



SITE CERTIFICATION SUMMARY

This Site Certification Summary provides information about the **New Brunswick, New Jersey, Site**. The U.S. Department of Energy Office of Legacy Management is responsible for long-term stewardship of the site under the **Formerly Utilized Sites Remedial Action Program**.

Site Description and History

The New Brunswick, New Jersey, Site (NBS) is a 5.6-acre property in an industrial area 1.6 miles from downtown New Brunswick, New Jersey. From 1948 to 1977, NBS was used as a general nuclear chemistry laboratory for work related to government reactor and weapons programs. During 29 years of operation, NBS provided a variety of services using nuclear materials, such as thorium and uranium ores, high-purity plutonium, americium, and enriched uranium. In 1960, soil contaminated with residues from pitchblende was moved to the site from the Middlesex Municipal Landfill. The material was mixed with clean soil and used to fill an unused rail spur that entered the eastern side of the property. In 1977, the New Brunswick facility closed, and laboratory operations and personnel relocated to the Argonne National Laboratory (ANL). In 1990, NBS was transferred into the Formerly Utilized Sites Remedial Action Program (FUSRAP) from the Decontamination and Decommissioning Branch of the U.S. Department of Energy (DOE) Office of Eastern Area Programs.

Site Remediation Timeline

1978 — Phase I of remediation included removal of contaminated accessible plumbing, equipment, and portions of floors, walls, and ceilings.

1980 — Radiological characterization revealed residual contamination in on-site sewer lines and better defined the extent of soil contamination.

1981-1983 — Phase II of remediation included removal of all aboveground structures, contaminated concrete foundations, drain lines, and soils.

1989 — ANL identified localized areas that were still contaminated.

1990 — Site was designated for remediation under FUSRAP.

1996 — Remediation was completed.

August to November 1996 — Oak Ridge Institute for Science and Education completed verification surveys.

September 24, 2001 — DOE published a notice of cleanup certification in the Federal Register.

2004 — DOE transferred responsibility for NBS to the DOE Office of Legacy Management (LM).



*Areas and depths of contamination at the New Brunswick site.
(Click image to enlarge.)*

Soil-processing technology used at the New Brunswick site (1996).

Certification Docket Contents

The material in the [Certification Docket](#) includes information and documents supporting the successful certification that conditions at the property comply with radiological guidelines in effect at the conclusion of remedial action. Furthermore, this certification docket substantiates that the future use of the property will not produce any significant radiological hazard or dose to the general public as a result of residual radioactivity remaining on-site that originated during activities conducted by DOE or its predecessor agencies.

Remedial Action

Remedial activities at the New Brunswick site were performed in 1978 (Phase I) and 1981 through 1983 (Phase II). Remediation was then completed in 1996 as part of FUSRAP. During remediation, soil segregation technology was used to sort excavated soil above or below the designated criteria. See the [Fact Sheet](#) for details.

Post-Remediation Sampling

Post-remedial action surveys included walkover gamma radiation measurements and sampling and analysis of soils from the remediated area. The post-remedial action sampling at NBS covered three distinct areas: the excavation area, the western two-thirds of the site that had been previously remediated, and the clean effluent of the segmented gate system (soil processor). DOE analyzed all post-remedial action samples for uranium-238, radium-226, and thorium-232 and only 15% of samples for americium-241 and plutonium-239, since past remediation efforts already addressed these last two radionuclides. Chemical samples were analyzed for volatile organics, pesticides, herbicides, metals, inorganics, semivolatiles, and polychlorinated biphenyls. In addition to the post-remedial action surveys, extensive groundwater monitoring was conducted from 1992 through 1996.

For more detailed results of the post-remediation sampling, please see the [Site Certification Data Summary Worksheet](#) on pages 3-7. For a more detailed map of the site and sampling locations, see the [Site Overview Map](#) on page 8.

Because the remedial activities at the New Brunswick site took place before October 1997, residual contamination guidelines from DOE Order 5400.5, "Radiation Protection of the Public and the Environment" were met. Sites remediated after October 1997 must meet the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.), as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300).

Current Site Conditions

All post-remedial action surveys and sampling results from the excavation area and clean effluent from the segmented gate system indicated that levels of radioactivity in the remediated areas meet applicable DOE cleanup guidelines and proposed New Jersey S-1070 chemical standards. Groundwater monitoring indicated that the site groundwater does not

exceed DOE Derived Concentration Guidelines for radiological constituents. Neither federal nor state maximum contaminant levels nor New Jersey Class-IIA Groundwater Quality Standards were exceeded for water quality criteria, polychlorinated biphenyls, or total petroleum hydrocarbons in site groundwater. An independent radiological verification survey verified that the residual uranium contamination at the New Brunswick site is below DOE FUSRAP guidelines for unrestricted use.

Excavation is restricted in the northeast portion of the site where a layer of clean soil covers soils containing arsenic (noted as the institutional control area on the [Site Overview Map](#) on page 8). The owner inspects this restricted area every other year and submits a certification of protectiveness to the state of New Jersey.

DOE has been responsible for long-term stewardship of the New Brunswick site since 2001. The stewardship requirements and protocols are captured in the Long-Term Stewardship Plan for Completed FUSRAP Sites, which is available on the DOE Office of Legacy Management website (www.energy.gov/lm/new-brunswick-new-jersey-site).



ADDITIONAL INFORMATION

Documents related to FUSRAP activities at the New Brunswick, New Jersey, Site are available on the LM website at lmpublicsearch.lm.doe.gov/SitePages/default.aspx?sitename=New_Brunswick.

For other information on site history or current long-term stewardship activities, please contact us at:

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New Brunswick, New Jersey, Site Certification Data Summary Worksheet

Five tables in the New Brunswick Certification Docket provide the evidence used to certify the site as clean.

When the tables refer to the "Post-Remedial Action Report," that is the "Post-Remedial Action Report for the New Brunswick Site, New Brunswick, New Jersey" (dated July 1997).

NBS - Post-Remedial Action Gamma Walkover Scan and External Gamma Exposure Rate Data Ranges

Table 4-1 in Post-Remedial Action Report

Walkover cpm X 1000					Exposure Rate (µR/h)					Walkover cpm X 1000					Exposure Rate (µR/h)					Walkover cpm X 1000					Exposure Rate (µR/h)				
Grid	Low	High	Low	High	Grid	Low	High	Low	High	Grid	Low	High	Low	High	Grid	Low	High	Low	High	Grid	Low	High	Low	High	Grid	Low	High	Low	High
S-1	8	13	10.0	11.3	S-32	6	16	11.6	13.7	S-63	12	19	12.7	14.7	S-94	9	16	11.0	12.8										
S-2	8	14	9.8	12.8	S-33	6	14	9.3	11.3	S-64	11	19	11.8	14.0	S-95	11	18	10.2	12.2										
S-3	10	15	10.3	12.2	S-34	7	15	9.8	11.8	S-65	7	17	9.2	10.8	S-96	11	16	11.0	12.3										
S-4	10	15	10.5	12.6	S-35	11	17	10.2	12.2	S-66	9	17	10.0	12.2	S-97	12	20	10.2	12.5										
S-5	11	18	12.8	14.7	S-36	10	21	12.1	14.8	S-67	10	16	11.1	13.1	S-98	12	19	9.6	11.8										
S-6	11	16	11.1	13.1	S-37	12	20	13.1	14.8	S-68	10	18	10.7	12.8	S-99	12	19	10.2	12.5										
S-7	10	17	8.3	11.8	S-38	12	21	13.6	15.0	S-69	10	17	10.8	13.0	S-100	8	20	8.8	11.1										
S-8	10	17	10.6	12.3	S-39	6	20	10.6	12.1	S-70	10	17	11.7	13.7	S-101	9	17	9.4	11.2										
S-9	12	18	11.0	13.7	S-40	5	9	9.1	10.7	S-71	8	18	12.3	14.5	S-102	8	12	10.2	12.2										
S-10	12	20	11.6	14.3	S-41	6	10	8.2	9.7	S-72	7	17	12.2	14.6	S-103	8	13	10.7	12.5										
S-11	11	20	12.1	14.1	S-42	5	14	9.4	11.5	S-73	7	17	8.5	10.0	S-104	7	13	10.5	12.6										
S-12	11	15	11.0	13.2	S-43	8	19	9.4	10.8	S-74	9	17	9.7	12.2	S-105	6	14	10.7	12.6										
S-13	9	19	9.2	11.5	S-44	11	20	11.1	14.6	S-75	10	16	11.3	13.3	B-1	7	32	9.3	11.2										
S-14	9	18	9.2	11.5	S-45	12	20	11.7	14.7	S-76	9	17	10.8	12.6	B-2	11	12	9.7	11.2										
S-15	8	19	10.0	11.8	S-46	11	19	12.0	13.8	S-77	8	16	11.2	13.0	B-3	12	13	11.0	13.3										
S-16	8	17	9.8	13.7	S-47	6	17	12.8	14.8	S-78	10	20	10.5	12.2	B-4	11	12	10.6	12.5										
S-17	9	18	10.0	13.1	S-48	6	20	11.5	14.5	S-79	6	15	10.2	12.8	B-5	11	13	10.0	12.5										
S-18	10	17	10.3	12.1	S-49	6	14	6.8	8.6	S-80	7	14	10.2	11.7	B-6	10	12	10.6	12.6										
S-19	10	17	9.3	11.3	S-50	7	13	8.6	10.7	S-81	6	13	7.1	9.4	B-7	11	13	10.7	12.7										
S-20	7	16	9.7	11.7	S-51	9	15	10.0	13.0	S-82	6	12	8.7	10.7	B-8	11	12	9.3	10.7										
S-21	11	18	9.7	11.3	S-52	10	18	12.5	14.2	S-83	9	16	10.6	12.5	B-9	6	7	6.6	8.0										
S-22	10	19	10.0	12.3	S-53	14	20	12.2	13.5	S-84	8	17	10.0	12.1	B-10	5	6	6.1	8.3										
S-23	10	17	11.8	14.2	S-54	12	20	12.3	13.7	S-85	9	17	10.0	11.8	R-1	10	12	6.6	11.6										
S-24	10	17	11.8	14.5	S-55	11	18	11.3	14.1	S-86	10	15	10.3	12.2	R-2	9	12	8.8	10.6										
S-25	8	13	10.5	12.6	S-56	11	19	10.8	12.7	S-87	10	14	10.2	12.6	R-3	10	11	9.2	11.1										
S-26	8	11	9.3	11.3	S-57	7	18	11.3	13.6	S-88	11	16	10.0	12.8	R-4	10	11	10.2	13.0										
S-27	6	15	10.2	12.2	S-58	8	15	9.1	11.7	S-89	9	15	9.8	12.1	R-5	11	12	11.1	12.8										
S-28	13	17	9.7	12.2	S-59	10	18	11.2	13.1	S-90	9	15	10.5	13.1															
S-29	13	20	12.5	14.6	S-60	11	18	12.5	15.0	S-91	7	13	10.5	12.6															
S-30	11	20	13.5	14.8	S-61	10	19	13.2	15.1	S-92	7	15	9.4	11.7															
S-31	10	20	12.3	14.7	S-62	13	19	12.6	14.2	S-93	8	15	10.0	11.7															

NOTE: cpm equals counts per minute. Average background values from three off-site locations were 10,800 cpm for gamma scanning and 10.4 µR/h for external gamma exposure. All measurements shown include background.

New Brunswick, New Jersey, Site Certification Data Summary Worksheet

NBS Post-Remedial Action - Radiological Sample Results^a

Table 4-2 in Post-Remedial Action Report

Sample ID	Sample Type	Date ^a Sampled	Activity (pCi/g)					Sum of Ratios
			Re-226	Th-232	U-238 ^c	Pu-239	Am-241	
Area Previously Remediated by ANL								
144-RS-019	Grid B-1	April 1996	3.10	1.10	1.38			0.312
144-RS-020	Grid B-1 HS*	April	24.5	1.10	2.68			4.618
144-RS-023	Grid B-2	April	1.20	1.00	1.14			-0.093
144-RS-015	Grid B-3	April	1.10	1.40	1.48			-0.026
144-RS-016	Grid B-4	April	1.20	1.50	1.29			0.010
144-RS-049	Grid B-5	April	1.30	1.60	1.32	<0.11	<0.41	0.051
144-RS-017	Grid B-6	April	1.10	1.20	1.33			-0.069
144-RS-024	Grid B-7	April	0.73	1.40	0.97	0.11	<0.23	-0.110
144-RS-025	Grid B-8	April	0.71	1.20	1.01			-0.153
144-RS-068	Grid B-9	April	0.73	1.10	1.07	<0.10	<0.18	-0.168
144-RS-059	Grid B-10	April	0.67	0.81	0.64			-0.247
144-RS-018	Grid R-1	April	0.99	1.50	1.15	<0.12	<0.26	-0.034
144-RS-026	Grid R-2	April	1.50	1.20	1.85			0.022
144-RS-022	Grid R-3	April	1.00	1.20	1.30	<0.09	<0.24	-0.089
144-RS-021	Grid R-4	April	1.00	1.50	1.12			-0.033
144-RS-048	Grid R-5	April	0.82	1.40	1.01			-0.091
Excavation Area								
144-RS-027	Grid S-1	April	1.10	1.20	1.00			-0.075
144-RS-028	Grid S-2	April	0.78	1.10	0.93			-0.161
144-RS-038	Grid S-3	April	0.83	1.20	0.96			-0.130
144-RS-029	Grid S-4	April	1.10	1.60	0.93			0.003
144-RS-057	Grid S-5	April	1.00	1.50	1.07			-0.034
144-RS-030	Grid S-6	April	1.20	1.70	1.42			0.053
144-RS-034	Grid S-7	April	1.10	1.20	0.99			-0.076
144-RS-033	Grid S-8	April	1.30	1.40	0.96			0.004
144-RS-044	Grid S-9	April	1.20	1.10	1.09			-0.074
144-RS-056	Grid S-10	April	1.30	1.10	1.36			-0.048
144-RS-032	Grid S-11	April	1.20	1.20	1.03			-0.055
144-RS-031	Grid S-12	April	1.30	1.40	2.44	0.06	<0.54	0.033
144-RS-055	Grid S-13	07/15/96	1.02	1.39	<5.66			0.040
144-RS-056	Grid S-14	07/15/96	0.85	1.62	<5.97			0.058
144-RS-058	Grid S-15	April	1.30	1.70	1.06	<0.12	<0.47	0.066
144-RS-035	Grid S-16	April	1.20	1.60	1.08			0.026
144-RS-036	Grid S-17	April	1.40	1.30	1.15			0.008
144-RS-039	Grid S-18	April	0.97	1.40	0.92			-0.063
144-RS-041	Grid S-19	April	0.96	1.00	0.95			-0.144
144-RS-285	Grid S-20	07/15/96	0.89	1.48	<4.42			0.007
144-RS-280	Grid S-21	09/27/96	0.75	1.34	<4.34			-0.051
144-RS-282	Grid S-22	09/27/96	0.84	1.56	<4.16			0.008
144-RS-185	Grid S-23	08/01/96	1.14	1.43	<3.86			0.036
144-RS-174	Grid S-24	08/01/96	1.11	1.59	3.51			0.055
144-RS-155	Grid S-25	07/30/96	0.81	1.37	<6.89			0.018
144-RS-175	Grid S-26	08/01/96	0.78	1.02	<4.21			-0.111
144-RS-045	Grid S-26	April	0.87	1.10	0.85			-0.144
144-RS-303	Grid S-27	11/02/96	0.66	1.32	<3.76			-0.084
144-RS-069	Grid S-27	April	0.87	1.20	1.19	0.10	<0.33	-0.118
144-RS-281	Grid S-28	09/27/96	0.94	1.49	<3.83			0.007
144-RS-279	Grid S-29	09/27/96	1.28	1.32	<4.60			0.057
144-RS-158	Grid S-30	07/30/96	1.83	1.34	1.21			0.321
144-RS-178	Grid S-31	08/01/96	1.09	0.77	<3.58			-0.112
144-RS-177	Grid S-32	08/01/96	0.83	1.74	<2.47			0.008
144-RS-176	Grid S-33	08/01/96	0.72	0.97	<4.41			-0.129
144-RS-304	Grid S-34	11/02/96	0.73	1.08	<3.42			-0.125
144-RS-070	Grid S-34	April	0.79	1.00	1.08	<0.10	0.24	-0.076
144-RS-307	Grid S-35	11/02/96	1.02	1.20	<3.61			-0.039
144-RS-278	Grid S-36	09/24/96	1.20	1.43	3.62			0.043
144-RS-182	Grid S-37	08/01/96	1.27	1.42	<3.81			0.059
144-RS-228	Grid S-38	08/08/96	1.18	1.35	<22.03			0.391
144-RS-180	Grid S-39	08/01/96	<0.20	0.54	<2.87			-0.350
144-RS-156	Grid S-40	07/30/96	0.37	0.50	<2.73			-0.327
144-RS-179	Grid S-41	08/01/96	0.66	1.17	<3.75			-0.114
144-RS-305	Grid S-42	11/02/96	0.57	0.78	<2.80			-0.229
144-RS-072	Grid S-42	April	0.66	0.90	1.08	0.08	<0.33	-0.222
144-RS-306	Grid S-43	11/02/96	1.34	1.22	<3.97			0.036
144-RS-308	Grid S-44	11/02/96	1.28	1.31	<3.89			0.040
144-RS-277	Grid S-45	09/24/96	1.11	1.38	<3.87			0.020
144-RS-183	Grid S-46	08/01/96	0.98	1.69	<2.83			0.035
144-RS-229	Grid S-46	08/08/96	0.90	1.61	3.31			0.013
144-RS-184	Grid S-47	08/01/96	0.87	1.37	<3.36			-0.040
144-RS-186	Grid S-48	08/01/96	0.62	1.44	<2.99			-0.084
144-RS-157	Grid S-49	07/30/96	0.69	0.63	4.41			-0.203
144-RS-310	GridS-50	11/05/96	0.74	1.01	<3.17			-0.142
144-RS-071	GridS-50	April	0.74	1.50	0.82	<0.12	0.28	-0.091
144-RS-309	GridS-51	11/05/96	0.88	1.24	<3.31			-0.065
144-RS-072	GridS-51	April	0.77	1.00	0.87	<0.12	<0.29	-0.184
144-RS-316	GridS-52	11/16/96	0.99	1.44	<3.73			-0.005
144-RS-073	GridS-52	April	0.59	0.92	0.84	0.42	<0.17	-0.237
144-RS-275	GridS-53	09/24/96	0.85	1.58	<3.71			0.005
144-RS-276	GridS-54	09/24/96	0.90	1.66	<3.50			0.027
144-RS-160	GridS-55	07/30/96	1.03	1.52	<3.52			0.025
144-RS-187	GridS-56	08/01/96	0.83	1.74	<3.47			0.028
144-RS-159	GridS-57	07/30/96	2.01	1.62	<3.92			0.249

Sample ID	Sample Type	Date ^b Sampled	Activity (pCi/g)					Sum of Ratios
			Ra-226	Th-232	U-238 ^c	Pu-239	Am-241	
Excavation Area - continued								
144-96-342	GridS-57	11/16/96	0.77	1.55	< 4.21			-0.007
144-96-311	GridS-58	11/05/96	0.82	1.33	< 3.72			-0.051
144-RS-075	GridS-58	April	0.87	1.50	1.68			-0.048
144-96-324	GridS-59	11/16/96	1.07	1.15	< 3.95			0.048
144-RS-074	GridS-59	April	0.75	1.10	0.89	< 0.17	< 0.22	-0.168
144-96-317	Grid S-60	11/16/96	0.94	1.19	< 3.63			-0.057
144-96-325	Grid S-61	11/16/96	1.15	1.28	< 3.93			0.009
144-RS-054	Grid S-61	April	1.20	1.40	1.08			-0.014
144-96-274	Grid S-62	09/24/96	1.08	1.38	< 3.41			0.005
144-96-188	Grid S-63	08/01/96	0.90	1.38	< 3.45			-0.030
144-96-161	Grid S-64	07/30/96	0.97	1.48	< 3.79			0.010
144-96-341	Grid S-65	11/16/96	1.09	1.46	< 3.55			0.026
144-96-312	Grid S-66	11/05/96	0.88	0.96	< 3.22			-0.123
144-RS-051	Grid S-66	April	0.60	0.97	0.92	0.71	< 0.23	-0.223
144-96-323	Grid S-67	11/16/96	0.91	1.29	< 3.76			-0.040
144-RS-060	Grid S-67	April	0.85	1.20	1.07	2.80	0.63	-0.124
144-96-318	Grid S-68	11/16/96	1.31	1.31	< 3.82			0.045
144-RS-066	Grid S-68	April	1.00	1.40	1.18			-0.052
144-96-326	Grid S-69	11/16/96	0.96	1.19	< 3.85			-0.048
144-RS-064	Grid S-69	April	1.00	1.40	1.07			-0.054
144-96-331	Grid S-70	11/16/96	1.08	1.33	3.11			-0.011
144-RS-055	Grid S-70	April	3.80	1.30	2.09			0.506
144-96-332	Grid S-71	11/16/96	1.00	1.48	< 3.68			-0.014
144-RS-067	Grid S-71	April	4.60	1.70	1.29			0.730
144-96-337	Grid S-72	11/16/96	0.76	1.27	< 3.24			-0.085
144-96-340	Grid S-73	11/16/96	0.60	0.86	< 3.17			-0.200
144-96-313	Grid S-74	11/05/96	0.88	1.16	< 3.93			-0.069
144-RS-037	Grid S-74	April	0.96	1.10	0.99	1.28	0.45	-0.124
144-96-322	Grid S-75	11/16/96	0.92	1.37	< 3.97			-0.018
144-RS-061	Grid S-75	April	0.77	1.10	0.99	0.27	< 0.25	-0.162
144-96-319	Grid S-76	11/16/96	1.12	1.16	< 4.16			-0.016
144-RS-071	Grid S-76	April	1.00	1.30	1.17			-0.072
144-96-327	Grid S-77	11/16/96	0.83	1.38	< 3.75			-0.038
144-RS-070	Grid S-77	April	0.87	1.20	0.95			-0.122
144-96-330	Grid S-78	11/16/96	1.53	1.36	< 4.29			0.108
144-RS-069	Grid S-78	April	0.85	1.40	1.09			-0.084
144-96-333	Grid S-79	11/16/96	1.53	1.14	< 4.07			0.060
144-RS-065	Grid S-79	April	0.74	1.30	0.94			-0.129
144-96-336	Grid S-80	11/16/96	0.70	< 0.81	< 3.44			-0.185
144-RS-052	Grid S-80	April	0.79	1.20	0.88			-0.140
144-96-338	Grid S-81	11/16/96	0.79	< 1.07	< 3.98			-0.104
144-RS-043	Grid S-81	April	1.00	1.60	0.89			-0.018
144-96-339	Grid S-82	11/16/96	0.49	0.60	< 2.63			-0.285
144-RS-046	Grid S-82	April	0.77	1.20	0.91			-0.143
144-96-314	Grid S-83	11/05/96	1.37	1.33	< 4.03			0.065
144-RS-042	Grid S-83	April	0.70	1.30	0.79	0.13	0.38	-0.140
144-96-321	Grid S-84	11/16/96	0.94	1.36	< 4.37			-0.008
144-RS-068	Grid S-84	April	0.87	1.40	0.96			-0.082
144-96-320	Grid S-85	11/16/96	0.81	< 0.41	< 4.24			-0.227
144-RS-053	Grid S-85	April	0.74	1.10	0.90			0.072
144-96-328	Grid S-86	11/16/96	0.75	1.26	< 4.34			-0.067
144-RS-063	Grid S-86	April	0.98	1.40	1.10			-0.057
144-96-329	Grid S-87	11/16/96	0.70	1.60	< 4.08			0.166
144-RS-062	Grid S-87	April	0.84	1.20	1.00			-0.127
144-RS-047	Grid S-88	April	0.61	1.00	0.86			-0.216
144-96-335	Grid S-88	11/16/96	1.43	1.46	< 2.47			0.072
144-96-284	Grid S-89	11/02/96	0.66	1.03	< 3.06			-0.154
144-96-302	Grid S-90	11/02/96	0.95	1.19	< 3.42			-0.059
144-96-301	Grid S-91	11/02/96	0.56	0.78	< 3.01			-0.227
144-96-300	Grid S-92	11/02/96	0.73	0.81	< 3.05			-0.168
144-96-299	Grid S-93	11/02/96	0.62	0.75	< 3.02			-0.221
144-96-297	Grid S-94	11/02/96	0.88	1.12	< 3.62			-0.083
144-96-296	Grid S-95	11/02/96	1.17	1.33	< 4.41			0.033
144-96-295	Grid S-96	11/02/96	1.00	1.22	< 4.07			-0.030
144-96-294	Grid S-97	11/02/96	1.94	1.23	< 4.57			0.070
144-96-293	Grid S-98	11/02/96	1.04	1.52	< 3.80			0.033
144-96-292	Grid S-99	11/02/96	0.92	1.54	< 3.92			0.015
144-96-291	Grid S-100	11/02/96	1.51	1.43	< 4.15			0.116
144-96-290	Grid S-101	11/02/96	1.35	1.07	< 3.55			-0.000
144-96-289	Grid S-102	11/02/96	0.84	1.05	< 3.25			-0.112
144-96-288	Grid S-103	11/02/96	0.60	0.72	< 2.72			-0.237
144-96-287	Grid S-104	11/02/96	0.73	1.04	< 3.29			-0.136
144-96-286	Grid S-105	11/02/96	0.83	0.91	< 3.26			-0.142
Area Previously Remediated by ANL			114	1.27	1.20	0.11	0.26	
Excavation Area			1.01	1.26	3.00	0.46	0.34	
Site Average			1.02	1.26	2.83	0.37	0.32	
Background								
144-96-031	BG 3	07/02/96	1.73	1.65	0.5			
144-96-032	BG 2	07/02/96	0.83	1.05	1.35			
144-96-033	BG 1	07/02/96	1.08	1.62	1.97			
Average Background			1.21	1.44	1.27			

New Brunswick, New Jersey, Site Certification Data Summary Worksheet

NBS Post RA - Radiological Sample Results* SGS Clean Effluent					
Table 4-3 in Post-Remedial Action Report					
Sample ID	Date Sampled	Activity (pCi/g)			Sum of Ratios
		Radium-226	Thorium-232	Uranium-238	
144-96-109	07/25/96	1.33	174	<4.49	0.09
144-96-113	07/25/96	1.56	1.39	<4.51	0.08
144-96-115	07/25/96	3.74	1.20	7.73	0.28
144-96-116	07/25/96	1.55	1.51	<4.78	0.10
144-96-117	07/25/96	1.46	1.66	<4.40	0.09
144-96-118	07/25/96	1.38	1.56	<4.59	0.09
144-96-119	07/25/96	1.17	1.27	<4.46	0.05
144-96-121	07/27/96	1.25	1.26	<4.94	0.06
144-96-123	07/27/96	1.37	1.63	<4.40	0.09
144-96-126	07/27/96	1.40	1.54	<4.64	0.09
144-96-127	07/27/96	1.20	1.44	<3.84	0.05
144-96-128	07/25/96	1.08	1.67	<4.46	0.07
144-96-129	07/27/96	1.41	1.67	<3.82	0.08
144-96-130	07/27/96	1.43	1.56	<4.78	0.09
144-96-131	07/27/96	1.51	1.17	<4.63	0.07
144-96-132	07/27/96	1.61	1.55	<3.62	0.08
144-96-133	07/27/96	1.17	1.54	<4.67	0.07
144-96-134	07/29/96	1.59	2.22	<5.08	0.15
144-96-137	07/29/96	1.23	1.99	<4.09	0.09
144-96-138	07/29/96	3.29	1.42	5.13	0.21
144-96-140	07/29/96	2.45	1.53	4.59	0.16
144-96-141	07/29/96	1.13	1.50	<4.56	0.06
144-96-143	07/29/96	1.89	1.75	<4.89	0.14
144-96-144	07/29/96	1.43	1.50	<4.27	0.08
144-96-145	07/29/96	1.68	1.82	<4.49	0.12
144-96-165	07/29/96	1.38	1.86	<2.21	0.06
144-96-166	07/30/96	2.15	1.65	3.99	0.13
144-96-167	07/30/96	1.84	1.47	<4.40	0.11
144-96-168	08/01/96	1.89	1.28	3.88	0.09
144-96-171	08/01/96	9.81	1.84	8.06	0.74
144-96-192	08/02/96	3.10	1.54	6.36	0.23
144-96-193	08/02/96	5.64	1.93	4.98	0.40
144-96-196	08/02/96	2.62	1.98	5.49	0.21
144-96-199	08/05/96	2.75	1.19	<5.37	0.17
144-96-201	08/02/96	1.98	1.95	<5.00	0.16
144-96-202	08/02/96	2.12	2.03	<5.19	0.18
144-96-203	08/02/96	2.33	1.30	4.59	0.13
144-96-204	08/02/96	2.71	1.65	5.23	0.19
144-96-205	08/03/96	1.99	1.16	<5.01	0.11
144-96-206	08/05/96	1.51	1.53	<3.18	0.06
144-96-207	08/05/96	3.05	1.40	<5.15	0.20
144-96-208	08/05/96	3.45	1.59	6.27	0.26
144-96-209	08/05/96	16.56	1.65	<8.44	1.18b
144-96-210	08/05/96	3.22	1.86	<5.75	0.25
144-96-211	08/06/96	3.30	1.23	5.98	0.22
144-96-212	08/06/96	3.96	1.55	6.91	0.30
144-96-213	08/06/96	1.61	1.76	3.13	0.09
144-96-214	08/06/96	1.98	1.50	<4.67	0.12
144-96-215	08/06/96	2.15	1.58	<4.81	0.14
144-96-216	08/07/96	2.70	1.47	<5.56	0.19
144-96-218	08/07/96	2.49	1.42	<5.54	0.17
144-96-222	08/07/96	3.91	1.39	6.41	0.28
144-96-223	08/07/96	3.20	1.71	5.68	0.24
144-96-224	08/07/96	5.05	1.56	<5.74	0.35
144-96-225	08/07/96	3.47	1.75	<5.85	0.26
144-96-226	08/07/96	2.96	1.42	< 5.24	0.19
144-96-227	08/07/96	3.45	1.14	10.8	0.32
144-96-230	08/10/96	3.46	1.22	9.30	0.30
144-96-231	08/10/96	4.28	1.60	8.46	0.26
144-96-232	08/12/96	12.7	1.17	10.8	0.94
144-96-233	08/09/96	14.03	1.15	10.6	1.02b
144-96-234	08/09/96	3.46	1.44	10.0	0.32
144-96-235	08/09/96	9.12	1.23	12.0	0.73
144-96-236	08/12/96	4.95	1.35	<3.69	0.39
144-96-237	08/12/96	3.56	1.21	7.57	0.27
144-96-238	08/12/96	2.97	1.41	6.82	0.23
144-96-239	08/14/96	2.96	1.45	<3.30	0.16
144-96-240	08/14/96	2.19	1.22	5.09	0.13
144-96-241	08/15/96	2.49	1.67	4.90	0.17
144-96-242	08/15/96	2.36	1.00	<4.80	0.12
144-96-243	08/15/96	4.14	1.43	9.88	0.37
144-96-244	08/15/96	3.60	1.30	7.56	0.28
144-96-245	08/15/96	1.89	1.30	<4.57	0.10
144-96-246	08/16/96	2.31	1.65	<5.49	0.17
144-96-247	08/16/96	9.01	1.42	13.51	0.76
144-96-248	08/16/96	2.32	1.67	3.99	0.14
144-96-249	08/16/96	2.12	1.75	<4.78	0.15
144-96-250	08/16/96	2.17	1.26	3.76	0.10
144-96-251	08/17/96	5.45	1.77	<6.74	0.41
144-96-252	08/17/96	2.30	1.34	<4.86	0.14
144-96-253	08/17/96	2.06	1.49	<4.79	0.13
144-96-254	08/17/96	2.45	1.76	<4.76	0.17
144-96-255	08/17/96	5.36	1.84	12.9	0.54
144-96-256	08/17/96	1.90	1.52	<4.82	0.12
144-96-257	08/19/96	4.50	1.05	<6.40	0.30
144-96-258	08/19/96	4.87	1.33	12.3	0.46
144-96-259	08/19/96	4.92	1.26	11.5	0.44
144-96-260	08/19/96	4.79	1.07	7.98	0.35
144-96-263	08/27/96	2.88	1.40	<5.07	0.18
144-96-264	08/28/96	1.79	1.56	<4.58	0.11
144-96-265	08/28/96	1.37	1.67	3.84	0.08
144-96-266	08/28/96	2.10	1.76	2.90	0.11
144-96-267	08/29/96	1.72	1.89	<5.09	0.14
144-96-268	08/29/96	1.08	1.49	<4.23	0.05
144-96-269	08/29/96	1.58	1.99	<4.77	0.13
144-96-270	08/29/96	1.14	1.59	<4.21	0.06
144-96-271	08/29/96	1.78	1.24	<4.54	0.09
144-96-272	08/29/96	1.40	1.75	<4.17	0.09
*Average background for listed analytes from three off-site locations is 1.21 pCi/g for radium-226, 1.44 pCi/g for thorium-232, and 1.27 pCi/g for uranium-238. It should be noted that all results contain these background values. "Less than" values are below the minimum detectable activity (MDA) for the sample, and the sample result has been set equal to the MDA.					
*Standards for radiological anomalies are applicable.					

New Brunswick, New Jersey, Site Certification Data Summary Worksheet

NBS - SGS (Segmented Gate System) Summary of Data													
Table 4-4 in Post-Remedial Action Report													
Date	Total Mass Processed (g x 106)	Detector 1 – Radium-226						Detector 1 – Uranium-238					
		Total Activity (pCi x 106)	Activity (pCi/g)				Percent Reduction by Mass	Total Activity (pCi x 106)	Activity (pCi/g)				Percent Reduction by Mass
			Contaminated Soil		Clean Soil				Contaminated Soil		Clean Soil		
			Average	Maximum	Average	Maximum			Average	Maximum	Average	Maximum	
06/17/96	12.03	499.27	45.13	129.65	0.23	4.46	8.80	574.44	51.84	107.28	1.25	6.58	8.80
06/18/96	76.99	212.96	28.80	73.00	-0.94	4.53	2.20	2,507.10	33.77	223.61	-0.21	6.09	2.20
06/20/96	30.68	25716	17.28	263.65	0.44	4.68	14.98	321.62	12.65	42.54	0.07	8.79	14.98
06/21/96	95.77	1,251.59	14.88	194.47	3.39	4.68	12.79	1,466.79	16.99	102.58	4.94	8.97	12.79
06/22/96	104.62	2,024.83	19.40	154.35	4.56	4.67	0.31	2,519.08	24.12	118.62	6.82	7.10	0.31
06/24/96	42.40	583.41	14.64	36.45	4.11	4.66	7.87	750.27	18.70	63.38	6.09	18.25	7.87
06/25/96	28.43	381.62	13.55	82.57	2.32	4.67	1.22	560.37	19.85	71.34	7.4	12.52	1.22
06/26/96	105.25	2,721.05	25.85	52.56	0.00	0.00	0.00	3,625.88	34.45	64.03	0.00	0.00	0.00
06/27/96	132.06	1,459.86	18.71	210.00	2.60	4.68	40.99	2,049.59	23.61	163.61	4.63	9.80	40.99
06/28/96	87.29	643.84	24.00	186.31	2.80	4.68	68.73	963.48	27.36	118.98	5.38	12.41	68.73
06/29/96	115.85	1,228.28	19.77	222.14	3.06	4.68	45.43	1,816.96	25.04	111.15	6.35	13.67	45.43
07/01/96	32.30	583.68	18.89	43.04	-2.24	1.08	3.86	844.44	2715	44.47	1.19	20.18	3.86
07/02/96	13.97	318.55	23.86	96.30	-2.90	-2.72	1.71	458.88	36.57	411.09	-2.34	-1.50	1.71
07/08/96	50.50	1,246.31	24.93	58.84	3.93	4.67	1.31	1,755.32	35.36	117.54	7.40	9.14	1.31
07/09/96	77.56	254.46	21.61	218.77	0.69	4.68	84.02	423.08	25.42	67.21	1.88	19.87	84.02
07/10/96	108.11	2,449.26	25.07	68.86	4.67	3.19	10.86	3,353.57	33.95	62.82	5.75	9.96	10.86
07/17/96	134.18	300.52	56.60	279.03	1.78	4.66	96.62	ND	ND	ND	ND	ND	ND
07/18/96	3.87	8.13	63.89	63.89	2.08	4.43	99.96	21.06	52.38	52.38	5.43	18.73	99.96
07/22/96	0.27	-0.00	0.00	0.00	-0.02	0.03	100.00	-0.02	0.00	0.00	-0.09	-0.08	100.00
07/23/96	3.24	24.26	88.35	201.19	-2.70	0.73	92.18	7.88	51.74	178.43	-2.83	1.31	90.68
07/24/96	30.76	127.44	17.09	284.59	2.06	4.58	80.66	170.89	17.04	183.28	3.67	7.83	80.49
07/25/96	147.77	163.28	22.13	88.38	0.95	4.58	98.56	183.23	22.60	321.96	1.05	7.26	98.51
07/27/96	162.24	188.89	25.31	84.75	1.05	4.54	99.55	220.50	24.72	327.66	1.23	6.05	99.48
07/29/96	126.28	127.87	29.59	116.68	0.90	3.37	99.72	193.08	29.54	325.81	1.40	5.53	99.65
07/30/96	79.63	97.30	26.07	72.76	1.05	3.93	99.50	162.52	25.15	139.17	1.87	4.45	99.41
08/01/96	92.20	195.09	24.51	72.03	1.86	4.55	99.10	257.22	22.62	151.66	2.51	6.29	98.92
08/02/96	141.01	248.71	25.63	197.57	1.55	4.55	99.12	304.65	22.37	260.07	1.96	6.55	99.01
08/03/96	30.01	61.50	25.55	99.92	1.80	4.10	99.36	84.10	28.62	272.78	2.41	4.51	99.07
08/05/96	130.60	506.76	23.55	355.14	3.09	4.57	96.74	625.77	21.95	228.95	4.14	7.06	96.56
08/06/96	127.35	363.31	21.32	192.64	2.44	4.57	96.81	440.26	18.70	195.52	3.12	7.47	96.73
08/08/96	169.53	584.18	22.13	199.60	3.08	4.58	98.46	835.10	21.34	220.55	4.58	6.55	98.32
08/09/96	113.29	405.06	21.29	113.52	3.22	4.57	98.32	617.73	21.39	152.11	5.10	7.85	98.17
08/10/96	136.02	526.21	20.58	162.82	3.29	4.58	95.72	748.48	20.05	315.30	5.01	7.29	95.72
08/12/96	114.64	438.29	21.61	129.36	3.39	4.58	98.06	675.58	22.85	292.80	5.48	7.21	97.91
08/14/96	71.93	201.68	27.36	164.85	2.34	4.48	98.83	277.97	24.27	70.30	3.50	6.22	98.69
08/15/96	171.56	505.16	24.94	196.00	2.53	4.58	98.59	661.24	23.05	331.84	3.52	6.55	98.49
08/16/96	113.16	177.29	25.76	134.96	1.36	3.85	99.43	262.47	27.60	549.38	2.09	5.31	99.34
08/16/96M	10.82	36.94	20.16	63.03	3.23	4.56	99.36	74.91	22.20	50.67	6.72	9.87	99.09
08/17/96M	118.43	332.94	28.23	561.41	2.34	4.55	98.99	456.25	24.00	208.00	3.53	7.50	98.92
08/19/96	66.52	2,439.79	36.85	74.46	3.73	4.49	1.14	2,672.75	40.41	63.32	5.34	6.28	1.12
08/19/96M	87.07	257.42	26.27	159.45	2.72	4.60	99.41	454.30	23.47	138.77	5.06	8.00	99.33
08/20/96	164.27	5,942.80	36.23	70.59	-0.45	1.06	0.12	6,924.77	42.22	78.45	0.44	2.00	0.11
08/21/96	151.69	2,864.56	19.05	71.63	4.23	4.58	1.43	3,584.39	23.81	67.71	8.11	9.18	1.40
08/22/96	186.58	5,450.97	29.22	97.39	0.00	0.00	0.00	6,649.59	35.64	65.69	0.00	0.00	0.00
08/23/96	181.71	5,739.46	31.62	154.91	-1.86	-0.80	0.13	7,130.51	39.39	194.08	-1.66	-0.32	0.13
08/24/96	175.76	5,319.87	30.27	152.25	0.00	0.00	0.00	6,563.31	37.34	104.14	0.00	0.00	0.00
08/26/96	159.40	4,804.40	30.14	110.32	0.00	0.00	0.00	5,867.94	36.81	86.73	0.00	0.00	0.00
08/27/96	153.18	3,105.11	27.87	168.28	3.16	4.56	32.94	3,946.17	34.17	318.95	4.49	7.34	32.91
08/28/96	82.20	218.65	23.99	187.28	2.24	4.58	97.36	285.51	24.60	339.58	3.54	8.94	97.27
08/29/96	187.52	201.21	31.40	178.75	0.93	3.59	99.73	337.52	31.30	455.08	1.69	5.57	99.71
NBS Data	4,722.19	57,453.91	25.08	355.14	2.06	4.68	56.09	74,703.02	32.39	549.38	3.15	20.18	54.97
MSP Data	216.32	627.29	47.08	561.41	2.53	4.60	99.18	985.47	32.47	208.00	4.30	9.87	99.09
All Data	4,938.50	58,081.21	25.10	561.41	2.09	4.68	57.97	75,688.49	32.39	549.38	3.24	20.18	56.96

Note: All data is minus background and is derived from raw data packages provided by ThermoNuClean, Inc. Negative data indicate less than background levels of radioactivity. An M denotes that the data are from the processing of the MSP soils. Numbers in bold indicate soil used for backfill during site restoration.* All contaminated soil was shipped for off-site disposal.

*Bolded data were not clearly presented in the certification docket, and therefore are not bolded in this table.

New Brunswick, New Jersey, Site Certification Data Summary Worksheet

New Brunswick PRAR Chemical Results - Comparison to Proposed NJ S-1070 Standards

Table 4-5 in Post-Remedial Action Report

Analyte	Proposed S-10/70 Regs		Initial Chemical Sampling ^a			Sample Mean	Second Round Chemical Sampling ^a			Upper One-Sided ^c Confidence Limit
	Resid.	Non-Res.	Resid.	Non-Res.	Cv ^d		Resid.	Non-Res.	Cv ^d	
Volatiles (mg/kg)										
Chloromethane	520,000	1,000,000	Pass	Pass	1.64	388				> 99.90%
Bromomethane	79,000	1,000,000	Pass	Pass	1.64	388				> 99.90%
Vinyl Chloride	2,000	7,000	Pass	Pass	1.64	388				> 99.90%
Methylene chloride	49,000	210,000	Pass	Pass	1.57	116				> 99.90%
Acetone	1,000,000	1,000,000	Pass	Pass	1.61	394				> 99.90%
1,1-Dichloroethene	8,000	150,000	Pass	Pass	1.64	195				> 99.90%
1,1-Dichloroethane	570,000	1,000,000	Pass	Pass	1.64	195				> 99.90%
1,2-Dichloroethene (total)	79,000	1,000,000	Pass	Pass	1.64	195				> 99.90%
Chloroform	19,000	28,000	Pass	Pass	1.64	195				> 99.90%
1,2-Dichloroethane	6,000	24,000	Pass	Pass	1.64	195				> 99.90%
2-Butanone (MEK)	1,000,000	1,000,000	Pass	Pass	1.60	195				> 99.90%
1,1,1-Trichloroethane	210,000	1,000,000	Pass	Pass	1.64	395				> 99.90%
Carbon tetrachloride	2,000	4,000	Pass	Pass	1.64	195				> 99.90%
Bromodichloromethane	11,000	46,000	Pass	Pass	1.64	195				> 99.90%
1,2-Dichloropropane	10,000	43,000	Pass	Pass	1.64	195				> 99.90%
cis-1,3-Dichloropropene	4,000	5,000	Pass	Pass	1.64	195				> 99.90%
Trichloroethene	23,000	54,000	Pass	Pass	1.64	195				> 99.90%
Dibromochloromethane	110,000	1,000,000	Pass	Pass	1.64	195				> 99.90%
1,1,2-Trichloroethane	22,000	420,000	Pass	Pass	1.64	195				> 99.90%
Benzene	3,000	13,000	Pass	Pass	1.64	195				> 99.90%
Trans-1,3-Dichloropropene	4,000	5,000	Pass	Pass	1.64	195				> 99.90%
Bromoform	86,000	370,000	Pass	Pass	1.64	195				> 99.90%
4-Methyl-2-pentanone	1,000,000	1,000,000	Pass	Pass	1.64	388				> 99.90%
Tetrachloroethene	4,000	6,000	Pass	Pass	1.64	195				> 99.90%
1,1,2,2-Tetrachloroethane	34,000	70,000	Pass	Pass	1.64	195				> 99.90%
Toluene	1,000,000	1,000,000	Pass	Pass	1.12	1198				> 99.90%
Chlorobenzene	37,000	680,000	Pass	Pass	1.64	195				> 99.90%
Ethylbenzene	1,000,000	1,000,000	Pass	Pass	1.64	195				> 99.90%
Styrene	23,000	97,000	Pass	Pass	1.64	195				> 99.90%
Xylene (total)	410,000	1,000,000	Pass	Pass	1.64	195				> 99.90%
Acrylonitrile	1,000	5,000	Pass	Pass	0.65	39				> 99.90%
Pesticides (mg/kg)										
Heptachlor	150	650	Pass	Pass	0.65	3.6				
Aldrin	40	170	Pass	Pass	0.65	3.6				
Endosulfan I	340,000	6,200,000	Pass	Pass	0.65	3.6				
Dieldrin	42	180	Pass	Pass	0.68	7.3				
4,4'-DDE	2,000	9,000	Pass	Pass	0.71	7.5				
Endrin	17,000	310,000	Pass	Pass	0.68	7.3				
4,4'-DDD	3,000	12,000	Pass	Pass	0.68	7.3				
4,4'-DDT	2,000	9,000	Pass	Pass	0.68	7.5				
Methoxychlor	280,000	5,200,000	Pass	Pass	0.65	36.2				
Toxaphene	100	200	Fail	Fail	0.94	139				
Toxaphene (Reject undetected values greater than twice the proposed standard)	100	200	Fail	Pass	0.40	75.5				
Total Metals (mg/kg)										
Silver, Total	110	4,100	Pass	Pass	0.54	1.4				
Arsenic, Total	20	20	Fail	Fail	0.95	17.4				
Arsenic, Total less background (14.0 mg/kg)	20	20	Pass	Pass	4.86	3.4				> 99.90%
Barium, Total	700	47,000	Pass	Pass	0.41	123.8				
Beryllium, Total	1	1				1.3	Fail	Fail	0.35	
Beryllium, Total less background (0.91 mg/kg)	1	1				0.35	Pass	Pass	1.27	> 99.90%
Cadmium, Total	1	100				0.86	Fail	Pass	0.89	
Cadmium, Total less background (0.60 mg/kg)	1	100				0.26	Pass	Pass	2.96	> 99.90%

Analyte	Proposed S-10/70 Regs		Initial Chemical Sampling ^a			Sample Mean	Second Round Chemical Sampling ^a			Upper One-Sided ^c Confidence Limit
	Resid.	Non-Res.	Resid.	Non-Res.	Cv ^d		Resid.	Non-Res.	Cv ^d	
Copper, Total	600	600	Pass	Pass	0.69	38.0				
Nickel, Total	250	2,400	Pass	Pass	0.48	25.2				
Lead, Total	400	600	Pass	Pass	0.87	126.4				
Antimony, Total	14	340	Pass	Pass	0.59	4.7				
Selenium, Total	63	3,300	Pass	Pass	1.73	1.6				> 99.90%
Thallium, Total	2	2	Fail	Fail	1.32	5.6				
Thallium, Total less background (9.1 mg/kg)	2	2	Pass	Pass	-2.15	-3.5				95.90%
Vanadium, Total	370	7,100	Pass	Pass	0.89	42.0				
Zinc, Total	1,500	1,500	Pass	Pass	0.62	89.0				
Semivolatiles (mg/kg)										
Phenol	1,000,000	1,000,000	Pass	Pass	0.38	348				
bis(2-Chloroethyl)ether	660	3,000	Fail	Pass	0.38	348				> 99.90%
2-Chlorophenol	280,000	5,200,000	Pass	Pass	0.38	348				
1,3-Dichlorobenzene	5,100,000	1,000,000	Pass	Pass	0.38	348				
1,4-Dichlorobenzene	570,000	1,000,000	Pass	Pass	0.38	348				
Benzyl alcohol	1,000,000	1,000,000	Pass	Pass	0.38	348				
1,2-Dichlorobenzene	5,100,000	1,000,000	Pass	Pass	0.38	348				
2-Methylphenol	2,800,000	1,000,000	Pass	Pass	0.38	348				
bis(2-Chloroisopropyl)ether	2,300,000	1,000,000	Pass	Pass	0.38	348				
4-Methylphenol	2,800,000	1,000,000	Pass	Pass	0.38	348				
N-Nitroso-Di-n-propylamine	660	660	Fail	Fail	0.38	348				> 99.90%
Hexachloroethane	6,000	100,000	Pass	Pass	0.38	348				
Nitrobenzene	28,000	520,000	Pass	Pass	0.38	348				
Isophorone	1,100,000	1,000,000	Pass	Pass	0.38	348				
2,4-Dimethylphenol	110,000	2,100,000	Pass	Pass	0.38	348				
2,4-Dichlorophenol	170,000	3,100,000	Pass	Pass	0.38	348				
1,2,4-Trichlorobenzene	68,000	1,200,000	Pass	Pass	0.38	348				
Naphthalene	230,000	4,200,000	Pass	Pass	0.40	344				
4-Chloroaniline	230,000	4,200,000	Pass	Pass	0.38	348				
Hexachlorobutadiene	1,000	21,000	Pass	Pass	0.38	348				
4-Chloro-3-methylphenol	1,000,000	1,000,000	Pass	Pass	0.38	348				
Hexachlorocyclopentadiene	400,000	7,300,000	Pass	Pass	0.38	348				
2,4,6-Trichlorophenol	62,000	270,000	Pass	Pass	0.38	348				
2,4,5-Trichlorophenol	5,600,000	1,000,000	Pass	Pass	0.38	1748				
Dimethylphthalate	1,000,000	1,000,000	Pass	Pass	0.38	348				
Acenaphthene	3,400,000	1,000,000	Pass	Pass	0.59	344				
2,4-Dinitrophenol	110,000	2,100,000	Pass	Pass	0.38	1748				
Diethylphthalate	1,000,000	1,000,000	Pass	Pass	0.38	348				
Fluorene	2,300,000	1,000,000	Pass	Pass	0.55	293				
N-Nitrosodiphenylamine (I)	140,000	600,000	Pass	Pass	0.38	348				
Hexachlorobenzene	660	2,000	Fail	Pass	0.38	348				> 99.90%
Pentachlorophenol	6,000	24,000	Pass	Pass	0.38	1748				
Anthracene	1,000,000	1,000,000	Pass	Pass	0.61	269				
Fluoranthene	2,300,000	1,000,000	Pass	Pass	1.04	447				> 99.90%
Pyrene	1,700,000	1,000,000	Pass	Pass	0.96	400				
Butylbenzylphthalate	1,100,000	1,000,000	Pass	Pass	0.41	344				
3,3-Dichlorobenzidine	2,000	6,000	Pass	Pass	0.38	695				
Chrysene	9,000	40,000	Pass	Pass	0.84	272				
bis (2-Ethylhexyl)phthalate	49,000	210,000	Pass	Pass	0.42	343				
Di-n-Octyl phthalate	1,100,000	1,000,000	Pass	Pass	0.38	348				
Benzo (b) fluoranthene	900	4,000	Pass	Pass	0.81	234				
Benzo (k) fluoranthene	900	4,000	Pass	Pass	0.86	244				
Benzo (a) pyrene	660	660	Pass	Pass	0.80	270				
Indeno (1,2,3-cd)pyrene	900	4,000	Pass	Pass	0.83	197				
Dibenzo (a,h) anthracene	660	660	Pass	Pass	0.72	240				

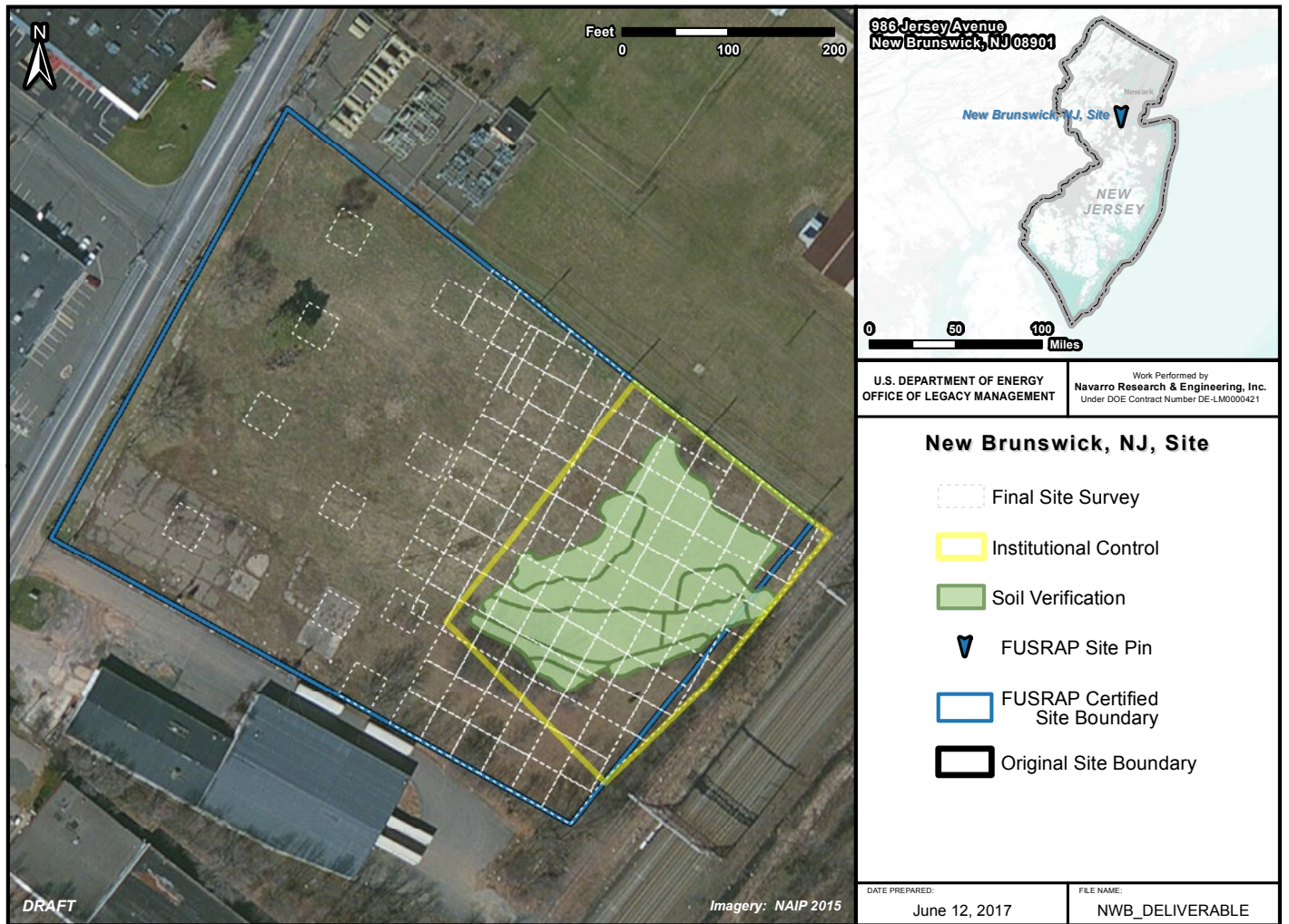
^aAfter sample collection, the mean of the analytical results was compared to 43 percent of the S-1070 standards, and the coefficient of variation (Cv) was checked to determine if it was less than or equal to one. If the results of this initial sampling did not meet the criterion (sample mean less than 43 percent of the standard and Cv= 1), then a second round of chemical sampling was initiated.

^bAn additional 14 samples were collected for the analytes of concern from the first round of chemical samples. The combined results of the initial sampling and the second round sampling were then used to calculate a sample mean that was compared to 57 percent of the cleanup standard.

^cIn some instances, the required number of sample results were not available. When this occurred, or when the initial and second round chemical results failed the statistical method described in footnotes 1 and 2 of this table, or when Cv > 1, then an upper one-sided confidence limit (UCL) was calculated to determine the degree of confidence that the site is clean for that analyte. A UCL is used to test whether the true mean of a distribution for a sample population actually exceeds a specified value, or in this case cleanup guidelines. The procedure for calculating the upper one-sided confidence limit is described in Section 6.3.4 of the EPA guidance.

^dCv is the coefficient of variation.

New Brunswick, New Jersey, Site Map



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