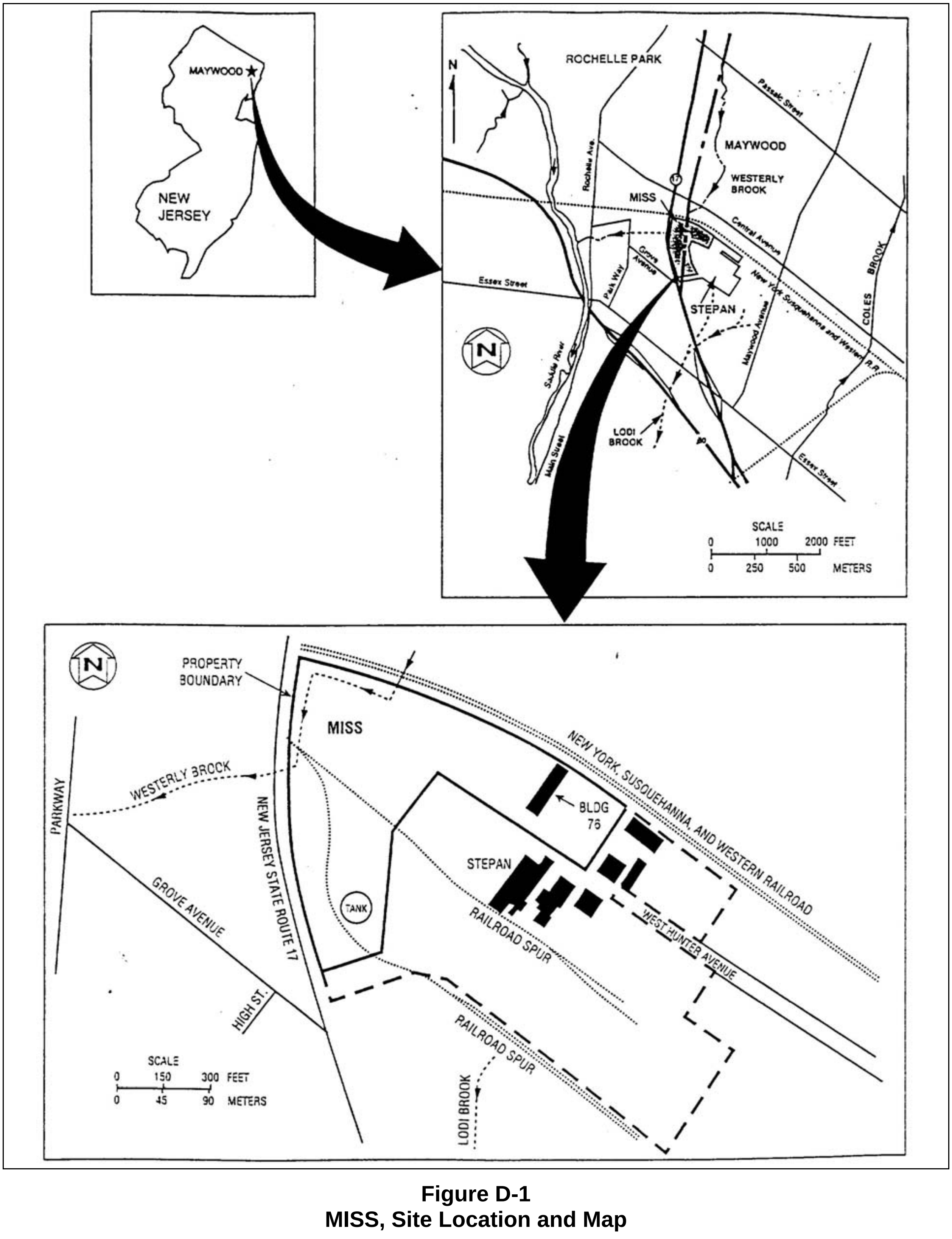

Figure D-1
MISS, Site Location and Map

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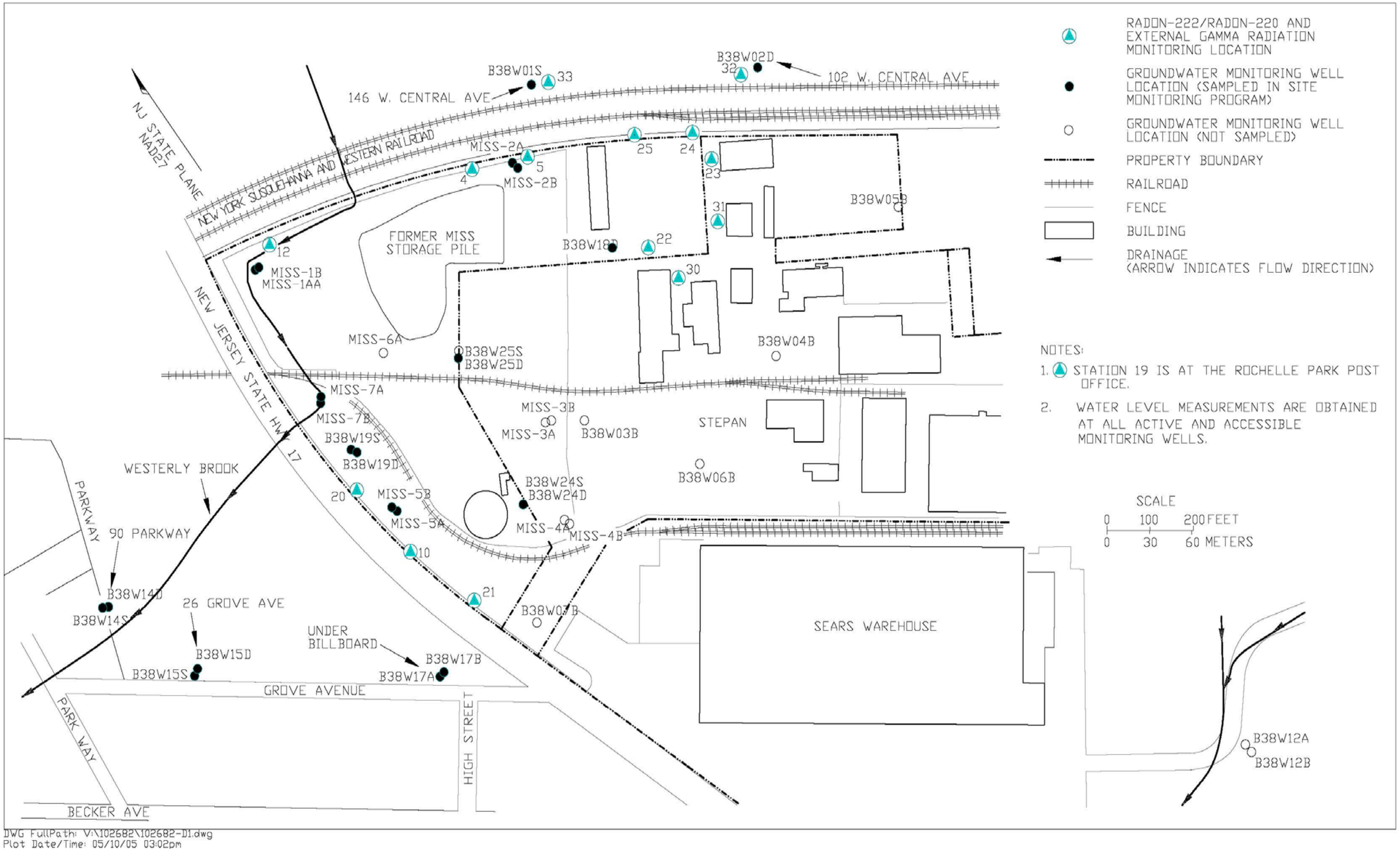


Figure D-2
Sampling Locations: External Gamma Radiation, Radon-222 / Radon-220, and Groundwater Monitoring Wells

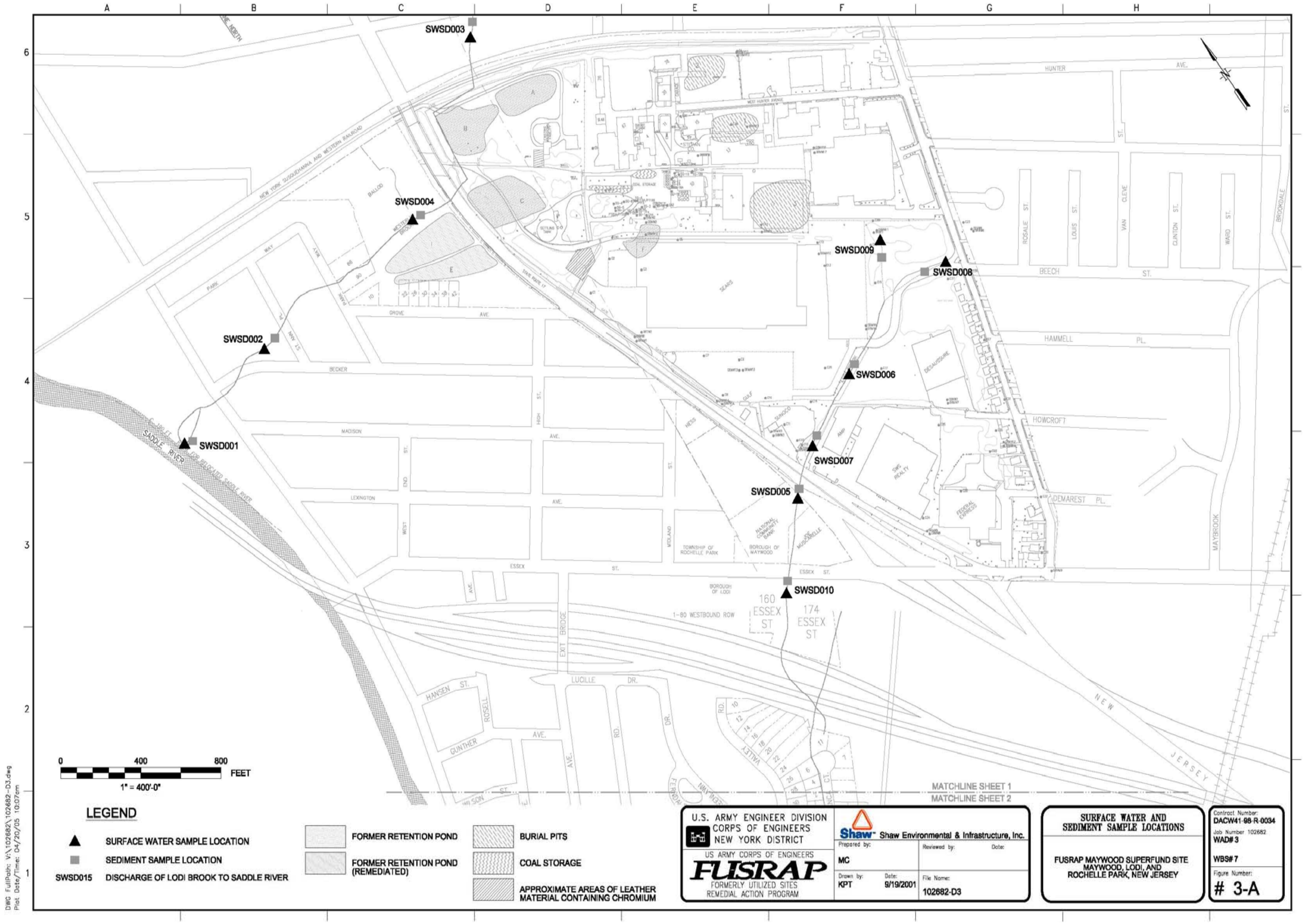


Figure D-3A
Surface Water and Sediment Sample Locations

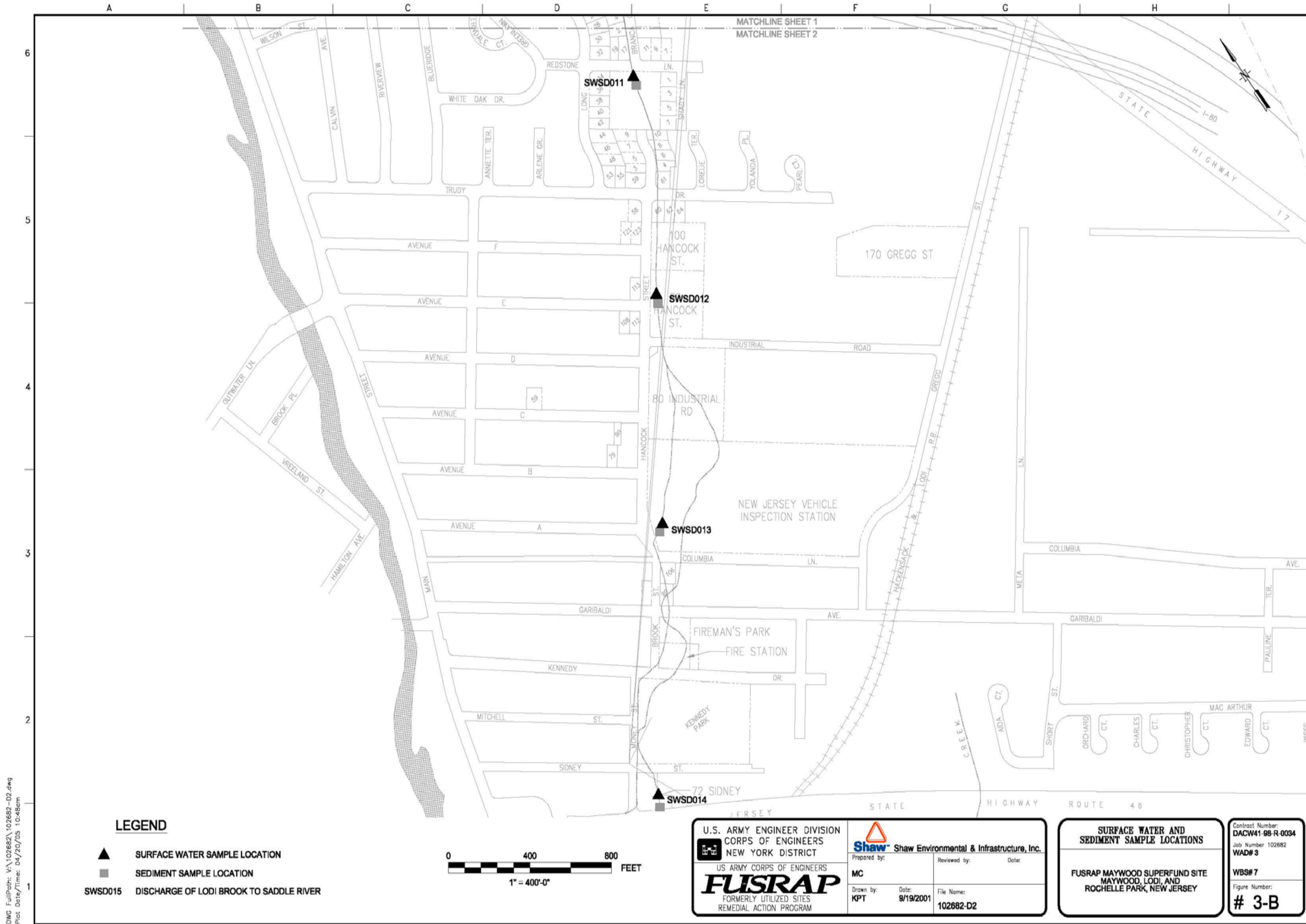
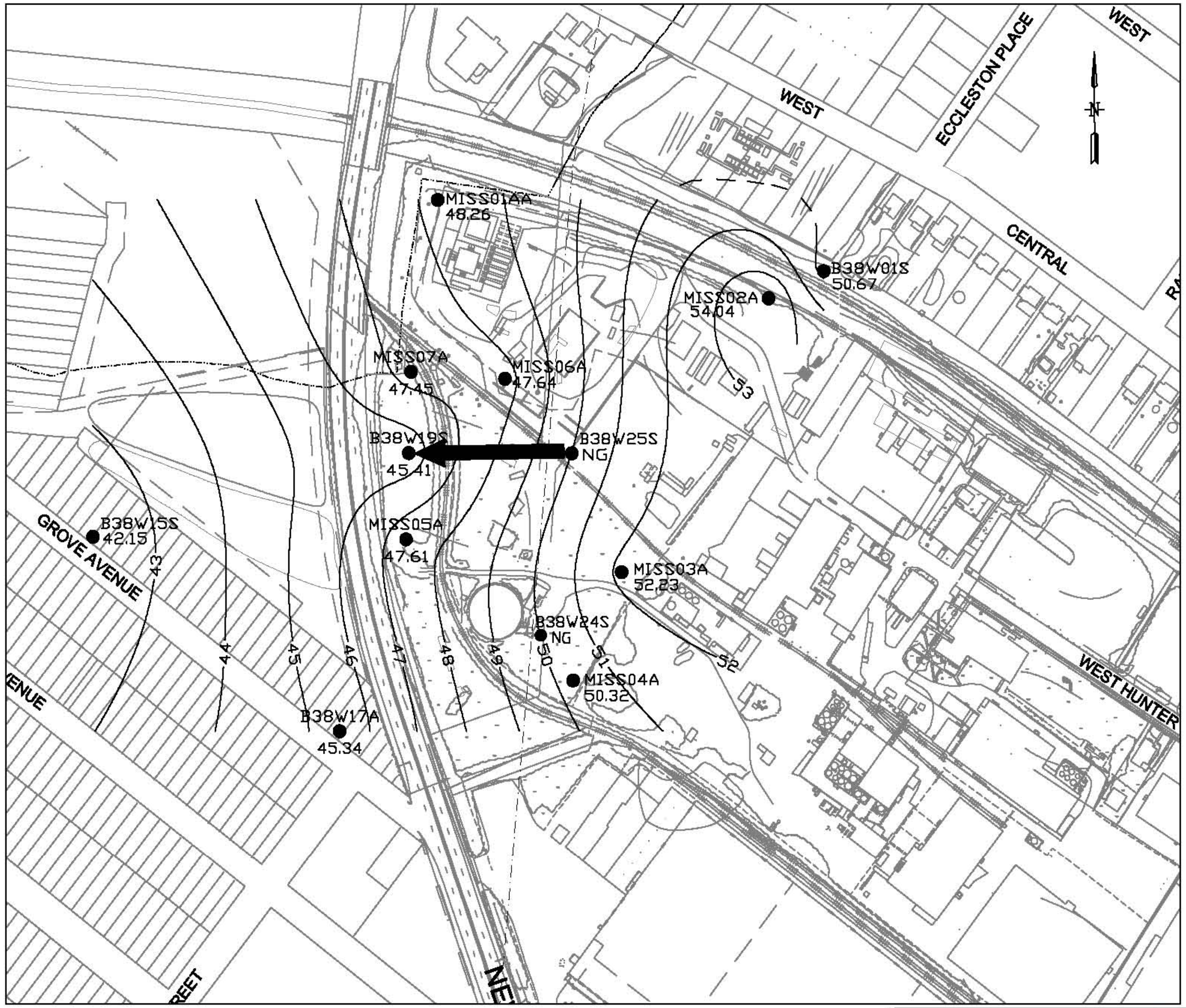


Figure D-3B
Surface Water and Sediment Sample Locations



SYNOPTIC GROUNDWATER LEVEL MEASUREMENTS (OVERBURDEN MONITORING WELLS)
APRIL 22, 2004

Well ID	G.W. Elev. FT MSL
B38W24S	NG
MISS04A	50.32
MISS05A	47.61
MISS06A	47.64
MISS07A	47.45
MISS01AA	48.26
MISS02A	54.04
MISS03A	52.23
B38W25S	NG
B38W12A	44.86*
B38W01S	50.67
B38W15S	42.15
B38W17A	45.34
B38W19S	45.41
B38W14S	NG

LEGEND

- 50 GROUNDWATER CONTOUR
- ● BEDROCK WELL
- GROUNDWATER FLOW DIRECTION
- NG NOT GAUGED
- * NOT INCLUDED IN CONTOURING DUE TO LACK OF CONTROL

CONTOUR INTERVAL = 1 FOOT

NOTES:

1. THIS SURVEY SHOWS CONDITIONS AS OF OCTOBER 1999 BASED ON AERIAL MAPPING PREPARED BY GEOD CORP. AND GROUND SURVEY BY GARDEN STATE ENGINEERING SURVEYING AND PLANNING.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929.
3. HORIZONTAL DATUM IS REFERENCED TO NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 1927.

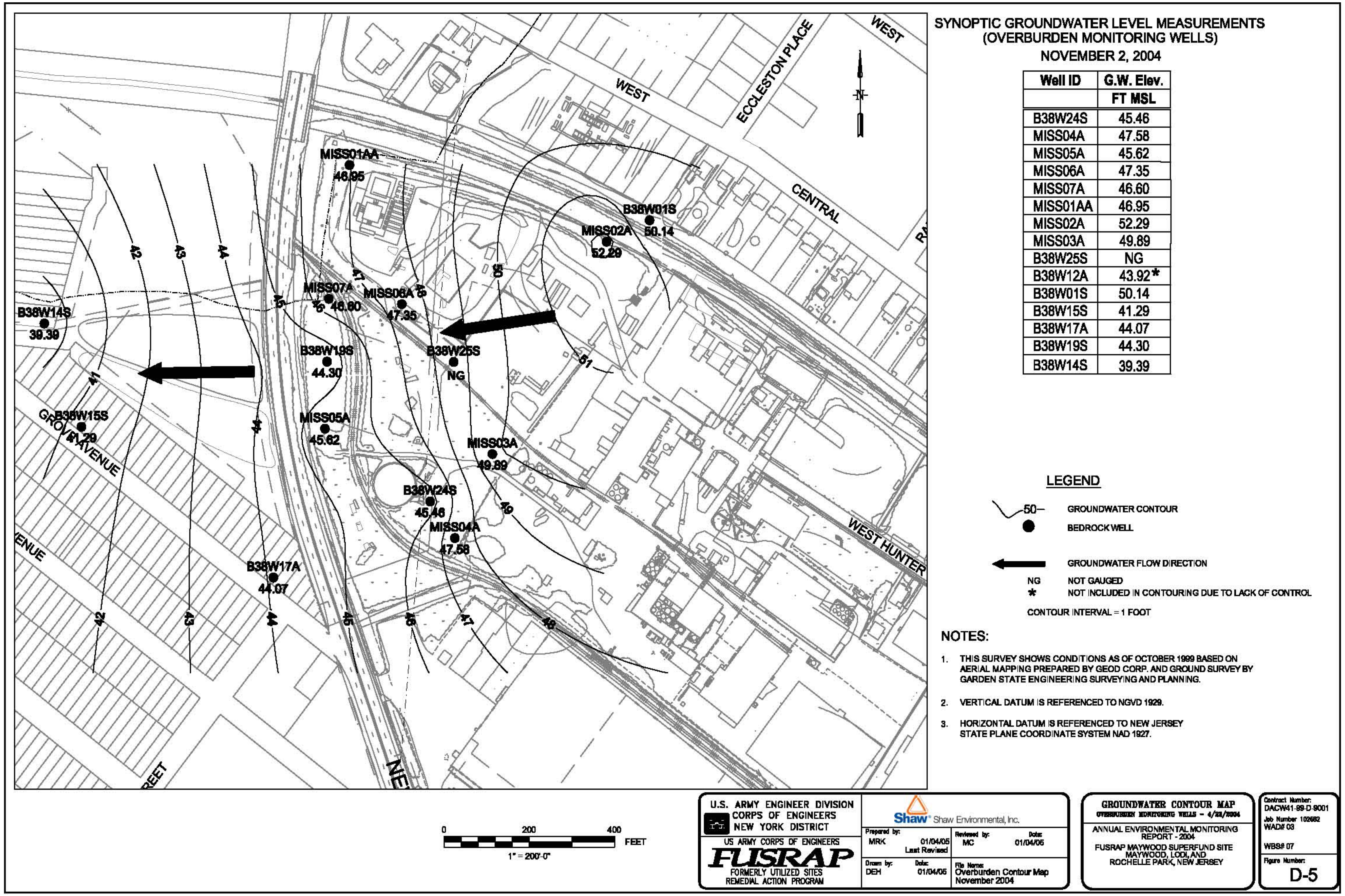
U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS NEW YORK DISTRICT
US ARMY CORPS OF ENGINEERS FUSRAP FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM
Shaw Environmental, Inc.
Prepared by: MRK 01/04/05 Last Revised | Reviewed by: MC Date: 01/04/05
Drawn by: DEH Date: 01/04/05 | File Name: Overburden Contour Map April 2004

GROUNDWATER CONTOUR MAP
OVERBURDEN MONITORING WELLS – 4/22/2004
ANNUAL ENVIRONMENTAL MONITORING REPORT - 2004
FUSRAP MAYWOOD SUPERFUND SITE MAYWOOD, LODI, AND ROCHELLE PARK, NEW JERSEY

Contract Number: DACW41-99-D-9001
Job Number 102682
WAD# 03
WBS# 07
Figure Number: D-4

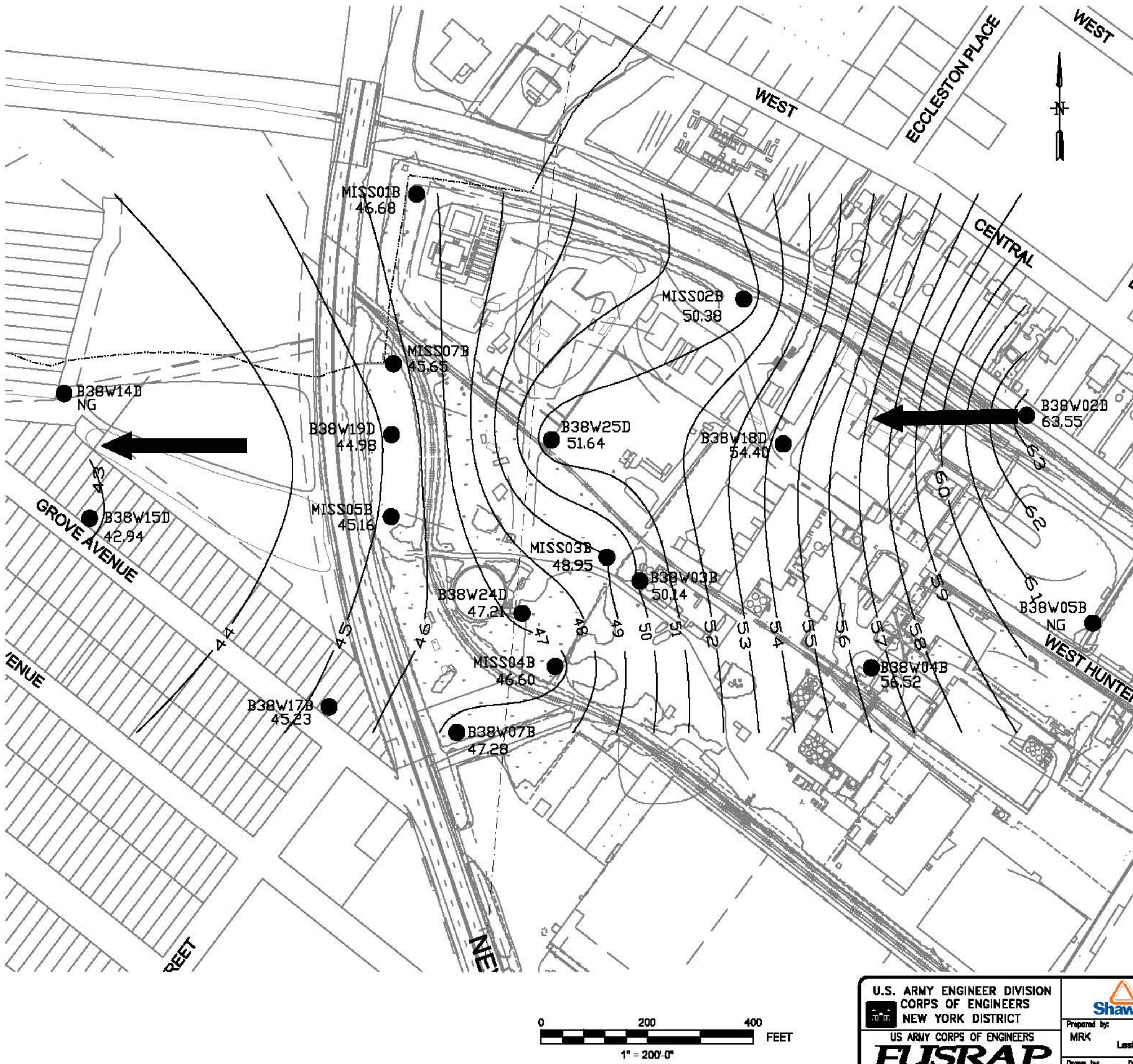
p:\[Bsaflo01\Maywood]\Maywood\Task 102682030?\drawings\overburden_contours_april04_rev1.dwg

Figure D-4
Synoptic Groundwater Level Measurements, Overburden Monitoring Wells – April 22, 2004



Well ID	G.W. Elev. FT MSL
B38W24S	45.46
MISS04A	47.58
MISS05A	45.62
MISS06A	47.35
MISS07A	46.60
MISS01AA	46.95
MISS02A	52.29
MISS03A	49.89
B38W25S	NG
B38W12A	43.92*
B38W01S	50.14
B38W15S	41.29
B38W17A	44.07
B38W19S	44.30
B38W14S	39.39

Figure D-5
Synoptic Groundwater Level Measurements, Overburden Monitoring Wells – November 2, 2004



SYNOPTIC GROUNDWATER LEVEL MEASUREMENTS (BEDROCK MONITORING WELLS)

APRIL 22, 2004

Well ID	G.W. Elev. FT MSL
B38W02D	63.55
B38W03B	50.14
B38W04B	56.52
B38W05B	NG
B38W07B	47.28
B38W12B	45.86 *
B38W14D	NG
B38W15D	42.94
B38W17B	45.23
B38W18D	54.40
B38W19D	44.98
B38W24D	47.21
B38W25D	51.64
MISS 1B	46.68
MISS 2B	50.38
MISS 3B	48.95
MISS 4B	46.60
MISS 5B	45.16
MISS 7B	45.65

LEGEND

-50- GROUNDWATER CONTOUR
● BEDROCK WELL
GROUNDWATER FLOW DIRECTION
NG NOT GAUGED
* BEDROCK WELL B38W12B NOT CONTOURED DUE TO LACK OF CONTROL, CLOSEST MONITORING WELL IS APPROXIMATELY 0.25 MILES AWAY

CONTOUR INTERVAL = 1 FOOT

NOTES:

1. THIS SURVEY SHOWS CONDITIONS AS OF OCTOBER 1999 BASED ON AERIAL MAPPING PREPARED BY GEOD CORP. AND GROUND SURVEY BY GARDEN STATE ENGINEERING SURVEYING AND PLANNING.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929.
3. HORIZONTAL DATUM IS REFERENCED TO NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 1927.

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
NEW YORK DISTRICT
US ARMY CORPS OF ENGINEERS
FUSRAP
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

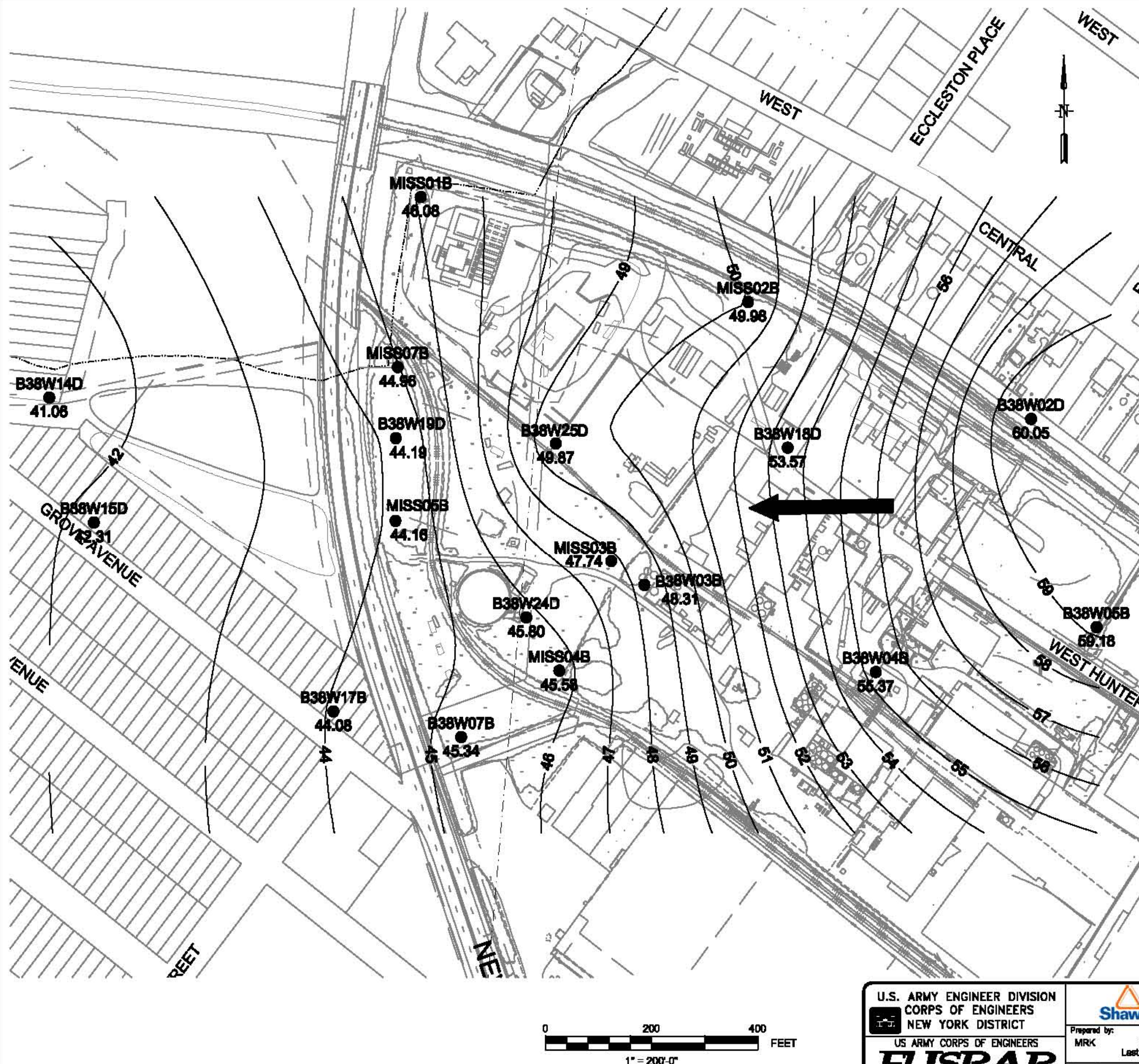
Shaw Shaw Environmental, Inc.
Prepared by: MRK 04/20/05 Last Revised
Reviewed by: MC Date: 01/04/05
Drawn by: DEH Date: 01/04/05
File Name: Bedrock Contour Map April 2004

GROUNDWATER CONTOUR MAP
BEDROCK MONITORING WELLS – 4/22/2004
ANNUAL ENVIRONMENTAL MONITORING REPORT - 2004
FUSRAP MAYWOOD SUPERFUND SITE MAYWOOD, LODI, AND ROCHELLE PARK, NEW JERSEY

Contract Number: DACW41-99-D-9001
Job Number 102882
WAD# 03
WBS# 07
Figure Number: D-6

p:\Boehs01\Maywood\Maywood\Task 10288203\07\drawings\bedrock_contours_april05_rev3.dwg

Figure D-6
Synoptic Groundwater Level Measurements, Bedrock Monitoring Wells – April 22, 2004



SYNOPTIC GROUNDWATER LEVEL MEASUREMENTS (BEDROCK MONITORING WELLS)
NOVEMBER 2, 2004

Well ID	G.W. Elev. FT MSL
B38W02D	60.05
B38W03B	48.31
B38W04B	55.37
B38W05B	59.18
B38W07B	45.34
B38W12B	44.01 *
B38W14D	41.06
B38W15D	42.31
B38W17B	44.08
B38W18D	53.57
B38W19D	44.19
B38W24D	45.80
B38W25D	49.87
MISS 1B	45.08
MISS 2B	49.98
MISS 3B	47.74
MISS 4B	45.58
MISS 5B	44.16
MISS 7B	44.96

LEGEND

-50- GROUNDWATER CONTOUR
● BEDROCK WELL
← GROUNDWATER FLOW DIRECTION
NG NOT GAUGED
* BEDROCK WELL B38W12B NOT CONTOURED DUE TO LACK OF CONTROL, CLOSEST MONITORING WELL IS APPROXIMATELY 0.25 MILES AWAY

CONTOUR INTERVAL = 1 FOOT

NOTES:

1. THIS SURVEY SHOWS CONDITIONS AS OF OCTOBER 1999 BASED ON AERIAL MAPPING PREPARED BY GEOD CORP. AND GROUND SURVEY BY GARDEN STATE ENGINEERING SURVEYING AND PLANNING.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929.
3. HORIZONTAL DATUM IS REFERENCED TO NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 1927.

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
NEW YORK DISTRICT
US ARMY CORPS OF ENGINEERS
FUSRAP
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

Shaw Environmental, Inc.
Prepared by: MRK 04/25/05 Last Revised
Reviewed by: MC Date: 01/04/05
Drawn by: DEH Date: 01/04/05
File Name: Bedrock Contour Map April 2004

GROUNDWATER CONTOUR MAP
BEDROCK MONITORING WELLS – 11/2/2004
ANNUAL ENVIRONMENTAL MONITORING REPORT - 2004
FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, LODI, AND ROCHELLE PARK, NEW JERSEY

Contract Number: DACW41-99-D-9001
Job Number 102662
WAD# 03
WBS# 07
Figure Number: D-7

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Figure D-7
Synoptic Groundwater Level Measurements, Bedrock Monitoring Wells – November 2, 2004

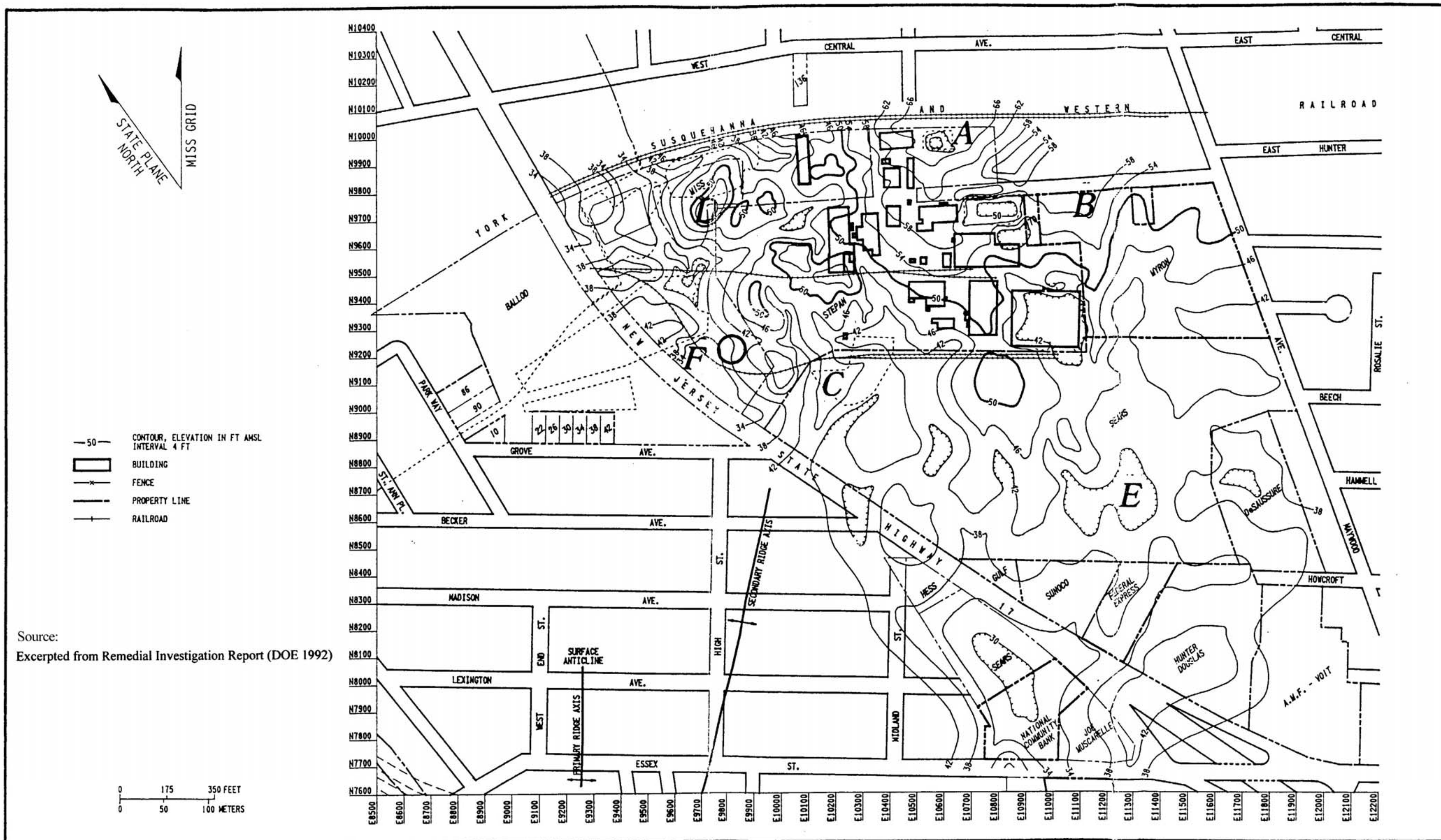

Figure D-8
Contour Map of the Top of Bedrock in the Maywood Area

APPENDIX E
ANNUAL NESHAP COMPLIANCE REPORT FOR THE YEAR 2004

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FUSRAP
Maywood Superfund Site

Annual NESHAP Compliance Report For the Year 2004

Formerly Utilized Sites Remedial Action Program
Maywood Superfund Site

Prepared by:

Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, New Jersey 07607

Prepared for:

US Army Corps
of Engineers®

Contract No. DACW41-99-D-9001

June 2005, Revision 0

ANNUAL NESHAP COMPLIANCE REPORT, YEAR 2004

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT No. DACW41-99-D-9001
TASK ORDER No. 0003
WAD 03, WBS 07

Submitted to

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza
New York, New York 10007

Submitted by:
Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, NJ 07607

Rev. 0
June 2005

Issued to: ______________________ Date: ______________

Copy No. ________ ☐ Controlled ☐ Uncontrolled

ANNUAL NESHAP COMPLIANCE REPORT, YEAR 2004

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT No. DACW41-99-D-9001
TASK ORDER No. 0003
WAD 03, WBS 07

Submitted to

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza
New York, New York 10007

Submitted by:
Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, NJ 07607

Rev. 0
June 2005

Reviewed / Approved by: Andy Mills, Project Manager — Date: 6/22/05

Reviewed / Approved by: John Enger, Project Environmental Engineer — Date: 6/21/05

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Reviewed / Approved by: Barbara Reider, Certified Health Physicist — Date: 6/20/05

RECORD OF REVISIONS

Revision No.	Description of Revision	Date
A	Draft issue for internal review and comment	April 2005
B	Draft issue for USACE review and comment	May 2005
Draft Final	Final Draft issue to USACE	June 2005
0	Issue to EPA	June 2005

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TABLE OF CONTENTS

LIST OF TABLES

APPENDICES

Note: Appendix C also contains an MS-Excel Spreadsheet on CD-ROM.

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ABBREVIATIONS AND ACRONYMS

Ac-227	actinium-227
Ac-228	actinium-228
AEC	Atomic Energy Commission
AP-42	Compilation of Air Pollutant Emission Factors – Volume 1
Bi-210	bismuth-210
Bi-211	bismuth-211
Bi-212	bismuth-212
Bi-214	bismuth-214
°C	degrees Centigrade
CAP88-PC	Clean Air Act Assessment Package 1988 – Personal Computer (Version 2)
CERCLA	Comprehensive Environmental Response, Compensation and Liabilities Act
Ci/yr	Curies per year
cm	centimeters
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
E	east
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
FFA	Federal Facilities Agreement
FMSS	Formerly Utilized Sites Remedial Action Program Maywood Superfund Site
Fr-223	francium-223
ft^2	square feet
FUSRAP	Formerly Utilized Sites Remedial Action Program
g	gram
HEPA	High Efficiency Particulate Air
I-80	Interstate-80
in.	inches
ICRP	International Commission on Radiological Protection
kph	kilometers per hour
km	kilometers
m	meters
m^2	square meters
m^3	cubic meters
MCW	Maywood Chemical Works
mi	miles
MISS	Maywood Interim Storage Site
ml	milliliter
mph	miles per hour
mrem	millirem
mrem/yr	millirem per year
mSy/yr	millisievert per year
NESHAP	National Emission Standards for Hazardous Air Pollutants
NJ	New Jersey
NJDOT	New Jersey Department of Transportation

ABBREVIATIONS AND ACRONYMS

NJMVC	New Jersey Motor Vehicle Commission
N	north
N/A	not applicable
NNE	north-northeast
NOAA	National Oceanic and Atmospheric Administration
ORNL	Oak Ridge National Laboratory
Pb-210	lead-210
Pb-211	lead-211
Pb-212	lead-212
Pb-214	lead-214
pCi/g	picocuries per gram
$pCi/m^2/s$	picocuries per square meter per second
Po-210	polonium-210
Po-211	polonium-211
Po-212	polonium-212
Po-214	polonium-214
Po-215	polonium-215
Po-216	polonium-216
Po-218	polonium-218
Pa-231	protactinium-231
Pa-234	protactinium-234
Pa-234m	protactinium-234 metastable
Ra	radium
Ra-223	radium-223
Ra-224	radium-224
Ra-226	radium-226
Ra-228	radium-228
Rn	radon
Rn-220	radon-220
Rn-222	radon-222
ROW	right-of-way
S	south
SLS	Sears Logistical Services
SSE	south-southeast
Th	thorium
Th-227	thorium-227
Th-228	thorium-228
Th-230	thorium-230
Th-231	thorium-231
Th-232	thorium-232
Th-234	thorium-234
Tl-207	thallium-207
Tl-208	thallium-208
U	uranium
U-234	uranium-234
U-235	uranium-235
U-238	uranium-238
UST	underground storage tank

ABBREVIATIONS AND ACRONYMS

USACE	U.S. Army Corps of Engineers
W	west
yd^3	cubic yards

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1.0 FACILITY INFORMATION

1.1 REGULATORY OVERVIEW

The provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAP), as codified in the Code of Federal Regulations, Title 40, Part 61 (40 CFR 61), Subpart H, apply to operations at any facility owned or operated by the U.S. Department of Energy (DOE) that emits any radionuclides other than radon–222 (Rn-222) or radon-220 (Rn-220) into the air. These provisions state that emissions of radionuclides to the ambient air from DOE facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 millirems per year (mrem/yr).

To determine compliance with the NESHAP-Subpart H standard, radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using U.S. Environmental Protection Agency (EPA) approved sampling procedures, computer models Clean Air Act Assessment Package – 1988 Personal Computer (CAP88-PC) or Clean Air Act Compliance Software for Personal Computers (AIRDOS-PC), or other procedures for which the EPA has granted prior approval. Compliance with this standard shall be determined by calculating the highest effective dose equivalent to any member of the public at any off-site point where there is a residence, school, business or office. The owners or operators of an applicable facility shall submit an annual compliance report to both the EPA headquarters and the appropriate regional office by June 30.

Activities at the DOE-owned Maywood Interim Storage Site (MISS) result in the emissions of radiologically contaminated particulates into the air. Thus, the MISS is an applicable facility and this report has been prepared to satisfy the requirements of 40 CFR 61, Subpart H. A detailed description of the MISS, the site history, and emission sources of radionuclides is provided below.

1.2 SITE DESCRIPTION

The MISS is an 11.7-acre (4.7-hectare) property located in the Borough of Maywood and the Township of Rochelle Park in Bergen County, New Jersey (NJ). The MISS lies approximately 12 miles (mi) (20 kilometers [km]) northwest of New York City and 13 mi (21 km) northeast of Newark, NJ (see Appendix A, **Figure A-1**). The MISS property was previously part of a 30-acre (12-hectare) property owned by the Stepan Company and it was formerly part of the Maywood Chemical Works (MCW). The property is bordered on the west by NJ Route 17; on the north by the New York, Susquehanna, and Western Railway line; and on the south and east by commercial and industrial properties.

The MISS is part of the Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site, or FMSS. The FMSS consists of 88 residential, commercial, municipal, and state or Federal properties designated under the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA). All 64 residential and municipal properties have been remediated either by the DOE or U.S. Army Corps of Engineers (USACE) during Phase I. The remaining 24 properties are being addressed by the USACE in Phase II and were sub-divided into 12 Clusters (i.e., sets of contiguous properties) to facilitate the pre-design investigation and subsequent removal actions for those properties (see Appendix A, **Figure A-2**). The interim storage of radiologically contaminated material removed from the clusters occurs at the DOE-owned MISS.

Land use in the vicinity of the MISS is primarily commercial and residential (see Appendix A, **Figure A-3**). The nearest schools are located approximately 0.5 mi (0.8 km) northeast and northwest of the MISS. There is no farmland in the vicinity of the MISS.

Based on the National Oceanic and Atmospheric Administration (NOAA) records for the year 2004 for Teterboro Airport (NOAA 2004b), monthly average temperatures ranged from a low of 23.6 degrees Fahrenheit (°F) (-4.7 degrees Centigrade [°C]) in January to a high of 74.3°F (23.5°C) in July. Total monthly precipitation ranged from a low of 0.99 inches (in.) (2.5 centimeters [cm]) in October to a high of 10.56 in. (26.8 cm) in September. Monthly average wind speed ranged from a low of 5.6 miles per hour (mph) (9.0 kilometers per hour [kph]) from the north in September to a high of 9.7 mph (15.6 kph) from the northwest in January. The most frequent winds are from the north closely followed by north-northwest and the south (see Appendix A, **Figure A-4**). In addition, winds with a westerly component occur more frequently than those with an easterly component while southeast winds are by far the least frequent wind direction.

Due to the absence of on-site meteorological monitoring data, observations from Teterboro Airport were used to represent the general climatic conditions at the MISS. Teterboro Airport is located approximately 3 mi (4.8 km) south of the MISS and thus, meteorological data collected at this location is considered to be the best available data to represent the climatic regime at the MISS.

1.3 SITE HISTORY

The MISS was established to provide storage for low level radioactive soils found in the vicinity of the former MCW. From 1916 through 1959, the MCW processed monazite sand (a thorium-containing ore) for industrial uses. Process wastes were placed in surface impoundments on-site. Some of these process wastes migrated off-site via surface water drainage and some were later used as mulch and fill on nearby properties, contaminating them with radioactive thorium (Th).

After the enactment of the Atomic Energy Act of 1954, the Atomic Energy Commission (AEC) issued a license to the MCW for the processing and manufacture of radioactive material. The MCW stopped processing Th in 1959 and shortly thereafter was sold to the Stepan Company. Based on AEC inspections and information, remedial actions were performed by the Stepan Company.

Subsequent radiological surveys from 1980 to 1984 identified additional areas of contamination, both on-site and off-site. Through a provision of the Energy and Water Development Appropriations Act of 1984, Congress authorized the DOE to conduct a decontamination research and development project at the former MCW site. The site was subsequently assigned to FUSRAP. In 1984, the DOE negotiated a lease for Stepan Company land on which the MISS would be established. The land was transferred in 1985 to DOE ownership and currently provides interim storage for contaminated materials removed from vicinity properties.

FUSRAP was transferred from DOE to the USACE by Congressional action. The limits of USACE's responsibilities for the FMSS are defined under a Federal Facilities Agreement (FFA) between DOE and the EPA, Region II, which became effective April 22, 1991. The USACE became a successor to the DOE as of March 17, 1999.

1.4 MODEL SOURCES

The computer program used to model potential off-site exposure from airborne emissions is the CAP88-PC program (Version 2.0). Airborne emissions contributing to off-site exposure could occur from areas where the radioactively contaminated soil is exposed to the elements and from operations that generate airborne emissions (see Appendix A, **Figure A-5**). During the year 2004, the potential sources of airborne emissions at the MISS and vicinity properties were as follows:

- In situ, contaminated areas totaling approximately 635,000 square feet (ft^2) (59,000 square meters [m^2]) of the MISS and the adjacent Stepan Company property (within the MISS fence line) were potentially exposed to wind erosion during the year 2004.
- The performance of soil load-out, transportation and disposal operations at the MISS during the year 2004. Specifically, seventeen (17) soil load-out operations were performed during the year 2004. The various soil stockpiles consisted of soil and debris that had been transported to the MISS from the remedial actions performed at the following nine (9) properties: Cluster No. 2D (8 Mill Street); Cluster No. 6C (167 NJ Route 17 North); Cluster No. 5C (200 NJ Route 17 South); Cluster No. 3A (170 Gregg Street); Cluster No. 9A (149-151 Maywood Avenue); Cluster No. 8A (23 West Howcroft Road); Cluster No. 2C (80 Industrial Road); Cluster No. 2B (80 Hancock Street) and Cluster No. 6A (85-103 NJ Route 17 North). These 17 load-outs involved the movement of approximately 46,820 tons of material, which was placed into rail cars for transport to a disposal facility in Utah. The nearest commercial / residential buildings are located approximately 440 feet (135 meters [m]) west of the MISS soil load-out area.
- Continuation of a remedial action at a portion of Cluster 2D (8 Mill Street), which is comprised of a single lot in the Borough of Lodi: Block 205.02, Lot 1.05, occupying an area of approximately 13.6 acres. The property is currently owned by the State of New Jersey and occupied by the Lodi Motor Vehicle Agency and the New Jersey Motor Vehicle Commission (NJMVC) Inspection Station. This remedial action, which was initiated in December 2003 and completed in January 2004, was performed on an expedited basis for a small portion (approximately 1 acre) of Cluster 2D to facilitate the installation of drainage lines by the New Jersey Department of Transportation's (NJDOT) contractors. The year 2004 remedial action involved the excavation of approximately 35 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 65 feet (20 m) north of Cluster No. 2D; the nearest residences are located approximately 655 feet (200 m) west-southwest of Cluster No. 2D.
- Continuation of the remedial action at Cluster 6C (167 NJ Route 17 North), which is comprised of a single lot in the Borough of Maywood: Block 124, Lot 2, occupying an area of approximately 1.7 acres. The property, which is currently owned and formerly operated by Sunoco, includes an inactive gasoline service area (pump islands) and a one-story 800 ft^2 cinder block building. Over the years, radiologically contaminated soil was transported downstream to the Cluster 6C properties via Lodi Brook. The year 2004 remedial action involved the excavation of approximately 4,810 tons of soil that was loaded into trucks and transported to the fabric structure at the MISS. The nearest commercial buildings are located approximately 100 feet (30 m) northwest of Cluster No. 6C; the nearest residences are located approximately 655 feet (200 m) west-northwest of Cluster No. 6C.
- Continuation of the remedial action at Cluster No. 5C (200 NJ Route 17 South), which is comprised of a single lot in the Borough of Maywood: Block 125, Lot 3, occupying an area of about 2.3 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 5 properties via the Lodi Brook. This remedial action involved the excavation of approximately 3,794 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 30 feet (10 m) east-southeast of Cluster No. 5C; the nearest residences are located approximately 195 feet (60 m) west-northwest of Cluster No. 5C.

- The performance of a remedial action at Cluster No. 3A (170 Gregg Street), which is comprised of a single lot in the Borough of Lodi: Block 205, Lot 1.02, occupying an area of approximately 3 acres. In past years, radiologically contaminated soil was transported to Cluster No. 3A and used as fill material. This remedial action involved the excavation of approximately 1,103 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 150 feet (45 m) east-southeast of Cluster No. 3A; the nearest residences are located approximately 655 feet (200 m) northwest of Cluster No. 3A.
- The performance of a remedial action at Cluster No. 9A which is located in both the Borough of Maywood and the Township of Rochelle Park. This property is located at 149-151 Maywood Avenue and occupies Block 124, Lot 30 within the Borough of Maywood and Block 17.02, Lot 1 within the Township of Rochelle Park. The property comprises approximately 27 acres and is occupied by the Sears Logistical Services (SLS). Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 9A properties via the Lodi Brook. Radiologically contaminated fill material from the MCW may have also been transported to the site over the years. This remedial action involved the excavation of approximately 10,397 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 80 feet (25 m) east of Cluster No. 9A; the nearest residences are located approximately 395 feet (120 m) east of Cluster No. 9A.
- The performance of a remedial action at Cluster No. 8A (23 West Howcroft Road) which is comprised of a single lot in the Borough of Maywood: Block 124, Lot 17, occupying an area of approximately 2.5 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 8A properties via the Lodi Brook. Radiologically contaminated fill material from the MCW may have also been transported to the site over the years. This remedial action involved the excavation of approximately 1,851 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 30 feet (10 m) north-northeast of Cluster No. 8A; the nearest residences are located approximately 330 feet (100 m) east of Cluster No. 8A.
- The performance of a remedial action at Cluster No. 2C (80 Industrial Road) which is comprised of a single lot in the Borough of Lodi: Block 205.02, Lot 4.02, occupying an area of about 3.6 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 2C properties via the Lodi Brook. Radiologically contaminated fill material from the MCW may have also been transported to the site over the years. This remedial action involved the excavation of approximately 14,430 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 80 feet (25 m) southeast of Cluster No. 2C; the nearest residences are located approximately 165 feet (50 m) northwest of Cluster No. 2C.
- The performance of a remedial action at Cluster No. 2B (80 Hancock Street) which is comprised of a single lot in the Borough of Lodi: Block 205.03, Lot 2.03, occupying an area of about 1.8 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 2B properties via the Lodi Brook. Radiologically contaminated fill material from the MCW may have also been transported to the site over the years. This remedial action involved the excavation of approximately 9,175 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 30 feet (10 m) south of Cluster No.2B; the nearest residences are located approximately 80 feet (25 m) west of Cluster No. 2B.
- The performance of a remedial action at Cluster No. 6A (85-103 NJ Route 17 North) which is comprised of a single lot in the Borough of Maywood: Block 124, Lot 4, occupying an area of

about 4.7 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 6A properties via the Lodi Brook. Radiologically contaminated fill material from the MCW may have also been transported to the site over the years. This remedial action involved the excavation of approximately 1,225 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 65 feet (20 m) northeast of Cluster No. 6A; the nearest residences are located approximately 330 feet (100 m) east of Cluster No. 6A.

- The operation of the exhaust system for the soil sample preparation laboratory located in the onsite radiochemistry laboratory at the MISS (see Appendix A, **Figure A-3**). Soil samples collected for the various soil load-outs at the MISS from excavations performed at the vicinity properties were brought to this laboratory to prepare the samples for radiological analysis. The individual soil samples were dried and then ground before placing the soil into sealed containers. The grinding operations were performed on a downdraft table. Air from the downdraft table is routed to a HEPA filter and then exhausted into the general room air of the preparation laboratory. The emissions of particulates to the ambient air from the grinding operations in the soil sample preparation laboratory are nil.

The above sources of radiologically contaminated airborne particulates resulting from the remedial actions at the vicinity properties and soil handling/load-out activities at the MISS are shown on Figure A-5 as well as the locations of the surrounding residences and commercial buildings. The simulated airborne emissions from these potential sources are used by CAP88-PC to estimate the annual dose from airborne particulates to the population within 50 mi (80 km) of the site (see Appendix C). In addition, for user-defined distances from the center of the emission areas, CAP88-PC estimates individual effective dose equivalents in all compass directions. For specific potentially exposed individuals (workers and residents) at known distances and compass directions from the site, the user can determine and compare the calculated effective dose equivalents. For purposes of these analyses, workers are defined as employees at off-site work locations rather than the construction workers involved in the performance of the remedial actions at the vicinity properties or activities at the MISS.

Analyses were performed separately for the soil load-outs and Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions given the differences in receptor locations most affected by each of these areas. The in situ wind erosion emissions and the soil preparation laboratory emissions were found to be negligible and thus, these sources were not included in the modeling analyses. Where individual receptors are affected by more than one emission source, doses caused by those sources are added. The individual (worker or resident) corresponding to the maximum effective dose equivalent is identified as the hypothetical maximally exposed individual. Because the dose received from airborne emissions is dependent on prevailing wind direction in addition to the proximity to the site, the hypothetical maximally exposed individual is not necessarily the person nearest the site. The model was used to predict the annual effective dose at numerous receptors resulting from the combined impact of the above sources. Although the model determined the annual effective dose at numerous receptors, only the hypothetical maximally exposed resident and worker are discussed in this report.

The individual effective dose equivalents given in the CAP88-PC output are based on the default assumption that the receptor occupies the location 100% of the time (i.e., 24 hours per day, 7 days per week, 52 weeks per year). The occupancy factor of 100%, although conservative, is considered to be appropriate for a resident. To estimate the dose to an employee working normal hours, an occupancy factor of 27% (i.e., 9 hours per day, 5 days per week, 52 weeks per year) is applied to the CAP88-PC result.

The program calculates the effective dose equivalents by combining the inhalation and ingestion intake rates and the air and ground surface concentrations with dose conversion factors, using the weighting factors in the International Commission on Radiological Protection's Publication 26, "Recommendations of the International Commission on Radiological Protection" (ICRP 1977). CAP88-PC calculates dose to the gonads, breast, lungs, red marrow, thyroid, and endosteum in addition to the 50-year effective dose equivalent. Doses can be tabulated as a function of radionuclide, pathway, location, and organ as shown in the output (see Appendix C, pages 29 - 189) for the CAP88-PC runs.

1.5 DETAILED SOURCE DESCRIPTIONS

As discussed in the previous section, the key sources of airborne radioactive particulate releases to the atmosphere during the year 2004 were the 17 soil load-outs and Cluster Nos. 2B Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions (Appendix A, **Figures A-2** and **A-5)**. In addition, in situ wind erosion at the MISS and operation of the onsite radiochemistry laboratory were potential sources of radioactive particulates. A more comprehensive discussion of the activities performed at the above sources, including the soil radiological concentrations and the potential pathways for the airborne release of contaminated particulates, is provided below.

1.5.1 Soil Load-Outs

During the year 2004, various stockpiles were created at the MISS consisting of soil and debris that was transported to the on-site fabric structure from the remedial actions performed at the Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A properties. The fabric structure is a 72 feet wide (21.9 m), 100 feet (30.5 m) long, and 24 feet (7.3 m) high truss frame building (see Appendix B, **Figure B-1**). The trusses are made of galvanized steel located 10 feet (3.1 m) apart. The cover is made of a heavy duty, fire rated, rip stop reinforced polyethylene. Each end of the structure has a roll-up fabric door. Placement of the soil stockpiles inside the fabric structure prevented wind erosion and the generation of storm water runoff from the piles. Concrete blocks were placed around the fabric structure to prevent storm water run-on from entering the structure and contacting the piles.

Seventeen (17) soil load-out, transportation, and disposal operations were performed during the year 2004. For each soil load-out, Table 1-1 provides the time period, the tonnage of soil shipped, the properties from which the soil originated, and the number of rail cars used for off-site shipment. Each rail car held approximately 70 to 85 cubic yards (yd^3) (53.5 to 65.0 cubic meters [m^3]) of soil. All of the soil was transported by rail to the Envirocare facility in Clive, Utah for disposal.

Table 1-1
Year 2004 Soil Load-Outs at the MISS – Operational Data

Soil Load-Out	Time Period	Soil Shipped (tons)	Soil Origin (Cluster)	Number of Rail Cars Shipped
Number 1	Jan. 22 – Feb. 9	2,721	5C, 6C	26
Number 2	Feb 12 – Mar. 3	2,942	5C,6C	28
Number 3	Mar. 9 – Mar. 17	1,779	5C,6C	17
Number 4	Mar. 24 – Mar 30	2,708	5C,6C	26
Number 5	May 4 – May 12	2,491	3A,5C,8A,9A	24
Number 6	May 27 – Jun 7	3,035	2C,8A,9A	29
Number 7	Jun. 8 – Jun. 14	1,782	2C,8A,9A	17
Number 8	Jun. 15 – Jun. 23	2,722	2C,9A	26
Number 9	Jun. 28 – Jul. 2	1,385	2B,2C,9A	13
Number 10	Jul.9 – Jul.19	3,835	2B,2C,9A	36
Number 11	Jul. 20 – Jul. 30	4,271	2B,9A	40
Number 12	Aug. 2 – Aug. 12	2,986	2C,9A	28
Number 13	Aug. 17– Aug. 23	2,133	2C,9A	20
Number 14	Aug. 31-Sep. 7	2,347	2B,2C,9A	22
Number 15	Oct. 13 – Oct. 21	2,555	2B,2C,9A	24
Number 16	Nov. 1 – Nov. 15	4,256	2B,2C	40
Number 17	Dec. 6 – Dec. 14	2,873	2B,2C,6A,8A,9A	27
	Total	**46,820**		**443**

Upon arrival at the MISS, the soil in the dump trucks from the vicinity properties was emptied on the ground near the fabric structure and subsequently placed inside the fabric structure using a front end loader. During the soil load-outs, a front-end loader was used to transport soil from the fabric structure to the storage bins located near the rail car access ramp. The storage bins were sized to hold approximately 80 to 85 yd^3 of soil. An excavator was then used to place the soil from the storage bins into rail cars containing liners. The two rail cars adjacent to the storage bins were first loaded by the excavator; then the train was moved to position the next two empty rail cars for loading.

The use of a liner ensured that the rail cars complied with U.S. Department of Transportation (DOT) requirements, the waste materials were protected from the elements, the potential loss of soil during shipping was prevented, and potential impacts to the community were minimized. In Appendix B, **Figure B-1** shows various photographs depicting the soil load-out operation.

Effective October 14, 2004, a more efficient rail car loading operation was implemented at the MISS. A concrete bulkhead was constructed adjacent to the rail spur to allow access to all of the six onsite rail cars without having to move the train. The two original soil storage bins were eliminated and two new bins were constructed to facilitate the loading of the cars along the eastern end of the spur. Each bin was sized to hold approximately 350 yd^3 of soil.

Under the new rail car loading operation, a front end loader is used to transport soil directly from either the fabric structure or the new storage bins into the rail cars. An excavator is no longer needed to load soil into the rail cars thereby eliminating one soil handling compared to the original load-out operation. In addition, the new bulkhead allows the front end loaders to access all six rail cars and thus, the train does not need to be moved to position empty cars for loading. The above changes have resulted in a more efficient soil load-out operation. A maximum of six rail cars are loaded each day for shipment to the offsite disposal facility.

Prior to loading the soil into each rail car, a composite sample was generated from the soil in the stockpile. Five soil samples were collected from the perimeter of the stockpile. These samples were homogenized into one composite sample and analyzed by gamma spectroscopy for Th, radium (Ra), and uranium (U). The average soil radionuclide concentrations of thorium-232 (Th-232), radium-226 (Ra-226), and uranium-238 (U-238) for the various soil load-outs are shown in **Table 1-2**.

In addition, the soil moisture content was determined for each individual rail car. A portion of the composite sample generated for radiological analysis of each rail car was used to determine the soil moisture content. If the moisture content of the soil was too high, a pre-determined amount of absorbent (based upon the soil moisture content) was placed on top of the soil in the loaded railcars.

Upon completion of loading, the liner was closed and an outgoing rail car survey performed. Prior to a loaded rail car being shipped off-site for disposal, the proper labels and placards were attached and a radiological release survey performed.

Table 1-2
Year 2004 Soil Load-Outs at the MISS – Average Soil Radionuclide Concentrations

Soil Load-Out	Time Period	Soil Shipped (tons)	Th-232 Concentration (pCi/g)[1]	Ra-226 Concentration (pCi/g)	U-238 Concentration (pCi/g)
Number 1	Jan. 22 – Feb. 9	2,721	13.78	2.58	4.59
Number 2	Feb 12 – Mar. 3	2,942	12.88	2.71	4.27
Number 3	Mar. 9 – Mar. 17	1,779	2.55	0.73	2.30
Number 4	Mar. 24 – Mar 30	2,708	3.36	0.89	2.88
Number 5	May 4 – May 12	2,491	4.34	1.11	1.13
Number 6	May 27 – Jun 7	3,035	9.77	1.85	1.76
Number 7	Jun. 8 – Jun. 14	1,782	11.02	2.01	1.85
Number 8	Jun. 15 – Jun. 23	2,722	7.00	1.43	1.73
Number 9	Jun. 28 – Jul. 2	1,385	12.3	1.66	2.18
Number 10	Jul.9 – Jul.19	3,835	11.87	1.49	2.50
Number 11	Jul. 20 – Jul. 30	4,271	20.74	2.41	3.57
Number 12	Aug. 2 – Aug. 12	2,986	16.76	2.31	2.98
Number 13	Aug. 17– Aug. 23	2,133	10.68	1.95	2.09
Number 14	Aug. 31-Sep. 7	2,347	11.06	2.20	2.16
Number 15	Oct. 13 – Oct. 21	2,555	4.5	0.83	1.36
Number 16	Nov. 1 – Nov. 15	4,256	11.24	1.8	2.00
Number 17	Dec. 6 – Dec. 14	2,873	4.96	1.00	1.13
	Total	46,820			

Note 1: (pCi/g) = picocuries per gram.

1.5.2 Cluster No. 2D Remedial Action

Cluster No. 2 consists of four properties in the Borough of Lodi. The property located at 100 Hancock Street is called Property No. 02A; 80 Hancock Street is called Property No. 02B, 80 Industrial Road is called Property No. 02C; while the property located at 8 Mill Street is called Property No. 02D.

Property No. 02D occupies Block 205.02, Lot 1 in the Borough of Lodi and is approximately 13.6 acres in area. The property is bordered on the north by Property No. 02C, on the south by Columbia Lane, on the east by Gregg Street, and on the west by Hancock Street.

The property is currently owned by the State of New Jersey and occupied by the Lodi Motor Vehicle Agency and the NJMVC Inspection Station. There is a one-story cinder block / brick veneer building that houses offices for inspection station personnel and personnel employed by the Lodi Motor Vehicle Agency. Approximately half of the property is covered with asphalt pavement and the other half with grassy islands.

The Lodi Motor Vehicle Agency issues titles, licenses and registration; and administers the associated written and driving tests to obtain a license. Parsons Technology, a contractor, runs the NJMVC Inspection Station. The western portion of the property is used for driving tests and the eastern section is used for vehicle inspections. The remainder of the property and northeast portion of the building are used for licensing and driver testing. The primary access to the building is via the northern entrance on Mill Street. Typically, several hundred people are present on the property daily for vehicle inspections, licensing and driver testing.

A buried culvert containing the present-day channel of the Lodi Brook runs through the western portion of this property. Prior to realignment during the property development, the Lodi Brook ran across the property in a southeasterly direction. This former channel is the suspected transport mechanism for the radiological contamination found at the site as well as the placement of radiologically contaminated fill material from the MCW over the years.

During December 2003, it was discovered that a contractor for the NJDOT was performing excavation at a portion of Cluster 2D to construct a staging area to support a drainage improvement project along Gregg Street. The NJDOT's contractor had stockpiled the excavated soil at the site. The USACE agreed to perform a remedial action for the proposed staging area (approximately 1 acre in area) on an expedited basis since the soil was radiologically contaminated.

The remedial action commenced during December 10, 2003 and was completed on January 8, 2004. This action initially involved the transport of the soil stockpiled by the NJDOT contractors as well as the excavation and transport of the remaining radiologically contaminated soil in the construction area. Approximately 35 tons of soil was excavated from Cluster 2D and transported to the MISS during 2004. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 2D properties and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-2** shows selected photographs of the Cluster 2D remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 2D soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 11.47, 2.05, and 4.54 pCi/g, respectively.

1.5.3 Cluster No. 6C Remedial Action

Cluster No. 6 consists of five properties within the Borough of Maywood. The property located at 85-103 NJ Route 17 North is called Property No. 06A; 137 NJ Route 17 North is called Property No. 06B; 167 Route 17 North is called Property No. 06C; 239 NJ Route 17 is called Property No. 06D; while 29 Essex Street is called Property No. 06E.

Property No. 06C occupies Block 124, Lot 2 in the Borough of Maywood and is owned, and was formerly operated, by Sunoco. The gasoline service area and a one-story 800 ft^2 cinder block building are inactive. The 1.7 acre parcel is bordered to the northwest by Property No. 06D, to the southeast by Property No. 06B, to the north by Cluster No. 9, and to the southwest by the northbound lane of NJ Route 17.

The area adjacent to northbound lane of NJ Route 17 is covered by asphalt pavement in the area of a utility corridor. Immediately east of the NJ Route 17 guardrail and behind the gated fence, the ground pavement is broken up around two concrete pads in a gasoline service area near three 6,000 gallon fuel underground storage tanks (USTs). One existing waste oil UST (capacity unknown) is located north of the existing building. Another UST was removed from the area beyond the northeast building corner. Excavation was also started by the owner to install an additional UST; however, this project was aborted. The resulting sheeted and braced hole remains open and contains standing water. A chain link fence surrounds the perimeter of the entire property.

On the eastern side of the property, a southwest-draining swale carries the east branch of Upper Lodi Brook along the approximate course of the former natural stream channel. The centerline and right embankment are located on Property No. 06C and the top of the left embankment is located on adjacent Property No. 06B. After heavy rainfalls in September 1999 associated with Hurricane Floyd, a surface layer of sediments was cleaned out and the swale was reshaped and seeded in this reach. The work was authorized under a time-critical removal action to reduce the potential for sediment contaminant transport.

To the northwest, perimeter drains and culverts drain the western portion of Cluster No. 9 and other areas from the northwest to the southeast. There is a southeastward-draining interceptor in the utility corridor alongside the northbound lane of NJ Route 17.

Downstream from Property No. 06C, the Upper Lodi Brook's east and west branches flow in separate conduits through the NJ Route 17 embankment. They combine downstream in a junction box just west of the southbound lane, within Cluster No. 5. The transport of Lodi Brook sediments and erosion of contaminated fill from along its course were the primary mechanisms for radioactive contamination to this, neighboring, and downstream properties.

The excavation for the remedial action at Cluster No. 6C commenced on September 11, 2003 and was completed March 23, 2004. A total of approximately 4,810 tons of soil was excavated and transported by truck to the MISS for subsequent disposal during the year 2004. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the trucks were emptied and soil stockpiled using a front-end loader. The soil at Cluster No. 6C contained a considerable amount of large debris; thus, mechanical separation was used to segregate the large debris. An excavator was used to place the material onto a vibrating screen with 6 inch square punch plates to separate the material into two piles: one pile contained soil and debris less than 6 inches; the other pile consisted of debris greater than 6 inches. A front-end loader was then used to either place the soil / small debris into the fabric structure or create an outside stockpile for the debris greater than 6 inches. At both the Cluster No. 6C properties and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-3** shows selected photographs of the Cluster No. 6C remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 6C soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 8.14, 1.73, and 3.51 pCi/g, respectively.

1.5.4 Cluster No. 5C Remedial Action

Cluster No. 5 is comprised of three properties located within the Borough of Maywood. The property located at 99 Essex Street is called Property No. 05A; the property located at 113 Essex Street is called Property No. 05B; while the property located at 200 NJ Route 17 is called Property No. 05C.

Property No. 05C is comprised of a single lot within the Borough of Maywood: Block 125, Lot 3, which has a size of approximately 2.3 acres. The property is occupied by a single story building that contains a retail sales area, telemarketing area, television repair area, small engine area, an office for clerical personnel, a parts warehouse, an employee lunchroom, and a loading dock of the Sears Appliance Service Center (the site owner). The Sears Appliance Center operates 6 days per week, with approximately 40 employees. Most of the remaining property is covered with asphalt pavement parking areas. Access to the property is from NJ Route 17, which lies just east of the property. The site can also be accessed from Midland Avenue which lies west of the property.

Over the years, radiologically contaminated soil from the former MCW was transported downstream to the Cluster No. 5 properties via an open channel (i.e., Lodi Brook). After time, the open channel was diverted into a culvert that channels the Lodi Brook and local stormwater to the Saddle River. During the installation of the culvert at Cluster No. 5 properties, the contamination was spread unknowingly when the contaminated soil was used as backfill. In addition, residents were known to use the process waste generated by the former MCW as fill material. These were the major mechanisms for the distribution of radiologically impacted materials to off-site properties such as Cluster No. 5.

An open unconfined portion of the Lodi Brook is located parallel to NJ Route 17 South along the southeastern boundary of Property No. 05C. At the location where Lodi Brook exits the property, it enters a concrete conduit and flows to a box culvert located on the adjacent property. A storm drains runs parallel to NJ Route 17 South and discharges into Lodi Brook.

The excavation for the remedial action at Cluster No. 5C commenced on January 2, 2003 and was completed on April 9, 2004. During 2004, a total of approximately 3,794 tons of soil was excavated and transported by truck to the MISS for subsequent disposal. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the dump trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 5C properties and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-4** shows selected photographs of the Cluster No. 5C remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 5C soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 7.38, 1.60, and 3.03 pCi/g, respectively.

1.5.5 Cluster 3A Remedial Action

Cluster No. 3, located at 170 Gregg Street, occupies Block 205, Lot 1.02 within the Borough of Lodi. The property, occupied by Noble Packaging, covers approximately three acres and contains a 74,250 square foot building with a brick veneer. The property is surrounded by a chain link fence with a gate located at the entrance from Gregg Street in the southern corner of the property.

There is a partially paved area used primarily for parking in front of the building, and gravel and grass cover the remaining area. An abandoned rail line traverses the southeast portion of the lot on the paved area. The cluster is bounded to the south and west by commercial buildings, to the east by Gregg Street and the New York, Susquehanna and Western Railway and to the north by a rail line and a vacant lot.

An active 550 gallon underground storage tank is located on the southwest side of the Noble Packaging building. A natural gas line runs from Gregg Street to the east corner of the building. A storm drain and three associated vaults extend southeast from the east corner of the building to Gregg Street. A second storm drain runs parallel to the southwest side of the building towards Gregg Street. A water line extends from a hydrant by the Gregg Street entry gate to the south corner of the building, and from that point to another hydrant on the southwest side of the building.

The placement of contaminated fill material from the MCW is the most likely source of the radiological contamination found at Cluster 3. The excavation for the remedial action at Cluster No. 3A commenced on April 9, 2004 and was completed on April 16, 2004. A total of approximately 1,103 tons of soil was excavated and transported by truck to the MISS for subsequent disposal. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the dump trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 3A properties and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-5** shows selected photographs of the Cluster No. 3A remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 3A soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 4.34, 1.11, and 1.13 pCi/g, respectively.

1.5.6 Cluster 9A Remedial Action

Cluster No. 9 consists of one property in the Borough of Maywood and the Township of Rochelle Park. This property is located at 149-151 Maywood Avenue and occupies Block 124, Lot 30 within the Borough of Maywood and Block 17.02, Lot 1 within the Township of Rochelle Park. The property comprises approximately 27 acres and is occupied by SLS.

There is a 6.5 acre two-story cinder block building on the property. The first floor contains a large warehouse, loading dock, boiler room, dispatch office, customer pickup area, employee locker room and offices. The second floor contain offices, work areas for telemarketers, conference and staff training areas and office space. The facility is active 7 days a week, 24 hours a day with no slow cyclic periods in operation.

Approximately 11 acres of the site are paved, and the remaining areas are vegetated. A 3 acre wetland is located on the east side of the warehouse. There are two rail spurs behind the warehouse on the border with Cluster No. 10. The property is bounded by New Jersey Route 17 on the west; by Cluster No. 6 on the south; Cluster No. 8 and Maywood Avenue on the east; and by Cluster No. 12 and Cluster no. 10 on the north.

During the year 2003, emergency repairs were performed on three separate occasions to the water supply line that runs through Cluster 9A. In addition, the damaged and clogged drainage line that ran through Cluster No. 9A was replaced during 2003 to eliminate flooding. As part of these efforts, radiologically contaminated soil was excavated and transported by truck to the MISS for subsequent disposal.

A remedial action was commenced for a portion of Cluster 9A on June 2, 2004 and continued through October 24, 2004. During 2004, a total of approximately 10,397 tons of soil was excavated and transported by truck to the MISS for subsequent disposal. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the dump trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 9A property and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-6** shows selected photographs of the Cluster No. 9A remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 9A soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 10.42, 1.69, and 2.04 pCi/g, respectively.

1.5.7 Cluster No. 8A Remedial Action

Cluster No. 8 consists of one property (Property No. 8A) in the Borough of Maywood located at 23 West Howcroft Road. This property is approximately 2.5 acres in area and occupies Block 124, Lot 17. Property No. 8A is bounded by Cluster No. 9 to the north and west; Maywood Avenue (residential area) to the east; and by a drainage swale and West Howcroft Road to the south.

There is a 50,000 square foot building that is occupied by the Maywood Furniture Corporation & DeSaussure Equipment Company, Inc. The building consists of a front office area and a manufacturing area at the rear of the building. The company is engaged in the manufacture and sale of furniture products, specifically tables. The hours of operation are from Monday to Saturday, 7:30 a.m. to 4:00 p.m.

The manufacturing process includes cutting, covering, gluing, painting and machining of all components of the tables. The front portion of the building is used for clerical and sales personnel and also contains a large lunchroom area that is accessed from the manufacturing area. During construction in 1961, the footprint of the building was excavated to the “hard pan” (approximately 5 -6 feet) and granite-containing fill was brought in from New York. The building was expanded in 1972 with a 35 foot addition added to the west side of the building.

There is a wooded area located to the north of the building encompassing approximately 0.425 acres. The area is a delineated wetland. Over the years, radiologically contaminated soil from the former MCW was transported downstream to Cluster No. 8A via an open channel (i.e., Lodi Brook). Radiologically contaminated fill material from the MCW may have also been transported to the site over the years. These were the major mechanisms for the distribution of radiologically impacted materials to off-site properties such as Cluster No. 8A.

The excavation for the remedial action at Cluster No. 8A commenced on May 12, 2004 and was completed on November 16, 2004. During 2004, a total of approximately 1,851 tons of soil was excavated and transported by truck to the MISS for subsequent disposal. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the dump trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 8A property and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-7** shows selected photographs of the Cluster No. 8A remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 8A soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 7.52, 1.49, and 1.47 pCi/g, respectively.

1.5.8 Cluster No. 2C Remedial Action

Cluster No. 2 consists of four properties in the Borough of Lodi. The property located at 100 Hancock Street is called Property No. 02A; 80 Hancock Street is called Property No. 02B, 80 Industrial Road is called Property No. 02C; while the property located at 8 Mill Street is called Property No. 02D.

Property No. 02C occupies Block 205.02, Lot 4.02 in the Borough of Lodi and is approximately 3.6 acres in size. The property is currently owned and occupied by American Jewel Windows. A one story cinder block building covers approximately one quarter of the property. There is an asphalt-paved parking lot along the western side and an asphalt–paved parking/loading area along the eastern side of the property. There are grassy areas on the northern and southern sides of the building and along the western property boundary.

An employee parking lot for about 25 to 30 cars is located on the east side of the property. A parking lot is located on the west side, a portion (about 70%) of which is rented to a Volvo dealer for storage of the cars. The owner has plans to expand (three 10,000 square foot units) once remediation is complete and restoration is underway.

A buried conduit containing the present-day channel of Lodi Brook runs parallel to Hancock Street through this property. Prior to realignment during property development, Lodi Brook ran across the property in a southeasterly direction through the area where the building now stands. This former channel is the suspected transport mechanism for the radiological contamination found at the site as well as the placement of radiologically contaminated fill material from the MCW over the years. The property is bordered to the north by Industrial Road, to the west by Hancock Street, and east by a commercial building and to the south by Property No. 02D.

The excavation for the remedial action at Cluster No. 2C commenced on May 19, 2004 and continued through December 14, 2004. A total of approximately 14,430 tons of soil was excavated and transported by truck to the MISS for subsequent disposal. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the dump trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 2C properties and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-8** shows selected photographs of the Cluster No. 2C remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 2C soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 10.62, 1.68, and 1.98 pCi/g, respectively.

1.5.9 Cluster No. 2B Remedial Action

Cluster No. 2 consists of four properties in the Borough of Lodi. The property located at 100 Hancock Street is called Property No. 02A; 80 Hancock Street is called Property No. 02B, 80 Industrial Road is called Property No. 02C; while the property located at 8 Mill Street is called Property No. 02D.

Property No. 02B occupies Block 205.03, Lot 2.03 in the Borough of Lodi and is approximately 1.8 acres in size. There is a one-story cinder block building on the property occupied by Meadowlands Tires. The building is bordered on three sides by an asphalt-paved parking/shipping area. There is a grassy area in the front entrance of the building facing Hancock Street. The south side of the building has a loading dock.

A buried concrete pipe containing the present-day channel of Lodi Brook runs parallel to Hancock Street on the western side of the property. Prior to realignment, Lodi Brook ran across the property in a southwesterly direction. This former channel is the suspected transport mechanism for the radiological contamination found on-site. The property is bordered by Property No. 2A to the north, a commercial property to the east, Industrial Road to the south, and by Hancock Street to the west.

The excavation for the remedial action at Cluster No. 2B commenced on June 22, 2004 and continued through December 16, 2004. A total of approximately 9,175 tons of soil was excavated and transported by truck to the MISS for subsequent disposal. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the dump trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 2B properties and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-9** shows selected photographs of the Cluster No. 2B remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 2B soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 10.95, 1.63, and 2.13 pCi/g, respectively.

1.5.10 Cluster No. 6A Remedial Action

Cluster No. 6 consists of five properties located within the Borough of Maywood. The property located at 85-103 NJ Route 17 North is called Property No. 06A; 137 NJ Route 17 North is called Property No. 06B, 167 NJ Route 17 North is called Property No. 06C; 239 NJ Route 17 North is called Property No. 6D; while the property located at 29 Essex Street is called Property No. 06E.

Cluster No. 6A occupies Block 124, Lot 4 in a commercial area of the Borough of Maywood. The 4.7 acre parcel is the site of a one-story 96,000 square foot cinder block and brick veneer office building. A bituminous concrete-paved parking lot and grassed areas cover the remainder of the site. The site slopes gently from the southeast to the north and west. The building is owned by a development company and leased to Computer Service Center and Architectural Window Manufacturing Corporation.

The property is bounded to the northeast by Property No. 08A and to the southeast by Property No. 06E. To the northwest, the property is bounded by Property No. 06B. To the southwest, the property is bounded by the access ramp from Essex Street onto the northbound lane of NJ Route 17.

The excavation for the remedial action at Cluster No. 6A commenced on October 25, 2004 and continued through November 17, 2004. A total of approximately 1,225 tons of soil was excavated and transported by truck to the MISS for subsequent disposal. An excavator was used to remove and load the soil into lined dump trucks. The dump trucks were covered with a tarp before proceeding to the MISS.

Upon arrival at the MISS, the dump trucks were emptied and the soil transferred into the fabric structure using a front-end loader. At both the Cluster No. 6A properties and the MISS, water sprays were used for dust suppression. In Appendix B, **Figure B-10** shows selected photographs of the Cluster No. 6A remedial action.

The average soil radionuclide concentrations for the excavated soil were determined from sampling that was conducted during the various load-outs at the MISS that included Cluster No. 6A soil. Composite samples were collected from the railcar soil stockpiles prior to loading. These samples were analyzed by gamma spectroscopy for Th, Ra, and U. The average radionuclide concentrations of Th-232, Ra-226, and U-238 obtained from the applicable soil load-outs were 4.96, 1.00, and 1.13 pCi/g, respectively.

1.5.11 In Situ Wind Erosion

The MISS and adjacent Stepan Company property (within the MISS fence line) consists of approximately 635,000 ft^2 (59,000 m^2) of contaminated areas that were potentially exposed to wind erosion throughout the year 2002. The surface characteristics of the northern portion of the MISS (north of the Stepan Company rail spur) did not change significantly during the year 2004.

The amount of bare soil present at the MISS, which has the greatest wind erosion potential, has decreased considerably from past years due to the placement of gravel / stone and a plastic liner over much of the area as well as the installation of a fabric structure for storage. At present, the approximate breakdown of the types of various surfaces found at the MISS and adjacent Stepan Company property (see Appendix A, **Figure A-3**) is the following: bare soil is 54,000 ft^2 (5,000 m^2), vegetation is 245,000 ft^2 (22,760 m^2), gravel / stone is 238,000 ft^2 (22,110 m^2), water basin is 8,000 ft^2 (740 m^2) and asphalt is 90,000 ft^2 (835 m^2).

Other than for bare soil, the wind erosion potential for the other surfaces at the MISS is negligible. It should be noted that any storage piles created as a result of construction activities or removal actions were covered with tarps and sandbags to prevent wind erosion. In addition, best management practices such as spraying water on dry soil and the application of a dust suppressant was used during the year to reduce the potential for wind erosion. This product is an environmentally safe, powerful polymer emulsion that produces highly effective dust control, erosion control and stabilization on a long-term basis. This products was either applied by spray or by truck to the various surface types (i.e., gravel / stone, sparsely vegetated areas, and bare soil) at the MISS as well as the access roads. The wind erosion potential of radiologically contaminated particulates at the vicinity properties is minimal since significant ground cover is generally present and primarily subsurface contamination exists at these locations.

In order to assess the amount of wind erosion that occurred during the year 2004 at the MISS, it is necessary to determine the fastest 2-minute wind speeds over the course of the year and then compare them to the friction velocity most representative of bare soil as defined in EPA publication AP-42, *Compilation of Air Pollutant Emission Factors Volume 1*, Chapter 13 "Industrial Wind Erosion" (EPA 1995). The fastest 2-minute wind speed is the highest observed wind speed over a 2-minute averaging period as compared to a peak gust with an averaging time of a few seconds. The fastest 2-minute wind speed is typically on the order of 30 mph, while a peak gust can be 60 mph or more. The threshold friction velocity is that wind speed just above ground level that is capable of causing erodible particles to become airborne.

As mentioned previously, meteorological data from nearby Teterboro Airport was used to represent conditions at the MISS. The results of this analysis showed that the fastest 2-minute wind speeds obtained from Teterboro Airport for the year 2004 do not result in the threshold friction velocity being exceeded at any time during the year. The fastest 2-minute wind speed at 33 feet above ground level would need to be 44 mph or greater to exceed the threshold friction velocity while the highest observed value during the year 2004 was 37 mph. Thus, by definition, no in situ wind erosion occurred at the MISS during the year 2004.

1.5.12 Soil Sample Preparation Laboratory

Soil sample preparation activities are performed in the radiochemistry laboratory at the MISS. Soil samples collected for the various soil load-outs at the MISS from excavations performed for the Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions were taken to this facility to prepare them for radiological analysis. The laboratory is divided into three main functional areas: Preparation Lab, Wet Chemistry Lab, and the Counting Room. The Preparation Lab contains the convection ovens, the pulverizer grinder, the canner, analytic balances and a downdraft table.

Soil samples from the field operations or core samples are brought to the Preparation Lab. Samples are dried and homogenized to meet regulatory and industry standards for the analysis of soils. The contents of the samples are emptied into a "drying" pan and placed into an electric convection oven for at least four hours to dry the samples. Each sample is weighed before and after drying to establish the moisture content.

The presence of rocks or void spaces in the prepared sample could lead to inaccurate radioanalytical results. Therefore, after drying, the soil samples are transferred to a bench pulverizer grinder positioned on a downdraft table. The purpose of the grinding operation is to reduce the particulate size of the sample and to homogenize it for analysis. Rocks are separated from the sample and are not ground in the pulverizer. The dried and pulverized samples are then transferred to the "sample container" and weighed. The particle size reduction allows for compaction of the soil into the given volume of the "sample container" minimizing void space. The remaining sample is also weighed to determine sample loss from the operation. The grinding of the individual soil samples results in very minimal particulate emissions.

The purpose of the downdraft table is to prevent the release of particulate emissions to the laboratory air from the grinding operation. The grinder sits atop the working surface of the downdraft table. The working surface is also where samples are transferred once dried and pulverized into the "sample container". Air flow from the downdraft table is routed to a HEPA filter (particulate removal efficiency of 99.97%) and then exhausted into the general room air of the Preparation Lab.

Two types of sample containers were used in the Preparation Lab: "tuna can" style and "Marinelli" style. The "tuna can" container (approximately 227 milliliter [ml] in volume) provided a small geometry for the gamma spec detector and sat on top of the detector. The "Marinelli" style is a specially designed plastic container that fits over and around the detector. A "Marinelli" style container that is approximately 500 ml in volume was used to provide more sensitivity for the gamma spec analyses.

Approximately 567 “tuna can” style and 1,083 “Marinelli” style soil samples were prepared for radiological analysis from January 1, 2004 to December 31, 2004. The total time that grinding was performed during soil sample preparation was approximately 275 hours. The average weight of the soil samples prior to grinding was 570.8 grams (g). The average weight of the soil samples after grinding was 551.6 g. Thus, the average amount of “unrecovered” dried soil during the grinding process was approximately 19.2 g. At least 97.5% (18.72 g) of the “unrecovered” mass was subsequently recovered from the remaining soil not used to fill the sample containers and during the grinder decontamination process with no more than 2.5% (0.48 g) entering the HEPA filtration system as particulate emissions.

Based on the above, the total amount of airborne particulate emissions generated during the preparation of all the soil samples was approximately 792 g. However, after passage through the HEPA filter, the particulate emissions discharged to the general room air were approximately 0.24 g. The discharge of this miniscule amount of contaminated particulates to the atmosphere would have a negligible impact on the off-site radiological exposure; therefore, this source was not included in the CAP88-PC modeling analyses. In Appendix B, Figure B-11 shows selected photographs depicting operations at the soil sample preparation laboratory in the on-site radiochemistry laboratory.

2.0 AIR EMISSIONS DATA

The potential radionuclide particulate emission sources and controls for the year 2004 are summarized in **Table 2-1**.

Table 2-1
Description of Radionuclide Particulate Emissions Sources

Point Sources	**Type Control**	**Efficiency**
Soil Sample Preparation Laboratory	HEPA Filter	99.97%
Non-Point Sources	**Type Controls**	**Efficiency**
In situ soil	Gravel / Stone Vegetative Cover Bare Soil Application of dust suppressant	99% 99% 0% Highly Effective
Soil Load-outs	Water sprays for dust suppression. Use of lined rail cars to prevent soil loss.	No credit taken for dust controls
Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A Remedial Actions	Water sprays for dust suppression. Use of lined containers / dump trucks with tarps when transporting soil to the fabric structure at the MISS.	No credit taken for dust controls

Radionuclide emission rates are based on the particulate release rates and average radionuclide source concentrations determined from sample measurements. The radioactive particulate release rates from in situ wind erosion, the various soil load-outs, and soil handling activities at Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A are calculated using EPA document AP-42, *Compilation of Air Pollutant Emission Factors – Volume 1: Stationary Point and Area Sources* (EPA 1995).

Source concentration for isotopes of Th-232, Ra-226, and U-238 are based on average values determined for the various soil load-outs at the MISS from excavations performed for the Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions. Unknown radionuclide source concentrations are based on the known source concentrations assuming secular equilibrium in the decay chains. The radionuclide emissions for the year 2004 from each of the above emission sources, with the exception of the soil sample preparation laboratory, are shown in **Table 2-2**.

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Table 2-2
Year 2004 – Airborne Radionuclide Emissions from Various Source Operations (Ci/yr)[1, 2]

Source Radionuclides	In Situ Soil[3]	Soil Load-Outs	Cluster No. 2B Remedial Action	Cluster No. 2C Remedial Action	Cluster No. 2D Remedial Action	Cluster No. 3A Remedial Action	Cluster No. 5C Remedial Action	Cluster No. 6A Remedial Action	Cluster No. 6C Remedial Action	Cluster No. 8A Remedial Action	Cluster No. 9A Remedial Action
Uranium 238 (U-238)	0	3.00E-08	1.32E-09	1.93E-09	1.07E-11	8.43E-11	7.77E-10	9.36E-11	1.14E-09	1.84E-10	2.39E-10
Thorium 234 (Th-234)	0	3.00E-08	1.32E-09	1.93E-09	1.07E-11	8.43E-11	7.77E-10	9.36E-11	1.14E-09	1.84E-10	2.39E-10
Protactinium 234 metastable (Pa-234m)	0	3.00E-08	1.32E-09	1.93E-09	1.07E-11	8.43E-11	7.77E-10	9.36E-11	1.14E-09	1.84E-10	2.39E-10
Protactinium 234 (Pa-234)	0	3.90E-11	1.72E-12	2.51E-12	1.40E-14	1.10E-13	1.01E-12	1.22E-13	1.48E-12	2.39E-13	3.10E-13
Uranium 234 (U-234)	0	3.21E-08	1.41E-09	2.07E-09	1.15E-11	9.02E-11	3.10E-10	1.00E-10	1.22E-09	1.97E-10	2.55E-10
Thorium 230 (Th-230)	0	3.21E-08	1.41E-09	2.07E-09	1.15E-11	9.02E-11	3.10E-10	1.00E-10	1.22E-09	1.97E-10	2.55E-10
Radium 226 (Ra-226)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.11E-10	8.28E-11	5.63E-10	1.87E-10	1.98E-10
Polonium 218 (Po-218)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.11E-10	8.28E-11	5.63E-10	1.87E-10	1.98E-10
Lead 214 (Pb-214)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.10E-10	8.28E-11	5.63E-10	1.86E-10	1.98E-10
Bismuth 214 (Bi-214)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.11E-10	8.28E-11	5.63E-10	1.87E-10	1.98E-10
Polonium 214 (Po-214)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.10E-10	8.28E-11	5.63E-10	1.86E-10	1.98E-10
Lead 210 (Pb-210)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.11E-10	8.28E-11	5.63E-10	1.87E-10	1.98E-10
Bismuth 210 (Bi-210)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.11E-10	8.28E-11	5.63E-10	1.87E-10	1.98E-10
Polonium 210 (Po-210)	0	2.13E-08	1.01E-09	1.64E-09	4.85E-12	8.28E-11	4.11E-10	8.28E-11	5.63E-10	1.87E-10	1.98E-10
Uranium 235 (U-235)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Thorium 231 (Th-231)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Protactinium 231 (Pa-231)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Actinium 227 (Ac-227)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Thorium 227 (Th-227)	0	1.38E-09	6.10E-11	8.92E-11	4.96E-13	3.89E-12	3.59E-11	4.32E-12	5.27E-11	8.50E-12	1.10E-11
Francium 223 (Fr-223)	0	1.94E-11	8.54E-13	1.25E-12	6.94E-15	5.45E-14	5.02E-13	6.05E-14	7.38E-13	1.19E-13	1.54E-13
Radium 223 (Ra-223)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Polonium 215 (Po-215)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Lead 211 (Pb-211)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Bismuth 211 (Bi-211)	0	1.40E-09	6.19E-11	9.05E-11	5.03E-13	3.95E-12	3.64E-11	4.38E-12	5.35E-11	8.61E-12	1.12E-11
Polonium 211 (Po-211)	0	3.83E-12	1.69E-13	2.47E-13	1.37E-15	1.08E-14	9.94E-14	1.20E-14	1.46E-13	2.35E-14	3.05E-14
Tellurium 207 (Tl-207)	0	1.40E-09	6.17E-11	9.02E-11	5.02E-13	3.94E-12	3.63E-11	4.37E-12	5.33E-11	8.59E-12	1.11E-11
Thorium 232 (Th-232)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Radium 228 (Ra-228)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Actinium 228 (Ac-228)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Thorium 228 (Th-228)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Radium 224 (Ra-224)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Polonium 216 (Po-216)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Lead 212 (Pb-212)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Bismuth 212 (Bi-212)	0	1.28E-07	6.79E-09	1.04E-08	2.71E-11	3.24E-10	1.89E-09	4.11E-10	2.65E-09	9.41E-10	1.22E-09
Polonium 212 (Po-212)	0	8.20E-08	4.35E-09	6.64E-09	1.74E-11	2.07E-10	1.21E-09	2.63E-10	1.70E-09	6.03E-10	7.82E-10
Tellurium 208 (Tl-208)	0	4.60E-08	2.44E-09	3.72E-09	9.75E-12	1.16E-10	6.80E-10	1.48E-10	9.51E-10	3.38E-10	4.38E-10

Notes: 1. Ci/yr = curies per year.
2. Soil sample preparation laboratory is not considered a source due to the miniscule amount of particulates released to the atmosphere.
3. The in situ soil emissions are zero as the fastest 2-min wind speeds at Teterboro Airport for the year 2004 did not result in the threshold friction velocity being exceeded at any time.

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3.0 DOSE ASSESSMENTS

3.1 DESCRIPTION OF DOSE MODEL

The effective dose equivalents for the collective population and the hypothetical maximally exposed individual were calculated in a three-step process. The first step was to model the release of particulates from the site using the methodology given in the EPA's "Estimation of Air Impacts from Area Sources of Particulate Matter Emissions at Superfund Sites" (EPA-451 / R-93-004). Particulate emissions were determined based on the number of times the soil was disturbed (e.g., excavated, stockpiled, loaded into trucks / containers / rail cars, unloaded, and moved) at both the source and at the MISS. The second step was to input these particulate release rates, along with local population and meteorological data, into the CAP88-PC program (EPA 1992). The third step involved summing the doses calculated by the CAP88-PC program from the various activities at the individual receptors and determining the dose for the hypothetical maximally exposed individual.

The model was used to predict the annual effective dose at numerous receptors resulting from the combined impacts of radiologically contaminated particulate emissions from the various soil load-outs and the Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions. Although the emission of radon (Rn) gas is not considered in this analysis, the daughters of Rn gas generated by the decay of Ra-226 in dust off-site is accounted for by the model in the computation of the effective dose equivalents for the various internal and external exposure pathways.

The CAP88-PC model uses a modified Gaussian plume equation to estimate the average dispersion of radionuclides released from a site. Assessments are done for a circular grid of distances and directions for a radius of 50 mi (80 km) around the site. The program computes radionuclide concentrations in air, rates of deposition on ground surfaces, concentrations in food, and intake rates to people from ingestion of food produced in the assessment area.

By coupling the output of the atmospheric transport models with the terrestrial food chain models from the U.S. Nuclear Regulatory Commission Regulatory Guide 1.109 (NRC 1977), the program estimates the radionuclide concentrations in produce, leafy vegetables, milk, and meat consumed by humans. The population distribution array used in the computer model was calculated from known land uses surrounding the site and year 2000 census figures.

CAP88-PC also uses a modified version of DARTAB (ORNL 1981) and a database of dose and risk factors generated by RADRISK (ORNL/TM-7105 and ORNL-7745) for estimating dose and risk. Dose and risk factors are provided for the pathways of ingestion and inhalation intake, ground level immersion, and ground surface irradiation. For assessments where Rn-222 decay products are not considered, the dose estimates are made by combining the inhalation and ingestion intake rates as well as the air and ground surface concentrations with the appropriate dose conversion factors.

3.2 SUMMARY OF INPUT PARAMETERS

The required input parameters for the computation of the annual effective dose equivalents to the hypothetical maximally exposed individual, as well as the collective population dose, by the CAP88-PC program include:

- Average annual temperature for the year 2004: 54.3°F (12.4°C) (NOAA 2004b);
- Total annual precipitation for year the 2004: 49.9 in. (126.8 cm) (NOAA 2004b);

- Wind speed and direction: Teterboro Airport, NJ – Stability Array (STAR) Data for 1995-2004 (NOAA 2004a);
- Population distribution: calculated from the year 2000 census data;
- Annual radionuclide emission rates from the various source operations at the MISS and the vicinity properties (see **Table 2-2**);
- Surface areas of the individual emission sources; and
- Distances to the individual resident and worker receptor locations.

3.3 COMPLIANCE ASSESSMENT

The maximum annual effective dose to residents and workers resulting from each of the key sources during the year 2004 (various soil load-outs and the Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions) as determined by the CAP88-PC modeling analyses are given in **Table 3-1** and shown on **Figure A-5**. The annual effective dose to the hypothetical maximally exposed resident and worker, as well as the collective population dose, resulting from total site activities during the year 2004 are the following:

- Resident located 80 feet (25 m) north-northwest (NNW) of Cluster 2B (100% occupancy): 3.70×10^{-5} millisievert per year (mSv/yr) or 3.70×10^{-3} mrem/yr;
- Worker located 30 feet (10 m) southeast (SE) of Cluster 2B (27% occupancy): 7.80×10^{-5} mSv/yr (7.80×10^{-3} mrem/yr); and
- Annual effective dose to the public within 50 mi (80 km) of the MISS: 1.62×10^{-2} person-rem/year.

Although exposures from other directions and distances may be reported in the model output, only those directions / distances corresponding to a potential receptor are reported here. All calculated exposures were on a similar order of magnitude of those reported above (much less than 1 mrem/yr).

The maximum annual effective dose to the residents and workers are well below the NESHAP-Subpart H standard of 10 mrem/yr (40 CFR 61.92). The maximum annual effective doses are almost entirely the result of the internal doses received from the inhalation of dust particles with a small contribution from the ingestion of plant borne dust. Air immersion in the dust plume and ground surface irradiation contributes a negligible amount to the total dose.

Table 3-1
Maximum Annual Effective Dose Equivalents

Source	Location of Maximum Impact[1]	Annual Dose Rate (mrem/yr)	Occupancy Factor (%)	Annual Effective Dose (mrem/yr)
MISS Soil Load-outs				
• Population (person-rem/yr)[3]	N/A	8.56E-03	N/A	8.56E-03
• Maximally Exposed Resident	235 m NNE	1.70E-03	100	1.70E-03
• Maximally Exposed Worker	160 m N	3.10E-03	27	8.37E-04
Cluster No. 2B (80 Hancock Street)				
• Population (person-rem/yr)	N/A	4.40E-04	N/A	4.40E-04
• Maximally Exposed Resident	25 m NNW	3.00E-03	100	3.00E-03
• Maximally Exposed Worker	10 m ENE-ESE	2.70E-02	27	7.29E-03
Cluster No. 2C (80 Industrial Road)				
• Population (person-rem/yr)	N/A	6.70E-04	N/A	6.70E-04
• Maximally Exposed Resident	60 m N	1.40E-03	100	1.30E-03
• Maximally Exposed Worker	25 m SE	9.30E-03	27	2.51E-03
Cluster No. 2D (8 Mill Street)				
• Population (person-rem/yr)	N/A	2.04E-06	N/A	2.04E-06
• Maximally Exposed Resident	240 m S	6.90E-07	100	6.90E-07
• Maximally Exposed Worker	20 m NNE	4.10E-05	27	1.11E-05
Cluster No. 3A (170 Gregg Street)				
• Population (person-rem/yr)	N/A	2.22E-05	N/A	2.22E-05
• Maximally Exposed Resident	520 m S	2.10E-06	100	2.10E-06
• Maximally Exposed Worker	45 m SE	5.90E-05	27	1.59E-05
Cluster No. 5C (200 NJ Rt. 17 S)				
• Population (person-rem/yr)	N/A	1.26E-04	N/A	1.26E-04
• Maximally Exposed Resident	75 m NNW	1.10E-04	100	1.10E-04
• Maximally Exposed Worker	10 m ESE-NW	7.10E-03	27	1.92E-03
Cluster No. 6A (85-103 NJ Rt 17 N)				
• Population (person-rem/yr)	N/A	2.74E-05	N/A	2.74E-05
• Maximally Exposed Resident	100 m E	1.80E-05	100	1.80E-05
• Maximally Exposed Worker	20 m NE	4.50E-04	27	1.22E-04
Cluster No. 6C (167 NJ Rt. 17 N)				
• Population (person-rem/yr)	N/A	2.04E-04	N/A	2.04E-04
• Maximally Exposed Resident	300 m E	2.20E-05	100	2.20E-05
• Maximally Exposed Worker	60 m SSE	5.30E-04	27	1.43E-04
Cluster No. 8A (23 W Howcroft Rd)				
• Population (person-rem/yr)	N/A	6.12E-05	N/A	6.12E-05
• Maximally Exposed Resident	120 m SSE	7.10E-05	100	7.10E-05
• Maximally Exposed Worker	10 m NNE-S	3.50E-03	27	9.45E-04
Cluster No. 9A (149-151 Maywood Ave)				
• Population (person-rem/yr)	N/A	7.92E-05	N/A	7.92E-05
• Maximally Exposed Resident	150 m SSE	4.20E-05	100	4.20E-05
• Maximally Exposed Worker	25 m ESE	1.20E-03	27	3.24E-04
Total Site[2]				
• Population (person-rem/yr)	N/A	1.62E-02	N/A	1.62E-02
• Maximally Exposed Resident	25 m NNW of Cluster 2B	3.70E-03	100	3.70E-03
• Maximally Exposed Worker	10 m SE of Cluster 2B	2.89E-02	27	7.80E-03

Notes: 1. Although exposures from other directions and distances may be reported in the model output, only those directions / distances corresponding to a potential receptor are reported here. Note: all calculated exposures were on a similar order of magnitude of those reported here (much less than 1 mrem/yr).
2. The total site doses for the maximally exposed resident and worker represent the combined impacts of radiologically contaminated particulate emissions from the various soil load outs and Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions at the specified locations. The location of the “total site” maximally exposed resident and worker is relative to the Cluster 2B area.
3. The collective population dose is the total dose received by the public living within 50 mi (80 km) of the MISS. The total site population dose was calculated by summing the population doses resulting from radiologically contaminated particulate emissions from the various soil load outs at the MISS and the Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions.

3.4 CERTIFICATION

I certify under penalty of law that I have personally examined, and am familiar with, the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment (see 18 U.S.C. 1001).

Name / Title: ____

Signature: ___________________________ Date: _____________

4.0 RADON-222 FLUX MONITORING

Rn-222 flux monitoring is typically performed to determine compliance with 40 CFR 61, Subpart Q for stockpiles that are present for a significant period of time such as 6 months or greater. Although this was not the case at the MISS during the year 2004, it was decided to perform flux monitoring since the soil is now stored inside a fabric structure instead of in the open air. Furthermore, soil was being stockpiled / loaded-out on a fairly continuous basis during 2004. Thus, it was deemed prudent to perform Rn-222 flux monitoring for the soil stockpiles to assess regulatory compliance.

Rn-222 flux monitoring was performed on August 26-27, 2004 to determine compliance with 40 CFR 61, Subpart Q. To determine the Rn flux from the storage pile, charcoal canisters were placed on the stockpile inside the fabric structure at six locations. The Rn-222 flux measurement locations are shown in Appendix A on **Figure A-6**.

The results of the Rn-222 flux monitoring are presented in **Table 4-1**. The Rn-222 concentrations obtained from the flux monitoring were generally below the minimum detected activity at all of the sampling locations. Thus, the measured concentrations from the storage piles inside the fabric structure were well in compliance with the 20 picocuries per square meter per second ($pCi/m^2/s$) Rn-222 flux standard specified in 40 CFR 61, Subpart Q.

Table 4-1
Year 2004 – Rn Flux Monitoring Results for
Soil Stockpiles inside the Fabric Structure at the MISS

Sample ID[1]	Date Collected	Date Analyzed	Analyte	Result ($pCi/m^2/s$)	Error ($pCi/m^2/s$)	MDA[2] ($pCi/m^2/s$)
RC-6	O8/27/04	08/30/04	Rn-222	1.16E-01	7.36E-02	1.83E-01
RC-7	08/27/04	08/30/04	Rn-222	4.51E-01	9.43E-02	1.52E-01
RC-9	08/27/04	08/30/04	Rn-222	1.29E-01	1.12E-01	2.43E-01
RC-10	08/27/04	08/30/04	Rn-222	1.04E-01	6.64E-02	1.58E-01
RC-11	08/27/04	08/30/04	Rn-222	1.08E-01	7.32E-02	2.05E-01
RC-12	08/27/04	08/30/04	Rn-222	1.56E-01	7.71E-02	2.03E-01

Notes: 1. All monitoring locations for the storage piles are shown on **Figure A-6**.
2. Minimum Detected Activity (MDA).

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APPENDIX A
SELECTED FUSRAP MAYWOOD SUPERFUND SITE MAPS

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APPENDIX A
TABLE OF CONTENTS

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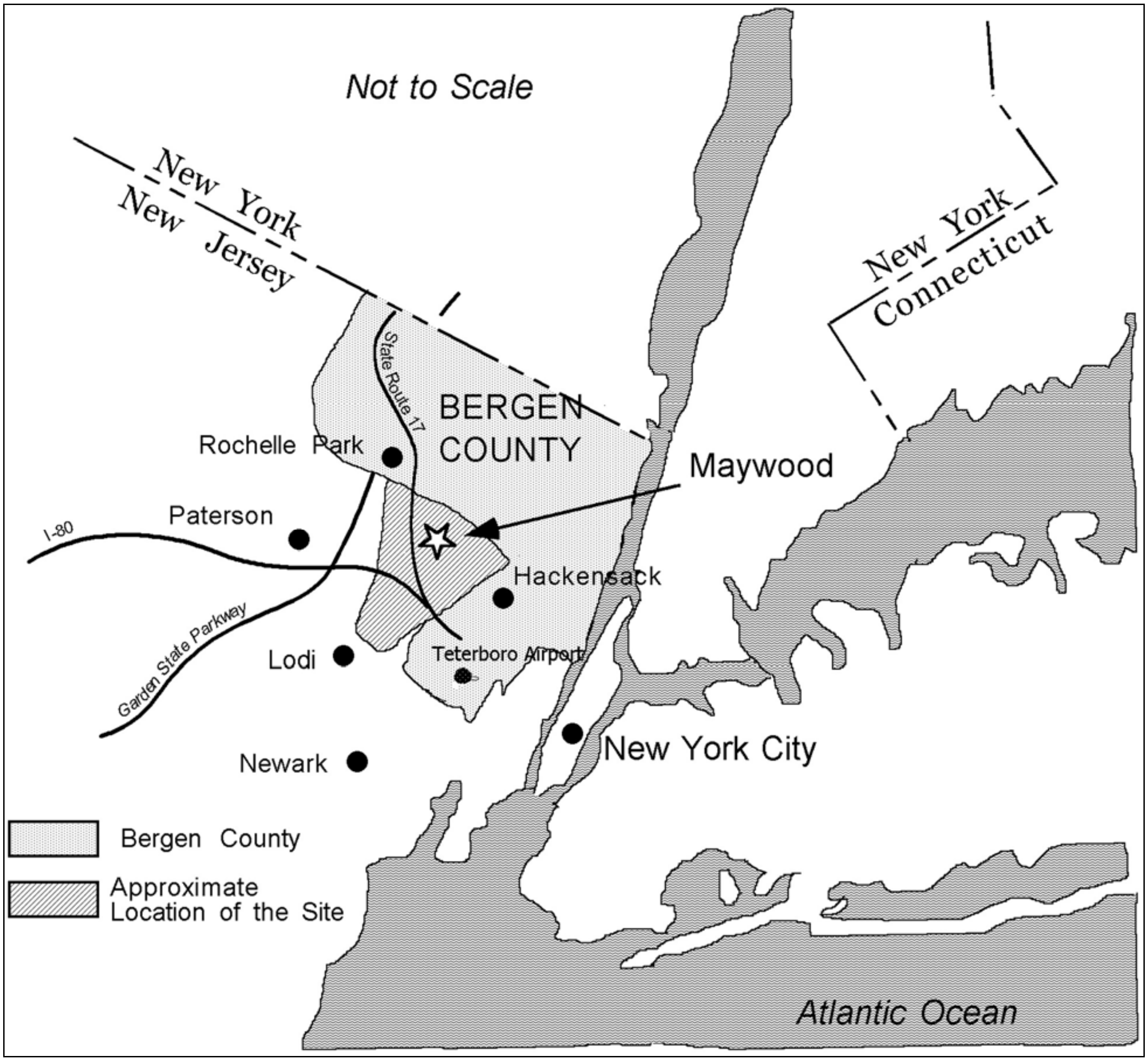

Figure A-1
FMSS and MISS General Location Map

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Figure A-2

Phase II Vicinity Property Clusters

- Cluster 1
- Cluster 2
- Cluster 3
- Cluster 4
- Cluster 5
- Cluster 6
- Cluster 7
- Cluster 8
- Cluster 9
- Cluster 10
- Cluster 11
- Cluster 12

Cluster Number	Property Address	ID #
1	72 Sidney Street	01a
2	100 Hancock Street	02a
2	80 Hancock Street	02b
2	80 Industrial Road	02c
2	8 Mill Street	02d
3	170 Gregg Street	03a
4	160/174 Essex Street	04a
4	I-80 Westbound ROW	04b
5	99 Essex Street	05a
5	113 Essex Street	05b
5	200 NJ Rt. 17 South	05c
6	85-103 NJ Rt. 17 North	06a
6	137 NJ Rt. 17 North	06b
6	167 NJ Rt. 17 North	06c
6	239 NJ Rt. 17 North	06d
6	29 Essex Street	06e
7	111 Essex Street	07a
7	Hackensack & Lodi Railroad	07b
8	23 West Howcroft Road	08a
9	149-151 Maywood Avenue	09a
10	100 West Hunter Avenue (Stepan)	10a
11	205 Maywood Avenue	11a
11	61 West Hunter Avenue	11b
11	50 West Hunter Avenue	11c
12	NY, Susquehanna,& Western Railroad	12a
12	100 West Hunter Avenue (MISS)	12b
12	NJ Rt. 17 ROW	12c

US Army Corps of Engineers

FUSRAP Maywood Superfund Site

Shaw Shaw Environmental, Inc.

Bosfso1\\ maywood\task0205\gis\0205.apr - Phase II Vicinity Property Clusters rev 1 11x17
03/10/2004 - Draft

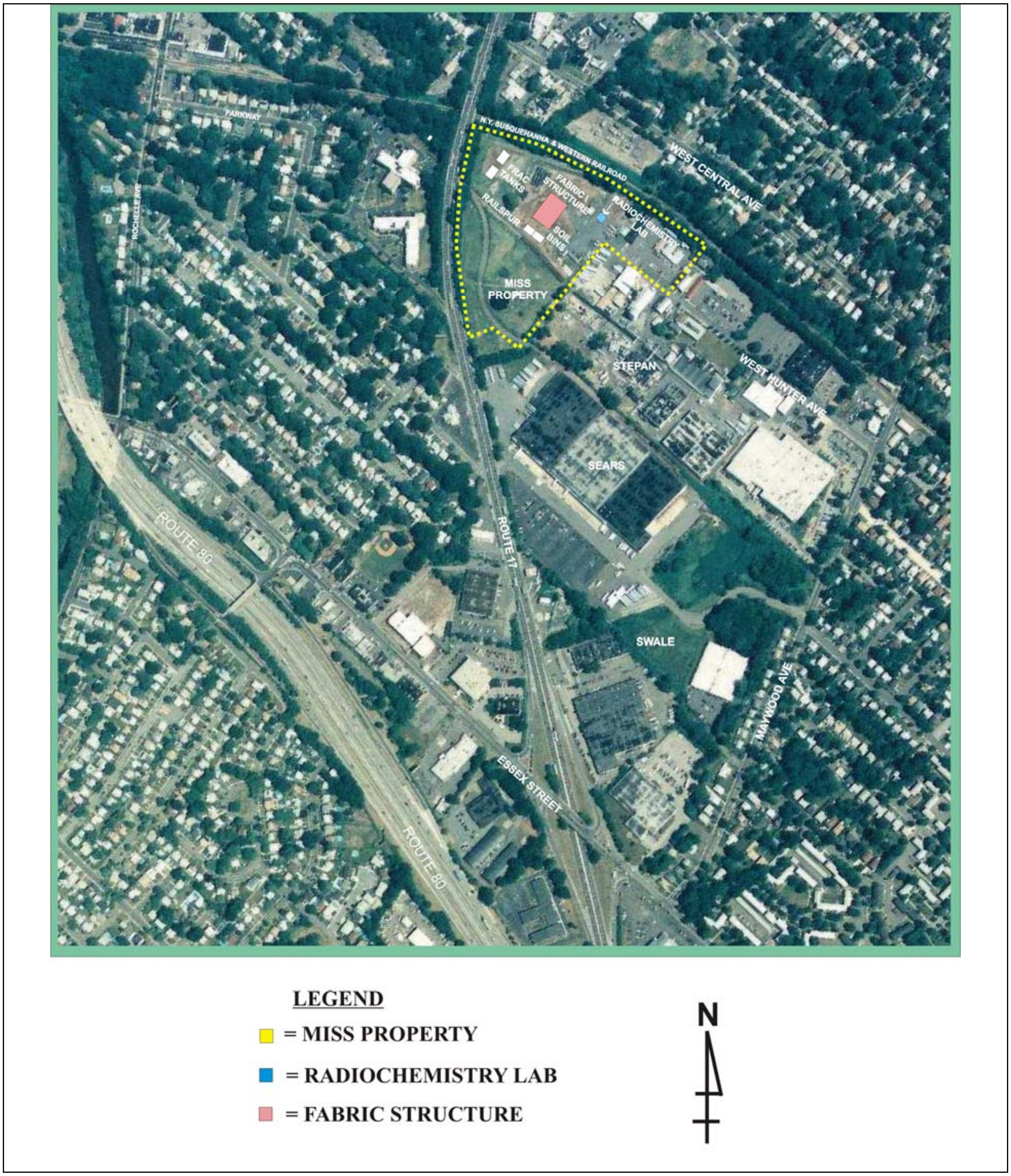

Figure A-3
Aerial View of MISS and Adjacent Properties

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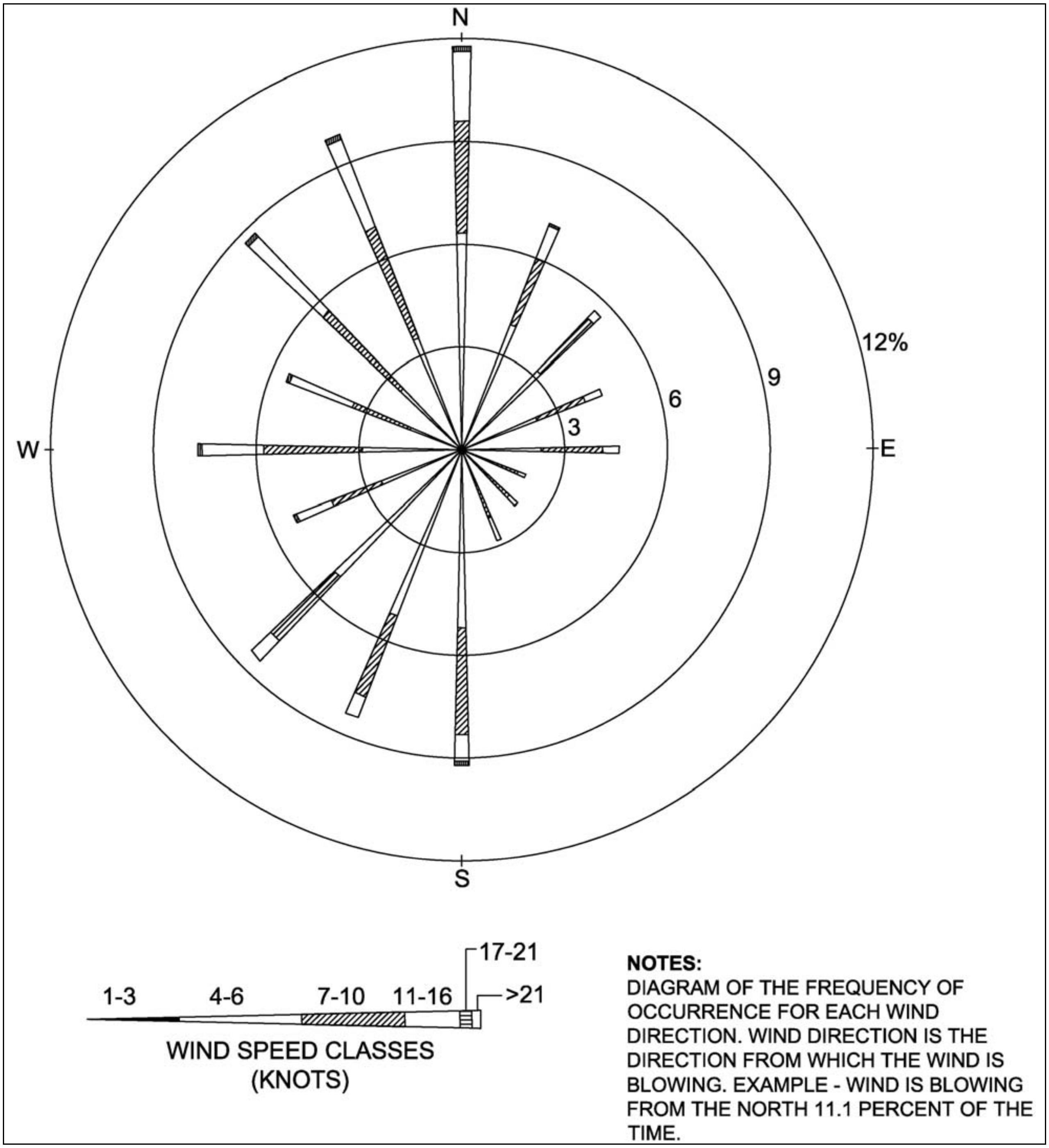

Figure A-4
Windrose, Teterboro, NJ (1995-2004)

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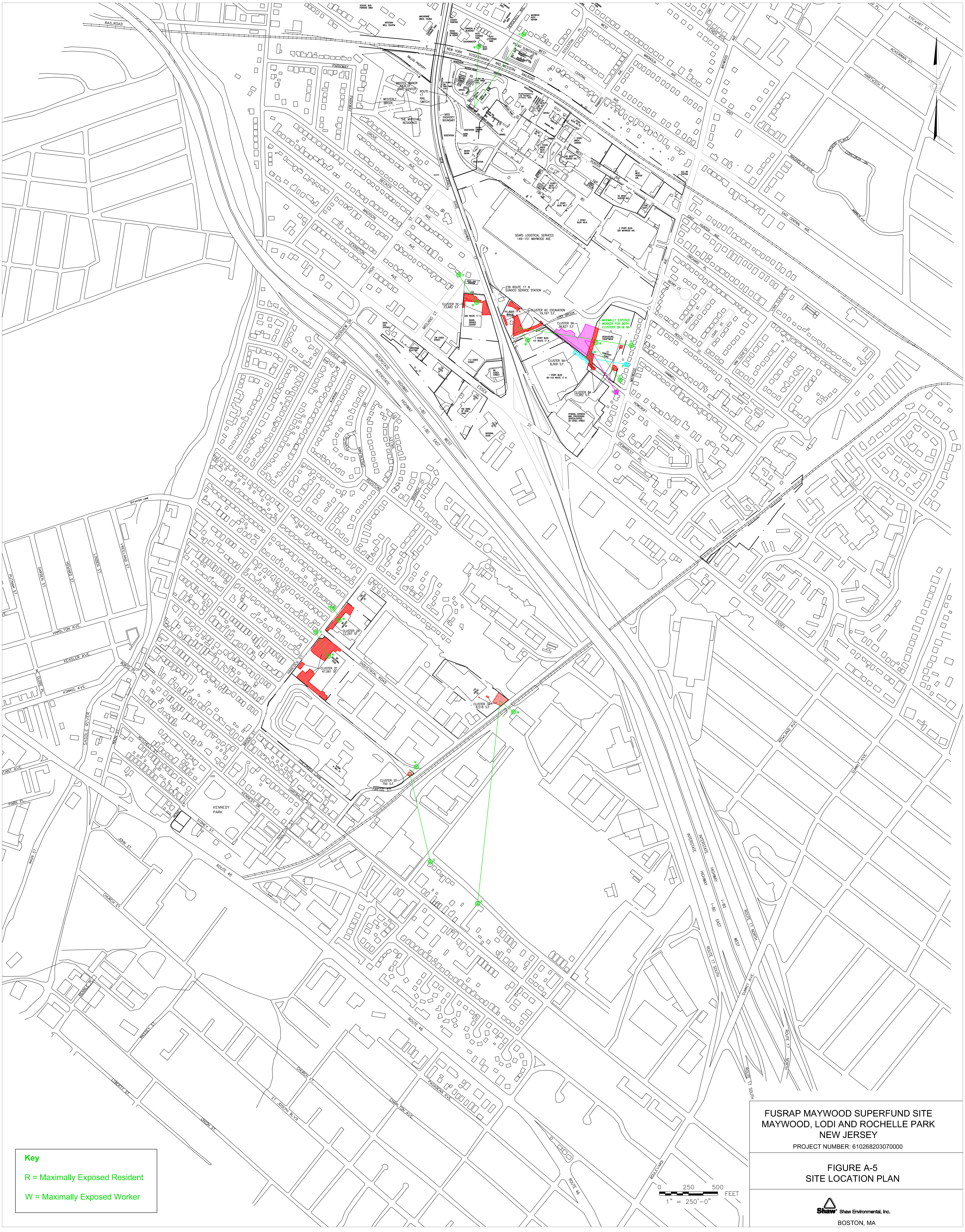
FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, LODI AND ROCHELLE PARK
NEW JERSEY
PROJECT NUMBER: 610268203070000
FIGURE A-5
SITE LOCATION PLAN
Shaw Environmental, Inc.
BOSTON, MA
Key
R = Maximally Exposed Resident
W = Maximally Exposed Worker
0 250 500
FEET
1" = 250'-0"
SEARS LOGISTICAL SERVICES
149-151 MAYWOOD AVE.
KENNEDY
PARK
ROUTE 46

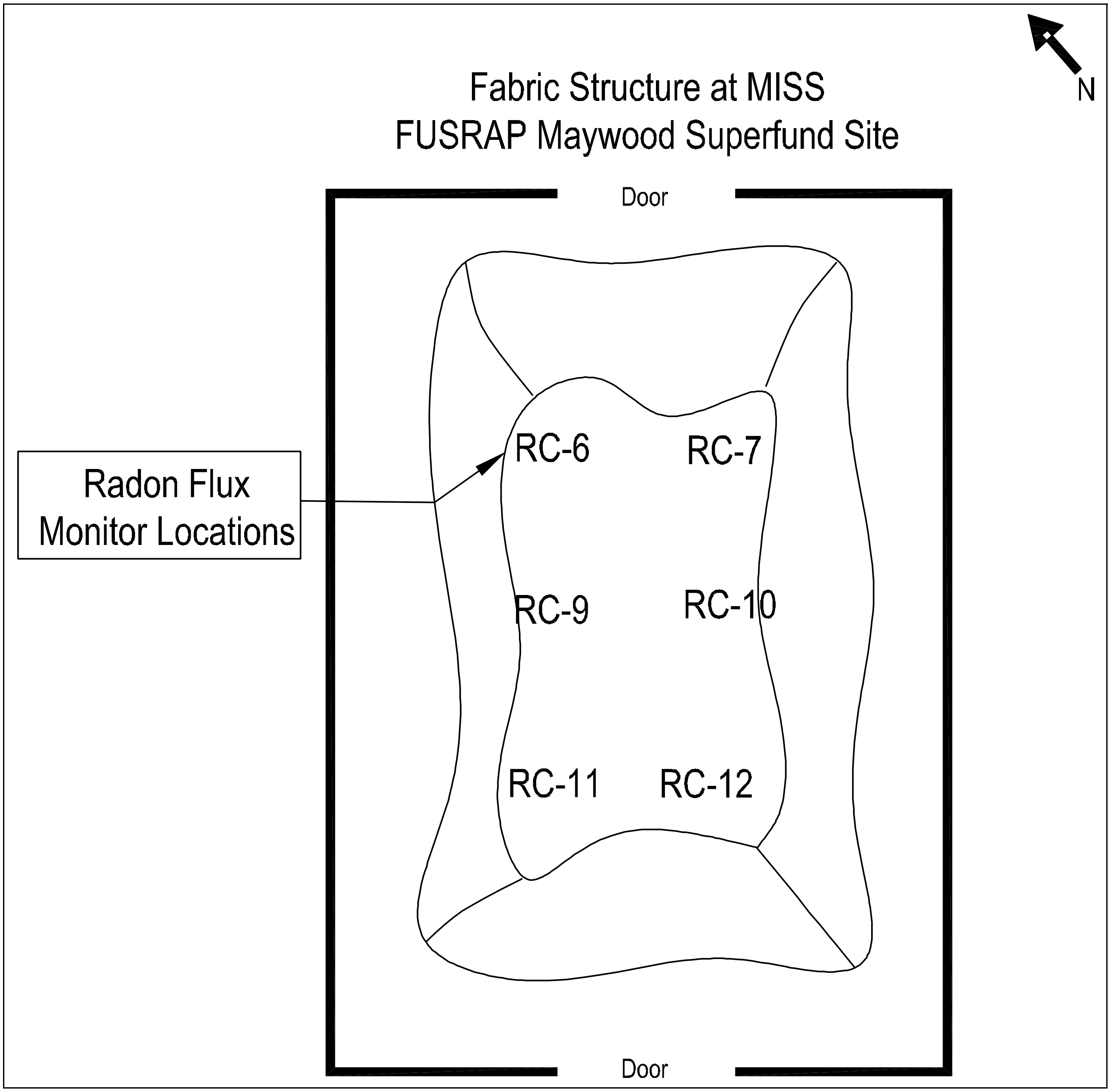

Figure A-6
Location of Radon Flux Monitors inside the Fabric Structure at the MISS

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APPENDIX B
SELECTED PHOTOGRAPHS

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APPENDIX B
TABLE OF CONTENTS

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Soil stockpile stored inside fabric structure at MISS prior to start of load-out activities.

Front-end loader is use to transport soil from inside fabric structure to load-out bins near rail cars.

Excavator removing soil from load-out bins and placing into rail cars. Water spray used for dust control.

Excavators loading soil into rail cars from storage bins for shipment to off-site disposal facility.

View of partially loaded rail car. When full, the liner will be closed and tied to prevent soil loss during shipping.

View of empty fabric structure at MISS after completion of successful soil load-out.

Figure B-1
Soil Load-Out Activities at MISS

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Excavation was performed at the 8 Mill Street property to support a NJDOT drainage improvement project.

Excavation was also performed to remediate an adjacent area of radiologically contaminated soil.

The depth of the excavation was shallow since only surface contamination was found.

Rain water collected in the excavation while awaiting backfilling.

Temporary fencing was erected to establish the controlled access area during excavation and backfilling activities.

Figure B-2
Cluster No. 2D Remedial Action

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The start of excavation activities at the 167 NJ Route 17 property.

Additional excavation being performed at the property. Significant amounts of debris was found in the soil.

An excavator is used to load soil into lined dump trucks for transport to the MISS for disposal.

Debris is visible from excavation. A vibrating screen was used at the MISS to remove debris from the soil.

Backfilling in progress with the placement of structural fill in the excavation.

Rough final grade has been established at the property.

Figure B-3
Cluster No. 6C Removal Action

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Excavation being performed at the east side of the building located at the 200 NJ Rt. 17 South property.

Excavation being performed with the storm water line and electrical conduit exposed.

Excavation activities being conducted on the north side of the building.


Backfilling along the building foundation on the north side of the building.


Backfilling being performed on the north side of the building.


Asphalt paving on the east side of the building.

Figure B-4
Cluster No. 5C Remedial Action

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Initial conditions at the property located at 170 Gregg Street showing damaged asphalt parking lot.

An excavator is removing the radiologically contaminated soil for transport to MISS.

An excavator removing radiologically contaminated soil near the property boundary along Gregg Street.

Backfilling activities including the compaction of the structural fill and placement of top soil.

A bulldozer is grading the top soil to establish the final grade.

Restoration of the final grade before repaving the lot with asphalt.

Figure B-5
Cluster No. 3A Remedial Action

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Excavation at the 149-151 Maywood Avenue property to install by-pass line for open channel remediation.

An excavator is used to install by-pass line section in the trench.

Establishing grade for the installation of the next section of the bypass line.

Workers connect the sections for the by-pass line.

Construction of the temporary drainage basin. The excavator is covering the pipe sections with fill material.

Completion of the temporary drainage basin. The bypass line will be removed upon completion of the remediation.

Figure B-6
Cluster No. 9A Remedial Action

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Excavation in progress at the property located at 23 West Howcroft Road.

Water is sprayed at the excavation site to prevent airborne dust emissions.

The excavated soil was placed into a lined dump truck for transport to the MISS.

The excavated soil is transported to the MISS and subsequently loaded into rail cars for off-site disposal.

Excavation performed along building. A hose was used to direct water from roof drains away from the excavation.

Establishment of the final rough grade at the site as part of the restoration process.

Figure B-7
Cluster No. 8A Remedial Action

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Excavation being conducted at the property located at 80 Industrial Road.

Polyethylene sheets were used to cover the impacted soils.

A temporary drain was installed to pump water from the excavation.

Polyethylene sheets were used to cover the impacted soils surrounding the temporary drain.

Excavation being performed along the southwest corner of the building.

Removal of the concrete stairs to facilitate remediation of impacted soils adjacent to the building's ramp.

Figure B-8
Cluster No. 2C Remedial Action

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Excavation at the property located at 80 Hancock Street.

Additional excavation was performed along the building on the Hancock Street side.

The excavated soil was placed into a lined dump truck for transport to the MISS for disposal.

Accumulated water in the excavation is pumped to an on-site fractionalization tank for transport to MISS

Fencing was erected at the property boundary to establish the access control area.

Backfilling partially completed; poly sheets were used to cover inaccessible impacted soils along the building.

Figure B-9
Cluster No. 2B Remedial Action

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Excavation of former open channel culvert at the property located at 85-103 NJ RT. 17 South.

An excavator is used to remove an old drainage pipe on the property.

An access road for the dump trucks was prepared to facilitate the transport of excavated soil to the MISS.

View of the dump truck access road on the site

Plastic bladders filled with water were placed along the perimeter of the excavation to divert surface water run-on.

Accumulated water in the excavation is pumped to a fractionalization tank for subsequent transport to MISS.

Figure B-10
Cluster No. 6A Remedial Action

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View of west side of radiochemistry laboratory at the MISS. The exhaust stack for the fume hoods is visible.

Soil Preparation Laboratory. View of the vented drying ovens and muffle furnace (center).

The downdraft table and pulverizer in the Soil Preparation Laboratory.

View of downdraft table and adjacent unit containing the High Efficiency Particulate Air (HEPA) filter.

View of soil digestion microwaves and condenser units.

View of fume hoods with centrifuge on table in the forefront.

Figure B-11
Onsite Radiochemistry Laboratory at MISS

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APPENDIX C
CALCULATIONS

Note: Appendix C also contains an MS-Excel Spreadsheet on CD-ROM.

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CALCULATION TITLE PAGE

CLIENT & PROJECT: U.S. ARMY CORPS OF ENGINEERS/FUSRAP-MISS	PAGE 1 of 188 Total Pages: 205 w/attachments
CALCULATION TITLE: MISS 2004 Annual NESHAPS Calculation	QA CATEGORY (✓) ☐ I ☐ III ☐ II

CALCULATION IDENTIFICATION NUMBER				OPTIONAL WORK PACKAGE NO.
JOB ORDER NO.	DISCIPLINE	CURRENT CALC NO	OPTIONAL TASK CODE	
102682-0307	E(B)	12		

APPROVALS - SIGNATURE & DATE			REVISION NO. OR NEW CALCULATION NO.	SUPERSEDES CALCULATION NO. OR REVISON NO.	CONFIRMATION REQUIRED (✓)	
PREPARES(S) / DATE(S)	REVIEWER(S) / DATES(S)	INDEPENDENT REVIEWER(S) / DATE(S)	.	.	YES	NO
Stephen A. Vigeant 3/28/05			0			

DISTRIBUTION

GROUP	NAME & LOCATION	COPY SENT (✓)	GROUP	NAME & LOCATION	COPY SENT (✓)
Record Mgmt. File (or Fire File if none) Project File	J. McLaughlin: New York	Original			
Specialist	Stephen A. Vigeant: Stoughton - 4	cc			

Shaw Environmental & Infrastructure, Inc.

CALCULATION SHEET

CALCULATION IDENTIFICATION NUMBER				
JOB ORDER NO. 102682-0307	DISCIPLINE E(B)	CALCULATION NO. 12	REVISION NUMBER 0	PAGE 2 OF188

CHANGE HISTORY PAGE

REVISION NO.	DESCRIPTION OF CHANGES	PAGES REVISED	PAGES ADDED	PAGES REPLACED
0	N/A	N/A	N/A	N/A

TABLE OF CONTENTS

CALCULATION IDENTIFICATION NUMBER				
JOB ORDER NO.	DISCIPLINE	CALCULATION NO.	REVISION NUMBER	PAGE
102682-0307	E(B)	12	0	4 OF188

1. OBJECTIVE

To estimate the annual effective dose to nearby residents and workers from airborne releases of radioactive particulates at the Maywood Interim Storage Site (MISS) and vicinity properties generated during calendar year 2004. The activities generating these potential releases include: in situ wind erosion; soil load-out operations at the MISS; and the remedial actions at Cluster Nos. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A, and 9A.

2. METHODOLOGY

During the calendar year 2004, the potential sources of airborne emissions of radioactive particulates at MISS and nearby properties were:

1. In situ, contaminated areas totaling approximately 635,000 square feet (ft^2) (59,000 square meters [m^2]) of the MISS and the adjacent Stepan Company property (within the MISS fence line) were potentially exposed to wind erosion during the year 2004.
2. The performance of soil load-out, transportation and disposal operations at the MISS during the year 2004. Specifically, 17 soil load-out operations were performed during the year 2004. The various soil stockpiles consisted of soil and debris that had been transported to the MISS from the remedial actions performed at the following properties: Cluster No. 2D; Cluster No. 6C; Cluster No. 5C; Cluster No. 3A; Cluster No. 9A; Cluster No. 2C; Cluster No. 2B and Cluster No. 6A. These 17 load-outs involved the movement of approximately 46,820 tons of material, which was placed into rail cars for transport to a disposal facility in Utah. The nearest commercial / residential buildings are located approximately 440 feet (135 meters [m]) west of the MISS soil load-out area.
3. Continuation of a remedial action at a portion of Cluster 2D (8 Mill Street), which is comprised of a single lot in the Borough of Lodi: Block 205.02, Lot 1.05, occupying an area of approximately 13.6 acres. The property is currently owned by the State of New Jersey and occupied by the Lodi Motor Vehicle Agency and the New Jersey Motor Vehicle Commission (NJMVC) Inspection Station. This remedial action was initiated in December 2003 and performed on an expedited basis for a small portion (approximately 1 acre) of Cluster 2D to facilitate the installation of drainage lines by the New Jersey Department of Transportation's (NJDOT) contractors. The year 2004 remedial action involved the excavation of approximately 35 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 65 feet (20 m) north of Cluster No. 2D; the nearest residences are located approximately 655 feet (200 m) west-southwest of Cluster No. 2D.
4. Continuation of the remedial action at Cluster 6C (167 NJ Route 17 North), which is comprised of a single lot in the Borough of Maywood: Block 124, Lot 2, occupying an area of approximately 1.7 acres. The property, which is currently owned and formerly operated by Sunoco, includes an inactive gasoline service area (pump islands) and a one-story 800 ft^2 cinder block building. Over the years, radiologically contaminated soil was transported downstream to the Cluster 6C properties via Lodi Brook. The year 2004 remedial action involved the excavation of approximately 4,810 tons of soil that was loaded into trucks and transported to the fabric structure at the MISS. The nearest commercial buildings are located approximately 100 feet (30 m) northwest of Cluster No.6C; the nearest residences are located approximately 655 feet (200 m) west-northwest of Cluster No. 6C.
5. Continuation of the remedial action at Cluster No. 5C (200 NJ Route 17 South), which is comprised of a single lot in the Borough of Maywood: Block 125, Lot 3, occupying an area of about 2.3 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 5 properties via the Lodi Brook. This remedial action involved the excavation of approximately 3,794 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 30 feet (10 m) east-southeast of Cluster No. 5C; the nearest residences are located approximately 195 feet (60 m) west-northwest of Cluster No. 5C.

6. The performance of a remedial action at Cluster No. 3A (170 Gregg Street), which is comprised of a single lot in the Borough of Lodi: Block 205, Lot 1.02, occupying an area of approximately 3 acres. In the past, radiologically contaminated soil was transported to Cluster No. 3A and used as fill material. This remedial action involved the excavation of approximately 1,103 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 150 feet (45 m) east-southeast of Cluster No. 3A; the nearest residences are located approximately 655 feet (200 m) northwest of Cluster No. 3A.

7. The performance of a remedial action at Cluster No. 9A which is located in both the Borough of Maywood and the Township of Rochelle Park. This property is located at 149-151 Maywood Avenue and occupies Block 124, Lot 30 within the Borough of Maywood and Block 17.02, Lot 1 within the Township of Rochelle Park. The property comprises approximately 27 acres and is occupied by the Sears Logistical Services (SLS). Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 9A properties via the Lodi Brook This remedial action involved the excavation of approximately 10,397 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 80 feet (25 m) east of Cluster No. 9A; the nearest residences are located approximately 395 feet (120 m) east of Cluster No. 9A.

8. The performance of a remedial action at Cluster No. 8A (23 West Howcroft Road) which is comprised of a single lot in the Borough of Maywood: Block 124, Lot 17, occupying an area of approximately 2.5 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 8A properties via the Lodi Brook. This remedial action involved the excavation of approximately 1,851 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 30 feet (10 m) north-northeast of Cluster No.8A; the nearest residences are located approximately 330 feet (100 m) east of Cluster No. 8A.

9. The performance of a remedial action at Cluster No. 2C (80 Industrial Road) which is comprised of a single lot in the Borough of Lodi: Block 205.02, Lot 4.02, occupying an area of about 3.6 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 2C properties via the Lodi Brook. This remedial action involved the excavation of approximately 14,430 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 80 feet (25 m) southeast of Cluster No.2C; the nearest residences are located approximately 165 feet (50 m) northwest of Cluster No. 2C.

10. The performance of a remedial action at Cluster No. 2B (80 Hancock Street) which is comprised of a single lot in the Borough of Lodi: Block 205.03, Lot 2.03, occupying an area of about 1.8 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 2B properties via the Lodi Brook. This remedial action involved the excavation of approximately 9,175 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 30 feet (10 m) south of Cluster No.2B; the nearest residences are located approximately 80 feet (25 m) west of Cluster No. 2B.

11. The performance of a remedial action at Cluster No. 6A (85-103 NJ Route 17) which is comprised of a single lot in the Borough of Maywood: Block 124, Lot 4, occupying an area of about 4.7 acres. Over the years, radiologically contaminated soil was transported downstream to the Cluster No. 6A properties via the Lodi Brook. This remedial action involved the excavation of approximately 1,225 tons of soil that was loaded into trucks for transport to the fabric structure at the MISS. The nearest commercial buildings are located approximately 65 feet (20 m) northeast of Cluster No.6A; the nearest residences are located approximately 330 feet (100 m) east of Cluster No. 6A.

The calculation is performed using the U.S. Environmental Protection Agency (EPA) Clean Air Act Assessment Package - 1988 (CAP88-PC) model (Ref. 9.1) to estimate air doses to the population and hypothetical maximally exposed individuals. The radioactive particulate release rates from in situ wind erosion and the other load-out and remediation/excavation activities are calculated using EPA's Compilation of Air Pollutant Emission Factors - Volume 1:Stationary Point and Area Sources, also known as AP-42 (Ref. 9.2). The AP-42 expressions used to perform these calculations are provided in the "Equations" section of this calculation. The actual calculations are performed using an Excel spreadsheet, the results of which are provided in Attachment A.

Radionuclide emission rates are based on the particulate release rates and average radionuclide source concentrations based on sample measurements. Source concentrations for isotopes of uranium (U_{238}), radium (Ra_{226}), and thorium (Th_{232}) are based on average values for in situ soil (Ref. 9.7) and average values measured during the load-outs. Unknown radionuclide source concentrations are based on the known source concentrations assuming secular equilibrium in the decay chains (Ref. 9.4).

The CAP88-PC computer model is a set of computer programs, databases, and associated utility programs developed by the EPA for estimation of dose and risk from radionuclide emissions to air. CAP88-PC is used for the purpose of demonstrating compliance with Subpart H of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) as codified in 40 CFR 61.93a. CAP88-PC performs dose and risk assessments for both collective populations and maximally-exposed individuals.

This computer code estimates the annual average dispersion of radionuclides released from up to six sources. The sources may be either elevated stacks or uniform area sources. All sources are modeled as if located at the same point. Uniform contamination is assumed for area sources. Plume rise can be calculated assuming either a momentum or buoyancy driven plume. Assessments are done for a circular grid of distances and directions with a radius of 80 kilometers around the facility. The program computes radionuclide concentrations in air, rates of deposition on ground surfaces, concentrations in food, and intake rates to people from ingestion of food produced in the assessment area.

CAP88-PC uses a modified version of the AIRDOS-EPA (Mo79) program to calculate environmental transport. Plume dispersion is based on the Gaussian plume equation of Pasquill as modified by Gifford, using sector-average concentrations. Plume rise is calculated using either Rupp's equation for momentum dominated plume rise or Briggs equation for buoyancy dominated plume rise. Dry deposition is handled using a proportionality constant applied to the ground-level concentration of the radionuclide and wet deposition is based on a scavenging coefficient related to the rainfall rate. Radionuclides are depleted from the plume by precipitation scavenging, dry deposition, and radioactive decay.

CAP88-PC also uses a modified version of DARTAB (ORNL5692) and a database of dose and risk factors generated by RADRISK (ORNL7105 and ORNL7745) for estimating dose and risk. Dose and risk factors are provided for the pathways of: ingestion and inhalation intake; ground level immersion; and ground surface irradiation. For assessments where Rn-222 decay products are not considered, doses are estimated combining the inhalation and ingestion intake rates as well as the air and ground surface concentrations with the appropriate dose conversion factors. CAP88-PC calculates dose to the gonads, breast, lungs, red marrow, thyroid, and endosteum in addition to the 50-year effective dose equivalent. Doses can be tabulated as a function of radionuclide, pathway, location, and organ.

For a given distance, the CAP88-PC model computes the annual effective dose equivalent for all compass directions. Specifically, the model computes the annual dose at a user-defined distance for all 22.5-degree compass point sectors (i.e., N, NNE, NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW). The CAP88-PC model computes an average sector concentration; thus, the annual dose computed for receptors at a given distance within a sector will be the same.

A review of land use surrounding the site and the prevailing wind directions was performed to select the appropriate receptors for inclusion in the modeling analyses. Analyses were performed separately for the soil load-outs and Cluster No. 2B, 2C, 2D, 3A, 5C, 6A, 6C, 8A and 9A remedial actions. The in situ wind erosion emissions and the exhaust hood emissions were found to be negligible and thus, these sources were not included in the modeling analyses. Where individual receptors are affected by more than one emission source, doses caused by those sources are added.

The individual (i.e., worker and resident) corresponding to the maximum effective dose equivalent is identified as the hypothetical maximally exposed individual. Because the dose received from airborne emissions is dependent on prevailing wind direction in addition to proximity to the site, the hypothetical maximally exposed individual is not necessarily the person nearest the site. The model was used to predict the annual effective dose at numerous receptors resulting from the combined impact of the above sources. Although the model determined the annual effective dose at numerous receptors, only the hypothetical maximally exposed resident and worker are discussed in this report.

Based on this information, residences and commercial properties located to the north, northeast and east of the MISS along West Central Avenue were selected as the receptors of most concern for the MISS activities. Receptor locations in other compass directions such as west and west-southwest of the MISS (i.e., west of Route 17) were also selected for the analysis, along with commercial receptors south and southeast of the MISS.

The residential receptors relative to Cluster Nos. 2B and 2C are closest in the west and northwest directions while commercial receptors are found primarily to the east and south. The residential receptors near Cluster No. 2D are closest in the west-southwest and west directions while commercial receptors are found in essentially all directions. For Cluster No. 3A activities, the residential receptors are congregated to the northwest of the cluster. The closest commercial receptors are mainly located southeast and west of the cluster. The residential receptors closest to Cluster 5C activities are located mainly to the northwest and north of the cluster while commercial receptors are generally to the south and northwest of the cluster. Cluster 6C is essentially surrounded by commercial properties in all directions with residences primarily to the northwest. Clusters 6A, 8A, and 9A have residences close by to the east and southeast with commercial receptors in essentially all other directions.

These receptor locations were used to establish the downwind distances that were input into the model to capture the maximally exposed individual (see Assumption 3.4 below for specific receptor locations).

3. ASSUMPTIONS

3.1 The contamination is uniformly distributed over a symmetrical land area with the concentration in respirable particles (PM-10) equaling the bulk contamination concentration in the surface material.

3.2 The erodibility classification of the site is “limited reservoir” characterized by a finite availability of erodible particles impregnated with non-erodible elements.

3.3 Emissions due to wind erosion and mechanical entrainment processes are continuous and steady state.

3.4 The locations of potential maximally exposed individuals (i.e., nearest residents and off-site workers) are based on a central point representative of each of the MISS site and nearby property emission areas (Ref. 9.10) as follows:

Area	**Distance** (meters)	**Direction**
MISS Soil Load-outs		
Residents:	135	West
	145	West-southwest
	155	West-northwest
	185	Southwest
	215	East-northeast
	235	South-southwest
	235	North-northeast
	235	Northeast
	270	East
Workers:	135	West
	145	West-southwest
	155	West-northwest
	160	North
	165	Northeast
	165	East-southeast
	165	Southeast
	190	North-northeast
	225	South-southeast
	235	North-northwest
	250	East
	255	South
Cluster No. 2B		
Residents:	25	West
	25	West-northwest
	25	Northwest
	25	North-northwest
	35	North
	35	West-southwest
	75	Southwest
Workers:	10	South
	10	South-southeast
	10	Southeast
	10	East-northeast
	10	East
	10	East-northeast
	15	South-southwest
	20	Northeast
Cluster No. 2C		
Residents:	50	Northwest
	50	West-northwest
	60	West
	60	North-northwest
	60	North
	90	West-southwest
	160	Southwest

Area	**Distance** (meters)	**Direction**
Workers:	25	Southeast
	25	South-southeast
	30	South
	40	North-northeast
	40	Northeast
	40	East-northeast
	40	East
	60	East-southeast
Cluster No. 2D		
Residents:	200	West-southwest
	225	West
	240	South-southeast
	240	South
	250	Southwest
	270	West-northwest
Workers:	20	North
	20	North-northeast
	25	Northeast
	25	North-northwest
	40	Northwest
	65	East-southeast
	65	Southeast
	100	Southwest
	120	East
	160	West-northwest
	160	West
Cluster No. 3A		
Residents:	200	Northwest
	210	North-northwest
	450	South-southwest
	520	South
Workers:		
	45	East-southeast
	45	Southeast
	50	West-northwest
	50	Northwest
	55	West
	70	West-southwest
	70	Southwest
	90	South
	90	South-southwest
	140	North
	140	North-northeast

Area	**Distance** (meters)	**Direction**
Cluster No. 5C		
Residents:	60	West-northwest
	75	North-northwest
	100	Northwest
	120	North
	180	West
Workers:	10	East-southeast
	10	Southeast
	10	South-southeast
	10	South
	10	South-southwest
	10	Southwest
	10	West-southwest
	10	West
	10	West-northwest
	10	Northwest
Cluster No. 6A		
Residents:	100	East
	100	East-southeast
	120	East-northeast
	120	Southeast
	150	Northeast
	150	South-southeast
Workers:	20	Northeast
	20	East-northeast
	30	East
	50	West
	50	West-southwest
	50	Southwest
	60	South-southwest
	120	South
	200	North
Cluster No. 6C		
Residents:	200	West-northwest
	200	Northwest
	300	East
	300	East-southeast
	320	Southeast
	360	East-northeast
	390	Southwest
Workers:	30	Northwest
	60	South-southeast
	60	Southeast
	60	East-southeast
	90	West
	90	West-northwest
	135	Southwest

Area	Distance (meters)	Direction
Cluster No. 8A		
Residents:	100	East
	100	East-southeast
	100	East-northeast
	100	Southeast
	120	South-southeast
	130	Northeast
Workers:	10	North-northeast
	10	Northeast
	10	East-northeast
	10	East
	10	East-southeast
	10	Southeast
	10	South-southeast
	10	South
Cluster No. 9A		
Residents:	120	East
	120	East-southeast
	120	East-northeast
	120	Southeast
	150	South-southeast
	220	Northeast
Workers:	25	East
	25	East-southeast
	30	East-northeast
	30	Southeast
	35	South-southeast
	40	Northeast
	65	West-southwest
	70	Southwest

3.5 The occupancy factor for the residents is 100 percent and 27 percent for workers (i.e., 45-hour work-week x 52 weeks per year = 2340 hours/8760 hours).

3.6 The number of disturbances relative to wind erosion of in situ soil is 3 times per week for the entire year for a total of 156 disturbances per year (3 x 52 weeks/yr). The highest 2-minute wind speed for a given week is conservatively used for the 3 disturbances per week. A separate calculation is performed for soils covered by vegetation/gravel and for bare soils.

3.7 Daughters in the decay chain of radionuclides are considered to be in secular equilibrium with their parents until a radionuclide in the chain is encountered with a measured concentration whereupon the measured concentration is used (Ref. 9.4). Although the direct emission of radon gas is not considered in the analysis, the daughters of radon generated by the decay of Ra-226 in dust offsite is accounted for by the model in the computation of the effective dose equivalents for the various internal and external exposure pathways.

4. EQUATIONS

4.1 In Situ Wind Erosion Emissions: (Ref. 9.2, Section 13.2.5, "Industrial Wind Erosion")

The wind speed profile in the surface boundary layer is found to follow a logarithmic distribution:

$$u(z) = \frac{u^*}{0.4} \ln \frac{z}{z_o} \quad (z > z_o) \qquad (1)$$

where:

u = wind speed (cm/s)
u^* = friction velocity (cm/s)
z = height above test surface (cm)
z_o = roughness height (cm)
0.4 = von Karman's constant (dimensionless)

The friction velocity (u^*) is a measure of wind shear stress on the erodible surface, as determined from the slope of the logarithmic velocity profile. The roughness height (z_o) is a measure of the roughness of the exposed surface as determined from the y intercept of the velocity profile (i.e., the height at which the wind speed is zero).

Emissions generated by wind erosion are also dependent on the frequency of disturbance of the erodible surface because each time that a surface is disturbed, its erosion potential is restored. A disturbance is defined as an action that results in the exposure of fresh surface material. On a storage pile, this would occur whenever aggregate material is either added to or removed from the old surface. A disturbance of an exposed area may also result from the turning of surface material to a depth exceeding the size of the largest pieces of material present.

The emission factor for wind-generated particulate emissions from mixtures of erodible and nonerodible surface material subject to disturbance may be expressed in units of grams per square meter (g/m^2) per year as follows:

$$\text{Emission factor} = k \sum_{i=1}^{N} P_i \qquad (2)$$

where:

k = particle size multiplier
N = number of disturbances per year
P_i = erosion potential corresponding to the observed (or probable) fastest mile of wind for the ith period between disturbances (g/m^2)

The particle size multiplier (k) for Equation 2 varies with aerodynamic particle size as follows:

Aerodynamic Particle Size Multipliers For Equation 2			
30 µm	<15 µm	<10 µm	<2.5 µm
1.0	0.6	0.5	0.2

This distribution of particle size within the under 30 micrometer (µm) fraction is comparable to the distributions reported for other fugitive dust sources where wind speed is a factor. This is illustrated, for example, in the distributions for batch and continuous drop operations encompassing a number of test aggregate materials (see AP-42 Section 13.2.4).

In calculating emission factors, each area of an erodible surface that is subject to a different frequency of disturbance should be treated separately. For a surface disturbed daily, N = 365 per year and for a surface disturbance once every 6 months, N = 2 per year.

The erosion potential function for a dry, exposed surface is:

$$P = 58\,(u^* - u_t^*)^2 + 25(u^* - u_t^*)$$

$$P = 0 \text{ for } u^* \le u_t^* \qquad (3)$$

where:

u^* = friction velocity (m/s)
u_t = threshold friction velocity (m/s)

Because of the nonlinear form of the erosion potential function, each erosion event must be treated separately. Equations 2 and 3 apply only to dry, exposed materials with limited erosion potential. The resulting calculation is valid only for a time period as long or longer than the period between disturbances.

Threshold friction velocities for several surface types have been determined by field measurements with a portable wind tunnel. These values are presented below:

THRESHOLD FRICTION VELOCITIES

Material	Threshold Friction Velocity (m/s)	Roughness Height (cm)	Threshold Wind Velocity At 10 m (m/s)	
			z_o = Act	z_o = 0.5 cm
Overburden[a]	1.02	0.3	21	19
Scoria (roadbed material)[a]	1.33	0.3	27	25
Ground coal (surrounding coal pile)[a]	0.55	0.01	16	10
Uncrusted coal pile[a]	1.12	0.3	23	21
Scraper tracks on coal pile[a,b]	0.62	0.06	15	12
Fine coal dust on concrete pad[c]	0.54	0.2	11	10

[a] Western surface coal mine.
[b] Lightly crusted.
[c] Eastern power plant.

The fastest mile of wind for the periods between disturbances may be obtained from the monthly LCD summaries for the nearest reporting weather station that is representative of the site in question. These summaries report actual fastest mile values for each day of a given month. Because the erosion potential is a highly nonlinear function of the fastest mile, mean values of the fastest mile are inappropriate. The anemometer heights of reporting weather should be corrected to a 10-m reference height using Equation 1.

To convert the fastest mile of wind (u^+) from a reference anemometer height of 10 m to the equivalent friction velocity (u^*), the logarithmic wind speed profile may be used to yield the following equation:

$$u^* = 0.053\ u^+_{10} \qquad (4)$$

where:

u^* = friction velocity (m/s)
u^+_{10} = fastest mile of reference anemometer for period between disturbances (m/s)

This assumes a typical roughness height of 0.5 cm for open terrain. Equation 4 is restricted to large relatively flat piles or exposed areas with little penetration into the surface wind layer.

Implementation of the above procedure is carried out in the following steps:

1. Determine threshold friction velocity for erodible material of interest (see above table or determine from mode of aggregate size distribution).

2. Divide the exposed surface area into subareas of constant frequency of disturbance (N).

3. Tabulate fastest mile values (u^+) for each frequency of disturbance and correct them to 10 m (u^+) using Equation 1

4. Convert fastest mile values (u_{10}) to equivalent friction velocities (u^*), taking into account (a) the uniform wind exposure of nonelevated surfaces, using Equation 4.

5. Multiply the resulting emission factor for each subarea by the size of the subarea, and add the emission contributions of all subareas. Note that the highest 24-hour (hr) emissions would be expected to occur on the windiest day of the year. Maximum emissions are calculated assuming a single event with the highest fastest mile value for the annual period.

4.2 Drop Operations Emissions: (Ref. 9.2, Section 13.2.4, "Aggregate Handling and Storage Piles")

$$E = k\ (0.0032)[U/5]^{1.3} / [M/2]^{1.4} \qquad (5)$$

where:

E = emission factor (lb/ton)
k = particle size multiplier (dimensionless)
U = mean wind speed, meters per second (mps)
M = material moisture content (%)

The particle size multiplier in the equation, k, varies with aerodynamic particle size range, as follows:

Aerodynamic Particle Size Multiplier (k) For Equation 5				
< 30 µm	< 15 µm	< 10 µm	< 5 µm	< 2.5 µm
0.74	0.48	0.35	0.20	0.11

4.3 Radionuclide Emission Rates

The radionuclide source concentrations (S) for isotopes of uranium (U_{238}), radium (Ra_{226}), and thorium (Th_{232}) are based on average values for in situ soil (Ref. 9.7) and average values measured for the excavated soil from the vicinity properties. These values are as follows:

Emission Source	S_{U238} (pCi/g)	S_{Ra226} (pCi/g))	S_{Th232} (pCi/g)
• In situ soil	27.5	4.30	24.80
• MISS Soil Load-outs			
- No. 1	4.59	2.58	13.78
- No. 2	4.27	2.71	12.88
- No. 3	2.30	0.73	2.55
- No. 4	2.88	0.89	3.36
- No. 5	1.13	1.11	4.34
- No. 6	1.76	1.85	9.77
- No. 7	1.85	2.01	11.02
- No. 8	1.73	1.43	7.00
- No. 9	2.18	1.66	12.30
- No. 10	2.50	1.49	11.87
- No. 11	3.57	2.41	20.74
- No. 12	2.98	2.31	16.76
- No. 13	2.09	1.95	10.68
- No. 14	2.16	2.20	11.06
- No. 15	1.36	0.83	4.50
- No. 16	2.00	1.80	11.24
- No. 17	1.13	1.00	4.96
• Cluster No. 2B	2.13	1.63	10.95
• Cluster No. 2C	1.98	1.68	10.62
• Cluster No. 2D	4.54	2.05	11.47
• Cluster No. 3A	1.13	1.11	4.34
• Cluster No. 5C	3.03	1.60	7.38
• Cluster No. 6A	1.13	1.00	4.96
• Cluster No. 6C	3.51	1.73	8.14
• Cluster No. 8A	1.47	1.49	7.52
• Cluster No. 9A	2.04	1.69	10.42

Ratios of uranium isotopes are calculated from the percentage of activity of U_{238}, U_{234}, and U_{235} in natural uranium as these components make up total uranium. The percentage (P) of each isotope comprising total uranium activity (Ref. 9.8) is:

Emission Source	P_{U238}	P_{U234}	P_{U235}
All sources (%)	47.249	50.539	2.212

The source concentrations (S) of total uranium, U_{234}, and U_{235} are then given by:

$S_{Utot} = (S_{U238}/ P_{U238}) = (27.5/0.47249) = \underline{58.2\ pCi/g}$ (In situ soil)
$S_{U234} = (S_{Utot} \times P_{U234}) = (58.2\ pCi/g) \times 0.50539 = \underline{29.4\ pCi/g}$ (In situ soil)
$S_{U235} = (S_{Utot} \times P_{U235}) = (58.2\ pCi/g) \times 0.02212 = \underline{1.29\ pCi/g}$ (In situ soil)

The annual radionuclide emissions (R) are then the individual radionuclide source concentrations (S) multiplied by the annual particulate emissions rate (E) for the in situ wind erosion and the other load-out and remediation/excavation activities (R = S x E). Unknown radionuclide source emission rates are based on the known source emission rates assuming secular equilibrium in the five decay chains (Ref. 9.4) as follows:

U_{238}	U_{234}	Ra_{226}	U_{235}	Th_{232}
$R_{Th234} = R_{U238}$	$R_{Th230} = R_{U234}$	$R_{Po218} = R_{Ra226}$	$R_{Th231} = R_{U235}$	$R_{Ra228} = R_{Th232}$
$R_{Pa234m} = R_{U238}$		$R_{Pb214} = 0.9998R_{Po218}$	$R_{Pa231} = R_{Th231}$	$R_{Ac228} = R_{Ra228}$
$R_{Pa234} = 0.0013R_{Pa234m}$		$R_{Bi214} = R_{Po218}$	$R_{Ac227} = R_{Pa231}$	$R_{Th228} = R_{Ac228}$
		$R_{Po214} = 0.99979R_{Bi214}$	$R_{Th227} = 0.9862R_{Ac227}$	$R_{Ra224} = R_{Th228}$
		$R_{Pb210} = R_{Bi214}$	$R_{Fr223} = 0.0138R_{Ac227}$	$R_{Po216} = R_{Ra224}$
		$R_{Bi210} = R_{Pb210}$	$R_{Ra223} = R_{Ac227}$	$R_{Pb212} = R_{Po216}$
		$R_{Po210} = 0.9999987R_{Bi210}$	$R_{Po215} = R_{Ra223}$	$R_{Bi212} = R_{Pb212}$
			$R_{Pb211} = 0.9999977R_{Po215}$	$R_{Po212} = 0.6407R_{Bi212}$
			$R_{Bi211} = R_{Po215}$	$R_{Tl208} = 0.3593R_{Bi212}$
			$R_{Po211} = 0.00273R_{Bi211}$	
			$R_{Tl207} = 0.99727R_{Bi211}$	

Secular equilibrium is a condition in which the parent species in a radioactive series has a much longer half-life than its succeeding species, such that there is no significant change in its concentration during the time interval over which the shorter-lived species attain their equilibria, whereupon all species appear to decay at the same rate.

Although the direct emission of radon gas is not considered in this analysis, the daughters of radon generated by the decay of Ra-226 in dust offsite is accounted for by the model in the computation of the effective dose equivalents for the various internal and external exposure pathways.

5. INPUT DATA

5.1 In Situ Soil Wind Erosion Emissions:

- k =0.50 (PM-10) - (Ref. 9.2, Section 13.2.5)
- No. of Disturbances = 156 per year (See Assumption 3.6)
- Surface Area of MISS vegetative soil = 22,760 m^2 (Ref. 9.10)
- Surface Area of MISS bare soil = 5,000 m^2 (Ref. 9.10)
- Surface Area of gravel/crushed stone = 22,110 m^2 (Ref. 9.10)
- u^* = 1.02 m/sec - (Ref. 9.2, Section 13.2.5 – value for “overburden” from page 9)
- Anemometer Height = 10 m (Ref. 9.3)

Month	Week	Maximum 2-Minute Wind Speed (mph)[1]
Jan.	1	25
	2	30
	3	29
	4	24
Feb.	1	26
	2	26
	3	26
	4	25
Mar.	1	26
	2	32
	3	26
	4	24
	5	24
Apr.	1	31
	2	22
	3	26
	4	25
May	1	23
	2	30
	3	22
	4	21
	5	21
Jun.	1	26
	2	21
	3	22
	4	21
Jul.	1	37
	2	20
	3	22
	4	18
	5	18

Aug.	1	16
	2	22
	3	21
	4	17
	5	17
Sep.	1	16
	2	24
	3	23
	4	21
Oct.	1	17
	2	20
	3	22
	4	21
Nov.	1	30
	2	24
	3	16
	4	31
Dec.	1	36
	2	24
	3	25
	4	33

1. Fastest mile wind speed required by the AP-42 methodology is represented by the maximum 2-minute wind speed from Ref. 9.3.

5.2 Drop Operations Emissions:

- k=0.35 (PM-10) - (Ref. 9.2, Section 13.2.4)
- U = 7.3 mph - (Ref. 9.3)
- M =12.0 % - (Ref. 9.2, Section 13.2.4)

	Soil Moved (tons)	No. Times Dropped	Soil Handled (tons)	Surface Area (m^2)
• MISS Soil Load-outs				
- No. 1	2,721	4	10,884	163.5
- No. 2	2,942	4	11,768	163.5
- No. 3	1,779	4	7,116	163.5
- No. 4	2,708	4	10,832	163.5
- No. 5	2,491	4	9,964	163.5
- No. 6	3,035	4	12,140	163.5
- No. 7	1,782	4	7,128	163.5
- No. 8	2,722	4	10,888	163.5
- No. 9	1,385	4	5,540	163.5
- No. 10	3,835	4	15,340	163.5
- No. 11	4,271	4	17,084	163.5
- No. 12	2,986	4	11,944	163.5
- No. 13	2,133	4	8,532	163.5
- No. 14	2,347	4	9,388	163.5
- No. 15	2,555	3	7,665	163.5
- No. 16	4,256	3	12,768	163.5
- No. 17	2,873	3	8,619	163.5

	Soil Moved (tons)	No. Times Dropped	Soil Handled (tons)	Surface Area (m^2)
• Cluster No. 2B	9,175	1	9,175	1,142
• Cluster No. 2C	14,430	1	14,430	4,419
• Cluster No. 2D	35	1	35	70
• Cluster No. 3A	1,103	1	1,103	791
• Cluster No. 5C	3,794	1	3,794	1,271
• Cluster No. 6A	1,225	1	1,225	772
• Cluster No. 6C	4,810	1	4,810	1,784
• Cluster No. 8A	1,851	1	1,851	1,243
• Cluster No. 9A	10,397	1	10,397	3,607

The soil-handled amounts account for the total tonnage of soil that is moved and the number of times that it is dropped. For example, the total amount of soil moved during the MISS soil load-out No. 1 was 2,721 tons but it was handled or dropped 4 times for a total amount handled of 4 x 2,721 tons or 10,884 tons.

Upon arrival at the MISS, the soil in the dump trucks was emptied on the ground (first drop) near the fabric structure and then placed inside the fabric structure using a front end loader (second drop). During load-outs, the soil inside the fabric structure was placed into the load-out bins by a front end loader for temporary storage (third drop) before placement by an excavator into the lined rail cars for offsite disposal (fourth drop). Thus, the soil load-out activities were represented by four drops to account for the entire soil transfer process at the MISS.

It should be noted that effective October 14, 2004, a more efficient rail car loading operation was implemented at the MISS that resulted in only three soil drops for load-out numbers 15, 16, and 17.

5.3 CAP88-PC Input Data

- Meteorological Data (1995-2004 Teterboro, NJ data, Ref. 9.9):

ARITHMETIC AVERAGE WIND SPEEDS (WIND TOWARDS)

Pasquill Stability Class

Dir	A	B	C	D	E	F	G
N	1.208	2.732	4.109	4.477	3.490	1.592	0.000
NNW	1.176	2.930	4.006	4.542	3.288	1.500	0.000
NW	1.183	2.660	3.645	3.940	3.199	1.436	0.000
WNW	1.144	2.902	3.728	3.479	2.958	1.411	0.000
W	1.222	2.712	3.750	3.693	3.043	1.402	0.000
WSW	1.162	2.572	3.358	3.454	3.020	1.325	0.000
SW	1.312	2.480	3.496	3.411	3.117	1.393	0.000
SSW	1.252	2.434	3.410	4.089	3.426	1.539	0.000
S	1.132	2.648	3.589	4.401	3.616	1.466	0.000
SSE	1.252	2.771	4.144	5.852	3.989	1.608	0.000
SE	1.144	2.839	4.268	6.172	4.014	1.806	0.000
ESE	1.235	3.177	4.220	6.087	3.960	1.827	0.000
E	1.204	3.097	4.340	5.560	3.818	1.850	0.000
ENE	1.240	2.895	4.411	5.196	3.876	1.820	0.000
NE	1.235	2.739	3.840	4.451	3.574	1.547	0.000
NNE	1.197	2.660	3.777	4.050	3.465	1.473	0.000

FREQUENCIES OF STABILITY CLASSES (WIND TOWARDS)

Pasquill Stability Class

Dir	A	B	C	D	E	F	G
N	0.0100	0.0450	0.1218	0.4666	0.1353	0.2214	0.0000
NNW	0.0175	0.0504	0.1212	0.5815	0.0836	0.1458	0.0000
NW	0.0186	0.0654	0.1275	0.5707	0.0840	0.1339	0.0000
WNW	0.0162	0.0854	0.1189	0.6147	0.0782	0.0865	0.0000
W	0.0138	0.0583	0.0876	0.7097	0.0479	0.0827	0.0000
WSW	0.0152	0.0435	0.0723	0.6776	0.0478	0.1438	0.0000
SW	0.0019	0.0484	0.0916	0.5565	0.0781	0.2235	0.0000
SSW	0.0022	0.0431	0.0963	0.5450	0.0923	0.2212	0.0000
S	0.0036	0.0406	0.1073	0.4034	0.1174	0.3276	0.0000
SSE	0.0030	0.0380	0.0998	0.4755	0.1485	0.2352	0.0000
SE	0.0035	0.0372	0.1148	0.5387	0.1471	0.1588	0.0000
ESE	0.0066	0.0484	0.1168	0.5402	0.1400	0.1480	0.0000
E	0.0033	0.0477	0.1297	0.4643	0.1540	0.2009	0.0000
ENE	0.0099	0.0463	0.1186	0.4493	0.2048	0.1711	0.0000
NE	0.0043	0.0467	0.1094	0.3792	0.1555	0.3047	0.0000
NNE	0.0071	0.0526	0.1251	0.3389	0.1353	0.3411	0.0000
TOTAL	0.0066	0.0462	0.1100	0.4900	0.1255	0.2219	0.0000

- Annual average temperature = 54.3 ^{o}F (12.4 ^{o}C) – Ref. 9.3
- Annual precipitation = 49.9 inches (126.8 cm) – Ref. 9.3

- Radionuclide Emission Rates:

  - See Attachment A (Excel spreadsheet)

- Population Data based on 2000 Census (Ref. 9.11):

  - 1990 population distribution adjusted for the 8.4 percent increase from 1990 to 2000 for the New York-Northern New Jersey-Long Island, NY-NJ-CT-PA Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area (see page 30)

- Individual Receptors:

Area	**Distance** (meters)	**Direction**
MISS Soil Load-outs		
Residents:	135	West
	145	West-southwest
	155	West-northwest
	185	Southwest
	215	East-northeast
	235	South-southwest
	235	North-northeast
	235	Northeast
	270	East
Workers:	135	West
	145	West-southwest
	155	West-northwest
	160	North
	165	Northeast
	165	East-southeast
	165	Southeast
	190	North-northeast
	225	South-southeast
	235	North-northwest
	250	East
	255	South
Cluster No. 2B		
Residents:	25	West
	25	West-northwest
	25	Northwest
	25	North-northwest
	35	North
	35	West-southwest
	70	Southwest
Workers:	10	South
	10	South-southeast
	10	Southeast
	10	East-northeast
	10	East
	10	East-southeast

Area	Distance (meters)	Direction
	15	South-southwest
	20	Northeast
Cluster No. 2C		
Residents:	50	Northwest
	50	West-northwest
	60	West
	60	North-northwest
	60	North
	90	West-southwest
	160	Southwest
Workers:	25	Southeast
	25	South-southeast
	30	South
	40	North-northeast
	40	Northeast
	40	East-northeast
	40	East
	60	East-southeast
Cluster No. 2D		
Residents:	200	West-southwest
	225	West
	240	South-southeast
	240	South
	250	Southwest
	270	West-northwest
Workers:	20	North
	20	North-northeast
	25	Northeast
	25	North-northwest
	40	Northwest
	65	East-southeast
	65	Southeast
	100	Southwest
	120	East
	160	West-northwest
	160	West
Cluster No. 3A		
Residents:	200	Northwest
	210	North-northwest
	450	South-southwest
	520	South
Workers:		
	45	East-southeast
	45	Southeast
	50	West-northwest
	50	Northwest

Area	**Distance** (meters)	**Direction**
	55	West
	70	West-southwest
	70	Southwest
	90	South
	90	South-southwest
	140	North
	140	North-northeast
Cluster No. 5C		
Residents:	60	West-northwest
	75	North-northwest
	100	Northwest
	180	West
Workers:	10	East-southeast
	10	Southeast
	10	South-southeast
	10	South
	10	South-southwest
	10	Southwest
	10	West-southwest
	10	West
	10	West-northwest
	10	Northwest
	120	North
Cluster No. 6A		
Residents:	100	East
	100	East-southeast
	120	East-northeast
	120	Southeast
	150	Northeast
	150	South-southeast
Workers:	20	Northeast
	20	East-northeast
	30	East
	50	West
	50	West-southwest
	50	Southwest
	60	South-southwest
	120	South
	200	North
Cluster No. 6C		
Residents:	200	West-northwest
	200	Northwest
	300	East
	300	East-southeast
	320	Southeast
	360	East-northeast
	390	Southwest

Area	**Distance** (meters)	**Direction**
Workers:	30	Northwest
	60	South-southeast
	60	Southeast
	60	East-southeast
	90	West
	90	West-northwest
	135	Southwest
Cluster No. 8A		
Residents:	100	East
	100	East-southeast
	100	East-northeast
	100	Southeast
	120	South-southeast
	130	Northeast
Workers:	10	North-northeast
	10	Northeast
	10	East-northeast
	10	East
	10	East-southeast
	10	Southeast
	10	South-southeast
	10	South
Cluster No. 9A		
Residents:	120	East
	120	East-southeast
	120	East-northeast
	120	Southeast
	150	South-southeast
	220	Northeast
Workers:	25	East
	25	East-southeast
	30	East-northeast
	30	Southeast
	35	South-southeast
	40	Northeast
	65	West-southwest
	70	Southwest

6. CALCULATION

The actual radionuclide emission rate calculations for the soil handling activities are performed using an Excel spreadsheet, a printout of which is provided in Attachment A. The dose calculations to identify the maximally exposed individual for the off-site transport of radioactive particulates are performed by the CAP88-PC model, the output of which is provided on pages 29-189.

7. RESULTS

The CAP88-PC output for the annual doses to the maximally exposed individuals (MEI) and population (POP) within 80 km of MISS is provided on pages 29-189 as follows:

Release Area	Page Numbers	
	MEI	POP
MISS Soil Load-outs	29 - 35	99 - 107
Cluster No. 2B	36 - 42	108 - 116
Cluster No. 2C	43 - 49	117 - 125
Cluster No. 2D	50 - 56	126 - 134
Cluster No. 3A	57 - 63	135 - 143
Cluster No. 5C	64 - 70	144 - 152
Cluster No. 6A	71 - 77	153 - 161
Cluster No. 6C	78 - 84	162 - 170
Cluster No. 8A	85 - 91	171 - 179
Cluster No. 9A	92 - 98	180 - 188

As stated earlier, analyses are performed separately for the various release areas given the differences in receptor locations most affected by each of these areas. Where individual receptors are affected by more than one emission source, doses caused by those sources are added. The individual receptor locations (i.e., nearest residences and workers) are highlighted in yellow in the CAP99-PC output in the tables labeled INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y).

The maximum annual effective doses are summarized below first by individual activities and then for all activities combined. The maximum total site doses are the result of the combination of doses from the individual activities causing the highest dose at a particular receptor.

Receptor	Location	Annual Dose Rate (mrem/yr)	Occupancy Factor (%)	Annual Effective Dose (mrem/yr)
MISS Soil Load-outs: • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 235 m NNE 160 m N	8.56E-03 1.70E-03 3.10E-03	N/A 100 27	8.56E-03 1.70E-03 8.37E-04
Cluster No. 2B • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 25 m NNW 10 m ENE-ESE	4.40E-04 3.00E-03 2.70E-02	N/A 100 27	4.40E-04 3.00E-03 7.29E-03
Cluster No. 2C • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 60 m N 25 m SE	6.70E-04 1.40E-03 9.30E-03	N/A 100 27	6.70E-04 1.30E-03 2.51E-03
Cluster No. 2D • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 240 m S 20 m NNE	2.04E-06 6.90E-07 4.10E-05	N/A 100 27	2.04E-06 6.90E-07 1.11E-05
Cluster No. 3A • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 520 m S 45 m SE	2.22E-05 2.10E-06 5.90E-05	N/A 100 27	2.22E-05 2.10E-06 1.59E-05
Cluster No. 5C • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 75 m NNW 10 m ESE-NW	1.26E-04 1.10E-04 7.10E-03	N/A 100 27	1.26E-04 1.10E-04 1.92E-03
Cluster No. 6A • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 100 m E 20 m NE	2.74E-05 1.80E-05 4.50E-04	N/A 100 27	2.74E-05 1.80E-05 1.22E-04
Cluster No. 6C • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 300 m E 60 m SSE	2.04E-04 2.20E-05 5.30E-04	N/A 100 27	2.04E-04 2.20E-05 1.43E-04
Cluster No. 8A • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 120 m SSE 10 m NNE-S	6.12E-05 7.10E-05 3.50E-03	N/A 100 27	6.12E-05 7.10E-05 9.45E-04
Cluster No. 9A • Population (person-rem/yr) • Maximally Exposed Resident • Maximally Exposed Worker	N/A 150 m SSE 25 m ESE	7.92E-05 4.20E-05 1.20E-03	N/A 100 27	7.92E-05 4.20E-05 3.24E-04
Total Site • **Population (person-rem/yr)** • **Maximally Exposed Resident** • **Maximally Exposed Worker**	**N/A** **25 m NNW of Cluster 2B** **10 m SE of Cluster 2B**	**1.62E-02** **3.70E-03** **2.89E-02**	**N/A** **100** **27**	**1.62E-02** **3.70E-03** **7.80E-03**

The maximum annual effective doses are almost entirely the result of the internal doses from the inhalation of dust particles and the ingestion of plant borne dust. The air immersion in the dust plume and ground surface irradiation from dust deposition pathways contribute a negligible amount to the total dose. The percent contribution of the various pathways to the total effective dose, based on the dose calculated for the maximally exposed individual from the MISS Soil Load-outs, is as follows :

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Percent of Total
INGESTION	7.17E-05	1.0
INHALATION	6.79E-03	99.0
AIR IMMERSION	1.40E-08	0.0002
GROUND SURFACE	7.07E-07	0.010
INTERNAL	6.86E-03	
EXTERNAL	7.22E-07	
TOTAL	6.86E-03	

The “Internal” dose is the sum of the “Ingestion” and “Inhalation” pathways while the “External” dose is the sum of the “Air Immersion” and “Ground Surface” pathways.

8. CONCLUSIONS

The annual effective dose to the public within 80 km of MISS from airborne particulate releases during 2004 was **1.62E-02 person-rem/yr**. The annual effective dose to the maximally exposed resident (located north-northwest of Cluster 2B was **3.70E-03 mrem/yr** while the annual effective dose to the maximally exposed worker (located southeast of Cluster 2B) was **7.80E-03 mrem/yr** during 2004. These annual effective doses are due primarily to inhalation of airborne particulate releases.

These doses are well below the NESHAPS standard of 10 mrem/yr (40 CFR 61.92).

9. REFERENCES

9.1 Parks, Barry, "CAP88-PC Version 2.0 User's Guide". U.S. Department of Energy, ER-8/GTN, Germantown, Maryland, June, 1997. Stone & Webster Library Reference No. EN-293, V00, L00.

9.2 U. S. Environmental Protection Agency, "Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources", 5th Edition, AP-42, January 1, 1995 (Sections 13.2.4 and 13.2.5).

9.3 National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, National Climatic Data Center. Unedited Local Climatological Data for January - December, 2004, Teterboro, NJ.

9.4 Shlein, "The Health Physics and Radiological Health Handbook", Revised Edition, Scinta, Inc. Silver Springs, MD, 1992.

9.5 U.S. Environmental Protection Agency, "Rapid Assessment of Exposure to Particulate Emissions from Surface Contaminated Sites". EPA Report No. EPA-600/8-85/002, Office of Health and Environmental Assessment, Washington, D.C., February, 1985.

9.6 U.S. Environmental Protection Agency, "Estimation of Impacts from Area Sources of Particulate Matter Emissions at Superfund Sites". EPA Report No. EPA-451/R-93/004, Office of Air Quality Planning and Standards, Research Triangle Park, NC, April, 1993.

9.7 Bechtel National, Inc. (BNI), "Characterization Report for the Maywood Interim Storage Site, Maywood, New Jersey". DOE/OR/20722-139, Oak Ridge, TN, June, 1987.

9.8 Bechtel National, Inc. (BNI), "Natural Uranium Specific Activity", 14501-191-CV-005, Rev. 2, Oak Ridge, TN, 1995.

9.9 1995-2004 Stability Array (STAR) data for Teterboro, NJ supplied by the National Oceanic and Atmospheric Administration, National Climatic Data Center, Asheville, NC.

9.10 Figure A5 - Site Location Plan, FUSRAP Maywood Superfund Site - Maywood, Lodi and Rochelle Park. Prepared by Stone & Webster Environmental Technology & Services, February 2004.

9.11 U.S. Census Bureau, Census 2000 Redistricting Data (P.L. 94-171) Summary File and 1990 Census. Census 2000 PHC-T-3, Ranking Table for Metropolitan Areas: 1990 and 2000, Table 1: Metropolitan Areas and their Geographic Components in Alphabetical Sort, 1990 and 2000 Population and Numeric and Percent Population Change: 1990 to 2000.

10. CAP88-PC OUTPUT (Maximally Exposed Individual)

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                         C A P 8 8 - P C

                          Version 2.00

             Clean Air Act Assessment Package - 1988


                    S Y N O P S I S   R E P O R T

                  Non-Radon Individual Assessment
                       Mar  3, 2005  08:40 am


     Facility:  Maywood Interim Storage Site - MISS Soil Load
      Address:  100 W. Hunter Avenue
         City:  Maywood
        State:  NJ          Zip:  07607


     Source Category:  Particulate Emission w radon daughters
         Source Type:  Area
       Emission Year:  2004


     Comments:  Shaw E&I for
                U.S. Army Corps of Engineers


                 Effective Dose Equivalent
                        (mrem/year)
                 _________________________

                         6.87E-03
                 _________________________


    At This Location:    135 Meters South

        Dataset Name:  MISS RUN
        Dataset Date:  Mar  3, 2005  08:40 am
           Wind File:  C:\CAP88PC2\WNDFILES\TET95-04.WND
```

Mar 3, 2005 08:40 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 135 Meters South
Lifetime Fatal Cancer Risk: 7.87E-08

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	4.40E-05
BREAST	4.00E-05
R MAR	3.22E-03
LUNGS	4.34E-02
THYROID	3.91E-05
ENDOST	4.01E-02
RMNDR	1.83E-04
EFFEC	6.87E-03

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	3.2E-08	3.2E-08
U-235	Y	1.00	1.4E-09	1.4E-09
TH-231	Y	1.00	1.4E-09	1.4E-09
U-238	Y	1.00	3.0E-08	3.0E-08
TH-234	Y	1.00	3.0E-08	3.0E-08
PA-234M	Y	1.00	3.0E-08	3.0E-08
PA-234	Y	1.00	3.9E-11	3.9E-11
TH-230	Y	1.00	3.2E-08	3.2E-08
RA-226	W	1.00	2.1E-08	2.1E-08
PO-218	W	1.00	2.1E-08	2.1E-08
PB-214	D	1.00	2.1E-08	2.1E-08
BI-214	W	1.00	2.1E-08	2.1E-08
PO-214	W	1.00	2.1E-08	2.1E-08
PB-210	D	1.00	2.1E-08	2.1E-08
BI-210	W	1.00	2.1E-08	2.1E-08
PO-210	W	1.00	2.1E-08	2.1E-08
PA-231	Y	1.00	1.4E-09	1.4E-09
AC-227	Y	1.00	1.4E-09	1.4E-09
TH-227	Y	1.00	1.4E-09	1.4E-09
FR-223	D	1.00	1.9E-11	1.9E-11
RA-223	W	1.00	1.4E-09	1.4E-09
PO-215	W	1.00	1.4E-09	1.4E-09
PB-211	D	1.00	1.4E-09	1.4E-09
BI-211	W	1.00	1.4E-09	1.4E-09
PO-211	-	0.00	3.8E-12	3.8E-12
TL-207	D	1.00	1.4E-09	1.4E-09
TH-232	Y	1.00	1.3E-07	1.3E-07
RA-228	W	1.00	1.3E-07	1.3E-07
AC-228	Y	1.00	1.3E-07	1.3E-07
TH-228	Y	1.00	1.3E-07	1.3E-07
RA-224	W	1.00	1.3E-07	1.3E-07
PO-216	W	1.00	1.3E-07	1.3E-07
PB-212	D	1.00	1.3E-07	1.3E-07
BI-212	W	1.00	1.3E-07	1.3E-07
PO-212	W	1.00	8.2E-08	8.2E-08
TL-208	D	1.00	4.6E-08	4.6E-08

SITE INFORMATION

Temperature:	13	degrees C
Precipitation:	127	cm/y
Mixing Height:	1000	m

Mar 3, 2005 08:40 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 163.50

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

135 145 155 160 165 185 190 215 225 235
250 255 270

Mar 3, 2005 08:40 am

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	4.40E-05
BREAST	4.00E-05
R MAR	3.22E-03
LUNGS	4.34E-02
THYROID	3.91E-05
ENDOST	4.01E-02
RMNDR	1.83E-04
EFFEC	6.87E-03

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	7.17E-05
INHALATION	6.79E-03
AIR IMMERSION	1.40E-08
GROUND SURFACE	7.07E-07
INTERNAL	6.86E-03
EXTERNAL	7.22E-07
TOTAL	6.86E-03

Mar 3, 2005 08:40 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	2.99E-04
U-235	1.23E-05
TH-231	9.86E-11
U-238	2.49E-04
TH-234	1.05E-07
PA-234M	8.75E-12
PA-234	8.48E-12
TH-230	5.62E-04
RA-226	1.79E-05
PO-218	5.31E-11
PB-214	1.57E-09
BI-214	2.00E-09
PO-214	0.00E+00
PB-210	3.97E-05
BI-210	2.90E-07
PO-210	1.83E-05
PA-231	4.81E-05
AC-227	6.30E-05
TH-227	1.15E-06
FR-223	3.53E-12
RA-223	8.44E-07
PO-215	0.00E+00
PB-211	9.09E-10
BI-211	6.23E-11
PO-211	1.40E-29
TL-207	7.38E-13
TH-232	3.22E-03
RA-228	3.59E-05
AC-228	7.78E-07
TH-228	2.26E-03
RA-224	3.15E-05
PO-216	0.00E+00
PB-212	1.51E-06
BI-212	3.00E-07
PO-212	0.00E+00
TL-208	5.24E-09
TOTAL	6.86E-03

Mar 3, 2005 08:40 am

SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	135	145	155	160	165	185	190
N	4.3E-03	3.7E-03	3.3E-03	3.1E-03	2.9E-03	2.4E-03	2.2E-03
NNW	1.1E-03	9.3E-04	8.2E-04	7.8E-04	7.4E-04	6.0E-04	5.7E-04
NW	7.4E-04	6.6E-04	5.8E-04	5.5E-04	5.2E-04	4.3E-04	4.1E-04
WNW	6.2E-04	5.5E-04	4.9E-04	4.6E-04	4.4E-04	3.6E-04	3.5E-04
W	1.5E-03	1.3E-03	1.2E-03	1.1E-03	1.0E-03	8.4E-04	8.1E-04
WSW	1.7E-03	1.5E-03	1.3E-03	1.2E-03	1.2E-03	9.5E-04	9.1E-04
SW	2.8E-03	2.4E-03	2.1E-03	2.0E-03	1.9E-03	1.5E-03	1.5E-03
SSW	3.3E-03	2.9E-03	2.5E-03	2.4E-03	2.2E-03	1.8E-03	1.7E-03
S	6.9E-03	6.0E-03	5.3E-03	4.9E-03	4.7E-03	3.7E-03	3.6E-03
SSE	4.4E-03	3.8E-03	3.4E-03	3.2E-03	3.0E-03	2.4E-03	2.3E-03
SE	2.6E-03	2.3E-03	2.0E-03	1.9E-03	1.8E-03	1.4E-03	1.4E-03
ESE	1.6E-03	1.4E-03	1.2E-03	1.2E-03	1.1E-03	8.9E-04	8.5E-04
E	2.7E-03	2.4E-03	2.1E-03	2.0E-03	1.9E-03	1.5E-03	1.4E-03
ENE	1.8E-03	1.5E-03	1.4E-03	1.3E-03	1.2E-03	9.9E-04	9.4E-04
NE	4.6E-03	4.0E-03	3.5E-03	3.3E-03	3.1E-03	2.5E-03	2.4E-03
NNE	5.0E-03	4.3E-03	3.8E-03	3.6E-03	3.4E-03	2.7E-03	2.6E-03

Distance (m)

Direction	215	225	235	250	255	270
N	1.8E-03	1.6E-03	1.5E-03	1.3E-03	1.3E-03	1.2E-03
NNW	4.6E-04	4.3E-04	4.0E-04	3.6E-04	3.5E-04	3.2E-04
NW	3.4E-04	3.1E-04	2.9E-04	2.7E-04	2.6E-04	2.4E-04
WNW	2.9E-04	2.7E-04	2.5E-04	2.3E-04	2.2E-04	2.1E-04
W	6.5E-04	6.0E-04	5.6E-04	5.0E-04	4.8E-04	4.4E-04
WSW	7.3E-04	6.7E-04	6.2E-04	5.6E-04	5.4E-04	4.9E-04
SW	1.2E-03	1.1E-03	9.8E-04	8.8E-04	8.5E-04	7.6E-04
SSW	1.4E-03	1.3E-03	1.2E-03	1.0E-03	1.0E-03	9.0E-04
S	2.8E-03	2.6E-03	2.4E-03	2.1E-03	2.0E-03	1.8E-03
SSE	1.8E-03	1.7E-03	1.5E-03	1.4E-03	1.3E-03	1.2E-03
SE	1.1E-03	1.0E-03	9.3E-04	8.4E-04	8.1E-04	7.3E-04
ESE	6.8E-04	6.3E-04	5.9E-04	5.3E-04	5.1E-04	4.6E-04
E	1.1E-03	1.1E-03	9.7E-04	8.7E-04	8.4E-04	7.6E-04
ENE	7.5E-04	7.0E-04	6.5E-04	5.8E-04	5.6E-04	5.1E-04
NE	1.9E-03	1.7E-03	1.6E-03	1.4E-03	1.4E-03	1.2E-03
NNE	2.0E-03	1.9E-03	1.7E-03	1.5E-03	1.5E-03	1.3E-03

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 08:53 am

Facility: Maywood Interim Storage Site - Cluster 2B
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent (mrem/year)
2.71E-02

At This Location: 10 Meters East Southeast

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 08:52 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 08:53 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 10 Meters East Southeast
Lifetime Fatal Cancer Risk: 3.10E-07

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	1.81E-04
BREAST	1.67E-04
R MAR	1.27E-02
LUNGS	1.71E-01
THYROID	1.64E-04
ENDOST	1.58E-01
RMNDR	7.39E-04
EFFEC	2.71E-02

Mar 3, 2005 08:53 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.4E-09	1.4E-09
U-235	Y	1.00	6.2E-11	6.2E-11
TH-231	Y	1.00	6.2E-11	6.2E-11
U-238	Y	1.00	1.3E-09	1.3E-09
TH-234	Y	1.00	1.3E-09	1.3E-09
PA-234M	Y	1.00	1.3E-09	1.3E-09
PA-234	Y	1.00	1.7E-12	1.7E-12
TH-230	Y	1.00	1.4E-09	1.4E-09
RA-226	W	1.00	1.0E-09	1.0E-09
PO-218	W	1.00	1.0E-09	1.0E-09
PB-214	D	1.00	1.0E-09	1.0E-09
BI-214	W	1.00	1.0E-09	1.0E-09
PO-214	W	1.00	1.0E-09	1.0E-09
PB-210	D	1.00	1.0E-09	1.0E-09
BI-210	W	1.00	1.0E-09	1.0E-09
PO-210	W	1.00	1.0E-09	1.0E-09
PA-231	Y	1.00	6.2E-11	6.2E-11
AC-227	Y	1.00	6.2E-11	6.2E-11
TH-227	Y	1.00	6.1E-11	6.1E-11
FR-223	D	1.00	8.5E-13	8.5E-13
RA-223	W	1.00	6.2E-11	6.2E-11
PO-215	W	1.00	6.2E-11	6.2E-11
PB-211	D	1.00	6.2E-11	6.2E-11
BI-211	W	1.00	6.2E-11	6.2E-11
PO-211	-	0.00	1.7E-13	1.7E-13
TL-207	D	1.00	6.2E-11	6.2E-11
TH-232	Y	1.00	6.8E-09	6.8E-09
RA-228	W	1.00	6.8E-09	6.8E-09
AC-228	Y	1.00	6.8E-09	6.8E-09
TH-228	Y	1.00	6.8E-09	6.8E-09
RA-224	W	1.00	6.8E-09	6.8E-09
PO-216	W	1.00	6.8E-09	6.8E-09
PB-212	D	1.00	6.8E-09	6.8E-09
BI-212	W	1.00	6.8E-09	6.8E-09
PO-212	W	1.00	4.3E-09	4.3E-09
TL-208	D	1.00	2.4E-09	2.4E-09

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 08:53 am

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1142.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

10 15 20 25 35 70

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	1.81E-04
BREAST	1.67E-04
R MAR	1.27E-02
LUNGS	1.71E-01
THYROID	1.64E-04
ENDOST	1.58E-01
RMNDR	7.39E-04
EFFEC	2.71E-02

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	3.31E-04
INHALATION	2.67E-02
AIR IMMERSION	6.66E-08
GROUND SURFACE	2.46E-06
INTERNAL	2.70E-02
EXTERNAL	2.53E-06
TOTAL	2.70E-02

Mar 3, 2005 08:53 am

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	1.01E-03
U-235	4.20E-05
TH-231	3.33E-10
U-238	8.42E-04
TH-234	3.76E-07
PA-234M	7.39E-11
PA-234	2.85E-11
TH-230	1.89E-03
RA-226	6.87E-05
PO-218	2.83E-10
PB-214	5.98E-09
BI-214	7.70E-09
PO-214	0.00E+00
PB-210	1.61E-04
BI-210	1.05E-06
PO-210	7.09E-05
PA-231	1.64E-04
AC-227	2.14E-04
TH-227	3.83E-06
FR-223	1.26E-11
RA-223	2.89E-06
PO-215	0.00E+00
PB-211	3.18E-09
BI-211	3.61E-10
PO-211	1.70E-16
TL-207	3.20E-12
TH-232	1.31E-02
RA-228	1.59E-04
AC-228	3.16E-06
TH-228	9.18E-03
RA-224	1.28E-04
PO-216	2.78E-14
PB-212	6.14E-06
BI-212	1.24E-06
PO-212	0.00E+00
TL-208	3.12E-08
TOTAL	2.70E-02

Mar 3, 2005 08:53 am

SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)					
Direction	10	15	20	25	35	70
N	2.2E-02	1.2E-02	6.9E-03	4.6E-03	2.7E-03	9.9E-04
NNW	2.4E-02	1.1E-02	4.9E-03	3.0E-03	1.6E-03	5.0E-04
NW	2.5E-02	8.9E-03	3.1E-03	1.6E-03	7.8E-04	3.9E-04
WNW	2.6E-02	7.2E-03	2.3E-03	1.5E-03	8.5E-04	3.8E-04
W	2.6E-02	7.0E-03	3.0E-03	1.9E-03	1.1E-03	5.1E-04
WSW	2.6E-02	1.0E-02	4.2E-03	2.7E-03	1.6E-03	5.7E-04
SW	2.4E-02	1.3E-02	6.5E-03	3.8E-03	2.0E-03	7.5E-04
SSW	2.3E-02	1.5E-02	8.3E-03	5.7E-03	3.2E-03	9.0E-04
S	2.4E-02	1.5E-02	8.9E-03	6.2E-03	3.8E-03	1.4E-03
SSE	2.6E-02	1.6E-02	8.5E-03	5.9E-03	3.5E-03	1.1E-03
SE	2.7E-02	1.5E-02	7.4E-03	4.3E-03	2.2E-03	7.4E-04
ESE	2.7E-02	1.5E-02	5.5E-03	3.4E-03	1.8E-03	5.8E-04
E	2.7E-02	1.4E-02	5.4E-03	3.1E-03	1.7E-03	7.1E-04
ENE	2.6E-02	1.4E-02	6.7E-03	4.2E-03	2.2E-03	6.4E-04
NE	2.5E-02	1.4E-02	7.9E-03	5.2E-03	3.0E-03	1.1E-03
NNE	2.4E-02	1.3E-02	7.8E-03	5.8E-03	3.5E-03	1.2E-03

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 09:03 am

Facility: Maywood Interim Storage Site - Cluster 2C
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

1.04E-02

At This Location: 25 Meters East

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 09:03 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 09:03 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 25 Meters East
Lifetime Fatal Cancer Risk: 1.19E-07

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	6.81E-05
BREAST	6.32E-05
R MAR	4.86E-03
LUNGS	6.56E-02
THYROID	6.18E-05
ENDOST	6.04E-02
RMNDR	2.79E-04
EFFEC	1.04E-02

Mar 3, 2005 09:03 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	2.1E-09	2.1E-09
U-235	Y	1.00	9.1E-11	9.1E-11
TH-231	Y	1.00	9.1E-11	9.1E-11
U-238	Y	1.00	1.9E-09	1.9E-09
TH-234	Y	1.00	1.9E-09	1.9E-09
PA-234M	Y	1.00	1.9E-09	1.9E-09
PA-234	Y	1.00	2.5E-12	2.5E-12
TH-230	Y	1.00	2.1E-09	2.1E-09
RA-226	W	1.00	1.6E-09	1.6E-09
PO-218	W	1.00	1.6E-09	1.6E-09
PB-214	D	1.00	1.6E-09	1.6E-09
BI-214	W	1.00	1.6E-09	1.6E-09
PO-214	W	1.00	1.6E-09	1.6E-09
PB-210	D	1.00	1.6E-09	1.6E-09
BI-210	W	1.00	1.6E-09	1.6E-09
PO-210	W	1.00	1.6E-09	1.6E-09
PA-231	Y	1.00	9.1E-11	9.1E-11
AC-227	Y	1.00	9.1E-11	9.1E-11
TH-227	Y	1.00	8.9E-11	8.9E-11
FR-223	D	1.00	1.2E-12	1.2E-12
RA-223	W	1.00	9.1E-11	9.1E-11
PO-215	W	1.00	9.1E-11	9.1E-11
PB-211	D	1.00	9.1E-11	9.1E-11
BI-211	W	1.00	9.1E-11	9.1E-11
PO-211	-	0.00	9.0E-13	9.0E-13
TL-207	D	1.00	9.0E-11	9.0E-11
TH-232	Y	1.00	1.0E-08	1.0E-08
RA-228	W	1.00	1.0E-08	1.0E-08
AC-228	Y	1.00	1.0E-08	1.0E-08
TH-228	Y	1.00	1.0E-08	1.0E-08
RA-224	W	1.00	1.0E-08	1.0E-08
PO-216	W	1.00	1.0E-08	1.0E-08
PB-212	D	1.00	1.0E-08	1.0E-08
BI-212	W	1.00	1.0E-08	1.0E-08
PO-212	W	1.00	6.6E-09	6.6E-09
TL-208	D	1.00	3.7E-09	3.7E-09

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 09:03 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 4419.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

25 30 40 50 60 90 160

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	6.81E-05
BREAST	6.32E-05
R MAR	4.86E-03
LUNGS	6.56E-02
THYROID	6.18E-05
ENDOST	6.04E-02
RMNDR	2.79E-04
EFFEC	1.04E-02

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	1.17E-04
INHALATION	1.03E-02
AIR IMMERSION	2.54E-08
GROUND SURFACE	9.47E-07
INTERNAL	1.04E-02
EXTERNAL	9.72E-07
TOTAL	1.04E-02

Mar 3, 2005 09:03 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	3.73E-04
U-235	1.54E-05
TH-231	1.23E-10
U-238	3.10E-04
TH-234	1.34E-07
PA-234M	2.50E-11
PA-234	1.05E-11
TH-230	7.00E-04
RA-226	2.73E-05
PO-218	1.12E-10
PB-214	2.44E-09
BI-214	3.14E-09
PO-214	0.00E+00
PB-210	6.23E-05
BI-210	4.32E-07
PO-210	2.81E-05
PA-231	6.01E-05
AC-227	7.87E-05
TH-227	1.41E-06
FR-223	4.55E-12
RA-223	1.06E-06
PO-215	0.00E+00
PB-211	1.17E-09
BI-211	1.27E-10
PO-211	1.34E-17
TL-207	1.15E-12
TH-232	5.06E-03
RA-228	5.89E-05
AC-228	1.22E-06
TH-228	3.55E-03
RA-224	4.95E-05
PO-216	9.18E-19
PB-212	2.37E-06
BI-212	4.79E-07
PO-212	0.00E+00
TL-208	1.16E-08
TOTAL	1.04E-02

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	25	30	40	50	60	90	160
N	6.8E-03	5.5E-03	3.1E-03	2.0E-03	1.4E-03	7.3E-04	3.3E-04
NNW	6.4E-03	5.0E-03	2.2E-03	1.3E-03	8.5E-04	3.8E-04	1.5E-04
NW	6.7E-03	3.9E-03	1.3E-03	6.5E-04	3.8E-04	2.2E-04	1.3E-04
WNW	6.3E-03	3.2E-03	1.0E-03	6.2E-04	4.3E-04	2.3E-04	1.2E-04
W	6.9E-03	3.2E-03	1.3E-03	8.0E-04	5.6E-04	3.1E-04	1.7E-04
WSW	6.9E-03	4.6E-03	1.9E-03	1.2E-03	8.3E-04	4.1E-04	1.9E-04
SW	7.4E-03	6.1E-03	2.9E-03	1.6E-03	1.1E-03	5.4E-04	2.4E-04
SSW	7.7E-03	6.9E-03	3.7E-03	2.4E-03	1.7E-03	7.8E-04	2.8E-04
S	8.3E-03	7.1E-03	4.0E-03	2.7E-03	2.0E-03	1.0E-03	4.7E-04
SSE	8.4E-03	7.1E-03	3.8E-03	2.6E-03	1.9E-03	8.8E-04	3.4E-04
SE	9.3E-03	6.9E-03	3.3E-03	1.8E-03	1.2E-03	5.7E-04	2.4E-04
ESE	1.0E-02	6.5E-03	2.4E-03	1.4E-03	9.5E-04	4.4E-04	1.8E-04
E	1.0E-02	6.2E-03	2.4E-03	1.3E-03	8.6E-04	4.7E-04	2.4E-04
ENE	8.6E-03	6.4E-03	2.9E-03	1.8E-03	1.2E-03	5.4E-04	1.9E-04
NE	7.4E-03	6.4E-03	3.5E-03	2.2E-03	1.6E-03	7.8E-04	3.4E-04
NNE	6.8E-03	6.1E-03	3.5E-03	2.5E-03	1.9E-03	9.1E-04	3.7E-04

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 09:14 am

Facility: Maywood Interim Storage Site - Cluster 2D
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

5.71E-05

At This Location: 20 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 09:14 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 09:14 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 20 Meters South
Lifetime Fatal Cancer Risk: 6.49E-10

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	3.23E-07
BREAST	2.72E-07
R MAR	2.69E-05
LUNGS	3.61E-04
THYROID	2.63E-07
ENDOST	3.34E-04
RMNDR	1.30E-06
EFFEC	5.71E-05

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.1E-11	1.1E-11
U-235	Y	1.00	5.0E-13	5.0E-13
TH-231	Y	1.00	5.0E-13	5.0E-13
U-238	Y	1.00	1.1E-11	1.1E-11
TH-234	Y	1.00	1.1E-11	1.1E-11
PA-234M	Y	1.00	1.1E-11	1.1E-11
PA-234	Y	1.00	1.4E-14	1.4E-14
TH-230	Y	1.00	1.1E-11	1.1E-11
RA-226	W	1.00	4.9E-12	4.9E-12
PO-218	W	1.00	4.9E-12	4.9E-12
PB-214	D	1.00	4.9E-12	4.9E-12
BI-214	W	1.00	4.9E-12	4.9E-12
PO-214	W	1.00	4.9E-12	4.9E-12
PB-210	D	1.00	4.9E-12	4.9E-12
BI-210	W	1.00	4.9E-12	4.9E-12
PO-210	W	1.00	4.9E-12	4.9E-12
PA-231	Y	1.00	5.0E-13	5.0E-13
AC-227	Y	1.00	5.0E-13	5.0E-13
TH-227	Y	1.00	5.0E-13	5.0E-13
FR-223	D	1.00	6.9E-15	6.9E-15
RA-223	W	1.00	5.0E-13	5.0E-13
PO-215	W	1.00	5.0E-13	5.0E-13
PB-211	D	1.00	5.0E-13	5.0E-13
BI-211	W	1.00	5.0E-13	5.0E-13
PO-211	-	0.00	1.4E-15	1.4E-15
TL-207	D	1.00	5.0E-13	5.0E-13
TH-232	Y	1.00	2.7E-11	2.7E-11
RA-228	W	1.00	2.7E-11	2.7E-11
AC-228	Y	1.00	2.7E-11	2.7E-11
TH-228	Y	1.00	2.7E-11	2.7E-11
RA-224	W	1.00	2.7E-11	2.7E-11
PO-216	W	1.00	2.7E-11	2.7E-11
PB-212	D	1.00	2.7E-11	2.7E-11
BI-212	W	1.00	2.7E-11	2.7E-11
PO-212	W	1.00	1.7E-11	1.7E-11
TL-208	D	1.00	9.8E-12	9.8E-12

SITE INFORMATION

Temperature:	13 degrees C
Precipitation:	127 cm/y
Mixing Height:	1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 70.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

20 25 40 65 100 120 160 200 225 240
250 270

CALCULATION IDENTIFICATION NUMBER				
JOB ORDER NO.	DISCIPLINE	CALCULATION NO.	REVISION NUMBER	PAGE
102682-0307	E(B)	12	0	54 OF188

Mar 3, 2005 09:14 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	3.23E-07
BREAST	2.72E-07
R MAR	2.69E-05
LUNGS	3.61E-04
THYROID	2.63E-07
ENDOST	3.34E-04
RMNDR	1.30E-06
EFFEC	5.71E-05

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	3.12E-07
INHALATION	5.68E-05
AIR IMMERSION	1.22E-10
GROUND SURFACE	7.21E-09
INTERNAL	5.71E-05
EXTERNAL	7.34E-09
TOTAL	5.71E-05

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	3.73E-06
U-235	1.54E-07
TH-231	1.24E-12
U-238	3.08E-06
TH-234	1.13E-09
PA-234M	2.47E-13
PA-234	1.06E-13
TH-230	7.05E-06
RA-226	1.24E-07
PO-218	5.98E-13
PB-214	1.31E-11
BI-214	1.68E-11
PO-214	0.00E+00
PB-210	2.40E-07
BI-210	2.31E-09
PO-210	1.24E-07
PA-231	5.99E-07
AC-227	7.88E-07
TH-227	1.43E-08
FR-223	4.66E-14
RA-223	1.04E-08
PO-215	0.00E+00
PB-211	1.18E-11
BI-211	1.27E-12
PO-211	2.78E-20
TL-207	1.16E-14
TH-232	2.39E-05
RA-228	2.14E-07
AC-228	5.78E-09
TH-228	1.68E-05
RA-224	2.34E-07
PO-216	2.79E-21
PB-212	1.12E-08
BI-212	2.27E-09
PO-212	0.00E+00
TL-208	5.49E-11
TOTAL	5.71E-05

Mar 3, 2005 09:14 am

SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	20	25	40	65	100	120	160
N	3.5E-05	2.4E-05	1.0E-05	4.2E-06	1.9E-06	1.4E-06	8.8E-07
NNW	8.4E-06	5.7E-06	2.6E-06	1.1E-06	5.8E-07	4.5E-07	3.3E-07
NW	5.8E-06	4.0E-06	1.8E-06	8.2E-07	4.5E-07	3.6E-07	2.7E-07
WNW	4.7E-06	3.3E-06	1.5E-06	6.9E-07	3.9E-07	3.2E-07	2.5E-07
W	1.2E-05	7.9E-06	3.5E-06	1.5E-06	7.6E-07	5.8E-07	4.0E-07
WSW	1.3E-05	9.2E-06	4.1E-06	1.7E-06	8.5E-07	6.4E-07	4.4E-07
SW	2.2E-05	1.5E-05	6.7E-06	2.8E-06	1.3E-06	9.6E-07	6.2E-07
SSW	2.7E-05	1.8E-05	8.0E-06	3.3E-06	1.5E-06	1.1E-06	7.1E-07
S	5.7E-05	3.9E-05	1.7E-05	6.8E-06	3.1E-06	2.2E-06	1.3E-06
SSE	3.6E-05	2.5E-05	1.1E-05	4.4E-06	2.0E-06	1.5E-06	9.0E-07
SE	2.1E-05	1.4E-05	6.3E-06	2.6E-06	1.2E-06	9.1E-07	5.9E-07
ESE	1.3E-05	8.8E-06	3.9E-06	1.6E-06	8.0E-07	6.1E-07	4.2E-07
E	2.2E-05	1.5E-05	6.6E-06	2.7E-06	1.3E-06	9.5E-07	6.1E-07
ENE	1.4E-05	9.8E-06	4.3E-06	1.8E-06	8.8E-07	6.6E-07	4.5E-07
NE	3.8E-05	2.6E-05	1.1E-05	4.6E-06	2.1E-06	1.5E-06	9.3E-07
NNE	4.1E-05	2.8E-05	1.2E-05	5.0E-06	2.2E-06	1.6E-06	1.0E-06

	Distance (m)				
Direction	200	225	240	250	270
N	6.3E-07	5.3E-07	4.9E-07	4.6E-07	4.2E-07
NNW	2.7E-07	2.4E-07	2.3E-07	2.3E-07	2.2E-07
NW	2.3E-07	2.2E-07	2.1E-07	2.1E-07	2.0E-07
WNW	2.2E-07	2.1E-07	2.0E-07	2.0E-07	1.9E-07
W	3.2E-07	2.8E-07	2.7E-07	2.6E-07	2.5E-07
WSW	3.4E-07	3.0E-07	2.8E-07	2.7E-07	2.6E-07
SW	4.6E-07	3.9E-07	3.7E-07	3.5E-07	3.2E-07
SSW	5.1E-07	4.4E-07	4.1E-07	3.9E-07	3.6E-07
S	9.1E-07	7.6E-07	6.9E-07	6.4E-07	5.8E-07
SSE	6.4E-07	5.4E-07	4.9E-07	4.7E-07	4.3E-07
SE	4.4E-07	3.8E-07	3.6E-07	3.4E-07	3.2E-07
ESE	3.3E-07	2.9E-07	2.8E-07	2.7E-07	2.5E-07
E	4.5E-07	3.9E-07	3.6E-07	3.5E-07	3.2E-07
ENE	3.5E-07	3.1E-07	2.9E-07	2.8E-07	2.6E-07
NE	6.6E-07	5.5E-07	5.1E-07	4.8E-07	4.4E-07
NNE	7.0E-07	5.9E-07	5.4E-07	5.1E-07	4.6E-07

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 09:46 am

Facility: Maywood Interim Storage Site - Cluster 3A
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

1.25E-04

At This Location: 45 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 09:46 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 09:46 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 45 Meters South
Lifetime Fatal Cancer Risk: 1.43E-09

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	8.16E-07
BREAST	7.37E-07
R MAR	5.85E-05
LUNGS	7.85E-04
THYROID	7.19E-07
ENDOST	7.28E-04
RMNDR	3.76E-06
EFFEC	1.25E-04

Mar 3, 2005 09:46 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	9.0E-11	9.0E-11
U-235	Y	1.00	4.0E-12	4.0E-12
TH-231	Y	1.00	4.0E-12	4.0E-12
U-238	Y	1.00	8.4E-11	8.4E-11
TH-234	Y	1.00	8.4E-11	8.4E-11
PA-234M	Y	1.00	8.4E-11	8.4E-11
PA-234	Y	1.00	1.1E-13	1.1E-13
TH-230	Y	1.00	9.0E-11	9.0E-11
RA-226	W	1.00	8.3E-11	8.3E-11
PO-218	W	1.00	8.3E-11	8.3E-11
PB-214	D	1.00	8.3E-11	8.3E-11
BI-214	W	1.00	8.3E-11	8.3E-11
PO-214	W	1.00	8.3E-11	8.3E-11
PB-210	D	1.00	8.3E-11	8.3E-11
BI-210	W	1.00	8.3E-11	8.3E-11
PO-210	W	1.00	8.3E-11	8.3E-11
PA-231	Y	1.00	4.0E-12	4.0E-12
AC-227	Y	1.00	4.0E-12	4.0E-12
TH-227	Y	1.00	3.9E-12	3.9E-12
FR-223	D	1.00	5.5E-14	5.5E-14
RA-223	W	1.00	4.0E-12	4.0E-12
PO-215	W	1.00	4.0E-12	4.0E-12
PB-211	D	1.00	4.0E-12	4.0E-12
BI-211	W	1.00	4.0E-12	4.0E-12
PO-211	-	0.00	1.1E-14	1.1E-14
TL-207	D	1.00	3.9E-12	3.9E-12
TH-232	Y	1.00	3.2E-10	3.2E-10
RA-228	W	1.00	3.2E-10	3.2E-10
AC-228	Y	1.00	3.2E-10	3.2E-10
TH-228	Y	1.00	3.2E-10	3.2E-10
RA-224	W	1.00	3.2E-10	3.2E-10
PO-216	W	1.00	3.2E-10	3.2E-10
PB-212	D	1.00	3.2E-10	3.2E-10
BI-212	W	1.00	3.2E-10	3.2E-10
PO-212	W	1.00	2.1E-10	2.1E-10
TL-208	D	1.00	1.2E-10	1.2E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 791.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

45 50 55 70 90 140 200 210 450 520

Mar 3, 2005 09:46 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	8.16E-07
BREAST	7.37E-07
R MAR	5.85E-05
LUNGS	7.85E-04
THYROID	7.19E-07
ENDOST	7.28E-04
RMNDR	3.76E-06
EFFEC	1.25E-04

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	1.25E-06
INHALATION	1.23E-04
AIR IMMERSION	2.95E-10
GROUND SURFACE	1.50E-08
INTERNAL	1.25E-04
EXTERNAL	1.53E-08
TOTAL	1.25E-04

Mar 3, 2005 09:46 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	5.87E-06
U-235	2.43E-07
TH-231	1.95E-12
U-238	4.88E-06
TH-234	1.95E-09
PA-234M	3.23E-13
PA-234	1.67E-13
TH-230	1.10E-05
RA-226	4.61E-07
PO-218	1.89E-12
PB-214	4.43E-11
BI-214	5.68E-11
PO-214	0.00E+00
PB-210	9.73E-07
BI-210	7.90E-09
PO-210	4.67E-07
PA-231	9.46E-07
AC-227	1.24E-06
TH-227	2.23E-08
FR-223	7.23E-14
RA-223	1.65E-08
PO-215	0.00E+00
PB-211	1.84E-11
BI-211	1.80E-12
PO-211	1.85E-22
TL-207	1.74E-14
TH-232	5.71E-05
RA-228	5.85E-07
AC-228	1.38E-08
TH-228	4.01E-05
RA-224	5.58E-07
PO-216	2.78E-29
PB-212	2.68E-08
BI-212	5.40E-09
PO-212	0.00E+00
TL-208	1.21E-10
TOTAL	1.25E-04

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Direction	Distance (m) 45	50	55	70	90	140	200
N	8.2E-05	6.9E-05	5.9E-05	3.9E-05	2.5E-05	1.1E-05	6.0E-06
NNW	3.4E-05	2.6E-05	2.0E-05	1.0E-05	6.5E-06	3.3E-06	2.1E-06
NW	1.6E-05	1.3E-05	1.1E-05	7.2E-06	4.7E-06	2.5E-06	1.7E-06
WNW	1.7E-05	1.3E-05	1.1E-05	6.1E-06	4.0E-06	2.2E-06	1.6E-06
W	2.8E-05	2.4E-05	2.0E-05	1.4E-05	8.9E-06	4.3E-06	2.6E-06
WSW	3.9E-05	3.2E-05	2.6E-05	1.6E-05	1.0E-05	4.8E-06	2.9E-06
SW	5.7E-05	4.7E-05	3.9E-05	2.6E-05	1.6E-05	7.4E-06	4.1E-06
SSW	8.3E-05	6.6E-05	5.3E-05	3.1E-05	1.9E-05	8.6E-06	4.8E-06
S	1.2E-04	1.1E-04	9.1E-05	6.3E-05	4.0E-05	1.7E-05	9.1E-06
SSE	9.8E-05	7.9E-05	6.6E-05	4.1E-05	2.5E-05	1.1E-05	6.1E-06
SE	5.9E-05	4.7E-05	3.9E-05	2.4E-05	1.5E-05	7.0E-06	4.0E-06
ESE	4.2E-05	3.3E-05	2.7E-05	1.5E-05	9.5E-06	4.6E-06	2.7E-06
E	4.9E-05	4.2E-05	3.6E-05	2.5E-05	1.6E-05	7.3E-06	4.1E-06
ENE	5.3E-05	4.1E-05	3.2E-05	1.7E-05	1.0E-05	5.0E-06	2.9E-06
NE	8.9E-05	7.5E-05	6.3E-05	4.2E-05	2.6E-05	1.2E-05	6.3E-06
NNE	1.0E-04	8.5E-05	7.2E-05	4.6E-05	2.9E-05	1.3E-05	6.8E-06

Direction	Distance (m) 210	450	520
N	5.5E-06	1.9E-06	1.7E-06
NNW	2.0E-06	1.1E-06	1.0E-06
NW	1.6E-06	1.0E-06	9.9E-07
WNW	1.5E-06	1.0E-06	9.7E-07
W	2.5E-06	1.2E-06	1.1E-06
WSW	2.7E-06	1.3E-06	1.2E-06
SW	3.8E-06	1.5E-06	1.4E-06
SSW	4.4E-06	1.7E-06	1.5E-06
S	8.3E-06	2.5E-06	2.1E-06
SSE	5.6E-06	1.9E-06	1.7E-06
SE	3.7E-06	1.5E-06	1.4E-06
ESE	2.6E-06	1.3E-06	1.2E-06
E	3.8E-06	1.5E-06	1.4E-06
ENE	2.8E-06	1.3E-06	1.2E-06
NE	5.8E-06	2.0E-06	1.7E-06
NNE	6.3E-06	2.1E-06	1.8E-06

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 09:57 am

Facility: Maywood Interim Storage Site - Cluster 5C
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

7.14E-03

At This Location: 10 Meters North

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 09:57 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 10 Meters North
Lifetime Fatal Cancer Risk: 8.24E-08

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	4.96E-05
BREAST	4.17E-05
R MAR	3.22E-03
LUNGS	4.56E-02
THYROID	4.07E-05
ENDOST	4.00E-02
RMNDR	2.18E-04
EFFEC	7.14E-03

Mar 3, 2005 09:57 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	3.1E-10	3.1E-10
U-235	Y	1.00	3.6E-11	3.6E-11
TH-231	Y	1.00	3.6E-11	3.6E-11
U-238	Y	1.00	7.8E-10	7.8E-10
TH-234	Y	1.00	7.8E-10	7.8E-10
PA-234M	Y	1.00	7.8E-10	7.8E-10
PA-234	Y	1.00	1.0E-12	1.0E-12
TH-230	Y	1.00	3.1E-10	3.1E-10
RA-226	W	1.00	4.1E-10	4.1E-10
PO-218	W	1.00	4.1E-10	4.1E-10
PB-214	D	1.00	4.1E-10	4.1E-10
BI-214	W	1.00	4.1E-10	4.1E-10
PO-214	W	1.00	4.1E-10	4.1E-10
PB-210	D	1.00	4.1E-10	4.1E-10
BI-210	W	1.00	4.1E-10	4.1E-10
PO-210	W	1.00	4.1E-10	4.1E-10
PA-231	Y	1.00	3.6E-11	3.6E-11
AC-227	Y	1.00	3.6E-11	3.6E-11
TH-227	Y	1.00	3.6E-11	3.6E-11
FR-223	D	1.00	5.0E-13	5.0E-13
RA-223	W	1.00	3.6E-11	3.6E-11
PO-215	W	1.00	3.6E-11	3.6E-11
PB-211	D	1.00	3.6E-11	3.6E-11
BI-211	W	1.00	3.6E-11	3.6E-11
PO-211	-	0.00	9.9E-14	9.9E-14
TL-207	D	1.00	3.6E-11	3.6E-11
TH-232	Y	1.00	1.9E-09	1.9E-09
RA-228	W	1.00	1.9E-09	1.9E-09
AC-228	Y	1.00	1.9E-09	1.9E-09
TH-228	Y	1.00	1.9E-09	1.9E-09
RA-224	W	1.00	1.9E-09	1.9E-09
PO-216	W	1.00	1.9E-09	1.9E-09
PB-212	D	1.00	1.9E-09	1.9E-09
BI-212	W	1.00	1.9E-09	1.9E-09
PO-212	W	1.00	1.2E-09	1.2E-09
TL-208	D	1.00	6.8E-10	6.8E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 09:57 am

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1271.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

10 60 75 100 120 180

CALCULATION IDENTIFICATION NUMBER				
JOB ORDER NO.	DISCIPLINE	CALCULATION NO.	REVISION NUMBER	PAGE
102682-0307	E(B)	12	0	68 OF188

Mar 3, 2005 09:57 am

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	4.96E-05
BREAST	4.17E-05
R MAR	3.22E-03
LUNGS	4.56E-02
THYROID	4.07E-05
ENDOST	4.00E-02
RMNDR	2.18E-04
EFFEC	7.14E-03

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	7.12E-05
INHALATION	7.07E-03
AIR IMMERSION	1.79E-08
GROUND SURFACE	1.01E-06
INTERNAL	7.14E-03
EXTERNAL	1.03E-06
TOTAL	7.14E-03

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	2.03E-04
U-235	2.25E-05
TH-231	1.81E-10
U-238	4.53E-04
TH-234	1.82E-07
PA-234M	4.00E-11
PA-234	1.54E-11
TH-230	3.82E-04
RA-226	2.32E-05
PO-218	1.06E-10
PB-214	2.24E-09
BI-214	2.89E-09
PO-214	0.00E+00
PB-210	4.94E-05
BI-210	3.95E-07
PO-210	2.35E-05
PA-231	8.78E-05
AC-227	1.15E-04
TH-227	2.07E-06
FR-223	6.82E-12
RA-223	1.54E-06
PO-215	0.00E+00
PB-211	1.72E-09
BI-211	1.96E-10
PO-211	9.10E-17
TL-207	1.73E-12
TH-232	3.35E-03
RA-228	3.48E-05
AC-228	8.10E-07
TH-228	2.35E-03
RA-224	3.28E-05
PO-216	6.85E-15
PB-212	1.57E-06
BI-212	3.19E-07
PO-212	0.00E+00
TL-208	8.02E-09
TOTAL	7.14E-03

Mar 3, 2005 09:57 am

SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)					
Direction	10	60	75	100	120	180
N	7.1E-03	3.2E-04	2.3E-04	1.6E-04	1.3E-04	8.5E-05
NNW	7.1E-03	1.6E-04	1.1E-04	7.6E-05	6.8E-05	5.8E-05
NW	7.1E-03	1.0E-04	8.2E-05	6.8E-05	6.2E-05	5.5E-05
WNW	7.1E-03	1.0E-04	7.9E-05	6.4E-05	6.0E-05	5.4E-05
W	7.1E-03	1.4E-04	1.1E-04	8.7E-05	7.6E-05	6.2E-05
WSW	7.1E-03	1.7E-04	1.3E-04	9.3E-05	8.0E-05	6.3E-05
SW	7.1E-03	2.3E-04	1.7E-04	1.2E-04	1.0E-04	7.2E-05
SSW	7.1E-03	3.2E-04	2.1E-04	1.3E-04	1.1E-04	7.7E-05
S	7.1E-03	4.6E-04	3.4E-04	2.3E-04	1.8E-04	1.1E-04
SSE	7.1E-03	3.7E-04	2.5E-04	1.6E-04	1.3E-04	8.6E-05
SE	7.1E-03	2.4E-04	1.7E-04	1.2E-04	9.7E-05	7.1E-05
ESE	7.1E-03	1.8E-04	1.3E-04	9.0E-05	7.8E-05	6.3E-05
E	7.1E-03	2.1E-04	1.6E-04	1.2E-04	9.9E-05	7.2E-05
ENE	7.1E-03	2.2E-04	1.4E-04	9.5E-05	8.1E-05	6.4E-05
NE	7.1E-03	3.4E-04	2.5E-04	1.7E-04	1.3E-04	8.8E-05
NNE	7.1E-03	3.9E-04	2.7E-04	1.8E-04	1.4E-04	9.1E-05

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 10:09 am

Facility: Maywood Interim Storage Site - Cluster 6A
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

5.48E-04

At This Location: 20 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 10:08 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 10:09 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 20 Meters South
Lifetime Fatal Cancer Risk: 6.29E-09

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	3.37E-06
BREAST	3.07E-06
R MAR	2.56E-04
LUNGS	3.47E-03
THYROID	2.99E-06
ENDOST	3.18E-03
RMNDR	1.43E-05
EFFEC	5.48E-04

Mar 3, 2005 10:09 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.0E-10	1.0E-10
U-235	Y	1.00	4.4E-12	4.4E-12
TH-231	Y	1.00	4.4E-12	4.4E-12
U-238	Y	1.00	9.4E-11	9.4E-11
TH-234	Y	1.00	9.4E-11	9.4E-11
PA-234M	Y	1.00	9.4E-11	9.4E-11
PA-234	Y	1.00	1.2E-13	1.2E-13
TH-230	Y	1.00	1.0E-10	1.0E-10
RA-226	W	1.00	8.3E-11	8.3E-11
PO-218	W	1.00	8.3E-11	8.3E-11
PB-214	D	1.00	8.3E-11	8.3E-11
BI-214	W	1.00	8.3E-11	8.3E-11
PO-214	W	1.00	8.3E-11	8.3E-11
PB-210	D	1.00	8.3E-11	8.3E-11
BI-210	W	1.00	8.3E-11	8.3E-11
PO-210	W	1.00	8.3E-11	8.3E-11
PA-231	Y	1.00	4.4E-12	4.4E-12
AC-227	Y	1.00	4.4E-12	4.4E-12
TH-227	Y	1.00	4.3E-12	4.3E-12
FR-223	D	1.00	6.0E-14	6.0E-14
RA-223	W	1.00	4.4E-12	4.4E-12
PO-215	W	1.00	4.4E-12	4.4E-12
PB-211	D	1.00	4.4E-12	4.4E-12
BI-211	W	1.00	4.4E-12	4.4E-12
PO-211	-	0.00	1.2E-14	1.2E-14
TL-207	D	1.00	4.4E-12	4.4E-12
TH-232	Y	1.00	4.1E-10	4.1E-10
RA-228	W	1.00	4.1E-10	4.1E-10
AC-228	Y	1.00	4.1E-10	4.1E-10
TH-228	Y	1.00	4.1E-10	4.1E-10
RA-224	W	1.00	4.1E-10	4.1E-10
PO-216	W	1.00	4.1E-10	4.1E-10
PB-212	D	1.00	4.1E-10	4.1E-10
BI-212	W	1.00	4.1E-10	4.1E-10
PO-212	W	1.00	2.6E-10	2.6E-10
TL-208	D	1.00	1.5E-10	1.5E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 772.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

20 30 50 60 100 120 150 200

Mar 3, 2005 10:09 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	3.37E-06
BREAST	3.07E-06
R MAR	2.56E-04
LUNGS	3.47E-03
THYROID	2.99E-06
ENDOST	3.18E-03
RMNDR	1.43E-05
EFFEC	5.48E-04

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	4.51E-06
INHALATION	5.43E-04
AIR IMMERSION	1.34E-09
GROUND SURFACE	5.80E-08
INTERNAL	5.48E-04
EXTERNAL	5.94E-08
TOTAL	5.48E-04

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	2.32E-05
U-235	9.60E-07
TH-231	7.71E-12
U-238	1.93E-05
TH-234	7.56E-09
PA-234M	1.57E-12
PA-234	6.60E-13
TH-230	4.37E-05
RA-226	1.61E-06
PO-218	7.33E-12
PB-214	1.60E-10
BI-214	2.05E-10
PO-214	0.00E+00
PB-210	3.35E-06
BI-210	2.82E-08
PO-210	1.63E-06
PA-231	3.74E-06
AC-227	4.91E-06
TH-227	8.85E-08
FR-223	2.90E-13
RA-223	6.53E-08
PO-215	0.00E+00
PB-211	7.33E-11
BI-211	7.96E-12
PO-211	2.66E-19
TL-207	7.24E-14
TH-232	2.59E-04
RA-228	2.57E-06
AC-228	6.24E-08
TH-228	1.81E-04
RA-224	2.53E-06
PO-216	8.85E-20
PB-212	1.21E-07
BI-212	2.45E-08
PO-212	0.00E+00
TL-208	5.98E-10
TOTAL	5.48E-04

Mar 3, 2005 10:09 am

SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	20	30	50	60	100	120	150
N	4.0E-04	2.0E-04	8.7E-05	6.5E-05	2.7E-05	2.0E-05	1.4E-05
NNW	2.6E-04	1.1E-04	3.4E-05	2.2E-05	8.6E-06	7.0E-06	5.6E-06
NW	1.3E-04	4.5E-05	1.8E-05	1.4E-05	6.9E-06	5.7E-06	4.8E-06
WNW	1.2E-04	5.0E-05	1.8E-05	1.3E-05	6.1E-06	5.2E-06	4.4E-06
W	1.6E-04	7.2E-05	3.1E-05	2.4E-05	1.1E-05	8.7E-06	6.7E-06
WSW	2.3E-04	1.1E-04	4.1E-05	2.9E-05	1.2E-05	9.5E-06	7.2E-06
SW	3.4E-04	1.5E-04	6.0E-05	4.3E-05	1.8E-05	1.4E-05	1.0E-05
SSW	5.0E-04	2.4E-04	8.3E-05	5.6E-05	2.1E-05	1.6E-05	1.1E-05
S	5.5E-04	2.9E-04	1.3E-04	1.0E-04	4.2E-05	3.0E-05	2.1E-05
SSE	5.2E-04	2.6E-04	1.0E-04	7.0E-05	2.8E-05	2.0E-05	1.4E-05
SE	3.8E-04	1.6E-04	6.0E-05	4.2E-05	1.7E-05	1.3E-05	9.6E-06
ESE	2.9E-04	1.2E-04	4.3E-05	2.9E-05	1.2E-05	9.1E-06	7.0E-06
E	2.7E-04	1.2E-04	5.4E-05	4.1E-05	1.8E-05	1.4E-05	9.9E-06
ENE	3.7E-04	1.6E-04	5.2E-05	3.3E-05	1.3E-05	9.8E-06	7.4E-06
NE	4.5E-04	2.2E-04	9.4E-05	7.0E-05	2.9E-05	2.1E-05	1.5E-05
NNE	5.0E-04	2.7E-04	1.1E-04	7.8E-05	3.1E-05	2.3E-05	1.6E-05

Distance (m)

Direction	200
N	9.3E-06
NNW	4.5E-06
NW	4.0E-06
WNW	3.8E-06
W	5.1E-06
WSW	5.4E-06
SW	7.0E-06
SSW	7.8E-06
S	1.3E-05
SSE	9.4E-06
SE	6.8E-06
ESE	5.3E-06
E	6.9E-06
ENE	5.5E-06
NE	9.7E-06
NNE	1.0E-05

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 10:24 am

Facility: Maywood Interim Storage Site - Cluster 6C
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

2.02E-03

At This Location: 30 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 10:24 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 10:24 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 30 Meters South
Lifetime Fatal Cancer Risk: 2.29E-08

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	1.20E-05
BREAST	1.00E-05
R MAR	9.53E-04
LUNGS	1.27E-02
THYROID	9.70E-06
ENDOST	1.19E-02
RMNDR	5.12E-05
EFFEC	2.02E-03

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.2E-09	1.2E-09
U-235	Y	1.00	5.3E-11	5.3E-11
TH-231	Y	1.00	5.3E-11	5.3E-11
U-238	Y	1.00	1.1E-09	1.1E-09
TH-234	Y	1.00	1.1E-09	1.1E-09
PA-234M	Y	1.00	1.1E-09	1.1E-09
PA-234	Y	1.00	1.5E-12	1.5E-12
TH-230	Y	1.00	1.2E-09	1.2E-09
RA-226	W	1.00	5.6E-10	5.6E-10
PO-218	W	1.00	5.6E-10	5.6E-10
PB-214	D	1.00	5.6E-10	5.6E-10
BI-214	W	1.00	5.6E-10	5.6E-10
PO-214	W	1.00	5.6E-10	5.6E-10
PB-210	D	1.00	5.6E-10	5.6E-10
BI-210	W	1.00	5.6E-10	5.6E-10
PO-210	W	1.00	5.6E-10	5.6E-10
PA-231	Y	1.00	5.3E-11	5.3E-11
AC-227	Y	1.00	5.3E-11	5.3E-11
TH-227	Y	1.00	5.3E-11	5.3E-11
FR-223	D	1.00	7.4E-13	7.4E-13
RA-223	W	1.00	5.3E-11	5.3E-11
PO-215	W	1.00	5.3E-11	5.3E-11
PB-211	D	1.00	5.3E-11	5.3E-11
BI-211	W	1.00	5.3E-11	5.3E-11
PO-211	-	0.00	1.5E-13	1.5E-13
TL-207	D	1.00	5.3E-11	5.3E-11
TH-232	Y	1.00	2.6E-09	2.6E-09
RA-228	W	1.00	2.6E-09	2.6E-09
AC-228	Y	1.00	2.6E-09	2.6E-09
TH-228	Y	1.00	2.6E-09	2.6E-09
RA-224	W	1.00	2.6E-09	2.6E-09
PO-216	W	1.00	2.6E-09	2.6E-09
PB-212	D	1.00	2.6E-09	2.6E-09
BI-212	W	1.00	2.6E-09	2.6E-09
PO-212	W	1.00	1.7E-09	1.7E-09
TL-208	D	1.00	9.5E-10	9.5E-10

SITE INFORMATION

Temperature:	13 degrees C
Precipitation:	127 cm/y
Mixing Height:	1000 m

Mar 3, 2005 10:24 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1784.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

30 60 90 135 200 300 320 360 390

Mar 3, 2005 10:24 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	1.20E-05
BREAST	1.00E-05
R MAR	9.53E-04
LUNGS	1.27E-02
THYROID	9.70E-06
ENDOST	1.19E-02
RMNDR	5.12E-05
EFFEC	2.02E-03

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	1.39E-05
INHALATION	2.00E-03
AIR IMMERSION	4.25E-09
GROUND SURFACE	2.73E-07
INTERNAL	2.01E-03
EXTERNAL	2.78E-07
TOTAL	2.01E-03

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	1.39E-04
U-235	5.78E-06
TH-231	4.65E-11
U-238	1.16E-04
TH-234	4.36E-08
PA-234M	8.80E-12
PA-234	3.96E-12
TH-230	2.63E-04
RA-226	5.21E-06
PO-218	2.39E-11
PB-214	5.34E-10
BI-214	6.86E-10
PO-214	0.00E+00
PB-210	1.04E-05
BI-210	9.46E-08
PO-210	5.23E-06
PA-231	2.25E-05
AC-227	2.95E-05
TH-227	5.33E-07
FR-223	1.74E-12
RA-223	3.91E-07
PO-215	0.00E+00
PB-211	4.41E-10
BI-211	4.62E-11
PO-211	1.86E-19
TL-207	4.28E-13
TH-232	8.23E-04
RA-228	7.68E-06
AC-228	1.99E-07
TH-228	5.77E-04
RA-224	8.04E-06
PO-216	1.66E-22
PB-212	3.86E-07
BI-212	7.80E-08
PO-212	0.00E+00
TL-208	1.85E-09
TOTAL	2.01E-03

Mar 3, 2005 10:24 am

SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	30	60	90	135	200	300	320
N	1.5E-03	4.3E-04	2.2E-04	1.1E-04	5.5E-05	3.0E-05	2.7E-05
NNW	9.5E-04	2.0E-04	7.3E-05	3.2E-05	1.9E-05	1.3E-05	1.3E-05
NW	4.9E-04	9.2E-05	4.5E-05	2.4E-05	1.6E-05	1.2E-05	1.1E-05
WNW	4.3E-04	9.7E-05	4.2E-05	2.1E-05	1.4E-05	1.1E-05	1.1E-05
W	5.8E-04	1.5E-04	7.9E-05	4.2E-05	2.4E-05	1.5E-05	1.5E-05
WSW	8.6E-04	2.2E-04	9.7E-05	4.7E-05	2.6E-05	1.6E-05	1.5E-05
SW	1.3E-03	3.0E-04	1.5E-04	7.2E-05	3.8E-05	2.2E-05	2.0E-05
SSW	1.8E-03	4.6E-04	1.9E-04	8.5E-05	4.4E-05	2.4E-05	2.2E-05
S	2.0E-03	6.4E-04	3.4E-04	1.7E-04	8.4E-05	4.2E-05	3.8E-05
SSE	1.9E-03	5.3E-04	2.4E-04	1.1E-04	5.6E-05	3.0E-05	2.7E-05
SE	1.4E-03	3.2E-04	1.4E-04	6.9E-05	3.7E-05	2.1E-05	2.0E-05
ESE	1.1E-03	2.4E-04	9.7E-05	4.5E-05	2.5E-05	1.6E-05	1.5E-05
E	1.0E-03	2.6E-04	1.4E-04	7.1E-05	3.8E-05	2.2E-05	2.0E-05
ENE	1.4E-03	3.0E-04	1.1E-04	4.9E-05	2.7E-05	1.7E-05	1.6E-05
NE	1.7E-03	4.7E-04	2.4E-04	1.2E-04	5.8E-05	3.1E-05	2.8E-05
NNE	1.8E-03	5.5E-04	2.6E-04	1.3E-04	6.3E-05	3.3E-05	3.0E-05

	Distance (m)	
Direction	360	390
N	2.3E-05	2.1E-05
NNW	1.2E-05	1.1E-05
NW	1.0E-05	1.0E-05
WNW	1.0E-05	9.7E-06
W	1.3E-05	1.3E-05
WSW	1.4E-05	1.3E-05
SW	1.8E-05	1.6E-05
SSW	2.0E-05	1.8E-05
S	3.2E-05	2.9E-05
SSE	2.3E-05	2.1E-05
SE	1.7E-05	1.6E-05
ESE	1.4E-05	1.3E-05
E	1.8E-05	1.6E-05
ENE	1.4E-05	1.3E-05
NE	2.4E-05	2.2E-05
NNE	2.5E-05	2.3E-05

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 10:41 am

Facility: Maywood Interim Storage Site - Cluster 8A
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent (mrem/year)
3.53E-03

At This Location: 10 Meters East Southeast

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 10:41 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 10:41 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 10 Meters East Southeast
Lifetime Fatal Cancer Risk: 4.05E-08

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	2.38E-05
BREAST	2.21E-05
R MAR	1.65E-03
LUNGS	2.23E-02
THYROID	2.16E-05
ENDOST	2.06E-02
RMNDR	1.04E-04
EFFEC	3.53E-03

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	2.0E-10	2.0E-10
U-235	Y	1.00	8.6E-12	8.6E-12
TH-231	Y	1.00	8.6E-12	8.6E-12
U-238	Y	1.00	1.8E-10	1.8E-10
TH-234	Y	1.00	1.8E-10	1.8E-10
PA-234M	Y	1.00	1.8E-10	1.8E-10
PA-234	Y	1.00	2.4E-13	2.4E-13
TH-230	Y	1.00	2.0E-10	2.0E-10
RA-226	W	1.00	1.9E-10	1.9E-10
PO-218	W	1.00	1.9E-10	1.9E-10
PB-214	D	1.00	1.9E-10	1.9E-10
BI-214	W	1.00	1.9E-10	1.9E-10
PO-214	W	1.00	1.9E-10	1.9E-10
PB-210	D	1.00	1.9E-10	1.9E-10
BI-210	W	1.00	1.9E-10	1.9E-10
PO-210	W	1.00	1.9E-10	1.9E-10
PA-231	Y	1.00	8.6E-12	8.6E-12
AC-227	Y	1.00	8.6E-12	8.6E-12
TH-227	Y	1.00	8.5E-12	8.5E-12
FR-223	D	1.00	1.2E-13	1.2E-13
RA-223	W	1.00	8.6E-12	8.6E-12
PO-215	W	1.00	8.6E-12	8.6E-12
PB-211	D	1.00	8.6E-12	8.6E-12
BI-211	W	1.00	8.6E-12	8.6E-12
PO-211	-	0.00	2.3E-14	2.3E-14
TL-207	D	1.00	8.6E-12	8.6E-12
TH-232	Y	1.00	9.4E-10	9.4E-10
RA-228	W	1.00	9.4E-10	9.4E-10
AC-228	Y	1.00	9.4E-10	9.4E-10
TH-228	Y	1.00	9.4E-10	9.4E-10
RA-224	W	1.00	9.4E-10	9.4E-10
PO-216	W	1.00	9.4E-10	9.4E-10
PB-212	D	1.00	9.4E-10	9.4E-10
BI-212	W	1.00	9.4E-10	9.4E-10
PO-212	W	1.00	6.0E-10	6.0E-10
TL-208	D	1.00	3.4E-10	3.4E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 10:41 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1243.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

10 100 120 130

Mar 3, 2005 10:41 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	2.38E-05
BREAST	2.21E-05
R MAR	1.65E-03
LUNGS	2.23E-02
THYROID	2.16E-05
ENDOST	2.06E-02
RMNDR	1.04E-04
EFFEC	3.53E-03

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	4.21E-05
INHALATION	3.49E-03
AIR IMMERSION	8.93E-09
GROUND SURFACE	3.51E-07
INTERNAL	3.53E-03
EXTERNAL	3.60E-07
TOTAL	3.53E-03

Mar 3, 2005 10:41 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	1.32E-04
U-235	5.46E-06
TH-231	4.35E-11
U-238	1.10E-04
TH-234	4.70E-08
PA-234M	9.66E-12
PA-234	3.71E-12
TH-230	2.48E-04
RA-226	1.15E-05
PO-218	4.91E-11
PB-214	1.03E-09
BI-214	1.34E-09
PO-214	0.00E+00
PB-210	2.58E-05
BI-210	1.83E-07
PO-210	1.17E-05
PA-231	2.13E-05
AC-227	2.79E-05
TH-227	5.01E-07
FR-223	1.65E-12
RA-223	3.74E-07
PO-215	0.00E+00
PB-211	4.15E-10
BI-211	4.72E-11
PO-211	2.21E-17
TL-207	4.17E-13
TH-232	1.70E-03
RA-228	1.95E-05
AC-228	4.11E-07
TH-228	1.19E-03
RA-224	1.66E-05
PO-216	3.60E-15
PB-212	7.98E-07
BI-212	1.62E-07
PO-212	0.00E+00
TL-208	4.06E-09
TOTAL	3.53E-03

Mar 3, 2005 10:41 am

SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)			
Direction	10	100	120	130
N	3.4E-03	8.6E-05	7.0E-05	6.5E-05
NNW	3.5E-03	4.5E-05	4.1E-05	4.0E-05
NW	3.5E-03	4.1E-05	3.8E-05	3.8E-05
WNW	3.5E-03	3.9E-05	3.7E-05	3.7E-05
W	3.5E-03	5.0E-05	4.5E-05	4.3E-05
WSW	3.5E-03	5.3E-05	4.7E-05	4.5E-05
SW	3.5E-03	6.7E-05	5.6E-05	5.3E-05
SSW	3.5E-03	7.3E-05	6.1E-05	5.7E-05
S	3.5E-03	1.2E-04	9.3E-05	8.5E-05
SSE	3.5E-03	8.7E-05	7.1E-05	6.6E-05
SE	3.5E-03	6.4E-05	5.5E-05	5.2E-05
ESE	3.5E-03	5.2E-05	4.6E-05	4.4E-05
E	3.5E-03	6.6E-05	5.6E-05	5.3E-05
ENE	3.5E-03	5.4E-05	4.8E-05	4.5E-05
NE	3.5E-03	9.0E-05	7.3E-05	6.7E-05
NNE	3.5E-03	9.5E-05	7.6E-05	7.0E-05

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Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Individual Assessment
Mar 3, 2005 10:49 am

Facility: Maywood Interim Storage Site - Cluster 9A
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

1.15E-03

At This Location: 25 Meters East Southeast

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 10:49 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND

Mar 3, 2005 10:49 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 25 Meters East Southeast
Lifetime Fatal Cancer Risk: 1.32E-08

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	7.47E-06
BREAST	6.90E-06
R MAR	5.39E-04
LUNGS	7.28E-03
THYROID	6.75E-06
ENDOST	6.70E-03
RMNDR	3.07E-05
EFFEC	1.15E-03

Mar 3, 2005 10:49 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	2.5E-10	2.5E-10
U-235	Y	1.00	1.1E-11	1.1E-11
TH-231	Y	1.00	1.1E-11	1.1E-11
U-238	Y	1.00	2.4E-10	2.4E-10
TH-234	Y	1.00	2.4E-10	2.4E-10
PA-234M	Y	1.00	2.4E-10	2.4E-10
PA-234	Y	1.00	3.1E-13	3.1E-13
TH-230	Y	1.00	2.5E-10	2.5E-10
RA-226	W	1.00	2.0E-10	2.0E-10
PO-218	W	1.00	2.0E-10	2.0E-10
PB-214	D	1.00	2.0E-10	2.0E-10
BI-214	W	1.00	2.0E-10	2.0E-10
PO-214	W	1.00	2.0E-10	2.0E-10
PB-210	D	1.00	2.0E-10	2.0E-10
BI-210	W	1.00	2.0E-10	2.0E-10
PO-210	W	1.00	2.0E-10	2.0E-10
PA-231	Y	1.00	1.1E-11	1.1E-11
AC-227	Y	1.00	1.1E-11	1.1E-11
TH-227	Y	1.00	1.1E-11	1.1E-11
FR-223	D	1.00	1.5E-13	1.5E-13
RA-223	W	1.00	1.1E-11	1.1E-11
PO-215	W	1.00	1.1E-11	1.1E-11
PB-211	D	1.00	1.1E-11	1.1E-11
BI-211	W	1.00	1.1E-11	1.1E-11
PO-211	-	0.00	3.0E-14	3.0E-14
TL-207	D	1.00	1.1E-11	1.1E-11
TH-232	Y	1.00	1.2E-09	1.2E-09
RA-228	W	1.00	1.2E-09	1.2E-09
AC-228	Y	1.00	1.2E-09	1.2E-09
TH-228	Y	1.00	1.2E-09	1.2E-09
RA-224	W	1.00	1.2E-09	1.2E-09
PO-216	W	1.00	1.2E-09	1.2E-09
PB-212	D	1.00	1.2E-09	1.2E-09
BI-212	W	1.00	1.2E-09	1.2E-09
PO-212	W	1.00	7.8E-10	7.8E-10
TL-208	D	1.00	4.4E-10	4.4E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 3607.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

25 30 35 40 65 70 120 150 220

Mar 3, 2005 10:49 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
GONADS	7.47E-06
BREAST	6.90E-06
R MAR	5.39E-04
LUNGS	7.28E-03
THYROID	6.75E-06
ENDOST	6.70E-03
RMNDR	3.07E-05
EFFEC	1.15E-03

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	1.24E-05
INHALATION	1.14E-03
AIR IMMERSION	2.82E-09
GROUND SURFACE	1.08E-07
INTERNAL	1.15E-03
EXTERNAL	1.11E-07
TOTAL	1.15E-03

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-234	4.32E-05
U-235	1.79E-06
TH-231	1.43E-11
U-238	3.60E-05
TH-234	1.54E-08
PA-234M	2.92E-12
PA-234	1.22E-12
TH-230	8.10E-05
RA-226	3.05E-06
PO-218	1.27E-11
PB-214	2.77E-10
BI-214	3.56E-10
PO-214	0.00E+00
PB-210	6.85E-06
BI-210	4.90E-08
PO-210	3.13E-06
PA-231	6.99E-06
AC-227	9.15E-06
TH-227	1.64E-07
FR-223	5.36E-13
RA-223	1.23E-07
PO-215	0.00E+00
PB-211	1.36E-10
BI-211	1.48E-11
PO-211	4.53E-19
TL-207	1.34E-13
TH-232	5.58E-04
RA-228	6.33E-06
AC-228	1.34E-07
TH-228	3.91E-04
RA-224	5.45E-06
PO-216	1.10E-19
PB-212	2.61E-07
BI-212	5.29E-08
PO-212	0.00E+00
TL-208	1.29E-09
TOTAL	1.15E-03

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	25	30	35	40	65	70	120
N	8.3E-04	7.4E-04	4.6E-04	3.5E-04	1.5E-04	1.3E-04	5.6E-05
NNW	8.1E-04	5.6E-04	3.3E-04	2.4E-04	8.1E-05	7.0E-05	2.5E-05
NW	7.1E-04	3.9E-04	2.1E-04	1.4E-04	3.8E-05	3.4E-05	1.8E-05
WNW	6.1E-04	2.7E-04	1.5E-04	1.1E-04	4.2E-05	3.7E-05	1.7E-05
W	5.9E-04	3.4E-04	2.0E-04	1.5E-04	5.7E-05	5.1E-05	2.5E-05
WSW	8.0E-04	4.7E-04	2.8E-04	2.1E-04	8.2E-05	7.2E-05	3.0E-05
SW	9.5E-04	7.5E-04	4.4E-04	3.1E-04	1.1E-04	9.5E-05	4.0E-05
SSW	1.0E-03	8.9E-04	5.6E-04	4.3E-04	1.7E-04	1.5E-04	5.1E-05
S	1.1E-03	9.3E-04	6.0E-04	4.7E-04	2.1E-04	1.8E-04	8.2E-05
SSE	1.1E-03	8.9E-04	5.7E-04	4.5E-04	1.9E-04	1.6E-04	6.1E-05
SE	1.1E-03	8.6E-04	5.0E-04	3.5E-04	1.2E-04	1.0E-04	4.0E-05
ESE	1.2E-03	6.3E-04	3.6E-04	2.6E-04	9.3E-05	8.0E-05	3.0E-05
E	1.1E-03	6.4E-04	3.6E-04	2.5E-04	8.9E-05	8.0E-05	3.8E-05
ENE	1.0E-03	7.5E-04	4.5E-04	3.3E-04	1.2E-04	1.0E-04	3.4E-05
NE	9.5E-04	8.6E-04	5.3E-04	4.0E-04	1.6E-04	1.4E-04	5.9E-05
NNE	9.1E-04	7.9E-04	5.2E-04	4.2E-04	1.9E-04	1.7E-04	6.6E-05

Distance (m)

Direction	150	220
N	4.1E-05	2.5E-05
NNW	1.7E-05	1.3E-05
NW	1.5E-05	1.2E-05
WNW	1.4E-05	1.1E-05
W	2.0E-05	1.5E-05
WSW	2.2E-05	1.5E-05
SW	3.0E-05	1.9E-05
SSW	3.4E-05	2.1E-05
S	6.1E-05	3.4E-05
SSE	4.2E-05	2.5E-05
SE	2.9E-05	1.9E-05
ESE	2.1E-05	1.5E-05
E	2.9E-05	1.9E-05
ENE	2.3E-05	1.6E-05
NE	4.4E-05	2.6E-05
NNE	4.7E-05	2.7E-05

CAP88-PC OUTPUT (Population)

```
                         C A P 8 8 - P C

                          Version 2.00


              Clean Air Act Assessment Package - 1988


                   S Y N O P S I S   R E P O R T

                  Non-Radon Population Assessment
                       Mar  3, 2005  11:15 am


     Facility:  Maywood Interim Storage Site - Soil Load
      Address:  100 W. Hunter Avenue
         City:  Maywood
        State:  NJ          Zip:  07607


     Source Category:  Particulate Emission w radon daughters
         Source Type:  Area
       Emission Year:  2004


     Comments:  Shaw E&I for
                U.S. Army Corps of Engineers


                 Effective Dose Equivalent
                       (mrem/year)
                 _________________________

                         2.05E-03
                 _________________________


    At This Location:    250 Meters South

        Dataset Name:  MISS RUN
        Dataset Date:  Mar  3, 2005  11:15 am
           Wind File:  C:\CAP88PC2\WNDFILES\TET95-04.WND
     Population File:  C:\CAP88PC2\POPFILES\MAYWOO~1.POP
```

Mar 3, 2005 11:15 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 2.36E-08

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	9.92E-06	4.46E-05
BREAST	8.80E-06	4.05E-05
R MAR	9.46E-04	3.96E-03
LUNGS	1.31E-02	5.45E-02
THYROID	8.51E-06	3.86E-05
ENDOST	1.18E-02	4.93E-02
RMNDR	3.50E-05	1.62E-04
EFFEC	2.05E-03	8.56E-03

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	1.39E-06	1.39E-06

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	3.2E-08	3.2E-08
U-235	Y	1.00	1.4E-09	1.4E-09
TH-231	Y	1.00	1.4E-09	1.4E-09
U-238	Y	1.00	3.0E-08	3.0E-08
TH-234	Y	1.00	3.0E-08	3.0E-08
PA-234M	Y	1.00	3.0E-08	3.0E-08
PA-234	Y	1.00	3.9E-11	3.9E-11
TH-230	Y	1.00	3.2E-08	3.2E-08
RA-226	W	1.00	2.1E-08	2.1E-08
PO-218	W	1.00	2.1E-08	2.1E-08
PB-214	D	1.00	2.1E-08	2.1E-08
BI-214	W	1.00	2.1E-08	2.1E-08
PO-214	W	1.00	2.1E-08	2.1E-08
PB-210	D	1.00	2.1E-08	2.1E-08
BI-210	W	1.00	2.1E-08	2.1E-08
PO-210	W	1.00	2.1E-08	2.1E-08
PA-231	Y	1.00	1.4E-09	1.4E-09
AC-227	Y	1.00	1.4E-09	1.4E-09
TH-227	Y	1.00	1.4E-09	1.4E-09
FR-223	D	1.00	1.9E-11	1.9E-11
RA-223	W	1.00	1.4E-09	1.4E-09
PO-215	W	1.00	1.4E-09	1.4E-09
PB-211	D	1.00	1.4E-09	1.4E-09
BI-211	W	1.00	1.4E-09	1.4E-09
PO-211	-	0.00	3.8E-12	3.8E-12
TL-207	D	1.00	1.4E-09	1.4E-09
TH-232	Y	1.00	1.3E-07	1.3E-07
RA-228	W	1.00	1.3E-07	1.3E-07
AC-228	Y	1.00	1.3E-07	1.3E-07
TH-228	Y	1.00	1.3E-07	1.3E-07
RA-224	W	1.00	1.3E-07	1.3E-07
PO-216	W	1.00	1.3E-07	1.3E-07
PB-212	D	1.00	1.3E-07	1.3E-07
BI-212	W	1.00	1.3E-07	1.3E-07
PO-212	W	1.00	8.2E-08	8.2E-08
TL-208	D	1.00	4.6E-08	4.6E-08

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 163.50

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 11:15 am

SYNOPSIS
Page 4

POPULATION DATA

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 11:15 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	9.92E-06	4.46E-05
BREAST	8.80E-06	4.05E-05
R MAR	9.46E-04	3.96E-03
LUNGS	1.31E-02	5.45E-02
THYROID	8.51E-06	3.86E-05
ENDOST	1.18E-02	4.93E-02
RMNDR	3.50E-05	1.62E-04
EFFEC	2.05E-03	8.56E-03

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	3.96E-07	1.86E-05
INHALATION	2.05E-03	8.54E-03
AIR IMMERSION	3.78E-09	8.03E-09
GROUND SURFACE	2.18E-07	1.51E-06
INTERNAL	2.05E-03	8.56E-03
EXTERNAL	2.22E-07	1.51E-06
TOTAL	2.05E-03	8.56E-03

Mar 3, 2005 11:15 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	8.87E-05	3.71E-04
U-235	3.66E-06	1.55E-05
TH-231	2.98E-11	1.18E-10
U-238	7.38E-05	3.08E-04
TH-234	2.29E-08	1.03E-07
PA-234M	1.48E-12	1.01E-12
PA-234	2.56E-12	9.89E-12
TH-230	1.69E-04	7.04E-04
RA-226	4.05E-06	1.81E-05
PO-218	1.18E-11	8.07E-12
PB-214	4.57E-10	5.77E-10
BI-214	5.72E-10	6.36E-10
PO-214	0.00E+00	0.00E+00
PB-210	6.29E-06	3.07E-05
BI-210	8.74E-08	3.59E-07
PO-210	3.91E-06	1.76E-05
PA-231	1.42E-05	5.94E-05
AC-227	1.88E-05	7.83E-05
TH-227	3.41E-07	1.41E-06
FR-223	1.02E-12	1.17E-12
RA-223	2.44E-07	1.02E-06
PO-215	0.00E+00	0.00E+00
PB-211	2.67E-10	3.83E-10
BI-211	1.25E-11	8.46E-12
PO-211	0.00E+00	0.00E+00
TL-207	1.81E-13	1.30E-13
TH-232	9.71E-04	4.05E-03
RA-228	6.65E-06	3.11E-05
AC-228	2.33E-07	7.63E-07
TH-228	6.82E-04	2.84E-03
RA-224	9.47E-06	3.87E-05
PO-216	0.00E+00	0.00E+00
PB-212	4.55E-07	1.63E-06
BI-212	8.91E-08	1.61E-07
PO-212	0.00E+00	0.00E+00
TL-208	1.16E-09	7.97E-10
TOTAL	2.05E-03	8.56E-03

Mar 3, 2005 11:15 am

SUMMARY
Page 6

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Distance (m)

Direction	250	750	1500	2500	3500	4500	7500
N	1.3E-03	1.5E-04	4.3E-05	1.8E-05	1.0E-05	6.8E-06	3.0E-06
NNW	3.1E-04	3.7E-05	1.1E-05	4.3E-06	2.5E-06	1.7E-06	7.2E-07
NW	2.1E-04	2.6E-05	7.3E-06	3.0E-06	1.7E-06	1.1E-06	5.0E-07
WNW	1.8E-04	2.2E-05	6.2E-06	2.5E-06	1.5E-06	9.7E-07	4.3E-07
W	4.5E-04	5.6E-05	1.6E-05	6.6E-06	3.8E-06	2.5E-06	1.1E-06
WSW	5.0E-04	6.1E-05	1.7E-05	7.1E-06	4.0E-06	2.7E-06	1.2E-06
SW	8.2E-04	9.8E-05	2.8E-05	1.1E-05	6.4E-06	4.3E-06	1.8E-06
SSW	9.8E-04	1.2E-04	3.3E-05	1.4E-05	7.7E-06	5.2E-06	2.2E-06
S	2.1E-03	2.4E-04	6.7E-05	2.7E-05	1.6E-05	1.0E-05	4.4E-06
SSE	1.3E-03	1.6E-04	4.4E-05	1.8E-05	1.0E-05	6.9E-06	3.0E-06
SE	7.8E-04	9.4E-05	2.7E-05	1.1E-05	6.4E-06	4.3E-06	1.9E-06
ESE	4.7E-04	5.7E-05	1.6E-05	6.8E-06	3.9E-06	2.6E-06	1.2E-06
E	8.1E-04	9.8E-05	2.8E-05	1.2E-05	6.6E-06	4.5E-06	2.0E-06
ENE	5.2E-04	6.3E-05	1.8E-05	7.5E-06	4.3E-06	2.9E-06	1.3E-06
NE	1.4E-03	1.6E-04	4.5E-05	1.8E-05	1.0E-05	7.0E-06	3.0E-06
NNE	1.5E-03	1.7E-04	4.8E-05	2.0E-05	1.1E-05	7.4E-06	3.2E-06

Distance (m)

Direction	15000	25000	35000	45000	55000	65000	75000
N	1.0E-06	4.0E-07	2.4E-07	1.6E-07	1.0E-07	6.0E-08	4.6E-08
NNW	2.5E-07	9.7E-08	5.8E-08	3.8E-08	2.5E-08	1.6E-08	1.2E-08
NW	1.7E-07	6.7E-08	3.9E-08	2.6E-08	1.7E-08	1.1E-08	8.7E-09
WNW	1.4E-07	5.9E-08	3.5E-08	2.3E-08	1.6E-08	1.1E-08	8.2E-09
W	3.7E-07	1.5E-07	8.6E-08	5.6E-08	3.8E-08	2.5E-08	1.9E-08
WSW	3.9E-07	1.5E-07	8.6E-08	5.5E-08	3.6E-08	2.2E-08	1.7E-08
SW	6.2E-07	2.3E-07	1.3E-07	8.5E-08	5.5E-08	3.2E-08	2.4E-08
SSW	7.7E-07	2.9E-07	1.7E-07	1.1E-07	7.4E-08	4.2E-08	3.2E-08
S	1.5E-06	5.5E-07	3.3E-07	2.1E-07	1.3E-07	7.1E-08	5.4E-08
SSE	1.0E-06	4.1E-07	2.4E-07	1.6E-07	0.0E+00	0.0E+00	0.0E+00
SE	6.8E-07	2.8E-07	1.7E-07	1.2E-07	7.9E-08	0.0E+00	0.0E+00
ESE	4.2E-07	1.7E-07	1.1E-07	7.1E-08	4.9E-08	3.0E-08	2.4E-08
E	7.1E-07	2.9E-07	1.8E-07	1.2E-07	8.0E-08	4.8E-08	3.7E-08
ENE	4.6E-07	1.9E-07	1.2E-07	8.0E-08	5.5E-08	3.4E-08	2.7E-08
NE	1.0E-06	4.0E-07	2.4E-07	1.5E-07	1.0E-07	5.4E-08	4.2E-08
NNE	1.1E-06	4.0E-07	2.4E-07	1.5E-07	9.8E-08	5.1E-08	3.9E-08

Mar 3, 2005 11:15 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	9.4E-05	3.3E-05	3.8E-05	2.6E-05	2.1E-05	1.8E-05	6.5E-05
NNW	2.2E-05	8.1E-06	9.1E-06	6.3E-06	5.0E-06	4.3E-06	1.6E-05
NW	1.5E-05	5.6E-06	6.3E-06	4.3E-06	3.5E-06	3.0E-06	1.1E-05
WNW	1.3E-05	4.7E-06	5.4E-06	3.7E-06	3.0E-06	2.5E-06	8.3E-06
W	3.3E-05	1.2E-05	1.4E-05	9.5E-06	7.6E-06	6.6E-06	1.9E-05
WSW	3.7E-05	1.3E-05	1.5E-05	1.0E-05	8.2E-06	7.1E-06	2.0E-05
SW	6.0E-05	2.1E-05	2.4E-05	1.6E-05	1.3E-05	1.1E-05	3.2E-05
SSW	7.2E-05	2.5E-05	2.9E-05	2.0E-05	1.6E-05	1.4E-05	4.9E-05
S	1.5E-04	5.2E-05	5.8E-05	3.9E-05	3.1E-05	2.7E-05	9.7E-05
SSE	9.6E-05	3.4E-05	3.8E-05	2.6E-05	2.1E-05	1.8E-05	8.5E-05
SE	5.7E-05	2.1E-05	2.3E-05	1.6E-05	1.3E-05	1.1E-05	4.2E-05
ESE	3.4E-05	1.2E-05	1.4E-05	9.8E-06	7.9E-06	6.9E-06	2.5E-05
E	5.9E-05	2.1E-05	2.4E-05	1.7E-05	1.3E-05	1.2E-05	4.3E-05
ENE	3.8E-05	1.4E-05	1.6E-05	1.1E-05	8.8E-06	7.6E-06	2.8E-05
NE	1.0E-04	3.5E-05	3.9E-05	2.7E-05	2.1E-05	1.8E-05	6.6E-05
NNE	1.1E-04	3.8E-05	4.2E-05	2.8E-05	2.3E-05	1.9E-05	6.9E-05

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	8.3E-05	2.6E-05	1.8E-05	5.1E-06	3.2E-06	2.1E-06	1.6E-06
NNW	2.1E-05	1.1E-05	2.4E-06	1.1E-06	8.7E-07	6.4E-07	5.4E-07
NW	1.4E-05	5.7E-06	4.6E-06	3.5E-06	9.1E-07	3.1E-07	3.0E-07
WNW	8.9E-06	4.2E-06	3.4E-06	1.1E-06	3.6E-07	2.8E-07	2.2E-07
W	2.6E-05	1.4E-05	4.5E-06	3.6E-06	2.0E-06	1.1E-06	6.3E-07
WSW	4.7E-05	2.7E-05	5.3E-06	3.5E-06	2.8E-06	1.4E-05	5.5E-07
SW	8.0E-05	5.7E-05	3.5E-05	1.4E-05	6.7E-06	2.7E-06	3.3E-06
SSW	1.2E-04	7.9E-05	5.3E-05	2.6E-05	1.2E-05	8.3E-06	1.4E-05
S	3.9E-04	2.1E-04	1.0E-04	6.2E-06	7.1E-06	7.7E-06	5.3E-06
SSE	6.1E-04	4.3E-04	3.0E-04	6.6E-06	0.0E+00	0.0E+00	0.0E+00
SE	6.0E-04	2.1E-04	1.4E-04	4.5E-05	3.0E-06	0.0E+00	0.0E+00
ESE	3.8E-04	9.1E-05	3.2E-05	2.4E-05	1.5E-05	3.4E-06	1.3E-06
E	4.3E-04	9.2E-05	1.1E-05	1.9E-05	6.6E-06	4.6E-06	4.2E-06
ENE	4.3E-05	1.6E-05	1.0E-05	5.2E-06	3.3E-06	2.4E-06	2.2E-06
NE	7.4E-05	2.5E-05	2.6E-05	2.2E-05	1.7E-05	7.5E-06	6.5E-06
NNE	7.7E-05	1.3E-05	2.1E-05	2.1E-05	8.1E-06	2.1E-06	1.7E-06

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Population Assessment
Mar 3, 2005 11:26 am

Facility: Maywood Interim Storage Site - Cluster 2B
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

1.05E-04

At This Location: 250 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 11:25 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND
Population File: C:\CAP88PC2\POPFILES\MAYWOO~1.POP

Mar 3, 2005 11:26 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 1.22E-09

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	5.02E-07	2.25E-06
BREAST	4.54E-07	2.08E-06
R MAR	4.84E-05	2.03E-04
LUNGS	6.74E-04	2.81E-03
THYROID	4.40E-07	1.99E-06
ENDOST	6.02E-04	2.52E-03
RMNDR	1.72E-06	7.94E-06
EFFEC	1.05E-04	4.40E-04

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	7.17E-08	7.17E-08

Mar 3, 2005 11:26 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.4E-09	1.4E-09
U-235	Y	1.00	6.2E-11	6.2E-11
TH-231	Y	1.00	6.2E-11	6.2E-11
U-238	Y	1.00	1.3E-09	1.3E-09
TH-234	Y	1.00	1.3E-09	1.3E-09
PA-234M	Y	1.00	1.3E-09	1.3E-09
PA-234	Y	1.00	1.7E-12	1.7E-12
TH-230	Y	1.00	1.4E-09	1.4E-09
RA-226	W	1.00	1.0E-09	1.0E-09
PO-218	W	1.00	1.0E-09	1.0E-09
PB-214	D	1.00	1.0E-09	1.0E-09
BI-214	W	1.00	1.0E-09	1.0E-09
PO-214	W	1.00	1.0E-09	1.0E-09
PB-210	D	1.00	1.0E-09	1.0E-09
BI-210	W	1.00	1.0E-09	1.0E-09
PO-210	W	1.00	1.0E-09	1.0E-09
PA-231	Y	1.00	6.2E-11	6.2E-11
AC-227	Y	1.00	6.2E-11	6.2E-11
TH-227	Y	1.00	6.1E-11	6.1E-11
FR-223	D	1.00	8.5E-13	8.5E-13
RA-223	W	1.00	6.2E-11	6.2E-11
PO-215	W	1.00	6.2E-11	6.2E-11
PB-211	D	1.00	6.2E-11	6.2E-11
BI-211	W	1.00	6.2E-11	6.2E-11
PO-211	-	0.00	1.7E-13	1.7E-13
TL-207	D	1.00	6.2E-11	6.2E-11
TH-232	Y	1.00	6.8E-09	6.8E-09
RA-228	W	1.00	6.8E-09	6.8E-09
AC-228	Y	1.00	6.8E-09	6.8E-09
TH-228	Y	1.00	6.8E-09	6.8E-09
RA-224	W	1.00	6.8E-09	6.8E-09
PO-216	W	1.00	6.8E-09	6.8E-09
PB-212	D	1.00	6.8E-09	6.8E-09
BI-212	W	1.00	6.8E-09	6.8E-09
PO-212	W	1.00	4.3E-09	4.3E-09
TL-208	D	1.00	2.4E-09	2.4E-09

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 11:26 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1142.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 11:26 am

SYNOPSIS
Page 4

POPULATION DATA

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 11:26 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	5.02E-07	2.25E-06
BREAST	4.54E-07	2.08E-06
R MAR	4.84E-05	2.03E-04
LUNGS	6.74E-04	2.81E-03
THYROID	4.40E-07	1.99E-06
ENDOST	6.02E-04	2.52E-03
RMNDR	1.72E-06	7.94E-06
EFFEC	1.05E-04	4.40E-04

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	1.93E-08	9.07E-07
INHALATION	1.05E-04	4.39E-04
AIR IMMERSION	1.98E-10	4.23E-10
GROUND SURFACE	1.02E-08	7.01E-08
INTERNAL	1.05E-04	4.40E-04
EXTERNAL	1.04E-08	7.05E-08
TOTAL	1.05E-04	4.40E-04

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	3.90E-06	1.63E-05
U-235	1.62E-07	6.86E-07
TH-231	1.32E-12	5.22E-12
U-238	3.25E-06	1.36E-05
TH-234	1.01E-09	4.52E-09
PA-234M	6.50E-14	4.45E-14
PA-234	1.13E-13	4.36E-13
TH-230	7.42E-06	3.09E-05
RA-226	1.92E-07	8.57E-07
PO-218	5.59E-13	3.83E-13
PB-214	2.17E-11	2.74E-11
BI-214	2.71E-11	3.01E-11
PO-214	0.00E+00	0.00E+00
PB-210	2.98E-07	1.46E-06
BI-210	4.14E-09	1.70E-08
PO-210	1.85E-07	8.33E-07
PA-231	6.28E-07	2.63E-06
AC-227	8.29E-07	3.46E-06
TH-227	1.51E-08	6.25E-08
FR-223	4.48E-14	5.14E-14
RA-223	1.08E-08	4.51E-08
PO-215	0.00E+00	0.00E+00
PB-211	1.18E-11	1.69E-11
BI-211	5.53E-13	3.74E-13
PO-211	0.00E+00	0.00E+00
TL-207	7.98E-15	5.72E-15
TH-232	5.15E-05	2.15E-04
RA-228	3.53E-07	1.65E-06
AC-228	1.24E-08	4.05E-08
TH-228	3.62E-05	1.51E-04
RA-224	5.02E-07	2.05E-06
PO-216	0.00E+00	0.00E+00
PB-212	2.41E-08	8.64E-08
BI-212	4.73E-09	8.52E-09
PO-212	0.00E+00	0.00E+00
TL-208	6.17E-11	4.23E-11
TOTAL	1.05E-04	4.40E-04

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	6.6E-05	7.9E-06	2.2E-06	9.1E-07	5.2E-07	3.5E-07	1.5E-07
NNW	1.6E-05	1.9E-06	5.4E-07	2.2E-07	1.3E-07	8.5E-08	3.7E-08
NW	1.1E-05	1.3E-06	3.7E-07	1.5E-07	8.7E-08	5.8E-08	2.5E-08
WNW	9.0E-06	1.1E-06	3.2E-07	1.3E-07	7.5E-08	5.0E-08	2.2E-08
W	2.3E-05	2.9E-06	8.2E-07	3.4E-07	1.9E-07	1.3E-07	5.7E-08
WSW	2.6E-05	3.1E-06	8.9E-07	3.7E-07	2.1E-07	1.4E-07	6.0E-08
SW	4.2E-05	5.0E-06	1.4E-06	5.8E-07	3.3E-07	2.2E-07	9.5E-08
SSW	5.0E-05	6.0E-06	1.7E-06	6.9E-07	4.0E-07	2.7E-07	1.2E-07
S	1.1E-04	1.2E-05	3.4E-06	1.4E-06	8.0E-07	5.3E-07	2.3E-07
SSE	6.8E-05	8.0E-06	2.3E-06	9.2E-07	5.3E-07	3.6E-07	1.6E-07
SE	4.0E-05	4.8E-06	1.4E-06	5.7E-07	3.3E-07	2.2E-07	9.9E-08
ESE	2.4E-05	2.9E-06	8.4E-07	3.5E-07	2.0E-07	1.4E-07	6.0E-08
E	4.2E-05	5.0E-06	1.4E-06	5.9E-07	3.4E-07	2.3E-07	1.0E-07
ENE	2.7E-05	3.3E-06	9.3E-07	3.9E-07	2.2E-07	1.5E-07	6.7E-08
NE	7.0E-05	8.2E-06	2.3E-06	9.4E-07	5.4E-07	3.6E-07	1.6E-07
NNE	7.6E-05	8.9E-06	2.5E-06	1.0E-06	5.7E-07	3.8E-07	1.6E-07

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	5.3E-08	2.1E-08	1.2E-08	8.0E-09	5.3E-09	3.1E-09	2.4E-09
NNW	1.3E-08	5.0E-09	3.0E-09	1.9E-09	1.3E-09	8.1E-10	6.3E-10
NW	8.6E-09	3.4E-09	2.0E-09	1.3E-09	9.0E-10	5.7E-10	4.4E-10
WNW	7.4E-09	3.0E-09	1.8E-09	1.2E-09	8.0E-10	5.4E-10	4.2E-10
W	1.9E-08	7.6E-09	4.4E-09	2.9E-09	1.9E-09	1.3E-09	9.9E-10
WSW	2.0E-08	7.7E-09	4.4E-09	2.8E-09	1.9E-09	1.2E-09	8.8E-10
SW	3.2E-08	1.2E-08	6.9E-09	4.4E-09	2.8E-09	1.6E-09	1.2E-09
SSW	3.9E-08	1.5E-08	8.9E-09	5.8E-09	3.8E-09	2.2E-09	1.7E-09
S	7.8E-08	2.8E-08	1.7E-08	1.1E-08	6.9E-09	3.6E-09	2.7E-09
SSE	5.4E-08	2.1E-08	1.3E-08	8.2E-09	0.0E+00	0.0E+00	0.0E+00
SE	3.5E-08	1.5E-08	8.8E-09	5.9E-09	4.0E-09	0.0E+00	0.0E+00
ESE	2.1E-08	8.9E-09	5.4E-09	3.6E-09	2.5E-09	1.6E-09	1.2E-09
E	3.6E-08	1.5E-08	9.1E-09	6.1E-09	4.1E-09	2.5E-09	1.9E-09
ENE	2.4E-08	1.0E-08	6.1E-09	4.1E-09	2.8E-09	1.8E-09	1.4E-09
NE	5.4E-08	2.0E-08	1.2E-08	7.9E-09	5.1E-09	2.8E-09	2.1E-09
NNE	5.6E-08	2.1E-08	1.2E-08	7.8E-09	5.0E-09	2.6E-09	2.0E-09

Mar 3, 2005 11:26 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

Direction	250	750	1500	2500	3500	4500	7500
	Distance (m)						
N	4.8E-06	1.7E-06	1.9E-06	1.3E-06	1.1E-06	9.1E-07	3.3E-06
NNW	1.2E-06	4.2E-07	4.7E-07	3.2E-07	2.6E-07	2.2E-07	8.1E-07
NW	7.9E-07	2.9E-07	3.2E-07	2.2E-07	1.8E-07	1.5E-07	5.5E-07
WNW	6.6E-07	2.4E-07	2.8E-07	1.9E-07	1.5E-07	1.3E-07	4.3E-07
W	1.7E-06	6.2E-07	7.1E-07	4.9E-07	3.9E-07	3.4E-07	9.8E-07
WSW	1.9E-06	6.8E-07	7.7E-07	5.3E-07	4.2E-07	3.6E-07	1.0E-06
SW	3.1E-06	1.1E-06	1.2E-06	8.4E-07	6.7E-07	5.7E-07	1.7E-06
SSW	3.7E-06	1.3E-06	1.5E-06	1.0E-06	8.1E-07	6.9E-07	2.5E-06
S	7.7E-06	2.7E-06	3.0E-06	2.0E-06	1.6E-06	1.4E-06	5.0E-06
SSE	4.9E-06	1.7E-06	2.0E-06	1.3E-06	1.1E-06	9.3E-07	4.4E-06
SE	2.9E-06	1.1E-06	1.2E-06	8.3E-07	6.7E-07	5.8E-07	2.1E-06
ESE	1.8E-06	6.4E-07	7.3E-07	5.0E-07	4.1E-07	3.5E-07	1.3E-06
E	3.0E-06	1.1E-06	1.2E-06	8.6E-07	6.9E-07	6.0E-07	2.2E-06
ENE	2.0E-06	7.1E-07	8.1E-07	5.6E-07	4.5E-07	3.9E-07	1.5E-06
NE	5.1E-06	1.8E-06	2.0E-06	1.4E-06	1.1E-06	9.4E-07	3.4E-06
NNE	5.6E-06	1.9E-06	2.1E-06	1.5E-06	1.2E-06	1.0E-06	3.6E-06

Direction	15000	25000	35000	45000	55000	65000	75000
	Distance (m)						
N	4.3E-06	1.3E-06	9.4E-07	2.6E-07	1.6E-07	1.1E-07	8.1E-08
NNW	1.1E-06	5.4E-07	1.2E-07	5.4E-08	4.5E-08	3.3E-08	2.8E-08
NW	7.0E-07	2.9E-07	2.3E-07	1.8E-07	4.7E-08	1.6E-08	1.5E-08
WNW	4.6E-07	2.1E-07	1.8E-07	5.5E-08	1.8E-08	1.4E-08	1.1E-08
W	1.3E-06	7.0E-07	2.3E-07	1.9E-07	1.0E-07	5.7E-08	3.2E-08
WSW	2.4E-06	1.4E-06	2.7E-07	1.8E-07	1.4E-07	7.4E-07	2.8E-08
SW	4.1E-06	2.9E-06	1.8E-06	7.0E-07	3.5E-07	1.4E-07	1.7E-07
SSW	6.1E-06	4.1E-06	2.7E-06	1.3E-06	6.3E-07	4.3E-07	6.9E-07
S	2.0E-05	1.1E-05	5.3E-06	3.2E-07	3.6E-07	4.0E-07	2.7E-07
SSE	3.1E-05	2.2E-05	1.5E-05	3.4E-07	0.0E+00	0.0E+00	0.0E+00
SE	3.1E-05	1.1E-05	7.4E-06	2.3E-06	1.5E-07	0.0E+00	0.0E+00
ESE	1.9E-05	4.7E-06	1.6E-06	1.2E-06	7.6E-07	1.8E-07	6.8E-08
E	2.2E-05	4.7E-06	5.7E-07	9.6E-07	3.4E-07	2.4E-07	2.1E-07
ENE	2.2E-06	8.3E-07	5.3E-07	2.7E-07	1.7E-07	1.2E-07	1.1E-07
NE	3.8E-06	1.3E-06	1.3E-06	1.1E-06	9.0E-07	3.8E-07	3.3E-07
NNE	4.0E-06	6.7E-07	1.1E-06	1.1E-06	4.2E-07	1.1E-07	8.8E-08

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Population Assessment
Mar 3, 2005 11:34 am

Facility: Maywood Interim Storage Site - Cluster 2C
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent (mrem/year)
1.61E-04

At This Location: 250 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 11:33 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND
Population File: C:\CAP88PC2\POPFILES\MAYWOO~1.POP

Mar 3, 2005 11:34 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 1.86E-09

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	7.67E-07	3.45E-06
BREAST	6.98E-07	3.20E-06
R MAR	7.37E-05	3.08E-04
LUNGS	1.03E-03	4.27E-03
THYROID	6.76E-07	3.06E-06
ENDOST	9.16E-04	3.84E-03
RMNDR	2.67E-06	1.23E-05
EFFEC	1.61E-04	6.70E-04

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	1.09E-07	1.09E-07

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	2.1E-09	2.1E-09
U-235	Y	1.00	9.1E-11	9.1E-11
TH-231	Y	1.00	9.1E-11	9.1E-11
U-238	Y	1.00	1.9E-09	1.9E-09
TH-234	Y	1.00	1.9E-09	1.9E-09
PA-234M	Y	1.00	1.9E-09	1.9E-09
PA-234	Y	1.00	2.5E-12	2.5E-12
TH-230	Y	1.00	2.1E-09	2.1E-09
RA-226	W	1.00	1.6E-09	1.6E-09
PO-218	W	1.00	1.6E-09	1.6E-09
PB-214	D	1.00	1.6E-09	1.6E-09
BI-214	W	1.00	1.6E-09	1.6E-09
PO-214	W	1.00	1.6E-09	1.6E-09
PB-210	D	1.00	1.6E-09	1.6E-09
BI-210	W	1.00	1.6E-09	1.6E-09
PO-210	W	1.00	1.6E-09	1.6E-09
PA-231	Y	1.00	9.0E-11	9.0E-11
AC-227	Y	1.00	9.1E-11	9.1E-11
TH-227	Y	1.00	8.9E-11	8.9E-11
FR-223	D	1.00	1.2E-12	1.2E-12
RA-223	W	1.00	9.1E-11	9.1E-11
PO-215	W	1.00	9.1E-11	9.1E-11
PB-211	D	1.00	9.1E-11	9.1E-11
BI-211	W	1.00	9.1E-11	9.1E-11
PO-211	-	0.00	2.5E-13	2.5E-13
TL-207	D	1.00	9.0E-11	9.0E-11
TH-232	Y	1.00	1.0E-08	1.0E-08
RA-228	W	1.00	1.0E-08	1.0E-08
AC-228	Y	1.00	1.0E-08	1.0E-08
TH-228	Y	1.00	1.0E-08	1.0E-08
RA-224	W	1.00	1.0E-08	1.0E-08
PO-216	W	1.00	1.0E-08	1.0E-08
PB-212	D	1.00	1.0E-08	1.0E-08
BI-212	W	1.00	1.0E-08	1.0E-08
PO-212	W	1.00	6.6E-09	6.6E-09
TL-208	D	1.00	3.7E-09	3.7E-09

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 11:34 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 4419.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 11:34 am

SYNOPSIS
Page 4

POPULATION DATA

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 11:34 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	7.67E-07	3.45E-06
BREAST	6.98E-07	3.20E-06
R MAR	7.37E-05	3.08E-04
LUNGS	1.03E-03	4.27E-03
THYROID	6.76E-07	3.06E-06
ENDOST	9.16E-04	3.84E-03
RMNDR	2.67E-06	1.23E-05
EFFEC	1.61E-04	6.70E-04

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	3.00E-08	1.41E-06
INHALATION	1.61E-04	6.68E-04
AIR IMMERSION	3.05E-10	6.49E-10
GROUND SURFACE	1.55E-08	1.07E-07
INTERNAL	1.61E-04	6.70E-04
EXTERNAL	1.58E-08	1.07E-07
TOTAL	1.61E-04	6.70E-04

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	5.72E-06	2.39E-05
U-235	2.37E-07	1.00E-06
TH-231	1.92E-12	7.63E-12
U-238	4.75E-06	1.98E-05
TH-234	1.48E-09	6.60E-09
PA-234M	9.51E-14	6.51E-14
PA-234	1.65E-13	6.37E-13
TH-230	1.09E-05	4.54E-05
RA-226	3.11E-07	1.39E-06
PO-218	9.07E-13	6.21E-13
PB-214	3.52E-11	4.44E-11
BI-214	4.41E-11	4.89E-11
PO-214	0.00E+00	0.00E+00
PB-210	4.85E-07	2.37E-06
BI-210	6.73E-09	2.76E-08
PO-210	3.01E-07	1.35E-06
PA-231	9.17E-07	3.84E-06
AC-227	1.21E-06	5.06E-06
TH-227	2.20E-08	9.15E-08
FR-223	6.55E-14	7.53E-14
RA-223	1.58E-08	6.59E-08
PO-215	0.00E+00	0.00E+00
PB-211	1.72E-11	2.48E-11
BI-211	8.08E-13	5.47E-13
PO-211	0.00E+00	0.00E+00
TL-207	1.17E-14	8.37E-15
TH-232	7.89E-05	3.29E-04
RA-228	5.40E-07	2.52E-06
AC-228	1.90E-08	6.20E-08
TH-228	5.54E-05	2.31E-04
RA-224	7.69E-07	3.14E-06
PO-216	0.00E+00	0.00E+00
PB-212	3.70E-08	1.32E-07
BI-212	7.24E-09	1.30E-08
PO-212	0.00E+00	0.00E+00
TL-208	9.41E-11	6.44E-11
TOTAL	1.61E-04	6.70E-04

Mar 3, 2005 11:34 am

SUMMARY
Page 6

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	1.0E-04	1.2E-05	3.4E-06	1.4E-06	7.9E-07	5.3E-07	2.3E-07
NNW	2.4E-05	2.9E-06	8.2E-07	3.4E-07	1.9E-07	1.3E-07	5.6E-08
NW	1.7E-05	2.0E-06	5.7E-07	2.3E-07	1.3E-07	8.9E-08	3.9E-08
WNW	1.4E-05	1.7E-06	4.8E-07	2.0E-07	1.1E-07	7.6E-08	3.3E-08
W	3.5E-05	4.3E-06	1.2E-06	5.1E-07	2.9E-07	2.0E-07	8.6E-08
WSW	3.9E-05	4.8E-06	1.4E-06	5.6E-07	3.2E-07	2.1E-07	9.2E-08
SW	6.4E-05	7.7E-06	2.2E-06	8.8E-07	5.0E-07	3.3E-07	1.4E-07
SSW	7.7E-05	9.1E-06	2.6E-06	1.1E-06	6.0E-07	4.0E-07	1.8E-07
S	1.6E-04	1.9E-05	5.2E-06	2.1E-06	1.2E-06	8.1E-07	3.5E-07
SSE	1.0E-04	1.2E-05	3.4E-06	1.4E-06	8.1E-07	5.4E-07	2.4E-07
SE	6.1E-05	7.4E-06	2.1E-06	8.7E-07	5.0E-07	3.4E-07	1.5E-07
ESE	3.7E-05	4.5E-06	1.3E-06	5.3E-07	3.0E-07	2.1E-07	9.1E-08
E	6.4E-05	7.6E-06	2.2E-06	9.0E-07	5.2E-07	3.5E-07	1.6E-07
ENE	4.1E-05	5.0E-06	1.4E-06	5.9E-07	3.4E-07	2.3E-07	1.0E-07
NE	1.1E-04	1.3E-05	3.5E-06	1.4E-06	8.2E-07	5.5E-07	2.4E-07
NNE	1.2E-04	1.3E-05	3.8E-06	1.5E-06	8.7E-07	5.8E-07	2.5E-07

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	8.0E-08	3.1E-08	1.9E-08	1.2E-08	8.1E-09	4.7E-09	3.6E-09
NNW	1.9E-08	7.6E-09	4.5E-09	3.0E-09	2.0E-09	1.2E-09	9.6E-10
NW	1.3E-08	5.2E-09	3.1E-09	2.0E-09	1.4E-09	8.7E-10	6.8E-10
WNW	1.1E-08	4.6E-09	2.7E-09	1.8E-09	1.2E-09	8.2E-10	6.4E-10
W	2.9E-08	1.2E-08	6.8E-09	4.4E-09	3.0E-09	2.0E-09	1.5E-09
WSW	3.0E-08	1.2E-08	6.7E-09	4.3E-09	2.8E-09	1.8E-09	1.3E-09
SW	4.8E-08	1.8E-08	1.0E-08	6.7E-09	4.3E-09	2.5E-09	1.9E-09
SSW	6.0E-08	2.3E-08	1.4E-08	8.8E-09	5.8E-09	3.3E-09	2.5E-09
S	1.2E-07	4.3E-08	2.6E-08	1.6E-08	1.0E-08	5.5E-09	4.2E-09
SSE	8.2E-08	3.2E-08	1.9E-08	1.3E-08	0.0E+00	0.0E+00	0.0E+00
SE	5.3E-08	2.2E-08	1.3E-08	9.0E-09	6.2E-09	0.0E+00	0.0E+00
ESE	3.3E-08	1.4E-08	8.3E-09	5.6E-09	3.8E-09	2.4E-09	1.9E-09
E	5.5E-08	2.3E-08	1.4E-08	9.2E-09	6.3E-09	3.7E-09	2.9E-09
ENE	3.6E-08	1.5E-08	9.3E-09	6.2E-09	4.3E-09	2.7E-09	2.1E-09
NE	8.2E-08	3.1E-08	1.8E-08	1.2E-08	7.8E-09	4.3E-09	3.2E-09
NNE	8.5E-08	3.1E-08	1.9E-08	1.2E-08	7.6E-09	4.0E-09	3.0E-09

Mar 3, 2005 11:34 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

Direction	250	750	1500	2500	3500	4500	7500
N	7.3E-06	2.6E-06	2.9E-06	2.0E-06	1.6E-06	1.4E-06	5.1E-06
NNW	1.8E-06	6.3E-07	7.1E-07	4.9E-07	3.9E-07	3.4E-07	1.2E-06
NW	1.2E-06	4.4E-07	4.9E-07	3.4E-07	2.7E-07	2.3E-07	8.4E-07
WNW	1.0E-06	3.7E-07	4.2E-07	2.9E-07	2.3E-07	2.0E-07	6.5E-07
W	2.5E-06	9.5E-07	1.1E-06	7.5E-07	6.0E-07	5.1E-07	1.5E-06
WSW	2.9E-06	1.0E-06	1.2E-06	8.1E-07	6.4E-07	5.5E-07	1.6E-06
SW	4.7E-06	1.7E-06	1.9E-06	1.3E-06	1.0E-06	8.7E-07	2.5E-06
SSW	5.6E-06	2.0E-06	2.2E-06	1.5E-06	1.2E-06	1.1E-06	3.8E-06
S	1.2E-05	4.1E-06	4.5E-06	3.1E-06	2.5E-06	2.1E-06	7.6E-06
SSE	7.5E-06	2.7E-06	3.0E-06	2.0E-06	1.6E-06	1.4E-06	6.6E-06
SE	4.5E-06	1.6E-06	1.8E-06	1.3E-06	1.0E-06	8.8E-07	3.3E-06
ESE	2.7E-06	9.7E-07	1.1E-06	7.7E-07	6.2E-07	5.4E-07	2.0E-06
E	4.6E-06	1.7E-06	1.9E-06	1.3E-06	1.1E-06	9.1E-07	3.4E-06
ENE	3.0E-06	1.1E-06	1.2E-06	8.5E-07	6.9E-07	6.0E-07	2.2E-06
NE	7.8E-06	2.7E-06	3.0E-06	2.1E-06	1.7E-06	1.4E-06	5.2E-06
NNE	8.5E-06	2.9E-06	3.3E-06	2.2E-06	1.8E-06	1.5E-06	5.4E-06

Distance (m)

Direction	15000	25000	35000	45000	55000	65000	75000
N	6.5E-06	2.0E-06	1.4E-06	4.0E-07	2.5E-07	1.7E-07	1.2E-07
NNW	1.7E-06	8.3E-07	1.9E-07	8.3E-08	6.8E-08	5.0E-08	4.3E-08
NW	1.1E-06	4.4E-07	3.6E-07	2.8E-07	7.1E-08	2.4E-08	2.3E-08
WNW	6.9E-07	3.3E-07	2.7E-07	8.4E-08	2.8E-08	2.2E-08	1.7E-08
W	2.0E-06	1.1E-06	3.5E-07	2.8E-07	1.5E-07	8.7E-08	4.9E-08
WSW	3.7E-06	2.1E-06	4.1E-07	2.8E-07	2.2E-07	1.1E-06	4.3E-08
SW	6.3E-06	4.5E-06	2.7E-06	1.1E-06	5.3E-07	2.1E-07	2.6E-07
SSW	9.2E-06	6.2E-06	4.2E-06	2.0E-06	9.6E-07	6.5E-07	1.1E-06
S	3.0E-05	1.7E-05	8.0E-06	4.9E-07	5.6E-07	6.1E-07	4.2E-07
SSE	4.8E-05	3.4E-05	2.3E-05	5.2E-07	0.0E+00	0.0E+00	0.0E+00
SE	4.7E-05	1.6E-05	1.1E-05	3.5E-06	2.3E-07	0.0E+00	0.0E+00
ESE	3.0E-05	7.1E-06	2.5E-06	1.8E-06	1.2E-06	2.7E-07	1.0E-07
E	3.4E-05	7.2E-06	8.6E-07	1.5E-06	5.1E-07	3.6E-07	3.3E-07
ENE	3.3E-06	1.3E-06	8.1E-07	4.1E-07	2.6E-07	1.9E-07	1.7E-07
NE	5.8E-06	1.9E-06	2.1E-06	1.7E-06	1.4E-06	5.9E-07	5.0E-07
NNE	6.0E-06	1.0E-06	1.6E-06	1.6E-06	6.3E-07	1.7E-07	1.3E-07

```
                         C A P 8 8 - P C

                          Version 2.00


              Clean Air Act Assessment Package - 1988


                    S Y N O P S I S   R E P O R T

                  Non-Radon Population Assessment
                       Mar  3, 2005  11:43 am



       Facility:  Maywood Interim Storage Site - Cluster 2D
        Address:  100 W. Hunter Avenue
           City:  Maywood
          State:  NJ          Zip:  07607


       Source Category:  Particulate Emission w radon daughters
           Source Type:  Area
         Emission Year:  2004


       Comments:  Shaw E&I for
                  U.S. Army Corps of Engineers


                   Effective Dose Equivalent
                          (mrem/year)
                   _________________________

                            4.89E-07
                   _________________________


      At This Location:    250 Meters South

          Dataset Name:  MISS RUN
          Dataset Date:  Mar  3, 2005  11:43 am
             Wind File:  C:\CAP88PC2\WNDFILES\TET95-04.WND
       Population File:  C:\CAP88PC2\POPFILES\MAYWOO~1.POP
```

Mar 3, 2005 11:43 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 5.58E-12

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	2.42E-09	1.09E-08
BREAST	1.99E-09	9.22E-09
R MAR	2.28E-07	9.55E-07
LUNGS	3.11E-06	1.29E-05
THYROID	1.91E-09	8.70E-09
ENDOST	2.84E-06	1.19E-05
RMNDR	8.67E-09	4.03E-08
EFFEC	4.89E-07	2.04E-06

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	3.28E-10	3.28E-10

Mar 3, 2005 11:43 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.1E-11	1.1E-11
U-235	Y	1.00	5.0E-13	5.0E-13
TH-231	Y	1.00	5.0E-13	5.0E-13
U-238	Y	1.00	1.1E-11	1.1E-11
TH-234	Y	1.00	1.1E-11	1.1E-11
PA-234M	Y	1.00	1.1E-11	1.1E-11
PA-234	Y	1.00	1.4E-14	1.4E-14
TH-230	Y	1.00	1.1E-11	1.1E-11
RA-226	W	1.00	4.9E-12	4.9E-12
PO-218	W	1.00	4.9E-12	4.9E-12
PB-214	D	1.00	4.9E-12	4.9E-12
BI-214	W	1.00	4.9E-12	4.9E-12
PO-214	W	1.00	4.9E-12	4.9E-12
PB-210	D	1.00	4.9E-12	4.9E-12
BI-210	W	1.00	4.9E-12	4.9E-12
PO-210	W	1.00	4.9E-12	4.9E-12
PA-231	Y	1.00	5.0E-13	5.0E-13
AC-227	Y	1.00	5.0E-13	5.0E-13
TH-227	Y	1.00	5.0E-13	5.0E-13
FR-223	D	1.00	6.9E-15	6.9E-15
RA-223	W	1.00	5.0E-13	5.0E-13
PO-215	W	1.00	5.0E-13	5.0E-13
PB-211	D	1.00	5.0E-13	5.0E-13
BI-211	W	1.00	5.0E-13	5.0E-13
PO-211	-	0.00	1.4E-15	1.4E-15
TL-207	D	1.00	9.0E-11	9.0E-11
TH-232	Y	1.00	2.7E-11	2.7E-11
RA-228	W	1.00	2.7E-11	2.7E-11
AC-228	Y	1.00	2.7E-11	2.7E-11
TH-228	Y	1.00	2.7E-11	2.7E-11
RA-224	W	1.00	2.7E-11	2.7E-11
PO-216	W	1.00	2.7E-11	2.7E-11
PB-212	D	1.00	2.7E-11	2.7E-11
BI-212	W	1.00	2.7E-11	2.7E-11
PO-212	W	1.00	1.7E-11	1.7E-11
TL-208	D	1.00	9.8E-12	9.8E-12

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 11:43 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 70.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 11:43 am

POPULATION DATA

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 11:43 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	2.42E-09	1.09E-08
BREAST	1.99E-09	9.22E-09
R MAR	2.28E-07	9.55E-07
LUNGS	3.11E-06	1.29E-05
THYROID	1.91E-09	8.70E-09
ENDOST	2.84E-06	1.19E-05
RMNDR	8.67E-09	4.03E-08
EFFEC	4.89E-07	2.04E-06

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	9.87E-11	4.65E-09
INHALATION	4.89E-07	2.03E-06
AIR IMMERSION	8.12E-13	1.72E-12
GROUND SURFACE	6.48E-11	4.48E-10
INTERNAL	4.89E-07	2.04E-06
EXTERNAL	6.57E-11	4.49E-10
TOTAL	4.89E-07	2.04E-06

Mar 3, 2005 11:43 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	3.18E-08	1.33E-07
U-235	1.32E-09	5.57E-09
TH-231	1.07E-14	4.24E-14
U-238	2.63E-08	1.10E-07
TH-234	8.18E-12	3.66E-11
PA-234M	5.27E-16	3.61E-16
PA-234	9.20E-16	3.55E-15
TH-230	6.05E-08	2.52E-07
RA-226	9.21E-10	4.12E-09
PO-218	2.68E-15	1.84E-15
PB-214	1.04E-13	1.31E-13
BI-214	1.30E-13	1.45E-13
PO-214	0.00E+00	0.00E+00
PB-210	1.43E-09	7.00E-09
BI-210	1.99E-11	8.16E-11
PO-210	8.90E-10	4.00E-09
PA-231	5.10E-09	2.14E-08
AC-227	6.74E-09	2.81E-08
TH-227	1.23E-10	5.09E-10
FR-223	3.64E-16	4.18E-16
RA-223	8.78E-11	3.66E-10
PO-215	0.00E+00	0.00E+00
PB-211	9.58E-14	1.38E-13
BI-211	4.49E-15	3.04E-15
PO-211	0.00E+00	0.00E+00
TL-207	1.17E-14	8.37E-15
TH-232	2.06E-07	8.56E-07
RA-228	1.41E-09	6.58E-09
AC-228	4.94E-11	1.61E-10
TH-228	1.44E-07	6.01E-07
RA-224	2.01E-09	8.19E-09
PO-216	0.00E+00	0.00E+00
PB-212	9.63E-11	3.45E-10
BI-212	1.89E-11	3.40E-11
PO-212	0.00E+00	0.00E+00
TL-208	2.47E-13	1.69E-13
TOTAL	4.89E-07	2.04E-06

Mar 3, 2005 11:43 am

SUMMARY
Page 6

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	3.1E-07	3.6E-08	1.0E-08	4.2E-09	2.4E-09	1.6E-09	7.1E-10
NNW	7.3E-08	8.8E-09	2.5E-09	1.0E-09	5.9E-10	3.9E-10	1.7E-10
NW	5.0E-08	6.1E-09	1.7E-09	7.1E-10	4.1E-10	2.7E-10	1.2E-10
WNW	4.2E-08	5.2E-09	1.5E-09	6.1E-10	3.5E-10	2.3E-10	1.0E-10
W	1.1E-07	1.3E-08	3.8E-09	1.6E-09	9.0E-10	6.0E-10	2.6E-10
WSW	1.2E-07	1.5E-08	4.1E-09	1.7E-09	9.6E-10	6.4E-10	2.8E-10
SW	2.0E-07	2.3E-08	6.6E-09	2.7E-09	1.5E-09	1.0E-09	4.4E-10
SSW	2.3E-07	2.8E-08	7.8E-09	3.2E-09	1.8E-09	1.2E-09	5.3E-10
S	4.9E-07	5.7E-08	1.6E-08	6.5E-09	3.7E-09	2.5E-09	1.1E-09
SSE	3.1E-07	3.7E-08	1.0E-08	4.3E-09	2.5E-09	1.6E-09	7.2E-10
SE	1.9E-07	2.2E-08	6.4E-09	2.7E-09	1.5E-09	1.0E-09	4.6E-10
ESE	1.1E-07	1.4E-08	3.9E-09	1.6E-09	9.3E-10	6.3E-10	2.8E-10
E	1.9E-07	2.3E-08	6.6E-09	2.7E-09	1.6E-09	1.1E-09	4.7E-10
ENE	1.2E-07	1.5E-08	4.3E-09	1.8E-09	1.0E-09	7.0E-10	3.1E-10
NE	3.3E-07	3.8E-08	1.1E-08	4.4E-09	2.5E-09	1.7E-09	7.2E-10
NNE	3.5E-07	4.1E-08	1.1E-08	4.7E-09	2.7E-09	1.8E-09	7.6E-10

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	2.4E-10	9.6E-11	5.7E-11	3.7E-11	2.5E-11	1.4E-11	1.1E-11
NNW	5.9E-11	2.3E-11	1.4E-11	9.0E-12	6.1E-12	3.8E-12	2.9E-12
NW	4.0E-11	1.6E-11	9.4E-12	6.2E-12	4.2E-12	2.7E-12	2.1E-12
WNW	3.4E-11	1.4E-11	8.3E-12	5.4E-12	3.7E-12	2.5E-12	2.0E-12
W	8.8E-11	3.5E-11	2.1E-11	1.3E-11	9.0E-12	6.0E-12	4.6E-12
WSW	9.3E-11	3.6E-11	2.0E-11	1.3E-11	8.7E-12	5.4E-12	4.1E-12
SW	1.5E-10	5.5E-11	3.2E-11	2.0E-11	1.3E-11	7.6E-12	5.8E-12
SSW	1.8E-10	7.0E-11	4.1E-11	2.7E-11	1.8E-11	1.0E-11	7.7E-12
S	3.6E-10	1.3E-10	7.8E-11	5.0E-11	3.2E-11	1.7E-11	1.3E-11
SSE	2.5E-10	9.7E-11	5.8E-11	3.8E-11	0.0E+00	0.0E+00	0.0E+00
SE	1.6E-10	6.7E-11	4.1E-11	2.7E-11	1.9E-11	0.0E+00	0.0E+00
ESE	9.9E-11	4.1E-11	2.5E-11	1.7E-11	1.2E-11	7.3E-12	5.7E-12
E	1.7E-10	6.9E-11	4.2E-11	2.8E-11	1.9E-11	1.1E-11	8.9E-12
ENE	1.1E-10	4.6E-11	2.8E-11	1.9E-11	1.3E-11	8.1E-12	6.4E-12
NE	2.5E-10	9.4E-11	5.6E-11	3.6E-11	2.4E-11	1.3E-11	9.9E-12
NNE	2.6E-10	9.5E-11	5.6E-11	3.6E-11	2.3E-11	1.2E-11	9.3E-12

Mar 3, 2005 11:43 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	2.2E-08	7.9E-09	8.9E-09	6.1E-09	4.9E-09	4.2E-09	1.5E-08
NNW	5.3E-09	1.9E-09	2.2E-09	1.5E-09	1.2E-09	1.0E-09	3.7E-09
NW	3.7E-09	1.3E-09	1.5E-09	1.0E-09	8.2E-10	7.1E-10	2.6E-09
WNW	3.0E-09	1.1E-09	1.3E-09	8.8E-10	7.0E-10	6.1E-10	2.0E-09
W	7.8E-09	2.9E-09	3.3E-09	2.3E-09	1.8E-09	1.6E-09	4.6E-09
WSW	8.7E-09	3.2E-09	3.6E-09	2.5E-09	2.0E-09	1.7E-09	4.8E-09
SW	1.4E-08	5.1E-09	5.7E-09	3.9E-09	3.1E-09	2.7E-09	7.7E-09
SSW	1.7E-08	6.1E-09	6.8E-09	4.7E-09	3.7E-09	3.2E-09	1.2E-08
S	3.6E-08	1.2E-08	1.4E-08	9.4E-09	7.5E-09	6.4E-09	2.3E-08
SSE	2.3E-08	8.1E-09	9.1E-09	6.2E-09	5.0E-09	4.3E-09	2.0E-08
SE	1.4E-08	4.9E-09	5.6E-09	3.8E-09	3.1E-09	2.7E-09	9.9E-09
ESE	8.2E-09	3.0E-09	3.4E-09	2.3E-09	1.9E-09	1.6E-09	6.0E-09
E	1.4E-08	5.1E-09	5.8E-09	4.0E-09	3.2E-09	2.8E-09	1.0E-08
ENE	9.1E-09	3.3E-09	3.7E-09	2.6E-09	2.1E-09	1.8E-09	6.7E-09
NE	2.4E-08	8.3E-09	9.3E-09	6.3E-09	5.1E-09	4.4E-09	1.6E-08
NNE	2.6E-08	9.0E-09	9.9E-09	6.8E-09	5.4E-09	4.6E-09	1.7E-08

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	2.0E-08	6.2E-09	4.4E-09	1.2E-09	7.6E-10	5.1E-10	3.8E-10
NNW	5.1E-09	2.5E-09	5.7E-10	2.5E-10	2.1E-10	1.5E-10	1.3E-10
NW	3.2E-09	1.4E-09	1.1E-09	8.4E-10	2.2E-10	7.4E-11	7.2E-11
WNW	2.1E-09	9.9E-10	8.2E-10	2.6E-10	8.5E-11	6.7E-11	5.3E-11
W	6.1E-09	3.2E-09	1.1E-09	8.7E-10	4.7E-10	2.7E-10	1.5E-10
WSW	1.1E-08	6.5E-09	1.3E-09	8.4E-10	6.6E-10	3.4E-09	1.3E-10
SW	1.9E-08	1.4E-08	8.2E-09	3.3E-09	1.6E-09	6.5E-10	8.0E-10
SSW	2.8E-08	1.9E-08	1.3E-08	6.1E-09	2.9E-09	2.0E-09	3.2E-09
S	9.2E-08	5.1E-08	2.4E-08	1.5E-09	1.7E-09	1.8E-09	1.3E-09
SSE	1.5E-07	1.0E-07	7.1E-08	1.6E-09	0.0E+00	0.0E+00	0.0E+00
SE	1.4E-07	4.9E-08	3.4E-08	1.1E-08	7.1E-10	0.0E+00	0.0E+00
ESE	9.0E-08	2.2E-08	7.6E-09	5.6E-09	3.5E-09	8.2E-10	3.2E-10
E	1.0E-07	2.2E-08	2.6E-09	4.5E-09	1.6E-09	1.1E-09	9.9E-10
ENE	1.0E-08	3.8E-09	2.5E-09	1.2E-09	7.8E-10	5.7E-10	5.2E-10
NE	1.8E-08	5.9E-09	6.2E-09	5.1E-09	4.2E-09	1.8E-09	1.5E-09
NNE	1.8E-08	3.1E-09	4.9E-09	4.9E-09	1.9E-09	5.1E-10	4.1E-10

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                         C A P 8 8 - P C

                          Version 2.00

              Clean Air Act Assessment Package - 1988


                    S Y N O P S I S   R E P O R T

                  Non-Radon Population Assessment
                       Mar  3, 2005  09:48 am


         Facility:  Maywood Interim Storage Site - Cluster 3A
          Address:  100 W. Hunter Avenue
             City:  Maywood
            State:  NJ          Zip:  07607


  Source Category:  Particulate Emission w radon daughters
      Source Type:  Area
    Emission Year:  2004


         Comments:  Shaw E&I for
                    U.S. Army Corps of Engineers


                     Effective Dose Equivalent
                            (mrem/year)
                     _________________________

                             5.32E-06
                     _________________________


       At This Location:    250 Meters South

        Dataset Name:  MISS RUN
        Dataset Date:  Mar  3, 2005  09:48 am
           Wind File:  C:\CAP88PC2\WNDFILES\TET95-04.WND
     Population File:  C:\CAP88PC2\POPFILES\MAYWOO~1.POP
```

Mar 3, 2005 09:48 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 6.12E-11

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	2.72E-08	1.23E-07
BREAST	2.40E-08	1.12E-07
R MAR	2.46E-06	1.03E-05
LUNGS	3.39E-05	1.41E-04
THYROID	2.32E-08	1.06E-07
ENDOST	3.06E-05	1.28E-04
RMNDR	1.07E-07	5.03E-07
EFFEC	5.32E-06	2.22E-05

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	3.61E-09	3.61E-09

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	9.0E-11	9.0E-11
U-235	Y	1.00	4.0E-12	4.0E-12
TH-231	Y	1.00	4.0E-12	4.0E-12
U-238	Y	1.00	8.4E-11	8.4E-11
TH-234	Y	1.00	8.4E-11	8.4E-11
PA-234M	Y	1.00	8.4E-11	8.4E-11
PA-234	Y	1.00	1.1E-13	1.1E-13
TH-230	Y	1.00	9.0E-11	9.0E-11
RA-226	W	1.00	8.3E-11	8.3E-11
PO-218	W	1.00	8.3E-11	8.3E-11
PB-214	D	1.00	8.3E-11	8.3E-11
BI-214	W	1.00	8.3E-11	8.3E-11
PO-214	W	1.00	8.3E-11	8.3E-11
PB-210	D	1.00	8.3E-11	8.3E-11
BI-210	W	1.00	8.3E-11	8.3E-11
PO-210	W	1.00	8.3E-11	8.3E-11
PA-231	Y	1.00	4.0E-12	4.0E-12
AC-227	Y	1.00	4.0E-12	4.0E-12
TH-227	Y	1.00	3.9E-12	3.9E-12
FR-223	D	1.00	5.5E-14	5.5E-14
RA-223	W	1.00	4.0E-12	4.0E-12
PO-215	W	1.00	4.0E-12	4.0E-12
PB-211	D	1.00	4.0E-12	4.0E-12
BI-211	W	1.00	4.0E-12	4.0E-12
PO-211	-	0.00	1.1E-14	1.1E-14
TL-207	D	1.00	3.9E-12	3.9E-12
TH-232	Y	1.00	3.2E-10	3.2E-10
RA-228	W	1.00	3.2E-10	3.2E-10
AC-228	Y	1.00	3.2E-10	3.2E-10
TH-228	Y	1.00	3.2E-10	3.2E-10
RA-224	W	1.00	3.2E-10	3.2E-10
PO-216	W	1.00	3.2E-10	3.2E-10
PB-212	D	1.00	3.2E-10	3.2E-10
BI-212	W	1.00	3.2E-10	3.2E-10
PO-212	W	1.00	2.1E-10	2.1E-10
TL-208	D	1.00	1.2E-10	1.2E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

Mar 3, 2005 09:48 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 791.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 09:48 am

POPULATION DATA

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 09:48 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	2.72E-08	1.23E-07
BREAST	2.40E-08	1.12E-07
R MAR	2.46E-06	1.03E-05
LUNGS	3.39E-05	1.41E-04
THYROID	2.32E-08	1.06E-07
ENDOST	3.06E-05	1.28E-04
RMNDR	1.07E-07	5.03E-07
EFFEC	5.32E-06	2.22E-05

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	1.24E-09	5.84E-08
INHALATION	5.32E-06	2.21E-05
AIR IMMERSION	1.02E-11	2.10E-11
GROUND SURFACE	6.70E-10	4.63E-09
INTERNAL	5.32E-06	2.22E-05
EXTERNAL	6.80E-10	4.65E-09
TOTAL	5.32E-06	2.22E-05

Mar 3, 2005 09:48 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	2.49E-07	1.04E-06
U-235	1.03E-08	4.38E-08
TH-231	8.39E-14	3.33E-13
U-238	2.07E-07	8.66E-07
TH-234	6.45E-11	2.88E-10
PA-234M	4.15E-15	2.84E-15
PA-234	7.23E-15	2.79E-14
TH-230	4.75E-07	1.98E-06
RA-226	1.57E-08	7.03E-08
PO-218	4.58E-14	3.14E-14
PB-214	1.78E-12	2.24E-12
BI-214	2.22E-12	2.47E-12
PO-214	0.00E+00	0.00E+00
PB-210	2.45E-08	1.19E-07
BI-210	3.40E-10	1.39E-09
PO-210	1.52E-08	6.83E-08
PA-231	4.01E-08	1.68E-07
AC-227	5.29E-08	2.21E-07
TH-227	9.61E-10	3.99E-09
FR-223	2.86E-15	3.28E-15
RA-223	6.90E-10	2.88E-09
PO-215	0.00E+00	0.00E+00
PB-211	7.52E-13	1.08E-12
BI-211	3.53E-14	2.39E-14
PO-211	0.00E+00	0.00E+00
TL-207	5.09E-16	3.65E-16
TH-232	2.46E-06	1.02E-05
RA-228	1.68E-08	7.87E-08
AC-228	5.91E-10	1.93E-09
TH-228	1.73E-06	7.19E-06
RA-224	2.40E-08	9.79E-08
PO-216	0.00E+00	0.00E+00
PB-212	1.15E-09	4.12E-09
BI-212	2.25E-10	4.06E-10
PO-212	0.00E+00	0.00E+00
TL-208	2.93E-12	2.01E-12
TOTAL	5.32E-06	2.22E-05

Mar 3, 2005 09:48 am

SUMMARY
Page 6

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	3.3E-06	4.0E-07	1.1E-07	4.6E-08	2.6E-08	1.8E-08	7.7E-09
NNW	8.0E-07	9.6E-08	2.7E-08	1.1E-08	6.4E-09	4.3E-09	1.9E-09
NW	5.5E-07	6.6E-08	1.9E-08	7.7E-09	4.4E-09	3.0E-09	1.3E-09
WNW	4.5E-07	5.6E-08	1.6E-08	6.6E-09	3.8E-09	2.5E-09	1.1E-09
W	1.2E-06	1.4E-07	4.1E-08	1.7E-08	9.7E-09	6.5E-09	2.9E-09
WSW	1.3E-06	1.6E-07	4.5E-08	1.8E-08	1.0E-08	7.0E-09	3.0E-09
SW	2.1E-06	2.5E-07	7.1E-08	2.9E-08	1.7E-08	1.1E-08	4.8E-09
SSW	2.5E-06	3.0E-07	8.5E-08	3.5E-08	2.0E-08	1.3E-08	5.8E-09
S	5.3E-06	6.2E-07	1.7E-07	7.1E-08	4.0E-08	2.7E-08	1.2E-08
SSE	3.4E-06	4.0E-07	1.1E-07	4.7E-08	2.7E-08	1.8E-08	7.8E-09
SE	2.0E-06	2.4E-07	7.0E-08	2.9E-08	1.7E-08	1.1E-08	5.0E-09
ESE	1.2E-06	1.5E-07	4.2E-08	1.8E-08	1.0E-08	6.8E-09	3.0E-09
E	2.1E-06	2.5E-07	7.2E-08	3.0E-08	1.7E-08	1.2E-08	5.1E-09
ENE	1.4E-06	1.6E-07	4.7E-08	1.9E-08	1.1E-08	7.6E-09	3.4E-09
NE	3.5E-06	4.2E-07	1.2E-07	4.8E-08	2.7E-08	1.8E-08	7.9E-09
NNE	3.8E-06	4.5E-07	1.2E-07	5.1E-08	2.9E-08	1.9E-08	8.3E-09

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	2.7E-09	1.0E-09	6.2E-10	4.1E-10	2.7E-10	1.6E-10	1.2E-10
NNW	6.4E-10	2.5E-10	1.5E-10	9.8E-11	6.6E-11	4.1E-11	3.2E-11
NW	4.4E-10	1.7E-10	1.0E-10	6.7E-11	4.6E-11	2.9E-11	2.3E-11
WNW	3.8E-10	1.5E-10	9.0E-11	6.0E-11	4.1E-11	2.8E-11	2.2E-11
W	9.6E-10	3.9E-10	2.2E-10	1.5E-10	9.9E-11	6.5E-11	5.0E-11
WSW	1.0E-09	3.9E-10	2.2E-10	1.4E-10	9.5E-11	5.9E-11	4.5E-11
SW	1.6E-09	6.0E-10	3.5E-10	2.2E-10	1.4E-10	8.3E-11	6.3E-11
SSW	2.0E-09	7.6E-10	4.5E-10	2.9E-10	1.9E-10	1.1E-10	8.4E-11
S	3.9E-09	1.4E-09	8.5E-10	5.4E-10	3.5E-10	1.8E-10	1.4E-10
SSE	2.7E-09	1.1E-09	6.3E-10	4.2E-10	0.0E+00	0.0E+00	0.0E+00
SE	1.8E-09	7.3E-10	4.5E-10	3.0E-10	2.0E-10	0.0E+00	0.0E+00
ESE	1.1E-09	4.5E-10	2.7E-10	1.8E-10	1.3E-10	7.9E-11	6.2E-11
E	1.8E-09	7.5E-10	4.6E-10	3.1E-10	2.1E-10	1.2E-10	9.7E-11
ENE	1.2E-09	5.0E-10	3.1E-10	2.1E-10	1.4E-10	8.9E-11	7.0E-11
NE	2.7E-09	1.0E-09	6.1E-10	4.0E-10	2.6E-10	1.4E-10	1.1E-10
NNE	2.8E-09	1.0E-09	6.1E-10	3.9E-10	2.5E-10	1.3E-10	1.0E-10

Mar 3, 2005 09:48 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

Direction	250	750	1500	2500	3500	4500	7500
	Distance (m)						
N	2.4E-07	8.6E-08	9.7E-08	6.7E-08	5.3E-08	4.6E-08	1.7E-07
NNW	5.8E-08	2.1E-08	2.4E-08	1.6E-08	1.3E-08	1.1E-08	4.1E-08
NW	4.0E-08	1.4E-08	1.6E-08	1.1E-08	8.9E-09	7.7E-09	2.8E-08
WNW	3.3E-08	1.2E-08	1.4E-08	9.6E-09	7.6E-09	6.6E-09	2.2E-08
W	8.4E-08	3.1E-08	3.6E-08	2.5E-08	2.0E-08	1.7E-08	5.0E-08
WSW	9.5E-08	3.5E-08	3.9E-08	2.7E-08	2.1E-08	1.8E-08	5.3E-08
SW	1.6E-07	5.5E-08	6.2E-08	4.2E-08	3.4E-08	2.9E-08	8.4E-08
SSW	1.9E-07	6.6E-08	7.4E-08	5.1E-08	4.1E-08	3.5E-08	1.3E-07
S	3.9E-07	1.4E-07	1.5E-07	1.0E-07	8.2E-08	7.0E-08	2.5E-07
SSE	2.5E-07	8.8E-08	9.9E-08	6.8E-08	5.4E-08	4.7E-08	2.2E-07
SE	1.5E-07	5.3E-08	6.1E-08	4.2E-08	3.4E-08	2.9E-08	1.1E-07
ESE	8.9E-08	3.2E-08	3.7E-08	2.5E-08	2.0E-08	1.8E-08	6.6E-08
E	1.5E-07	5.5E-08	6.3E-08	4.3E-08	3.5E-08	3.0E-08	1.1E-07
ENE	9.9E-08	3.6E-08	4.1E-08	2.8E-08	2.3E-08	2.0E-08	7.3E-08
NE	2.6E-07	9.1E-08	1.0E-07	6.9E-08	5.5E-08	4.7E-08	1.7E-07
NNE	2.8E-07	9.7E-08	1.1E-07	7.4E-08	5.9E-08	5.0E-08	1.8E-07

Direction	15000	25000	35000	45000	55000	65000	75000
	Distance (m)						
N	2.2E-07	6.8E-08	4.8E-08	1.3E-08	8.3E-09	5.5E-09	4.1E-09
NNW	5.6E-08	2.7E-08	6.2E-09	2.8E-09	2.3E-09	1.7E-09	1.4E-09
NW	3.5E-08	1.5E-08	1.2E-08	9.2E-09	2.4E-09	8.1E-10	7.9E-10
WNW	2.3E-08	1.1E-08	9.0E-09	2.8E-09	9.3E-10	7.4E-10	5.9E-10
W	6.7E-08	3.5E-08	1.2E-08	9.4E-09	5.1E-09	2.9E-09	1.7E-09
WSW	1.2E-07	7.0E-08	1.4E-08	9.2E-09	7.2E-09	3.8E-08	1.4E-09
SW	2.1E-07	1.5E-07	9.0E-08	3.5E-08	1.8E-08	7.1E-09	8.7E-09
SSW	3.1E-07	2.1E-07	1.4E-07	6.7E-08	3.2E-08	2.2E-08	3.5E-08
S	1.0E-06	5.6E-07	2.7E-07	1.6E-08	1.8E-08	2.0E-08	1.4E-08
SSE	1.6E-06	1.1E-06	7.7E-07	1.7E-08	0.0E+00	0.0E+00	0.0E+00
SE	1.6E-06	5.4E-07	3.7E-07	1.2E-07	7.8E-09	0.0E+00	0.0E+00
ESE	9.8E-07	2.4E-07	8.3E-08	6.1E-08	3.9E-08	8.9E-09	3.5E-09
E	1.1E-06	2.4E-07	2.9E-08	4.9E-08	1.7E-08	1.2E-08	1.1E-08
ENE	1.1E-07	4.2E-08	2.7E-08	1.3E-08	8.5E-09	6.3E-09	5.7E-09
NE	1.9E-07	6.4E-08	6.8E-08	5.6E-08	4.5E-08	1.9E-08	1.7E-08
NNE	2.0E-07	3.4E-08	5.4E-08	5.4E-08	2.1E-08	5.5E-09	4.5E-09

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Population Assessment
Mar 3, 2005 09:58 am

Facility: Maywood Interim Storage Site - Cluster 5C
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

3.03E-05

At This Location: 250 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 09:58 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND
Population File: C:\CAP88PC2\POPFILES\MAYWOO~1.POP

Mar 3, 2005 09:58 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 3.51E-10

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	1.67E-07	7.52E-07
BREAST	1.35E-07	6.28E-07
R MAR	1.34E-05	5.62E-05
LUNGS	1.95E-04	8.13E-04
THYROID	1.30E-07	5.97E-07
ENDOST	1.67E-04	6.99E-04
RMNDR	6.31E-07	2.93E-06
EFFEC	3.03E-05	1.26E-04

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	2.07E-08	2.07E-08

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	3.1E-10	3.1E-10
U-235	Y	1.00	3.6E-11	3.6E-11
TH-231	Y	1.00	3.6E-11	3.6E-11
U-238	Y	1.00	7.8E-10	7.8E-10
TH-234	Y	1.00	7.8E-10	7.8E-10
PA-234M	Y	1.00	7.8E-10	7.8E-10
PA-234	Y	1.00	1.0E-12	1.0E-12
TH-230	Y	1.00	3.1E-10	3.1E-10
RA-226	W	1.00	4.1E-10	4.1E-10
PO-218	W	1.00	4.1E-10	4.1E-10
PB-214	D	1.00	4.1E-10	4.1E-10
BI-214	W	1.00	4.1E-10	4.1E-10
PO-214	W	1.00	4.1E-10	4.1E-10
PB-210	D	1.00	4.1E-10	4.1E-10
BI-210	W	1.00	4.1E-10	4.1E-10
PO-210	W	1.00	4.1E-10	4.1E-10
PA-231	Y	1.00	3.6E-11	3.6E-11
AC-227	Y	1.00	3.6E-11	3.6E-11
TH-227	Y	1.00	3.6E-11	3.6E-11
FR-223	D	1.00	5.0E-13	5.0E-13
RA-223	W	1.00	3.6E-11	3.6E-11
PO-215	W	1.00	3.6E-11	3.6E-11
PB-211	D	1.00	3.6E-11	3.6E-11
BI-211	W	1.00	3.6E-11	3.6E-11
PO-211	-	0.00	9.9E-14	9.9E-14
TL-207	D	1.00	3.6E-11	3.6E-11
TH-232	Y	1.00	1.9E-09	1.9E-09
RA-228	W	1.00	1.9E-09	1.9E-09
AC-228	Y	1.00	1.9E-09	1.9E-09
TH-228	Y	1.00	1.9E-09	1.9E-09
RA-224	W	1.00	1.9E-09	1.9E-09
PO-216	W	1.00	1.9E-09	1.9E-09
PB-212	D	1.00	1.9E-09	1.9E-09
BI-212	W	1.00	1.9E-09	1.9E-09
PO-212	W	1.00	1.2E-09	1.2E-09
TL-208	D	1.00	6.8E-10	6.8E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1271.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 09:58 am

SYNOPSIS
Page 4

POPULATION DATA

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 09:58 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	1.67E-07	7.52E-07
BREAST	1.35E-07	6.28E-07
R MAR	1.34E-05	5.62E-05
LUNGS	1.95E-04	8.13E-04
THYROID	1.30E-07	5.97E-07
ENDOST	1.67E-04	6.99E-04
RMNDR	6.31E-07	2.93E-06
EFFEC	3.03E-05	1.26E-04

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	6.77E-09	3.19E-07
INHALATION	3.03E-05	1.26E-04
AIR IMMERSION	5.81E-11	1.22E-10
GROUND SURFACE	4.55E-09	3.14E-08
INTERNAL	3.03E-05	1.26E-04
EXTERNAL	4.61E-09	3.15E-08
TOTAL	3.03E-05	1.26E-04

Mar 3, 2005 09:58 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	8.57E-07	3.58E-06
U-235	9.52E-08	4.03E-07
TH-231	7.74E-13	3.07E-12
U-238	1.91E-06	7.98E-06
TH-234	5.94E-10	2.66E-09
PA-234M	3.83E-14	2.62E-14
PA-234	6.63E-14	2.56E-13
TH-230	1.63E-06	6.80E-06
RA-226	7.81E-08	3.49E-07
PO-218	2.27E-13	1.56E-13
PB-214	8.82E-12	1.11E-11
BI-214	1.10E-11	1.23E-11
PO-214	0.00E+00	0.00E+00
PB-210	1.21E-07	5.93E-07
BI-210	1.69E-09	6.92E-09
PO-210	7.54E-08	3.39E-07
PA-231	3.69E-07	1.55E-06
AC-227	4.88E-07	2.04E-06
TH-227	8.87E-09	3.68E-08
FR-223	2.63E-14	3.02E-14
RA-223	6.35E-09	2.65E-08
PO-215	0.00E+00	0.00E+00
PB-211	6.93E-12	9.96E-12
BI-211	3.25E-13	2.20E-13
PO-211	0.00E+00	0.00E+00
TL-207	4.69E-15	3.37E-15
TH-232	1.43E-05	5.97E-05
RA-228	9.82E-08	4.59E-07
AC-228	3.45E-09	1.13E-08
TH-228	1.01E-05	4.19E-05
RA-224	1.40E-07	5.71E-07
PO-216	0.00E+00	0.00E+00
PB-212	6.72E-09	2.40E-08
BI-212	1.32E-09	2.37E-09
PO-212	0.00E+00	0.00E+00
TL-208	1.72E-11	1.18E-11
TOTAL	3.03E-05	1.26E-04

Mar 3, 2005 09:58 am

SUMMARY
Page 6

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	1.9E-05	2.3E-06	6.4E-07	2.6E-07	1.5E-07	1.0E-07	4.4E-08
NNW	4.5E-06	5.5E-07	1.5E-07	6.4E-08	3.6E-08	2.4E-08	1.1E-08
NW	3.1E-06	3.8E-07	1.1E-07	4.4E-08	2.5E-08	1.7E-08	7.3E-09
WNW	2.6E-06	3.2E-07	9.1E-08	3.8E-08	2.1E-08	1.4E-08	6.3E-09
W	6.6E-06	8.2E-07	2.4E-07	9.7E-08	5.5E-08	3.7E-08	1.6E-08
WSW	7.4E-06	9.0E-07	2.6E-07	1.0E-07	6.0E-08	4.0E-08	1.7E-08
SW	1.2E-05	1.4E-06	4.1E-07	1.7E-07	9.5E-08	6.3E-08	2.7E-08
SSW	1.4E-05	1.7E-06	4.9E-07	2.0E-07	1.1E-07	7.6E-08	3.3E-08
S	3.0E-05	3.5E-06	9.9E-07	4.0E-07	2.3E-07	1.5E-07	6.6E-08
SSE	1.9E-05	2.3E-06	6.5E-07	2.7E-07	1.5E-07	1.0E-07	4.5E-08
SE	1.2E-05	1.4E-06	4.0E-07	1.6E-07	9.5E-08	6.4E-08	2.8E-08
ESE	7.0E-06	8.4E-07	2.4E-07	1.0E-07	5.7E-08	3.9E-08	1.7E-08
E	1.2E-05	1.4E-06	4.1E-07	1.7E-07	9.8E-08	6.6E-08	2.9E-08
ENE	7.7E-06	9.4E-07	2.7E-07	1.1E-07	6.4E-08	4.3E-08	1.9E-08
NE	2.0E-05	2.4E-06	6.6E-07	2.7E-07	1.5E-07	1.0E-07	4.5E-08
NNE	2.2E-05	2.5E-06	7.1E-07	2.9E-07	1.6E-07	1.1E-07	4.7E-08

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	1.5E-08	5.9E-09	3.5E-09	2.3E-09	1.5E-09	8.9E-10	6.8E-10
NNW	3.6E-09	1.4E-09	8.5E-10	5.6E-10	3.8E-10	2.4E-10	1.8E-10
NW	2.5E-09	9.9E-10	5.8E-10	3.8E-10	2.6E-10	1.7E-10	1.3E-10
WNW	2.1E-09	8.7E-10	5.1E-10	3.4E-10	2.3E-10	1.6E-10	1.2E-10
W	5.5E-09	2.2E-09	1.3E-09	8.3E-10	5.6E-10	3.7E-10	2.9E-10
WSW	5.7E-09	2.2E-09	1.3E-09	8.1E-10	5.4E-10	3.3E-10	2.5E-10
SW	9.1E-09	3.4E-09	2.0E-09	1.3E-09	8.2E-10	4.7E-10	3.6E-10
SSW	1.1E-08	4.3E-09	2.6E-09	1.7E-09	1.1E-09	6.3E-10	4.8E-10
S	2.2E-08	8.2E-09	4.8E-09	3.1E-09	2.0E-09	1.0E-09	7.9E-10
SSE	1.5E-08	6.0E-09	3.6E-09	2.4E-09	0.0E+00	0.0E+00	0.0E+00
SE	1.0E-08	4.2E-09	2.5E-09	1.7E-09	1.2E-09	0.0E+00	0.0E+00
ESE	6.1E-09	2.6E-09	1.6E-09	1.1E-09	7.2E-10	4.5E-10	3.5E-10
E	1.0E-08	4.3E-09	2.6E-09	1.7E-09	1.2E-09	7.1E-10	5.5E-10
ENE	6.9E-09	2.9E-09	1.8E-09	1.2E-09	8.1E-10	5.1E-10	4.0E-10
NE	1.5E-08	5.9E-09	3.5E-09	2.3E-09	1.5E-09	8.1E-10	6.2E-10
NNE	1.6E-08	5.9E-09	3.5E-09	2.2E-09	1.4E-09	7.6E-10	5.8E-10

Mar 3, 2005 09:58 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	1.4E-06	4.9E-07	5.5E-07	3.8E-07	3.0E-07	2.6E-07	9.5E-07
NNW	3.3E-07	1.2E-07	1.3E-07	9.2E-08	7.4E-08	6.4E-08	2.3E-07
NW	2.3E-07	8.3E-08	9.3E-08	6.4E-08	5.1E-08	4.4E-08	1.6E-07
WNW	1.9E-07	7.0E-08	7.9E-08	5.5E-08	4.4E-08	3.8E-08	1.2E-07
W	4.8E-07	1.8E-07	2.0E-07	1.4E-07	1.1E-07	9.7E-08	2.8E-07
WSW	5.4E-07	2.0E-07	2.2E-07	1.5E-07	1.2E-07	1.0E-07	3.0E-07
SW	8.9E-07	3.2E-07	3.5E-07	2.4E-07	1.9E-07	1.6E-07	4.8E-07
SSW	1.1E-06	3.8E-07	4.2E-07	2.9E-07	2.3E-07	2.0E-07	7.2E-07
S	2.2E-06	7.7E-07	8.6E-07	5.8E-07	4.6E-07	4.0E-07	1.4E-06
SSE	1.4E-06	5.0E-07	5.6E-07	3.8E-07	3.1E-07	2.7E-07	1.3E-06
SE	8.4E-07	3.0E-07	3.4E-07	2.4E-07	1.9E-07	1.7E-07	6.2E-07
ESE	5.1E-07	1.8E-07	2.1E-07	1.4E-07	1.2E-07	1.0E-07	3.7E-07
E	8.8E-07	3.1E-07	3.6E-07	2.5E-07	2.0E-07	1.7E-07	6.4E-07
ENE	5.7E-07	2.0E-07	2.3E-07	1.6E-07	1.3E-07	1.1E-07	4.2E-07
NE	1.5E-06	5.2E-07	5.8E-07	3.9E-07	3.1E-07	2.7E-07	9.8E-07
NNE	1.6E-06	5.6E-07	6.2E-07	4.2E-07	3.3E-07	2.9E-07	1.0E-06

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	1.2E-06	3.9E-07	2.7E-07	7.5E-08	4.7E-08	3.2E-08	2.3E-08
NNW	3.2E-07	1.6E-07	3.6E-08	1.6E-08	1.3E-08	9.5E-09	8.1E-09
NW	2.0E-07	8.4E-08	6.7E-08	5.3E-08	1.4E-08	4.6E-09	4.5E-09
WNW	1.3E-07	6.2E-08	5.1E-08	1.6E-08	5.3E-09	4.2E-09	3.4E-09
W	3.8E-07	2.0E-07	6.6E-08	5.4E-08	2.9E-08	1.6E-08	9.4E-09
WSW	7.0E-07	4.0E-07	7.8E-08	5.2E-08	4.1E-08	2.1E-07	8.2E-09
SW	1.2E-06	8.4E-07	5.1E-07	2.0E-07	1.0E-07	4.0E-08	5.0E-08
SSW	1.7E-06	1.2E-06	7.9E-07	3.8E-07	1.8E-07	1.2E-07	2.0E-07
S	5.7E-06	3.2E-06	1.5E-06	9.2E-08	1.0E-07	1.1E-07	7.9E-08
SSE	9.0E-06	6.4E-06	4.4E-06	9.8E-08	0.0E+00	0.0E+00	0.0E+00
SE	8.9E-06	3.1E-06	2.1E-06	6.7E-07	4.4E-08	0.0E+00	0.0E+00
ESE	5.6E-06	1.3E-06	4.7E-07	3.5E-07	2.2E-07	5.1E-08	2.0E-08
E	6.4E-06	1.4E-06	1.6E-07	2.8E-07	9.7E-08	6.9E-08	6.2E-08
ENE	6.3E-07	2.4E-07	1.5E-07	7.7E-08	4.8E-08	3.6E-08	3.2E-08
NE	1.1E-06	3.6E-07	3.9E-07	3.2E-07	2.6E-07	1.1E-07	9.6E-08
NNE	1.1E-06	1.9E-07	3.1E-07	3.1E-07	1.2E-07	3.1E-08	2.6E-08

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Population Assessment
Mar 3, 2005 10:15 am

```
 Facility:  Maywood Interim Storage Site - Cluster 6A
  Address:  100 W. Hunter Avenue
     City:  Maywood
    State:  NJ          Zip:  07607

Source Category:  Particulate Emission w radon daughters
    Source Type:  Area
  Emission Year:  2004

Comments:  Shaw E&I for
           U.S. Army Corps of Engineers
```

Effective Dose Equivalent
(mrem/year)

6.57E-06

```
At This Location:    250 Meters South

    Dataset Name:  MISS RUN
    Dataset Date:  Mar  3, 2005  10:15 am
       Wind File:  C:\CAP88PC2\WNDFILES\TET95-04.WND
 Population File:  C:\CAP88PC2\POPFILES\MAYWOO~1.POP
```

CALCULATION IDENTIFICATION NUMBER				
JOB ORDER NO.	DISCIPLINE	CALCULATION NO.	REVISION NUMBER	PAGE
102682-0307	E(B)	12	0	154

Mar 3, 2005 10:15 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 7.57E-11

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	3.24E-08	1.46E-07
BREAST	2.90E-08	1.34E-07
R MAR	3.03E-06	1.27E-05
LUNGS	4.19E-05	1.74E-04
THYROID	2.80E-08	1.28E-07
ENDOST	3.76E-05	1.58E-04
RMNDR	1.20E-07	5.59E-07
EFFEC	6.57E-06	2.74E-05

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	4.46E-09	4.46E-09

Mar 3, 2005 10:15 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.0E-10	1.0E-10
U-235	Y	1.00	4.4E-12	4.4E-12
TH-231	Y	1.00	4.4E-12	4.4E-12
U-238	Y	1.00	9.4E-11	9.4E-11
TH-234	Y	1.00	9.4E-11	9.4E-11
PA-234M	Y	1.00	9.4E-11	9.4E-11
PA-234	Y	1.00	1.2E-13	1.2E-13
TH-230	Y	1.00	1.0E-10	1.0E-10
RA-226	W	1.00	8.3E-11	8.3E-11
PO-218	W	1.00	8.3E-11	8.3E-11
PB-214	D	1.00	8.3E-11	8.3E-11
BI-214	W	1.00	8.3E-11	8.3E-11
PO-214	W	1.00	8.3E-11	8.3E-11
PB-210	D	1.00	8.3E-11	8.3E-11
BI-210	W	1.00	8.3E-11	8.3E-11
PO-210	W	1.00	8.3E-11	8.3E-11
PA-231	Y	1.00	4.4E-12	4.4E-12
AC-227	Y	1.00	4.4E-12	4.4E-12
TH-227	Y	1.00	4.3E-12	4.3E-12
FR-223	D	1.00	6.0E-14	6.0E-14
RA-223	W	1.00	4.4E-12	4.4E-12
PO-215	W	1.00	4.4E-12	4.4E-12
PB-211	D	1.00	4.4E-12	4.4E-12
BI-211	W	1.00	4.4E-12	4.4E-12
PO-211	-	0.00	1.2E-14	1.2E-14
TL-207	D	1.00	4.4E-12	4.4E-12
TH-232	Y	1.00	4.1E-10	4.1E-10
RA-228	W	1.00	4.1E-10	4.1E-10
AC-228	Y	1.00	4.1E-10	4.1E-10
TH-228	Y	1.00	4.1E-10	4.1E-10
RA-224	W	1.00	4.1E-10	4.1E-10
PO-216	W	1.00	4.1E-10	4.1E-10
PB-212	D	1.00	4.1E-10	4.1E-10
BI-212	W	1.00	4.1E-10	4.1E-10
PO-212	W	1.00	2.6E-10	2.6E-10
TL-208	D	1.00	1.5E-10	1.5E-10

SITE INFORMATION

Temperature:	13	degrees C
Precipitation:	127	cm/y
Mixing Height:	1000	m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 772.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

POPULATION DATA

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 10:15 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	3.24E-08	1.46E-07
BREAST	2.90E-08	1.34E-07
R MAR	3.03E-06	1.27E-05
LUNGS	4.19E-05	1.74E-04
THYROID	2.80E-08	1.28E-07
ENDOST	3.76E-05	1.58E-04
RMNDR	1.20E-07	5.59E-07
EFFEC	6.57E-06	2.74E-05

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	1.37E-09	6.44E-08
INHALATION	6.56E-06	2.73E-05
AIR IMMERSION	1.25E-11	2.61E-11
GROUND SURFACE	7.32E-10	5.05E-09
INTERNAL	6.57E-06	2.74E-05
EXTERNAL	7.44E-10	5.08E-09
TOTAL	6.57E-06	2.74E-05

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	2.76E-07	1.16E-06
U-235	1.15E-08	4.85E-08
TH-231	9.31E-14	3.69E-13
U-238	2.30E-07	9.62E-07
TH-234	7.16E-11	3.20E-10
PA-234M	4.61E-15	3.16E-15
PA-234	8.01E-15	3.09E-14
TH-230	5.26E-07	2.19E-06
RA-226	1.57E-08	7.03E-08
PO-218	4.58E-14	3.14E-14
PB-214	1.78E-12	2.24E-12
BI-214	2.22E-12	2.47E-12
PO-214	0.00E+00	0.00E+00
PB-210	2.45E-08	1.19E-07
BI-210	3.40E-10	1.39E-09
PO-210	1.52E-08	6.83E-08
PA-231	4.44E-08	1.86E-07
AC-227	5.87E-08	2.45E-07
TH-227	1.07E-09	4.43E-09
FR-223	3.17E-15	3.64E-15
RA-223	7.65E-10	3.19E-09
PO-215	0.00E+00	0.00E+00
PB-211	8.34E-13	1.20E-12
BI-211	3.91E-14	2.65E-14
PO-211	0.00E+00	0.00E+00
TL-207	5.65E-16	4.05E-16
TH-232	3.12E-06	1.30E-05
RA-228	2.14E-08	9.98E-08
AC-228	7.50E-10	2.45E-09
TH-228	2.19E-06	9.12E-06
RA-224	3.04E-08	1.24E-07
PO-216	0.00E+00	0.00E+00
PB-212	1.46E-09	5.23E-09
BI-212	2.86E-10	5.16E-10
PO-212	0.00E+00	0.00E+00
TL-208	3.74E-12	2.56E-12
TOTAL	6.57E-06	2.74E-05

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	4.1E-06	4.9E-07	1.4E-07	5.7E-08	3.2E-08	2.2E-08	9.5E-09
NNW	9.8E-07	1.2E-07	3.4E-08	1.4E-08	7.9E-09	5.3E-09	2.3E-09
NW	6.8E-07	8.2E-08	2.3E-08	9.5E-09	5.4E-09	3.6E-09	1.6E-09
WNW	5.6E-07	6.9E-08	2.0E-08	8.2E-09	4.7E-09	3.1E-09	1.4E-09
W	1.4E-06	1.8E-07	5.1E-08	2.1E-08	1.2E-08	8.1E-09	3.5E-09
WSW	1.6E-06	2.0E-07	5.5E-08	2.3E-08	1.3E-08	8.7E-09	3.7E-09
SW	2.6E-06	3.1E-07	8.8E-08	3.6E-08	2.0E-08	1.4E-08	5.9E-09
SSW	3.1E-06	3.7E-07	1.1E-07	4.3E-08	2.5E-08	1.7E-08	7.2E-09
S	6.6E-06	7.7E-07	2.1E-07	8.7E-08	5.0E-08	3.3E-08	1.4E-08
SSE	4.2E-06	5.0E-07	1.4E-07	5.8E-08	3.3E-08	2.2E-08	9.7E-09
SE	2.5E-06	3.0E-07	8.6E-08	3.6E-08	2.1E-08	1.4E-08	6.1E-09
ESE	1.5E-06	1.8E-07	5.2E-08	2.2E-08	1.2E-08	8.4E-09	3.7E-09
E	2.6E-06	3.1E-07	8.9E-08	3.7E-08	2.1E-08	1.4E-08	6.4E-09
ENE	1.7E-06	2.0E-07	5.8E-08	2.4E-08	1.4E-08	9.4E-09	4.2E-09
NE	4.4E-06	5.1E-07	1.4E-07	5.9E-08	3.4E-08	2.2E-08	9.7E-09
NNE	4.7E-06	5.5E-07	1.5E-07	6.3E-08	3.6E-08	2.4E-08	1.0E-08

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	3.3E-09	1.3E-09	7.7E-10	5.0E-10	3.3E-10	1.9E-10	1.5E-10
NNW	7.9E-10	3.1E-10	1.8E-10	1.2E-10	8.2E-11	5.1E-11	4.0E-11
NW	5.4E-10	2.1E-10	1.3E-10	8.3E-11	5.6E-11	3.6E-11	2.8E-11
WNW	4.6E-10	1.9E-10	1.1E-10	7.3E-11	5.0E-11	3.4E-11	2.7E-11
W	1.2E-09	4.8E-10	2.8E-10	1.8E-10	1.2E-10	8.0E-11	6.2E-11
WSW	1.2E-09	4.8E-10	2.8E-10	1.8E-10	1.2E-10	7.2E-11	5.5E-11
SW	2.0E-09	7.4E-10	4.3E-10	2.7E-10	1.8E-10	1.0E-10	7.7E-11
SSW	2.5E-09	9.4E-10	5.5E-10	3.6E-10	2.4E-10	1.4E-10	1.0E-10
S	4.8E-09	1.8E-09	1.0E-09	6.7E-10	4.3E-10	2.3E-10	1.7E-10
SSE	3.4E-09	1.3E-09	7.8E-10	5.1E-10	0.0E+00	0.0E+00	0.0E+00
SE	2.2E-09	9.0E-10	5.5E-10	3.7E-10	2.5E-10	0.0E+00	0.0E+00
ESE	1.3E-09	5.6E-10	3.4E-10	2.3E-10	1.6E-10	9.8E-11	7.7E-11
E	2.3E-09	9.3E-10	5.7E-10	3.8E-10	2.6E-10	1.5E-10	1.2E-10
ENE	1.5E-09	6.2E-10	3.8E-10	2.6E-10	1.8E-10	1.1E-10	8.6E-11
NE	3.4E-09	1.3E-09	7.6E-10	4.9E-10	3.2E-10	1.7E-10	1.3E-10
NNE	3.5E-09	1.3E-09	7.6E-10	4.9E-10	3.1E-10	1.6E-10	1.2E-10

Mar 3, 2005 10:15 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	3.0E-07	1.1E-07	1.2E-07	8.2E-08	6.6E-08	5.7E-08	2.1E-07
NNW	7.2E-08	2.6E-08	2.9E-08	2.0E-08	1.6E-08	1.4E-08	5.0E-08
NW	4.9E-08	1.8E-08	2.0E-08	1.4E-08	1.1E-08	9.5E-09	3.4E-08
WNW	4.1E-08	1.5E-08	1.7E-08	1.2E-08	9.4E-09	8.1E-09	2.7E-08
W	1.0E-07	3.9E-08	4.4E-08	3.0E-08	2.4E-08	2.1E-08	6.1E-08
WSW	1.2E-07	4.3E-08	4.8E-08	3.3E-08	2.6E-08	2.3E-08	6.5E-08
SW	1.9E-07	6.8E-08	7.7E-08	5.2E-08	4.2E-08	3.6E-08	1.0E-07
SSW	2.3E-07	8.2E-08	9.2E-08	6.3E-08	5.0E-08	4.3E-08	1.6E-07
S	4.8E-07	1.7E-07	1.9E-07	1.3E-07	1.0E-07	8.6E-08	3.1E-07
SSE	3.1E-07	1.1E-07	1.2E-07	8.3E-08	6.7E-08	5.8E-08	2.7E-07
SE	1.8E-07	6.6E-08	7.5E-08	5.2E-08	4.2E-08	3.6E-08	1.3E-07
ESE	1.1E-07	4.0E-08	4.5E-08	3.1E-08	2.5E-08	2.2E-08	8.1E-08
E	1.9E-07	6.8E-08	7.7E-08	5.3E-08	4.3E-08	3.7E-08	1.4E-07
ENE	1.2E-07	4.4E-08	5.0E-08	3.5E-08	2.8E-08	2.4E-08	9.0E-08
NE	3.2E-07	1.1E-07	1.2E-07	8.5E-08	6.8E-08	5.9E-08	2.1E-07
NNE	3.5E-07	1.2E-07	1.3E-07	9.1E-08	7.2E-08	6.2E-08	2.2E-07

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	2.7E-07	8.4E-08	5.9E-08	1.6E-08	1.0E-08	6.8E-09	5.1E-09
NNW	6.9E-08	3.4E-08	7.7E-09	3.4E-09	2.8E-09	2.1E-09	1.8E-09
NW	4.4E-08	1.8E-08	1.5E-08	1.1E-08	2.9E-09	9.9E-10	9.7E-10
WNW	2.8E-08	1.3E-08	1.1E-08	3.5E-09	1.1E-09	9.1E-10	7.2E-10
W	8.2E-08	4.3E-08	1.4E-08	1.2E-08	6.3E-09	3.6E-09	2.0E-09
WSW	1.5E-07	8.7E-08	1.7E-08	1.1E-08	8.9E-09	4.6E-08	1.8E-09
SW	2.6E-07	1.8E-07	1.1E-07	4.4E-08	2.2E-08	8.8E-09	1.1E-08
SSW	3.8E-07	2.5E-07	1.7E-07	8.2E-08	3.9E-08	2.7E-08	4.3E-08
S	1.2E-06	6.9E-07	3.3E-07	2.0E-08	2.3E-08	2.5E-08	1.7E-08
SSE	2.0E-06	1.4E-06	9.5E-07	2.1E-08	0.0E+00	0.0E+00	0.0E+00
SE	1.9E-06	6.6E-07	4.6E-07	1.4E-07	9.6E-09	0.0E+00	0.0E+00
ESE	1.2E-06	2.9E-07	1.0E-07	7.5E-08	4.7E-08	1.1E-08	4.3E-09
E	1.4E-06	2.9E-07	3.5E-08	6.0E-08	2.1E-08	1.5E-08	1.3E-08
ENE	1.4E-07	5.2E-08	3.3E-08	1.7E-08	1.0E-08	7.7E-09	7.0E-09
NE	2.4E-07	7.9E-08	8.4E-08	6.9E-08	5.6E-08	2.4E-08	2.1E-08
NNE	2.5E-07	4.2E-08	6.6E-08	6.6E-08	2.6E-08	6.8E-09	5.5E-09

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Population Assessment
Mar 3, 2005 10:26 am

Facility: Maywood Interim Storage Site - Cluster 6C
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

4.90E-05

At This Location: 250 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 10:26 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND
Population File: C:\CAP88PC2\POPFILES\MAYWOO~1.POP

Mar 3, 2005 10:26 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 5.58E-10

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	2.47E-07	1.11E-06
BREAST	2.01E-07	9.37E-07
R MAR	2.29E-05	9.59E-05
LUNGS	3.11E-04	1.29E-03
THYROID	1.93E-07	8.83E-07
ENDOST	2.85E-04	1.19E-03
RMNDR	9.21E-07	4.30E-06
EFFEC	4.90E-05	2.04E-04

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	3.29E-08	3.29E-08

Mar 3, 2005 10:26 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	1.2E-09	1.2E-09
U-235	Y	1.00	5.3E-11	5.3E-11
TH-231	Y	1.00	5.3E-11	5.3E-11
U-238	Y	1.00	1.1E-09	1.1E-09
TH-234	Y	1.00	1.1E-09	1.1E-09
PA-234M	Y	1.00	1.1E-09	1.1E-09
PA-234	Y	1.00	1.5E-12	1.5E-12
TH-230	Y	1.00	1.2E-09	1.2E-09
RA-226	W	1.00	5.6E-10	5.6E-10
PO-218	W	1.00	5.6E-10	5.6E-10
PB-214	D	1.00	5.6E-10	5.6E-10
BI-214	W	1.00	5.6E-10	5.6E-10
PO-214	W	1.00	5.6E-10	5.6E-10
PB-210	D	1.00	5.6E-10	5.6E-10
BI-210	W	1.00	5.6E-10	5.6E-10
PO-210	W	1.00	5.6E-10	5.6E-10
PA-231	Y	1.00	5.3E-11	5.3E-11
AC-227	Y	1.00	5.3E-11	5.3E-11
TH-227	Y	1.00	5.3E-11	5.3E-11
FR-223	D	1.00	7.4E-13	7.4E-13
RA-223	W	1.00	5.3E-11	5.3E-11
PO-215	W	1.00	5.3E-11	5.3E-11
PB-211	D	1.00	5.3E-11	5.3E-11
BI-211	W	1.00	5.3E-11	5.3E-11
PO-211	-	0.00	1.5E-13	1.5E-13
TL-207	D	1.00	5.3E-11	5.3E-11
TH-232	Y	1.00	2.6E-09	2.6E-09
RA-228	W	1.00	2.6E-09	2.6E-09
AC-228	Y	1.00	2.6E-09	2.6E-09
TH-228	Y	1.00	2.6E-09	2.6E-09
RA-224	W	1.00	2.6E-09	2.6E-09
PO-216	W	1.00	2.6E-09	2.6E-09
PB-212	D	1.00	2.6E-09	2.6E-09
BI-212	W	1.00	2.6E-09	2.6E-09
PO-212	W	1.00	1.7E-09	1.7E-09
TL-208	D	1.00	9.5E-10	9.5E-10

SITE INFORMATION

Temperature:	13 degrees C
Precipitation:	127 cm/y
Mixing Height:	1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1784.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 10:26 am

POPULATION DATA

Direction	250	750	1500	2500	3500	4500	7500
	Distance (m)						
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	15000	25000	35000	45000	55000	65000	75000
	Distance (m)						
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 10:26 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	2.47E-07	1.11E-06
BREAST	2.01E-07	9.37E-07
R MAR	2.29E-05	9.59E-05
LUNGS	3.11E-04	1.29E-03
THYROID	1.93E-07	8.83E-07
ENDOST	2.85E-04	1.19E-03
RMNDR	9.21E-07	4.30E-06
EFFEC	4.90E-05	2.04E-04

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	1.06E-08	4.98E-07
INHALATION	4.90E-05	2.04E-04
AIR IMMERSION	8.12E-11	1.70E-10
GROUND SURFACE	6.96E-09	4.81E-08
INTERNAL	4.90E-05	2.04E-04
EXTERNAL	7.05E-09	4.83E-08
TOTAL	4.90E-05	2.04E-04

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	3.37E-06	1.41E-05
U-235	1.40E-07	5.93E-07
TH-231	1.14E-12	4.51E-12
U-238	2.80E-06	1.17E-05
TH-234	8.72E-10	3.90E-09
PA-234M	5.62E-14	3.85E-14
PA-234	9.72E-14	3.75E-13
TH-230	6.42E-06	2.68E-05
RA-226	1.07E-07	4.78E-07
PO-218	3.11E-13	2.13E-13
PB-214	1.21E-11	1.52E-11
BI-214	1.51E-11	1.68E-11
PO-214	0.00E+00	0.00E+00
PB-210	1.66E-07	8.12E-07
BI-210	2.31E-09	9.48E-09
PO-210	1.03E-07	4.64E-07
PA-231	5.43E-07	2.27E-06
AC-227	7.17E-07	2.99E-06
TH-227	1.30E-08	5.40E-08
FR-223	3.87E-14	4.44E-14
RA-223	9.34E-09	3.90E-08
PO-215	0.00E+00	0.00E+00
PB-211	1.02E-11	1.46E-11
BI-211	4.78E-13	3.23E-13
PO-211	0.00E+00	0.00E+00
TL-207	6.89E-15	4.94E-15
TH-232	2.01E-05	8.38E-05
RA-228	1.38E-07	6.43E-07
AC-228	4.83E-09	1.58E-08
TH-228	1.41E-05	5.88E-05
RA-224	1.96E-07	8.01E-07
PO-216	0.00E+00	0.00E+00
PB-212	9.42E-09	3.37E-08
BI-212	1.84E-09	3.32E-09
PO-212	0.00E+00	0.00E+00
TL-208	2.41E-11	1.65E-11
TOTAL	4.90E-05	2.04E-04

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	3.1E-05	3.7E-06	1.0E-06	4.2E-07	2.4E-07	1.6E-07	7.1E-08
NNW	7.3E-06	8.8E-07	2.5E-07	1.0E-07	5.9E-08	3.9E-08	1.7E-08
NW	5.1E-06	6.1E-07	1.7E-07	7.1E-08	4.1E-08	2.7E-08	1.2E-08
WNW	4.2E-06	5.2E-07	1.5E-07	6.1E-08	3.5E-08	2.3E-08	1.0E-08
W	1.1E-05	1.3E-06	3.8E-07	1.6E-07	9.0E-08	6.0E-08	2.6E-08
WSW	1.2E-05	1.5E-06	4.1E-07	1.7E-07	9.7E-08	6.5E-08	2.8E-08
SW	2.0E-05	2.3E-06	6.6E-07	2.7E-07	1.5E-07	1.0E-07	4.4E-08
SSW	2.3E-05	2.8E-06	7.9E-07	3.2E-07	1.8E-07	1.2E-07	5.4E-08
S	4.9E-05	5.7E-06	1.6E-06	6.5E-07	3.7E-07	2.5E-07	1.1E-07
SSE	3.1E-05	3.7E-06	1.0E-06	4.3E-07	2.5E-07	1.7E-07	7.2E-08
SE	1.9E-05	2.2E-06	6.4E-07	2.7E-07	1.5E-07	1.0E-07	4.6E-08
ESE	1.1E-05	1.4E-06	3.9E-07	1.6E-07	9.3E-08	6.3E-08	2.8E-08
E	1.9E-05	2.3E-06	6.6E-07	2.7E-07	1.6E-07	1.1E-07	4.7E-08
ENE	1.3E-05	1.5E-06	4.3E-07	1.8E-07	1.0E-07	7.0E-08	3.1E-08
NE	3.3E-05	3.8E-06	1.1E-06	4.4E-07	2.5E-07	1.7E-07	7.3E-08
NNE	3.5E-05	4.1E-06	1.1E-06	4.7E-07	2.7E-07	1.8E-07	7.6E-08

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	2.5E-08	9.6E-09	5.7E-09	3.7E-09	2.5E-09	1.4E-09	1.1E-09
NNW	5.9E-09	2.3E-09	1.4E-09	9.0E-10	6.1E-10	3.8E-10	3.0E-10
NW	4.0E-09	1.6E-09	9.4E-10	6.2E-10	4.2E-10	2.7E-10	2.1E-10
WNW	3.5E-09	1.4E-09	8.3E-10	5.5E-10	3.8E-10	2.5E-10	2.0E-10
W	8.8E-09	3.6E-09	2.1E-09	1.3E-09	9.1E-10	6.0E-10	4.6E-10
WSW	9.3E-09	3.6E-09	2.1E-09	1.3E-09	8.7E-10	5.4E-10	4.1E-10
SW	1.5E-08	5.5E-09	3.2E-09	2.0E-09	1.3E-09	7.6E-10	5.8E-10
SSW	1.8E-08	7.0E-09	4.1E-09	2.7E-09	1.8E-09	1.0E-09	7.7E-10
S	3.6E-08	1.3E-08	7.8E-09	5.0E-09	3.2E-09	1.7E-09	1.3E-09
SSE	2.5E-08	9.7E-09	5.8E-09	3.8E-09	0.0E+00	0.0E+00	0.0E+00
SE	1.6E-08	6.7E-09	4.1E-09	2.7E-09	1.9E-09	0.0E+00	0.0E+00
ESE	9.9E-09	4.1E-09	2.5E-09	1.7E-09	1.2E-09	7.3E-10	5.7E-10
E	1.7E-08	6.9E-09	4.2E-09	2.8E-09	1.9E-09	1.1E-09	8.9E-10
ENE	1.1E-08	4.6E-09	2.8E-09	1.9E-09	1.3E-09	8.2E-10	6.4E-10
NE	2.5E-08	9.5E-09	5.6E-09	3.7E-09	2.4E-09	1.3E-09	9.9E-10
NNE	2.6E-08	9.6E-09	5.6E-09	3.6E-09	2.3E-09	1.2E-09	9.3E-10

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	2.2E-06	8.0E-07	9.0E-07	6.1E-07	4.9E-07	4.2E-07	1.5E-06
NNW	5.3E-07	1.9E-07	2.2E-07	1.5E-07	1.2E-07	1.0E-07	3.7E-07
NW	3.7E-07	1.3E-07	1.5E-07	1.0E-07	8.2E-08	7.1E-08	2.6E-07
WNW	3.1E-07	1.1E-07	1.3E-07	8.8E-08	7.0E-08	6.1E-08	2.0E-07
W	7.8E-07	2.9E-07	3.3E-07	2.3E-07	1.8E-07	1.6E-07	4.6E-07
WSW	8.8E-07	3.2E-07	3.6E-07	2.5E-07	2.0E-07	1.7E-07	4.8E-07
SW	1.4E-06	5.1E-07	5.7E-07	3.9E-07	3.1E-07	2.7E-07	7.7E-07
SSW	1.7E-06	6.1E-07	6.8E-07	4.7E-07	3.7E-07	3.2E-07	1.2E-06
S	3.6E-06	1.2E-06	1.4E-06	9.4E-07	7.5E-07	6.4E-07	2.3E-06
SSE	2.3E-06	8.1E-07	9.1E-07	6.2E-07	5.0E-07	4.3E-07	2.0E-06
SE	1.4E-06	4.9E-07	5.6E-07	3.8E-07	3.1E-07	2.7E-07	1.0E-06
ESE	8.2E-07	3.0E-07	3.4E-07	2.3E-07	1.9E-07	1.6E-07	6.1E-07
E	1.4E-06	5.1E-07	5.8E-07	4.0E-07	3.2E-07	2.8E-07	1.0E-06
ENE	9.1E-07	3.3E-07	3.8E-07	2.6E-07	2.1E-07	1.8E-07	6.7E-07
NE	2.4E-06	8.3E-07	9.3E-07	6.3E-07	5.1E-07	4.4E-07	1.6E-06
NNE	2.6E-06	9.0E-07	1.0E-06	6.8E-07	5.4E-07	4.6E-07	1.7E-06

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	2.0E-06	6.2E-07	4.4E-07	1.2E-07	7.6E-08	5.1E-08	3.8E-08
NNW	5.1E-07	2.5E-07	5.7E-08	2.5E-08	2.1E-08	1.5E-08	1.3E-08
NW	3.2E-07	1.4E-07	1.1E-07	8.5E-08	2.2E-08	7.4E-09	7.2E-09
WNW	2.1E-07	1.0E-07	8.2E-08	2.6E-08	8.5E-09	6.8E-09	5.4E-09
W	6.1E-07	3.2E-07	1.1E-07	8.7E-08	4.7E-08	2.7E-08	1.5E-08
WSW	1.1E-06	6.5E-07	1.3E-07	8.5E-08	6.6E-08	3.5E-07	1.3E-08
SW	1.9E-06	1.4E-06	8.2E-07	3.3E-07	1.6E-07	6.5E-08	8.0E-08
SSW	2.8E-06	1.9E-06	1.3E-06	6.1E-07	2.9E-07	2.0E-07	3.2E-07
S	9.2E-06	5.1E-06	2.4E-06	1.5E-07	1.7E-07	1.9E-07	1.3E-07
SSE	1.5E-05	1.0E-05	7.1E-06	1.6E-07	0.0E+00	0.0E+00	0.0E+00
SE	1.4E-05	5.0E-06	3.4E-06	1.1E-06	7.2E-08	0.0E+00	0.0E+00
ESE	9.0E-06	2.2E-06	7.6E-07	5.6E-07	3.5E-07	8.2E-08	3.2E-08
E	1.0E-05	2.2E-06	2.6E-07	4.5E-07	1.6E-07	1.1E-07	1.0E-07
ENE	1.0E-06	3.9E-07	2.5E-07	1.2E-07	7.8E-08	5.8E-08	5.2E-08
NE	1.8E-06	5.9E-07	6.3E-07	5.1E-07	4.2E-07	1.8E-07	1.5E-07
NNE	1.8E-06	3.1E-07	4.9E-07	4.9E-07	1.9E-07	5.1E-08	4.1E-08

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Population Assessment
Mar 3, 2005 10:42 am

Facility: Maywood Interim Storage Site - Cluster 8A
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ   Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

1.47E-05

At This Location: 250 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 10:42 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND
Population File: C:\CAP88PC2\POPFILES\MAYWOO~1.POP

Mar 3, 2005 10:42 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 1.69E-10

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	7.21E-08	3.25E-07
BREAST	6.54E-08	3.02E-07
R MAR	6.74E-06	2.82E-05
LUNGS	9.36E-05	3.90E-04
THYROID	6.34E-08	2.88E-07
ENDOST	8.38E-05	3.51E-04
RMNDR	2.66E-07	1.24E-06
EFFEC	1.47E-05	6.12E-05

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	9.98E-09	9.98E-09

Mar 3, 2005 10:42 am

SYNOPSIS
Page 2

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	2.0E-10	2.0E-10
U-235	Y	1.00	8.6E-12	8.6E-12
TH-231	Y	1.00	8.6E-12	8.6E-12
U-238	Y	1.00	1.8E-10	1.8E-10
TH-234	Y	1.00	1.8E-10	1.8E-10
PA-234M	Y	1.00	1.8E-10	1.8E-10
PA-234	Y	1.00	2.4E-13	2.4E-13
TH-230	Y	1.00	2.0E-10	2.0E-10
RA-226	W	1.00	1.9E-10	1.9E-10
PO-218	W	1.00	1.9E-10	1.9E-10
PB-214	D	1.00	1.9E-10	1.9E-10
BI-214	W	1.00	1.9E-10	1.9E-10
PO-214	W	1.00	1.9E-10	1.9E-10
PB-210	D	1.00	1.9E-10	1.9E-10
BI-210	W	1.00	1.9E-10	1.9E-10
PO-210	W	1.00	1.9E-10	1.9E-10
PA-231	Y	1.00	8.6E-12	8.6E-12
AC-227	Y	1.00	8.6E-12	8.6E-12
TH-227	Y	1.00	8.5E-12	8.5E-12
FR-223	D	1.00	1.2E-13	1.2E-13
RA-223	W	1.00	8.6E-12	8.6E-12
PO-215	W	1.00	8.6E-12	8.6E-12
PB-211	D	1.00	8.6E-12	8.6E-12
BI-211	W	1.00	8.6E-12	8.6E-12
PO-211	-	0.00	2.3E-14	2.3E-14
TL-207	D	1.00	8.6E-12	8.6E-12
TH-232	Y	1.00	9.4E-10	9.4E-10
RA-228	W	1.00	9.4E-10	9.4E-10
AC-228	Y	1.00	9.4E-10	9.4E-10
TH-228	Y	1.00	9.4E-10	9.4E-10
RA-224	W	1.00	9.4E-10	9.4E-10
PO-216	W	1.00	9.4E-10	9.4E-10
PB-212	D	1.00	9.4E-10	9.4E-10
BI-212	W	1.00	9.4E-10	9.4E-10
PO-212	W	1.00	6.0E-10	6.0E-10
TL-208	D	1.00	3.4E-10	3.4E-10

SITE INFORMATION

Temperature:	13	degrees C
Precipitation:	127	cm/y
Mixing Height:	1000	m

Mar 3, 2005 10:42 am

SYNOPSIS
Page 3

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 1243.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

Mar 3, 2005 10:42 am

SYNOPSIS
Page 4

POPULATION DATA

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 10:42 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	7.21E-08	3.25E-07
BREAST	6.54E-08	3.02E-07
R MAR	6.74E-06	2.82E-05
LUNGS	9.36E-05	3.90E-04
THYROID	6.34E-08	2.88E-07
ENDOST	8.38E-05	3.51E-04
RMNDR	2.66E-07	1.24E-06
EFFEC	1.47E-05	6.12E-05

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	3.03E-09	1.43E-07
INHALATION	1.47E-05	6.10E-05
AIR IMMERSION	2.85E-11	5.97E-11
GROUND SURFACE	1.55E-09	1.07E-08
INTERNAL	1.47E-05	6.12E-05
EXTERNAL	1.58E-09	1.07E-08
TOTAL	1.47E-05	6.12E-05

Mar 3, 2005 10:42 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	5.45E-07	2.28E-06
U-235	2.25E-08	9.54E-08
TH-231	1.83E-13	7.26E-13
U-238	4.52E-07	1.89E-06
TH-234	1.41E-10	6.29E-10
PA-234M	9.07E-15	6.21E-15
PA-234	1.57E-14	6.06E-14
TH-230	1.04E-06	4.32E-06
RA-226	3.55E-08	1.59E-07
PO-218	1.03E-13	7.08E-14
PB-214	3.99E-12	5.04E-12
BI-214	5.02E-12	5.58E-12
PO-214	0.00E+00	0.00E+00
PB-210	5.53E-08	2.70E-07
BI-210	7.67E-10	3.15E-09
PO-210	3.43E-08	1.54E-07
PA-231	8.74E-08	3.66E-07
AC-227	1.15E-07	4.82E-07
TH-227	2.10E-09	8.72E-09
FR-223	6.24E-15	7.17E-15
RA-223	1.50E-09	6.27E-09
PO-215	0.00E+00	0.00E+00
PB-211	1.64E-12	2.36E-12
BI-211	7.69E-14	5.20E-14
PO-211	0.00E+00	0.00E+00
TL-207	1.11E-15	7.97E-16
TH-232	7.14E-06	2.97E-05
RA-228	4.89E-08	2.28E-07
AC-228	1.72E-09	5.61E-09
TH-228	5.01E-06	2.09E-05
RA-224	6.96E-08	2.84E-07
PO-216	0.00E+00	0.00E+00
PB-212	3.34E-09	1.20E-08
BI-212	6.55E-10	1.18E-09
PO-212	0.00E+00	0.00E+00
TL-208	8.55E-12	5.86E-12
TOTAL	1.47E-05	6.12E-05

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	9.2E-06	1.1E-06	3.1E-07	1.3E-07	7.3E-08	4.9E-08	2.1E-08
NNW	2.2E-06	2.6E-07	7.5E-08	3.1E-08	1.8E-08	1.2E-08	5.2E-09
NW	1.5E-06	1.8E-07	5.2E-08	2.1E-08	1.2E-08	8.1E-09	3.5E-09
WNW	1.3E-06	1.5E-07	4.4E-08	1.8E-08	1.0E-08	7.0E-09	3.0E-09
W	3.2E-06	4.0E-07	1.1E-07	4.7E-08	2.7E-08	1.8E-08	7.9E-09
WSW	3.6E-06	4.4E-07	1.2E-07	5.1E-08	2.9E-08	1.9E-08	8.4E-09
SW	5.9E-06	7.0E-07	2.0E-07	8.0E-08	4.6E-08	3.1E-08	1.3E-08
SSW	7.0E-06	8.4E-07	2.4E-07	9.7E-08	5.5E-08	3.7E-08	1.6E-08
S	1.5E-05	1.7E-06	4.8E-07	1.9E-07	1.1E-07	7.4E-08	3.2E-08
SSE	9.4E-06	1.1E-06	3.1E-07	1.3E-07	7.4E-08	4.9E-08	2.2E-08
SE	5.6E-06	6.7E-07	1.9E-07	8.0E-08	4.6E-08	3.1E-08	1.4E-08
ESE	3.4E-06	4.1E-07	1.2E-07	4.8E-08	2.8E-08	1.9E-08	8.3E-09
E	5.8E-06	7.0E-07	2.0E-07	8.2E-08	4.7E-08	3.2E-08	1.4E-08
ENE	3.7E-06	4.5E-07	1.3E-07	5.4E-08	3.1E-08	2.1E-08	9.3E-09
NE	9.8E-06	1.1E-06	3.2E-07	1.3E-07	7.5E-08	5.0E-08	2.2E-08
NNE	1.1E-05	1.2E-06	3.4E-07	1.4E-07	8.0E-08	5.3E-08	2.3E-08

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	7.3E-09	2.9E-09	1.7E-09	1.1E-09	7.4E-10	4.3E-10	3.3E-10
NNW	1.8E-09	7.0E-10	4.1E-10	2.7E-10	1.8E-10	1.1E-10	8.8E-11
NW	1.2E-09	4.8E-10	2.8E-10	1.8E-10	1.3E-10	8.0E-11	6.3E-11
WNW	1.0E-09	4.2E-10	2.5E-10	1.6E-10	1.1E-10	7.5E-11	5.9E-11
W	2.6E-09	1.1E-09	6.2E-10	4.0E-10	2.7E-10	1.8E-10	1.4E-10
WSW	2.8E-09	1.1E-09	6.1E-10	3.9E-10	2.6E-10	1.6E-10	1.2E-10
SW	4.4E-09	1.6E-09	9.6E-10	6.1E-10	4.0E-10	2.3E-10	1.7E-10
SSW	5.5E-09	2.1E-09	1.2E-09	8.0E-10	5.3E-10	3.0E-10	2.3E-10
S	1.1E-08	4.0E-09	2.3E-09	1.5E-09	9.6E-10	5.1E-10	3.8E-10
SSE	7.5E-09	2.9E-09	1.7E-09	1.1E-09	0.0E+00	0.0E+00	0.0E+00
SE	4.9E-09	2.0E-09	1.2E-09	8.2E-10	5.6E-10	0.0E+00	0.0E+00
ESE	3.0E-09	1.2E-09	7.6E-10	5.1E-10	3.5E-10	2.2E-10	1.7E-10
E	5.1E-09	2.1E-09	1.3E-09	8.4E-10	5.7E-10	3.4E-10	2.7E-10
ENE	3.3E-09	1.4E-09	8.5E-10	5.7E-10	3.9E-10	2.4E-10	1.9E-10
NE	7.5E-09	2.8E-09	1.7E-09	1.1E-09	7.1E-10	3.9E-10	3.0E-10
NNE	7.8E-09	2.9E-09	1.7E-09	1.1E-09	7.0E-10	3.7E-10	2.8E-10

Mar 3, 2005 10:42 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	6.7E-07	2.4E-07	2.7E-07	1.8E-07	1.5E-07	1.3E-07	4.6E-07
NNW	1.6E-07	5.8E-08	6.5E-08	4.5E-08	3.6E-08	3.1E-08	1.1E-07
NW	1.1E-07	4.0E-08	4.5E-08	3.1E-08	2.5E-08	2.1E-08	7.7E-08
WNW	9.1E-08	3.4E-08	3.8E-08	2.6E-08	2.1E-08	1.8E-08	5.9E-08
W	2.3E-07	8.7E-08	9.9E-08	6.8E-08	5.4E-08	4.7E-08	1.4E-07
WSW	2.6E-07	9.5E-08	1.1E-07	7.4E-08	5.9E-08	5.0E-08	1.4E-07
SW	4.3E-07	1.5E-07	1.7E-07	1.2E-07	9.3E-08	8.0E-08	2.3E-07
SSW	5.1E-07	1.8E-07	2.0E-07	1.4E-07	1.1E-07	9.6E-08	3.5E-07
S	1.1E-06	3.7E-07	4.1E-07	2.8E-07	2.2E-07	1.9E-07	6.9E-07
SSE	6.9E-07	2.4E-07	2.7E-07	1.9E-07	1.5E-07	1.3E-07	6.1E-07
SE	4.1E-07	1.5E-07	1.7E-07	1.2E-07	9.3E-08	8.1E-08	3.0E-07
ESE	2.5E-07	8.9E-08	1.0E-07	7.0E-08	5.6E-08	4.9E-08	1.8E-07
E	4.2E-07	1.5E-07	1.7E-07	1.2E-07	9.6E-08	8.4E-08	3.1E-07
ENE	2.7E-07	9.9E-08	1.1E-07	7.8E-08	6.3E-08	5.4E-08	2.0E-07
NE	7.1E-07	2.5E-07	2.8E-07	1.9E-07	1.5E-07	1.3E-07	4.7E-07
NNE	7.7E-07	2.7E-07	3.0E-07	2.0E-07	1.6E-07	1.4E-07	5.0E-07

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	5.9E-07	1.9E-07	1.3E-07	3.6E-08	2.3E-08	1.5E-08	1.1E-08
NNW	1.5E-07	7.6E-08	1.7E-08	7.6E-09	6.2E-09	4.6E-09	3.9E-09
NW	9.7E-08	4.1E-08	3.3E-08	2.5E-08	6.5E-09	2.2E-09	2.2E-09
WNW	6.4E-08	3.0E-08	2.5E-08	7.7E-09	2.6E-09	2.0E-09	1.6E-09
W	1.8E-07	9.7E-08	3.2E-08	2.6E-08	1.4E-08	8.0E-09	4.5E-09
WSW	3.4E-07	1.9E-07	3.8E-08	2.5E-08	2.0E-08	1.0E-07	4.0E-09
SW	5.7E-07	4.1E-07	2.5E-07	9.8E-08	4.8E-08	2.0E-08	2.4E-08
SSW	8.4E-07	5.7E-07	3.8E-07	1.8E-07	8.8E-08	5.9E-08	9.7E-08
S	2.8E-06	1.5E-06	7.3E-07	4.4E-08	5.1E-08	5.5E-08	3.8E-08
SSE	4.4E-06	3.1E-06	2.1E-06	4.7E-08	0.0E+00	0.0E+00	0.0E+00
SE	4.3E-06	1.5E-06	1.0E-06	3.2E-07	2.1E-08	0.0E+00	0.0E+00
ESE	2.7E-06	6.5E-07	2.3E-07	1.7E-07	1.1E-07	2.5E-08	9.6E-09
E	3.1E-06	6.5E-07	7.9E-08	1.3E-07	4.7E-08	3.3E-08	3.0E-08
ENE	3.0E-07	1.2E-07	7.4E-08	3.7E-08	2.3E-08	1.7E-08	1.6E-08
NE	5.3E-07	1.8E-07	1.9E-07	1.5E-07	1.2E-07	5.4E-08	4.6E-08
NNE	5.5E-07	9.3E-08	1.5E-07	1.5E-07	5.8E-08	1.5E-08	1.2E-08

C A P 8 8 - P C

Version 2.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S   R E P O R T

Non-Radon Population Assessment
Mar 3, 2005 10:50 am

Facility: Maywood Interim Storage Site - Cluster 9A
Address: 100 W. Hunter Avenue
City: Maywood
State: NJ Zip: 07607

Source Category: Particulate Emission w radon daughters
Source Type: Area
Emission Year: 2004

Comments: Shaw E&I for
U.S. Army Corps of Engineers

Effective Dose Equivalent
(mrem/year)

1.90E-05

At This Location: 250 Meters South

Dataset Name: MISS RUN
Dataset Date: Mar 3, 2005 10:50 am
Wind File: C:\CAP88PC2\WNDFILES\TET95-04.WND
Population File: C:\CAP88PC2\POPFILES\MAYWOO~1.POP

Mar 3, 2005 10:50 am

SYNOPSIS
Page 1

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 250 Meters South
Lifetime Fatal Cancer Risk: 2.19E-10

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	9.12E-08	4.10E-07
BREAST	8.24E-08	3.79E-07
R MAR	8.72E-06	3.65E-05
LUNGS	1.21E-04	5.05E-04
THYROID	7.99E-08	3.62E-07
ENDOST	1.08E-04	4.54E-04
RMNDR	3.19E-07	1.48E-06
EFFEC	1.90E-05	7.92E-05

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

Risk Range	# of People	# of People in This Risk Range or Higher	Deaths/Year in This Risk Range	Deaths/Year in This Risk Range or Higher
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	19444635	19444635	1.29E-08	1.29E-08

RADIONUCLIDE EMISSIONS DURING THE YEAR 2004

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
U-234	Y	1.00	2.5E-10	2.5E-10
U-235	Y	1.00	1.1E-11	1.1E-11
TH-231	Y	1.00	1.1E-11	1.1E-11
U-238	Y	1.00	2.4E-10	2.4E-10
TH-234	Y	1.00	2.4E-10	2.4E-10
PA-234M	Y	1.00	2.4E-10	2.4E-10
PA-234	Y	1.00	3.1E-13	3.1E-13
TH-230	Y	1.00	2.5E-10	2.5E-10
RA-226	W	1.00	2.0E-10	2.0E-10
PO-218	W	1.00	2.0E-10	2.0E-10
PB-214	D	1.00	2.0E-10	2.0E-10
BI-214	W	1.00	2.0E-10	2.0E-10
PO-214	W	1.00	2.0E-10	2.0E-10
PB-210	D	1.00	2.0E-10	2.0E-10
BI-210	W	1.00	2.0E-10	2.0E-10
PO-210	W	1.00	2.0E-10	2.0E-10
PA-231	Y	1.00	1.1E-11	1.1E-11
AC-227	Y	1.00	1.1E-11	1.1E-11
TH-227	Y	1.00	1.1E-11	1.1E-11
FR-223	D	1.00	1.5E-13	1.5E-13
RA-223	W	1.00	1.1E-11	1.1E-11
PO-215	W	1.00	1.1E-11	1.1E-11
PB-211	D	1.00	1.1E-11	1.1E-11
BI-211	W	1.00	1.1E-11	1.1E-11
PO-211	-	0.00	3.0E-14	3.0E-14
TL-207	D	1.00	1.1E-11	1.1E-11
TH-232	Y	1.00	1.2E-09	1.2E-09
RA-228	W	1.00	1.2E-09	1.2E-09
AC-228	Y	1.00	1.2E-09	1.2E-09
TH-228	Y	1.00	1.2E-09	1.2E-09
RA-224	W	1.00	1.2E-09	1.2E-09
PO-216	W	1.00	1.2E-09	1.2E-09
PB-212	D	1.00	1.2E-09	1.2E-09
BI-212	W	1.00	1.2E-09	1.2E-09
PO-212	W	1.00	7.8E-10	7.8E-10
TL-208	D	1.00	4.4E-10	4.4E-10

SITE INFORMATION

Temperature: 13 degrees C
Precipitation: 127 cm/y
Mixing Height: 1000 m

SOURCE INFORMATION

Source Number: 1

Source Height (m): 0.00
Area (sq m): 3607.00

Plume Rise Pasquill Cat:	A	B	C	D	E	F	G
Zero:	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Beef Cattle Density: 4.25E-02
Milk Cattle Density: 3.29E-02
Land Fraction Cultivated
for Vegetable Crops: 1.82E-02

POPULATION DATA

Direction	Distance (m) 250	750	1500	2500	3500	4500	7500
N	73	218	869	1449	2029	2609	21742
NNW	73	218	869	1449	2029	2609	21742
NW	73	218	869	1449	2029	2609	21742
WNW	73	218	869	1449	2029	2609	19528
W	73	218	869	1449	2029	2609	17315
WSW	73	218	869	1449	2029	2609	17315
SW	73	218	869	1449	2029	2609	17591
SSW	73	218	869	1449	2029	2609	21742
S	73	218	869	1449	2029	2609	21742
SSE	73	218	869	1449	2029	2609	28091
SE	73	218	869	1449	2029	2609	21742
ESE	73	218	869	1449	2029	2609	21742
E	73	218	869	1449	2029	2609	21742
ENE	73	218	869	1449	2029	2609	21742
NE	73	218	869	1449	2029	2609	21742
NNE	73	218	869	1449	2029	2609	21742

Direction	Distance (m) 15000	25000	35000	45000	55000	65000	75000
N	80798	65252	76762	32421	30759	35625	34311
NNW	86967	108564	41578	27967	34183	40397	44258
NW	80798	85308	115432	137220	52008	27730	34466
WNW	61467	70794	99111	47297	22710	26840	27148
W	69500	91150	51699	64974	51977	44409	32825
WSW	121661	181519	61189	64411	76208	642285	32256
SW	130148	246712	257716	159760	121585	85815	138721
SSW	154093	270126	307311	229696	166289	195532	418196
S	256284	386875	314462	29692	52912	109433	99211
SSE	582532	1056258	1213638	41383	0	0	0
SE	881708	735691	836989	393629	38016	0	0
ESE	907647	524419	302264	331780	302990	112269	55872
E	614558	315168	62296	158874	81945	96843	111743
ENE	91625	83008	86601	65130	59702	70558	81413
NE	70873	62256	111184	140795	174717	137656	155442
NNE	70955	32638	87309	136246	82725	41310	44223

Mar 3, 2005 10:50 am

SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)	Collective Population (person-rem/y)
GONADS	9.12E-08	4.10E-07
BREAST	8.24E-08	3.79E-07
R MAR	8.72E-06	3.65E-05
LUNGS	1.21E-04	5.05E-04
THYROID	7.99E-08	3.62E-07
ENDOST	1.08E-04	4.54E-04
RMNDR	3.19E-07	1.48E-06
EFFEC	1.90E-05	7.92E-05

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)	Collective Population (person-rem/y)
INGESTION	3.60E-09	1.69E-07
INHALATION	1.90E-05	7.90E-05
AIR IMMERSION	3.59E-11	7.63E-11
GROUND SURFACE	1.88E-09	1.30E-08
INTERNAL	1.90E-05	7.92E-05
EXTERNAL	1.92E-09	1.30E-08
TOTAL	1.90E-05	7.92E-05

Mar 3, 2005 10:50 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclides	Selected Individual (mrem/y)	Collective Population (person-rem/y)
U-234	7.05E-07	2.95E-06
U-235	2.93E-08	1.24E-07
TH-231	2.38E-13	9.44E-13
U-238	5.88E-07	2.46E-06
TH-234	1.83E-10	8.18E-10
PA-234M	1.18E-14	8.06E-15
PA-234	2.04E-14	7.86E-14
TH-230	1.34E-06	5.59E-06
RA-226	3.76E-08	1.68E-07
PO-218	1.10E-13	7.50E-14
PB-214	4.25E-12	5.36E-12
BI-214	5.32E-12	5.91E-12
PO-214	0.00E+00	0.00E+00
PB-210	5.85E-08	2.86E-07
BI-210	8.12E-10	3.33E-09
PO-210	3.63E-08	1.63E-07
PA-231	1.14E-07	4.76E-07
AC-227	1.50E-07	6.27E-07
TH-227	2.72E-09	1.13E-08
FR-223	8.07E-15	9.27E-15
RA-223	1.96E-09	8.16E-09
PO-215	0.00E+00	0.00E+00
PB-211	2.13E-12	3.07E-12
BI-211	1.00E-13	6.77E-14
PO-211	0.00E+00	0.00E+00
TL-207	1.43E-15	1.03E-15
TH-232	9.26E-06	3.86E-05
RA-228	6.34E-08	2.96E-07
AC-228	2.23E-09	7.27E-09
TH-228	6.50E-06	2.71E-05
RA-224	9.03E-08	3.69E-07
PO-216	0.00E+00	0.00E+00
PB-212	4.34E-09	1.55E-08
BI-212	8.49E-10	1.53E-09
PO-212	0.00E+00	0.00E+00
TL-208	1.11E-11	7.59E-12
TOTAL	1.90E-05	7.92E-05

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

Direction	250	750	1500	2500	3500	4500	7500
	Distance (m)						
N	1.2E-05	1.4E-06	4.0E-07	1.6E-07	9.4E-08	6.3E-08	2.7E-08
NNW	2.8E-06	3.4E-07	9.7E-08	4.0E-08	2.3E-08	1.5E-08	6.7E-09
NW	2.0E-06	2.4E-07	6.7E-08	2.8E-08	1.6E-08	1.1E-08	4.6E-09
WNW	1.6E-06	2.0E-07	5.7E-08	2.4E-08	1.3E-08	9.0E-09	3.9E-09
W	4.1E-06	5.1E-07	1.5E-07	6.1E-08	3.5E-08	2.3E-08	1.0E-08
WSW	4.7E-06	5.7E-07	1.6E-07	6.6E-08	3.7E-08	2.5E-08	1.1E-08
SW	7.6E-06	9.1E-07	2.5E-07	1.0E-07	5.9E-08	4.0E-08	1.7E-08
SSW	9.1E-06	1.1E-06	3.0E-07	1.3E-07	7.1E-08	4.8E-08	2.1E-08
S	1.9E-05	2.2E-06	6.2E-07	2.5E-07	1.4E-07	9.6E-08	4.1E-08
SSE	1.2E-05	1.4E-06	4.1E-07	1.7E-07	9.5E-08	6.4E-08	2.8E-08
SE	7.2E-06	8.7E-07	2.5E-07	1.0E-07	5.9E-08	4.0E-08	1.8E-08
ESE	4.4E-06	5.3E-07	1.5E-07	6.2E-08	3.6E-08	2.4E-08	1.1E-08
E	7.5E-06	9.0E-07	2.6E-07	1.1E-07	6.1E-08	4.1E-08	1.8E-08
ENE	4.8E-06	5.9E-07	1.7E-07	6.9E-08	4.0E-08	2.7E-08	1.2E-08
NE	1.3E-05	1.5E-06	4.1E-07	1.7E-07	9.7E-08	6.5E-08	2.8E-08
NNE	1.4E-05	1.6E-06	4.4E-07	1.8E-07	1.0E-07	6.9E-08	3.0E-08

Direction	15000	25000	35000	45000	55000	65000	75000
	Distance (m)						
N	9.5E-09	3.7E-09	2.2E-09	1.4E-09	9.6E-10	5.5E-10	4.3E-10
NNW	2.3E-09	9.0E-10	5.3E-10	3.5E-10	2.4E-10	1.5E-10	1.1E-10
NW	1.6E-09	6.2E-10	3.6E-10	2.4E-10	1.6E-10	1.0E-10	8.0E-11
WNW	1.3E-09	5.4E-10	3.2E-10	2.1E-10	1.4E-10	9.7E-11	7.6E-11
W	3.4E-09	1.4E-09	8.0E-10	5.2E-10	3.5E-10	2.3E-10	1.8E-10
WSW	3.6E-09	1.4E-09	8.0E-10	5.1E-10	3.4E-10	2.1E-10	1.6E-10
SW	5.7E-09	2.1E-09	1.2E-09	7.9E-10	5.1E-10	2.9E-10	2.2E-10
SSW	7.1E-09	2.7E-09	1.6E-09	1.0E-09	6.8E-10	3.9E-10	3.0E-10
S	1.4E-08	5.1E-09	3.0E-09	1.9E-09	1.2E-09	6.5E-10	4.9E-10
SSE	9.7E-09	3.8E-09	2.3E-09	1.5E-09	0.0E+00	0.0E+00	0.0E+00
SE	6.3E-09	2.6E-09	1.6E-09	1.1E-09	7.3E-10	0.0E+00	0.0E+00
ESE	3.8E-09	1.6E-09	9.8E-10	6.6E-10	4.5E-10	2.8E-10	2.2E-10
E	6.5E-09	2.7E-09	1.6E-09	1.1E-09	7.4E-10	4.4E-10	3.4E-10
ENE	4.3E-09	1.8E-09	1.1E-09	7.4E-10	5.1E-10	3.2E-10	2.5E-10
NE	9.7E-09	3.7E-09	2.2E-09	1.4E-09	9.2E-10	5.0E-10	3.8E-10
NNE	1.0E-08	3.7E-09	2.2E-09	1.4E-09	9.0E-10	4.8E-10	3.6E-10

Mar 3, 2005 10:50 am

SUMMARY
Page 7

COLLECTIVE EFFECTIVE DOSE EQUIVALENT (person rem/y)
(All Radionuclides and Pathways)

	Distance (m)						
Direction	250	750	1500	2500	3500	4500	7500
N	8.7E-07	3.1E-07	3.5E-07	2.4E-07	1.9E-07	1.6E-07	6.0E-07
NNW	2.1E-07	7.5E-08	8.4E-08	5.8E-08	4.6E-08	4.0E-08	1.5E-07
NW	1.4E-07	5.2E-08	5.8E-08	4.0E-08	3.2E-08	2.7E-08	1.0E-07
WNW	1.2E-07	4.4E-08	5.0E-08	3.4E-08	2.7E-08	2.4E-08	7.7E-08
W	3.0E-07	1.1E-07	1.3E-07	8.8E-08	7.1E-08	6.1E-08	1.8E-07
WSW	3.4E-07	1.2E-07	1.4E-07	9.5E-08	7.6E-08	6.5E-08	1.9E-07
SW	5.5E-07	2.0E-07	2.2E-07	1.5E-07	1.2E-07	1.0E-07	3.0E-07
SSW	6.6E-07	2.4E-07	2.6E-07	1.8E-07	1.4E-07	1.2E-07	4.5E-07
S	1.4E-06	4.8E-07	5.4E-07	3.6E-07	2.9E-07	2.5E-07	8.9E-07
SSE	8.9E-07	3.1E-07	3.5E-07	2.4E-07	1.9E-07	1.7E-07	7.8E-07
SE	5.3E-07	1.9E-07	2.2E-07	1.5E-07	1.2E-07	1.0E-07	3.9E-07
ESE	3.2E-07	1.2E-07	1.3E-07	9.1E-08	7.3E-08	6.3E-08	2.3E-07
E	5.5E-07	2.0E-07	2.2E-07	1.5E-07	1.2E-07	1.1E-07	4.0E-07
ENE	3.5E-07	1.3E-07	1.5E-07	1.0E-07	8.1E-08	7.1E-08	2.6E-07
NE	9.2E-07	3.2E-07	3.6E-07	2.5E-07	2.0E-07	1.7E-07	6.1E-07
NNE	1.0E-06	3.5E-07	3.9E-07	2.6E-07	2.1E-07	1.8E-07	6.4E-07

	Distance (m)						
Direction	15000	25000	35000	45000	55000	65000	75000
N	7.7E-07	2.4E-07	1.7E-07	4.7E-08	2.9E-08	2.0E-08	1.5E-08
NNW	2.0E-07	9.8E-08	2.2E-08	9.8E-09	8.0E-09	5.9E-09	5.0E-09
NW	1.3E-07	5.3E-08	4.2E-08	3.3E-08	8.4E-09	2.9E-09	2.8E-09
WNW	8.2E-08	3.9E-08	3.2E-08	1.0E-08	3.3E-09	2.6E-09	2.1E-09
W	2.4E-07	1.3E-07	4.1E-08	3.4E-08	1.8E-08	1.0E-08	5.8E-09
WSW	4.4E-07	2.5E-07	4.9E-08	3.3E-08	2.6E-08	1.3E-07	5.1E-09
SW	7.4E-07	5.3E-07	3.2E-07	1.3E-07	6.2E-08	2.5E-08	3.1E-08
SSW	1.1E-06	7.3E-07	4.9E-07	2.4E-07	1.1E-07	7.7E-08	1.2E-07
S	3.6E-06	2.0E-06	9.5E-07	5.7E-08	6.6E-08	7.2E-08	4.9E-08
SSE	5.7E-06	4.0E-06	2.7E-06	6.1E-08	0.0E+00	0.0E+00	0.0E+00
SE	5.6E-06	1.9E-06	1.3E-06	4.2E-07	2.8E-08	0.0E+00	0.0E+00
ESE	3.5E-06	8.4E-07	3.0E-07	2.2E-07	1.4E-07	3.2E-08	1.2E-08
E	4.0E-06	8.5E-07	1.0E-07	1.7E-07	6.1E-08	4.3E-08	3.8E-08
ENE	3.9E-07	1.5E-07	9.5E-08	4.8E-08	3.0E-08	2.2E-08	2.0E-08
NE	6.9E-07	2.3E-07	2.4E-07	2.0E-07	1.6E-07	6.9E-08	6.0E-08
NNE	7.1E-07	1.2E-07	1.9E-07	1.9E-07	7.5E-08	2.0E-08	1.6E-08

ATTACHMENT A

RADIONUCLIDE SOURCE TERM EMISSIONS CALCULATIONS

FUSRAP - MISS

YEAR 2004

IN SITU SOIL WIND EROSION EMISSIONS (AP-42, Chapter 13.2.5, "Industrial Wind Erosion", 01/95)

INPUT PARAMETERS:				Vegetative Cover/Gravel TSP	Vegetative Cover/Gravel PM-10	Bare Soil TSP	Bare Soil PM-10
Particle Size Multiplier (k)				1	0.5	1	0.5
Number of Disturbances per Period	(Assumption)			3	3	3	3
Surface Area of Soil (m^2)	(Assumption)			44870	44870	5000	5000
Threshold Friction Velocity (m/s)	(Table 13.2.5-2)	Overburden		1.02	1.02	1.02	1.02
Anemometer Height (m)	(Teterboro LCD)			10.0	10.0	10.0	10.0
Roughness Height (m)	(Table 13.2.5-2)	Overburden		0.003	0.003	0.003	0.003
Highest 2-Minute Wind Speed (mph)	(Teterboro LCD)		Week				
January			1	25	25	25	25
			2	30	30	30	30
			3	29	29	29	29
			4	24	24	24	24
February			1	26	26	26	26
			2	26	26	26	26
			3	26	26	26	26
			4	25	25	25	25
March			1	26	26	26	26
			2	32	32	32	32
			3	26	26	26	26
			4	24	24	24	24
			5	24	24	24	24
April			1	31	31	31	31
			2	22	22	22	22
			3	26	26	26	26
			4	25	25	25	25
May			1	23	23	23	23
			2	30	30	30	30
			3	22	22	22	22
			4	21	21	21	21
			5	21	21	21	21
June			1	26	26	26	26
			2	21	21	21	21
			3	22	22	22	22
			4	21	21	21	21
July			1	37	37	37	37
			2	20	20	20	20
			3	22	22	22	22
			4	18	18	18	18
			5	18	18	18	18
August			1	16	16	16	16
			2	22	22	22	22
			3	21	21	21	21
			4	17	17	17	17
			5	17	17	17	17
September			1	16	16	16	16

		2	24	24	24	24
		3	23	23	23	23
		4	21	21	21	21
	October	1	17	17	17	17
		2	20	20	20	20
		3	22	22	22	22
		4	21	21	21	21
	November	1	30	30	30	30
		2	24	24	24	24
		3	16	16	16	16
		4	31	31	31	31
	December	1	36	36	36	36
		2	24	24	24	24
		3	25	25	25	25
		4	33	33	33	33
Friction Velocity (m/s)						
	January	1	0.59	0.59	0.59	0.59
		2	0.71	0.71	0.71	0.71
		3	0.69	0.69	0.69	0.69
		4	0.57	0.57	0.57	0.57
	February	1	0.62	0.62	0.62	0.62
		2	0.62	0.62	0.62	0.62
		3	0.62	0.62	0.62	0.62
		4	0.59	0.59	0.59	0.59
	March	1	0.62	0.62	0.62	0.62
		2	0.76	0.76	0.76	0.76
		3	0.62	0.62	0.62	0.62
		4	0.57	0.57	0.57	0.57
		5	0.57	0.57	0.57	0.57
	April	1	0.73	0.73	0.73	0.73
		2	0.52	0.52	0.52	0.52
		3	0.62	0.62	0.62	0.62
		4	0.59	0.59	0.59	0.59
	May	1	0.54	0.54	0.54	0.54
		2	0.71	0.71	0.71	0.71
		3	0.52	0.52	0.52	0.52
		4	0.50	0.50	0.50	0.50
		5	0.50	0.50	0.50	0.50
	June	1	0.62	0.62	0.62	0.62
		2	0.50	0.50	0.50	0.50
		3	0.52	0.52	0.52	0.52
		4	0.50	0.50	0.50	0.50
	July	1	0.88	0.88	0.88	0.88
		2	0.47	0.47	0.47	0.47
		3	0.52	0.52	0.52	0.52
		4	0.43	0.43	0.43	0.43
		5	0.43	0.43	0.43	0.43
	August	1	0.38	0.38	0.38	0.38
		2	0.52	0.52	0.52	0.52
		3	0.50	0.50	0.50	0.50
		4	0.40	0.40	0.40	0.40
		5	0.40	0.40	0.40	0.40
	September	1	0.38	0.38	0.38	0.38
		2	0.57	0.57	0.57	0.57

	3	0.54	0.54		0.54	0.54	
	4	0.50	0.50		0.50	0.50	
October	1	0.40	0.40		0.40	0.40	
	2	0.47	0.47		0.47	0.47	
	3	0.52	0.52		0.52	0.52	
	4	0.50	0.50		0.50	0.50	
November	1	0.71	0.71		0.71	0.71	
	2	0.57	0.57		0.57	0.57	
	3	0.38	0.38		0.38	0.38	
	4	0.73	0.73		0.73	0.73	
December	1	0.85	0.85		0.85	0.85	
	2	0.57	0.57		0.57	0.57	
	3	0.59	0.59		0.59	0.59	
	4	0.78	0.78		0.78	0.78	

	Vegetative Cover	Bare Soil
CONTROL EFFICIENCY (%)-	99	0

EMISSION FACTOR -E (g/m^2):

January	1	0.00	0.00	-0.08	0.00	0.00	-0.08
	2	0.00	0.00	-2.18	0.00	0.00	-2.18
	3	0.00	0.00	-1.89	0.00	0.00	-1.89
	4	0.00	0.00	0.53	0.00	0.00	0.53
February	1	0.00	0.00	-0.63	0.00	0.00	-0.63
	2	0.00	0.00	-0.63	0.00	0.00	-0.63
	3	0.00	0.00	-0.63	0.00	0.00	-0.63
	4	0.00	0.00	-0.08	0.00	0.00	-0.08
March	1	0.00	0.00	-0.63	0.00	0.00	-0.63
	2	0.00	0.00	-2.57	0.00	0.00	-2.57
	3	0.00	0.00	-0.63	0.00	0.00	-0.63
	4	0.00	0.00	0.53	0.00	0.00	0.53
	5	0.00	0.00	0.53	0.00	0.00	0.53
April	1	0.00	0.00	-2.41	0.00	0.00	-2.41
	2	0.00	0.00	1.96	0.00	0.00	1.96
	3	0.00	0.00	-0.63	0.00	0.00	-0.63
	4	0.00	0.00	-0.08	0.00	0.00	-0.08
May	1	0.00	0.00	1.21	0.00	0.00	1.21
	2	0.00	0.00	-2.18	0.00	0.00	-2.18
	3	0.00	0.00	1.96	0.00	0.00	1.96
	4	0.00	0.00	2.77	0.00	0.00	2.77
	5	0.00	0.00	2.77	0.00	0.00	2.77
June	1	0.00	0.00	-0.63	0.00	0.00	-0.63
	2	0.00	0.00	2.77	0.00	0.00	2.77
	3	0.00	0.00	1.96	0.00	0.00	1.96
	4	0.00	0.00	2.77	0.00	0.00	2.77
July	1	0.00	0.00	-2.39	0.00	0.00	-2.39
	2	0.00	0.00	3.65	0.00	0.00	3.65
	3	0.00	0.00	1.96	0.00	0.00	1.96
	4	0.00	0.00	5.60	0.00	0.00	5.60
	5	0.00	0.00	5.60	0.00	0.00	5.60
August	1	0.00	0.00	7.80	0.00	0.00	7.80
	2	0.00	0.00	1.96	0.00	0.00	1.96
	3	0.00	0.00	2.77	0.00	0.00	2.77
	4	0.00	0.00	6.67	0.00	0.00	6.67

	5	0.00	0.00	6.67	0.00	0.00	6.67
September	1	0.00	0.00	7.80	0.00	0.00	7.80
	2	0.00	0.00	0.53	0.00	0.00	0.53
	3	0.00	0.00	1.21	0.00	0.00	1.21
	4	0.00	0.00	2.77	0.00	0.00	2.77
October	1	0.00	0.00	6.67	0.00	0.00	6.67
	2	0.00	0.00	3.65	0.00	0.00	3.65
	3	0.00	0.00	1.96	0.00	0.00	1.96
	4	0.00	0.00	2.77	0.00	0.00	2.77
November	1	0.00	0.00	-2.18	0.00	0.00	-2.18
	2	0.00	0.00	0.53	0.00	0.00	0.53
	3	0.00	0.00	7.80	0.00	0.00	7.80
	4	0.00	0.00	-2.41	0.00	0.00	-2.41
December	1	0.00	0.00	-2.56	0.00	0.00	-2.56
	2	0.00	0.00	0.53	0.00	0.00	0.53
	3	0.00	0.00	-0.08	0.00	0.00	-0.08
	4	0.00	0.00	-2.66	0.00	0.00	-2.66

ANNUAL EMISSIONS (grams/year):	Vegetative Cover/Gravel	Bare Soil	Total Emissions
E (TSP) =	0.00	0.00	0.00
E (PM-10) =	0.00	0.00	0.00

RADIONUCLIDE SOURCE CONCENTRATION

AVERAGE DETECTED ACTIVITY (MEASURED)

INPUT PARAMETERS:	U238	U234	U235	Ra226	Th232
Activity Concentration (S) - pCi/g	27.5	N/A	N/A	4.3	24.8
Isotope Contribution to Total Uranium (P) - %	47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)

U238	0.00E+00
Th234	0.00E+00
Pa234m	0.00E+00
Pa234	0.00E+00
U234	0.00E+00
Th230	0.00E+00
Ra226	0.00E+00
Po218	0.00E+00
Pb214	0.00E+00
Bi214	0.00E+00
Po214	0.00E+00
Pb210	0.00E+00
Bi210	0.00E+00
Po210	0.00E+00
U235	0.00E+00
Th231	0.00E+00
Pa231	0.00E+00
Ac227	0.00E+00
Th227	0.00E+00
Fr-223	0.00E+00
Ra223	0.00E+00
Po215	0.00E+00

Pb211	0.00E+00
Bi211	0.00E+00
Po211	0.00E+00
Tl207	0.00E+00
Th232	0.00E+00
Ra228	0.00E+00
Ac228	0.00E+00
Th228	0.00E+00
Ra224	0.00E+00
Po216	0.00E+00
Pb212	0.00E+00
Bi212	0.00E+00
Po212	0.00E+00
Tl208	0.00E+00

MISS SOIL LOAD-OUT EMISSIONS

EQUATION: E = k(0.0032)(U/5)^1.3/(M/2)^1.4 (AP-42, Chapter 13.2.4, "Aggregate Handling and Storage Piles", 01/95)

INPUT PARAMETERS:		Load-out No. 1 TSP	Load-out No. 1 PM-10	Load-out No. 2 TSP	Load-out No. 2 PM-10	Load-out No. 3 TSP	Load-out No. 3 PM-10	Load-out No. 4 TSP	Load-out No. 4 PM-10	Load-out No. 5 TSP	Load-out No. 5 PM-10
Particle Size Multiplier (k)		0.74	0.35	0.74	0.35	0.74	0.35	0.74	0.35	0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Tons of Material Dropped		10884	10884	11768	11768	7116	7116	10832	10832	9964	9964

INPUT PARAMETERS:		Load-out No. 6 TSP	Load-out No. 6 PM-10	Load-out No. 7 TSP	Load-out No. 7 PM-10	Load-out No. 8 TSP	Load-out No. 8 PM-10	Load-out No. 9 TSP	Load-out No. 9 PM-10	Load-out No. 10 TSP	Load-out No. 10 PM-10
Particle Size Multiplier (k)		0.74	0.35	0.74	0.35	0.74	0.35	0.74	0.35	0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Tons of Material Dropped		12140	12140	7128	7128	10888	10888	5540	5540	15340	15340

INPUT PARAMETERS:		Load-out No. 11 TSP	Load-out No. 11 PM-10	Load-out No. 12 TSP	Load-out No. 12 PM-10	Load-out No. 13 TSP	Load-out No. 13 PM-10	Load-out No. 14 TSP	Load-out No. 14 PM-10	Load-out No. 15 TSP	Load-out No. 15 PM-10
Particle Size Multiplier (k)		0.74	0.35	0.74	0.35	0.74	0.35	0.74	0.35	0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Tons of Material Dropped		17084	17084	11944	11944	8532	8532	9388	9388	7665	7665

INPUT PARAMETERS:		Load-out No. 16 TSP	Load-out No. 16 PM-10	Load-out No. 17 TSP	Load-out No. 17 PM-10
Particle Size Multiplier (k)		0.74	0.35	0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0	12.0	12.0
Tons of Material Dropped		12768	12768	8619	8619

EMISSION FACTOR -E (lb/ton):	Load-out No. 1	Load-out No. 2	Load-out No. 3	Load-out No. 4	Load-out No. 5	Load-out No. 6	Load-out No. 7	Load-out No.8	Load-out No. 9	Load-out No. 10
E (TSP) =	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04
E (PM-10) =	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04
CONTROL EFFICIENCY (%)-	0	0	0	0	0	0	0	0	0	0

ANNUAL EMISSIONS (grams/year):

E (TSP) =	1556.3	1682.7	1017.5	1548.9	1424.7	1735.9	1019.2	1556.9	792.2	2193.4
E (PM-10) =	736.1	795.9	481.3	732.6	673.9	821.0	482.1	736.4	374.7	1037.4

EMISSION FACTOR -E (lb/ton):	Load-out No. 11	Load-out No. 12	Load-out No. 13	Load-out No. 14	Load-out No. 15	Load-out No. 16	Load-out No. 17
E (TSP) =	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04	3.15E-04
E (PM-10) =	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04
CONTROL EFFICIENCY (%)-	0	0	0	0	0	0	0
ANNUAL EMISSIONS (grams/year):							
E (TSP) =	2442.8	1707.9	1220.0	1342.4	1096.0	1825.7	1232.4
E (PM-10) =	1155.4	807.8	577.0	634.9	518.4	863.5	582.9

RADIONUCLIDE SOURCE CONCENTRATIONS

AVERAGE DETECTED ACTIVITY (MEASURED)

INPUT PARAMETERS:		U238	U234	U235	Ra226	Th232
Activity Concentration (S) - pCi/g	(Load-out No. 1)	4.59	N/A	N/A	2.58	13.78
Activity Concentration (S) - pCi/g	(Load-out No. 2)	4.27	N/A	N/A	2.71	12.88
Activity Concentration (S) - pCi/g	(Load-out No. 3)	2.30	N/A	N/A	0.73	2.55
Activity Concentration (S) - pCi/g	(Load-out No. 4)	2.88	N/A	N/A	0.89	3.36
Activity Concentration (S) - pCi/g	(Load-out No. 5)	1.13	N/A	N/A	1.11	4.34
Activity Concentration (S) - pCi/g	(Load-out No. 6)	1.76	N/A	N/A	1.85	9.77
Activity Concentration (S) - pCi/g	(Load-out No. 7)	1.85	N/A	N/A	2.01	11.02
Activity Concentration (S) - pCi/g	(Load-out No. 8)	1.73	N/A	N/A	1.43	7.00
Activity Concentration (S) - pCi/g	(Load-out No. 9)	2.18	N/A	N/A	1.66	12.30
Activity Concentration (S) - pCi/g	(Load-out No. 10)	2.50	N/A	N/A	1.49	11.87
Activity Concentration (S) - pCi/g	(Load-out No. 11)	3.57	N/A	N/A	2.41	20.74
Activity Concentration (S) - pCi/g	(Load-out No. 12)	2.98	N/A	N/A	2.31	16.76
Activity Concentration (S) - pCi/g	(Load-out No. 13)	2.09	N/A	N/A	1.95	10.68
Activity Concentration (S) - pCi/g	(Load-out No. 14)	2.16	N/A	N/A	2.20	11.06
Activity Concentration (S) - pCi/g	(Load-out No. 15)	1.36	N/A	N/A	0.83	4.50
Activity Concentration (S) - pCi/g	(Load-out No. 16)	2.00	N/A	N/A	1.80	11.24
Activity Concentration (S) - pCi/g	(Load-out No. 17)	1.13	N/A	N/A	1.00	4.96
Isotope Contribution to Total Uranium (P) - %		47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)	Load-out No. 1	Load-out No. 2	Load-out No. 3	Load-out No. 4	Load-out No. 5	Load-out No. 6	Load-out No. 7	Load-out No. 8	Load-out No. 9	Load-out No. 10	Load-out No. 11
U238	3.38E-09	3.40E-09	1.11E-09	2.11E-09	7.61E-10	1.45E-09	8.92E-10	1.27E-09	8.17E-10	2.59E-09	4.12E-09
Th234	3.38E-09	3.40E-09	1.11E-09	2.11E-09	7.61E-10	1.45E-09	8.92E-10	1.27E-09	8.17E-10	2.59E-09	4.12E-09
Pa234m	3.38E-09	3.40E-09	1.11E-09	2.11E-09	7.61E-10	1.45E-09	8.92E-10	1.27E-09	8.17E-10	2.59E-09	4.12E-09
Pa234	4.39E-12	4.42E-12	1.44E-12	2.74E-12	9.90E-13	1.88E-12	1.16E-12	1.66E-12	1.06E-12	3.37E-12	5.36E-12
U234	3.61E-09	3.63E-09	1.18E-09	2.26E-09	8.14E-10	1.55E-09	9.54E-10	1.36E-09	8.74E-10	2.77E-09	4.41E-09

Th230	3.61E-09	3.63E-09	1.18E-09	2.26E-09	8.14E-10	1.55E-09	9.54E-10	1.36E-09	8.74E-10	2.77E-09	4.41E-09
Ra226	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
Po218	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
Pb214	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
Bi214	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
Po214	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
Pb210	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
Bi210	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
Po210	1.90E-09	2.16E-09	3.51E-10	6.52E-10	7.48E-10	1.52E-09	9.69E-10	1.05E-09	6.22E-10	1.55E-09	2.78E-09
U235	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Th231	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Pa231	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Ac227	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Th227	1.56E-10	1.57E-10	5.11E-11	9.74E-11	3.52E-11	6.67E-11	4.12E-11	5.88E-11	3.77E-11	1.20E-10	1.90E-10
Fr-223	2.18E-12	2.20E-12	7.15E-13	1.36E-12	4.92E-13	9.34E-13	5.76E-13	8.23E-13	5.28E-13	1.68E-12	2.66E-12
Ra223	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Po215	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Pb211	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Bi211	1.58E-10	1.59E-10	5.18E-11	9.88E-11	3.56E-11	6.76E-11	4.18E-11	5.96E-11	3.82E-11	1.21E-10	1.93E-10
Po211	4.32E-13	4.34E-13	1.41E-13	2.70E-13	9.73E-14	1.85E-13	1.14E-13	1.63E-13	1.04E-13	3.31E-13	5.27E-13
Tl207	1.58E-10	1.59E-10	5.17E-11	9.85E-11	3.56E-11	6.75E-11	4.16E-11	5.95E-11	3.81E-11	1.21E-10	1.93E-10
Th232	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Ra228	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Ac228	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Th228	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Ra224	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Po216	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Pb212	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Bi212	1.01E-08	1.03E-08	1.23E-09	2.46E-09	2.92E-09	8.02E-09	5.31E-09	5.15E-09	4.61E-09	1.23E-08	2.40E-08
Po212	6.50E-09	6.57E-09	7.86E-10	1.58E-09	1.87E-09	5.14E-09	3.40E-09	3.30E-09	2.95E-09	7.89E-09	1.54E-08
Tl208	3.64E-09	3.68E-09	4.41E-10	8.84E-10	1.05E-09	2.88E-09	1.91E-09	1.85E-09	1.66E-09	4.42E-09	8.61E-09

	Load-out No. 12	Load-out No. 13	Load-out No. 14	Load-out No. 15	Load-out No. 16	Load-out No. 17	Total
U238	2.41E-09	1.21E-09	1.37E-09	7.05E-10	1.73E-09	6.59E-10	3.00E-08
Th234	2.41E-09	1.21E-09	1.37E-09	7.05E-10	1.73E-09	6.59E-10	3.00E-08
Pa234m	2.41E-09	1.21E-09	1.37E-09	7.05E-10	1.73E-09	6.59E-10	3.00E-08
Pa234	3.13E-12	1.57E-12	1.78E-12	9.16E-13	2.25E-12	8.56E-13	3.90E-11
U234	2.57E-09	1.29E-09	1.47E-09	7.54E-10	1.85E-09	7.05E-10	3.21E-08
Th230	2.57E-09	1.29E-09	1.47E-09	7.54E-10	1.85E-09	7.05E-10	3.21E-08
Ra226	1.87E-09	1.13E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
Po218	1.87E-09	1.13E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
Pb214	1.87E-09	1.12E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
Bi214	1.87E-09	1.13E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
Po214	1.87E-09	1.12E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
Pb210	1.87E-09	1.13E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
Bi210	1.87E-09	1.13E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
Po210	1.87E-09	1.13E-09	1.40E-09	4.30E-10	1.55E-09	5.83E-10	2.13E-08
U235	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Th231	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Pa231	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Ac227	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Th227	1.11E-10	5.57E-11	6.33E-11	3.25E-11	7.97E-11	3.04E-11	1.38E-09
Fr-223	1.56E-12	7.79E-13	8.86E-13	4.55E-13	1.12E-12	4.26E-13	1.94E-11

Ra223	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Po215	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Pb211	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Bi211	1.13E-10	5.65E-11	6.42E-11	3.30E-11	8.09E-11	3.08E-11	1.40E-09
Po211	3.08E-13	1.54E-13	1.75E-13	9.01E-14	2.21E-13	8.42E-14	3.83E-12
Tl207	1.12E-10	5.63E-11	6.40E-11	3.29E-11	8.06E-11	3.08E-11	1.40E-09
Th232	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Ra228	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Ac228	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Th228	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Ra224	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Po216	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Pb212	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Bi212	1.35E-08	6.16E-09	7.02E-09	2.33E-09	9.71E-09	2.89E-09	1.28E-07
Po212	8.67E-09	3.95E-09	4.50E-09	1.49E-09	6.22E-09	1.85E-09	8.20E-08
Tl208	4.86E-09	2.21E-09	2.52E-09	8.38E-10	3.49E-09	1.04E-09	4.60E-08

CLUSTER NO. 2 EXCAVATION EMISSIONS

EQUATION: E = k(0.0032)(U/5)^1.3/(M/2)^1.4

INPUT PARAMETERS:		Cluster No. 2B TSP	Cluster No. 2B PM-10	Cluster No. 2C TSP	Cluster No. 2C PM-10	Cluster No. 2D TSP	Cluster No. 2D PM-10
Particle Size Multiplier (k)		0.74	0.35	0.74	0.35	0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3	7.3	7.3	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0	12.0	12.0	12.0	12.0
Tons of Material Dropped		9175	9175	14430	14430	35	35

EMISSION FACTOR -E (lb/ton):	Cluster No. 2B	Cluster No. 2C	Cluster No. 2D
E (TSP) =	3.15E-04	3.15E-04	3.15E-04
E (PM-10) =	1.49E-04	1.49E-04	1.49E-04
CONTROL EFFICIENCY (%)-	0	0	0
ANNUAL EMISSIONS (grams/year):			
E (TSP) =	1311.9	2063.3	5.0
E (PM-10) =	620.5	975.9	2.4

RADIONUCLIDE SOURCE CONCENTRATIONS

AVERAGE DETECTED ACTIVITY (MEASURED)

INPUT PARAMETERS:		U238	U234	U235	Ra226	Th232
Activity Concentration (S) - pCi/g	Cluster 2B	2.13	N/A	N/A	1.63	10.95
Activity Concentration (S) - pCi/g	Cluster 2C	1.98	N/A	N/A	1.68	10.62
Activity Concentration (S) - pCi/g	Cluster 2D	4.54	N/A	N/A	2.05	11.47
Isotope Contribution to Total Uranium (P) - %		47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)	Cluster No. 2B	Cluster No. 2C	Cluster No. 2D
U238	1.32E-09	1.93E-09	1.07E-11
Th234	1.32E-09	1.93E-09	1.07E-11
Pa234m	1.32E-09	1.93E-09	1.07E-11
Pa234	1.72E-12	2.51E-12	1.40E-14
U234	1.41E-09	2.07E-09	1.15E-11

Th230	1.41E-09	2.07E-09	1.15E-11
Ra226	1.01E-09	1.64E-09	4.85E-12
Po218	1.01E-09	1.64E-09	4.85E-12
Pb214	1.01E-09	1.64E-09	4.85E-12
Bi214	1.01E-09	1.64E-09	4.85E-12
Po214	1.01E-09	1.64E-09	4.85E-12
Pb210	1.01E-09	1.64E-09	4.85E-12
Bi210	1.01E-09	1.64E-09	4.85E-12
Po210	1.01E-09	1.64E-09	4.85E-12
U235	6.19E-11	9.05E-11	5.03E-13
Th231	6.19E-11	9.05E-11	5.03E-13
Pa231	6.19E-11	9.05E-11	5.03E-13
Ac227	6.19E-11	9.05E-11	5.03E-13
Th227	6.10E-11	8.92E-11	4.96E-13
Fr-223	8.54E-13	1.25E-12	6.94E-15
Ra223	6.19E-11	9.05E-11	5.03E-13
Po215	6.19E-11	9.05E-11	5.03E-13
Pb211	6.19E-11	9.05E-11	5.03E-13
Bi211	6.19E-11	9.05E-11	5.03E-13
Po211	1.69E-13	2.47E-13	1.37E-15
Tl207	6.17E-11	9.02E-11	5.02E-13
Th232	6.79E-09	1.04E-08	2.71E-11
Ra228	6.79E-09	1.04E-08	2.71E-11
Ac228	6.79E-09	1.04E-08	2.71E-11
Th228	6.79E-09	1.04E-08	2.71E-11
Ra224	6.79E-09	1.04E-08	2.71E-11
Po216	6.79E-09	1.04E-08	2.71E-11
Pb212	6.79E-09	1.04E-08	2.71E-11
Bi212	6.79E-09	1.04E-08	2.71E-11
Po212	4.35E-09	6.64E-09	1.74E-11
Tl208	2.44E-09	3.72E-09	9.75E-12

CLUSTER NO. 3A
EXCAVATION
EMISSIONS

EQUATION: E = k(0.0032)(U/5)^1.3/(M/2)^1.4 (AP-42, Chapter 13.2.4, "Aggregate Handling and Storage Piles", 01/95)

INPUT PARAMETERS:

		Cluster No. 3A TSP	Cluster No. 3A PM-10
Particle Size Multiplier (k)		0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0
Tons of Material Dropped		1103	1103

EMISSION FACTOR -E (lb/ton):	Cluster No. 3A
E (TSP) =	3.15E-04
E (PM-10) =	1.49E-04
CONTROL EFFICIENCY (%)-	0

ANNUAL EMISSIONS (grams/year):

E (TSP) =	157.7

E (PM-10) = 74.6

RADIONUCLIDE SOURCE CONCENTRATIONS	AVERAGE DETECTED ACTIVITY	(MEASURED)					
	INPUT PARAMETERS:		U238	U234	U235	Ra226	Th232
	Activity Concentration (S) - pCi/g		1.13	N/A	N/A	1.11	4.34
	Isotope Contribution to Total Uranium (P) - %		47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)

	Cluster No. 3A
U238	8.43E-11
Th234	8.43E-11
Pa234m	8.43E-11
Pa234	1.10E-13
U234	9.02E-11
Th230	9.02E-11
Ra226	8.28E-11
Po218	8.28E-11
Pb214	8.28E-11
Bi214	8.28E-11
Po214	8.28E-11
Pb210	8.28E-11
Bi210	8.28E-11
Po210	8.28E-11
U235	3.95E-12
Th231	3.95E-12
Pa231	3.95E-12
Ac227	3.95E-12
Th227	3.89E-12
Fr-223	5.45E-14
Ra223	3.95E-12
Po215	3.95E-12
Pb211	3.95E-12
Bi211	3.95E-12
Po211	1.08E-14
Tl207	3.94E-12
Th232	3.24E-10
Ra228	3.24E-10
Ac228	3.24E-10
Th228	3.24E-10
Ra224	3.24E-10
Po216	3.24E-10
Pb212	3.24E-10
Bi212	3.24E-10
Po212	2.07E-10
Tl208	1.16E-10

CLUSTER NO. 5C EXCAVATION EMISSIONS

EQUATION: E = k(0.0032)(U/5)^1.3/(M/2)^1.4 (AP-42, Chapter 13.2.4, "Aggregate Handling and Storage Piles", 01/95)

INPUT PARAMETERS:		Cluster No. 5C TSP	PM-10
Particle Size Multiplier (k)		0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3

Material Moisture Content - M (%)		12.0	12.0
Tons of Material Dropped		3794	3794

EMISSION FACTOR -E (lb/ton): Cluster No. 5C

E (TSP) =	3.15E-04
E (PM-10) =	1.49E-04

CONTROL EFFICIENCY (%)- 0

ANNUAL EMISSIONS (grams/year):

E (TSP) =	542.5
E (PM-10) =	256.6

RADIONUCLIDE SOURCE CONCENTRATIONS

AVERAGE DETECTED ACTIVITY (MEASURED)

INPUT PARAMETERS:	U238	U234	U235	Ra226	Th232
Activity Concentration (S) - pCi/g	3.03	N/A	N/A	1.60	7.38
Isotope Contribution to Total Uranium (P) - %	47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)

	Cluster No. 5C
U238	7.77E-10
Th234	7.77E-10
Pa234m	7.77E-10
Pa234	1.01E-12
U234	3.10E-10
Th230	3.10E-10
Ra226	4.11E-10
Po218	4.11E-10
Pb214	4.10E-10
Bi214	4.11E-10
Po214	4.10E-10
Pb210	4.11E-10
Bi210	4.11E-10
Po210	4.11E-10
U235	3.64E-11
Th231	3.64E-11
Pa231	3.64E-11
Ac227	3.64E-11
Th227	3.59E-11
Fr-223	5.02E-13
Ra223	3.64E-11
Po215	3.64E-11
Pb211	3.64E-11
Bi211	3.64E-11
Po211	9.94E-14
Tl207	3.63E-11
Th232	1.89E-09
Ra228	1.89E-09
Ac228	1.89E-09
Th228	1.89E-09

Ra224	1.89E-09
Po216	1.89E-09
Pb212	1.89E-09
Bi212	1.89E-09
Po212	1.21E-09
Tl208	6.80E-10

CLUSTER NO. 6A/6C EXCAVATION EMISSIONS

EQUATION: E = k(0.0032)(U/5)^1.3/(M/2)^1.4 (AP-42, Chapter 13.2.4, "Aggregate Handling and Storage Piles", 01/95)

INPUT PARAMETERS:

		Cluster No. 6A TSP	Cluster No. 6A PM-10	Cluster No. 6C TSP	Cluster No. 6C PM-10
Particle Size Multiplier (k)		0.74	0.35	0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0	12.0	12.0
Tons of Material Dropped	(Assumption)	1225	1225	4810	4810

EMISSION FACTOR -E (lb/ton):	Cluster No. 6A	Cluster No.6Cc
E (TSP) =	3.15E-04	3.15E-04
E (PM-10) =	1.49E-04	1.49E-04
CONTROL EFFICIENCY (%)-	0	0

ANNUAL EMISSIONS (grams/year):

E (TSP) =	175.2	687.8
E (PM-10) =	82.8	325.3

RADIONUCLIDE SOURCE CONCENTRATIONS

AVERAGE DETECTED ACTIVITY (MEASURED)

INPUT PARAMETERS:

		U238	U234	U235	Ra226	Th232
Activity Concentration (S) - pCi/g	(Cluster 6A)	1.13	N/A	N/A	1.00	4.96
Activity Concentration (S) - pCi/g	(Cluster 6C)	3.51	N/A	N/A	1.73	8.14
Isotope Contribution to Total Uranium (P) - %		47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)

	Cluster No. 6A	Cluster No. 6C
U238	9.36E-11	1.14E-09
Th234	9.36E-11	1.14E-09
Pa234m	9.36E-11	1.14E-09
Pa234	1.22E-13	1.48E-12
U234	1.00E-10	1.22E-09
Th230	1.00E-10	1.22E-09
Ra226	8.28E-11	5.63E-10
Po218	8.28E-11	5.63E-10
Pb214	8.28E-11	5.63E-10
Bi214	8.28E-11	5.63E-10
Po214	8.28E-11	5.63E-10
Pb210	8.28E-11	5.63E-10
Bi210	8.28E-11	5.63E-10
Po210	8.28E-11	5.63E-10

U235	4.38E-12	5.35E-11
Th231	4.38E-12	5.35E-11
Pa231	4.38E-12	5.35E-11
Ac227	4.38E-12	5.35E-11
Th227	4.32E-12	5.27E-11
Fr-223	6.05E-14	7.38E-13
Ra223	4.38E-12	5.35E-11
Po215	4.38E-12	5.35E-11
Pb211	4.38E-12	5.35E-11
Bi211	4.38E-12	5.35E-11
Po211	1.20E-14	1.46E-13
Tl207	4.37E-12	5.33E-11
Th232	4.11E-10	2.65E-09
Ra228	4.11E-10	2.65E-09
Ac228	4.11E-10	2.65E-09
Th228	4.11E-10	2.65E-09
Ra224	4.11E-10	2.65E-09
Po216	4.11E-10	2.65E-09
Pb212	4.11E-10	2.65E-09
Bi212	4.11E-10	2.65E-09
Po212	2.63E-10	1.70E-09
Tl208	1.48E-10	9.51E-10

CLUSTER NO. 8A EXCAVATION EMISSIONS

EQUATION: E = k(0.0032)(U/5)^1.3/(M/2)^1.4 (AP-42, Chapter 13.2.4, "Aggregate Handling and Storage Piles", 01/95)

INPUT PARAMETERS:

		Cluster No. 8A	
		TSP	PM-10
Particle Size Multiplier (k)		0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0
Tons of Material Dropped		1851	1851

EMISSION FACTOR -E (lb/ton): Cluster No. 8A

E (TSP) = 3.15E-04
E (PM-10) = 1.49E-04

CONTROL EFFICIENCY (%)- 0

ANNUAL EMISSIONS (grams/year):

E (TSP) = 264.7
E (PM-10) = 125.2

RADIONUCLIDE SOURCE CONCENTRATIONS

AVERAGE DETECTED ACTIVITY (MEASURED)

INPUT PARAMETERS:

	U238	U234	U235	Ra226	Th232
Activity Concentration (S) - pCi/g	1.47	N/A	N/A	1.49	7.52
Isotope Contribution to Total Uranium (P) - %	47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)		Cluster No. 8A
	U238	1.84E-10
	Th234	1.84E-10
	Pa234m	1.84E-10
	Pa234	2.39E-13
	U234	1.97E-10
	Th230	1.97E-10
	Ra226	1.87E-10
	Po218	1.87E-10
	Pb214	1.86E-10
	Bi214	1.87E-10
	Po214	1.86E-10
	Pb210	1.87E-10
	Bi210	1.87E-10
	Po210	1.87E-10
	U235	8.61E-12
	Th231	8.61E-12
	Pa231	8.61E-12
	Ac227	8.61E-12
	Th227	8.50E-12
	Fr-223	1.19E-13
	Ra223	8.61E-12
	Po215	8.61E-12
	Pb211	8.61E-12
	Bi211	8.61E-12
	Po211	2.35E-14
	Tl207	8.59E-12
	Th232	9.41E-10
	Ra228	9.41E-10
	Ac228	9.41E-10
	Th228	9.41E-10
	Ra224	9.41E-10
	Po216	9.41E-10
	Pb212	9.41E-10
	Bi212	9.41E-10
	Po212	6.03E-10
	Tl208	3.38E-10

CLUSTER NO. 9A
EXCAVATION
EMISSIONS

EQUATION: E = k(0.0032)(U/5)^1.3/(M/2)^1.4 (AP-42, Chapter 13.2.4, "Aggregate Handling and Storage Piles", 01/95)

INPUT PARAMETERS:		Cluster No. 9A TSP	Cluster No. 9A PM-10
Particle Size Multiplier (k)		0.74	0.35
Mean Wind Speed - U (mph)	(Teterboro, LCD)	7.3	7.3
Material Moisture Content - M (%)		12.0	12.0
Tons of Material Dropped		1731	1731

EMISSION FACTOR -E (lb/ton):	Cluster No. 9A
E (TSP) =	3.15E-04
E (PM-10) =	1.49E-04

CONTROL EFFICIENCY (%)- 0

ANNUAL EMISSIONS (grams/year):

E (TSP) = 247.5
E (PM-10) = 117.1

RADIONUCLIDE SOURCE CONCENTRATIONS AVERAGE DETECTED ACTIVITY (MEASURED)

INPUT PARAMETERS:

	U238	U234	U235	Ra226	Th232
Activity Concentration (S) - pCi/g	2.04	N/A	N/A	1.69	10.42
Isotope Contribution to Total Uranium (P) - %	47.249	50.539	2.212	N/A	N/A

ANNUAL RADIOACTIVITY EMISSION RATES (Ci/yr)

	Cluster No. 9A
U238	2.39E-10
Th234	2.39E-10
Pa234m	2.39E-10
Pa234	3.10E-13
U234	2.55E-10
Th230	2.55E-10
Ra226	1.98E-10
Po218	1.98E-10
Pb214	1.98E-10
Bi214	1.98E-10
Po214	1.98E-10
Pb210	1.98E-10
Bi210	1.98E-10
Po210	1.98E-10
U235	1.12E-11
Th231	1.12E-11
Pa231	1.12E-11
Ac227	1.12E-11
Th227	1.10E-11
Fr-223	1.54E-13
Ra223	1.12E-11
Po215	1.12E-11
Pb211	1.12E-11
Bi211	1.12E-11
Po211	3.05E-14
Tl207	1.11E-11
Th232	1.22E-09
Ra228	1.22E-09
Ac228	1.22E-09
Th228	1.22E-09
Ra224	1.22E-09
Po216	1.22E-09
Pb212	1.22E-09
Bi212	1.22E-09
Po212	7.82E-10
Tl208	4.38E-10

APPENDIX F
GAMMA RADIATION CALCULATION DOSE FOR THE YEAR 2004

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CALCULATION SHEET

		CALC. NO.: 102682-0307-001	REV.: 0
ORIGINATOR: Michael Ciminera	DATE: 3/1/05	CHECKED:	DATE:
PROJECT: FUSRAP Maywood Superfund Site		JOB NO.: 6100410107	SHEET: 3 of 5
SUBJECT: MISS 2004 Hypothetical Maximum Gamma Radiation Dose			

PURPOSE

This calculation estimates the dose to the hypothetical maximally exposed individual (resident and worker) from direct gamma radiation at the Maywood Interim Storage Site (MISS) in 2004.

SCOPE

This calculation models the site fence line as a line source to determine the dose to a hypothetical individual at a postulated distance from the fence line.

REFERENCE

Bechtel National, Inc. (BNI), 1991. "Evaluation of the Need for TETLD Face Calculation," 14501-191-CV-011 Rev. 0, Oak Ridge, TN.

BNI, 1992. "Attenuation Factor for TLD Weather Housings," 14501-191-CV-014 Rev. 0, Oak Ridge, TN.

Cember, H., 1989. Introduction to Health Physics, Pergamon Press, Elmford, NY.

ASSUMPTION

The dose rate to a given distance from the site fence line can be approximated by a dose rate at a distance from a line source. The line source dose rate is represented by the average of the Tissue Equivalent Thermoluminescent Dosimeter (TETLD) results from locations on the fence line facing the individual. The length of the line source is represented by the length of the fence line facing the individual. The dose rate calculation for gamma radiation is based on the assumption that a resident with 100% occupancy and a worker with 23% occupancy are located 50 feet from the maximum measured source (location 21). This is a conservative approach since the nearest receptor is located over 200 feet from location 21.

TETLD results are corrected for time, fade, housing attenuation, and background. The exposure time starts with the date of installation at the site and ends with the date of removal from the site. The fade factor is approximately one (BNI 1991) indicating that fade is not a major factor for the radiation levels measured on FUSRAP. The housing attenuation factor is estimated to be 1.075 (BNI 1992). Background is estimated as the average of the offsite TETLD results.

CALCULATIONS

The TETLD results (BNI 1998) shown in the attached table are converted to gamma radiation dose rates (d) using the following equation:

$$d = (mrem/yr) = \left(TETLD\,result \bullet \frac{number\ of\ days\ per\ year}{number\ of\ days\ exposed} \bullet fade \bullet attenuation \right) - background$$

CALCULATION SHEET

The average of the dose rates at the TETLD location on the west side of the site as shown in the attached figures (i.e., location 21) is:

$$d_1 = \frac{652.7 + 609.2 + 590.9 + 620.4}{4} mrem/yr = 618.3 mrem/yr$$

The dose rate at any distance from a line source (Cember 1989) is:

$$\frac{d_2}{d_1} = \frac{h_1}{h_2} \frac{\tan^{-1}\frac{l}{h_2}}{\tan^{-1}\frac{l}{h_1}}$$

Where:

h_1	=	distance of the TETLDs from the fence line (3 ft)
h_2	=	distance of the individual from the fence line (50 ft)
l	=	half the length of the line source (133 ft)
d_1	=	dose rate at the TELTDs location (618.3 mrem/yr.)
d_2	=	dose rate at the individual's location

Substituting known values into the equation and solving for the dose rate at the resident's location (d_2) assuming 100% occupancy is:

$$d_2 = 618.3 mrem/yr \frac{3}{50} \frac{\tan^{-1}\frac{133}{50}}{\tan^{-1}\frac{133}{3}} = 29.02 mrem/yr$$

Multiplying the dose rate by the time the worker occupied the location during 2004, the dose (D) is:

$$D_{worker} = 29.02 mrem/yr \bullet 23\% \bullet 1yr = 6.68 mrem$$

SUMMARY OF RESULTS

The calculated doses to the hypothetical maximally exposed resident and worker from direct gamma radiation at MISS in 2004 are 29.02 mrem/yr and 6.68 mrem/yr, respectively.

TABLE 2
2004 External Gamma Radiation Dose Rates
Maywood Interim Storage Site – 2004

2/2/2004 to 8/04/2004 TETLD[a]			2/2/2004 to 2/1/05 TETLD[a]		
Monitoring Location[b]	**Readings** (mrem)	**Corrected**[c] (mrem/yr)	**Monitoring Location**[b]	**Readings** (mrem)	**Corrected**[c] (mrem/yr)
MISS Perimeter					
4	77.0	45.4	4	128	61.6
	81.0	54.0		122	55.4
5	86.0	65.9	5	139	74.1
	88.0	69.3		143	77.7
10	121.0	140.5	10	209	148.5
	120.0	136.7		214	154.0
12	65.0	19.8	12	102	34.3
	65.0	21.1		121	54.5
20	50.0	0.0	20	85	15.6
	51.0	0.0		81	10.9
21	362.0	652.7	21	620	590.9
	341.0	609.2		648	620.4
22	83.0	58.6	22	146	81.6
	85.0	62.1		155	90.4
23	81.0	54.8	23	143	77.7
	86.0	64.6		150	85.2
24	186.0	277.9	24	325	273.4
	192.0	291.1		327	275.5
25	322.0	569.2	25	520	483.4
	329.0	584.1		614	583.8
30	55.0	0.0	30	84	14.9
	58.0	5.8		95	25.9
31	74.0	39.5	31	140	74.5
	79.0	51.0		141	75.4
32	36.0	0.0	32	63	0.0
	35.0	0.0		64	0.0
33	40.0	0.0	33	69	0.0
	39.0	0.0		69	0.0
Background 19	71.0 40.0	Avg. Background 118.4	Background 19	67 74	Avg. Background 75.8

[a] TETLD = Tissue-equivalent thermoluminescent dosimeter. There are two TETLDs per station.
[b] Monitoring locations are shown on Figure D-2.
[c] TETLD readings are corrected for shelter/absorption factor (s/a = 1.075) and are normalized to exactly one year's exposure. The average corrected background is then subtracted from all other corrected readings.

APPENDIX G
QUALITY CONTROL SUMMARY REPORT

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QUALITY CONTROL SUMMARY REPORT FOR THE ANNUAL ENVIRONMENTAL MONITORING REPORT, 2004

FUSRAP MAYWOOD SUPERFUND SITE
MAYWOOD, NEW JERSEY

SITE-SPECIFIC ENVIRONMENTAL RESTORATION
CONTRACT NO. DACW41-99-D-9001

TASK ORDER 0003
WAD 03, WBS 07

Submitted to:

Department of the Army
U.S. Army Engineer District, New York
Corps of Engineers
FUSRAP Project Office
26 Federal Plaza
New York, New York 10278

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Submitted by:

Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, New Jersey 07607

August 2005
Revision 0

Issued to: ______________________ Date: ______________

Copy No. ________ ☐ Controlled ☒ Uncontrolled

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QUALITY CONTROL SUMMARY REPORT FOR THE ANNUAL ENVIRONMENTAL MONITORING REPORT, 2004

FUSRAP MAYWOOD SUPERFUND SITE
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26 Federal Plaza
New York, New York 10278

Department of the Army
U.S. Army Engineer District, Kansas City
Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106

Submitted by:

Shaw Environmental, Inc.
100 West Hunter Avenue
Maywood, New Jersey 07607

August 2005
Revision 0

Prepared by: Brian J. Tucker
Dr. Brian Tucker
Project Chemist

Date: July 14, 2005

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TABLE OF CONTENTS

ATTACHMENTS

ABBREVIATIONS AND ACRONYMS

aq	aqueous
°C	Degrees Celsius
CDQMP	Chemical Data Quality Management Plan
COC	chain-of-custody
CT	Connecticut
%D	percent difference
DOE	U.S. Department of Energy
DUP	duplicate
EPA	U.S. Environmental Protection Agency
FMSS	FUSRAP Maywood Superfund Site
FUSRAP	Formerly Utilized Sites Remedial Action Program
ICP	inductively-coupled plasma
ICSAB	Interference check standard containing both interfering elements (Al, Ca, Mg, and Fe) and target elements
ID	identification
IDL	instrument detection limit
J	estimated value
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
MDA	minimum detectable activity
MDC	minimum detectable concentration
MDL	minimum detection limit
MISS	Maywood Interim Storage Site
MS	matrix spike
MSD	matrix spike duplicate
NAD	normalized absolute difference
NAS	National Academy of Sciences
ND	non-detect
pCi/L	picoCuries per liter
PQL	practical quantitation limit
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
QCSR	Quality Control Summary Report
R	rejected data
%R	percent recovery
Ra-226	radium-226
Ra-228	radium-228
ROC	radionuclide of concern
ROI	radionuclides of interest
RPD	relative percent difference
%RSD	percent relative standard deviation
SDG	sample delivery group
SEC	Safety and Ecology Corporation
Shaw	Shaw Environmental, Inc.
STL	Severn Trent Laboratories, Inc.

TAL	target analyte list
TDS	total dissolved solids
Th-228	thorium-228
Th-230	thorium-230
Th-232	thorium-232
U	undetected
U-234	uranium-234
U-235	uranium-235
U-238	uranium-238
UJ	estimated non-detect
USACE	U.S. Army Corps of Engineers
VOA	volatile organics analysis
VOC	volatile organic compound

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1.0 INTRODUCTION

Shaw Environmental, Inc. conducted environmental monitoring for year 2004 during the summer of 2004.

This *Quality Control Summary Report (QCSR) for the Annual Environmental Monitoring Report for the Year 2004* addresses data collected from analysis of groundwater, surface water, and sediment samples collected between June 16 and July 12, 2004. There were also some sediment samples collected for lithium and boron on September 14, 2004. The samples were tested for radium-226 (Ra-226), radium-228 (Ra-228), thorium-228 (Th-228), thorium-230 (Th-230), thorium-232 (Th-232), uranium-234 (U-234), uranium-235 (U-235) and uranium-238 (U-238), gross alpha, gross beta, target analyte list (TAL) metals, boron, lithium, and thallium, and volatile organic compounds (VOC). This QCSR will only discuss deviations in quality control (QC) criteria for these Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (FMSS) parameters. A project QCSR will be prepared at the conclusion of the project. This QCSR for the 2004 Environmental Monitoring Program will support preparation of the project QCSR.

The QCSR for the 2004 Environmental Monitoring Program is organized into seven sections as follows:

- Section 1.0, Introduction
- Section 2.0, Data Collection
- Section 3.0, Data Analysis and Validation
- Section 4.0, Data Summaries
- Section 5.0, System Audits
- Section 6.0, Analytical and Quality Assurance / Quality Control Problems Encountered at Off-site Laboratories
- Section 7.0, References

2.0 DATA COLLECTION

Environmental monitoring data collection procedures were evaluated for any deviations or modifications that may have occurred in the areas of sample handling and custody, equipment calibration and maintenance, and analytical methods. Within this report, the terms batch, package, and Sample Delivery Group (SDG) are synonymous. A SDG is a data report that contains the various test results of one or more sample batches plus associated QC data such as calibrations, blank and matrix spike results, blanks, etc.

The following sample collection anomalies are noted:

- For sampling of monitoring well MISS01B, an obstruction was encountered in the well at a depth of 25 feet. The pump was set on the obstruction and the sample collected at that depth.

- A sulfur smell was observed from monitoring well MISS02B.

- For sample 12b-024835, collected from monitoring well MISS05A, the sample was light brown with some particles, and there were bubbles in the peristaltic tubing used for pumping the sample. This sample was analyzed for VOCs. The VOC results for 12b-024835 should be considered estimated and biased low.

- For well B38W18D, four Horiba turbidity readings taken in the middle of the well stabilization sequence were incorrect. The problem was resolved by replacing the Horiba with a Lamotte Turbidity meter.

- There was no sediment to collect at site SWSD004 (proposed sediment sample ID 23a-024862).

2.1 SAMPLE HANDLING AND CUSTODY

There were no sample handling discrepancies noted by the off-site laboratory. All chains of custodies (COCs) received by the off-site laboratory were properly signed and dated with the following exception: for package F4F180161, the Sample Receipt Condition form indicated that the samples were received without COCs. The COC was subsequently faxed to STL St. Louis. All Sample Receipt Condition forms indicate that samples were received in good condition and properly preserved. The following concerns are noted for the radiological packages.

- In package F3F270122, shipping signatures were not included on the custody documents.
- Custody seals were present on most of the coolers associated with radiological and lithium/thallium sample shipment. Custody seals were not present on the sample coolers associated with the following radiological and lithium/thallium packages: F4F180142, F4F180161, F4F190107, F4F240149, F4F290150, F4F300133, F4G010140, and F4G130171. Custody seals were not attached to coolers if the coolers were being picked up by the courier from Severn Trent Laboratories of Shelton, Connecticut (STL-CT) as opposed to being shipped. Custody seals were not present on individual sample containers.
- In package F4F180161, radionuclide results were not reported for samples 12b-024888 and 12b-024886. The laboratory did report results for samples 20b-024888 and 20b-024886. These samples were not listed on the COC. Corrected documents were subsequently provided.

- In package F4G020121, the laboratory reported results for sample 12b-024851. The COC listed sample 10a-024851 not 12b-024851. The lab was notified of this error and resubmitted the data package with the correct sample identifications (IDs).
- For packages F4G090137 and F4G130171, total alpha radium results were reported. This analysis was not requested on the COC. The Case Narrative states that Shaw informed the laboratory project manager that these results could also be reported.

The following sample handling and custody concerns are noted for chemical data packages.

- For chemical packages, all samples were received at a temperature less than 6 degrees Celsius (°C) except for samples in data package F4G130171. The cooler temperature was 10°C. However, these were elemental and radionuclide samples so the slightly elevated temperature does not have an adverse effect.
- Prior to the start of sampling for the 2004 Environmental Monitoring Program, the offsite laboratory was asked to maximize the batch size and work with the FMSS Sampling Coordinator to ensure that every batch would have a FMSS Matrix Spike (MS) or MS/Matrix Spike Duplicate (MSD) sample, such that batch precision could be evaluated without inflicting excessive burden on the sampling team. This does not apply to radiological since there is always adequate sample to perform MS when required. Only seven of the 17 thallium / lithium data packages had MS/MSD results from FMSS samples associated with those seven batches. For the other ten, either non-FMSS MS/MSD or FMSS MS/MSD results from another batch were used.
- For package 206882, all samples were received in good condition except for trip blanks received on 6/17/2004, 6/18/2004, and 6/22/2004, which had headspace. The same condition was observed for package 206948 (trip blanks received 6/24/2004 and 6/29/2004), and 207019 (trip blanks received on 7/6/2004, 7/7/2004, and 7/9/2004). No data were qualified due to headspace.

2.2 EQUIPMENT CALIBRATION AND MAINTENANCE

2.2.1 Field Instrument Measurement and Calibration

There were no discrepancies observed in the area of field equipment calibration and maintenance for the 2004 Environmental Monitoring Program.

2.2.2 Off-Site Laboratories

2.2.2.1 Radiological Analysis

For radiological analyses, all criteria were met for initial and continuing instrument calibrations.

2.2.2.2 Chemical Analysis

For chemical analysis, only data packages for which quality control problems were identified are discussed below.

Chemical Analysis in Data Package 206882

For the volatile organic analysis (VOA) initial calibration, the following analytes failed to meet the 15.0 percent maximum relative standard deviation (%RSD) acceptance criterion: acetone (45.8), methylene chloride (33.4), 4-methyl-2-pentanone (21.7), 2-hexanone (20.0), chlorobenzene (24.1), mp-xylene (27.2), and 2-butanone (27.2). Results for methylene chloride, 4-methyl-2-pentanone, 2-hexanone, chlorobenzene, mp-xylene, and 2-butanone were qualified as estimated (J) or non-detected estimated (UJ) in all samples.

VOA continuing calibrations were analyzed on 6/25, 6/26, 6/28, and 6/29/04. The following analytes failed to meet the 20.0 percent difference (%D) criterion in one or more of the continuing calibrations: acetone, methylene chloride, 2-hexanone, chloromethane, and bromomethane. No additional qualifications of acetone, methylene chloride, and 2-hexanone were required. Based upon the 6/29 continuing calibration, results for chloromethane were qualified as estimated non-detect, UJ in sample 12b-024832. Results for bromomethane were qualified as estimated non-detect, UJ in all samples based upon all continuing calibrations.

For elements, all acceptance criteria were met for initial calibration verification and continuing calibration results.

Chemical Analysis in Data Package 206948

For the VOA initial calibration, the following analytes failed to meet the 15.0 %RSD acceptance criterion: acetone (45.8), methylene chloride (33.4), 4-methyl-2-pentanone (21.7), 2-hexanone (20.0), chlorobenzene (24.1), mp-xylene (27.2), and 2-butanone (27.2). Results for methylene chloride, 4-methyl-2-pentanone, 2-hexanone, chlorobenzene, mp-xylene, and 2-butanone were qualified as estimated J or non-detected estimated UJ in all samples.

VOA continuing calibrations were analyzed on 6/30, 7/03, 7/7, and 7/8/04. Bromomethane and 2-hexanone failed to meet the 20.0 percent difference (%D) criterion in all of the continuing calibrations, except for for the 7/3 calibration for which only bromomethane exceeded 20%. Due to these results, bromomethane is qualified estimated non-detect, UJ, in all samples. There is no change to the 2-hexanone qualifications made due to the initial calibration results.

For elements, all initial and continuing calibration acceptance criteria were met.

Chemical Analysis in Data Package 207019

The 6/24/04 initial calibration failed to meet the 15.0 %RSD acceptance criterion for acetone (45.8), methylene chloride (33.4), 4-methyl-2-pentanone (21.7), 2-hexanone (20.0), chlorobenzene (24.1), mp-xylene (27.2), and 2-butanone (27.2). Results for methylene chloride, 4-methyl-2-pentanone, 2-hexanone, chlorobenzene, mp-xylene, and 2-butanone were qualified as estimated J for detects or non-detected estimated UJ for non-detects in samples 12b-024912, 20a-024843, 12b-024915, 12b-024916, 12b-024913, 12b-024838, 20a-024844, 12b-024918, 12b-024917, 10a-024851, 12b-024920, and 12b-024918.

The 7/16/04 initial calibration failed to meet the 15.0 %RSD acceptance criterion for chloromethane (19.4), bromomethane (23.0), chloroethane (16.0), acetone (43.8), methylene chloride (32.1), 2-butanone (26.6), 4-methyl-2-pentanone (19.0), 2-hexanone (21.9), chlorobenzene (18.8), mp-xylene (18.6), and trans-1,3-dichloropropene (17.8). Samples 12a-024840, 12a-024854, 12b-024924, 12b-024922, 12b-024923, 12b-024926, 12b-024853, 12b-024921 are qualified as estimated J for detects or non-detected estimated UJ for non-detects for chloromethane, bromomethane, chloroethane, acetone, methylene chloride, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, chlorobenzene, mp-xylene, and trans-1,3-dichloropropene.

VOA continuing calibrations were analyzed on 7/8, 7/12, 7/14, 7/15, and 7/19/04, The following sample parameters exceeded the 20% criterion for %D in one or more of these continuing calibrations: bromomethane, 2-hexanone, chloromethane, 4-methyl-2-pentanone, 2-butanone, 1,1,2-trichloroethane, and dibromomethane. Based upon these results: all of the non-detect bromomethane results are qualified

UJ; the chloromethane non-detect results in samples 12b-024913, 12b-024838, and 20a-024814 are qualified UJ; the non-detect results of 1,1,2-trichloroethane in samples 12b-024918, 12b-024917, 10a-024851, 12b-024920, and 12b-024919 are qualified UJ.

For elements in SDG 207019, all initial and continuing calibration acceptance criteria were met.

TAL Elements, Lithium and Boron Analysis in Data Packages 207063, 207074, 207550

All initial and continuing calibration acceptance criteria were met for these analyses

Lithium and Thallium Analyses

STL-St. Louis analyzed samples for lithium, by inductively-coupled plasma (ICP), and for thallium, by ICP/MS. All initial and continuing calibration acceptance criteria were met for the thallium and lithium analyses.

2.3 ANALYTICAL METHODS

A total of three laboratories were employed, two for radiological analysis and one for chemical analysis.

For radiological analysis, the Maywood Interim Storage Site (MISS) on-site laboratory operated by Safety and Ecology Corporation (SEC), a Subcontractor to Shaw Environmental, Inc. (Shaw) analyzed routine air filter samples for the radionuclides of concern (ROCs) using a Protean liquid scintillation counter.

The off-site radiological laboratory, STL in Earth City, Missouri, analyzed all environmental monitoring samples for radiological parameters. STL analyzed the aqueous samples using U.S. Environmental Protection Agency (EPA) Methods 903.0 modified for Ra-226, EPA Method 904.0 modified for Ra-228, National Academy of Sciences / U.S. Department of Energy (NAS/DOE) method Thorium-3004/RP for thorium isotopes, NAS/DOE method uranium-3050/RP for uranium isotopes, and EPA Method 9310 modified for gross alpha and gross beta analyses (EPA 1980, EPA 1997). Sediment samples were analyzed for Ra-226 and Ra-228 by employing SW-846 EPA methods 9315 modified and 9320 modified respectively; for thorium and uranium isotopes in accordance with NAS/DOE method Thorium-3004/RP and NAS/DOE method Uranium-3050/RP; and for gross alpha and gross beta in accordance with EPA Method 9310. STL-St. Louis also analyzed lithium and thallium samples using EPA SW-846 methods 6010B and 6020, respectively.

For the remaining chemical analyses, STL-CT analyzed samples for volatile organics and metals. STL-CT analyzed the samples using EPA Methods 8260B for volatiles and 6010B for metals (7470A/7471A for mercury) from SW-846 (EPA, 1997).

There were no deviations or modifications in analytical methods from those specified in the *Annual Environmental Monitoring Report, 2004* (U.S. Army Corps of Engineers [USACE], 2005 - expected).

2.4 MODIFICATIONS TO THE WORK PLAN

There were no modifications to the radiation measurement techniques described in the *Annual Environmental Monitoring Report, 2004* (USACE, 2005 - expected).

3.0 DATA ANALYSIS AND VALIDATION

Kestrel Environmental Technologies, Inc. performed data evaluation of chemical and radiological data. They evaluated 100% of the off-site laboratory sample results. Data was evaluated using the USACE's *Kansas City and St. Louis District Radionuclide Data Evaluation Guidance for Alpha and Gamma Spectroscopy* and *CENWK-EC-EF Data Quality Evaluation Guidance*, as presented in Appendix F of the *Chemical Data Quality Management Plan* (CDQMP) *Quality Assurance Project Plan* (QAPP) (USACE 2001, USACE 1999, USACE 2003). Treatment of outliers was performed in accordance with Section 3.1.3 of the CDQMP QAPP.

4.0 DATA SUMMARIES

Data summaries for the off-site laboratories' radiological and chemical data can be found in several tables within the *Annual Environmental Monitoring Report for the Year 2004* (USACE 2005 - expected).

5.0 SYSTEM AUDITS

Shaw audited one of the off-site laboratories utilized for testing of samples, STL-St. Louis, in December 2001, and the MISS onsite laboratory in June 2000, December 2002, and December 2003. The MISS on-site laboratory audit findings and the STL-St. Louis audit findings can be found within *Maywood Project Laboratory Audit Compilation* (USACE 2004).

6.0 ANALYTICAL AND QUALITY ASSURANCE / QUALITY CONTROL PROBLEMS ENCOUNTERED AT OFF-SITE LABORATORIES

The off-site laboratories analyzed all of the water, soil and sediment field samples. Field measurements were made for dissolved oxygen, Eh, turbidity, temperature, specific conductivity, and pH in the 24 groundwater and 15 surface water samples. Included in these totals were two groundwater and two surface water field duplicates. Two groundwater split samples and one surface water split sample were also collected. In addition, 14 sediment samples, including two field duplicates, plus one sediment split sample were collected. Twenty-three rinsate blanks and fourteen trip blanks were also collected. The frequency of chemical split sample collection, 7.7% for waters and 7.1% for sediments, was lower than the required minimum frequency of 10%. The environmental monitoring task manager has been notified of this discrepancy. Radiological testing for isotopic uranium, thorium, and radium, and gross alpha and gross beta were made on 25 groundwater, 15 surface water and 14 sediment samples, including field duplicates. There were also two, one, and one USACE quality assurance (QA) radiological split samples, respectively collected for groundwater, surface water and sediment; and three, two, and two field replicates respectively. In addition, there were 23 rinsate blanks collected for radiological analyses. The frequency of radiological split sample collection, 7.5% for waters and 7.1% for sediments, was lower than the required minimum frequency of 10%. The Task Manager for the Environmental Monitoring Program has been notified of this discrepancy.

Chemical testing of groundwater consisted of measurements for TAL metals, lithium, thallium and VOCs, while chemical tests for surface water and sediment consisted only of TAL metals. Laboratories report results between the minimum detection limit (MDL) and practical quantitation limit (PQL) (organics) or instrument detection limit (IDL) and 2 X IDL (inorganics) as estimated J. Such results are qualified due to uncertainty at these low concentration levels, and not because of QC exceedances. Therefore, qualifications of this type are not specifically mentioned within this document. All samples were analyzed for radiological parameters. The radiological samples were analyzed for Ra-226, Ra-228, Th-228, Th-230, and Th-232, U-234, U-235 and U-238, and gross alpha and gross beta. Since the radioisotopes of concern in aqueous matrices at the FMSS are Ra-226, Ra-228, total uranium (all uranium isotopes), and gross alpha and gross beta, this report focuses only on the quality concerns associated with these radiological parameters in groundwater and surface water. This report will also only focus on the quality concerns associated with Ra-226, Th-232, and U-238 for sediment results. All of the results from testing of these samples were validated. The validator noted the following general findings as discussed below.

6.1 BLANK ANALYSES

6.1.1 Radiological Testing

Low-level activities of some or all ROCs were reported for laboratory preparation blanks in some SDGs. In accordance with USACE Radiological Data Evaluation Guidance, the Normalized Absolute Difference (NAD) was calculated for every sample relative to the blank level unless the blank was qualified non-detect (or estimated non-detect) using the USACE Data Evaluation Guidance, in which case calculation of the NAD is unnecessary. Using this Guidance, a given sample result was qualified estimated J if the NADs between a preparation blank result and an equipment rinsate or field sample result, or between an equipment rinsate result and a field sample result, was less than 2.58. No results for the radionuclides of interest (ROI) were qualified due to method blank contamination with the following exceptions:

- In data package F4G080124, the solid method blank yielded a Ra-226 result of 9.2 pCi/g. This is significant contamination. The Ra-226 results for sediment samples 22a-024866, 22a-024930, 22a-024868, and 22a-024932 were qualified estimated J because their results may be due to laboratory contamination. The NAD between this blank Ra-226 result and that for 22a-024932 was greater than 2.58, but it was still qualified because a significant part of the 22a-024932 Ra-226 result (15.2 pCi/g) could be due to blank contamination.

- Slight Ra-226 contamination (0.20 pCi/g) was detected in the solid method blank associated with package F4G100110. The Ra-226 result for sediment sample 22a-024882 was therefore qualified estimated J.

- Slight U-238 contamination (0.072 pCi/g) was detected in the solid method blank associated with package F4G130171. The U-238 results for sediment samples 23a-024858, 23a-024860, and 23a-024856DUP are qualified estimated J.

No results were qualified due to rinsate blank contamination with the exception of the following:

- In data package F4F240149, rinsate blank sample 12b-024898 showed significant contamination for U-238 (3.77 picoCuries per liter [pCi/L]), U-234 (2.25 pCi/L), gross alpha (9.7 pCi/L), and gross beta (10.8 pCi/L), and minor contamination for U-235. All uranium isotope results were reported as non-detect (U), or estimated non-detect (UJ) for field sample 12b-024836. Sample 12b-024836 was reanalyzed for gross alpha / gross beta so no gross alpha / gross beta results were qualified. Within the same data package, Ra-228 was detected at 0.51 pCi/L in rinsate blank 12b-024897, resulting in qualification of the Ra-228 result in field sample 12b-024836 estimated J. (see Attachment C Table C-1, Reason 4 column).

6.1.2 Chemical Testing – Organics

For VOCs in data package 206882, methylene chloride and acetone were detected in laboratory method blanks at a maximum concentration of 0.6 and 2.0 ug/L, respectively. The resultant action levels are established at 6 and 20 ug/L, respectively. All results below these action levels are reported as non-detected U at the reported concentration for acetone in field samples 20a-024846, 12b-024885, 12b-024887, 12b-024833, 12b-024834, 12b-024831, 12b-024832, 12b-024892 and 12b-024899; and methylene chloride results are reported as non-detected U at the reported concentration in field samples 12b-024888, 12b-024894, 12b-024896, and 12b-024899.

For VOCs in data package 206948, the maximum concentration of the contaminants detected in the laboratory blanks and their action levels are summarized below:

Compound	Maximum Concentration (μg/l)	Action level (μg/l)
acetone	3.17	31.7
methylene chloride	2.0	20
2-butanone	2.0	20
carbon disulfide	0.3	1.5

The following data evaluation actions were taken based upon this blank contamination:

- qualify positive detects of acetone as non-detect, U, at the concentration detected in samples 12b-024836, 12b-024901, 12b-024835, 12b-024904, 12b-024907, 12b-024839, 10a-024850, 12b-024911, 19a-024842, 12b-024914.

- qualify positive detects of methylene chloride as non-detect, U, at the concentration detected in samples 12b-024897, 12b-024901, 12b-024890, 12b-024902, 12b-024903, 12b-024911, 12b-024905, 19a-024842, and 12b-024914.

- qualify positive detects of 2-butanone as non-detect, U, at the concentration detected in samples 12b-024897, 12b-024890, 19a-024842, and 12b-024906.

- qualify positive detects of carbon disulfide as non-detect, U, at the concentration detected in sample 12b-024902.

For VOCs in package 207019, the maximum concentration of the contaminants detected in the laboratory blanks and their action levels are summarized below:

Compound	Maximum Concentration (μg/l)	Action level (μg/l)
acetone	15	150
methylene chloride	0.6	6
2-butanone	2.6	26
carbon disulfide	0.3	1.5
tetrachloroethene	0.7	3.5

The following data evaluation actions were taken based upon this blank contamination:

- qualify positive detects of tetrachloroethene as non-detect, U, at the concentration detected in samples 12b-024915 and 20a-024843.

- qualify positive detects of acetone as non-detect, U, at the concentration detected in samples 20a-024843, 12b-024918, 12b-024915, 10a-024851, 12b-024919, 12a-024840, 12b-024924, 12b-024851, 12b-024921.

- qualify positive detects of methylene chloride as non-detect, U, at the concentration detected in samples 12b-024917, 12b-024919, 12b-024924, 12b-024926, 12b-024921, 12b-024912, 12b-024913, 12b-024918, 12b-024915, 12b-024916, 10a-024851, 12b-024920.

- qualify positive detects of 2-butanone as non-detect, U, at the concentration detected in samples 12b-024913, 12b-024838, 12b-024917, 12b-024920, 12a-024840, 12b-024923, and 12b-024921.

- qualify the positive detect of carbon disulfide as non-detect, U, at the concentration detected in sample 12b-024917.

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6.1.3 Chemical Testing - Metals

The following table provides a summary of the number of sample results qualified non-detect based upon a given maximum blank level in the data package. If an analyte was detected in one or more blanks, but the associated field sample results exceeded the blank action level, no qualification was made and that blank contamination is not discussed in this report. Blank contamination is also not discussed if the field sample results associated with that blank are all non-detect.

Number of Samples Qualified Non-Detect Due to Contamination in Laboratory & Field Blanks								
Metal	**Package Number**	**Number of Samples**	**Package Number**	**Number of Samples**	**Package Number**	**Number of Samples**	**Package Number**	**Number of Samples**
Cr	207063	7	207074	2	207019	9		
Zn	207019	5						
Li	F4G020121	4	F4G070143	1	F4G010140	2	F4F300133	3 (*)
Li	F4F290150	1 (*)	F4F250191	1 (*)	F4F180161	1	F4G130171	4
Li	F4G100110	1 (*)	F4G090137	5 (*)	F4G080124	1		
Tl	F4G090137	1						
Tl	207550	2	F4G070143	1	F4F250191	2	F4F260118	1

* Lithium results are reported as estimated non-detect, UJ, because the results are less than the action level and the ICSA standard result is -17 ug/L

6.2 SAMPLE SPECIFIC CHEMICAL RECOVERIES (RADIOLOGICAL SAMPLES)

The laboratory did not tabulate the radioisotope quantities on a Form 3. The recoveries were presented on the data summary forms. The USACE acceptance criteria (USACE, 2001) for chemical tracers and gravimetric tracers are 40-110%. Tracers were used for the isotopic thorium, isotopic uranium, Ra-226, and Ra-228 analyses. No tracer is used for the GA/GB analyses. All radiotracer recoveries were within the USACE acceptance criteria in all packages with the following exceptions:

- In package F4F260118, the U-232 recovery for 12b-024902(RB) is 39%. No corrective actions were taken. The U isotope results for 12b-024902(RB) are reported as rejected (R).

- In package F4F300133, the yttrium recovery for 19a-024841 is 0.0%. No corrective actions were taken. The Ra-228 result for sample 19a-024841 is reported as rejected (R).

- In data package F4G090137, the laboratory noted that all barium tracer recoveries for the aqueous and sediment Ra-226 and total alpha radium analyses were outside the laboratory's acceptance criteria. All recoveries were greater than 125%. The laboratory did not take corrective actions and did not reanalyze the samples. The laboratory noted that all Ra-226 and total alpha radium field sample results are reported at concentrations less than the laboratory's reporting limit. The Ra-226 and total alpha radium results are reported as estimated (J) or non-detected estimated (UJ). Positive results may be biased high.

6.3 MATRIX SPIKE AND MATRIX SPIKE/MATRIX SPIKE DUPLICATE

6.3.1 Radiological Data Packages

For radiological samples, matrix spikes were performed for gross alpha and gross beta samples in all batches. For the ROCs in most batches, matrix problems were determined from tracer recoveries (see Section 6.2).

Gross alpha and gross beta matrix spike recoveries were within laboratory acceptance criteria in all packages with the following exceptions:

- For packages F4F250191, F4F260118, and F4F290150, sample 12b-024898, an equipment blank, was analyzed as the matrix spike sample. The gross alpha MS recovery was 138% (acceptance criteria 75-125%). For all three packages, the laboratory reanalyzed a non-blank field sample. Due to this exceedance, the non-detect results for samples 12b-024890 and 12b-024849 (in F4F250191), for samples 12b-024902 and 12b-024903 (in F4F260118), and for sample 10a-024850 (F4F290150) are reported as non-detected estimated, UJ.

- Maywood sample 12b-024922 in SDG F4F240149 was analyzed as the matrix spike sample for the gross alpha and gross beta isotope analyses. This sample was an equipment blank sample. The MS recoveries are 49% and 103% respectively. The gross beta MS recovery is within the 75-125% acceptance criteria. The gross alpha results for aqueous samples 12b-024922(RB), 12b-024922DUP. 12b-024923(RB), 12b-024928(RB), 12b-024927, 22a-024929, 22a-024867, 22a-024931 and 22a-024932 are qualified rejected (R). The gross alpha MS recovery was 49%, the laboratory acceptance range is 50-150%, and no corrective actions were taken.

- In package F4H300117, the gross alpha MS recovery for 12b-024835 is 182% and the MSD recovery is 108%. The gross alpha results for 12b-024835 and 12b-024835 duplicate (DUP) are reported as estimated (J). Results may be biased high. The gross beta MS recovery for 12b-024839 is 30% and the MSD recovery is 63%. The gross beta results for 12b-024839 and 12b-024839 DUP are reported as estimated (J). Results may be biased low.

  The laboratory incorrectly calculated several MS/MSD % RPDs. For example, the gross alpha MS/MSD results for 12b-024834 are 43.1 pCi/L and 46.0 pCi/L respectively. The laboratory reported the % RPD as 198%. All MS/MSD % RPDs have been recalculated and all are less than 35% except the gross beta result for 12b-024839. This % RPD is 66.7%. The gross beta results for 12b-024839 and 12b-024839DUP are reported as estimated (J).

6.3.2 Chemical Data Packages

For SDG 207019 volatiles, sample 12a-024840 was the MS/MSD pair reported. The following deviations from laboratory QC limits are noted:

MS or MSD	Analyte	%Rec/RPD	QC Limits
MS	Vinyl Chloride	141	60-140
MSD	Vinyl Chloride	161	60-140
MSD	Chloroethane	142	60-140
MSD	1,1-dichloroethene	142	60-140
MSD	Carbon disulfide	142	60-140
MS/MSD	Chloroethane	30	20

The vinyl chloride, chloroethane, 1,1-dichloroethene, and carbon disulfide data in the parent sample 12a-024840 are qualified rejected, R, since no corrective action was taken. Sample 12a-024840 MS/MSD was not re-analyzed.

For data package 207550, sediment sample 22a-024933 was analyzed as the soil matrix spike sample for ICP analyses. Results that exceed the 75-125% acceptance criteria are summarized below.

Element	Concentration (mg/kg)	Spike (mg/kg)	MS (mg/kg)	% Recovery	Post Digestion Spike Recovery %
Antimony	4.4 U	30.9	14.9	48	103
Beryllium	1.9 U	7.72	9.85	128	105

The antimony results for samples 22a-024933, 22a-024934, 22a-024935 and 22a-024936 are qualified as non-detected estimated (UJ). False negative results are possible. The beryllium results for samples 22a-024933, 22a-024934, 22a-024935 and 22a-024936 are reported as non-detected estimated (UJ). Matrix interferences are indicated.

For data package 207063, antimony, copper, and sodium showed sediment matrix spike recoveries outside of the 75-125% acceptance criteria. The sediment results for these analytes have already been qualified estimated J or non-detected estimated UJ due to field duplicate precision.

For data package 207074, the potassium aqueous results are qualified estimated J due to a high matrix spike recovery of 147% (MS sample 23a-024857). Maywood sample 23a-024858 (207074-7) was analyzed as the soil matrix spike sample for ICP analyses. Results that exceed the 75-125% acceptance criteria are summarized below.

Element	Concentration (mg/kg)	Spike (mg/kg)	MS (mg/kg)	% Recovery	Post Digestion Spike Recovery %
Antimony	1.60 U	11.26	7.68	68	102
Copper	25.84	14.07	44.26	131	104
Sodium	15.84	56.30	91.17	134	113

Soil/sediment results are qualified based upon the total solids field duplicate precision. Copper, sodium and antimony results are reported as estimated (J) or non-detected estimated (UJ).

For the lithium and thallium packages, no results were qualified due to matrix spike recovery exceedance. The lithium acceptance criterion for ICP testing is 75-125%, and for thallium by ICP-MS, the acceptance criterion is 80-120%. However, the laboratory reported results for an aqueous MS/MSD pair for lithium and thallium analyses, reported in data package F4F220237 (the results also apply to batch F4F230128) Equipment rinsate blank sample 12b-024893 was analyzed as the MS/MSD pair for thallium and lithium analyses. Rinsate blank samples were also analyzed for ICP serial dilutions. Field sample matrix interferences cannot be evaluated. The lithium and thallium results for field samples 12b-024832, 12b-024847 and 12b-024900 (batch F4F230128) and 12b-024831 (batch F4F220237) are reported as rejected (R).

6.4 LABORATORY CONTROL SAMPLES

6.4.1 Radiological Data Packages

All laboratory control sample (LCS) recoveries were within the laboratory's acceptance criteria except for the following:

In package F4G020121, the Ra-226 laboratory control sample duplicate (LCSD) recovery of 59.5% is less than the lab-derived acceptance criteria of 60-150%. The Ra-226 result for sample 12b-024851 is reported as estimated (J), and the Ra-226 results for 12b-024916, 12b-024917 and 12b-024920 are reported as non-detected estimated (UJ).

Because the U-235 spike concentration was always very near its minimum detectable concentration (MDC) (typically the spike concentration was two to three times the MDC), no U-235 results were reported in the LCS samples. Evaluation actions taken due to U-234 and U-238 results were applied to U-235 results.

For soil LCSs, Th-228 and Th-232 were not reported because Th-230 is the only thorium isotope in the LCS. This anomaly was discussed with USACE and they indicated that Th-230 LCS recoveries would provide an adequate indication of thorium isotope recoveries.

6.4.2 Chemical Data Packages

For lithium and thallium testing, all aqueous and soil LCS results were within acceptance criteria of 80-120%. For chemical analysis, only data packages for which quality control problems were identified are discussed below.

6.4.2.1 Package 206882

For VOCs, the following deviations were noted when compared to laboratory QC limits:

LCS or LCSD	Analyte	% Recovery/RPD	QC Limits
LCS/LCSD 0625	2-hexanone	84	20
LCS/LCSD 0626	4-methyl-2-pentanone	46	20
LCS/LCSD 0626	2-hexanone	107	20
LCS 0629	2-butanone	289	10-276
LCS/LCSD 0629	2-hexanone	28	20

It is recommended to reject the 2-butanone result for the one sample analyzed in the 062904 batch, 12b-024832. There were no positive detects for 4-methl-2 pentanone so professional judgment dictates no qualification of these results. While the same is true for 2-hexanone, because of the variability of the 2-hexanone LCS and LCSD results, all 2-hexanone non-detect results within 206882 are qualified estimated non-detect, UJ.

For elements, all LCS recoveries were within acceptance criteria.

6.4.2.2 Package 206948

For VOCs, the following deviations in the LCS/LCSD results were noted when compared to laboratory QC limits:

LCS or LCSD	Analyte	% Recovery/RPD	QC Limits
LCS 0630	bromomethane	44	60-140
LCS 0703	bromomethane	48	60-140
LCS 0703	2-butanone	299	10-276
LCSD 0703	bromomethane	36	60-140
LCSD 0703	2-butanone	334	10-276
LCS/LCSD 0703	bromomethane	29	20
LCS 0707	bromomethane	58	60-140

LCS or LCSD	Analyte	% Recovery/RPD	QC Limits
LCS 0708	bromomethane	25	60-140
LCSD 0708	bromomethane	30	60-140
LCS/LCSD 0708	1,1-dichloroethene	25	20
LCS/LCSD 0708	2-butanone	128	20
LCS/LCSD 0708	bromodichloromethane	21	20
LCS/LCSD 0708	cis-1,3-dichloropropene	25	20
LCS/LCSD 0708	4-methyl-2-pentanone	39	20
LCS/LCSD 0708	trans-1,3-dichloropropene	25	20
LCS/LCSD 0708	1,1,2-trichloroethane	28	20
LCS/LCSD 0708	2-hexanone	34	20
LCS/LCSD 0708	dibromochloromethane	23	20
LCS/LCSD 0708	bromoform	22	20

The following data evaluation actions are recommended based upon these LCS results:

- reject (R) the bromomethane results in every sample in this SDG.
- reject (R) the 2-butanone results in samples 12b-024850, 12b-024911, 12b-024905, and 12b-024906.

For the other analytes, exceedances are in the form of high %RPDs between the LCS and LCSD %Rs. Since these analytes were non-detect in associated samples, the data is not qualified.

For elements, all LCS recoveries were within acceptance criteria.

6.4.2.3 Package 207019

For VOCs, the following deviations were noted when compared to laboratory QC limits:

LCS or LCSD	Analyte	% Recovery/RPD	QC Limits
LCS 0708	bromomethane	25	60-140
LCSD 0708	bromomethane	30	60-140
LCS/LCSD 0708	1,1-dichloroethene	25	20
LCS/LCSD 0708	2-butanone	128	20
LCS/LCSD 0708	bromodichloromethane	21	20
LCS/LCSD 0708	cis-1,3-dichloropropene	25	20
LCS/LCSD 0708	4-methyl-2-pentanone	39	20
LCS/LCSD 0708	trans-1,3-dichloropropene	25	20
LCS/LCSD 0708	1,1,2-tetrachloroethane	28	20
LCS/LCSD 0708	2-hexanone	34	20
LCS/LCSD 0708	dibromochloromethane	23	20
LCS/LCSD 0708	bromoform	22	20
LCS 0712	bromomethane	47	60-140
LCS 0712	acetone	419	10-372
LCS 0712	2-butanone	419	10-276
LCS 0714	bromomethane	49	60-140

The following data evaluation actions are recommended based upon these LCS results:

- reject (R) the nondetects of bromomethane in the 07/08/04 analyses (12b-024912, 20a-024843, 12b-024915, and 12b-024916), the 071204 analyses (12b-024913, 12b-024838, and 20a-024844), and the 071404 analyses (12b-024918, 12b-024917, and 10a-024851).
- estimate (J) the positive detect of 1,1-dichloroethene in 20a-024843 due to the high %RPD value in the LCS/LCSD pair (undetected results for this analyte have not been qualified).
- reject acetone and 2-butanone results in 12b-024913, 20a-024844, and 12b-024838.

For elements, all LCS recoveries were within acceptance criteria.

For all other data packages, pertaining exclusively to TAL elements and lithium/thallium, LCS recoveries were within QC acceptance criteria.

6.5 FIELD REPLICATE

6.5.1 Radiological Data Packages

The following field replicate pairs were submitted.

Field Replicate Pairs Submitted			
12b-024847/ 12b-024900 aqueous (aq)	12a-024840 / 12a-024925 aq.	22a-024865 / 22a-024929 aq.	22a-024868 / 22a-024932 sed.
20a-024844/ 20a-024918 aq.	22a-024866 / 22a-024930 sed.	22a-024867 / 22a-024931 aq.	

All field replicate pair results were within USACE QC limits; i.e., within a factor of two for all aqueous replicate pairs and within a factor of four for all soil pairs (this applies to those pairs for which both results were positive, i.e., both greater than the minimum detectable activity [MDA]) except for the following:

In package F4G010140, the gross alpha aqueous field duplicate result pair (20a-024844/20a-024918) differed by more than a factor of two. The results are 2.2 and 5.1 pCi/L, and the difference is a factor of 2.3. Because the results are low and the NAD between the results is < 1.96, these results were not qualified.

Data package F4G080124 contained the results for two aqueous and two sediment duplicate pairs. The following sediment pair exceeded USACE radiological data evaluation criterion for field duplicate results.

Analyte	22a-024868			22a-024932		
	Result (pCi/g)	Uncertainty	MDC	Result (pCi/g)	Uncertainty	MDC
Ra-226	0.91	0.26	0.25	0.12	0.13	0.20
U-238	0.40	0.14	0.07	1.87	0.30	0.03
Th-232	0.67	0.18	0.03	3.62	0.49	0.03

Using professional judgment the Ra-226, U-238 and Th-232 results for sediment samples 22a-024868 and 22a-024932 are reported as estimated (J). Results differ by more than a factor of 4, the NADs are greater than 1.96 and % RPDs exceed 100%. Poor sample homogeneity is indicated.

Analyte	22a-024867			22a-024931		
	Result (pCi/L)	Uncertainty	MDC	Result (pCi/L)	Uncertainty	MDC
Gross Alpha	27.3	4.2	1.7	9.8	2.7	2.5
Gross Beta	10.3	1.5	1.4	3.27	0.85	1.0
Ra-226	1.17	0.35	0.32	0.98	0.37	0.42
Ra-228	4.59	0.86	0.92	1.40	0.64	0.97
U-234	2.99	0.55	0.1	0.74	0.27	0.10
U-235	0.10	0.11	0.12	0.056	0.098	0.076
U-238	2.47	0.49	0.1	0.56	0.23	0.10

The gross alpha, gross beta, Ra-228, U-234 and U-238 results for 22a-024867 and 22a-024931 are reported as estimated (J). Results differ by more than two times, NADs are greater than 1.96 and % RPDs approach or exceed 100%. Poor sample homogeneity is evident.

If one duplicate result was non-detect and one detected, the NAD was calculated. If the NAD was less than 1.96, the duplicate precision was deemed acceptable. If both results were non-detect (ND), the precision was also acceptable.

6.5.2 Chemical Data Packages

The sample ID numbers for the chemical field duplicate pairs were the same as those for the radiological sample pairs except that there was no chemical field replicate pair for 12a-024840/12a-024925 (only 12a-024840 was collected for chemical parameters), and there were two field replicate pairs for chemical that were not analyzed for radiological parameters: 22a-024933/22a-024934 and 22a-024935/22a-024936. All field duplicate precision criteria were met for VOC analyses with the following exception:

In data package 207019, the field replicate sample pair 20a-024844 and 12b-024918 was analyzed. All VOC positive detects had %RPDs less than 20% except for methylene chloride (53%) and acetone (200%). Therefore, the methylene chloride result in 20a-024844 is qualified estimated J, and the acetone result in 12b-024918 is qualified estimated J. For 207019 elements, aluminum results for the same pair were 306 ug/L and 92 U, indicating poor precision. However, no qualifications were made to other aluminum results in this batch because all positive aluminum results are less than 5 times the MDL.

For data package 207550 for TAL elements, lithium, and boron, sediment samples 22a-024933 and 22a-024934 are a field duplicate pair. The total solids for these two samples are 28.9% and 28.4%. Due to the difficulty in obtaining a representative sample (labs prepare a sample aliquot weighing from 0.5 to 1.0 gram typically) given the low total solids, all positive results for these two samples are qualified estimated J and all non-detects estimated UJ. Also within package 207550, sediment samples 22a-024935 and 22a-024936 are a field duplicate pair. All results agree within a factor of two so the precision is acceptable.

Data package 207063 for elements contained the results of field duplicate sediment sample pairs 22a-024930 and 22a-024866, and 22a-024932 and 22a-024868. The total solids for these two pairs, 31.9% and 62.4%, and 31.5% and 76.4%, respectively, indicate the samples are non-homogeneous and therefore non-representative as duplicates. Therefore, all positive and non-detect sample results within 207063 are qualified estimated J, and estimated non-detect, UJ, respectively. Package 207063 also contained results for aqueous field replicate pairs 22a-024865 and 22a-024929, and aqueous pair 22a-024867 and 22a-024931. There were several elements for which the two results differed by more than a factor of two. Based upon these results, all aqueous aluminum, potassium, boron, and iron results in 207063 are qualified estimated J for positive detects and UJ for non-detects. The manganese results for duplicate pair 22a-024865 and 22a-024929 were acceptable so these results are not qualified. All other manganese results are qualified estimated J, except for the manganese results in equipment blanks 12b-024928 and 12b-024927, which are qualified UJ.

For thallium and lithium test results, in laboratory data packages F4G080124, F4G090137, and F4G100110 sediment samples 22a-024866 and 22a-024930, and sediment samples 22a-024868 and 22a-024932 (reported in package F4G080124) are field duplicate pairs. The following table summarizes the total solids results.

Sample ID	% Total Solids
22a-024866	53.3
22a-024930	21.1
22a-024868	35.1
22a-024932	75.3

These results indicate sample non-homogeneity, due either to sampling or laboratory procedures. Based upon this variability all thallium and lithium sediment results in packages F4G080124 (22a-024932, 22a-024866, 22a-024930, and 22a-024868), F4G090137 (22a-024864, 22a-024874, 22a-024876, 22a-024878, 22a-024880, and 22a-024884) and F4G100110 (22a-024882) are reported as estimated (J) or non-detected estimated (UJ). Also in package F4G080124, the lithium duplicate results for aqueous sample pair 22a-024931 and 22a-024867 are 33.2 U ug/L and 84.9 ug/L, respectively. Due to the poor precision, these results are qualified UJ and J, respectively.

6.6 LABORATORY REPLICATES

6.6.1 Radiological Data Packages

The NAD was calculated for each replicate pair. If the NAD was less than 1.96 no qualification was made. If the NAD is greater than 1.96, the relative percent difference (RPD) was then calculated. If the RPD is less than 35% for soils, or 25% for waters, there is no qualification. If the RPD is between 35 and 65% (soils) and 25 to 50% (waters), the results of all samples in the batch of the same matrix are qualified estimated J for that parameter. If the RPD is greater than 65% (soils) or 50% (waters), the results of all samples in the batch of the same matrix are qualified rejected R for that parameter. No evaluation is required if both values are less than the MDA.

Laboratory replicates or duplicates were performed on all sample batches for all isotopes reported except for Ra-226 and Ra-228. For Ra-226 and Ra-228, a LCS/LCSD pair were analyzed in all batches in lieu of a sample/lab replicate pair. For all sample results, the laboratory replicate NADs were less than 1.96 or the RPDs were less than acceptance criteria.

However, in packages F4F240149 and F4F080124, an equipment rinsate blank was analyzed as the laboratory replicate for isotopic uranium, isotopic thorium, and gross alpha/gross beta. Use of an equipment rinsate blank as a laboratory QC sample is inappropriate because the analytes of concern will typically be non-detect and therefore the precision of the replicate results is not meaningful. For this reason, all of the isotopic uranium, isotopic thorium, and gross alpha/gross beta results in package F4F240149 are qualified R, rejected. The aqueous isotopic uranium, isotopic thorium, and gross alpha/gross beta results in package F4F080124 are not rejected because precision information was available within this data package from the field replicate results. For the same reason as stated above regarding use of the rinsate blank, the gross alpha/gross beta results in packages F4F250191, F4F300133, F4F290150, and F4F260118 are qualified R, rejected.

In package F4F220237, a rinsate blank was also used as the laboratory replicate for isotopic uranium and isotopic thorium. However, the one non-blank sample in package F4F220237 was reanalyzed and reported in package F4H300117, so no isotopic uranium and isotopic thorium data were evaluated in package F4F220237.

In package F4F230128, a rinsate blank was also used as the laboratory replicate for isotopic uranium and isotopic thorium. However, this package did contain a measure of batch precision because there was a field replicate pair analyzed, and the QC acceptance criteria for field replicate precision was met.

6.6.2 Chemical Data Packages (Metals only)

For all elements, the precision acceptance criteria (< 20%RPD for waters, 35% for soils) was applied only if the results were greater than 5 times the MDL. MS/MSD was the QC replicate analyses employed for lithium and thallium. All precision acceptance criteria were met for all lithium and thallium replicate analyses with the following exception:

In packages F4F220237-TlLi and F4F230128-TlLi, the MS/MSD % RPDs are less than 20%. However, equipment rinsate blank sample 12b-024893, reported in data package F4F220237, was analyzed as the MS/MSD pair for thallium and lithium analyses. Rinsate blank samples were also analyzed for ICP serial dilutions. Field sample matrix interferences could not be evaluated. Therefore, the lithium and thallium results for field samples 12b-024832, 12b-024847 and 12b-024900 in package F4F230128TlLi, and sample 12b-024831 in package F4F220237-TlLi are reported as rejected (R).

For elements in package 206882, samples 12b-024885 and 12b-024847 were analyzed as the aqueous matrix duplicate sample for ICP analyses. The chromium duplicate results (43.4 and 56.2 ug/L) exceeded %D limit of 20% (%D equals 25.7%). Therefore, the positive chromium results for samples 12b-024885, 20a-024845, 12b-024889, 12b-024834, 12b-024833, 12b-024894, 12b-024896, 12b-024847 and 12b-024900 are reported as estimated (J).

In packages 207063 and 207074, Maywood sample 23A-024858 was analyzed as the matrix duplicate sample for ICP analyses. Matrix duplicate % RPDs that exceed 35% are summarized below.

Element	Result (mg/kg)	Duplicate (mg/kg)	% RPD
Cobalt	4783	3230	38.8
Copper	44795	25842	53.7
Manganese	315625	165128	62.6
Nickel	19321	11581	50.1
Zinc	263587	177789	38.9

All soil/sediment results are qualified based upon the field duplicate total solids precision. All cobalt, copper, manganese, nickel and zinc results are reported as estimated (J) in packages 207063 and 207074.

For package 207550, sediment sample 22a-024933 was analyzed as the lab replicate. All %RPDs were less than 35% except for nickel at 37%. The nickel results for samples 22a-024935, 22a-024933, 22a-024934, and 22a-024936 are qualified estimated J.

6.7 SURROGATE RECOVERIES (ORGANIC CHEMICAL)

All surrogate recoveries were within acceptance criteria for all samples analyzed for VOC.

6.8 INTERNAL STANDARD RECOVERIES (ORGANIC CHEMICAL)

All internal standard acceptance criteria were met for all samples analyzed for VOC.

6.9 MISCELLANEOUS METALS CRITERIA

All ICP interference check sample acceptance criteria (80-120% for the ICSAB and within 2 times the reporting limit for the ICSA were met for all elements except for the following:

- Selenium in 206882 (the ICSAB standard recoveries were 70 and 71%), 206948 (the ICSAB standard recoveries for selenium were 70, 71, 70, 77, and 74%), and 207019 (the ICSAB standard recoveries for selenium were 70 and 78%), 207063 (the ICSAB standard recoveries were 70 and 78%), and 207074 (the ICSAB standard recovery was 71%). All selenium results within these packages (except for 12b-024839 in 206948) are non-detect and are qualified estimated non-detect, UJ because false negative results are possible.

- Lithium in F4F180142 and F4F180161, where the ICSA result was -20 ug/L. The lithium results for sample 12b-024889 (F4F180142) and samples 12b-024885, 12b-024888, and 12b-024886 (F4F180161) are qualified non-detect estimated.

- In packages F4F250191, F4F290150, and F4F300133, the lithium ICSA result is -17 ug/L. The lithium result in the affected samples, rinsate blank 12b-024890 (F4F250191), 10a-024850 (F4F290150), and 19a-024842, 12b-024906, and 12b-024905 (F4F300133) have already been qualified non-detect, U, due to contamination in the CCB (11.5 ug/L lithium in CCB; action level is 57.5 ug/L). Also, the absolute value of the negative result is > 2X the lithium IDL. Because of the potential variability in lithium concentration introduced by the ICSA result, the lithium results for 12b-024890, 10a-024850, 19a-024842, 12b-024906, and 12b-024905 are qualified estimated non-detect, UJ. Similarly, the lithium results for samples 12b-024902 and 12b-024903 in package F4F260118, samples 22a-024863, 22a-024883, 22a-024875, 22a-024877, and 22a-024879 in package F4G090137, and sample 22a-024881 in package F4G100110 are qualified non-detect estimated, UJ. The lithium ICSA results are -19 ug/L, -18 ug/L, and -18 ug/L, respectively. In addition, in package F4G090137, the lithium result of 82.8 ug/L in sample 22a-024873 is qualified estimated J due to the interference check sample result.

All ICP serial dilution results were within the acceptance criteria of <10% difference for all results >25X the MDL for all elements except for the following:

- Sodium sample and serial dilution results were 15.6% different for sample 12b-024840 in package 207019. The serial dilution result was lower so the sample result is likely biased high.

The sodium results for all positive sodium results in aqueous samples in 207019 are qualified estimated J.

- Potassium sample and serial dilution results were 26% different for sample 23a-024857 in package 207074. The serial dilution result was lower so the sample result is likely biased high. All aqueous potassium results for package 207074 samples are qualified estimated J.

6.10 RADIONUCLIDE QUANTITATION AND IMPLIED DETECTION LIMITS (RADIOLOGICAL)

The laboratory reported the results with analytical uncertainties. The laboratory used for analysis of environmental monitoring samples for radiological analysis, STL-St. Louis, reported positive results that were greater than the MDA and less than the laboratory's reporting limit (approximately three times the MDA) the as estimated J. The validator retained this qualifier unless the data was qualified U, UJ or R for some other reason. Project guidance has changed since the 2003 environmental monitoring data packages were evaluated. Now offsite laboratory J qualifiers, applied because a result falls between its MDA and reporting limit, are removed by the validator.

The laboratory noted that the MDCs for the gross alpha and gross beta were elevated in some instances. This is due to the smaller sample aliquot that must be used for gross alpha when the total dissolved solids (TDS) level is elevated.

Sample results that were either less than the associated uncertainty or MDA were evaluated to determine if the MDA values were unrealistically low. If either of those two conditions existed, and the 2 sigma error multiplied by 1.65 was greater than the reported MDA, the isotope was qualified UJ to indicate that the MDA is estimated. The estimated MDA value should be considered as unrealistically low. One or more sample results (see Attachment C for the number of samples qualified for this reason (Reason 2 in Attachment C) within all of the environmental monitoring 2004 radiological packages were qualified for this reason.

The U-238 result for sample 12b-024886 (package F4F180161) was qualified estimated J. The result, uncertainty, and MDA were all equal.

If a net negative result had a 2 sigma uncertainty smaller than the absolute value of the result, the result was qualified R rejected. None of the radiological data for the contaminants of concern were qualified in this manner.

If a negative result had a 2 sigma uncertainty larger than the absolute value of the result, the result was qualified non-detect, U (unless the 2 sigma uncertainty times 1.65 was greater than the MDA, in which case the result was qualified UJ; see UJ table above). The following radiological packages had one or more results (see Attachment C, Reason 1) that were qualified in this manner. The value in parentheses indicates the number of results for the COCs qualified in this manner.

Packages with Results Qualified U					
F4F180142 (1) F4F260118 (2)	F4F180161 (2) F4F300133 (3)	F4F190107 (2) F4G010140 (1)	F4F220237 (2) F4G020121 (3)	F4G080124 (1) F4G130171 (1)	F4G090137 (3) F4H300117 (3)

6.11 CHEMICAL SEPARATION SPECIFICITY (RADIONUCLIDES)

The energy of the radionuclide of interest must be within 40 keV of the theoretical energy for that radionuclide for samples analyzed by alpha spectroscopy. This criterion is not applied to results that are less than the MDA. All energies for radionuclides of interest analyzed by alpha spectroscopy were within 40 keV of their theoretical energies.

6.12 TARGET RADIONUCLIDE LIST IDENTIFICATION (RADIONUCLIDES)

This criterion is applied to gamma spectroscopy test results only. All radiological environmental monitoring samples were analyzed by alpha spectroscopy or gas proportional counting.

6.13 HOLDING TIMES

All sample analyses holding time requirements were satisfied.

7.0 REFERENCES

EPA 1980. U.S. Environmental Protection Agency. *Prescribed Procedures for Measurement of Radioactivity in Drinking Water*. EPA/600/4-80/032. August 1980.

EPA 1997. U.S. Environmental Protection Agency, *Test Methods for Evaluating Solid Waste – Physical/Chemical Methods* (SW-846), Version 2. December 1997.

USACE 1999. U.S. Army Corps of Engineers. CENWK-EC-EF, *Data Quality Evaluation Guidance*. July 1999.

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USACE 2003. U.S. Army Corps of Engineers. *Chemical Data Quality Management Plan*. Prepared for U.S. Army Corps of Engineers-Kansas City District by Shaw Environmental, Inc. September 2003, Revision 1.

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ATTACHMENT A
RADIOLOGICAL AND CHEMICAL DATA PACKAGES

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ATTACHMENT B
RADIOLOGICAL AND CHEMICAL DATA VALIDATION REPORTS

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ATTACHMENT C
RADIOLOGICAL DATA REASONS FOR QUALIFICATION

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Attachment C
Radiological Data Reasons for Qualification

Please note that the number of samples qualified for a given reason is based upon the assumption that sediment sample qualifications are only counted for Th-232, Ra-226, and U-238, and that groundwater/surface water sample qualifications are only counted for GA, GB, total uranium (all uranium isotopes), Ra-226 and Ra-228. Please also note that one sample result can be qualified for more than one reason.

Table C-1
Number of Samples within a Given SDG Qualified for the Reasons Noted

SDG Number	Analyte	Reasons for Qualification (See reason associated with each number designation below)													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
F4F180142	GA	1													
	GB														
	Ra-228		2												
	Ra-226		1												
	Th-232														
	U-234		2												
	U-235		1												
	U-238		1												
F4F180161	GA														
	GB														
	Ra-228	1													
	Ra-226	1													
	Th-232														
	U-234		2									1			
	U-235														
	U-238		1		1										
F4F190107	GA	1													
	GB	1													
	Ra-228		1												
	Ra-226		1												
	Th-232														
	U-234		1												
	U-235		1												
	U-238		1		1										

SDG Number	**Analyte**	**Reasons for Qualification (See reason associated with each number designation below)**													
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
F4F220237	GA		1												
	GB														
	Ra-228	2													
	Ra-226		1												
	Th-232														
	U-234														
	U-235														
	U-238														
F4F230128	GA														
	GB														
	Ra-228														
	Ra-226		1												
	Th-232														
	U-234														
	U-235		1									1			
	U-238														
F4F240149	GA														
	GB														
	Ra-228				1										
	Ra-226		1												
	Th-232														
	U-234		1												
	U-235		1												
	U-238		1												
F4F250191	GA												2		
	GB														
	Ra-228		2												
	Ra-226														
	Th-232														
	U-234		2												
	U-235														
	U-238		1												

SDG Number	Analyte	Reasons for Qualification (See reason associated with each number designation below)													
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
F4F260118	GA												2		
	GB	1	1												
	Ra-228	1	1												
	Ra-226														
	Th-232														
	U-234		1					1						1	
	U-235							1						1	
	U-238		1					1						1	
F4F290150	GA												1		
	GB														
	Ra-228		1												
	Ra-226		2												
	Th-232														
	U-234		1												
	U-235											1			
	U-238														
F4F300133	GA	1													
	GB	1													
	Ra-228	1						1							
	Ra-226		1												
	Th-232														
	U-234														
	U-235		3												
	U-238														
F4G010140	GA	1													
	GB		1												
	Ra-228		1												
	Ra-226		1												
	Th-232														
	U-234														
	U-235		4												
	U-238		2												

SDG Number	Analyte	Reasons for Qualification (See reason associated with each number designation below)													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
F4G020121	GA	2													
	GB	1													
	Ra-228		2												
	Ra-226		1							4					
	Th-232														
	U-234		2												
	U-235		1												
	U-238		2												
F4G070143	GA		1												
	GB														
	Ra-228		2												
	Ra-226		1												
	Th-232														
	U-234		1												
	U-235		1												
	U-238		1												
F4G080124	GA														7
	GB	1	1						3						
	Ra-228		2						4						
	Ra-226		3		4										
	Th-232		2						2						
	U-234		3						4						
	U-235		7												
	U-238		3		1				4						
F4G090137	GA											2			
	GB														
	Ra-228	3													
	Ra-226					6		11							
	Th-232														
	U-234														
	U-235		1												
	U-238				3										

SDG Number	Analyte	Reasons for Qualification (See reason associated with each number designation below)													
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
F4G100110	GA														
	GB														
	Ra-228		1												
	Ra-226		1		1										
	Th-232														
	U-234														
	U-235														
	U-238		1												
F4G130171	GA	1	1												
	GB														
	Ra-228		2												
	Ra-226		2												
	Th-232														
	U-234														
	U-235		1												
	U-238				3										
F4H300117	GA	2	4										2		
	GB	1	2										2		
	Ra-228														
	Ra-226														
	Th-232														
	U-234		1												
	U-235		1												
	U-238														

Reasons for Qualification

1. Result is qualified non-detect, U, because it is negative and its 2 sigma uncertainty is larger than the absolute value of the result (and the 2 sigma uncertainty times 1.65 is less than the MDA)
2. Result is qualified UJ because the reported activity is < MDA and/or < its uncertainty, and the 2 sigma error X 1.65 > MDA.
3. Result is qualified J because the reported activity is < MDA and the 2 sigma error X 1.65 < MDA.
4. Result is qualified J due to method blank or equipment blank results.
5. Result is qualified non-detect, U. The result, uncertainty, and MDA all equal zero.
6. Result is qualified rejected, R. The result is negative and the absolute value of the result is greater than its 2 sigma error.
7. Reject result; the tracer recovery was less than 40% and no corrective action was taken (except for F4G090137, qualify result estimated J because barium tracer recovery is higher than the lab acceptance criteria).
8. Report positive results J and non-detects UJ due to field duplicate precision.
9. Results are estimated J for positive detects and non-detect estimated UJ for non-detects. The LCS recovery is outside of control limits but is > 50% or < 150%.
10. Result is estimated J; chemical separation specificity criteria were not met.
11. Result is estimated J based upon professional judgment. The result, 2 sigma uncertainty, and MDA activities are all very close in value.

12. The result is qualified J for detects and UJ for non-detects. The matrix spike recovery is outside of laboratory acceptance criteria.
13. The result is rejected because review of the spectra indicates potential positive interferences.
14. Reject the result. The laboratory analyzed a rinsate blank for the matrix spike and the MS recovery is < laboratory acceptance criteria.