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**Table 2-1**  
**Authorized Radionuclides**  
**NRC License No. 06-00217-06**  
**CE Windsor Site, Windsor Connecticut**

	<b>Byproduct, source, and/or special nuclear material</b>	<b>Chemical and/or physical form</b>	<b>Maximum amount that licensee may possess at any one time under this license</b>
A.	Any byproduct material with Atomic Numbers 1 through 83	Irradiated and/or contaminated debris, inspection and test equipment, test samples, calibration standards, or residues	50 curies
B.	Any byproduct material with Atomic Numbers 84 through 103	Irradiated and/or contaminated debris, inspection and test equipment, test samples, calibration standards, or residues	Not to exceed 3 millicuries per nuclide and 30 millicuries total
C.	Source material	Irradiated and/or contaminated debris, inspection and test equipment, test samples, calibration standards, or residues	75 kilograms
D.	Plutonium	Irradiated and/or contaminated debris, inspection and test equipment, test samples, calibration standards, or residues	1 milligram
E.	Uranium-235	Irradiated and/or contaminated debris, inspection and test equipment, test samples, calibration standards, or residues	325 grams including less than 5 kilograms UF <sub>6</sub>

**Table 2-2**  
**Maximum Activities of Authorized Radionuclides**  
**License Number 06-00217-06**  
**CE Windsor Site, Windsor Connecticut**

<b>Byproduct, Source, and/or Special Nuclear Material</b>	<b>Chemical and/or Physical Form</b>	<b>Maximum amount that Licensee May Possess</b>
A. Any byproduct material with Atomic Numbers between 1 and 83, inclusive	Irradiated and/or contaminated reactor components, inspection and test equipment, test samples, monitoring instruments, reactor coolant samples, or calibration sources	50 curies
B. Any byproduct material with Atomic Numbers 84 through 103	Irradiated and/or contaminated reactor components, inspection and test equipment, calibration sources or reactor coolant samples	Not to exceed 3 millicuries per nuclide and 30 millicuries total
C. Any source material	Irradiated and/or contaminated reactor components, inspection and test equipment, calibration sources or reactor coolant samples	75 kilograms
D. Any byproduct material	Irradiated and/or contaminated reactor components, inspection and test equipment, test samples, monitoring instruments, or reactor coolant samples	Not to exceed 51 curies total
E. Cesium 137	Sealed sources	215 curies
F. Cobalt 60	Sealed sources	250 millicuries
G. Americium 241	Any	1 millicurie
H. Americium 241	Sealed neutron sources	Not to exceed 1.0 curie per source and 10 curies total
I. Americium 241	Sealed neutron sources	Not to exceed 10 curies per source, 100 curies total
J. Neptunium 237	Sealed sources	10 sources not to exceed 0.5 millicuries per source
K. Plutonium 238	Sealed plutonium-beryllium neutron sources (MRC-PU8BE-XXX)	80 curies (3.5 grams) not to exceed 20 curies per source
L. Natural and/or depleted Uranium	Any	10,000 kilograms including less than 5 kilograms UF <sub>6</sub>
M. Plutonium 238	Sealed sources	Not to exceed 1 gram per source and 4 grams total
N. Neptunium 237	Oxide wires	Not to exceed 10 curies per source and 100 curies total

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum amount that Licensee May Possess
O. Uranium 233	Any	1 gram
P. Uranium 235	Any	7 grams
Q. Uranium 235	Fission Chambers	Not to exceed 1.7 grams per chamber and 13.6 grams total
R. Uranium 235	Any	325 grams, including less than 5 kilograms UF <sub>6</sub>
S. Plutonium	Any	2 grams
T. Uranium 235	Contaminated debris and residues	325 grams, including less than 5 kilograms UF <sub>6</sub>
U. Plutonium	Contaminated debris and residues	1 milligram

## Notes:

**A. through H.** For use in research and development as defined in Section 30.4(q) 10 CFR Part 30, and for possession incident to maintenance repair, decontamination, and study of reactor components.

**H.** For use in testing and calibration of boron measuring devices and for distribution to persons holding operating reactor licenses and/or to persons authorized to receive the licensed materials pursuant to the terms and conditions of specific licenses issued by the Nuclear Regulatory Commission or an Agreement State.

**I. through K.** For possession, storage, and transfer to persons holding operating reactor licenses and/or to persons authorized to receive the licensed material pursuant to the terms and conditions of specific licenses issued by the Nuclear Regulatory Commission or an Agreement State.

**L.** Research and development as defined in 10 CFR 70.4 in the licensee's facilities located at Buildings 1, 2, 5, 6, 16, 17, and 18.

**M.** For storage only.

**N. through Q.** For possession, storage, and transfer to persons holding operating reactor licenses and/or to persons authorized to receive the licensed material pursuant to the terms and conditions of specific licenses issued by the Nuclear Regulatory Commission or an Agreement State.

**R.** Research and development as defined in 10 CFR 70.4 in the licensee's facilities located at buildings 1, 2, 5, 6, 16, 17, and 18.

**S.** For possession as surface contamination on tools or equipment incident to maintenance, repair, modification or storage.

**T. through U.** Possession and use for those activities directly or indirectly related to decontamination and decommissioning pursuant to a decommissioning plan approved by the NRC in writing.

**Table 2-3  
Maximum Activities of Authorized Radionuclides  
License No. SNM-551  
CE Windsor Site, Windsor Connecticut**

<b>Byproduct, Source, and/or Special Nuclear Material</b>	<b>Chemical and/or Physical Form</b>	<b>Maximum amount that Licensee May Possess</b>
A. Source Materials		10,000 pounds
B. Uranium enriched in the U-235 isotope up to 3.5 weight percent		150,000 kilograms
C. Plutonium		16 grams plutonium encapsulated as a Pu-Be neutron source and 160 micrograms plutonium in the form of analytical samples
D. Uranium of any enrichment of the U-235 isotope		2 kilograms of the U-235 isotope at any enrichment
E. Uranium enriched to 5% in the isotope U-235		1000 kg U-235
F. Uranium enriched to 15% in the isotope U-235		27 kg U-235
G. Plutonium		10 microcuries

Notes: Authorized use and location were in accordance with the licensee's application at the licensee's Nuclear Manufacturing Facility located approximately five miles northeast of Windsor, Connecticut.

**Table 2-4**  
**Maximum Activities of Authorized Radionuclides**  
**License No. SNM-1067**  
**CE Windsor Site, Windsor Connecticut**

<b>Byproduct, Source, and/or Special Nuclear Material</b>	<b>Chemical and/or Physical Form</b>	<b>Maximum amount that Licensee May Possess</b>
A. Uranium Enriched to Not More Than 5.0 w/o U-235	Oxide powder, pellets, rods, and finished fuel assemblies	500,000 kilograms total uranium
B. Uranium Enriched to Not More Than 3.5 w/o U-235		500,000 kilograms total
C. Uranium Enriched to Not More Than 4.1 w/o U-235	Oxide powder, pellets, rods and finished fuel assemblies	20,500 kilograms of contained U-235
D. Uranium enriched to or less than 5.0 w/o U-235	Residual Uranium oxides	700 grams U-235
E. Uranium enriched to greater than 5.0 w/o U-235	Residues	1000 grams U-235
F. Uranium Enriched to Not More Than any w/o U-235		4800 grams of the U-235 isotope at any enrichment
G. Uranium enriched to less than 20 w/o U-235	Any	4,800 grams contained U-235
H. Natural and/or depleted Uranium	Any	10,000 kilograms total uranium
I. Pu-238	Encapsulated Neutron Sources	5 sources, each containing less than 2.0 grams Pu-238
J. Pu	Any	160 micrograms as analytical samples
K. Uranium Enriched in the U-235 Isotope	Contained in Encapsulated U <sub>3</sub> O <sub>8</sub>	20 sources, each containing less than 1.7 grams U-235
L. Uranium Enriched to or Greater than 20 w/o U-235	Residues	1,000 g U-235
M. Pu-239		8 sources containing 16 grams of Pu-239
N. Plutonium	Analytical Samples	160 micrograms
O. Source Material		10,500 kg
P. Enriched Uranium in the U-235 isotope	Any	<350 grams contained U-235*

Byproduct, Source, and/or Special Nuclear Material	Chemical and/or Physical Form	Maximum amount that Licensee May Possess
Q. Pu	Sealed neutron sources	160 micrograms as analytical samples*
R. Uranium enriched in the U-235 isotope	Contained in encapsulated U <sub>3</sub> O <sub>8</sub> sources in fission chambers	20 sources, each containing less than 1.7 grams U-235*

**Notes:** \*The total special nuclear material will not exceed the limitation of:

$$\frac{\text{grams U-235}}{350 \text{ grams}} + \frac{\text{grams Pu}}{200 \text{ grams}} < 1$$

Authorized use and location were in accordance with the licensee's application at the licensee's existing facilities located approximately five miles northeast of Windsor, Connecticut.

**Table 2-5**  
**Maximum Activities of Authorized Radionuclides**  
**License No. 06-30561-01**  
**CE Windsor Site, Windsor Connecticut**

<b>Byproduct, Source, and/or Special Nuclear Material</b>	<b>Chemical and/or Physical Form</b>	<b>Maximum amount that Licensee May Possess</b>
A. Any byproduct material with Atomic Numbers between 1 and 83, inclusive	Irradiated and/or contaminated reactor components, inspection and test equipment, test samples, monitoring instruments, reactor coolant samples, or calibration sources	50 curies
B. Any byproduct material with Atomic Numbers 84 through 103	Irradiated and/or contaminated reactor components, inspection and test equipment, calibration sources or reactor coolant samples	Not to exceed 3 millicuries per nuclide and 30 millicuries total
C. Source material	Irradiated and/or contaminated reactor components, inspection and test equipment, calibration sources or reactor coolant samples	75 kilograms
D. Cesium 137	Sealed sources	215 curies
E. Americium 241	Sealed neutron sources	Not to exceed 1.0 curie per source and 10 curies total
F. Americium 241	Sealed neutron sources	Not to exceed 10 curies per source, 100 curies total
G. Neptunium 237	Sealed sources	Not to exceed 0.5 millicuries per wire and 5 millicuries total
H. Uranium 233	Any	1 gram
I. Uranium 235	Any	7 grams
J. Uranium 235	Fission Chambers	Not to exceed 1.7 grams per chamber and 13.6 grams total
K. Plutonium	Any	1 milligram
L. Uranium 235	Any	325 grams, including less than 5 kilograms UF <sub>6</sub>
M. Natural and/or depleted uranium	Any	10,000 kilograms including less than 5 kilograms UF <sub>6</sub>
N. Plutonium 238	Sealed sources	Not to exceed 1 gram per source and 4 grams total

**Notes:** Authorized use:



**A. through D.** Research and development as defined in 10CFR30.4; possession incident to maintenance, repair, decontamination, study of reactor components, and processing of test samples.

**E. through F.** Testing and calibration of boron measuring devices and for distribution to persons holding operating reactor licenses and/or to persons authorized to receive the licensed materials pursuant to the terms and conditions of specific licenses issued by the Nuclear Regulatory Commission or an Agreement State.

**G. through J.** For possession, storage, and transfer to persons holding operating reactor licenses and/or to persons authorized to receive the licensed material pursuant to the terms and conditions of specific licenses issued by the Nuclear Regulatory Commission or an Agreement State.

**K.** For possession as surface contamination on tools or equipment incident to maintenance, repair, modification or storage.

**L.** Research and development as defined in 10 CFR 70.4 in the licensee's facilities located at Buildings 1, 2, 5, 16, 17, and 18.

**M.** Research and development in the licensee's facilities located at Buildings 1, 2, 5, 16, 17 and 18.

**N.** For storage only.

**Table 2-6**  
**List of CE'S AEC Licenses**

<b>DATE</b>	<b>LICENSE NO.</b>	<b>STATUS</b>	<b>AUTHORIZED FORM OF MATERIAL</b>
1956	6-217-1	Terminated (date uncertain)	Polonium 210 sealed source
1957	6-217-2	Terminated 1962	Polonium 210 sealed source
1957	6-217-3	Terminated (date uncertain)	Iridium 192 sealed source
1957	6-217-4	Terminated 1965	Polonium 210 sealed source
1957	6-217-5	Terminated 1959	Polonium 210 sealed source
1958	6-217-6	Renewed (1968) as 06-00217-06	Various activation products
1958	6-217-7	Terminated 1960	Cobalt 60 sealed source
1962	6-217-8	Terminated 1970	Cobalt 60 sealed source
Date Uncertain	6-217-9	Uncertain	Uncertain
1958	C-4451	Terminated 1959	Th/Mg Scrap alloy
1961	STB-50	Uncertain	Th/Mg Scrap alloy

**Table 3-1  
Population Distribution Within A 50-Mile Radius  
Of The CE Windsor Site**

<b>Miles</b>	<b>People</b>	<b>Cumulative People</b>
0 to 5	56,429	56,429
5 to 10	286,341	342,770
10 to 20	868,651	1,211,421
20 to 30	717,683	1,929,104
30 to 40	532,391	2,461,495
40 to 50	963,795	3,425,290

Source: U.S. Department of Energy, Office of Naval Reactors. Environmental Impact Statement, S1C Prototype Reactor Plant Disposal, Volume 1 of 2, November 1996.

**Table 3-2  
Socioeconomic Factors For The  
Town Of Windsor And The Hartford Region**

	<b>Town of Windsor</b>	<b>Hartford County</b>
Geographic Area (square miles) <sup>1</sup>	29.6	735.5
Population <sup>2</sup>	28,237	857,183
White Population <sup>2</sup>	18,387	659,192
African American Population <sup>2</sup>	7648	99,936
Asian Population	887	20,775
Hispanic Population <sup>2</sup>	1405	98,968
Other Race Population <sup>2</sup>	643	57,481
Population Density (persons/square mile, 1998) <sup>1</sup>	930.1	1121.6
Civilian Labor Force (1997) <sup>1</sup>	14,534	421,856
Average Individual Per Capita Income (1998) <sup>1</sup>	\$24,694	\$24,032
Percentage Unemployment (1997) <sup>1</sup>	5.0	5.6

\* Population figures may add up to more than the total population because individuals may report more than one race.

Sources:

1. Town of Windsor Data: Connecticut State Department of Economic and Community Development, Connecticut Town Profiles 1998-99; 2000.
2. U.S. Census Bureau, Census 2000 Redistricting (Public Law 94-171) Summary File Matrices PL1, PL2, PL3, PL4.

**Table 3-3  
Monitoring Well Construction Details**

WELL	AREA	AOC #	DI A (in.)	FEET BGS DEPTH	SCREEN LENGTH	GROUND ELEV	PVC ELEV	SCREENED SOIL	INSTALL DATE	INSTALL BY
<b>PDU AREA WELL NETWORK</b>										
MW-2	PDU	3	2	40	5	185.1	186.94	F-M SAND	3/2/1981	F&O
MW-3	PDU	3	2	40	10	184.9	186.62	F SAND/SILT	3/3/1981	F&O
MW-4	PDU	3	2	45	5	185.2	186.56	F SAND	3/6/1981	F&O
MW-10D	PDU	3	1.5	68	10	185.0	185.81	F SAND	7/8/1982	F&O
MW-11D	PDU	3	1.5	74	10	185.0	185.98	F SAND	7/9/1982	F&O
MW-12S	PDU	3	1.5	40	10	186.0	185.63	SAND	7/7/1982	F&O
MW-13S	PDU	3	1.5	49	10	180.0	182.79	F SAND/SILT	7/7/1982	F&O
MW-14S	PDU	3	2	35	10	180.0	183.30	F-C SAND	1987	F&O
MW-14D	PDU	3	2	70	10	180.0	179.77	F SAND/SILT	1987	F&O
MW-15S	PDU	3	2	45	10	180.0	178.70	F-C SAND	1987	F&O
MW-15D	PDU	3	2	100	10	180.0	178.41	F-C SAND	1987	F&O
<b>PCE WELL NETWORK</b>										
WW-1	Burial Area	21	2	44	20	193.8	194.92	F SAND	10/19/1990	GZA
WW-2	Burial Area	21	2	45	20	191.1	192.72	F SAND	10/19/1990	GZA
E-1	Woods	1	2	47.5	10	198.6	202.02	SILT/SAND	8/10/1985	F&O
MW-101	Building 17	1	2	24.5	5	191.7	196.00	F SAND/SILT	3/25/1991	ABB-ES
MW-102	HWSA	1	2	48	10	191.9	196.60	F SAND	3/27/1991	ABB-ES
MW-103	Leachfield	1	2	39	10	179.2	183.94	F SAND/SILT	3/28/1991	ABB-ES
<b>KAPL WELL NETWORK</b>										
MW-1	KAPL	NA	2	29	15	168.7	170.62	F-C SAND	8/23/1995	KAPL
MW-2	KAPL	NA	2	31	15	172.4	174.43	F-C SAND/GRAVEL	8/24/1995	KAPL
MW-3	KAPL	NA	2	33	15	174.5	176.58	F-C SAND	8/22/1995	KAPL
MW-4	KAPL	NA	2	36	15	176.8	178.75	F-C SAND/SILT	8/31/1995	KAPL
MW-5	KAPL	NA	2	40	15	182.0	183.90	F SAND	8/21/1995	KAPL
MW-6	KAPL	NA	2	38	15	179.3	181.09	F-C SAND/GRAVEL	8/30/1995	KAPL
MW-7A	KAPL	NA	2	29	10	177.3	179.29	F-C SAND/GRAVEL	8/28/1995	KAPL
MW-7B	KAPL	NA	2	39	5	177.3	179.27	F-C SAND	8/28/1995	KAPL
MW-8	KAPL	NA	2	36	15	176.7	178.94	F SAND	9/1/1995	KAPL
<b>TOWN OF WINDSOR LANDFILL WELLS</b>										
MW-20S	Windsor Landfill	NA	2	55	10	180.5	184.91	F SAND	1/8/1998	F&O
MW-23	Windsor Landfill	NA	2	40	10	175.8	177.33	F-C SAND	8/7/1998	F&O
MW-24	Windsor Landfill	NA	2	35	25	170.4	172.90	SILT/GRAVEL	8/6/1998	F&O
MW-25	Windsor Landfill	NA	2	37	10	179.1	181.69	SILT/GRAVEL	8/7/1998	F&O
MW-26	Windsor Landfill	NA	2	47	10	180.1	182.60	F SAND	8/5/1998	F&O
MW-27	Windsor Landfill	NA	2	40	10	173.8	176.16	SAND/GRAVEL	8/7/1998	F&O

WELL	AREA	AOC #	DI A (in.)	FEET BGS DEPTH	SCREEN LENGTH	GROUND ELEV	PVC ELEV	SCREENED SOIL	INSTALL DATE	INSTALL BY
<b>LFI WELLS</b>										
MW-601	Building 6A	6	2	22	10	181.5	181.04	F-C SAND	7/16/1998	HLA
MW-602	Building 6A	6	2	20	10	181.4	180.82	F SAND	7/15/1998	HLA
MW-603	Building 6A	6	2	19	10	179.5	179.21	F SAND/SILT	7/16/1998	HLA
MW-1201	Evaporator Line	12	2	12	5	181.8	181.54	F SAND/SILT	9/9/1998	HLA
MW-1202	Evaporator Line	12	2	32	10	183.6	182.99	SILT/GRAVEL	9/15/1998	HLA
MW-1203	Evaporator Line	12	2	30	10	182.0	181.71	F SAND	9/9/1998	HLA
MW-1204	Evaporator Line	12	2	30	10	181.5	181.71	F SAND	9/9/1998	HLA
<b>RFI WELLS</b>										
MW-105	Woods	1	2	55	10	199.0	201.89	SAND	7/15/1998	HLA
MW-106	Woods	1	2	37	10	200.9	202.99	SAND/TILL	7/16/1998	HLA
MW-109	Woods	1	2	43	15	195.1	194.95	SAND	7/16/1998	HLA
MW-110	Woods	1	2	30	10	196.4	196.31	SAND	4/27/1999	HLA
MW-118	Woods	1	2	50	10	193.8	196.58	SAND/TILL	4/27/1999	HLA
MW-301	PDU	3	2	38	10	193.9	193.68	SAND	4/27/1999	HLA
MW-302	PDU	3	2	28	15	172.5	175.36	STRATIFIED SAND	4/28/1999	HLA
MW-607	Building 6A	6	2	18	10	177.1	176.86	SAND	4/29/1999	HLA
MW-608	Building 6A	6	2	24	10	181.2	180.81	STRATIFIED SAND/GRAVEL	4/29/1999	HLA
MW-609	Building 6A	6	2	13	10	181.8	181.36	SAND	4/30/1999	HLA
MW-904	Building 3	9	2	28	10	179.8	179.28	STRATIFIED SAND/GRAVEL	5/3/1999	HLA
MW-905	Building 3	9	2	26	10	179.2	181.50	SAND	5/3/1999	HLA
MW-906D	Building 3	9	2	50	10	179.9	202.94	SAND	5/4/1999	HLA
MW-906S	Building 3	9	2	27	10	180.0	179.77	SAND	5/4/1999	HLA
MW-907	Building 3	9	2	28	10	180.8	180.44	SAND	5/5/1999	HLA
MW-1004D	Building 20	10	2	29	10	171.6	171.34	SAND/PEAT	5/5/1999	HLA
MW-1004S	Building 20	10	2	18	10	171.4	171.00	SAND	5/5/1999	HLA
MW-1005	Building 20	10	2	16	10	169.8	172.26	SAND	5/5/1999	HLA
MW-1006	Building 20	10	2	19	10	170.9	173.98	STRATIFIED SAND/PEAT	5/6/1999	HLA
MW-1007	Building 20	10	2	17	10	167.9	170.76	SAND	5/6/1999	HLA
MW-1106	WWTP	11	2	23	10	167.4	170.43	SAND	5/6/1999	HLA
MW-1208	Ind Waste Lines	12	2	19	10	180.6	180.28	TILL	5/6/1999	HLA
MW-1209	Ind Waste Lines	12	2	27.5	10	181.6	181.42	STRATIFIED SAND/GRAVEL/TILL	5/7/1999	HLA
MW-1210	Ind Waste Lines	12	2	22	10	180.2	182.68	STRATIFIED SAND/GRAVEL	5/10/1999	HLA
MW-1211	Ind Waste Lines	12	2	28	10	182.1	181.38	STRATIFIED SAND/GRAVEL	5/11/1999	HLA
MW-1212	Ind Waste Lines	12	2	29	10	181.5	181.08	STRATIFIED SAND/GRAVEL	5/11/1999	HLA

WELL	AREA	AOC #	DI A (in.)	FEET BGS DEPTH	SCREEN LENGTH	GROUND ELEV	PVC ELEV	SCREENED SOIL	INSTALL DATE	INSTALL BY
MW-1213	Ind Waste Lines	12	2	23	10	174.8	177.29	SAND	5/12/1999	HLA
MW-1214	Ind Waste Lines	12	2	20	10	173.1	172.51	SAND	5/12/1999	HLA
MW-1215	Ind Waste Lines	12	2	22	10	172.7	172.04	SAND	5/12/1999	HLA
MW-1216	Ind Waste Lines	12	2	22	10	172.1	171.76	STRATIFIED SAND AND GRAVEL	5/13/1999	HLA
MW-1217	Ind Waste Lines	12	2	24	10	174.1	176.57	SAND	5/13/1999	HLA
MW-1218	Ind Waste Lines	12	2	26	10	175.4	178.29	SAND	5/13/1999	HLA
MW-1219	Ind Waste Lines	12	2	29	10	176.3	179.04	SAND	5/13/1999	HLA
MW-1220	Ind Waste Lines	12	2	34	10	184.0	185.96	SAND	5/13/1999	HLA
MW-1221	Ind Waste Lines	12	2	20	10	169.6	169.73	STRATIFIED SAND	5/14/1999	HLA
MW-1222	Ind Waste Lines	12	2	12.5	10	146.9	150.01	SAND	5/14/1999	HLA
WP-1401D	Site Brook	14	1	2	1	NM	121.28	STREAM BED	5/17/1999	HLA
WP-1401S	Site Brook	14	1	5	1	NM	121.18	STREAM BED	5/17/1999	HLA
WP-1402D	Site Brook	14	1	2	1	NM	141.20	STREAM BED	5/17/1999	HLA
WP-1402S	Site Brook	14	1	5	1	NM	141.30	STREAM BED	5/18/1999	HLA
WP-1403D	Site Brook	14	1	2	1	NM	144.00	STREAM BED	5/18/1999	HLA
WP-1403S	Site Brook	14	1	5	1	NM	144.07	STREAM BED	5/19/1999	HLA
MW-1603	Coal Storage	16	2	20	10	171.9	171.41	SAND	5/20/1999	HLA
MW-1804	Tank Farm	18	2	25	10	179.9	179.47	SAND	5/20/1999	HLA
MW-1805	Tank Farm	18	2	27	10	179.7	179.60	SAND	5/20/1999	HLA
MW-1806	Tank Farm	18	2	27	10	180.0	179.70	STRATIFIED SAND	5/21/1999	HLA
MW-1807	Tank Farm	18	2	27	10	180.0	179.74	SAND	5/21/1999	HLA
MW-1808	Tank Farm	18	2	23	10	179.8	179.14	SAND	5/21/1999	HLA
MW-1809	Tank Farm	18	2	23	10	179.5	179.24	STRATIFIED SAND	5/27/1999	HLA
MW-2102	Burial Area	21	2	51.5	10	201.1	203.98	SAND	5/27/1999	HLA
MW-2202	Gravel Pit	22	2	58	10	200.8	203.51	SAND	5/27/1999	HLA
MW-2401	Drainage Ditch	24	2	20	10	178.7	178.58	SAND	5/27/1999	HLA
MW-2402	Drainage Ditch	24	2	15	10	170.6	173.03	STRATIFIED SAND	5/27/1999	HLA
MW-E01	Site Wide	NA	2	21	10	172.8	175.37	SAND	5/27/1999	HLA
MW-E02D	Building 20	10	2	49.5	10	180.4	182.83	SAND	5/28/1999	HLA
MW-E02S	Building 20	10	2	29.5	10	180.1	182.84	STRATIFIED SSAND	5/28/1999	HLA
MW-E03	Building 20	10	2	27	10	171.9	174.33	SAND	6/2/1999	HLA

TABLE 3-3 (CONTINUED)

TABLES

WELL	AREA	AOC #	DI A (in.)	FEET BGS DEPTH	SCREEN LENGTH	GROUND ELEV	PVC ELEV	SCREENED SOIL	INSTALL DATE	INSTALL BY
MW-N01	Site Wide	NA	2	38	10	138.5	140.91	STRATIFIED SAND/GRAVEL	6/3/1999	HLA
MW-N02	Site Wide	NA	2	28	10	130.0	132.68	SAND	6/3/1999	HLA
MW-N03D	Site Wide	NA	2	53	10	174.8	177.30	STRATIFIED SAND/GRAVEL	6/3/1999	HLA
MW-N03S	Site Wide	NA	2	35	10	175.0	177.42	SAND	6/3/1999	HLA
MW-N04D	Site Wide	NA	2	64.5	10	172.8	175.31	SAND	6/3/1999	HLA
MW-N04S	Site Wide	NA	2	32	10	172.3	175.15	SAND	6/4/1999	HLA
MW-N05	Site Wide	NA	2	65	120	201.9	203.26	SAND	6/4/1999	HLA
MW-N06	Site Wide	NA	2	47	10	185.2	184.90	SAND	6/8/1999	HLA
MW-S01	Site Wide	NA	2	24	10	177.0	177.57	STRATIFIED SAND/GRAVEL	6/8/1999	HLA
MW-S02	Site Wide	NA	2	20	10	175.4	177.80	SAND	6/8/1999	HLA
MW-W01	Site Wide	NA	2	29	10	189.0	191.45	SAND	6/8/1999	HLA
MW-W02D	Site Wide	NA	2	44	10	183.8	186.55	SAND	6/9/1999	HLA
MW-W02S	Site Wide	NA	2	24	10	183.7	186.27	SAND	6/9/1999	HLA
<b>SUPPLEMENTAL RFI WELLS</b>										
MW-1004DD*	Building 20	10	2	110	10	172.1	171.75	C SAND	10/21/1999	HLA
MW-1014	Building 20	10	2	20	10	169.6	172.75	SAND	10/18/1999	HLA
MW-2202D	Gravel Pit	22	2	85	15	201.4	203.64	SAND	10/26/1999	HLA
MW-N06D	Site Wide	50	2	67	10	179.1	181.63	F SAND	11/4/1999	HLA
MW-N07	Site Wide	NA	2	68	10	184.2	186.01	F SAND	10/26/1999	HLA
MW-N08D	Site Wide	NA	2	77	10	192.6	195.36	F SAND	10/21/1999	HLA
MW-N09D	Site Wide	NA	2	75	10	200.3	202.94	F SAND	11/9/1999	HLA
<b>RFI 2000 WELLS</b>										
MW-0144	Woods	01	2	48	10	NM	202.34	F SAND	8/24/2000	H-ESE
MW-0145	Woods	01	2	57	10	NM	200.13	F SAND	8/30/2000	H-ESE
MW-1004DI	Building 20	10	2	48	10	NM	172.21	F SAND	8/24/2000	H-ESE
MW-1004DD	Building 20	10	2	104	10	NM	172.16	SAND/GRAVEL	9/18/2000	H-ESE
MW-1005D	Building 20	10	2	30	10	NM	172.81	F SAND	9/11/2000	H-ESE
MW-1005DI	Building 20	10	2	59	10	NM	172.64	STRATIFIED SAND	9/8/2000	H-ESE
MW-1006DI	Building 20	10	2	38	10	NM	174.47	M SAND	8/30/2000	H-ESE
MW-1007DI	Building 20	10	2	47.5	10	NM	171.3	STRATIFIED SAND/PEAT	8/29/2000	H-ESE
MW-1016	Building 20	10	2	23	10	NM	174.16	M SAND	9/5/2000	H-ESE
MW-1016DI	Building 20	10	2	47	10	NM	173.22	F SAND	8/31/2000	H-ESE
MW-1214DI	Ind Waste Lines	12	2	30	10	NM	172.36	STRATIFIED SAND/GRAVEL	8/8/2000	H-ESE
MW-1217DD	Ind Waste Lines	12	2	104	10	NM	176.83	STRATIFIED SAND/GRAVEL	8/22/2000	H-ESE
MW-1225	Ind Waste Lines	12	2	10	10	NM	149.96	STRATIFIED SAND	8/1/2000	H-ESE
MW-1810	Tank Farm	18	2	29	10	NM	180.06	F SAND	8/15/2000	H-ESE
MW-1811	Tank Farm	18	2	33	10	NM	185.64	F SAND	8/22/2000	H-ESE
MW-1812	Tank Farm	18	2	31	10	NM	180.69	F SAND	8/11/2000	H-ESE
MW-1813	Tank Farm	18	2	28	10	NM	177.02	F SAND	8/17/2000	H-ESE



WELL	AREA	AOC #	DI A (in.)	FEET BGS DEPTH	SCREEN LENGTH	GROUND ELEV	PVC ELEV	SCREENED SOIL	INSTALL DATE	INSTALL BY
MW-2601	Fmr Target Ranges	26	2	47	10	NM	186.64	F SAND	9/13/2000	H-ESE
MW-W03	Site Wide	NA	2	25	10	NM	178.94	SAND	9/11/2000	H-ESE
MW-W04	Site Wide	NA	2	22	10	NM	179.63	SAND	9/7/2000	H-ESE
<b>AOC 10 SUPPLEMENTAL WELLS</b>										
MW-1018	Building 20	10	2	17.5	10	NM	172.8	SILTY SAND	4/20/2001	H-ESE
MW-0E05S	Building 20	10	2	31	10	NM	176.47	F SAND	3/22/2001	H-ESE
MW-0E05DI	Building 20	10	2	87	10	NM	176.15	SAND	4/17/2001	H-ESE
MW-0E06S	Building 20	10	2	27	10	NM	177.26	SAND	3/27/2001	H-ESE
MW-0E07D	Building 20	10	2	58	10	NM	176.72	SAND	4/18/2001	H-ESE
MW-0E07DI	Building 20	10	2	94	10	NM	175.87	SAND	4/18/2001	H-ESE
MW-0E08D	Building 20	10	2	53	10	NM	167.97	SAND	4/26/2001	H-ESE
MW-0E08DI	Building 20	10	2	92	10	NM	167.29	F SAND	4/25/2001	H-ESE
MW-0E09DI	Building 20	10	2	81	10	NM	163.21	F SAND	4/25/2001	H-ESE
MW-0E10	Building 20	10	2	52.2	10	NM	175.61	F SAND	6/27/2001	H-ESE
<b>RFI 2001 WELLS</b>										
MW-1507	Buildings 17 and 21	15	2	20	10	NM	183.32	F SAND	4/23/2001	H-ESE

Notes:

ABB-ES	"ABB Environmental Services, Inc."	HLA	Harding Lawson Associates	M	MEDIUM
AOC	Area of concern	HWSA	Hazardous waste storage area	C	COARSE
GZA	"Goldberg, Zoino & Associates"	F&O	"Fuss & O'Neill, Inc."	NM	NOT MEASURED
IWL	Industrial Waste Line	ELEV	Feet above Mean Sea Level	NA	Not Applicable
H-ESE	Harding ESE	F	FINE		

\* MW-1004DD was redrilled on 9/18/00 --- Screened Auger Sampled/No Boring Info

**Table 3-4  
Groundwater Elevations**

Well	GW Elev. (feet MSL) 8/28/2000	GW Elev. (feet MSL) October 2-3, 2000	"GW Elev. (feet MSL) April 26, 2001"	"GW Elev. (feet MSL) October 3-4, 2001"	"GW Elev. (feet MSL) January 24, 2002"	"GW Elev. (feet MSL) April 24, 2002"
MW-2	159.65	159.17	158.45	158.31	156.2	155.34
MW-3	158.6	158.12	157.95	157.29	155.48	154.78
MW-4	153.85	153.57	154.82	154.14	151.94	151.89
MW-6	-	-	150.95	151.02	148.36	147.5
MW-10D	153.83	153.54	154.81	-	152.01	151.93
MW-12S	158.65	-	-	156.08	154.24	153.5
MW-13S	-	-	-	151.99	150.98	150.89
MW-20S	142.71	142.27	143.45	142	140.68	140.46
MW-21	-	-			189.99	189.99
MW-22	-	-			183.44	146.08
MW-23	146.9	146.81	148.11	146.62	145.36	145.22
MW-24	143.45	143.25	144.12	143.04	143.34	142.18
MW-25	152.94	152.6	154.42	151.99	149.87	149.85
MW-26	143.73	143.48	144.67	143.14	142.08	141.83
MW-27	145.18	144.96	146.19	144.66	143.6	143.39
MW-101	172.96	172.06	176.24	171.07	168.98	169.76
MW-102	155.54	155.15	154.63	154.45	152.77	151.84
MW-103	152.02	151.59	152.1	150.92	149.55	148.86
MW-105	155.47	155.06	154.24	154.23	152.32	151.23
MW-106	171.17	171.36	172.88	171.29	170.51	170.18
MW-109	164.46	163.92	163.9	157.17	161.07	159.93
MW-110	160.06	159.54	159.4	158.77	156.8	155.69
MW-118	153.21	152.21	152.13	151.12	148.98	147.63
MW-144	161.94	162.64	165.28	161.78	159.34	158.58
MW-145	181.66	157.12	156.89	156.24	154.2	152.81
MW-301	162.51	161.75	161.71	161.47	157.74	156.86
MW-302	155.04	154.6	156.1	154.06	152.9	152.68
MW-601	166.23	165.97	166.69	165.44	165.35	165.63
MW-602	168.75	168.23	169.72	167.82	166	167.82
MW-603	167.86	167.51	169.36	165.92	165.21	164.37
MW-607	167.77	167.38	169.06	166.45	165.66	166.2
MW-608	164.69	164.43	165.51	164.26	163.06	163.08
MW-609	176.05	175.45	176.81	-	173.62	175.42
MW-904	158.95	158.89	160.15	158.34	157.19	157.17
MW-905	163.08	159.74	160.61	158.68	161.01	159.49
MW-906D	159	158.94	160.13	158.44	157.29	157.27
MW-906S	158.77	158.66	159.88	158.22	157.04	157.04
MW-907	158.79	158.93	159.97	159.26	157.04	157.06
MW-1004S	163.59	163.08	164.3	161.08	160.7	162.67
MW-1004D	163.63	163.12	164.34	161.42	160.79	162.74
MW-1004DI	159.34	158.39	158.41	157.81	158.19	157.56
MW-1004DD	158.73	158.13	159.26	157.7	156.61	156.51
MW-1005	161.43	161.5	161.49	160.61	159.84	161.42
MW-1005D	-	158.18	159.31	157.64	156.67	156.35
MW-1005DI	-	158.21	159.39	157.7	156.68	156.64

Well	GW Elev. (feet MSL) 8/28/2000	GW Elev. (feet MSL) October 2-3, 2000	"GW Elev. (feet MSL) April 26, 2001"	"GW Elev. (feet MSL) October 3-4, 2001"	"GW Elev. (feet MSL) January 24, 2002"	"GW Elev. (feet MSL) April 24, 2002"
MW-1006	159.26	159.12	160.38	158.55	158.23	159.46
MW-1006DI	-	157.84	158.97	157.34	156.32	156.25
MW-1007	158.18	158.29	159.46	157.61	157.59	158.31
MW-1007DI	-	157.59	158.75	157.08	156.17	156.05
MW-1014	161.98	158.9	159.6	158.32	159.93	158.52
MW-1016	-	159.63	160.51	158.64	158.41	159.76
MW-1016DI	-	157.92	159.12	157.49	156.43	156.35
MW-1018	-	-	-	159.37	160.18	158.5
MW-1106	152	151.12	154.13	149.85	148.77	150.21
MW-1201	173.8	173.81	175.04	173.83	173.69	174.54
MW-1202	158.91	158.84	159.99	155.14	157.04	157.01
MW-1203	-	158.56	159.76	158	156.92	156.86
MW-1204	159.16	158.98	160.26	158.41	157.23	157.24
MW-1208	172.22	171.78	172.98	171.18	170.63	172.09
MW-1209	161.19	161.15	161.32	161.06	160.78	161.13
MW-1210	163.91	163.58	164.88	162.99	161.86	161.94
MW-1211	161.93	161.66	162.98	161.07	159.67	159.87
MW-1212	159.55	159.34	160.68	158.75	157.47	157.5
MW-1213	162.98	159.3	160.19	157.9	159.48	157.91
MW-1214	164.48	158.51	159.56	157.75	160.31	157.87
MW-1214DI	-	158.05	159.12	157.36	159.2	157.2
MW-1215	160.91	157.77	158.73	157.14	158.59	157.18
MW-1216	156.95	156.63	158.02	156.13	155.2	155.14
MW-1217	156.36	156.23	157.41	154.77	154.81	154.67
MW-1217DD	-	155.88	157.07	155.44	154.51	154.38
MW-1218	154.85	154.62	156.16	154.24	153.38	153.36
MW-1219	154.15	153.88	155.35	154.97	152.43	152.21
MW-1220	158.07	157.6	157.59	156.63	154.95	154.13
MW-1221	151.84	151.55	152.21	151.13	dry	dry
MW-1222	144.65	144.55	145.04	144.41	144.03	143.86
MW-1225	144.75	144.77	145.08	144.57	144.29	144.09
MW-1507	-	-	-	168.15	164.49	164.36
MW-1603	159.02	158.44	159.56	158.18	159.95	158.88
MW-1804	159.64	159.59	160.63	159.02	157.68	157.79
MW-1805	158.76	-	160.27	158.15	NA	-
MW-1806	159.33	159.32	160.37	158.74	-	157.56
MW-1807	159.32	159.29	160.53	158.7	157.37	157.62
MW-1808	162.42	162.05	164.12	160.96	-	159.79
MW-1809	159.88	159.74	161.74	159.06	-	157.78
MW-1810	159.46	159.21	160.8	158.77	157.49	157.56
MW-1811	159.99	159.87	161.7	159.21	157.58	157.44
MW-1812	160.87	160.46	162.68	159.78	158.29	158.25
MW-1813	157.96	157.67	159.52	157.41	156.02	155.98
MW-2102	157.6	157.19	156.89	156.42	164.65	153.68
MW-2202	151.8	151.56	151.1	150.89	149.41	148.59
MW-2202D	152.03	151.76	151.33	151.07	149.62	148.76
MW-2401	167.47	166.92	168.35	166.18	164.54	164.66

Well	GW Elev. (feet MSL) 8/28/2000	GW Elev. (feet MSL) October 2-3, 2000	"GW Elev. (feet MSL) April 26, 2001"	"GW Elev. (feet MSL) October 3-4, 2001"	"GW Elev. (feet MSL) January 24, 2002"	"GW Elev. (feet MSL) April 24, 2002"
MW-2402	167.99	167.5	169.81	166.65	165.08	165.11
MW-2601	144.99	144.82	145.23	144.5	143.68	143.35
MW-N01	109.12	109.03	109.54	108.66	107.94	107.57
MW-N02	110.67	110.58	110.97	110.35	109.81	109.53
MW-N03S	147.63	147.25	148.38	147	145.77	145.41
MW-N03D	147.57	147.28	148.32	146.97	145.75	145.38
MW-N04D	149.54	149.35	150.68	149.25	147.8	147.59
MW-N04S	149.6	149.39	150.75	149.32	147.87	147.77
MW-N05	145.93	145.69	145.91	145.29	144.33	143.91
MW-N06	140.7	140.56	140.74	140.03	138.89	138.26
MW-N06D	140.36	140.2	140.41	139.69	138.57	137.93
MW-N07	151.05	150.71	150.61	147.06	148.64	147.85
MW-N08D	155.53	155.23	154.92	154.6	152.75	151.86
MW-N09D	143.29	143.06	143.28	142.71	141.8	141.37
E1	160.95	160.41	160.22	159.55	157.5	156.09
MW-E01	158.4	158.24	159.43	157.56	156.01	155.93
MW-E02D	157.26	157.13	158.6	156.7	155.57	155.52
MW-E02S	157.72	157.44	159.45	156.98	155.8	155.7
MW-E03	154.7	154.48	155.78	154.11	152.92	152.76
MW-E05S	-	-	-	156.98	155.82	155.75
MW-E05DI	-	-	-	156.18	155.1	155.08
MW-E06S	-	-	-	154.65	154	154.03
MW-E07DI	-	-	-	156	153.62	154.96
MW-E07D	-	-	-	155.25	155.82	154.51
MW-E08DI	-	-	-	153.98	153.04	152.94
MW-E08D	-	-	-	153.56	153.7	152.62
MW-E09DI	-	-	-	152.95	152.06	151.96
MW-E10DI	-	-	-	152.61	151.66	151.56
MW-S01	161.2	161	162.24	160.39	159.05	159.11
MW-S02	161.49	160.8	162.52	159.98	158.48	158.53
MW-W01	167.45	166.95	168.51	166.19	164.49	164.45
MW-W02D	167.41	166.94	168.33	166.12	164.35	164.14
MW-W02S	167.42	166.95	168.31	166.11	164.4	164.16
MW-W03	-	-	159.23	158.24	156.43	155.71
MW-W04	-	-	-	162.49	160.61	160.06
WW-1	158.59	158.24	157.81	-	152.54	154.72
WW-2	152.62	152.28	151.98	-	152.99	148.91
MW-101 (Parcel B)	-	-			174.57	174.57
MW-102 (Parcel B)	-	-			174.94	174.94
MW-103 (Parcel B)	-	-			175.99	175.99
MW-104 (Parcel B)	-	-			175.72	175.72
WP-1401S	-	119.55	119.2	119.08	119	118.93
WP-1401D	-	120.38	119.01	118.17	118.06	118.1
WP-1402S	-	139.37	139.49	139.38	139.23	139.3

Well	GW Elev. (feet MSL) 8/28/2000	GW Elev. (feet MSL) October 2-3, 2000	"GW Elev. (feet MSL) April 26, 2001"	"GW Elev. (feet MSL) October 3-4, 2001"	"GW Elev. (feet MSL) January 24, 2002"	"GW Elev. (feet MSL) April 24, 2002"
WP-1402D	-	140.3	140.63	140.29	139.3	140.03
WP-1403S	-	141.96	142.48	142.29	142.06	141.91
WP-1403D	-	141	143.56	142.88	141.7	142.24

Notes

MSL Mean Sea Level

"-" not measured

**Table 3-5  
Groundwater Vertical Gradients at Monitoring Well Clusters**

Well ID	PVC Riser Elevations	Top of Screen Elevations	Wellscreen Separation <sup>1</sup>	October-99		November-99		August-00		October-00		April-01		May-01		July-01	
				Elevation Head	Vertical Gradient	Elevation Head	Vertical Gradient	Elevation Head	Vertical Gradient	Elevation Head	Vertical Gradient	Elevation Head	Vertical Gradient	Elevation Head	Vertical Gradient	Elevation Head	Vertical Gradient
MW-906S	179.77	162.77		158.63		158.15		158.77		158.66		159.88		--		159.22	
MW-906D	179.89	139.89	22.88	158.18	0.019667832	158.39	-0.01048951	159	-0.010052448	158.94	-0.012237762	160.13	-0.010926573	--		159.46	-0.01048951
MW-1004S	171	163		160.68		163.01		163.59		163.08		164.3		164.35		163.55	
MW-1004D	171.34	152.34	10.66	162.67	-0.186679174	163.02	-0.000938086	163.63	-0.003752345	163.12	-0.003752345	164.34	-0.003752345	164.34	0.000938086	163.63	-0.00750469
MW-1004DI	172.21	134.21	28.79	--		--		159.34	0.147620702	158.39	0.162903786	158.41	0.204584925	159.31	0.175060785	158.81	0.1646405
MW-1004DD	171.75	77.75	85.25	--		154.67	0.097829912	158.73	0.057008798	158.73	0.051026393	159.26	0.059120235	158.75	0.06568915	158.55	0.058651026
MW-1005	172.94	166.94		163.11		162.66		161.43		161.5		164.49		161.64		161.03	
MW-1005D	172.8	152.81	14.13	--		--		--		158.18	0.234961076	159.3	0.367303609	159.2	0.172682236	158.6	0.171974522
MW-1005DI	172.65	123.64	43.3	--		--		--		158.21	0.075981524	159.4	0.117551963	159.25	0.055196305	158.68	0.054272517
MW-1006	173.98	164.98		158.49		159.24		159.26		159.12		160.38		159.98		159.32	
MW-1006DI	174.47	146.47	18.51	--		--		--		157.84	0.06915181	158.97	0.076175041	158.77	0.06537007	158.25	0.057806591
MW-1007	170.76	163.76		159.53		158.43		158.18		158.29		159.46		158.86		157.86	
MW-1007DI	171.3	133.8	29.96	--		--		--		157.59	0.023364486	158.75	0.023698264	158.5	0.012016021	158.01	-0.005006676
MW-1016	174.16	161.16		--		--		--		159.63		160.51		160.61		--	
MW-1016DI	173.22	136.22	24.94	--		--		--		157.92	0.068564555	159.12	0.055733761	158.92	0.06776263	--	
MW-1214	172.51	162.51		164.63		160.8		164.48		158.51		159.56		159.66		158.94	
MW-1214DI	172.36	152.36	10.15	--		--		--		158.05	0.045320197	159.12	0.043349754	159.21	0.044334975	158.51	0.042364532
MW-1217	176.57	162.57		155.89		155.96		156.36		156.23		157.41		157.17		156.65	
MW-1217DD	176.83	82.83	79.74	--		--		--		155.88	0.004389265	157.07	0.004263858	157.72	-0.006897417	156.33	0.004013042
WP-1401S	121.18	120.28		119.37		119.4		--		119.55		119.2		--		--	
WP-1401D	121.28	117.18	3.1	118.56	0.261290323	118.53	0.280645161	--		120.38	-0.267741935	119.01	0.061290323	--		--	
WP-1402S	141.3	140.2		139.52		139.43		--		139.37		139.49		--		--	
WP-1402D	141.2	137.3	2.9	140.4	-0.303448276	140.27	-0.289655172	--		140.3	-0.320689655	140.63	-0.393103448	--		--	
WP-1403S	144.07	143		142.85		142.66		--		141.96		142.48		--		--	
WP-1403D	144	140.07	2.93	143.19	-0.116040956	143.09	-0.146757679	--		141	0.327645051	143.56	-0.368600683	--		--	
MW-2202	203.51	155.51		149.9		149.94		151.8		151.56		151.1		--		--	
MW-2202D	203.64	115.5	40.01	--		--		--		--		151.33	-0.005748563	--		--	
MW-E02S	182.84	163.34		156.61		156.84		157.72		157.44		159.45		159.04		158.04	
MW-E02D	182.83	143.33	20.01	156.37	0.011994003	156.59	0.012493753	157.26	0.022988506	157.13	0.015492254	158.6	0.042478761	158.38	0.032983508	157.61	0.021489255
MW-E05S	176.47	152.81		--		--		--		--		--		158.97		158.01	
MW-E05DI	176.15	97.19	55.62	--		--		--		--		--		157.55	0.025530385	157.03	0.017619561
MW-E07D	176.72	126.24		--		--		--		--		--		155.27		155.82	
MW-E07DI	175.87	90.02	36.22	--		--		--		--		--		157.37	-0.057979017	156.84	-0.028161237
MW-E08D	167.97	122.32		--		--		--		--		--		154.72		155.45	
MW-E08DI	167.29	83.08	39.24	--		--		--		--		--		155.29	-0.014525994	153.61	0.046890928
MW-N03S	177.42	152.42		146.99		146.92		147.63		147.25		148.38		--		--	
MW-N03D	177.3	134.3	18.12	146.94	0.002759382	146.9	0.001103753	147.57	0.003311258	147.28	-0.001655629	148.32	18.12	--		--	
MW-N04S	175.15	143.15		149.49		149.26		149.6		149.39		150.75		--		--	
MW-N04D	175.31	120.81	22.34	149.4	0.004028648	149.18	0.003581021	149.54	0.002685765	149.35	0.00179051	150.68	26.06333333	--		--	
MW-N06	182.06	145.06		139.65		139.44		140.7		140.56		140.74		--		--	
MW-N06D	181.63	144.63	0.43	--		139.11	0.76744186	140.36	0.790697674	140.2	0.837209302	140.41	0.417352941	--		--	
MW-W02S	186.27	172.27		165.72		165.74		167.42		166.95		168.31		--		--	
MW-W02D	186.55	152.55	19.72	165.7	0.001014199	165.74	0	167.41	0.000507099	166.94	0.000507099	168.33	-0.001014199	--		--	
MW-E1	202.02	155.02		157.97		157.91		160.95		160.41		160.22		--		--	
MW-145	200.13	147	8.02	--		--		--		157.12	0.410224439	156.89	0.41521197	--		--	

Notes: 1. Wellscreen separation is the difference (feet) between the top of a wellscreen and the top of the corresponding shallowest wellscreen.

"""""" indicates not measured"

All elevations are in feet above Mean Sea Level

**Table 3-6  
Estimated Groundwater Velocities**

<b>Location</b>	<b>Well</b>	<b>K ft/d</b>	<b>Gradient ft/ft</b>	<b>Velocity ft/d</b>	<b>Velocity ft/y</b>
Waste Pad Area	MW-0106	3.3	0.008	0.088	32
Building 6A	MW-0601	1.51	0.026	0.13	48
	MW-0602	0.36	0.026	0.031	11
	MW-0607	2.5	0.0074	0.062	23
Building 3	MW-0907	30.5	0.000457	0.046	17
Industrial Waste Lines	MW-1213	2.5	0.0042	0.035	13
	MW-1214	40	0.002	0.27	98
	MW-1218	4.5	0.00375	0.056	21
	MW-1219	5.3	0.0044	0.078	29
Tank Farm (near Building 3)	MW-1804	16.6	0.000736	0.041	15
Waste Pad Area (near Drum Burial)	MW-0110	11.6	0.00318	0.12	45
Former Gravel Pit	MW-2204	6.5	0.0089	0.19	70

Notes: An effective porosity of 0.3 is assumed for all locations.  
 K - estimated hydraulic conductivity  
 ft - feet  
 d - day  
 y - year

**Table 4-1**  
**Building 2 Complex**  
**Radiological History And Potential Contaminants**

Building/Location	History	COCs	Notes
Building 1	"Used for R&D for the Sites first criticality experiments. Decontaminated and released for occupancy in 1960. After 1960, used for x-ray analyses, photography and radioactive materials storage."	"Byproduct materials, Uranium, LEU"	Building 1 was decontaminated and restored in May 1960. Repeated scrubbing and painting were necessary to release the building. radioactivity may still be present beneath the paint.  Decontamination and decommissioning of internal systems and components to the release criteria of RG 1.86 was completed in 2002. Authorization has been received to decontaminate and deconstruct the above-grade structure has been received.
Vault 1	"Interim extended radiological waste storage area, storage area for sealed neutron sources, and records storage area."	"Byproduct materials, LEU"	
Vault 2	"Housed the Sites first criticality experiments, and later used for highly radioactive materials and x-ray analysis of reactor components."	"Byproduct materials, LEU"	
Room 3	"Health physics office, lay down work areas for criticality experiments, and a radioactive materials storage area."	"Byproduct materials, LEU"	
Room 4	Restroom. Sanitary line may be potentially contaminated.	none	



Building/Location	History	COCs	Notes
Room 5	"Used for miscellaneous activities involving radioactive materials, including a reactor component assembly area for the "hot cell", a dark room, and later a receiving and storage area for radioactive materials."	"Byproduct materials, LEU"	
Room 6	Contains the ventilation system for Control Zone 5 (CZ5). Previously used as a Photostat laboratory where reactor components were photographed.	"Byproduct materials, LEU"	
Control Zone 5	"Control room for experimental criticality projects in the late 1950s. Refurbished in the mid-1980s, and original surfaces are potentially contaminated."	"Byproduct materials, LEU"	
Boiler Room and Office Area	Boiler Room and Office Area	none	
Outside Storage Area	Historically used to store radioactive materials. This area also included the CZ5 recirculation/ventilation exhaust system for Building 1.	"Byproduct materials, LEU"	
Industrial Waste System	"Effluents containing radiological and chemical constituents were discharged to the industrial waste lines, and eventually to the Site brook."	"Byproduct materials, HEU, LEU, DU"	
Building 1A	Used for the storage of radioactive materials and occasionally used for a radioactive work area.	Byproduct materials	

Building/Location	History	COCs	Notes
North Side	"Originally used to house a prototype LLRW incinerator (never used for RAM). Later used to support non-radiological electronics work, and finally as a temporary radioactive materials work and storage area."	Byproduct materials	
South Side	Inventory area and storage area for packaged radioactive materials. Southeast corner contained a contamination cell under negative pressure with a portable HEPA unit.	Byproduct materials	
Building 2	Building 2 was used for R&D.	"Uranium, Byproduct materials"	
Reactor Cell 1	Used for reactor research including the sodium-cooled reactor projects and seismic tests on fuel assemblies containing DU.	DU	
Reactor Cell 2	"Used for multiple criticality experiments, and then used to support work conducted under a Byproduct License."	"Natural Uranium, LEU, HEU, and byproduct materials"	
Self Contained HEPA system	Processes exhaust air from Cell 2.	"Natural Uranium, LEU, HEU, and Byproduct materials"	
Control Zone 1 (CZ1)	Area used for decontamination and repair of reactor servicing equipment.	"Natural Uranium, LEU, HEU, and Byproduct materials"	
Cell 1 Sump	Joined the industrial waste lines from Cell 1 and Building 1.	"Natural Uranium, LEU, HEU, and Byproduct materials"	

Building/Location	History	COCs	Notes
Cell 2 Sump	Joined the industrial waste lines from Cell 2 and Building 1.	"Natural Uranium, LEU, HEU, and Byproduct materials"	
Cell 2 Mezzanine	Contained former glove boxes used for uranium carbide research that was enriched to 14 percent.	Uranium Carbide and Byproduct materials	
Building 2 Tower	"Contained at least one glove box, used to support uranium carbide research."	Uranium carbide and Byproduct materials	
Control Room 1	"Housed controls and necessary equipment to support reactor experiments. After Cell 1 was converted to a seismic testing, the control room was used as a health physics laboratory, and was used to conduct strength tests on non-contaminated coupons collected from commercial power reactors."	"Natural Uranium, LEU, HEU, and Byproduct materials"	
Control Room 2	"Used after the mid-1980s as a Health Physics office. Maintained radiologically clean, although some residual radioactivity was periodically detected."	"Natural Uranium, LEU, HEU, and Byproduct materials"	
Storage Vault	"Storage of radioactive materials including fuel from the FCE and S1C, uranium from Building 3, UO <sub>2</sub> pellets, fuel rods, pellets containing uranium enriched to less than 20 percent, contaminated steam generator tubes and nuclear sources."	"Natural Uranium, LEU, HEU, and Byproduct materials"	
Machine Shop	Used to fabricate radiologically clean components. Later was converted to a training room.	none	

Building/Location	History	COCs	Notes
Whole Body Count Room	"From mid-1950s to 1991, used as a general-purpose work space. After 1991, it was used as the whole body count room."	none	
Data Management and Storage Area	Used for clean storage and data management.	none	
Second Floor/ Office Area	"Primarily office spaces, rest rooms, and conference rooms."	none	
Building 2A	Buildings used to support the commercial nuclear power outage services.	Byproduct materials	
Control Zones	"Control zones, serviced by negative pressure ventilation systems, were designed to use two HEPA banks to recirculate the air. Floor tiles were periodically replaced and the residual radioactivity was not completely removed."	Byproduct materials	
Sanitary Drain System	"Potentially contaminated from historic DOE operations and subsequent outage support operations. Prior to 1975, Building 2 waste discharged to the leach field north of the Woods Area. "	"Natural Uranium, LEU, HEU, and Byproduct materials"	
Outdoor Storage Area	"A fence surrounds the building forming a ""controlled access area"". Equipment was packaged for shipment and properly stored. In 1996, the area was expanded and soil samples were collected to characterize the area."	"U235, Co60, Cs137, Th228, Th232"	

## Notes:

AEC - Atomic Energy Commission

HVAC - heating, ventilation, air conditioning "

cm<sup>2</sup> - centimeters square

LEU - low enriched uranium

COCs - Compounds of Concern

MDC - Metropolitan District Commission

DOE - Department of Energy

SEM - scanning electron microscope

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dpm - disintegrations per minute	SNM - Special Nuclear Materials
DU - Depleted uranium	R&D - Research and Development
HEPA - high efficiency particulate air	uCi - microcuries
HEU - high enriched uranium	UST - underground storage tank
HSA - Historical Site Assessment	VCA - Voluntary Corrective Action

**Table 4-2  
Building 5 Complex  
Radiological History And Potential Contaminants**

<b>Building</b>	<b>Location</b>	<b>History</b>	<b>COCs</b>	<b>Notes</b>
Building 5		"R&D laboratories originally used to support AEC contracts, and later to support commercial nuclear R&D."	Uranium and Byproduct materials	Decontamination and decommissioning of internal systems and components to the release criteria of RG 1.86 was completed in 2002. Authorization has been received to decontaminate and deconstruct the above-grade structure has been received.
Building 5 North Wing (Nuclear Laboratories)				
	Room 212	"Metal Testing, Emission Spectrograph Laboratory. This laboratory was equipped with an autoclave for high temperature testing of metal properties. Zirconium properties were routinely tested in this laboratory, and later the room contained two spectrometers."	Byproduct materials	
	Rooms 213 through 216	Office spaces.	none	
	Rooms 217 and 218	Laboratories used to support the Metallurgy and Chemistry groups.	LEU and byproduct materials	
	Rooms 219 and 220	Office spaces.	none	

Building	Location	History	COCs	Notes
	Rooms 221 through 224	Fuel Fabrication and Ceramics Laboratory used to support Nuclear Fuels Manufacturing from the mid-1950s to 1992. These rooms were set up to develop pellet fabrication processes.	"LEU, Cs, Co"	Final Survey for uranium contamination in Rooms 224A and B was not approved by the NRC because the floor drains and joints were not completed characterized. CE decontaminated the byproduct contamination the area was free released.
	Room 225	Chemistry laboratories to support the uranium and byproduct material operations.	LEU	
	Room 226	Laboratory set up to support the Metallography operations.	Uranium and Byproduct materials	
	Room 227	Chemistry laboratories to support the uranium and byproduct material operations. Contained an autoclave testing area to test the physical properties of metals used in welds and steam generator tubes.	LEU and byproduct materials	

Building	Location	History	COCs	Notes
	Rooms 228 and 229	Chemistry laboratories to support the uranium and byproduct material operations. Room 229 (x-ray diffraction laboratory) was used primarily for manufacturing and commercial operations rather than R&D.	Uranium and Byproduct materials	
	Rooms 230 and 231	Chemistry laboratories to support the uranium and byproduct material operations.	Uranium and Byproduct materials	
	Rooms 232 and 233	Metallurgy laboratories for analyzing fuel samples. These rooms were equipped with electron microscopes and processed radioactive samples from the late 1950s through the early 1960s.	Uranium and Byproduct materials	
	Rooms 234 and 235	Metallurgy laboratories for analyzing fuel samples.	Uranium and Byproduct materials	
Building 5 Central Wing (Machine Shop and High Bay Testing Area)				



Building	Location	History	COCs	Notes
	Room 105A	Fuel Element Loading Shop (previously located in the northeast corner of the high-bay test area). The Fuel Loading Shop was removed in the early 1970s.	Uranium and Byproduct materials	
	Room 106	"Room used to weld fuel rod tubes, using an automatic heliarc process."	Uranium and Byproduct materials	
	Rooms 107 and 107A	Final Inspection Area (originally one room and later divided). Inspected elements were then returned to the vault for storage and off-Site shipment.	Uranium and Byproduct materials	
Building 5 East Corridor (Administrative Area)				
	Rooms 100 through 103	Offices for management and human resource personnel	none	

Building	Location	History	COCs	Notes
	Room 108	Offices for management and human resource personnel. Later converted to a health physics office and was contaminated when archived samples were being counted on the gamma spectroscopy system.	Uranium and Byproduct materials	
	"Rooms 210A, B, and C"	Men's bathroom and showers. Showers used to decontaminate personnel.	LEU	
	Rooms 301 through 304	Offices for management and human resource personnel	none	
Building 5 South Wing (Health Physics and Radiochemistry)				
	Rooms 305 and 306	"Radiochemistry count room and laboratory. These rooms supported all Site operations with a liquid scintillation counter, gamma spectroscopy system and various alpha/beta counters."	"HEU, LEU and byproduct materials"	

Building	Location	History	COCs	Notes
	Room 308	Storage of DU and small quantities of low enriched uranium (less than 5 percent).	"DU, LEU"	
	Room 309	Storage of DU and small quantities of low enriched uranium (less than 5 percent).	"Uranium (DU, LEU)"	
	Room 310	Standards library.	none	
	Room 311	Radiochemistry laboratory used for low-level sample analyses. Mainly used for urine samples. Also used for storing liquid nuclear standards. This room was later used for contaminated equipment within the fume hood.	"Pu, LEU and Byproduct materials"	
	Room 312	Electronics laboratory that contained at least one hood for radiological work.	LEU and byproduct materials	
	Room 313	Tool storage / Component supply crib.	none	

Building	Location	History	COCs	Notes
	Room 314	Shipping and storage area set up to receive or ship all source or special nuclear materials. Once contained welding area for fuel assemble parts (grid plates) prior to fuel loading.	LEU and byproduct materials	
	Room 315	Originally a machine shop and was converted to a computer room.	none	
	Rooms 317 and 318	"Electronics and maintenance laboratories, and routinely contained contaminated components. Later these rooms were used as offices."	LEU and byproduct materials	
	Room 319	Health Physics and Ultrasonics Laboratory.	LEU and byproduct materials	
	Room 320A	X-ray vault and was also used for the storage of nuclear sources and depleted and enriched uranium.	"DU, LEU, HEU, and byproduct materials"	
	Room 321	"Radiochemistry ""hot"" laboratory."	LEU and byproduct materials	

Building	Location	History	COCs	Notes
Building 5 Waste Pad Area		"Former waste pad located adjacent to the northwest corner of Building 5, under the current footprint of Building 16. Stored spent ion exchange resin and regenerant, SNM scrap material in pellet or powder form, used absolute air filters, laboratory samples, used acid solution, combustibles scraps, and miscellaneous equipment."	Uranium	"All items placed on the pad were supposed to be in AEC approved, sealed containers."
Building 5 Ventilation		"Ventilation provided by an air handler. There were eight stacks, all equipped with sampling locations and six of the eight stacks used absolute HEPA filters. The two exceptions were the hydrogen burn-off stack and the radiochemistry laboratory."	LEU and byproduct materials	
Building 15		Carpentry Shop	none	

Building	Location	History	COCs	Notes
Building 16		"Boronometer Test Area. This building also contained a tool crib, stock cage, shop and office area. DU was handled in Building 16 to simulate the mass of a full bundle assembly."	"Sealed neutron (RaBe, RuBe, AmBe sources), DU, LEU, and byproduct materials"	
Building 18		"Building 18 is a high bay, connected to the west end of the central wing of Building 5. The high bay contained multiple test loops that used DU to simulate the weight of a standard fuel assembly bundle. "	Uranium (DU) and byproduct materials	
Sanitary System		The last sanitary line cleanout before the discharge to manhole S-19 is in Room 305.	LEU and byproduct materials	Manhole S-19 was remediated by CE in 1996. See subsection 5.2 of this HSA Report.

Building	Location	History	COCs	Notes
Radiological Waste Water		"Radiological waste water first discharged to dilution tanks in Building 6A. After 1961, the wastewater routed to dilution tanks in Building 6. In 1992, all industrial waste water discharged to MDC, and CE used the former industrial waste lines to carry radiological waste water to an evaporator in Building 6. (Subsection 5.1)"	"HEU, LEU, DU, and byproduct materials."	See subsection 5.1 of this HSA Report.

Notes:

- |  |   |
|--|---|
| AEC - Atomic Energy Commission         | HVAC - heating, ventilation, air conditioning " |
| cm <sup>2</sup> - centimeters square   | LEU - low enriched uranium                      |
| COCs - Compounds of Concern            | MDC - Metropolitan District Commission          |
| DOE - Department of Energy             | SEM - scanning electron microscope              |
| dpm - disintegrations per minute       | SNM - Special Nuclear Materials                 |
| DU - Depleted uranium                  | R&D - Research and Development                  |
| HEPA - high efficiency particulate air | uCi - microcuries                               |
| HEU - high enriched uranium            | UST - underground storage tank                  |
| HSA - Historical Site Assessment       | VCA - Voluntary Corrective Action               |

**Table 4-3**  
**Summary Of Radiological Surveys Of Building 17**  
**Performed Prior To Renovations**

Location	Comments
Office Area	No contamination was found that exceeded the release criteria levels from either license. The highest fixed contamination levels were 180 alpha and 2,000 beta dpm/100cm <sup>2</sup> . No loose contamination was detected.
Compressor Building	No contamination was found that exceeded the release criteria levels from either license. The highest fixed contamination levels were 40 alpha and 280 beta dpm/100cm <sup>2</sup> . No loose contamination was detected.
Bay A	No contamination was found that exceeded the release criteria levels from either license. The highest fixed contamination levels were 60 alpha and 1,300 beta dpm/100cm <sup>2</sup> . No loose contamination was detected.
Bay B	No contamination was found that exceeded the release criteria levels from either license. The highest fixed contamination levels were 60 alpha and 1,600 beta dpm/100cm <sup>2</sup> . No loose contamination was detected.
Bay B / C Partition	The partition between B and C is a concrete block wall that was shot blasted to remove paint from the C side wall surface. During the characterization BNFL removed some inner sections of the blocks from the wall for sampling. BNFL did not remove whole blocks or put holes through the wall in order to obtain samples.
Bay C	Fixed contamination levels up to 3,600 alpha and 6,800 beta dpm/100cm <sup>2</sup> with an average of 880 alpha and 6,300 beta dpm/100cm <sup>2</sup> were found.
Bay C Roof	Volumetric samples of the roof tar material indicated contamination levels up to 16,200 alpha and 7,000 beta dpm/100cm <sup>2</sup> .

## Notes:

cm<sup>2</sup>: centimeter square

dpm: disintegrations per minute

BNFL: British Nuclear Fuel, Ltd.



**Table 4-4  
June 2002 Radiological Groundwater Sampling Program  
Background Location Results**

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium <sub>tot</sub> Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
MW-E01	MW0E01	06/24/02	FS	Result	3.26	2.98	0.321	0.218	0.0479	0.0551
				Qual	U	U	U	U	U	U
				Error	1.93	1.7		0.199	0.11	0.109
MW-E03	MW0E03	06/25/02	FS	Result	1.19	0.409	0.6522	0.466	0.0852	0.101
				Qual	U	U	U	U	U	U
				Error	1.77	1.6		0.263	0.137	0.135
MW-2401	MW2401	06/24/02	FS	Result	0.369	1.04	0.612	0.242	0.233	0.137
				Qual	U	U		U	J	U
				Error	1.78	1.71		0.196	0.183	0.136
MW-S02	MW0S02	06/24/02	FS	Result	3.04	3.74	0.3597	0.236	0.0512	0.0725
				Qual	U	U	U	U	U	U
				Error	1.87	2.05		0.182	0.101	0.116
MW-W01	MW0W01	06/24/02	FS	Result	1.38	2.87	0.6546	0.227	0.33	0.0976
				Qual	U	U	U	U	U	U
				Error	1.79	1.76		0.185	0.083	0.142

Summary Statistics for Results							
Analysis	Method	Units	Freq.	Min	Max	Mean	Median
Cesium-137	Gamma	pCi/L	0 / 5	0	0	1.68	1.79
Cobalt-60	Gamma	pCi/L	0 / 5	0	0	2.22667	2.05
Uranium, Total	Calc.	pCi/L	1 / 5	0	0	0.6546	0.6546
Uranium-234	Alpha	pCi/L	0 / 5	0	0	0.198	0.185
Uranium-235	Alpha	pCi/L	1 / 5	0	0	0.17133	0.101
Uranium-238	Alpha	pCi/L	0 / 5	0	0	0.11853	0.116

NOTES:

"Uranium, Total / Calc. = sum of U-isotopes"

U = not detected; value represents the sample MDA.

J = estimated value; QC out of criteria

Sample Type = FS (field sample); FD (field duplicate)

Gamma = EPA Method 901.1

Freq. = frequency of detections

Min = minimum result observed

Max = maximum result observed

Mean = arithmetic average of result

Median = arithmetic middle of the result series

Alpha = DOE EML HASL Method 300

Background = to assess background water quality conditions

**Table 4-5**  
**June 2002 Radiological Groundwater Sampling Program**

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
E-1	E00001	06/27/02	FS	Result	2.67	4.48	1.291	0.486	0.42	0.385
				Qual	U	J	U	U	U	U
				Error	1.54	1.85		0.177	0.136	0.121
MW-0101	MW0101	06/27/02	FS	Result	0.628	2.9	0.9878	0.678	0.0358	0.274
				Qual	U	U		J	U	J
				Error	1.88	1.6		0.318	0.101	0.195
MW-0102	MW0102	06/28/02	FS	Result	0.083	0.647	0.5603	0.0723	0.236	0.252
				Qual	U	U	U	U	U	U
				Error	1.67	1.89		0.129	0.0679	0.0693
MW-0103	MW0103	06/26/02	FS	Result	3.67	0.614	0.3281	0.175	0.0321	0.121
				Qual	U	U	U	U	U	U
				Error	2.15	1.86		0.194	0.108	0.149
MW-0105	MW0105	06/26/02	FS	Result	1.25	3.75	0.707	0.182	0.401	0.124
				Qual	U	U	U	U	U	U
				Error	1.85	2.46		0.188	0.0612	0.153
MW-0106	MW0106	06/26/02	FS	Result	0.363	1.21	0.4028	0.169	0.0518	0.182
				Qual	U	U	U	U	U	U
				Error	2.05	2.25		0.144	0.083	0.0196
MW-0109	MW0109	06/27/02	FS	Result	3.36	3.58	0.0738	0.0222	0.0294	0.0222
				Qual	U	U	U	U	U	U
				Error	2.02	2.08		0.0591	0.0577	0.0591
MW-0110	MW0110	06/27/02	FS	Result	3	3.21	0.2071	0.148	0.0179	0.0412
				Qual	U	U	U	U	U	U
				Error	1.76	2.07		0.135	0.0474	0.0661
MW-0118	MW0118	06/27/02	FS	Result	1.44	0.177	0.6323	0.319	0.0633	0.25
				Qual	U	U		J	U	U
				Error	0.806	0.946		0.219	0.11	0.033
MW-0144	MW0144	06/27/02	FS	Result	1.58	3.05	0.525	0.315	0.086	0.124
				Qual	U	U		J	U	U
				Error	1.94	1.81		0.206	0.125	0.139

TABLE 4-5 (CONTINUED)

TABLES

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
MW-0301	MW0301	06/27/02	FS	Result	2.92	0.302	0.524	0.259	0.008	0.257
				Qual	U	U	U	U	U	U
				Error	1.68	1.92		0.193	0.0607	0.0361
MW-0302	MW0302	06/28/02	FS	Result	0.701	4.71	0.2275	0.0484	0.0761	0.103
				Qual	U	U	U	U	U	U
				Error	5.65	2.56		0.0776	0.0952	0.11
MW-0601	MW0601	06/27/02	FS	Result	1.62	3.52	0.478	0.233	0.145	0.1
				Qual	U	U	U	U	U	U
				Error	2.56	2		0.181	0.162	0.151
MW-0602	MW0602	06/27/02	FS	Result	3.32	1.61	1.3	0.626	0.287	0.387
				Qual	U	U		J	U	J
				Error	2.01	1.83		0.31	0.0722	0.222
MW-0602	MW0602DUP	06/27/02	FD	Result	2.8	2.03	0.8761	0.57	0.0811	0.225
				Qual	U	U		J	U	J
				Error	1.65	1.89		0.28	0.112	0.17
MW-0603	MW0603	06/27/02	FS	Result	0.202	2.66	0.4967	0.191	0.0617	0.244
				Qual	U	U	U	U	U	U
				Error	2.93	1.84		0.165	0.0949	0.0627
MW-0607	MW0607	06/24/02	FS	Result	0.137	2.87	0.6283	0.285	0.0543	0.289
				Qual	U	U	U	U	U	U
				Error	2.17	2.09		0.202	0.102	0.038
MW-0608	MW0608	06/26/02	FS	Result	3.3	3.12	0.4196	0.156	0.0366	0.227
				Qual	U	U	U	U	U	U
				Error	1.91	1.63		0.164	0.0719	0.0244
MW-0609	MW0609	06/28/02	FS	Result	3.57	0.455	0.809	0.41	0.08	0.319
				Qual	U	U		J	U	U
				Error	2.15	1.92		0.253	0.143	0.237
MW-0609	MW0609DUP	06/28/02	FD	Result	3.37	0.823	0.978	0.535	0.079	0.364
				Qual	U	U		J	U	J
				Error	1.91	1.82		0.256	0.0987	0.209
MW-0904	MW0904	06/25/02	FS	Result	1.03	3.87	0.744	0.371	0.122	0.251
				Qual	U	U		J	U	U
				Error	2	2.11		0.227	0.129	0.196

TABLE 4-5 (CONTINUED)

TABLES

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
MW-0905	MW0905	06/25/02	FS	Result	0.515	5.16	0.7185	0.291	0.0295	0.398
				Qual	U	U		J	U	J
				Error	7.3	3.01		0.221	0.0784	0.261
MW-0905	MW0905DUP	06/25/02	FD	Result	0.654	2.69	0.3649	0.0829	0.162	0.12
				Qual	U	U	U	U	U	U
				Error	1.85	1.48		0.147	0.161	0.181
MW-0906S	MW0906S	06/25/02	FS	Result	2.55	1.21	0.6718	0.519	0.0765	0.0763
				Qual	U	U	U	U	U	U
				Error	1.57	1.59		0.274	0.118	0.117
MW-0907	MW0907	06/25/02	FS	Result	0.458	3.61	0.459	0.178	0.115	0.166
				Qual	U	U	U	U	U	U
				Error	1.96	2.01		0.188	0.144	0.165
MW-1004S	MW1004S	06/25/02	FS	Result	3.35	3.55	0.8867	0.688	0.109	0.0897
				Qual	U	U		J	U	U
				Error	1.9	2.65		0.339	0.145	0.124
MW-1005	MW1005S	06/25/02	FS	Result	3.3	3.28	0.59	0.387	0.018	0.185
				Qual	U	U		J	U	J
				Error	1.81	1.67		0.246	0.0966	0.157
MW-1006	MW1006S	06/25/02	FS	Result	0.186	1.63	0.4203	0.109	0.246	0.0653
				Qual	U	U	U	U	U	U
				Error	1.81	2.04		0.13	0.0653	0.1
MW-1007	MW1007	06/28/02	FS	Result		5.18	0.09364	0.0693	0.00854	0.0158
				Qual	R	U	U	U	U	U
				Error		2.91		0.107	0.0647	0.063
MW-1014	MW1014	06/25/02	FS	Result	6.43	5.15	0.35033	0.325	0.0169	0.00843
				Qual	U	U	U	U	U	U
				Error	8.1	2.94		0.212	0.0907	0.0639
MW-1016	MW1016S	06/26/02	FS	Result	0.184	1.34	0.4105	0.137	0.0555	0.218
				Qual	U	U		U	U	J
				Error	2.09	1.78		0.145	0.104	0.178
MW-1018	MW1018	06/26/02	FS	Result	3.27	2.71	0.30721	0.225	0.00901	0.0732
				Qual	U	U		J	U	U
				Error	1.9	1.65		0.128	0.0518	0.082

TABLE 4-5 (CONTINUED)

TABLES

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
MW-1106	MW1106	06/24/02	FS	Result	3.25	0.175	0.433	0.12	0.102	0.211
				Qual	U	U	U	U	U	U
				Error	2.02	1.73		0.136	0.117	0.0227
MW-1201	MW1201	06/28/02	FS	Result	2.94	1.09	11.48	9.37	0.34	1.77
				Qual	U	U			J	
				Error	1.65	1.82		1.78	0.223	0.545
MW-1202	MW1202	06/28/02	FS	Result	1.3	3.24	0.699	0.187	0.242	0.27
				Qual	U	U	U	U	U	U
				Error	2.07	1.73		0.159	0.0666	0.191
MW-1203	MW1203	06/26/02	FS	Result	3.21	3.69	0.1945	0.044	0.0215	0.129
				Qual	U	U	U	U	U	U
				Error	2	2.1		0.101	0.0571	0.141
MW-1204	MW1204	06/27/02	FS	Result	1.53	0.0448	0.2471	0.161	0.0585	0.0276
				Qual	U	U		J	J	U
				Error	2.08	2.04		0.0859	0.0475	0.0489
MW-1208	MW1208	06/28/02	FS	Result	0.442	0.974	0.9575	0.475	0.0245	0.458
				Qual	U	U		J	U	J
				Error	2.03	1.89		0.264	0.065	0.254
MW-1209	MW1209	06/28/02	FS	Result	2.42	0.389	1.267	0.611	0.112	0.544
				Qual	U	U		J	U	J
				Error	1.44	1.9		0.286	0.134	0.264
MW-1209	MW1209DUP	06/28/02	FD	Result	3.39	3.57	1.2521	0.687	0.0801	0.485
				Qual	U	U		J	U	J
				Error	2.15	4.04		0.296	0.1	0.245
MW-1210	MW1210	06/26/02	FS	Result	2.51	3.26	0.5747	0.318	0.164	0.0927
				Qual	U	U	U	U	U	U
				Error	2.11	1.99		0.208	0.0146	0.106
MW-1211	MW1211	06/27/02	FS	Result	3.53	3.68	0.09624	0.079	0.00124	0.016
				Qual	U	U	U	U	U	U
				Error	2.03	2.32		0.127	0.0673	0.0639

TABLE 4-5 (CONTINUED)

TABLES

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
MW-1212	MW1212	06/27/02	FS	Result	0.904	1.05	0.2993	0.132	0.132	0.0353
				Qual	U	U	U	U	U	U
				Error	1.4	1.94		0.137	0.123	0.0799
MW-1213	MW1213	06/25/02	FS	Result	0.803	1.73	0.27999	0.00859	0.0234	0.248
				Qual	U	U	U	U	U	U
				Error	6.43	2.64		0.0651	0.0621	0.0682
MW-1214	MW1214	06/25/02	FS	Result	3.24	3.46	0.5029	0.238	0.0859	0.179
				Qual	U	U	U	U	U	U
				Error	1.91	1.86		0.18	0.119	0.0686
MW-1214	MW1214DUP	06/25/02	FD	Result	0.851	3.23	0.4608	0.339	0.0158	0.106
				Qual	U	U	U	U	U	U
				Error	2.32	1.83		0.215	0.0846	0.112
MW-1215	MW1215	06/26/02	FS	Result	6.17	2.46	0.3302	0.0391	0.234	0.0571
				Qual	U	U	U	U	U	U
				Error	5.76	2.39		0.11	0.0252	0.107
MW-1216	MW1216	06/26/02	FS	Result	0.301	2.83	0.4966	0.168	0.0166	0.312
				Qual	U	U	U	U	U	U
				Error	2.36	1.74		0.157	0.0659	0.0987
MW-1217	MW1217	06/27/02	FS	Result	0.474	1.04	0.1674	0.128	0.0227	0.0167
				Qual	U	U	U	U	U	U
				Error	1.58	1.71		0.134	0.0604	0.0896
MW-1217	MW1217DUP	06/27/02	FD	Result	3.47	3.22	0.1963	0.135	0.0154	0.0459
				Qual	U	U	U	U	U	U
				Error	2.06	1.72		0.16	0.0612	0.106
MW-1218	MW1218	06/26/02	FS	Result	3.3	2.63	0.2005	0.101	0.0389	0.0606
				Qual	U	U	U	U	U	U
				Error	1.87	1.9		0.139	0.088	0.0844
MW-1219	MW1219	06/26/02	FS	Result	3.33	3.17	0.1932	0.0377	0.126	0.0295
				Qual	U	U	U	U	U	U
				Error	1.84	1.77		0.0853	0.133	0.0579
MW-1222	MW1222	06/24/02	FS	Result	1.19	2.84	0.2292	0.0935	0.0217	0.114
				Qual	U	U	U	U	U	U
				Error	1.65	1.68		0.115	0.0577	0.113

TABLE 4-5 (CONTINUED)

TABLES

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
MW-1225	MW1225	06/24/02	FS	Result	2.86	0.752	0.1586	0.0987	0.0261	0.0338
				Qual	U	U	U	U	U	U
				Error	1.78	2.24		0.132	0.0967	0.0952
MW-1507	MW1507	06/27/02	FS	Result	1.39	3.42	0.3687	0.011	0.298	0.0597
				Qual	U	U	U	U	U	U
				Error	1.88	2.12		0.0834	0.0856	0.112
MW-1603	MW1603	06/26/02	FS	Result	0.0487	3.7	0.226	0.0161	0.18	0.0299
				Qual	U	U	U	U	U	U
				Error	5.69	2.07		0.0864	0.0598	0.0844
MW-1810	MW1810	06/26/02	FS	Result	0.204	3.1	1.532	0.938	0.153	0.441
				Qual	U	U		J	U	J
				Error	1.71	1.78		0.353	0.143	0.236
MW-2	MW2	06/26/02	FS	Result	0.233	0.332	0.4077	0.302	0.0197	0.086
				Qual	U	U		J	U	U
				Error	1.79	1.64		0.214	0.0784	0.132
MW-2	MW2DUP	06/26/02	FD	Result	3.17	2.86	0.5215	0.251	0.0655	0.205
				Qual	U	U		J	U	U
				Error	1.89	1.78		0.197	0.105	0.182
MW-2102	MW2102	06/28/02	FS	Result	3.42	2.31	0.31065	0.286	0.00865	0.016
				Qual	U	U	U	U	U	U
				Error	1.96	2.03		0.197	0.0656	0.0638
MW-2202	MW2202	06/28/02	FS	Result	2.93	0.00473	0.74	0.286	0.198	0.256
				Qual	U	U		J	U	U
				Error	1.91	1.83		0.201	0.0234	0.0659
MW-2202	MW2202DUP	06/28/02	FD	Result	1.12	0.618	0.484	0.185	0.239	0.06
				Qual	U	U	U	U	U	U
				Error	1.87	2		0.157	0.0657	0.104
MW-3	MW3	06/25/02	FS	Result	0.334	1.25	0.4626	0.208	0.0946	0.16
				Qual	U	U	U	U	U	U
				Error	1.69	1.84		0.201	0.131	0.169
MW-4	MW4	06/26/02	FS	Result	3.19	2.93	0.4985	0.305	0.101	0.0925
				Qual	U	U	U	U	U	U
				Error	1.79	1.65		0.199	0.129	0.114

TABLE 4-5 (CONTINUED)

TABLES

Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
MW-N04D	MW0N04D	06/26/02	FS	Result	1.1	0.292	1.1565	0.546	0.0735	0.537
				Qual	U	U		J	U	J
				Error	1.78	1.62		0.272	0.118	0.257
MW-N04S	MW0N04S	06/26/02	FS	Result	0.593	3.92	0.3246	0.203	0.0971	0.0245
				Qual	U	U	U	U	U	U
				Error	2.07	2.28		0.172	0.111	0.0652
MW-N07	MW0N07	06/25/02	FS	Result	3.1	0.367	0.2106	0.0551	0.0917	0.0638
				Qual	U	U	U	U	U	U
				Error	1.8	2.24		0.104	0.127	0.102
MW-N07	MW0N07DUP	06/25/02	FD	Result	1.29	1.03	0.2033	0.139	0.037	0.0273
				Qual	U	U	U	U	U	U
				Error	4.27	1.62		0.171	0.125	0.101
WP-1401D	WP1401D	06/25/02	FS	Result	3.07	0.578	0.622	0.376	0.127	0.119
				Qual	U	U		J	U	U
				Error	1.72	1.75		0.235	0.152	0.152
WP-1401S	WP1401S	06/25/02	FS	Result	1.3	3.14	1.04	0.647	0.219	0.174
				Qual	U	U		J	J	J
				Error	1.92	1.65		0.29	0.166	0.142
WP-1402D	WP1402D	06/25/02	FS	Result	0.613	2.8	0.3215	0.0906	0.0979	0.133
				Qual	U	U	U	U	U	U
				Error	1.57	2.01		0.145	0.123	0.141
WP-1402S	WP1402S	06/25/02	FS	Result	1.07	2.99	0.9176	0.614	0.0296	0.274
				Qual	U	U		J	U	U
				Error	2.03	1.6		0.287	0.0582	0.189
WP-1403D	WP1403D	06/25/02	FS	Result	2.83	3.13	1.101	0.976	0.104	0.021
				Qual	U	U		J	U	U
				Error	1.67	1.69		0.355	0.111	0.0558
WP-1403S	WP1403S	06/27/02	FS	Result	1.28	0.0698	18.566	17.5	0.839	0.227
				Qual	U	U			J	U
				Error	1.96	1.62		3.01	0.359	0.192
WW-1	MWWW1	06/28/02	FS	Result	0.534	3.47	0.1093	0.086	0	0.0233
				Qual	U	U	U	U	U	U
				Error	1.83	2.18		0.125	0.0604	0.062



Location ID	Field Sample ID	Sample Date	Sample Type	Analysis Method Units	Cesium-137 Gamma pCi/L	Cobalt-60 Gamma pCi/L	Uranium, Total Calc pCi/L	Uranium-234 Alpha pCi/L	Uranium-235 Alpha pCi/L	Uranium-238 Alpha pCi/L
WW-2	MWWW2	06/28/02	FS	Result	0.392	0.689	0.4478	0.159	0.0458	0.243
				Qual	U	U	U	U	U	U
				Error	2.98	1.96		0.148	0.0862	0.0321

NOTES:

"Uranium, Total / Calc. = sum of U-isotopes"

U = not detected; value represents the sample MDA.

J = estimated value; QC out of criteria

Sample Type = FS (field sample); FD (field duplicate)

Gamma = EPA Method 901.1

Alpha = DOE EML HASL Method 300

Table 4-6

## Impacted Buildings and Locations

<b>Buildings and Locations that are impacted</b>	<b>Status</b>
Building 2 Complex Buildings 1, 1A, 2, & 2A and surrounding soils and utilities	Building decontamination complete. NRC Approval for above grade demolition.
Building 5 Complex Buildings 5, 16, & 18 and surrounding soils and utilities	Building decontamination complete. Submitted report to NRC for approval.
Building 17 and surrounding soils and utilities	Building decontamination complete. Preparing report for demolition approval by NRC.
Building 3 and surrounding soils and utilities.	To be addressed under FUSRAP
Building 6 and surrounding soils and utilities	To be addressed under FUSRAP
Building 6A and surrounding soils and utilities	Ready for spot decontamination
Sanitary system	Ready for final status survey
Storm water system	Ready for final status survey
Great Pond	Ready for final status survey
Goodwin Pond	Ready for final status survey
Laydown Area	To be addressed under FUSRAP
Waste Pad Area	To be addressed under FUSRAP
Equipment Storage Yard	Ready for final status survey
Former WWTP	Ready for final status survey
Industrial Waste Lines	To be addressed under FUSRAP
Debris Piles	To be addressed under FUSRAP
Site Brook	To be addressed under FUSRAP
Small Pond	Ready for final status survey
Digester Sludge Piles	Ready for final status survey
Drum Burial Pit	To be addressed under FUSRAP
Former Gravel Pit	Ready for final status survey
Clamshell Pile	To be addressed under FUSRAP
Southeast Parcel	Ready for final status survey

**Table 10-1**  
**Types of Radiation Detection Instrumentation**  
**Decommissioning Plan**  
**CE Windsor Site, Windsor Connecticut**

<b>Measurement</b>	<b>Meter</b>	<b>Detector</b>
Direct alpha	Multipurpose scaler/ratemeter	ZnS(Ag) scintillation
Direct beta	Multipurpose scaler/ratemeter	Dual phosphor ZnS(Ag) scintillator
Direct alpha/beta/gamma	Multipurpose scaler/ratemeter	Gas filled (Geiger-Mueller) pancake
Removable	Computer software	Gas-flow proportional
Exposure rate	Multipurpose scaler/ratemeter or, integral with detector	NaI(Tl) scintillator Ion chamber or NaI(Tl) scintillator
Gamma spectrometry or spectroscopy	Computer software	HPGe

**Table 14-1**  
**Final Status Survey Investigation Levels**  
**Decommissioning Plan**  
**CE Windsor Site, Windsor Connecticut**

<b>Survey Unit Classification</b>	<b>Investigate When Sample Result:</b>	<b>Investigate When Scanning Measurement:</b>
Class 1	>DCGL <sub>EMC</sub>	>DCGL <sub>EMC</sub>
Class 2	>DCGL	>DCGL
Class 3	>fraction of DCGL	>Minimum Detectable Concentration