APPENDIX B

NSDD RESIDUAL RISK ASSESSMENT (CD)

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PAD-REG-1010

Residual Risk Evaluation Report for North-South Diversion Ditch Sections 1 and 2 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

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Merlin Shaw — LATA Kentucky Classification Support

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Residual Risk Evaluation Report for North-South Diversion Ditch Sections 1 and 2 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

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U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Prepared by
LATA ENVIRONMENTAL SERVICES OF KENTUCKY, LLC
managing the
Environmental Remediation Activities at the
Paducah Gaseous Diffusion Plant
under contract DE-AC30-10CC40020

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PREFACE

This *Residual Risk Evaluation Report for North-South Diversion Ditch Sections 1 and 2 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, PAD-REG-1010, was prepared in accordance with the requirements under the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act. The residual risk at this location was evaluated as a result of a recommendation made in the *Five Year Review for Remedial Actions at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, to determine if the remedy can be optimized (DOE 2008). This document utilizes and references information found in *Remedial Action Completion Report for the North-South Diversion Ditch Sections 1 & 2 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (DOE 2005a).

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ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
DOE	U.S. Department of Energy
ELCR	excess lifetime cancer risk
EPA	U.S. Environmental Protection Agency
EPC	exposure point concentration
EU	exposure unit
HI	hazard index
KDEP	Kentucky Department for Environmental Protection
LUC	land use control
LUCAP	land use control assurance plan
LUCIP	land use control implementation plan
MOA	Memorandum of Agreement
NSDD	North-South Diversion Ditch
O&M	operation and maintenance
PGDP	Paducah Gaseous Diffusion Plant
RACR	remedial action completion report
ROD	record of decision
RU	remediation unit
SAP	sampling and analysis plan
SWMU	solid waste management unit

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EXECUTIVE SUMMARY

This document was prepared in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act. The overall purpose of this document is to present the residual risks to human health remaining at Solid Waste Management Unit 59, North-South Diversion Ditch (NSDD) Sections 1 and 2, after completion of a remedial action and assess these risks to determine if land use controls (LUCs) currently in place still are necessary. This residual risk evaluation was prepared as a result of a recommendation in the CERCLA Five-Year Review to determine if the remedy can be optimized (e.g., risks are at a level that would support modification of institutional controls and/or cessation of five-year reviews) (DOE 2008).

The remedial action addressed soil contamination to a depth of 4 ft bgs and is described in detail in *Remedial Action Completion Report for the North-South Diversion Ditch Sections 1 & 2 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (DOE 2005a). The *Record of Decision for Interim Remedial Action at the North-South Diversion Ditch at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky,* DOE/OR/07-l948&D2, (ROD) issued August 2002, incorporated LUCs as a component of the selected remedy (DOE 2002). Since the remedy was completed using cleanup goals that assumed restricted use of the area by an industrial worker, the LUCs play an important role in preventing potentially unacceptable exposures and incompatible land uses and ensuring that the selected remedy remains protective of human health.

The main objectives for the interim remedial action were to excavate the NSDD inside the fenced area to a depth of 4 ft bgs in accordance with the ROD (DOE 2002), conduct post-excavation sampling, restore the excavated area with clean clay and soil, and manage and properly dispose of remediation waste. Section 2 of the NSDD was excavated as part of the Phase I detention basin construction. The approved *Operation and Maintenance Plan for Sections 1 and 2 of the North-South Diversion Ditch at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (DOE 2003a) provides additional discussion of the considerations being made to maintain earlier interim actions necessary to help prevent future discharges to the NSDD.

The methods and presentations used in calculations in this residual risk evaluation report are consistent with those presented in the Paducah Gaseous Diffusion Plant (PGDP) Risk Methods Document (DOE 2011) and Risk Assessment Guidance for Superfund Part C, Section 3 (EPA 1991). The Risk Methods Document integrates the human health risk assessment guidance from the U.S. Environmental Protection Agency and the Kentucky Department for Environmental Protection and incorporates instructions contained in regulatory agency comments on earlier risk assessments performed for PGDP.

In keeping with decisions in the ROD (DOE 2002), the industrial worker, under unrestricted use, was the receptor considered when calculating cleanup levels. The goals of the ROD were met.

This residual risk evaluation quantitatively compares the contamination left in place at the base of the NSDD excavation with outdoor and industrial worker risk-based concentrations as if the contamination were on the surface. The evaluation shows that the residual risk to these receptors falls within EPA risk range (EPA 1999); therefore, LUCs no longer should be considered necessary, provided that the current and expected future use of the area is industrial, as specified in the ROD. Sections 1 and 2 of the NSDD will continue to be considered in five-year reviews to ensure that the assumption of industrial land use continues.

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1. INTRODUCTION

As part of its cleanup effort at the Paducah Gaseous Diffusion Plant (PGDP), the U.S. Department of Energy (DOE), in conjunction with the U.S. Environmental Protection Agency (EPA) and with the concurrence of the Kentucky Department for Environmental Protection (KDEP), have signed two interim records of decision (RODs) for the North-South Diversion Ditch (NSDD) (DOE 1994; DOE 2002).

The NSDD originates within the north-central portion of PGDP and joins with Little Bayou Creek to the north of the plant. Historically, the NSDD received wastewater from the C-400 Cleaning Building, coal pile runoff, and storm water runoff. In 1977, the C-616-C Lift Station was constructed approximately 456 ft upstream of the point where the NSDD exits the PGDP security fence. This lift station diverts all normal flow from upstream locations in the NSDD to the C-616-F Full Flow Lagoon for settlement of suspended solids prior to discharge to Bayou Creek through the Kentucky Pollutant Discharge Elimination System Outfall 001 ditch system. The C-616-H Lift Station (Ditch 001 Lift Station) began operation in 1991. This lift station pumps effluent of the C-335 and C-337 Process Buildings and the C-535 and C-537 Switchyards into the NSDD for downstream capture by the C-616-C Lift Station and treatment through the C-616-F Full Flow Lagoon.

The primary objective of the first interim ROD was to begin control of contaminant releases into the NSDD and to mitigate the spread of contamination.

The remedial action objectives for the second interim remedial action for Sections 1 and 2 of the NSDD, located inside the security-fenced area at PGDP, were as follows:

- Prevent future discharge of process water to the NSDD;

- Reduce the risk to industrial workers and ecological receptors from exposure to contaminated surface soil, sediment, and surface water; and

- Prevent future on-site runoff from being transported off-site (i.e., outside the existing security fence) via the NSDD.

These objectives for the second interim remedial action were accomplished in a two-phased approach through the excavation and restoration of the NSDD with a clay cover and vegetation, rerouting of process water, and land use controls (LUCs). Phase I consisted of the installation of piping to route process water discharges to the existing C-616 Water Treatment Facility (instead of into the NSDD); excavation of an on-site surge basin to contain stormwater runoff until it can be treated through the C-616 facility; and the installation of a plug in the NSDD at the PGDP security fence and in the three other ditches within the watershed to prevent discharge of stormwater runoff to areas outside the security-fenced area. Phase II consisted of excavation of contaminated soils and sediments to a depth of at least 4 ft bgs along Sections 1 and 2, conducting post-excavation sampling to ensure attainment of cleanup goals, restoring the excavated area with clean clay and soil, and managing and properly disposing of remediation waste. Although considered part of Phase II remediation, Section 2 of the NSDD was excavated during Phase I detention basin construction and was resurveyed following Phase II remediation to verify that no recontamination occurred during upstream excavation. Because the remedy was assumed to leave hazardous material, pollutants, or contaminants in place above levels that allow for unlimited use and unlimited exposure, five-year reviews to ensure that the remedy remains protective of human health and the environment also were included in the ROD (DOE 2002).

The most recent five-year review recommended preparation of a residual risk evaluation to determine if the remedy can be optimized (e.g., risks are at a level that would support modification of institutional controls and/or cessation of five-year reviews) (DOE 2008).

An approved operation and maintenance (O&M) plan for Sections 1 and 2 of the NSDD provided additional discussion of the considerations made to maintain the earlier interim actions necessary to help prevent future discharges to the NSDD (DOE 2003a). Actions taken for the second interim remedial action did not require an O&M plan; however, a revised O&M plan provided for institutional controls (e.g., postings) for an underground radioactive material area in a culvert beneath the NSDD at its junction with the Outfall 001 ditch. This culvert was not included in the scope of the remedial action for Sections 1 and 2 of the NSDD (DOE 2005b).

The nature and extent of soil contamination within NSDD Sections 1 and 2 and the detention basin area were addressed using historical soil data in the NSDD ROD and "Comparison between NSDD COC Concentrations and Selected Cleanup Goals," information sheet included in Appendix A of the sampling and analysis plan (SAP) (BJC 2003). Each cleanup level was selected from a series of potential values based upon expected future land use, risk and dose (human health only because potential cleanup levels based upon ecological risk were determined to not be relevant to the action for Sections 1 and 2), and background. For all contaminants, the background value was selected as the cleanup level if it was the greatest value. If the background level was smaller than the risk-based value for inorganic or organic contaminants, then the risk-based value was selected. If the background value was smaller than the human health risk-based and dose-based values for radionuclide contaminants, the smaller of the human health risk-based and dose-based value was selected as the cleanup level (DOE 2002). Cleanup levels are presented later within this document.

Using historical samples collected from November 23, 1988, though March 5, 2002, the NSDD ROD defined 18 inorganic, 2 organic, and 9 radiological contaminants of concern (COCs). In "Comparison between NSDD COC Concentrations and Selected Cleanup Goals," it was shown that only 6 inorganic, 2 organic, and 1 radiological COCs had maximum concentrations detected in historical soil results that were greater than the cleanup goals defined in the NSDD ROD. The inorganic chemical COCs were arsenic, chromium, lead, manganese, nickel, and vanadium. The organic compounds were polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs). The radionuclide was neptunium-237.

NSDD Section 1 was divided into 68 remediation units (RUs) that measured approximately 35 ft x 35 ft. The RUs were numbered sequentially 1 through 68, from south to north. These 68 RUs in Section 1 comprised 4 exposure units (EUs). RUs 1 through 20 were designated as EU 1 (approximately 0.56 acre); RUs 21 through 37 were designated as EU 2 (approximately 0.47 acre); RUs 38 through 54 were designated as EU 3 (approximately 0.47 acre); and RUs 55 through 68 were designated as EU 4 (approximately 0.39 acre). NSDD Section 2 was divided into 18 RUs, 69 through 86, and was designated as EU 5 (approximately 0.51 acre) (Figure 1). Further information on RUs and EUs and their use in development of this sampling strategy is provided in the SAP (BJC 2003).

The sampling verification strategy that was implemented for both Phase I and Phase II of this remedial action consisted of a two-step approach. The first step (Activity I) consisted of screening the open excavation (e.g., at 4-ft depth bgs) for two indicator chemicals, uranium-238 and PCBs, using screening levels of 100 pCi/g and 10 mg/kg, respectively. These screening levels were selected following a co-contamination study and are approximately one-third and one-half of the cleanup levels for uranium-238 and PCBs, respectively. The uranium-238 screening level analyses were conducted in the field using field

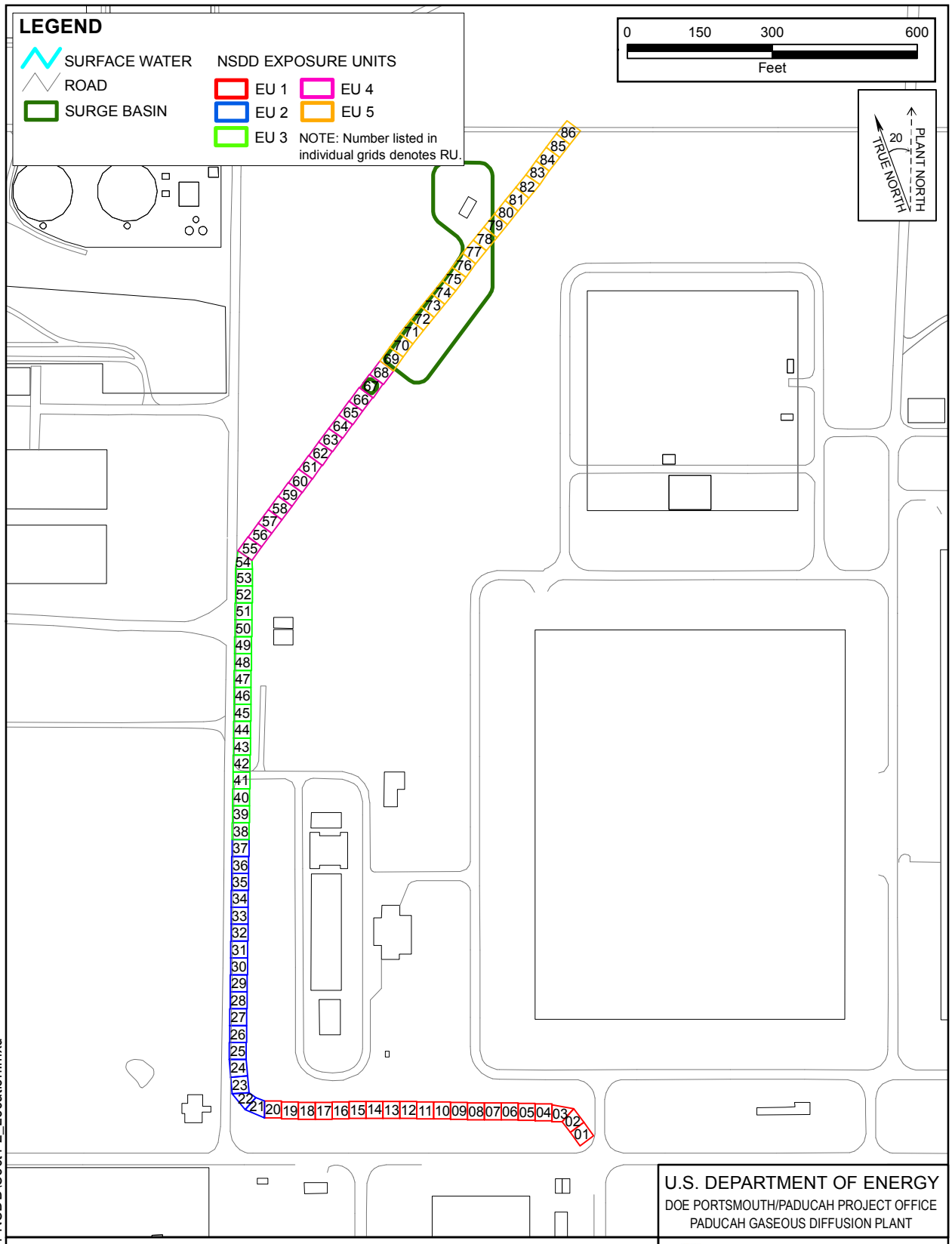

Figure 1. Location of NSDD Sections 1 and 2 Remediation Units and Exposure Units

instrumentation; the PCB screening level analyses were conducted at a fixed-base laboratory. Generally, the second step (Activity II) was implemented when the results from Activity I sampling were less than the screening results suggesting cleanup levels were achieved. (Please see Section 4 of BJC 2003 for additional discussion of the interaction of Activities 1 and 2.) This second step consisted of collecting soil samples from the open excavation (e.g., at 4-ft depth bgs) and sending them to a laboratory for analysis to confirm that the cleanup level for each COC had been achieved. Further information on the sampling verification strategy, the process used in its development, and methods of implementation are presented in the SAP (BJC 2003). If, during excavation activities, visual examination of the soil indicated anomalous physical conditions, such as unexpected color change, then excavation activities were to be halted until KDEP could be contacted, and it was determined whether or not KDEP wanted to perform additional monitoring of or collect samples of the anomalous soils. However, no anomalous conditions were encountered (DOE 2005a).

During implementation of the remedial action at Sections 1 and 2 of the NSDD, 45 surface soil samples were collected from the open excavations and sent to a fixed-base laboratory for analysis to confirm that the cleanup level for each ROD COC was achieved (DOE 2002). These grab surface soil samples were collected from the top 3 inches of the exposed bottom of the excavation at random locations within selected RUs, as specified in the SAP (BJC 2003). The RUs that were sampled are listed in Table 1.

Table 1. RUs Sampled by EU in Sections 1 and 2 of the NSDD

EU	RUs Sampled[a]
1	02, 04, 05, 08, 10, 13, 16, 18, 20
2	22, 23, 26, 27, 29, 31, 32, 35, 36
3	39, 40, 43, 44, 47, 49, 50, 52, 53
4	55, 56, 58, 59, 61, 62, 64, 65, 68
5	70, 73, 74, 75, 77, 80, 82, 83, 85

[a] RUs to be sampled were selected randomly without replacement from each EUs population of RUs. Locations within RUs were field selected.

Following laboratory analysis, the average concentrations of the COCs in samples collected from each EU were compared to the cleanup levels identified in the ROD. As specified in the ROD, if the average concentration for each COC for each EU was less than the cleanup levels, then the excavation activities would be complete, and recontouring of the NSDD with clean backfill would be finalized. If the average concentration for any COC in any EU exceeded its cleanup level, then additional excavation would be considered. These cleanup levels and average concentrations of the COCs are presented in Table 2.

As noted in the Remedial Action Completion Report (RACR) (DOE 2005a), the averages of Activity II samples for EUs 1–5 following excavation activities were below their respective cleanup levels with one exception. This exception was thallium in EU 5 (Section 2) of the NSDD. The exceedance occurred because the ROD-specified detection limit (20 mg/kg) was higher than the ROD-specified cleanup level (2.2 mg/kg). As noted in the table, while the detection limit and cleanup level both were specified in the ROD, the ROD also noted that thallium had never been detected at a concentration greater than the specified cleanup level in previous sampling efforts. For subsequent thallium analyses (EUs 1 through 4), the reporting limit was lowered to 2 mg/kg. The average thallium concentration in EUs 1 through 4 never exceeded the reporting limit of 2 mg/kg.

Since the average COC concentrations for each EU following excavation activities were below their respective cleanup levels (including thallium once the detection limit was lowered), the remedial action at NSDD met the cleanup levels established in the ROD.

Table 2. NSDD COC Cleanup Levels and Postexcavation Averages

COC	Units	Cleanup Level[a]	Postexcavation Average[b]				
			EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	mg/kg	139,200	10,430	8,199	8,120	9,287	7,371
Antimony	mg/kg	11.37	10	10	10	10	10
Arsenic	mg/kg	52.3	20	20	20.2	29.4	20
Barium	mg/kg	6,870	115	63.0	89.6	93.5	73.7
Beryllium	mg/kg	28.44	0.6784	0.6759	0.8257	0.5329	0.5127
Cadmium	mg/kg	639	2.09	2.04	2.04	2	2
Chromium	mg/kg	85.2	22.3	12.5	16.4	15.2	13.4
Copper	mg/kg	14,790	26.87	14.16	16.42	13.28	11.40
Iron	mg/kg	62,100	15,300	12,200	13,600	11,400	10,400
Lead	mg/kg	50	20	20	20	20	20
Manganese	mg/kg	2,598	443.4	237.8	319.6	298	227.7
Mercury	mg/kg	29.46	0.2	0.2	0.2	0.063	0.2
Nickel	mg/kg	7,260	18.3	9.81	17.5	19.7	16.4
Selenium	mg/kg	2,847	20	20	20	20	20
Silver	mg/kg	1,233	2.5	2.5	2.5	2.5	2.5
Thallium	mg/kg	2.20	2	2	2	2	20[c]
Uranium	mg/kg	3,030	144	100	101	109	121
Vanadium	mg/kg	99.6	22.2	20.0	19.8	19.0	20.4
PCBs	mg/kg	19.9	0.184	0.163	0.133	0.13	0.17
PAHs	mg/kg	2.12	0.483	0.481	0.485	0.487	0.488
Americium-241	pCi/g	467	0.0124	0.0436	0.0182	0.0123	0.0866
Cesium-137	pCi/g	13.3	0.0165	0.0230	0.0520	0.0115	0.0214
Neptunium-237	pCi/g	45.4	0.201	0.144	0.236	0.279	0.303
Plutonium-239[d]	pCi/g	563	0.0546	0.111	0.114	0.0473	0.0838
Technetium-99	pCi/g	227,000	29.3	14.7	11.7	4.50	4.41
Thorium-230	pCi/g	3,510	2.068	3.28	2.39	1.25	1.66
Uranium-234	pCi/g	6,880	2.61	0.916	4.29	3.18	4.81
Uranium-235	pCi/g	81.6	0.186	0.0540	0.294	0.205	0.255
Uranium-238	pCi/g	313	4.06	1.23	5.60	4.63	7.65

[a] Cleanup levels are taken from Table 2.13 of the ROD (DOE 2002).
[b] Average results have been recalculated from the verification data using all sample results, including field duplicates. Nondetect results were used at their full value. These averages may or may not match those presented in the RACR.
[c] Average result appears higher than cleanup level because detection limit was higher than cleanup level. No results were detected in EU 5 for thallium. See text for additional explanation.
[d] Plutonium-239 was reported by the laboratory as plutonium-239/240.

Following excavation, the ditch channel was restored to grade with 2 ft of clay cover and approximately 2 ft of clean soil and vegetation, satisfying the remedial action objective of elimination of a surface exposure pathway. The clay cover provides an extra layer of protection, eliminating exposure to contaminated subsurface soil. Since excavation achieved the specified cleanup levels, long-term maintenance of the clay cover was not required (DOE 2005a). Land use restrictions were required as part of the NSDD Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) action and were achieved through imposition of LUCs that limit the use and/or exposure to those areas of the property that are contaminated. DOE implements, monitors, maintains, and enforces the LUCs selected as part of this remedy to ensure that the remedy remains protective of human health and the environment. DOE has agreed in a Memorandum of Agreement (MOA) with EPA and KDEP to comply with the PGDP Land Use Control Assurance Plan (LUCAP) whenever LUCs, including institutional controls, are selected as part of a remedial action (as in this ROD) (DOE 2000). The LUCAP, which is attached to the MOA, establishes procedures designed to ensure that each selected LUC will be implemented and properly maintained for as long as the LUC is needed to protect public health and the

environment. Included in the LUCAP are requirements for planning implementation of each selected LUC, regular periodic monitoring of each LUC following its implementation, and annual certification by the manager of DOE-PGDP that each LUC continues to be implemented effectively.

The LUC objective identified in the ROD to assure the protectiveness of the preferred alternative for Sections 1 and 2 of the NSDD is as follows:

> Sections 1 and 2 (Industrial Areas)—Restrict unauthorized access, restrict unauthorized excavations or penetrations below prescribed contamination cleanup depth, and restrict uses of the area that are inconsistent with the assumed industrial use (i.e., to prevent recreational and/or residential use).

Implementation of LUCs designed to meet this objective was documented in a land use control implementation plan (LUCIP) (DOE 2003b). The LUCIP will remain in effect until the follow-on or final ROD for the NSDD has been signed and the follow-on or final LUCIP has been approved. The LUCIP may be modified or expanded, as needed, over the intervening period to address LUCs stipulated in other forthcoming decision documents for the NSDD.

The three LUCs used at the NSDD include property record actions, administrative controls, and access controls. The primary controls used to limit unauthorized activities in the remediation areas include signs and administration of an excavation/penetration permit program. Use restrictions and information about the residual contamination/waste management areas also will be recorded by DOE along with the original acquisition records (e.g., deeds) for PGDP.

As was expected, the selected remedial alternative left no residual contamination that would pose a risk to humans under current and likely future exposure scenarios (since the entire length of the ditch was excavated and covered with clean fill). Some residual contamination was expected to remain in the subsurface following excavation.

Any residual soil contamination remaining at depth is subject to long-term land-use restrictions to restrict exposure under current, and likely potential future, land-use activities. Post-excavation samples were collected during implementation of the remedial alternative and analyzed for COCs to ensure the accomplishment of these objectives (DOE 2002).

2. MATERIALS AND METHODS

This residual risk evaluation was prepared as a result of a recommendation in the CERCLA Five-Year Review to determine if the remedy can be optimized (e.g., risks are at a level that would support modification of institutional controls and/or cessation of five-year reviews) (DOE 2008). The methods and presentations used in this report are consistent with those in *Methods for Conducting Human Health Risk Assessments and Risk Evaluations at the Paducah Gaseous Diffusion Plant* (DOE 2011). As discussed in that reference, the Risk Methods Document integrates the human health risk assessment guidance from EPA and KDEP and incorporates instructions contained in regulatory agency comments on earlier risk assessments performed for PGDP. Additionally, the methods are consistent with the risk evaluations discussed in the NSDD ROD and the RACR (DOE 2002; DOE 2005a). Therefore, in this residual risk evaluation, Solid Waste Management Unit (SWMU) 59 is assessed by EU, the residual risk to receptors from clean replacement soil is not considered, and only Activity II verification data were used in determining the residual risk in subsurface soils.

This evaluation is not a baseline risk assessment, but provides a comparison with no action levels established in the Risk Methods Document (DOE 2011) and updated in 2012 (DOE 2012a). No action levels for two scenarios are used in the comparison: the outdoor worker no action level and the industrial worker no action level. These scenarios were compared to analytical results as if the contamination were on the surface.

2.1 DATA EVALUATION

Data used to calculate the residual risks for SWMU 59 were from samples collected during the verification sampling for the remedial action. These are the data reported in the RACR. Data were evaluated using the procedures presented in the Risk Methods Document. A detailed discussion of the data evaluation is provided in the RACR. Data quality objectives for the verification data are discussed in the RACR (DOE 2005a).

In order to determine whether COCs listed in the NSDD ROD are still of concern, the maximum results within each EU were compared to the maximum background value (surface and subsurface) or the child no action level (DOE 2012a), whichever is higher. Table 3 lists the analyses that exceed this determination. Tables showing all of the results are available in Appendix A. Analyses that do not exceed screening should no longer be considered COCs at the NSDD.

Table 3. NSDD COCs Exceeding Screening from Sections 1 and 2 Verification Sampling

EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	Uranium	Arsenic	Arsenic	Uranium
Chromium	Vanadium	Uranium	Uranium	Vanadium
Uranium	Activity of U-235	Total PCBs	Activity of U-235	Total PCBs
Activity of U-235	Neptunium-237	Activity of U-235	Neptunium-237	Activity of U-235
Neptunium-237	Thorium-230	Neptunium-237	Thorium-230	Neptunium-237
Technetium-99	Uranium-238	Thorium-230	Uranium-234	Thorium-230
Thorium-230		Uranium-234	Uranium-238	Uranium-234
Uranium-234		Uranium-238		Uranium-238
Uranium-238				

Using the results from analyses listed in Table 3, the exposure point concentration (EPC) was calculated using the recommended value from ProUCL (EPA 2010) for the 10 sample results available for each RU (9 location samples, plus 1 duplicate). The output from ProUCL is presented in Appendix A. These EPCs (Table 4) were used to estimate hazards and risks remaining in place in the subsurface at NSDD Sections 1 and 2 by EU. The EPCs were compared with both outdoor worker and industrial worker no action levels submitted in the 2012 update (DOE 2012a). No action levels are shown in Table 5.

Table 4. Results Used to Estimate Potential Hazards and Risks by EU at NSDD Sections 1 and 2

		EPC[1]					
		Overall	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	mg/kg	9.14E+03	1.16E+04	n/a	n/a	n/a	n/a
Arsenic	mg/kg	2.35E+01	n/a	n/a	2.05E+01	3.71E+01	n/a
Chromium	mg/kg	1.77E+01	3.10E+01	n/a	n/a	n/a	n/a
Uranium	mg/kg	1.24E+02	1.80E+02	1.01E+02	1.02E+02	1.19E+02	1.47E+02
Vanadium	mg/kg	2.18E+01	n/a	2.66E+01	n/a	n/a	2.60E+01
Total PCBs	mg/kg	1.81E-01	n/a	n/a	1.43E-01	n/a	4.75E-01
Activity of Uranium-235	pCi/g	3.62E-01	7.82E-01	2.09E-01	6.36E-01	5.65E-01	5.13E-01
Neptunium-237	pCi/g	4.27E-01	8.85E-01	5.77E-01	6.02E-01	4.17E-01	4.16E-01
Technetium-99	pCi/g	3.08E+01	1.06E+02	n/a	n/a	n/a	n/a
Thorium-230	pCi/g	4.46E+00	8.78E+00	1.10E+01	6.26E+00	2.67E+00	5.86E+00
Uranium-234	pCi/g	4.25E+00	7.32E+00	n/a	7.93E+00	7.66E+00	7.23E+00
Uranium-238	pCi/g	6.31E+00	2.55E+01	2.81E+00	1.00E+01	1.24E+01	1.15E+01

n/a = not applicable
[1] The EPC was calculated using the recommended value from ProUCL (EPA 2010).

Table 5. Selected Soil/Sediment No Action Levels[a]

		Child Resident No Action Level		Outdoor Worker No Action Level		Industrial Worker No Action Level	
	Units	**HI**	**ELCR**	**HI**	**ELCR**	**HI**	**ELCR**
Aluminum	mg/kg	7.74E+03	n/a	2.86E+04	n/a	1.00E+05	n/a
Arsenic	mg/kg	1.65E+00	2.36E-01	6.67E+00	4.15E-01	6.09E+01	3.81E+00
Beryllium	mg/kg	1.56E+01	1.38E+03	5.73E+01	9.39E+03	3.95E+02	6.95E+03
Cadmium	mg/kg	5.00E+00	1.84E+03	2.06E+01	1.25E+04	1.98E+02	9.26E+03
Chromium[b]	mg/kg	1.17E+04	1.55E+01	4.32E+04	2.68E+02	1.00E+05	1.98E+02
Copper	mg/kg	3.13E+02	n/a	1.15E+03	n/a	8.18E+03	n/a
Nickel	mg/kg	1.55E+02	1.27E+04	5.71E+02	8.66E+04	3.80E+03	6.41E+04
Uranium	mg/kg	2.34E+01	n/a	8.61E+01	n/a	5.98E+02	n/a
Vanadium	mg/kg	3.94E+01	n/a	1.45E+02	n/a	1.03E+03	n/a
Total PCBs	mg/kg	n/a	6.70E-02	n/a	1.70E-01	n/a	2.86E+00
Activity of Uranium-235	pCi/g	n/a	3.32E-01	n/a	4.85E-01	n/a	1.84E+00
Neptunium-237	pCi/g	n/a	2.21E-01	n/a	3.22E-01	n/a	1.21E+00
Technetium-99	pCi/g	n/a	9.91E+01	n/a	3.09E+02	n/a	2.02E+03
Thorium-230	pCi/g	n/a	3.84E+00	n/a	5.70E+00	n/a	3.95E+01
Uranium-234	pCi/g	n/a	4.97E+00	n/a	8.72E+00	n/a	6.11E+01
Uranium-238	pCi/g	n/a	1.13E+00	n/a	1.81E+00	n/a	7.48E+00

n/a = not applicable
[a] No action levels are taken from the 2012 updated no action levels (DOE 2012a) for HI = 0.1 and ELCR = 1×10^{-6}.
[b] Per the Risk Methods Document, the screening value for chromium VI presented in the screening tables should be used only if the comparison is to a chromium VI result. For a 'Total chromium' result, the screening value listed for 'Total chromium' should be used. The cancer-based screening value for Total chromium was derived using the inhalation cancer slope factor for chromium VI reported in the EPA Integrated Risk Information System database (DOE 2011).

2.2 NONCANCER RISK ESTIMATION

Consistent with the Risk Methods Document, estimates of systemic toxicity hazard (i.e., noncancer "risk") were calculated using a ratio of the EPC and the no action level (see Table 5). The equation for this estimation is presented below:

$$\text{Risk} = \frac{\text{Exposure Concentration}}{\text{Screening Value}} \times \text{Target Risk Value}$$

where:
Risk = Calculated chemical-specific cancer risk or hazard quotient.
Exposure Concentration = EPC taken from Table 4.
Screening Value = Cancer and Hazard No Action Levels taken from Table 5.
Target Risk Value = excess lifetime cancer risk (ELCR) (1×10^{-6}) or hazard index (HI) (0.1) upon which the screening value is based.

The calculated estimates are shown in Tables 6 and 7.

Table 6. Noncancer "Risks" Estimated by EU at NSDD Sections 1 and 2 for the Outdoor Worker

	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	0.0	0.0	n/a	n/a	n/a	n/a
Arsenic	0.4	n/a	n/a	0.3	0.6	n/a
Chromium	0.0	0.0	n/a	n/a	n/a	n/a
Uranium	0.1	0.2	0.1	0.1	0.1	0.2
Vanadium	0.0	n/a	0.0	n/a	n/a	0.0
Total HIs	< 1	< 1	< 1	< 1	< 1	< 1

n/a = not applicable

Table 7. Noncancer "Risks" Estimated by EU at NSDD Sections 1 and 2 for the Industrial Worker[a]

	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	0.0	0.0	n/a	n/a	n/a	n/a
Arsenic	0.0	n/a	n/a	0.0	0.1	n/a
Chromium	0.0	0.0	n/a	n/a	n/a	n/a
Uranium	0.0	0.0	0.0	0.0	0.0	0.0
Vanadium	0.0	n/a	0.0	n/a	n/a	0.0
Total HIs	< 1	< 1	< 1	< 1	< 1	< 1

[a] Estimates are calculated from industrial worker levels as if contamination were on the surface.
n/a = not applicable

2.3 CANCER RISK ESTIMATION

Consistent with the Risk Methods Document, estimates of ELCRs were calculated using a ratio of the EPC and the no action level (Table 5). The equation for this estimation is presented in Section 2.2. The calculated estimates are shown in Tables 8 and 9.

Table 8. Cancer Risks Estimated by EU at NSDD Sections 1 and 2 for the Outdoor Worker

	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Arsenic	5.67E-05	n/a	n/a	4.93E-05	8.93E-05	n/a
Chromium	6.60E-08	1.15E-07	n/a	n/a	n/a	n/a
Total PCBs	1.06E-06	n/a	n/a	8.41E-07	n/a	2.79E-06
Activity of Uranium-235	7.46E-07	1.61E-06	4.31E-07	1.31E-06	1.16E-06	1.06E-06
Neptunium-237	1.33E-06	2.75E-06	1.79E-06	1.87E-06	1.30E-06	1.29E-06
Technetium-99	9.96E-08	3.43E-07	n/a	n/a	n/a	n/a
Thorium-230	7.82E-07	1.54E-06	1.93E-06	1.10E-06	4.69E-07	1.03E-06
Uranium-234	4.87E-07	8.40E-07	n/a	9.09E-07	8.78E-07	8.29E-07
Uranium-238	3.49E-06	1.41E-05	1.55E-06	5.55E-06	6.86E-06	6.34E-06
Total ELCRs	6.48E-05	2.13E-05	5.71E-06	6.09E-05	9.99E-05	1.33E-05

n/a = not applicable

Table 9. Cancer Risks Estimated by EU at NSDD Sections 1 and 2 for the Industrial Worker*

	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Arsenic	6.18E-06	n/a	n/a	5.38E-06	9.72E-06	n/a
Chromium	8.93E-08	1.56E-07	n/a	n/a	n/a	n/a
Total PCBs	6.33E-08	n/a	n/a	8.00E-08	n/a	1.66E-07
Activity of Uranium-235	1.97E-07	4.25E-07	1.14E-07	3.46E-07	3.07E-07	2.79E-07
Neptunium-237	3.53E-07	7.31E-07	4.77E-07	4.98E-07	3.45E-07	3.44E-07
Technetium-99	1.52E-08	5.24E-08	n/a	n/a	n/a	n/a
Thorium-230	1.13E-07	2.22E-07	2.79E-07	1.58E-07	6.77E-08	1.48E-07
Uranium-234	6.96E-08	1.20E-07	n/a	1.30E-07	1.25E-07	1.18E-07
Uranium-238	8.43E-07	3.41E-06	3.76E-07	1.34E-06	1.66E-06	1.53E-06
Total ELCRs	7.92E-06	5.12E-06	1.25E-06	7.90E-06	1.22E-05	2.59E-06

* Estimates are calculated from industrial worker levels as if contamination were on the surface.
n/a = not applicable

3. UNCERTAINTIES

Several uncertainties exist in estimating residual risk for the NSDD. Magnitude of the effect of the uncertainty on the residual risk evaluation is categorized as small, moderate, or large. Uncertainties categorized as small are assumed not to affect the risk estimates by more than one order of magnitude; those categorized as moderate are assumed to affect the risk estimates by between one and two orders of magnitude; and uncertainties categorized as large are assumed to affect the risk estimate by more than two orders of magnitude. Specific uncertainties in each of these categories are discussed in this section.

In evaluating these uncertainties and their estimated effect on the risk estimates, it should be remembered that the following uncertainties are neither independent nor mutually exclusive; therefore, the total effect of all uncertainties on the risk estimates (i.e., total ELCRs and HIs) is not necessarily the sum of the estimated effects.

A significant uncertainty is the expected future use of the area. The area is expected to remain industrial. If, however, the area was proposed for unlimited use/unrestricted exposure, risk estimates would exceed acceptable criteria. The estimated HI for two of the EUs (EU 3 and EU 4) exceeds 1 for the child resident,

primarily due to the presence of arsenic. Additionally, the ELCR for all of the EUs exceeds 1E-06 for residential use.

Another uncertainty is the use of EPCs [i.e., the recommended value from ProUCL (EPA 2010)] in determining risk estimates per EU instead of maximum concentrations. This uncertainty is categorized as small. Appendix A presents EPCs per EU, as applicable, and the results of the hazard and risk estimation. Appendix B presents the results of the hazard and risk estimation if maximum concentrations were used instead of EPCs.

Based on the conversion from uranium activity to uranium concentration, the value for uranium (in mg/kg) should be approximately 3 times the value for uranium-238 (in pCi/g). For the detected uranium concentrations, comparison to uranium-238 results range from approximately 6 times higher to 600 times higher. Therefore, the actual quantity of uranium (in mg/kg) and uranium-238 present in the area is uncertain. The categorization of this uncertainty varies, but primarily is considered small.

Uncertainties with respect to application of the full range of background were considered; however, initial screening of the verification results to site background values (DOE 2011) provide the adequate comparison to background. This uncertainty is categorized as small.

Finally, the potential for hot spots exist within the data set for both arsenic and uranium-238. These hot spots are presented in the figures in Appendix C. Arsenic was detected only in EUs 3 and 4 (see Figure C.1). The arsenic levels detected in EU 3 are potentially within the full range of background. Figure C.2 shows that uranium-238 was detected at levels greater than background (1.2 pCi/g) throughout Sections 1 and 2, and it was detected above the industrial worker no action level (7.48 pCi/g) in EUs 1, 3, 4, and 5. Because the residual risk evaluation indicates these contaminants are within the risk range for the anticipated industrial land use, additional hot spot evaluation has not been performed.[1] The presence of arsenic in EUs 3 and 4 contributes 68%–89% of the total ELCR where it remains a COC. This uncertainty is categorized as small.

4. DISCUSSION AND CONCLUSIONS

This section discusses the results presented in Section 2 and draws conclusions from these results over the entirety of Sections 1 and 2 of the NSDD and for each EU. Specifically, the residual risk results are examined to determine if current LUCs should remain in place or if they can be removed, allowing free release for SWMU 59.

4.1 RESIDUAL NONCANCER RISK

As shown in Tables 6 and 7, total residual noncancer risks for the unrestricted outdoor worker (185 days/year) and industrial worker (250 days/year) at NSDD are less than 1, assuming direct contact with subsurface soil currently covered with 4 ft of clean replacement clay and soil. The total noncancer risk for the resident (i.e., analysis of unlimited use) is also less than 1 for EUs 1, 2, and 5, assuming direct contact with the subsurface soil (see Appendix A). Therefore, this residual risk report shows that levels of residual noncancer risk are at levels allowing unlimited use and unrestricted exposure at these EUs. The

[1] Additional hot spot evaluation would include area factor analyses and other criteria.

presence of arsenic prevents unlimited use at EUs 3 and 4, assuming direct contact with the subsurface soil. Under industrial use, however, arsenic does not restrict exposure for EUs 3 and 4.

4.2 RESIDUAL CANCER RISKS

As shown in Tables 8 and 9, the total residual cancer risk (i.e., residual ELCRs) estimated for the unrestricted outdoor worker and the industrial worker fall within the EPA risk range of 1E-6 and 1E-4 (EPA 1999) at all EUs, assuming direct contact with subsurface soil currently covered with 4 ft of clean replacement clay and soil. The total residual ELCR for the resident (i.e., analysis of unlimited use) exceeds the EPA risk range for EUs 3 and 4, assuming direct contact with the subsurface soil (see Appendix A). Therefore, this residual risk report shows that levels of residual ELCR prevent unlimited use of EUs 3 and 4. Under industrial use, however, unrestricted exposure results in risks within the EPA risk range.

4.3 IMPACTS OF AUTHORIZED LIMITS ON NSDD RESIDUAL RISK EVALUATION

Authorized Limits have been proposed for the DOE-owned real property outside the limited area at PGDP (DOE 2012b). These Authorized Limits were derived using methods consistent with DOE directives and orders, including the as low as reasonably achievable requirements. The proposed Authorized Limits represent a limit on the concentration of residual radioactive material in soil that would not result in unacceptable radioactive doses to plausible and implausible receptors (e.g., outdoor worker and resident farmer, respectively), given the anticipated use of the property. The Authorized Limits also are consistent with the Commonwealth of Kentucky's established standard in 902 *KAR* 100:042, Section 2, for free release of property. The NSDD ROD includes LUCs; therefore, the Authorized Limits with deed restrictions are consistent with the completed interim action.

The concentration of NSDD radionuclide COCs that are still considered to be of concern were compared with the recommended Authorized Limits with and without deed restrictions (DOE 2012b). The comparison (Table 10) shows maximum concentrations over all EUs at the NSDD and EPCs in some EUs are above the proposed Authorized Limits for technetium-99 and thorium-230 without deed restrictions. However, the concentration for all radionuclides within the NSDD is below proposed Authorized Limits with deed restrictions. Additionally, the Authorized Limits request established weighting factors for the radionuclides, allowing total dose over all radionuclide to be derived. A radionuclide mixture meets the Authorized Limits when the sum, over all radionuclides in the mixture, of the measured concentration of each radionuclide divided by its specific weighting factor is less than one. Table 11 shows the sum of the fractions for each scenario. As indicated by this table, the area meets Authorized Limits with deed restrictions. Further, Authorized Limits actually apply to surface soil, which is clean at Sections 1 and 2 of the NSDD. As the site currently stands, the radionuclide concentrations meet the Authorized Limits.

Table 10. Maximum and EPC Results at Sections 1 and 2 NSDD EUs Compared with Authorized Limits

	Proposed Authorized Limits without Deed Restrictions (DOE 2012b) (pCi/g)	Proposed Authorized Limits with Deed Restrictions (DOE 2012b) (pCi/g)	EPC[1]					Max over all EUs (pCi/g)
			EU 1 (pCi/g)	EU 2 (pCi/g)	EU 3 (pCi/g)	EU 4 (pCi/g)	EU 5 (pCi/g)	
Activity of Uranium-235	5.50E+00	2.20E+01	7.82E-01	2.09E-01	6.36E-01	5.65E-01	5.13E-01	1.18E+00
Neptunium-237	2.40E+00	9.40E+00	8.85E-01	5.77E-01	6.02E-01	4.17E-01	4.16E-01	1.58E+00
Technetium-99	1.05E+02	4.20E+02	1.06E+02	n/a	n/a	n/a	n/a	1.82E+02
Thorium-230	6.50E+00	2.60E+01	8.78E+00	1.10E+01	6.26E+00	2.67E+00	5.86E+00	1.76E+01
Uranium-234	1.35E+02	5.40E+02	7.32E+00	n/a	7.93E+00	7.66E+00	7.23E+00	2.02E+01
Uranium-238	1.35E+02	5.40E+02	2.55E+01	2.81E+00	1.00E+01	1.24E+01	1.15E+01	2.55E+01

n/a = not applicable
Highlighted values exceed the recommended Authorized Limits without deed restrictions.
[1] The EPC was calculated using the recommended value from ProUCL (EPA 2010).

Table 11. Results at Sections 1 and 2 NSDD EUs Compared with Authorized Limits

	Weighting Factors (DOE 2012b) (pCi/g)	EPC[1]				
		EU 1 (pCi/g)	EU 2 (pCi/g)	EU 3 (pCi/g)	EU 4 (pCi/g)	EU 5 (pCi/g)
Without Deed Restrictions						
Activity of Uranium-235	3.50E+01	2.23E-02	5.97E-03	1.82E-02	1.61E-02	1.47E-02
Neptunium-237	2.30E+01	3.85E-02	2.51E-02	2.62E-02	1.81E-02	1.81E-02
Technetium-99	1.05E+02	1.01E+00	n/a	n/a	n/a	n/a
Thorium-230	6.50E+00	1.35E+00	1.69E+00	9.63E-01	4.11E-01	9.02E-01
Uranium-234	3.50E+02	2.09E-02	n/a	2.27E-02	2.19E-02	2.07E-02
Uranium-238	1.35E+02	1.89E-01	2.08E-02	7.41E-02	9.19E-02	8.52E-02
Sum of the Fractions		**2.63E+00**	**1.74E+00**	**1.10E+00**	**5.59E-01**	**1.04E+00**
With Deed Restrictions						
Activity of Uranium-235	1.40E+02	5.59E-03	1.49E-03	4.54E-03	4.04E-03	3.66E-03
Neptunium-237	9.40E+01	9.41E-03	6.14E-03	6.40E-03	4.44E-03	4.43E-03
Technetium-99	4.20E+02	2.52E-01	n/a	n/a	n/a	n/a
Thorium-230	2.60E+01	3.38E-01	4.23E-01	2.41E-01	1.03E-01	2.25E-01
Uranium-234	1.40E+03	5.23E-03	n/a	5.66E-03	5.47E-03	5.16E-03
Uranium-238	5.40E+02	4.72E-02	5.20E-03	1.85E-02	2.30E-02	2.13E-02
Sum of the Fractions		**6.58E-01**	**4.36E-01**	**2.76E-01**	**1.40E-01**	**2.60E-01**

n/a = not applicable
Highlighted values exceed 1.
[1] The EPC was calculated using the recommended value from ProUCL (EPA 2010).

4.4 EFFECTIVENESS OF THE REMEDIAL ACTION

In the Sampling Plan for the Remedial Action for Sections 1 and 2 of the NSDD, an estimate of risk posed by residual contamination after excavation was prepared (BJC 2003). These data were not compared to residential no action levels to determine potential unlimited use; however, residual risk estimates (assuming direct contact with soils found at the bottom of the excavation) for an industrial worker under default exposure rates were within the EPA risk range. Cumulative hazard estimated from these data indicate total HI greater than 1 for the industrial worker, but these values were estimated using conservative default dermal absorption factors for soil to ensure that risk was not underestimated. These

no action levels (see Appendix D). The cumulative hazard estimated from these data for the industrial worker was less than 1.

As concluded in the RACR, the remedial action for the NSDD Sections 1 and 2 was effective in removing risk to the industrial worker and ecological receptors from exposure to contaminated surface soil, sediment, and surface water (DOE 2005a). Although residual contamination remains in the subsurface following excavation, that contamination is within EPA risk levels for the future anticipated land use (e.g., industrial use), indicating that unrestricted exposure under industrial use would not result in unacceptable risk, assuming direct contact with subsurface soil under 4 ft of clean replacement cover. Under the toxicity and chemical-specific cancer information currently used at PGDP (DOE 2012a), LUCs no longer should be considered necessary, provided the NSDD remains industrial.

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APPENDIX A

NSDD VERIFICATION DATA AND SCREENING

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Screening for NSDD EU 1 Verification Sampling

Number of Samples included in EU		10		
Maximum Value of all samples		13100	Average Value	10427
Exceed Screening for Max Value?	Aluminum	Yes		
UCL 95 (ProUCL)		11588		
Exceed Screening for UCL95?	Aluminum	No		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU2C	SO	5/6/2004	NSDA2PESRU2	Aluminum	13100	mg/kg	*NX	20	13000	12000	7740
RU18C	SO	6/4/2004	NSDA2PESRU18	Aluminum	12600	mg/kg	NX	20	13000	12000	7740
RU13C	SO	6/2/2004	NSDA2PESRU13	Aluminum	11860	mg/kg	NX	20	13000	12000	7740
RU4C	SO	5/6/2004	NSDA2PESRU4	Aluminum	11800	mg/kg	*NX	20	13000	12000	7740
RU10C	SO	5/20/2004	NSDA2PESRU10	Aluminum	11000	mg/kg	*JNX	20	13000	12000	7740
RU4C	SO	5/6/2004	NSDA2PESRU4D	Aluminum	10300	mg/kg	*NX	20	13000	12000	7740
RU5C	SO	5/11/2004	NSDA2PESRU5	Aluminum	9530	mg/kg	*NX	20	13000	12000	7740
RU8C	SO	5/18/2004	NSDA2PESRU8	Aluminum	9150	mg/kg	NX	20	13000	12000	7740
RU16C	SO	6/4/2004	NSDA2PESRU16	Aluminum	7470	mg/kg	NX	20	13000	12000	7740
RU20C	SO	6/8/2004	NSDA2PESRU20	Aluminum	7460	mg/kg	NX	20	13000	12000	7740

Number of Samples included in EU		10		
Maximum Value of all samples		10	Average Value	10
Exceed Screening for Max Value?	Antimony	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Antimony	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU13C	SO	6/2/2004	NSDA2PESRU13	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU16C	SO	6/4/2004	NSDA2PESRU16	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU18C	SO	6/4/2004	NSDA2PESRU18	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU20C	SO	6/8/2004	NSDA2PESRU20	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU2C	SO	5/6/2004	NSDA2PESRU2	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU4C	SO	5/6/2004	NSDA2PESRU4	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU4C	SO	5/6/2004	NSDA2PESRU4D	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU5C	SO	5/11/2004	NSDA2PESRU5	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU8C	SO	5/18/2004	NSDA2PESRU8	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Arsenic	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Arsenic	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU13C	SO	6/2/2004	NSDA2PESRU13	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU16C	SO	6/4/2004	NSDA2PESRU16	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU18C	SO	6/4/2004	NSDA2PESRU18	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU20C	SO	6/8/2004	NSDA2PESRU20	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU2C	SO	5/6/2004	NSDA2PESRU2	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU4C	SO	5/6/2004	NSDA2PESRU4	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU4C	SO	5/6/2004	NSDA2PESRU4D	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU5C	SO	5/11/2004	NSDA2PESRU5	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU8C	SO	5/18/2004	NSDA2PESRU8	Arsenic	20	mg/kg	NU	20	12	7.9	0.236

Number of Samples included in EU		10		
Maximum Value of all samples		158	Average Value	114.52
Exceed Screening for Max Value?	Barium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Barium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU4C	SO	5/6/2004	NSDA2PESRU4	Barium	158	mg/kg	*	2.5	200	170	1530
RU16C	SO	6/4/2004	NSDA2PESRU16	Barium	141	mg/kg		2.5	200	170	1530
RU18C	SO	6/4/2004	NSDA2PESRU18	Barium	138	mg/kg		2.5	200	170	1530
RU2C	SO	5/6/2004	NSDA2PESRU2	Barium	121	mg/kg	*	2.5	200	170	1530
RU8C	SO	5/18/2004	NSDA2PESRU8	Barium	115	mg/kg	*N	2.5	200	170	1530
RU10C	SO	5/20/2004	NSDA2PESRU10	Barium	114	mg/kg	*JN	2.5	200	170	1530
RU4C	SO	5/6/2004	NSDA2PESRU4D	Barium	103	mg/kg	*	2.5	200	170	1530
RU5C	SO	5/11/2004	NSDA2PESRU5	Barium	99.1	mg/kg	*	2.5	200	170	1530
RU13C	SO	6/2/2004	NSDA2PESRU13	Barium	93.9	mg/kg		2.5	200	170	1530
RU20C	SO	6/8/2004	NSDA2PESRU20	Barium	62.2	mg/kg		2.5	200	170	1530

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		1.02	Average Value	0.6784
Exceed Screening for Max Value?	Beryllium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Beryllium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU5C	SO	5/11/2004	NSDA2PESRU5	Beryllium	1.02	mg/kg		0.5	0.67	0.69	15.6
RU4C	SO	5/6/2004	NSDA2PESRU4	Beryllium	0.813	mg/kg		0.5	0.67	0.69	15.6
RU18C	SO	6/4/2004	NSDA2PESRU18	Beryllium	0.805	mg/kg		0.5	0.67	0.69	15.6
RU10C	SO	5/20/2004	NSDA2PESRU10	Beryllium	0.608	mg/kg		0.5	0.67	0.69	15.6
RU16C	SO	6/4/2004	NSDA2PESRU16	Beryllium	0.608	mg/kg		0.5	0.67	0.69	15.6
RU8C	SO	5/18/2004	NSDA2PESRU8	Beryllium	0.608	mg/kg		0.5	0.67	0.69	15.6
RU4C	SO	5/6/2004	NSDA2PESRU4D	Beryllium	0.607	mg/kg		0.5	0.67	0.69	15.6
RU2C	SO	5/6/2004	NSDA2PESRU2	Beryllium	0.606	mg/kg		0.5	0.67	0.69	15.6
RU13C	SO	6/2/2004	NSDA2PESRU13	Beryllium	0.603	mg/kg		0.5	0.67	0.69	15.6
RU20C	SO	6/8/2004	NSDA2PESRU20	Beryllium	0.506	mg/kg		0.5	0.67	0.69	15.6

Number of Samples included in EU		10		
Maximum Value of all samples		2.43	Average Value	2.086
Exceed Screening for Max Value?	Cadmium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Cadmium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Cadmium	2.43	mg/kg	N	2	0.21	0.21	5
RU8C	SO	5/18/2004	NSDA2PESRU8	Cadmium	2.43	mg/kg	N	2	0.21	0.21	5
RU13C	SO	6/2/2004	NSDA2PESRU13	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU16C	SO	6/4/2004	NSDA2PESRU16	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU18C	SO	6/4/2004	NSDA2PESRU18	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU20C	SO	6/8/2004	NSDA2PESRU20	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU2C	SO	5/6/2004	NSDA2PESRU2	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU4C	SO	5/6/2004	NSDA2PESRU4	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU4C	SO	5/6/2004	NSDA2PESRU4D	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU5C	SO	5/11/2004	NSDA2PESRU5	Cadmium	2	mg/kg	U	2	0.21	0.21	5

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		53.5	Average Value	22.29
Exceed Screening for Max Value?	Chromium	Yes		
UCL 95 (ProUCL)		30.94803		
Exceed Screening for UCL95?	Chromium	No		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU4C	SO	5/6/2004	NSDA2PESRU4D	Chromium	53.5	mg/kg		2.5	16	43	15.5
RU4C	SO	5/6/2004	NSDA2PESRU4	Chromium	36.1	mg/kg		2.5	16	43	15.5
RU2C	SO	5/6/2004	NSDA2PESRU2	Chromium	24.3	mg/kg		2.5	16	43	15.5
RU13C	SO	6/2/2004	NSDA2PESRU13	Chromium	21.4	mg/kg		2.5	16	43	15.5
RU5C	SO	5/11/2004	NSDA2PESRU5	Chromium	17.9	mg/kg		2.5	16	43	15.5
RU18C	SO	6/4/2004	NSDA2PESRU18	Chromium	17.4	mg/kg		2.5	16	43	15.5
RU10C	SO	5/20/2004	NSDA2PESRU10	Chromium	14.9	mg/kg	X	2.5	16	43	15.5
RU8C	SO	5/18/2004	NSDA2PESRU8	Chromium	14.7	mg/kg		2.5	16	43	15.5
RU16C	SO	6/4/2004	NSDA2PESRU16	Chromium	12	mg/kg		2.5	16	43	15.5
RU20C	SO	6/8/2004	NSDA2PESRU20	Chromium	10.7	mg/kg		2.5	16	43	15.5

Number of Samples included in EU		10		
Maximum Value of all samples		67.8	Average Value	26.87
Exceed Screening for Max Value?	Copper	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Copper	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU13C	SO	6/2/2004	NSDA2PESRU13	Copper	67.8	mg/kg	*JN	2.5	19	25	313
RU20C	SO	6/8/2004	NSDA2PESRU20	Copper	39.8	mg/kg	*JN	2.5	19	25	313
RU16C	SO	6/4/2004	NSDA2PESRU16	Copper	36.4	mg/kg	*JN	2.5	19	25	313
RU18C	SO	6/4/2004	NSDA2PESRU18	Copper	34.1	mg/kg	*JN	2.5	19	25	313
RU5C	SO	5/11/2004	NSDA2PESRU5	Copper	19.6	mg/kg		2.5	19	25	313
RU2C	SO	5/6/2004	NSDA2PESRU2	Copper	15.7	mg/kg		2.5	19	25	313
RU4C	SO	5/6/2004	NSDA2PESRU4	Copper	15.4	mg/kg		2.5	19	25	313
RU8C	SO	5/18/2004	NSDA2PESRU8	Copper	15	mg/kg		2.5	19	25	313
RU4C	SO	5/6/2004	NSDA2PESRU4D	Copper	13.7	mg/kg		2.5	19	25	313
RU10C	SO	5/20/2004	NSDA2PESRU10	Copper	11.2	mg/kg		2.5	19	25	313

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		20200	Average Value	15300	
Exceed Screening for Max Value?	Iron	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Iron	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU5C	SO	5/11/2004	NSDA2PESRU5	Iron	20200	mg/kg	*NX	20	28000	28000	5480
RU4C	SO	5/6/2004	NSDA2PESRU4	Iron	18200	mg/kg	*NX	20	28000	28000	5480
RU2C	SO	5/6/2004	NSDA2PESRU2	Iron	16000	mg/kg	*NX	20	28000	28000	5480
RU4C	SO	5/6/2004	NSDA2PESRU4D	Iron	15400	mg/kg	*NX	20	28000	28000	5480
RU18C	SO	6/4/2004	NSDA2PESRU18	Iron	15100	mg/kg	*NX	20	28000	28000	5480
RU8C	SO	5/18/2004	NSDA2PESRU8	Iron	14700	mg/kg	*NX	20	28000	28000	5480
RU10C	SO	5/20/2004	NSDA2PESRU10	Iron	14400	mg/kg	*NX	20	28000	28000	5480
RU13C	SO	6/2/2004	NSDA2PESRU13	Iron	13300	mg/kg	*NX	20	28000	28000	5480
RU16C	SO	6/4/2004	NSDA2PESRU16	Iron	13000	mg/kg	*NX	20	28000	28000	5480
RU20C	SO	6/8/2004	NSDA2PESRU20	Iron	12700	mg/kg	*NX	20	28000	28000	5480

Number of Samples included in EU		10			
Maximum Value of all samples		20	Average Value	20	
Exceed Screening for Max Value?	Lead	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Lead	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Lead	20	mg/kg	NU	20	36	23	400
RU13C	SO	6/2/2004	NSDA2PESRU13	Lead	20	mg/kg	NU	20	36	23	400
RU16C	SO	6/4/2004	NSDA2PESRU16	Lead	20	mg/kg	NU	20	36	23	400
RU18C	SO	6/4/2004	NSDA2PESRU18	Lead	20	mg/kg	NU	20	36	23	400
RU20C	SO	6/8/2004	NSDA2PESRU20	Lead	20	mg/kg	NU	20	36	23	400
RU2C	SO	5/6/2004	NSDA2PESRU2	Lead	20	mg/kg	UX	20	36	23	400
RU4C	SO	5/6/2004	NSDA2PESRU4	Lead	20	mg/kg	UX	20	36	23	400
RU4C	SO	5/6/2004	NSDA2PESRU4D	Lead	20	mg/kg	UX	20	36	23	400
RU5C	SO	5/11/2004	NSDA2PESRU5	Lead	20	mg/kg	UX	20	36	23	400
RU8C	SO	5/18/2004	NSDA2PESRU8	Lead	20	mg/kg	NU	20	36	23	400

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		1200	Average Value	443.4
Exceed Screening for Max Value?	Manganese	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Manganese	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU4C	SO	5/6/2004	NSDA2PESRU4	Manganese	1200	mg/kg	*N	2.5	1500	820	183
RU16C	SO	6/4/2004	NSDA2PESRU16	Manganese	573	mg/kg	*N	2.5	1500	820	183
RU5C	SO	5/11/2004	NSDA2PESRU5	Manganese	452	mg/kg	*N	2.5	1500	820	183
RU20C	SO	6/8/2004	NSDA2PESRU20	Manganese	434	mg/kg	*N	2.5	1500	820	183
RU18C	SO	6/4/2004	NSDA2PESRU18	Manganese	401	mg/kg	*N	2.5	1500	820	183
RU10C	SO	5/20/2004	NSDA2PESRU10	Manganese	345	mg/kg	*N	2.5	1500	820	183
RU4C	SO	5/6/2004	NSDA2PESRU4D	Manganese	313	mg/kg	*N	2.5	1500	820	183
RU8C	SO	5/18/2004	NSDA2PESRU8	Manganese	308	mg/kg	*N	2.5	1500	820	183
RU13C	SO	6/2/2004	NSDA2PESRU13	Manganese	292	mg/kg	*N	2.5	1500	820	183
RU2C	SO	5/6/2004	NSDA2PESRU2	Manganese	116	mg/kg	*N	2.5	1500	820	183

Number of Samples included in EU		10		
Maximum Value of all samples		0.2	Average Value	0.2
Exceed Screening for Max Value?	Mercury	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Mercury	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU13C	SO	6/2/2004	NSDA2PESRU13	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU16C	SO	6/4/2004	NSDA2PESRU16	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU18C	SO	6/4/2004	NSDA2PESRU18	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU20C	SO	6/8/2004	NSDA2PESRU20	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU2C	SO	5/6/2004	NSDA2PESRU2	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU4C	SO	5/6/2004	NSDA2PESRU4	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU4C	SO	5/6/2004	NSDA2PESRU4D	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU5C	SO	5/11/2004	NSDA2PESRU5	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU8C	SO	5/18/2004	NSDA2PESRU8	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		39.2	Average Value	18.294
Exceed Screening for Max Value?	Nickel	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Nickel	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU20C	SO	6/8/2004	NSDA2PESRU20	Nickel	39.2	mg/kg	N	5	21	22	155
RU4C	SO	5/6/2004	NSDA2PESRU4D	Nickel	29.7	mg/kg	N	5	21	22	155
RU13C	SO	6/2/2004	NSDA2PESRU13	Nickel	22.4	mg/kg	N	5	21	22	155
RU4C	SO	5/6/2004	NSDA2PESRU4	Nickel	19.8	mg/kg	N	5	21	22	155
RU2C	SO	5/6/2004	NSDA2PESRU2	Nickel	18.8	mg/kg	N	5	21	22	155
RU16C	SO	6/4/2004	NSDA2PESRU16	Nickel	14.4	mg/kg	N	5	21	22	155
RU8C	SO	5/18/2004	NSDA2PESRU8	Nickel	11.1	mg/kg	N	5	21	22	155
RU5C	SO	5/11/2004	NSDA2PESRU5	Nickel	9.79	mg/kg	N	5	21	22	155
RU18C	SO	6/4/2004	NSDA2PESRU18	Nickel	9.45	mg/kg	N	5	21	22	155
RU10C	SO	5/20/2004	NSDA2PESRU10	Nickel	8.3	mg/kg	N	5	21	22	155

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Selenium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Selenium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU13C	SO	6/2/2004	NSDA2PESRU13	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU16C	SO	6/4/2004	NSDA2PESRU16	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU18C	SO	6/4/2004	NSDA2PESRU18	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU20C	SO	6/8/2004	NSDA2PESRU20	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU2C	SO	5/6/2004	NSDA2PESRU2	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU4C	SO	5/6/2004	NSDA2PESRU4	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU4C	SO	5/6/2004	NSDA2PESRU4D	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU5C	SO	5/11/2004	NSDA2PESRU5	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU8C	SO	5/18/2004	NSDA2PESRU8	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		2.5	Average Value	2.5
Exceed Screening for Max Value?	Silver	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Silver	No		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU13C	SO	6/2/2004	NSDA2PESRU13	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU16C	SO	6/4/2004	NSDA2PESRU16	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU18C	SO	6/4/2004	NSDA2PESRU18	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU20C	SO	6/8/2004	NSDA2PESRU20	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU2C	SO	5/6/2004	NSDA2PESRU2	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU4C	SO	5/6/2004	NSDA2PESRU4	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU4C	SO	5/6/2004	NSDA2PESRU4D	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU5C	SO	5/11/2004	NSDA2PESRU5	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU8C	SO	5/18/2004	NSDA2PESRU8	Silver	2.5	mg/kg	NUX	2.5	2.3	2.7	39.1

Number of Samples included in EU		10		
Maximum Value of all samples		2	Average Value	2
Exceed Screening for Max Value?	Thallium	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Thallium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU13C	SO	6/2/2004	NSDA2PESRU13	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU16C	SO	6/4/2004	NSDA2PESRU16	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU18C	SO	6/4/2004	NSDA2PESRU18	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU20C	SO	6/8/2004	NSDA2PESRU20	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU2C	SO	5/6/2004	NSDA2PESRU2	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU4C	SO	5/6/2004	NSDA2PESRU4	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU4C	SO	5/6/2004	NSDA2PESRU4D	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU5C	SO	5/11/2004	NSDA2PESRU5	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU8C	SO	5/18/2004	NSDA2PESRU8	Thallium	2	mg/kg	BU	2	0.21	0.34	0.0782

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		290	Average Value	143.7
Exceed Screening for Max Value?	Uranium	Yes		
UCL 95 (ProUCL)		179.7658		
Exceed Screening for UCL95?	Uranium	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Uranium	290	mg/kg	*N	100	4.9	4.6	23.4
RU8C	SO	5/18/2004	NSDA2PESRU8	Uranium	193	mg/kg	*	100	4.9	4.6	23.4
RU20C	SO	6/8/2004	NSDA2PESRU20	Uranium	187	mg/kg	*N	100	4.9	4.6	23.4
RU5C	SO	5/11/2004	NSDA2PESRU5	Uranium	135	mg/kg	*N	100	4.9	4.6	23.4
RU4C	SO	5/6/2004	NSDA2PESRU4	Uranium	116	mg/kg	*N	100	4.9	4.6	23.4
RU2C	SO	5/6/2004	NSDA2PESRU2	Uranium	110	mg/kg	*N	100	4.9	4.6	23.4
RU13C	SO	6/2/2004	NSDA2PESRU13	Uranium	106	mg/kg	*N	100	4.9	4.6	23.4
RU16C	SO	6/4/2004	NSDA2PESRU16	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4
RU18C	SO	6/4/2004	NSDA2PESRU18	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4
RU4C	SO	5/6/2004	NSDA2PESRU4D	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4

Number of Samples included in EU		10		
Maximum Value of all samples		27.9	Average Value	22.2
Exceed Screening for Max Value?	Vanadium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Vanadium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU4C	SO	5/6/2004	NSDA2PESRU4	Vanadium	27.9	mg/kg		2.5	38	37	39.4
RU2C	SO	5/6/2004	NSDA2PESRU2	Vanadium	27.5	mg/kg		2.5	38	37	39.4
RU18C	SO	6/4/2004	NSDA2PESRU18	Vanadium	27.4	mg/kg	N	2.5	38	37	39.4
RU8C	SO	5/18/2004	NSDA2PESRU8	Vanadium	22.6	mg/kg		2.5	38	37	39.4
RU5C	SO	5/11/2004	NSDA2PESRU5	Vanadium	22.4	mg/kg		2.5	38	37	39.4
RU13C	SO	6/2/2004	NSDA2PESRU13	Vanadium	21.1	mg/kg	N	2.5	38	37	39.4
RU10C	SO	5/20/2004	NSDA2PESRU10	Vanadium	21	mg/kg		2.5	38	37	39.4
RU4C	SO	5/6/2004	NSDA2PESRU4D	Vanadium	19.3	mg/kg		2.5	38	37	39.4
RU16C	SO	6/4/2004	NSDA2PESRU16	Vanadium	18.2	mg/kg	N	2.5	38	37	39.4
RU20C	SO	6/8/2004	NSDA2PESRU20	Vanadium	14.6	mg/kg	N	2.5	38	37	39.4

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.24	Average Value	0.184
Exceed Screening for Max Value?	Total PCBs	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PCBs	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU10C	SO	5/20/2004	NSDA2PESRU10	Total PCBs	0.24	mg/kg	U	0.24	n/a	n/a	0.067
RU13C	SO	6/2/2004	NSDA2PESRU13	Total PCBs	0.24	mg/kg	U	0.24	n/a	n/a	0.067
RU16C	SO	6/4/2004	NSDA2PESRU16	Total PCBs	0.24	mg/kg	JU	0.24	n/a	n/a	0.067
RU18C	SO	6/4/2004	NSDA2PESRU18	Total PCBs	0.24	mg/kg	JU	0.24	n/a	n/a	0.067
RU20C	SO	6/8/2004	NSDA2PESRU20	Total PCBs	0.24	mg/kg	U	0.24	n/a	n/a	0.067
RU8C	SO	5/18/2004	NSDA2PESRU8	Total PCBs	0.24	mg/kg	U	0.24	n/a	n/a	0.067
RU2C	SO	5/6/2004	NSDA2PESRU2	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU4C	SO	5/6/2004	NSDA2PESRU4	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU4C	SO	5/6/2004	NSDA2PESRU4D	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU5C	SO	5/11/2004	NSDA2PESRU5	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067

Number of Samples included in EU		10		
Maximum Value of all samples		0.5	Average Value	0.483
Exceed Screening for Max Value?	Total PAH	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PAH	No*		

Station	Media	Date Collected	Sample ID	Analysis	Max of Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU5C	SO	5/11/2004	NSDA2PESRU5	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU20C	SO	6/8/2004	NSDA2PESRU20	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU4C	SO	5/6/2004	NSDA2PESRU4D	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU8C	SO	5/18/2004	NSDA2PESRU8	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU10C	SO	5/20/2004	NSDA2PESRU10	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU13C	SO	6/2/2004	NSDA2PESRU13	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU18C	SO	6/4/2004	NSDA2PESRU18	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU2C	SO	5/6/2004	NSDA2PESRU2	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU4C	SO	5/6/2004	NSDA2PESRU4	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU16C	SO	6/4/2004	NSDA2PESRU16	Total PAH	0.46	mg/kg	U	0.46	n/a	n/a	0.00577

Number of Samples included in EU		10		
Maximum Value of all samples		0.782	Average Value	0.18644
Exceed Screening for Max Value?	Activity of U-235	Yes		
UCL 95 (ProUCL)		0.782	Note: maximum value is greater than UCL 95, so maximum value is used.	
Exceed Screening for UCL95?	Activity of U-235	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU20C	SO	6/8/2004	NSDA2PESRU20	Activity of U-235	0.782	pCi/g	T	0.0752	0.06	0.06	0.332
RU13C	SO	6/2/2004	NSDA2PESRU13	Activity of U-235	0.642	pCi/g		0.0818	0.06	0.06	0.332
RU2C	SO	5/6/2004	NSDA2PESRU2	Activity of U-235	0.233	pCi/g		0.0494	0.06	0.06	0.332
RU16C	SO	6/4/2004	NSDA2PESRU16	Activity of U-235	0.116	pCi/g		0.0646	0.06	0.06	0.332
RU10C	SO	5/20/2004	NSDA2PESRU10	Activity of U-235	0.0237	pCi/g	U	0.0415	0.06	0.06	0.332
RU8C	SO	5/18/2004	NSDA2PESRU8	Activity of U-235	0.0187	pCi/g	U	0.0478	0.06	0.06	0.332
RU4C	SO	5/6/2004	NSDA2PESRU4	Activity of U-235	0.0162	pCi/g	U	0.0487	0.06	0.06	0.332
RU5C	SO	5/11/2004	NSDA2PESRU5	Activity of U-235	0.0118	pCi/g	U	0.048	0.06	0.06	0.332
RU18C	SO	6/4/2004	NSDA2PESRU18	Activity of U-235	0.0109	pCi/g	U	0.063	0.06	0.06	0.332
RU4C	SO	5/6/2004	NSDA2PESRU4D	Activity of U-235	0.0101	pCi/g	U	0.0493	0.06	0.06	0.332

Number of Samples included in EU		10		
Maximum Value of all samples		0.155	Average Value	0.012407
Exceed Screening for Max Value?	Americium-241	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Americium-241	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU13C	SO	6/2/2004	NSDA2PESRU13	Americium-241	0.155	pCi/g		0.0443	n/a	n/a	2.41
RU18C	SO	6/4/2004	NSDA2PESRU18	Americium-241	0.00502	pCi/g	U	0.0452	n/a	n/a	2.41
RU2C	SO	5/6/2004	NSDA2PESRU2	Americium-241	0.00139	pCi/g	U	0.0414	n/a	n/a	2.41
RU5C	SO	5/11/2004	NSDA2PESRU5	Americium-241	-0.00066	pCi/g	U	0.0381	n/a	n/a	2.41
RU10C	SO	5/20/2004	NSDA2PESRU10	Americium-241	-0.00128	pCi/g	U	0.0433	n/a	n/a	2.41
RU4C	SO	5/6/2004	NSDA2PESRU4	Americium-241	-0.00356	pCi/g	U	0.0425	n/a	n/a	2.41
RU8C	SO	5/18/2004	NSDA2PESRU8	Americium-241	-0.00556	pCi/g	U	0.0383	n/a	n/a	2.41
RU16C	SO	6/4/2004	NSDA2PESRU16	Americium-241	-0.00593	pCi/g	U	0.0438	n/a	n/a	2.41
RU4C	SO	5/6/2004	NSDA2PESRU4D	Americium-241	-0.00745	pCi/g	U	0.042	n/a	n/a	2.41
RU20C	SO	6/8/2004	NSDA2PESRU20	Americium-241	-0.0129	pCi/g	U	0.0452	n/a	n/a	2.41

Number of Samples included in EU		10			
Maximum Value of all samples		0.136	Average Value	0.016533	
Exceed Screening for Max Value?	Cesium-137	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Cesium-137	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU2C	SO	5/6/2004	NSDA2PESRU2	Cesium-137	0.136	pCi/g		0.0275	0.49	0.28	0.1
RU13C	SO	6/2/2004	NSDA2PESRU13	Cesium-137	0.0811	pCi/g		0.0394	0.49	0.28	0.1
RU4C	SO	5/6/2004	NSDA2PESRU4	Cesium-137	0.0294	pCi/g	U	0.0297	0.49	0.28	0.1
RU8C	SO	5/18/2004	NSDA2PESRU8	Cesium-137	0.000595	pCi/g	U	0.0266	0.49	0.28	0.1
RU4C	SO	5/6/2004	NSDA2PESRU4D	Cesium-137	-0.0029	pCi/g	U	0.0282	0.49	0.28	0.1
RU10C	SO	5/20/2004	NSDA2PESRU10	Cesium-137	-0.00783	pCi/g	U	0.0266	0.49	0.28	0.1
RU16C	SO	6/4/2004	NSDA2PESRU16	Cesium-137	-0.00974	pCi/g	U	0.0237	0.49	0.28	0.1
RU20C	SO	6/8/2004	NSDA2PESRU20	Cesium-137	-0.0145	pCi/g	U	0.0336	0.49	0.28	0.1
RU5C	SO	5/11/2004	NSDA2PESRU5	Cesium-137	-0.0198	pCi/g	U	0.0232	0.49	0.28	0.1
RU18C	SO	6/4/2004	NSDA2PESRU18	Cesium-137	-0.027	pCi/g	U	0.029	0.49	0.28	0.1

Number of Samples included in EU		10			
Maximum Value of all samples		1.58	Average Value	0.201243	
Exceed Screening for Max Value?	Neptunium-237	Yes			
UCL 95 (ProUCL)		0.885481			
Exceed Screening for UCL95?	Neptunium-237	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU13C	SO	6/2/2004	NSDA2PESRU13	Neptunium-237	1.58	pCi/g		0.0389	0.1	n/a	0.221
RU20C	SO	6/8/2004	NSDA2PESRU20	Neptunium-237	0.351	pCi/g		0.0349	0.1	n/a	0.221
RU2C	SO	5/6/2004	NSDA2PESRU2	Neptunium-237	0.052	pCi/g		0.0202	0.1	n/a	0.221
RU16C	SO	6/4/2004	NSDA2PESRU16	Neptunium-237	0.0143	pCi/g	U	0.0388	0.1	n/a	0.221
RU18C	SO	6/4/2004	NSDA2PESRU18	Neptunium-237	0.00875	pCi/g	U	0.0391	0.1	n/a	0.221
RU8C	SO	5/18/2004	NSDA2PESRU8	Neptunium-237	0.00594	pCi/g	U	0.0284	0.1	n/a	0.221
RU5C	SO	5/11/2004	NSDA2PESRU5	Neptunium-237	0.00421	pCi/g	U	0.0263	0.1	n/a	0.221
RU10C	SO	5/20/2004	NSDA2PESRU10	Neptunium-237	0.0039	pCi/g	U	0.0298	0.1	n/a	0.221
RU4C	SO	5/6/2004	NSDA2PESRU4D	Neptunium-237	-0.0017	pCi/g	U	0.021	0.1	n/a	0.221
RU4C	SO	5/6/2004	NSDA2PESRU4	Neptunium-237	-0.00597	pCi/g	U	0.0233	0.1	n/a	0.221

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.539	Average Value	0.054616
Exceed Screening for Max Value?	Plutonium-239/240	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Plutonium-239/240	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU13C	SO	6/2/2004	NSDA2PESRU13	Plutonium-239/240	0.539	pCi/g		0.026	0.025	n/a	2.85
RU2C	SO	5/6/2004	NSDA2PESRU2	Plutonium-239/240	0.0205	pCi/g	U	0.022	0.025	n/a	2.85
RU20C	SO	6/8/2004	NSDA2PESRU20	Plutonium-239/240	0.00963	pCi/g	U	0.023	0.025	n/a	2.85
RU16C	SO	6/4/2004	NSDA2PESRU16	Plutonium-239/240	0.0051	pCi/g	U	0.026	0.025	n/a	2.85
RU18C	SO	6/4/2004	NSDA2PESRU18	Plutonium-239/240	0.00369	pCi/g	U	0.0258	0.025	n/a	2.85
RU10C	SO	5/20/2004	NSDA2PESRU10	Plutonium-239/240	0.000569	pCi/g	U	0.0192	0.025	n/a	2.85
RU4C	SO	5/6/2004	NSDA2PESRU4D	Plutonium-239/240	-0.00218	pCi/g	U	0.0213	0.025	n/a	2.85
RU8C	SO	5/18/2004	NSDA2PESRU8	Plutonium-239/240	-0.00348	pCi/g	U	0.0216	0.025	n/a	2.85
RU5C	SO	5/11/2004	NSDA2PESRU5	Plutonium-239/240	-0.00497	pCi/g	U	0.0204	0.025	n/a	2.85
RU4C	SO	5/6/2004	NSDA2PESRU4	Plutonium-239/240	-0.0217	pCi/g	U	0.0347	0.025	n/a	2.85

Number of Samples included in EU		10		
Maximum Value of all samples		182	Average Value	29.33816
Exceed Screening for Max Value?	Technetium-99	Yes		
UCL 95 (ProUCL)		105.869		
Exceed Screening for UCL95?	Technetium-99	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU13C	SO	6/2/2004	NSDA2PESRU13	Technetium-99	182	pCi/g		1.98	2.5	2.8	99.1
RU2C	SO	5/6/2004	NSDA2PESRU2	Technetium-99	38.4	pCi/g		2.02	2.5	2.8	99.1
RU20C	SO	6/8/2004	NSDA2PESRU20	Technetium-99	29.7	pCi/g		2.09	2.5	2.8	99.1
RU16C	SO	6/4/2004	NSDA2PESRU16	Technetium-99	27.2	pCi/g		1.98	2.5	2.8	99.1
RU18C	SO	6/4/2004	NSDA2PESRU18	Technetium-99	10.6	pCi/g		1.98	2.5	2.8	99.1
RU4C	SO	5/6/2004	NSDA2PESRU4	Technetium-99	3.34	pCi/g		2.02	2.5	2.8	99.1
RU4C	SO	5/6/2004	NSDA2PESRU4D	Technetium-99	1.72	pCi/g	U	2.02	2.5	2.8	99.1
RU10C	SO	5/20/2004	NSDA2PESRU10	Technetium-99	1.6	pCi/g	U	1.98	2.5	2.8	99.1
RU5C	SO	5/11/2004	NSDA2PESRU5	Technetium-99	-0.0384	pCi/g	U	1.9	2.5	2.8	99.1
RU8C	SO	5/18/2004	NSDA2PESRU8	Technetium-99	-1.14	pCi/g	U	1.9	2.5	2.8	99.1

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		15.9	Average Value	2.0675	
Exceed Screening for Max Value?	Thorium-230	Yes			
UCL 95 (ProUCL)		8.775918			
Exceed Screening for UCL95?	Thorium-230	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU13C	SO	6/2/2004	NSDA2PESRU13	Thorium-230	15.9	pCi/g		0.301	1.5	1.4	3.84
RU4C	SO	5/6/2004	NSDA2PESRU4	Thorium-230	1.2	pCi/g		0.277	1.5	1.4	3.84
RU2C	SO	5/6/2004	NSDA2PESRU2	Thorium-230	0.581	pCi/g		0.253	1.5	1.4	3.84
RU18C	SO	6/4/2004	NSDA2PESRU18	Thorium-230	0.543	pCi/g		0.301	1.5	1.4	3.84
RU4C	SO	5/6/2004	NSDA2PESRU4D	Thorium-230	0.487	pCi/g		0.254	1.5	1.4	3.84
RU20C	SO	6/8/2004	NSDA2PESRU20	Thorium-230	0.47	pCi/g		0.302	1.5	1.4	3.84
RU16C	SO	6/4/2004	NSDA2PESRU16	Thorium-230	0.469	pCi/g		0.3	1.5	1.4	3.84
RU5C	SO	5/11/2004	NSDA2PESRU5	Thorium-230	0.393	pCi/g		0.265	1.5	1.4	3.84
RU8C	SO	5/18/2004	NSDA2PESRU8	Thorium-230	0.351	pCi/g		0.265	1.5	1.4	3.84
RU10C	SO	5/20/2004	NSDA2PESRU10	Thorium-230	0.281	pCi/g		0.268	1.5	1.4	3.84

Number of Samples included in EU		10			
Maximum Value of all samples		11.6	Average Value	2.6089	
Exceed Screening for Max Value?	Uranium-234	Yes			
UCL 95 (ProUCL)		7.324079			
Exceed Screening for UCL95?	Uranium-234	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU20C	SO	6/8/2004	NSDA2PESRU20	Uranium-234	11.6	pCi/g	T	0.879	1.2	1.2	4.97
RU13C	SO	6/2/2004	NSDA2PESRU13	Uranium-234	7.87	pCi/g		0.887	1.2	1.2	4.97
RU2C	SO	5/6/2004	NSDA2PESRU2	Uranium-234	3.34	pCi/g		0.0786	1.2	1.2	4.97
RU16C	SO	6/4/2004	NSDA2PESRU16	Uranium-234	1.73	pCi/g		0.874	1.2	1.2	4.97
RU4C	SO	5/6/2004	NSDA2PESRU4	Uranium-234	0.378	pCi/g		0.0778	1.2	1.2	4.97
RU10C	SO	5/20/2004	NSDA2PESRU10	Uranium-234	0.376	pCi/g		0.0674	1.2	1.2	4.97
RU8C	SO	5/18/2004	NSDA2PESRU8	Uranium-234	0.269	pCi/g		0.0695	1.2	1.2	4.97
RU4C	SO	5/6/2004	NSDA2PESRU4D	Uranium-234	0.235	pCi/g		0.0779	1.2	1.2	4.97
RU5C	SO	5/11/2004	NSDA2PESRU5	Uranium-234	0.235	pCi/g		0.0703	1.2	1.2	4.97
RU18C	SO	6/4/2004	NSDA2PESRU18	Uranium-234	0.056	pCi/g	U	0.873	1.2	1.2	4.97

Screening for NSDD EU 1 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		20.2	Average Value	4.065
Exceed Screening for Max Value?	Uranium-238	Yes		
UCL 95 (ProUCL)		25.50281		
Exceed Screening for UCL95?	Uranium-238	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU20C	SO	6/8/2004	NSDA2PESRU20	Uranium-238	20.2	pCi/g	T	0.655	1.2	1.2	1.13
RU13C	SO	6/2/2004	NSDA2PESRU13	Uranium-238	12.4	pCi/g		0.242	1.2	1.2	1.13
RU2C	SO	5/6/2004	NSDA2PESRU2	Uranium-238	3.93	pCi/g		0.0272	1.2	1.2	1.13
RU16C	SO	6/4/2004	NSDA2PESRU16	Uranium-238	2.27	pCi/g		0.228	1.2	1.2	1.13
RU4C	SO	5/6/2004	NSDA2PESRU4	Uranium-238	0.46	pCi/g		0.0253	1.2	1.2	1.13
RU10C	SO	5/20/2004	NSDA2PESRU10	Uranium-238	0.447	pCi/g		0.0228	1.2	1.2	1.13
RU8C	SO	5/18/2004	NSDA2PESRU8	Uranium-238	0.28	pCi/g		0.0232	1.2	1.2	1.13
RU4C	SO	5/6/2004	NSDA2PESRU4D	Uranium-238	0.266	pCi/g		0.0269	1.2	1.2	1.13
RU5C	SO	5/11/2004	NSDA2PESRU5	Uranium-238	0.248	pCi/g		0.024	1.2	1.2	1.13
RU18C	SO	6/4/2004	NSDA2PESRU18	Uranium-238	0.149	pCi/g	U	0.227	1.2	1.2	1.13

NOTE: A blank in the Lab Qualifier indicates a qualifier was not applied to the result.

An explanation of qualifier codes is found at the end of the appendix.

"No*" for exceeds screening indicates the value is exceeded, but the results are all nondetect.

NALs taken from 2012 updated NALs (DOE 2012).

Screening for NSDD EU 2 Verification Sampling

Number of Samples included in EU		10			
Maximum Value of all samples		12300	Average Value	8199	
Exceed Screening for Max Value?	Aluminum	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Aluminum	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU31C	SO	6/23/2004	NSDA2PESRU31	Aluminum	12300	mg/kg	NX	20	13000	12000	7740
RU27C	SO	6/14/2004	NSDA2PESRU27	Aluminum	10600	mg/kg	*NX	20	13000	12000	7740
RU26C	SO	6/11/2004	NSDA2PESRU26	Aluminum	10100	mg/kg	*NX	20	13000	12000	7740
RU36C	SO	6/25/2004	NSDA2PESRU36	Aluminum	8510	mg/kg	NX	20	13000	12000	7740
RU32C	SO	6/23/2004	NSDA2PESRU32	Aluminum	8370	mg/kg	NX	20	13000	12000	7740
RU35C	SO	6/25/2004	NSDA2PESRU35	Aluminum	7820	mg/kg	NX	20	13000	12000	7740
RU22C	SO	6/9/2004	NSDA2PESRU22	Aluminum	7450	mg/kg	*NX	20	13000	12000	7740
RU29C	SO	6/21/2004	NSDA2PESRU29	Aluminum	7060	mg/kg	NX	20	13000	12000	7740
RU23C	SO	6/10/2004	NSDA2PESRU23	Aluminum	5070	mg/kg	*NX	20	13000	12000	7740
RU29C	SO	6/21/2004	NSDA2PESRU29D	Aluminum	4710	mg/kg	NX	20	13000	12000	7740

Number of Samples included in EU		10			
Maximum Value of all samples		10	Average Value	10	
Exceed Screening for Max Value?	Antimony	No*			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Antimony	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU23C	SO	6/10/2004	NSDA2PESRU23	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU26C	SO	6/11/2004	NSDA2PESRU26	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU27C	SO	6/14/2004	NSDA2PESRU27	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU29C	SO	6/21/2004	NSDA2PESRU29	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU29C	SO	6/21/2004	NSDA2PESRU29D	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU31C	SO	6/23/2004	NSDA2PESRU31	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU32C	SO	6/23/2004	NSDA2PESRU32	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU35C	SO	6/25/2004	NSDA2PESRU35	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU36C	SO	6/25/2004	NSDA2PESRU36	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Arsenic	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Arsenic	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU23C	SO	6/10/2004	NSDA2PESRU23	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU26C	SO	6/11/2004	NSDA2PESRU26	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU27C	SO	6/14/2004	NSDA2PESRU27	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU29C	SO	6/21/2004	NSDA2PESRU29	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU29C	SO	6/21/2004	NSDA2PESRU29D	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU31C	SO	6/23/2004	NSDA2PESRU31	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU32C	SO	6/23/2004	NSDA2PESRU32	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU35C	SO	6/25/2004	NSDA2PESRU35	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU36C	SO	6/25/2004	NSDA2PESRU36	Arsenic	20	mg/kg	NU	20	12	7.9	0.236

Number of Samples included in EU		10		
Maximum Value of all samples		88.9	Average Value	62.96
Exceed Screening for Max Value?	Barium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Barium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU29C	SO	6/21/2004	NSDA2PESRU29	Barium	88.9	mg/kg		2.5	200	170	1530
RU35C	SO	6/25/2004	NSDA2PESRU35	Barium	78.7	mg/kg	N	2.5	200	170	1530
RU26C	SO	6/11/2004	NSDA2PESRU26	Barium	74	mg/kg	N	2.5	200	170	1530
RU23C	SO	6/10/2004	NSDA2PESRU23	Barium	71.7	mg/kg	*N	2.5	200	170	1530
RU29C	SO	6/21/2004	NSDA2PESRU29D	Barium	70.9	mg/kg		2.5	200	170	1530
RU22C	SO	6/9/2004	NSDA2PESRU22	Barium	68.5	mg/kg	*N	2.5	200	170	1530
RU36C	SO	6/25/2004	NSDA2PESRU36	Barium	56.3	mg/kg	N	2.5	200	170	1530
RU27C	SO	6/14/2004	NSDA2PESRU27	Barium	50.2	mg/kg	N	2.5	200	170	1530
RU31C	SO	6/23/2004	NSDA2PESRU31	Barium	38.9	mg/kg		2.5	200	170	1530
RU32C	SO	6/23/2004	NSDA2PESRU32	Barium	31.5	mg/kg		2.5	200	170	1530

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		1.2	Average Value	0.6759	
Exceed Screening for Max Value?	Beryllium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Beryllium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU32C	SO	6/23/2004	NSDA2PESRU32	Beryllium	1.2	mg/kg	J	0.5	0.67	0.69	15.6
RU22C	SO	6/9/2004	NSDA2PESRU22	Beryllium	1.02	mg/kg		0.5	0.67	0.69	15.6
RU31C	SO	6/23/2004	NSDA2PESRU31	Beryllium	0.813	mg/kg	J	0.5	0.67	0.69	15.6
RU23C	SO	6/10/2004	NSDA2PESRU23	Beryllium	0.608	mg/kg		0.5	0.67	0.69	15.6
RU29C	SO	6/21/2004	NSDA2PESRU29	Beryllium	0.607	mg/kg		0.5	0.67	0.69	15.6
RU27C	SO	6/14/2004	NSDA2PESRU27	Beryllium	0.506	mg/kg		0.5	0.67	0.69	15.6
RU26C	SO	6/11/2004	NSDA2PESRU26	Beryllium	0.505	mg/kg		0.5	0.67	0.69	15.6
RU29C	SO	6/21/2004	NSDA2PESRU29D	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU35C	SO	6/25/2004	NSDA2PESRU35	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU36C	SO	6/25/2004	NSDA2PESRU36	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6

Number of Samples included in EU		10			
Maximum Value of all samples		2.34	Average Value	2.035	
Exceed Screening for Max Value?	Cadmium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Cadmium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Cadmium	2.34	mg/kg		2	0.21	0.21	5
RU32C	SO	6/23/2004	NSDA2PESRU32	Cadmium	2.01	mg/kg		2	0.21	0.21	5
RU23C	SO	6/10/2004	NSDA2PESRU23	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU26C	SO	6/11/2004	NSDA2PESRU26	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU27C	SO	6/14/2004	NSDA2PESRU27	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU29C	SO	6/21/2004	NSDA2PESRU29	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU29C	SO	6/21/2004	NSDA2PESRU29D	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU31C	SO	6/23/2004	NSDA2PESRU31	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU35C	SO	6/25/2004	NSDA2PESRU35	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU36C	SO	6/25/2004	NSDA2PESRU36	Cadmium	2	mg/kg	U	2	0.21	0.21	5

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		17.8	Average Value	12.478	
Exceed Screening for Max Value?	Chromium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Chromium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU32C	SO	6/23/2004	NSDA2PESRU32	Chromium	17.8	mg/kg		2.5	16	43	15.5
RU22C	SO	6/9/2004	NSDA2PESRU22	Chromium	16.8	mg/kg		2.5	16	43	15.5
RU31C	SO	6/23/2004	NSDA2PESRU31	Chromium	15.6	mg/kg		2.5	16	43	15.5
RU27C	SO	6/14/2004	NSDA2PESRU27	Chromium	14	mg/kg	N	2.5	16	43	15.5
RU26C	SO	6/11/2004	NSDA2PESRU26	Chromium	12.7	mg/kg	N	2.5	16	43	15.5
RU29C	SO	6/21/2004	NSDA2PESRU29	Chromium	12.1	mg/kg		2.5	16	43	15.5
RU36C	SO	6/25/2004	NSDA2PESRU36	Chromium	10.5	mg/kg		2.5	16	43	15.5
RU35C	SO	6/25/2004	NSDA2PESRU35	Chromium	9.76	mg/kg		2.5	16	43	15.5
RU29C	SO	6/21/2004	NSDA2PESRU29D	Chromium	8.02	mg/kg		2.5	16	43	15.5
RU23C	SO	6/10/2004	NSDA2PESRU23	Chromium	7.5	mg/kg		2.5	16	43	15.5

Number of Samples included in EU		10			
Maximum Value of all samples		28.8	Average Value	14.161	
Exceed Screening for Max Value?	Copper	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Copper	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Copper	28.8	mg/kg	N	2.5	19	25	313
RU31C	SO	6/23/2004	NSDA2PESRU31	Copper	19.6	mg/kg	J	2.5	19	25	313
RU29C	SO	6/21/2004	NSDA2PESRU29	Copper	14.8	mg/kg		2.5	19	25	313
RU35C	SO	6/25/2004	NSDA2PESRU35	Copper	14.1	mg/kg		2.5	19	25	313
RU36C	SO	6/25/2004	NSDA2PESRU36	Copper	13.9	mg/kg		2.5	19	25	313
RU32C	SO	6/23/2004	NSDA2PESRU32	Copper	13.2	mg/kg	J	2.5	19	25	313
RU23C	SO	6/10/2004	NSDA2PESRU23	Copper	11.3	mg/kg	N	2.5	19	25	313
RU26C	SO	6/11/2004	NSDA2PESRU26	Copper	8.88	mg/kg		2.5	19	25	313
RU27C	SO	6/14/2004	NSDA2PESRU27	Copper	8.81	mg/kg		2.5	19	25	313
RU29C	SO	6/21/2004	NSDA2PESRU29D	Copper	8.22	mg/kg		2.5	19	25	313

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		21800	Average Value	12232
Exceed Screening for Max Value?	Iron	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Iron	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU32C	SO	6/23/2004	NSDA2PESRU32	Iron	21800	mg/kg	*NX	20	28000	28000	5480
RU22C	SO	6/9/2004	NSDA2PESRU22	Iron	17600	mg/kg	NX	20	28000	28000	5480
RU31C	SO	6/23/2004	NSDA2PESRU31	Iron	16300	mg/kg	*NX	20	28000	28000	5480
RU26C	SO	6/11/2004	NSDA2PESRU26	Iron	13000	mg/kg	*BNX	20	28000	28000	5480
RU36C	SO	6/25/2004	NSDA2PESRU36	Iron	10200	mg/kg	NX	20	28000	28000	5480
RU27C	SO	6/14/2004	NSDA2PESRU27	Iron	9780	mg/kg	*BNX	20	28000	28000	5480
RU23C	SO	6/10/2004	NSDA2PESRU23	Iron	9010	mg/kg	NX	20	28000	28000	5480
RU35C	SO	6/25/2004	NSDA2PESRU35	Iron	8830	mg/kg	NX	20	28000	28000	5480
RU29C	SO	6/21/2004	NSDA2PESRU29	Iron	8620	mg/kg	NX	20	28000	28000	5480
RU29C	SO	6/21/2004	NSDA2PESRU29D	Iron	7180	mg/kg	NX	20	28000	28000	5480

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Lead	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Lead	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Lead	20	mg/kg	NU	20	36	23	400
RU23C	SO	6/10/2004	NSDA2PESRU23	Lead	20	mg/kg	NU	20	36	23	400
RU26C	SO	6/11/2004	NSDA2PESRU26	Lead	20	mg/kg	*NU	20	36	23	400
RU27C	SO	6/14/2004	NSDA2PESRU27	Lead	20	mg/kg	*NU	20	36	23	400
RU29C	SO	6/21/2004	NSDA2PESRU29	Lead	20	mg/kg	U	20	36	23	400
RU29C	SO	6/21/2004	NSDA2PESRU29D	Lead	20	mg/kg	U	20	36	23	400
RU31C	SO	6/23/2004	NSDA2PESRU31	Lead	20	mg/kg	U	20	36	23	400
RU32C	SO	6/23/2004	NSDA2PESRU32	Lead	20	mg/kg	U	20	36	23	400
RU35C	SO	6/25/2004	NSDA2PESRU35	Lead	20	mg/kg	JU	20	36	23	400
RU36C	SO	6/25/2004	NSDA2PESRU36	Lead	20	mg/kg	JU	20	36	23	400

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		506	Average Value	237.8
Exceed Screening for Max Value?	Manganese	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Manganese	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU23C	SO	6/10/2004	NSDA2PESRU23	Manganese	506	mg/kg	N	2.5	1500	820	183
RU22C	SO	6/9/2004	NSDA2PESRU22	Manganese	319	mg/kg	N	2.5	1500	820	183
RU26C	SO	6/11/2004	NSDA2PESRU26	Manganese	268	mg/kg	*N	2.5	1500	820	183
RU31C	SO	6/23/2004	NSDA2PESRU31	Manganese	265	mg/kg		2.5	1500	820	183
RU29C	SO	6/21/2004	NSDA2PESRU29	Manganese	223	mg/kg		2.5	1500	820	183
RU29C	SO	6/21/2004	NSDA2PESRU29D	Manganese	223	mg/kg		2.5	1500	820	183
RU27C	SO	6/14/2004	NSDA2PESRU27	Manganese	150	mg/kg	*N	2.5	1500	820	183
RU36C	SO	6/25/2004	NSDA2PESRU36	Manganese	147	mg/kg	N	2.5	1500	820	183
RU32C	SO	6/23/2004	NSDA2PESRU32	Manganese	143	mg/kg		2.5	1500	820	183
RU35C	SO	6/25/2004	NSDA2PESRU35	Manganese	134	mg/kg	N	2.5	1500	820	183

Number of Samples included in EU		10		
Maximum Value of all samples		0.2	Average Value	0.2
Exceed Screening for Max Value?	Mercury	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Mercury	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU23C	SO	6/10/2004	NSDA2PESRU23	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU26C	SO	6/11/2004	NSDA2PESRU26	Mercury	0.2	mg/kg	*NU	0.2	0.2	0.13	2.35
RU27C	SO	6/14/2004	NSDA2PESRU27	Mercury	0.2	mg/kg	*NU	0.2	0.2	0.13	2.35
RU29C	SO	6/21/2004	NSDA2PESRU29	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU29C	SO	6/21/2004	NSDA2PESRU29D	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU31C	SO	6/23/2004	NSDA2PESRU31	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU32C	SO	6/23/2004	NSDA2PESRU32	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU35C	SO	6/25/2004	NSDA2PESRU35	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU36C	SO	6/25/2004	NSDA2PESRU36	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		40.8	Average Value	9.808
Exceed Screening for Max Value?	Nickel	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Nickel	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU27C	SO	6/14/2004	NSDA2PESRU27	Nickel	40.8	mg/kg	N	5	21	22	155
RU31C	SO	6/23/2004	NSDA2PESRU31	Nickel	8.64	mg/kg		5	21	22	155
RU29C	SO	6/21/2004	NSDA2PESRU29	Nickel	8.2	mg/kg		5	21	22	155
RU22C	SO	6/9/2004	NSDA2PESRU22	Nickel	7.32	mg/kg		5	21	22	155
RU29C	SO	6/21/2004	NSDA2PESRU29D	Nickel	6.52	mg/kg		5	21	22	155
RU35C	SO	6/25/2004	NSDA2PESRU35	Nickel	5.83	mg/kg	N	5	21	22	155
RU36C	SO	6/25/2004	NSDA2PESRU36	Nickel	5.77	mg/kg	N	5	21	22	155
RU23C	SO	6/10/2004	NSDA2PESRU23	Nickel	5	mg/kg	U	5	21	22	155
RU26C	SO	6/11/2004	NSDA2PESRU26	Nickel	5	mg/kg	NU	5	21	22	155
RU32C	SO	6/23/2004	NSDA2PESRU32	Nickel	5	mg/kg	U	5	21	22	155

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Selenium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Selenium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU23C	SO	6/10/2004	NSDA2PESRU23	Selenium	20	mg/kg	NUX	20	0.8	0.7	39.1
RU26C	SO	6/11/2004	NSDA2PESRU26	Selenium	20	mg/kg	*NUX	20	0.8	0.7	39.1
RU27C	SO	6/14/2004	NSDA2PESRU27	Selenium	20	mg/kg	*NUX	20	0.8	0.7	39.1
RU29C	SO	6/21/2004	NSDA2PESRU29	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU29C	SO	6/21/2004	NSDA2PESRU29D	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU31C	SO	6/23/2004	NSDA2PESRU31	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU32C	SO	6/23/2004	NSDA2PESRU32	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU35C	SO	6/25/2004	NSDA2PESRU35	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU36C	SO	6/25/2004	NSDA2PESRU36	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		2.5	Average Value	2.5
Exceed Screening for Max Value?	Silver	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Silver	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU23C	SO	6/10/2004	NSDA2PESRU23	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU26C	SO	6/11/2004	NSDA2PESRU26	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU27C	SO	6/14/2004	NSDA2PESRU27	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU29C	SO	6/21/2004	NSDA2PESRU29	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU29C	SO	6/21/2004	NSDA2PESRU29D	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU31C	SO	6/23/2004	NSDA2PESRU31	Silver	2.5	mg/kg	*U	2.5	2.3	2.7	39.1
RU32C	SO	6/23/2004	NSDA2PESRU32	Silver	2.5	mg/kg	*U	2.5	2.3	2.7	39.1
RU35C	SO	6/25/2004	NSDA2PESRU35	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU36C	SO	6/25/2004	NSDA2PESRU36	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1

Number of Samples included in EU		10		
Maximum Value of all samples		2	Average Value	2
Exceed Screening for Max Value?	Thallium	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Thallium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU23C	SO	6/10/2004	NSDA2PESRU23	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU26C	SO	6/11/2004	NSDA2PESRU26	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU27C	SO	6/14/2004	NSDA2PESRU27	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU29C	SO	6/21/2004	NSDA2PESRU29	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU29C	SO	6/21/2004	NSDA2PESRU29D	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU31C	SO	6/23/2004	NSDA2PESRU31	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU32C	SO	6/23/2004	NSDA2PESRU32	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU35C	SO	6/25/2004	NSDA2PESRU35	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU36C	SO	6/25/2004	NSDA2PESRU36	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		104	Average Value	100.4
Exceed Screening for Max Value?	Uranium	Yes		
UCL 95 (ProUCL)		101.1333		
Exceed Screening for UCL95?	Uranium	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	6/9/2004	NSDA2PESRU22	Uranium	104	mg/kg	N	100	4.9	4.6	23.4
RU23C	SO	6/10/2004	NSDA2PESRU23	Uranium	100	mg/kg	NU	100	4.9	4.6	23.4
RU26C	SO	6/11/2004	NSDA2PESRU26	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4
RU27C	SO	6/14/2004	NSDA2PESRU27	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4
RU29C	SO	6/21/2004	NSDA2PESRU29	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU29C	SO	6/21/2004	NSDA2PESRU29D	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU31C	SO	6/23/2004	NSDA2PESRU31	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU32C	SO	6/23/2004	NSDA2PESRU32	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU35C	SO	6/25/2004	NSDA2PESRU35	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU36C	SO	6/25/2004	NSDA2PESRU36	Uranium	100	mg/kg	U	100	4.9	4.6	23.4

Number of Samples included in EU		10		
Maximum Value of all samples		43.3	Average Value	20.02
Exceed Screening for Max Value?	Vanadium	Yes		
UCL 95 (ProUCL)		26.58		
Exceed Screening for UCL95?	Vanadium	No		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU32C	SO	6/23/2004	NSDA2PESRU32	Vanadium	43.3	mg/kg		2.5	38	37	39.4
RU22C	SO	6/9/2004	NSDA2PESRU22	Vanadium	32.3	mg/kg	N	2.5	38	37	39.4
RU27C	SO	6/14/2004	NSDA2PESRU27	Vanadium	22.5	mg/kg	*N	2.5	38	37	39.4
RU31C	SO	6/23/2004	NSDA2PESRU31	Vanadium	18.8	mg/kg		2.5	38	37	39.4
RU29C	SO	6/21/2004	NSDA2PESRU29	Vanadium	15.8	mg/kg		2.5	38	37	39.4
RU26C	SO	6/11/2004	NSDA2PESRU26	Vanadium	15.3	mg/kg	*N	2.5	38	37	39.4
RU35C	SO	6/25/2004	NSDA2PESRU35	Vanadium	14.9	mg/kg		2.5	38	37	39.4
RU23C	SO	6/10/2004	NSDA2PESRU23	Vanadium	13	mg/kg	N	2.5	38	37	39.4
RU36C	SO	6/25/2004	NSDA2PESRU36	Vanadium	12.6	mg/kg		2.5	38	37	39.4
RU29C	SO	6/21/2004	NSDA2PESRU29D	Vanadium	11.7	mg/kg		2.5	38	37	39.4

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.24	Average Value	0.163
Exceed Screening for Max Value?	Total PCBs	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PCBs	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	09-Jun-04	NSDA2PESRU22	Total PCBs	0.24	mg/kg	U	0.24	n/a	n/a	0.067
RU23C	SO	10-Jun-04	NSDA2PESRU23	Total PCBs	0.24	mg/kg	U	0.24	n/a	n/a	0.067
RU26C	SO	11-Jun-04	NSDA2PESRU26	Total PCBs	0.24	mg/kg	U	0.24	n/a	n/a	0.067
RU27C	SO	14-Jun-04	NSDA2PESRU27	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU29C	SO	21-Jun-04	NSDA2PESRU29	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU31C	SO	23-Jun-04	NSDA2PESRU31	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU32C	SO	23-Jun-04	NSDA2PESRU32	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU35C	SO	25-Jun-04	NSDA2PESRU35	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU36C	SO	25-Jun-04	NSDA2PESRU36	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067

Number of Samples included in EU		10		
Maximum Value of all samples		0.5	Average Value	0.481
Exceed Screening for Max Value?	Total PAH	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PAH	No*		

Station	Media	Date Collected	Sample ID	Analysis	Max of Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU31C	SO	23-Jun-04	NSDA2PESRU31	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU26C	SO	11-Jun-04	NSDA2PESRU26	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU29C	SO	21-Jun-04	NSDA2PESRU29	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU32C	SO	23-Jun-04	NSDA2PESRU32	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU22C	SO	09-Jun-04	NSDA2PESRU22	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU23C	SO	10-Jun-04	NSDA2PESRU23	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU35C	SO	25-Jun-04	NSDA2PESRU35	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU27C	SO	14-Jun-04	NSDA2PESRU27	Total PAH	0.47	mg/kg	U	0.47	n/a	n/a	0.00577
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Total PAH	0.47	mg/kg	U	0.47	n/a	n/a	0.00577
RU36C	SO	25-Jun-04	NSDA2PESRU36	Total PAH	0.46	mg/kg	U	0.46	n/a	n/a	0.00577

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.355	Average Value	0.053975
Exceed Screening for Max Value?	Activity of U-235	Yes		
UCL 95 (ProUCL)		0.209		
Exceed Screening for UCL95?	Activity of U-235	No		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	09-Jun-04	NSDA2PESRU22	Activity of U-235	0.355	pCi/g		0.0578	0.06	0.06	0.332
RU35C	SO	25-Jun-04	NSDA2PESRU35	Activity of U-235	0.0993	pCi/g	U	0.222	0.06	0.06	0.332
RU31C	SO	23-Jun-04	NSDA2PESRU31	Activity of U-235	0.0514	pCi/g	U	0.216	0.06	0.06	0.332
RU36C	SO	25-Jun-04	NSDA2PESRU36	Activity of U-235	0.0367	pCi/g	U	0.215	0.06	0.06	0.332
RU29C	SO	21-Jun-04	NSDA2PESRU29	Activity of U-235	0.029	pCi/g	U	0.213	0.06	0.06	0.332
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Activity of U-235	0.0182	pCi/g	U	0.213	0.06	0.06	0.332
RU23C	SO	10-Jun-04	NSDA2PESRU23	Activity of U-235	0.0102	pCi/g	U	0.0562	0.06	0.06	0.332
RU27C	SO	14-Jun-04	NSDA2PESRU27	Activity of U-235	-0.00275	pCi/g	U	0.224	0.06	0.06	0.332
RU32C	SO	23-Jun-04	NSDA2PESRU32	Activity of U-235	-0.0229	pCi/g	U	0.208	0.06	0.06	0.332
RU26C	SO	11-Jun-04	NSDA2PESRU26	Activity of U-235	-0.0344	pCi/g	U	0.221	0.06	0.06	0.332

Number of Samples included in EU		10		
Maximum Value of all samples		0.26	Average Value	0.04359
Exceed Screening for Max Value?	Americium-241	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Americium-241	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU35C	SO	25-Jun-04	NSDA2PESRU35	Americium-241	0.26	pCi/g		0.185	n/a	n/a	2.41
RU22C	SO	09-Jun-04	NSDA2PESRU22	Americium-241	0.0753	pCi/g	D	0.0452	n/a	n/a	2.41
RU29C	SO	21-Jun-04	NSDA2PESRU29	Americium-241	0.0672	pCi/g	U	0.184	n/a	n/a	2.41
RU36C	SO	25-Jun-04	NSDA2PESRU36	Americium-241	0.0218	pCi/g	U	0.187	n/a	n/a	2.41
RU32C	SO	23-Jun-04	NSDA2PESRU32	Americium-241	0.0202	pCi/g	U	0.178	n/a	n/a	2.41
RU31C	SO	23-Jun-04	NSDA2PESRU31	Americium-241	0.00673	pCi/g	U	0.179	n/a	n/a	2.41
RU26C	SO	11-Jun-04	NSDA2PESRU26	Americium-241	0.00439	pCi/g	U	0.18	n/a	n/a	2.41
RU23C	SO	10-Jun-04	NSDA2PESRU23	Americium-241	-0.00235	pCi/g	DU	0.0444	n/a	n/a	2.41
RU27C	SO	14-Jun-04	NSDA2PESRU27	Americium-241	-0.00307	pCi/g	U	0.18	n/a	n/a	2.41
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Americium-241	-0.0143	pCi/g	U	0.18	n/a	n/a	2.41

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.126	Average Value	0.022952
Exceed Screening for Max Value?	Cesium-137	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Cesium-137	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU35C	SO	25-Jun-04	NSDA2PESRU35	Cesium-137	0.126	pCi/g		0.0328	0.49	0.28	0.1
RU22C	SO	09-Jun-04	NSDA2PESRU22	Cesium-137	0.0771	pCi/g		0.0293	0.49	0.28	0.1
RU36C	SO	25-Jun-04	NSDA2PESRU36	Cesium-137	0.0281	pCi/g	U	0.0309	0.49	0.28	0.1
RU23C	SO	10-Jun-04	NSDA2PESRU23	Cesium-137	0.0183	pCi/g	U	0.0321	0.49	0.28	0.1
RU29C	SO	21-Jun-04	NSDA2PESRU29	Cesium-137	0.0177	pCi/g	U	0.0334	0.49	0.28	0.1
RU32C	SO	23-Jun-04	NSDA2PESRU32	Cesium-137	0.00156	pCi/g	U	0.0283	0.49	0.28	0.1
RU31C	SO	23-Jun-04	NSDA2PESRU31	Cesium-137	-0.00553	pCi/g	U	0.0301	0.49	0.28	0.1
RU26C	SO	11-Jun-04	NSDA2PESRU26	Cesium-137	-0.00981	pCi/g	U	0.0307	0.49	0.28	0.1
RU27C	SO	14-Jun-04	NSDA2PESRU27	Cesium-137	-0.0119	pCi/g	U	0.0209	0.49	0.28	0.1
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Cesium-137	-0.012	pCi/g	U	0.0246	0.49	0.28	0.1

Number of Samples included in EU		10		
Maximum Value of all samples		1.09	Average Value	0.143675
Exceed Screening for Max Value?	Neptunium-237	Yes		
UCL 95 (ProUCL)		0.577		
Exceed Screening for UCL95?	Neptunium-237	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	09-Jun-04	NSDA2PESRU22	Neptunium-237	1.09	pCi/g		0.0338	0.1	n/a	0.221
RU31C	SO	23-Jun-04	NSDA2PESRU31	Neptunium-237	0.141	pCi/g		0.13	0.1	n/a	0.221
RU35C	SO	25-Jun-04	NSDA2PESRU35	Neptunium-237	0.0845	pCi/g	U	0.129	0.1	n/a	0.221
RU36C	SO	25-Jun-04	NSDA2PESRU36	Neptunium-237	0.0453	pCi/g	U	0.118	0.1	n/a	0.221
RU32C	SO	23-Jun-04	NSDA2PESRU32	Neptunium-237	0.0307	pCi/g	U	0.133	0.1	n/a	0.221
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Neptunium-237	0.021	pCi/g	U	0.125	0.1	n/a	0.221
RU23C	SO	10-Jun-04	NSDA2PESRU23	Neptunium-237	0.00944	pCi/g	U	0.0334	0.1	n/a	0.221
RU27C	SO	14-Jun-04	NSDA2PESRU27	Neptunium-237	0.00591	pCi/g	U	0.128	0.1	n/a	0.221
RU26C	SO	11-Jun-04	NSDA2PESRU26	Neptunium-237	0.00588	pCi/g	U	0.133	0.1	n/a	0.221
RU29C	SO	21-Jun-04	NSDA2PESRU29	Neptunium-237	0.00302	pCi/g	U	0.14	0.1	n/a	0.221

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		0.587	Average Value	0.111239	
Exceed Screening for Max Value?	Plutonium-239/240	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Plutonium-239/240	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU35C	SO	25-Jun-04	NSDA2PESRU35	Plutonium-239/240	0.587	pCi/g		0.0779	0.025	n/a	2.85
RU22C	SO	09-Jun-04	NSDA2PESRU22	Plutonium-239/240	0.472	pCi/g		0.0208	0.025	n/a	2.85
RU36C	SO	25-Jun-04	NSDA2PESRU36	Plutonium-239/240	0.0241	pCi/g	U	0.0856	0.025	n/a	2.85
RU29C	SO	21-Jun-04	NSDA2PESRU29	Plutonium-239/240	0.0128	pCi/g	U	0.198	0.025	n/a	2.85
RU31C	SO	23-Jun-04	NSDA2PESRU31	Plutonium-239/240	0.0114	pCi/g	U	0.0868	0.025	n/a	2.85
RU32C	SO	23-Jun-04	NSDA2PESRU32	Plutonium-239/240	0.00462	pCi/g	U	0.0866	0.025	n/a	2.85
RU27C	SO	14-Jun-04	NSDA2PESRU27	Plutonium-239/240	0.0033	pCi/g	U	0.0831	0.025	n/a	2.85
RU23C	SO	10-Jun-04	NSDA2PESRU23	Plutonium-239/240	0.00243	pCi/g	U	0.022	0.025	n/a	2.85
RU26C	SO	11-Jun-04	NSDA2PESRU26	Plutonium-239/240	-0.00255	pCi/g	U	0.0794	0.025	n/a	2.85
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Plutonium-239/240	-0.00271	pCi/g	U	0.0848	0.025	n/a	2.85

Number of Samples included in EU		10			
Maximum Value of all samples		98	Average Value	14.726	
Exceed Screening for Max Value?	Technetium-99	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Technetium-99	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	09-Jun-04	NSDA2PESRU22	Technetium-99	98	pCi/g		1.94	2.5	2.8	99.1
RU26C	SO	11-Jun-04	NSDA2PESRU26	Technetium-99	14.8	pCi/g		1.95	2.5	2.8	99.1
RU23C	SO	10-Jun-04	NSDA2PESRU23	Technetium-99	9.01	pCi/g		1.94	2.5	2.8	99.1
RU36C	SO	25-Jun-04	NSDA2PESRU36	Technetium-99	8.42	pCi/g		1.91	2.5	2.8	99.1
RU35C	SO	25-Jun-04	NSDA2PESRU35	Technetium-99	7.85	pCi/g		1.91	2.5	2.8	99.1
RU32C	SO	23-Jun-04	NSDA2PESRU32	Technetium-99	2.53	pCi/g		1.79	2.5	2.8	99.1
RU31C	SO	23-Jun-04	NSDA2PESRU31	Technetium-99	2.01	pCi/g		1.79	2.5	2.8	99.1
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Technetium-99	1.75	pCi/g	U	1.79	2.5	2.8	99.1
RU27C	SO	14-Jun-04	NSDA2PESRU27	Technetium-99	1.53	pCi/g	U	1.95	2.5	2.8	99.1
RU29C	SO	21-Jun-04	NSDA2PESRU29	Technetium-99	1.36	pCi/g	U	1.79	2.5	2.8	99.1

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		17.6	Average Value	3.2825	
Exceed Screening for Max Value?	Thorium-230	Yes			
UCL 95 (ProUCL)		11.02			
Exceed Screening for UCL95?	Thorium-230	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU35C	SO	25-Jun-04	NSDA2PESRU35	Thorium-230	17.6	pCi/g	M	1.13	1.5	1.4	3.84
RU22C	SO	09-Jun-04	NSDA2PESRU22	Thorium-230	8.29	pCi/g		0.303	1.5	1.4	3.84
RU36C	SO	25-Jun-04	NSDA2PESRU36	Thorium-230	3.24	pCi/g	M	1.12	1.5	1.4	3.84
RU29C	SO	21-Jun-04	NSDA2PESRU29	Thorium-230	0.725	pCi/g	U	1.16	1.5	1.4	3.84
RU26C	SO	11-Jun-04	NSDA2PESRU26	Thorium-230	0.701	pCi/g	U	1.18	1.5	1.4	3.84
RU23C	SO	10-Jun-04	NSDA2PESRU23	Thorium-230	0.667	pCi/g		0.303	1.5	1.4	3.84
RU32C	SO	23-Jun-04	NSDA2PESRU32	Thorium-230	0.647	pCi/g	U	1.16	1.5	1.4	3.84
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Thorium-230	0.396	pCi/g	U	1.15	1.5	1.4	3.84
RU31C	SO	23-Jun-04	NSDA2PESRU31	Thorium-230	0.383	pCi/g	U	1.16	1.5	1.4	3.84
RU27C	SO	14-Jun-04	NSDA2PESRU27	Thorium-230	0.176	pCi/g	U	1.18	1.5	1.4	3.84

Number of Samples included in EU		10			
Maximum Value of all samples		4.41	Average Value	0.9162	
Exceed Screening for Max Value?	Uranium-234	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Uranium-234	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	09-Jun-04	NSDA2PESRU22	Uranium-234	4.41	pCi/g		0.869	1.2	1.2	4.97
RU35C	SO	25-Jun-04	NSDA2PESRU35	Uranium-234	1.68	pCi/g	U	3.26	1.2	1.2	4.97
RU31C	SO	23-Jun-04	NSDA2PESRU31	Uranium-234	0.962	pCi/g	U	3.15	1.2	1.2	4.97
RU36C	SO	25-Jun-04	NSDA2PESRU36	Uranium-234	0.562	pCi/g	U	3.25	1.2	1.2	4.97
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Uranium-234	0.423	pCi/g	U	3.14	1.2	1.2	4.97
RU29C	SO	21-Jun-04	NSDA2PESRU29	Uranium-234	0.378	pCi/g	U	3.15	1.2	1.2	4.97
RU32C	SO	23-Jun-04	NSDA2PESRU32	Uranium-234	0.324	pCi/g	U	3.14	1.2	1.2	4.97
RU23C	SO	10-Jun-04	NSDA2PESRU23	Uranium-234	0.143	pCi/g	U	0.868	1.2	1.2	4.97
RU27C	SO	14-Jun-04	NSDA2PESRU27	Uranium-234	0.143	pCi/g	U	3.36	1.2	1.2	4.97
RU26C	SO	11-Jun-04	NSDA2PESRU26	Uranium-234	0.137	pCi/g	U	3.35	1.2	1.2	4.97

Screening for NSDD EU 2 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		6.24	Average Value	1.2308
Exceed Screening for Max Value?	Uranium-238	Yes		
UCL 95 (ProUCL)		2.811		
Exceed Screening for UCL95?	Uranium-238	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU22C	SO	09-Jun-04	NSDA2PESRU22	Uranium-238	6.24	pCi/g		0.223	1.2	1.2	1.13
RU35C	SO	25-Jun-04	NSDA2PESRU35	Uranium-238	2.1	pCi/g		0.932	1.2	1.2	1.13
RU31C	SO	23-Jun-04	NSDA2PESRU31	Uranium-238	1.7	pCi/g		0.822	1.2	1.2	1.13
RU36C	SO	25-Jun-04	NSDA2PESRU36	Uranium-238	0.661	pCi/g	U	0.841	1.2	1.2	1.13
RU29C	SO	21-Jun-04	NSDA2PESRU29D	Uranium-238	0.414	pCi/g	U	0.819	1.2	1.2	1.13
RU32C	SO	23-Jun-04	NSDA2PESRU32	Uranium-238	0.389	pCi/g	U	0.817	1.2	1.2	1.13
RU23C	SO	10-Jun-04	NSDA2PESRU23	Uranium-238	0.26	pCi/g		0.222	1.2	1.2	1.13
RU29C	SO	21-Jun-04	NSDA2PESRU29	Uranium-238	0.209	pCi/g	U	0.82	1.2	1.2	1.13
RU27C	SO	14-Jun-04	NSDA2PESRU27	Uranium-238	0.202	pCi/g	U	0.862	1.2	1.2	1.13
RU26C	SO	11-Jun-04	NSDA2PESRU26	Uranium-238	0.133	pCi/g	U	0.86	1.2	1.2	1.13

NOTE: A blank in the Lab Qualifier indicates a qualifier was not applied to the result.
An explanation of qualifier codes is found at the end of the appendix.
"No*" for exceeds screening indicates the value is exceeded, but the results are all nondetect.
NALs taken from 2012 updated NALs (DOE 2012).

Screening for NSDD EU 3 Verification Sampling

Number of Samples included in EU		10			
Maximum Value of all samples		9340	Average Value	8120	
Exceed Screening for Max Value?	Aluminum	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Aluminum	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU40C	SO	29-Jun-04	NSDA2PESRU40	Aluminum	9340	mg/kg	NX	20	13000	12000	7740
RU52C	SO	19-Jul-04	NSDA2PESRU52	Aluminum	9070	mg/kg	NX	20	13000	12000	7740
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Aluminum	8930	mg/kg	*NX	20	13000	12000	7740
RU49C	SO	16-Jul-04	NSDA2PESRU49	Aluminum	8480	mg/kg	*NX	20	13000	12000	7740
RU50C	SO	16-Jul-04	NSDA2PESRU50	Aluminum	8400	mg/kg	*NX	20	13000	12000	7740
RU43C	SO	08-Jul-04	NSDA2PESRU43	Aluminum	8250	mg/kg	NX	20	13000	12000	7740
RU44C	SO	08-Jul-04	NSDA2PESRU44	Aluminum	8010	mg/kg	NX	20	13000	12000	7740
RU39C	SO	29-Jun-04	NSDA2PESRU39	Aluminum	7960	mg/kg	NX	20	13000	12000	7740
RU47C	SO	08-Jul-04	NSDA2PESRU47	Aluminum	6520	mg/kg	NX	20	13000	12000	7740
RU53C	SO	22-Jul-04	NSDA2PESRU53	Aluminum	6240	mg/kg	NX	20	13000	12000	7740

Number of Samples included in EU		10			
Maximum Value of all samples		10	Average Value	10	
Exceed Screening for Max Value?	Antimony	No*			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Antimony	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Antimony	10	mg/kg	N	10	0.21	0.21	3.13
RU40C	SO	29-Jun-04	NSDA2PESRU40	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU43C	SO	08-Jul-04	NSDA2PESRU43	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU44C	SO	08-Jul-04	NSDA2PESRU44	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU47C	SO	08-Jul-04	NSDA2PESRU47	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU49C	SO	16-Jul-04	NSDA2PESRU49	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU50C	SO	16-Jul-04	NSDA2PESRU50	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU52C	SO	19-Jul-04	NSDA2PESRU52	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU53C	SO	22-Jul-04	NSDA2PESRU53	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		21.4	Average Value	20.21	
Exceed Screening for Max Value?	Arsenic	Yes			
UCL 95 (ProUCL)		20.48			
Exceed Screening for UCL95?	Arsenic	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU52C	SO	19-Jul-04	NSDA2PESRU52	Arsenic	21.4	mg/kg		20	12	7.9	0.236
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Arsenic	20.7	mg/kg		20	12	7.9	0.236
RU39C	SO	29-Jun-04	NSDA2PESRU39	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU40C	SO	29-Jun-04	NSDA2PESRU40	Arsenic	20	mg/kg	NU	20	12	7.9	0.236
RU43C	SO	08-Jul-04	NSDA2PESRU43	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU44C	SO	08-Jul-04	NSDA2PESRU44	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU47C	SO	08-Jul-04	NSDA2PESRU47	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU49C	SO	16-Jul-04	NSDA2PESRU49	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU50C	SO	16-Jul-04	NSDA2PESRU50	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU53C	SO	22-Jul-04	NSDA2PESRU53	Arsenic	20	mg/kg	U	20	12	7.9	0.236

Number of Samples included in EU		10			
Maximum Value of all samples		116	Average Value	89.62	
Exceed Screening for Max Value?	Barium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Barium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU52C	SO	19-Jul-04	NSDA2PESRU52	Barium	116	mg/kg	*N	2.5	200	170	1530
RU50C	SO	16-Jul-04	NSDA2PESRU50	Barium	113	mg/kg		2.5	200	170	1530
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Barium	112	mg/kg		2.5	200	170	1530
RU40C	SO	29-Jun-04	NSDA2PESRU40	Barium	96.2	mg/kg	N	2.5	200	170	1530
RU39C	SO	29-Jun-04	NSDA2PESRU39	Barium	88.1	mg/kg	N	2.5	200	170	1530
RU44C	SO	08-Jul-04	NSDA2PESRU44	Barium	87.5	mg/kg	*N	2.5	200	170	1530
RU47C	SO	08-Jul-04	NSDA2PESRU47	Barium	86.9	mg/kg	*N	2.5	200	170	1530
RU53C	SO	22-Jul-04	NSDA2PESRU53	Barium	74.3	mg/kg	*N	2.5	200	170	1530
RU43C	SO	08-Jul-04	NSDA2PESRU43	Barium	72	mg/kg	*N	2.5	200	170	1530
RU49C	SO	16-Jul-04	NSDA2PESRU49	Barium	50.2	mg/kg		2.5	200	170	1530

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		2.5	Average Value	0.8257
Exceed Screening for Max Value?	Beryllium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Beryllium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU52C	SO	19-Jul-04	NSDA2PESRU52	Beryllium	2.5	mg/kg		0.5	0.67	0.69	15.6
RU39C	SO	29-Jun-04	NSDA2PESRU39	Beryllium	0.805	mg/kg		0.5	0.67	0.69	15.6
RU40C	SO	29-Jun-04	NSDA2PESRU40	Beryllium	0.711	mg/kg		0.5	0.67	0.69	15.6
RU43C	SO	08-Jul-04	NSDA2PESRU43	Beryllium	0.705	mg/kg		0.5	0.67	0.69	15.6
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Beryllium	0.7	mg/kg		0.5	0.67	0.69	15.6
RU49C	SO	16-Jul-04	NSDA2PESRU49	Beryllium	0.61	mg/kg		0.5	0.67	0.69	15.6
RU50C	SO	16-Jul-04	NSDA2PESRU50	Beryllium	0.61	mg/kg		0.5	0.67	0.69	15.6
RU44C	SO	08-Jul-04	NSDA2PESRU44	Beryllium	0.609	mg/kg		0.5	0.67	0.69	15.6
RU47C	SO	08-Jul-04	NSDA2PESRU47	Beryllium	0.507	mg/kg		0.5	0.67	0.69	15.6
RU53C	SO	22-Jul-04	NSDA2PESRU53	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6

Number of Samples included in EU		10		
Maximum Value of all samples		2.41	Average Value	2.041
Exceed Screening for Max Value?	Cadmium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Cadmium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU52C	SO	19-Jul-04	NSDA2PESRU52	Cadmium	2.41	mg/kg		2	0.21	0.21	5
RU39C	SO	29-Jun-04	NSDA2PESRU39	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU40C	SO	29-Jun-04	NSDA2PESRU40	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU43C	SO	08-Jul-04	NSDA2PESRU43	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU44C	SO	08-Jul-04	NSDA2PESRU44	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU47C	SO	08-Jul-04	NSDA2PESRU47	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU49C	SO	16-Jul-04	NSDA2PESRU49	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU50C	SO	16-Jul-04	NSDA2PESRU50	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU53C	SO	22-Jul-04	NSDA2PESRU53	Cadmium	2	mg/kg	U	2	0.21	0.21	5

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		21.9	Average Value	16.42	
Exceed Screening for Max Value?	Chromium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Chromium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU52C	SO	19-Jul-04	NSDA2PESRU52	Chromium	21.9	mg/kg		2.5	16	43	15.5
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Chromium	21.6	mg/kg		2.5	16	43	15.5
RU50C	SO	16-Jul-04	NSDA2PESRU50	Chromium	20.2	mg/kg		2.5	16	43	15.5
RU47C	SO	08-Jul-04	NSDA2PESRU47	Chromium	19.6	mg/kg		2.5	16	43	15.5
RU40C	SO	29-Jun-04	NSDA2PESRU40	Chromium	14.7	mg/kg		2.5	16	43	15.5
RU39C	SO	29-Jun-04	NSDA2PESRU39	Chromium	14.3	mg/kg		2.5	16	43	15.5
RU43C	SO	08-Jul-04	NSDA2PESRU43	Chromium	13.3	mg/kg		2.5	16	43	15.5
RU44C	SO	08-Jul-04	NSDA2PESRU44	Chromium	13.2	mg/kg		2.5	16	43	15.5
RU53C	SO	22-Jul-04	NSDA2PESRU53	Chromium	12.8	mg/kg		2.5	16	43	15.5
RU49C	SO	16-Jul-04	NSDA2PESRU49	Chromium	12.6	mg/kg		2.5	16	43	15.5

Number of Samples included in EU		10			
Maximum Value of all samples		27.6	Average Value	16.42	
Exceed Screening for Max Value?	Copper	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Copper	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Copper	27.6	mg/kg	*	2.5	19	25	313
RU52C	SO	19-Jul-04	NSDA2PESRU52	Copper	24.2	mg/kg	J	2.5	19	25	313
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Copper	21.8	mg/kg		2.5	19	25	313
RU50C	SO	16-Jul-04	NSDA2PESRU50	Copper	19.5	mg/kg		2.5	19	25	313
RU39C	SO	29-Jun-04	NSDA2PESRU39	Copper	18.5	mg/kg		2.5	19	25	313
RU40C	SO	29-Jun-04	NSDA2PESRU40	Copper	12.8	mg/kg		2.5	19	25	313
RU43C	SO	08-Jul-04	NSDA2PESRU43	Copper	11.6	mg/kg	*	2.5	19	25	313
RU53C	SO	22-Jul-04	NSDA2PESRU53	Copper	11.3	mg/kg	J	2.5	19	25	313
RU44C	SO	08-Jul-04	NSDA2PESRU44	Copper	10.4	mg/kg	*	2.5	19	25	313
RU49C	SO	16-Jul-04	NSDA2PESRU49	Copper	6.5	mg/kg		2.5	19	25	313

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		15000	Average Value	13620	
Exceed Screening for Max Value?	Iron	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Iron	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Iron	15000	mg/kg	NX	20	28000	28000	5480
RU40C	SO	29-Jun-04	NSDA2PESRU40	Iron	14800	mg/kg	NX	20	28000	28000	5480
RU39C	SO	29-Jun-04	NSDA2PESRU39	Iron	14700	mg/kg	NX	20	28000	28000	5480
RU43C	SO	08-Jul-04	NSDA2PESRU43	Iron	14400	mg/kg	NX	20	28000	28000	5480
RU52C	SO	19-Jul-04	NSDA2PESRU52	Iron	13600	mg/kg	*NX	20	28000	28000	5480
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Iron	13500	mg/kg	*NX	20	28000	28000	5480
RU49C	SO	16-Jul-04	NSDA2PESRU49	Iron	13200	mg/kg	*NX	20	28000	28000	5480
RU50C	SO	16-Jul-04	NSDA2PESRU50	Iron	13100	mg/kg	*NX	20	28000	28000	5480
RU44C	SO	08-Jul-04	NSDA2PESRU44	Iron	13000	mg/kg	NX	20	28000	28000	5480
RU53C	SO	22-Jul-04	NSDA2PESRU53	Iron	10900	mg/kg	*NX	20	28000	28000	5480

Number of Samples included in EU		10			
Maximum Value of all samples		20	Average Value	20	
Exceed Screening for Max Value?	Lead	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Lead	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Lead	20	mg/kg	JU	20	36	23	400
RU40C	SO	29-Jun-04	NSDA2PESRU40	Lead	20	mg/kg	JU	20	36	23	400
RU43C	SO	08-Jul-04	NSDA2PESRU43	Lead	20	mg/kg	NU	20	36	23	400
RU44C	SO	08-Jul-04	NSDA2PESRU44	Lead	20	mg/kg	NU	20	36	23	400
RU47C	SO	08-Jul-04	NSDA2PESRU47	Lead	20	mg/kg	NU	20	36	23	400
RU49C	SO	16-Jul-04	NSDA2PESRU49	Lead	20	mg/kg	U	20	36	23	400
RU50C	SO	16-Jul-04	NSDA2PESRU50	Lead	20	mg/kg	U	20	36	23	400
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Lead	20	mg/kg	U	20	36	23	400
RU52C	SO	19-Jul-04	NSDA2PESRU52	Lead	20	mg/kg	U	20	36	23	400
RU53C	SO	22-Jul-04	NSDA2PESRU53	Lead	20	mg/kg	U	20	36	23	400

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		728	Average Value	319.6	
Exceed Screening for Max Value?	Manganese	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Manganese	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Manganese	728	mg/kg	N	2.5	1500	820	183
RU47C	SO	08-Jul-04	NSDA2PESRU47	Manganese	379	mg/kg	*N	2.5	1500	820	183
RU52C	SO	19-Jul-04	NSDA2PESRU52	Manganese	372	mg/kg	*N	2.5	1500	820	183
RU40C	SO	29-Jun-04	NSDA2PESRU40	Manganese	365	mg/kg	N	2.5	1500	820	183
RU50C	SO	16-Jul-04	NSDA2PESRU50	Manganese	292	mg/kg		2.5	1500	820	183
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Manganese	285	mg/kg		2.5	1500	820	183
RU43C	SO	08-Jul-04	NSDA2PESRU43	Manganese	237	mg/kg	*N	2.5	1500	820	183
RU53C	SO	22-Jul-04	NSDA2PESRU53	Manganese	221	mg/kg	*N	2.5	1500	820	183
RU49C	SO	16-Jul-04	NSDA2PESRU49	Manganese	178	mg/kg		2.5	1500	820	183
RU44C	SO	08-Jul-04	NSDA2PESRU44	Manganese	139	mg/kg	*N	2.5	1500	820	183

Number of Samples included in EU		10			
Maximum Value of all samples		0.2	Average Value	0.2	
Exceed Screening for Max Value?	Mercury	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Mercury	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU40C	SO	29-Jun-04	NSDA2PESRU40	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU43C	SO	08-Jul-04	NSDA2PESRU43	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU44C	SO	08-Jul-04	NSDA2PESRU44	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU47C	SO	08-Jul-04	NSDA2PESRU47	Mercury	0.2	mg/kg	UW	0.2	0.2	0.13	2.35
RU49C	SO	16-Jul-04	NSDA2PESRU49	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU50C	SO	16-Jul-04	NSDA2PESRU50	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU52C	SO	19-Jul-04	NSDA2PESRU52	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU53C	SO	22-Jul-04	NSDA2PESRU53	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		35.8	Average Value	17.474
Exceed Screening for Max Value?	Nickel	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Nickel	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Nickel	35.8	mg/kg	N	5	21	22	155
RU52C	SO	19-Jul-04	NSDA2PESRU52	Nickel	22.8	mg/kg		5	21	22	155
RU50C	SO	16-Jul-04	NSDA2PESRU50	Nickel	22.1	mg/kg	N	5	21	22	155
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Nickel	20.7	mg/kg	N	5	21	22	155
RU39C	SO	29-Jun-04	NSDA2PESRU39	Nickel	15.5	mg/kg	N	5	21	22	155
RU44C	SO	08-Jul-04	NSDA2PESRU44	Nickel	12.7	mg/kg	N	5	21	22	155
RU53C	SO	22-Jul-04	NSDA2PESRU53	Nickel	12.6	mg/kg		5	21	22	155
RU43C	SO	08-Jul-04	NSDA2PESRU43	Nickel	12.1	mg/kg	N	5	21	22	155
RU40C	SO	29-Jun-04	NSDA2PESRU40	Nickel	11.8	mg/kg	N	5	21	22	155
RU49C	SO	16-Jul-04	NSDA2PESRU49	Nickel	8.64	mg/kg	N	5	21	22	155

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Selenium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Selenium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU40C	SO	29-Jun-04	NSDA2PESRU40	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU43C	SO	08-Jul-04	NSDA2PESRU43	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU44C	SO	08-Jul-04	NSDA2PESRU44	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU47C	SO	08-Jul-04	NSDA2PESRU47	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU49C	SO	16-Jul-04	NSDA2PESRU49	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU50C	SO	16-Jul-04	NSDA2PESRU50	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU52C	SO	19-Jul-04	NSDA2PESRU52	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU53C	SO	22-Jul-04	NSDA2PESRU53	Selenium	20	mg/kg	U	20	0.8	0.7	39.1

Number of Samples included in EU		10			
Maximum Value of all samples		2.5	Average Value	2.5	
Exceed Screening for Max Value?	Silver	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Silver	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU40C	SO	29-Jun-04	NSDA2PESRU40	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU43C	SO	08-Jul-04	NSDA2PESRU43	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU44C	SO	08-Jul-04	NSDA2PESRU44	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU47C	SO	08-Jul-04	NSDA2PESRU47	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU49C	SO	16-Jul-04	NSDA2PESRU49	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU50C	SO	16-Jul-04	NSDA2PESRU50	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU52C	SO	19-Jul-04	NSDA2PESRU52	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU53C	SO	22-Jul-04	NSDA2PESRU53	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1

Number of Samples included in EU		10			
Maximum Value of all samples		2	Average Value	2	
Exceed Screening for Max Value?	Thallium	No*			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Thallium	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU40C	SO	29-Jun-04	NSDA2PESRU40	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU43C	SO	08-Jul-04	NSDA2PESRU43	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU44C	SO	08-Jul-04	NSDA2PESRU44	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU47C	SO	08-Jul-04	NSDA2PESRU47	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU49C	SO	16-Jul-04	NSDA2PESRU49	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU50C	SO	16-Jul-04	NSDA2PESRU50	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU52C	SO	19-Jul-04	NSDA2PESRU52	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU53C	SO	22-Jul-04	NSDA2PESRU53	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782

Number of Samples included in EU		10			
Maximum Value of all samples		107	Average Value	100.7	
Exceed Screening for Max Value?	Uranium	Yes			
UCL 95 (ProUCL)		102			
Exceed Screening for UCL95?	Uranium	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Uranium	107	mg/kg	N	100	4.9	4.6	23.4
RU39C	SO	29-Jun-04	NSDA2PESRU39	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU40C	SO	29-Jun-04	NSDA2PESRU40	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU43C	SO	08-Jul-04	NSDA2PESRU43	Uranium	100	mg/kg	NU	100	4.9	4.6	23.4
RU44C	SO	08-Jul-04	NSDA2PESRU44	Uranium	100	mg/kg	NU	100	4.9	4.6	23.4
RU49C	SO	16-Jul-04	NSDA2PESRU49	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU50C	SO	16-Jul-04	NSDA2PESRU50	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU52C	SO	19-Jul-04	NSDA2PESRU52	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU53C	SO	22-Jul-04	NSDA2PESRU53	Uranium	100	mg/kg	U	100	4.9	4.6	23.4

Number of Samples included in EU		10			
Maximum Value of all samples		24.6	Average Value	19.83	
Exceed Screening for Max Value?	Vanadium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Vanadium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Vanadium	24.6	mg/kg		2.5	38	37	39.4
RU52C	SO	19-Jul-04	NSDA2PESRU52	Vanadium	24.1	mg/kg		2.5	38	37	39.4
RU43C	SO	08-Jul-04	NSDA2PESRU43	Vanadium	22.1	mg/kg		2.5	38	37	39.4
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Vanadium	21.6	mg/kg		2.5	38	37	39.4
RU50C	SO	16-Jul-04	NSDA2PESRU50	Vanadium	19.8	mg/kg		2.5	38	37	39.4
RU40C	SO	29-Jun-04	NSDA2PESRU40	Vanadium	18.9	mg/kg		2.5	38	37	39.4
RU44C	SO	08-Jul-04	NSDA2PESRU44	Vanadium	18.3	mg/kg		2.5	38	37	39.4
RU53C	SO	22-Jul-04	NSDA2PESRU53	Vanadium	17.6	mg/kg		2.5	38	37	39.4
RU39C	SO	29-Jun-04	NSDA2PESRU39	Vanadium	16.8	mg/kg		2.5	38	37	39.4
RU49C	SO	16-Jul-04	NSDA2PESRU49	Vanadium	14.5	mg/kg		2.5	38	37	39.4

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.18	Average Value	0.133
Exceed Screening for Max Value?	Total PCBs	Yes		
UCL 95 (ProUCL)		0.143		
Exceed Screening for UCL95?	Total PCBs	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU50C	SO	16-Jul-04	NSDA2PESRU50	Total PCBs	0.18	mg/kg		0.09	n/a	n/a	0.067
RU39C	SO	29-Jun-04	NSDA2PESRU39	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU40C	SO	29-Jun-04	NSDA2PESRU40	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU43C	SO	08-Jul-04	NSDA2PESRU43	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU44C	SO	08-Jul-04	NSDA2PESRU44	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU47C	SO	08-Jul-04	NSDA2PESRU47	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU49C	SO	16-Jul-04	NSDA2PESRU49	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Total PCBs	0.13	mg/kg	UX	0.13	n/a	n/a	0.067
RU52C	SO	19-Jul-04	NSDA2PESRU52	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU53C	SO	22-Jul-04	NSDA2PESRU53	Total PCBs	0.11	mg/kg	X	0.1	n/a	n/a	0.067

Number of Samples included in EU		10		
Maximum Value of all samples		0.5	Average Value	0.485
Exceed Screening for Max Value?	Total PAH	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PAH	No*		

Station	Media	Date Collected	Sample ID	Analysis	Max of Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU50C	SO	16-Jul-04	NSDA2PESRU50	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU52C	SO	19-Jul-04	NSDA2PESRU52	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU40C	SO	29-Jun-04	NSDA2PESRU40	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU43C	SO	08-Jul-04	NSDA2PESRU43	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU44C	SO	08-Jul-04	NSDA2PESRU44	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU39C	SO	29-Jun-04	NSDA2PESRU39	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU47C	SO	08-Jul-04	NSDA2PESRU47	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU53C	SO	22-Jul-04	NSDA2PESRU53	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU49C	SO	16-Jul-04	NSDA2PESRU49	Total PAH	0.47	mg/kg	U	0.47	n/a	n/a	0.00577
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Total PAH	0.47	mg/kg	U	0.47	n/a	n/a	0.00577

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		1.18	Average Value	0.293734	
Exceed Screening for Max Value?	Activity of U-235	Yes			
UCL 95 (ProUCL)		0.636			
Exceed Screening for UCL95?	Activity of U-235	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Activity of U-235	1.18	pCi/g		0.202	0.06	0.06	0.332
RU44C	SO	08-Jul-04	NSDA2PESRU44	Activity of U-235	0.595	pCi/g		0.206	0.06	0.06	0.332
RU40C	SO	29-Jun-04	NSDA2PESRU40	Activity of U-235	0.327	pCi/g		0.222	0.06	0.06	0.332
RU52C	SO	19-Jul-04	NSDA2PESRU52	Activity of U-235	0.185	pCi/g		0.183	0.06	0.06	0.332
RU50C	SO	16-Jul-04	NSDA2PESRU50	Activity of U-235	0.163	pCi/g	U	0.181	0.06	0.06	0.332
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Activity of U-235	0.163	pCi/g	U	0.189	0.06	0.06	0.332
RU39C	SO	29-Jun-04	NSDA2PESRU39	Activity of U-235	0.135	pCi/g	U	0.209	0.06	0.06	0.332
RU53C	SO	22-Jul-04	NSDA2PESRU53	Activity of U-235	0.125	pCi/g	U	0.187	0.06	0.06	0.332
RU49C	SO	16-Jul-04	NSDA2PESRU49	Activity of U-235	0.0594	pCi/g	U	0.184	0.06	0.06	0.332
RU43C	SO	08-Jul-04	NSDA2PESRU43	Activity of U-235	0.00494	pCi/g	U	0.199	0.06	0.06	0.332

Number of Samples included in EU		10			
Maximum Value of all samples		0.0754	Average Value	0.018226	
Exceed Screening for Max Value?	Americium-241	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Americium-241	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU44C	SO	08-Jul-04	NSDA2PESRU44	Americium-241	0.0754	pCi/g	U	0.19	n/a	n/a	2.41
RU50C	SO	16-Jul-04	NSDA2PESRU50	Americium-241	0.0691	pCi/g	U	0.192	n/a	n/a	2.41
RU52C	SO	19-Jul-04	NSDA2PESRU52	Americium-241	0.0617	pCi/g	U	0.192	n/a	n/a	2.41
RU53C	SO	22-Jul-04	NSDA2PESRU53	Americium-241	0.0523	pCi/g	U	0.189	n/a	n/a	2.41
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Americium-241	0.0513	pCi/g	U	0.196	n/a	n/a	2.41
RU47C	SO	08-Jul-04	NSDA2PESRU47	Americium-241	-0.00254	pCi/g	U	0.188	n/a	n/a	2.41
RU49C	SO	16-Jul-04	NSDA2PESRU49	Americium-241	-0.0149	pCi/g	U	0.191	n/a	n/a	2.41
RU43C	SO	08-Jul-04	NSDA2PESRU43	Americium-241	-0.0263	pCi/g	U	0.188	n/a	n/a	2.41
RU39C	SO	29-Jun-04	NSDA2PESRU39	Americium-241	-0.0346	pCi/g	U	0.18	n/a	n/a	2.41
RU40C	SO	29-Jun-04	NSDA2PESRU40	Americium-241	-0.0492	pCi/g	U	0.185	n/a	n/a	2.41

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.194	Average Value	0.051995
Exceed Screening for Max Value?	Cesium-137	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Cesium-137	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU39C	SO	29-Jun-04	NSDA2PESRU39	Cesium-137	0.194	pCi/g	X	0.0362	0.49	0.28	0.1
RU53C	SO	22-Jul-04	NSDA2PESRU53	Cesium-137	0.0915	pCi/g	X	0.0277	0.49	0.28	0.1
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Cesium-137	0.0786	pCi/g	X	0.0235	0.49	0.28	0.1
RU50C	SO	16-Jul-04	NSDA2PESRU50	Cesium-137	0.057	pCi/g	X	0.0214	0.49	0.28	0.1
RU40C	SO	29-Jun-04	NSDA2PESRU40	Cesium-137	0.0386	pCi/g	X	0.0292	0.49	0.28	0.1
RU52C	SO	19-Jul-04	NSDA2PESRU52	Cesium-137	0.0342	pCi/g	UX	0.0254	0.49	0.28	0.1
RU43C	SO	08-Jul-04	NSDA2PESRU43	Cesium-137	0.01	pCi/g	U	0.0262	0.49	0.28	0.1
RU44C	SO	08-Jul-04	NSDA2PESRU44	Cesium-137	0.00977	pCi/g	U	0.0269	0.49	0.28	0.1
RU49C	SO	16-Jul-04	NSDA2PESRU49	Cesium-137	0.00668	pCi/g	U	0.0232	0.49	0.28	0.1
RU47C	SO	08-Jul-04	NSDA2PESRU47	Cesium-137	-0.00041	pCi/g	U	0.0237	0.49	0.28	0.1

Number of Samples included in EU		10		
Maximum Value of all samples		0.929	Average Value	0.23579
Exceed Screening for Max Value?	Neptunium-237	Yes		
UCL 95 (ProUCL)		0.602		
Exceed Screening for UCL95?	Neptunium-237	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU50C	SO	16-Jul-04	NSDA2PESRU50	Neptunium-237	0.929	pCi/g		0.121	0.1	n/a	0.221
RU40C	SO	29-Jun-04	NSDA2PESRU40	Neptunium-237	0.289	pCi/g		0.122	0.1	n/a	0.221
RU39C	SO	29-Jun-04	NSDA2PESRU39	Neptunium-237	0.241	pCi/g		0.13	0.1	n/a	0.221
RU52C	SO	19-Jul-04	NSDA2PESRU52	Neptunium-237	0.229	pCi/g		0.123	0.1	n/a	0.221
RU53C	SO	22-Jul-04	NSDA2PESRU53	Neptunium-237	0.228	pCi/g		0.13	0.1	n/a	0.221
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Neptunium-237	0.205	pCi/g		0.133	0.1	n/a	0.221
RU44C	SO	08-Jul-04	NSDA2PESRU44	Neptunium-237	0.2	pCi/g		0.125	0.1	n/a	0.221
RU43C	SO	08-Jul-04	NSDA2PESRU43	Neptunium-237	0.0318	pCi/g	U	0.131	0.1	n/a	0.221
RU49C	SO	16-Jul-04	NSDA2PESRU49	Neptunium-237	0.00671	pCi/g	U	0.128	0.1	n/a	0.221
RU47C	SO	08-Jul-04	NSDA2PESRU47	Neptunium-237	-0.00161	pCi/g	U	0.206	0.1	n/a	0.221

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.669	Average Value	0.113907
Exceed Screening for Max Value?	Plutonium-239/240	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Plutonium-239/240	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU50C	SO	16-Jul-04	NSDA2PESRU50	Plutonium-239/240	0.669	pCi/g		0.0759	0.025	n/a	2.85
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Plutonium-239/240	0.36	pCi/g		0.0862	0.025	n/a	2.85
RU53C	SO	22-Jul-04	NSDA2PESRU53	Plutonium-239/240	0.0906	pCi/g		0.0859	0.025	n/a	2.85
RU52C	SO	19-Jul-04	NSDA2PESRU52	Plutonium-239/240	0.0392	pCi/g	U	0.0814	0.025	n/a	2.85
RU39C	SO	29-Jun-04	NSDA2PESRU39	Plutonium-239/240	0.0092	pCi/g	U	0.201	0.025	n/a	2.85
RU49C	SO	16-Jul-04	NSDA2PESRU49	Plutonium-239/240	0.00279	pCi/g	U	0.08	0.025	n/a	2.85
RU43C	SO	08-Jul-04	NSDA2PESRU43	Plutonium-239/240	0.00247	pCi/g	U	0.0746	0.025	n/a	2.85
RU44C	SO	08-Jul-04	NSDA2PESRU44	Plutonium-239/240	-0.00279	pCi/g	U	0.0811	0.025	n/a	2.85
RU47C	SO	08-Jul-04	NSDA2PESRU47	Plutonium-239/240	-0.0101	pCi/g	U	0.0821	0.025	n/a	2.85
RU40C	SO	29-Jun-04	NSDA2PESRU40	Plutonium-239/240	-0.0213	pCi/g	U	0.0848	0.025	n/a	2.85

Number of Samples included in EU		10		
Maximum Value of all samples		32.5	Average Value	11.725
Exceed Screening for Max Value?	Technetium-99	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Technetium-99	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Technetium-99	32.5	pCi/g		2.07	2.5	2.8	99.1
RU39C	SO	29-Jun-04	NSDA2PESRU39	Technetium-99	23.1	pCi/g		1.85	2.5	2.8	99.1
RU50C	SO	16-Jul-04	NSDA2PESRU50	Technetium-99	19.1	pCi/g		2.07	2.5	2.8	99.1
RU52C	SO	19-Jul-04	NSDA2PESRU52	Technetium-99	17.4	pCi/g		2.07	2.5	2.8	99.1
RU53C	SO	22-Jul-04	NSDA2PESRU53	Technetium-99	9.12	pCi/g		1.56	2.5	2.8	99.1
RU40C	SO	29-Jun-04	NSDA2PESRU40	Technetium-99	8.55	pCi/g		1.85	2.5	2.8	99.1
RU43C	SO	08-Jul-04	NSDA2PESRU43	Technetium-99	2.08	pCi/g		1.85	2.5	2.8	99.1
RU44C	SO	08-Jul-04	NSDA2PESRU44	Technetium-99	2.06	pCi/g		1.85	2.5	2.8	99.1
RU47C	SO	08-Jul-04	NSDA2PESRU47	Technetium-99	1.84	pCi/g	U	1.85	2.5	2.8	99.1
RU49C	SO	16-Jul-04	NSDA2PESRU49	Technetium-99	1.5	pCi/g	U	2.07	2.5	2.8	99.1

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		8.95	Average Value	2.3875
Exceed Screening for Max Value?	Thorium-230	Yes		
UCL 95 (ProUCL)		6.257		
Exceed Screening for UCL95?	Thorium-230	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU50C	SO	16-Jul-04	NSDA2PESRU50	Thorium-230	8.95	pCi/g		1.36	1.5	1.4	3.84
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Thorium-230	5.56	pCi/g		1.36	1.5	1.4	3.84
RU53C	SO	22-Jul-04	NSDA2PESRU53	Thorium-230	3.11	pCi/g		1.18	1.5	1.4	3.84
RU39C	SO	29-Jun-04	NSDA2PESRU39	Thorium-230	2.05	pCi/g		1.42	1.5	1.4	3.84
RU44C	SO	08-Jul-04	NSDA2PESRU44	Thorium-230	0.863	pCi/g	U	1.36	1.5	1.4	3.84
RU40C	SO	29-Jun-04	NSDA2PESRU40	Thorium-230	0.809	pCi/g	U	1.42	1.5	1.4	3.84
RU49C	SO	16-Jul-04	NSDA2PESRU49	Thorium-230	0.708	pCi/g	U	1.4	1.5	1.4	3.84
RU52C	SO	19-Jul-04	NSDA2PESRU52	Thorium-230	0.666	pCi/g	U	1.36	1.5	1.4	3.84
RU43C	SO	08-Jul-04	NSDA2PESRU43	Thorium-230	0.638	pCi/g	U	1.36	1.5	1.4	3.84
RU47C	SO	08-Jul-04	NSDA2PESRU47	Thorium-230	0.521	pCi/g	U	1.36	1.5	1.4	3.84

Number of Samples included in EU		10		
Maximum Value of all samples		12.8	Average Value	4.2939
Exceed Screening for Max Value?	Uranium-234	Yes		
UCL 95 (ProUCL)		7.927		
Exceed Screening for UCL95?	Uranium-234	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Uranium-234	12.8	pCi/g		2.82	1.2	1.2	4.97
RU44C	SO	08-Jul-04	NSDA2PESRU44	Uranium-234	9.66	pCi/g		2.82	1.2	1.2	4.97
RU40C	SO	29-Jun-04	NSDA2PESRU40	Uranium-234	7.06	pCi/g		3.16	1.2	1.2	4.97
RU52C	SO	19-Jul-04	NSDA2PESRU52	Uranium-234	2.69	pCi/g	U	2.81	1.2	1.2	4.97
RU39C	SO	29-Jun-04	NSDA2PESRU39	Uranium-234	2.45	pCi/g	U	3.15	1.2	1.2	4.97
RU50C	SO	16-Jul-04	NSDA2PESRU50	Uranium-234	2.41	pCi/g	U	2.81	1.2	1.2	4.97
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Uranium-234	2.3	pCi/g	U	2.81	1.2	1.2	4.97
RU49C	SO	16-Jul-04	NSDA2PESRU49	Uranium-234	1.63	pCi/g	U	2.81	1.2	1.2	4.97
RU53C	SO	22-Jul-04	NSDA2PESRU53	Uranium-234	1.55	pCi/g	U	2.81	1.2	1.2	4.97
RU43C	SO	08-Jul-04	NSDA2PESRU43	Uranium-234	0.389	pCi/g	U	2.81	1.2	1.2	4.97

Screening for NSDD EU 3 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		15.8	Average Value	5.6002
Exceed Screening for Max Value?	Uranium-238	Yes		
UCL 95 (ProUCL)		10.04		
Exceed Screening for UCL95?	Uranium-238	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU47C	SO	08-Jul-04	NSDA2PESRU47	Uranium-238	15.8	pCi/g		0.925	1.2	1.2	1.13
RU44C	SO	08-Jul-04	NSDA2PESRU44	Uranium-238	12.4	pCi/g		0.924	1.2	1.2	1.13
RU40C	SO	29-Jun-04	NSDA2PESRU40	Uranium-238	8.85	pCi/g		0.824	1.2	1.2	1.13
RU50C	SO	16-Jul-04	NSDA2PESRU50	Uranium-238	3.8	pCi/g		0.981	1.2	1.2	1.13
RU52C	SO	19-Jul-04	NSDA2PESRU52	Uranium-238	3.76	pCi/g		0.984	1.2	1.2	1.13
RU39C	SO	29-Jun-04	NSDA2PESRU39	Uranium-238	3.39	pCi/g		0.815	1.2	1.2	1.13
RU50C	SO	16-Jul-04	NSDA2PESRU50D	Uranium-238	3.11	pCi/g		0.987	1.2	1.2	1.13
RU53C	SO	22-Jul-04	NSDA2PESRU53	Uranium-238	2.54	pCi/g		0.985	1.2	1.2	1.13
RU49C	SO	16-Jul-04	NSDA2PESRU49	Uranium-238	1.8	pCi/g		0.983	1.2	1.2	1.13
RU43C	SO	08-Jul-04	NSDA2PESRU43	Uranium-238	0.552	pCi/g	U	0.92	1.2	1.2	1.13

NOTE: A blank in the Lab Qualifier indicates a qualifier was not applied to the result.
An explanation of qualifier codes is found at the end of the appendix.
"No*" for exceeds screening indicates the value is exceeded, but the results are all nondetect.
NALs taken from 2012 updated NALs (DOE 2012).

Screening for NSDD EU 4 Verification Sampling

Number of Samples included in EU		10		
Maximum Value of all samples		11100	Average Value	9287
Exceed Screening for Max Value?	Aluminum	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Aluminum	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU58C	SO	7/26/2004	NSDA2PESRU58	Aluminum	11100	mg/kg	*NX	20	13000	12000	7740
RU68C	SO	8/6/2004	NSDA2PESRU68D	Aluminum	11000	mg/kg	*NX	20	13000	12000	7740
RU55C	SO	7/22/2004	NSDA2PESRU55	Aluminum	10200	mg/kg	NX	20	13000	12000	7740
RU68C	SO	8/6/2004	NSDA2PESRU68	Aluminum	10100	mg/kg	*NX	20	13000	12000	7740
RU65C	SO	8/6/2004	NSDA2PESRU65	Aluminum	9780	mg/kg	*NX	20	13000	12000	7740
RU59C	SO	7/28/2004	NSDA2PESRU59	Aluminum	9530	mg/kg	*NX	20	13000	12000	7740
RU64C	SO	8/3/2004	NSDA2PESRU64	Aluminum	9020	mg/kg	*NX	20	13000	12000	7740
RU56C	SO	7/22/2004	NSDA2PESRU56	Aluminum	8540	mg/kg	NX	20	13000	12000	7740
RU62C	SO	7/29/2004	NSDA2PESRU62	Aluminum	7170	mg/kg	*NX	20	13000	12000	7740
RU61C	SO	7/28/2004	NSDA2PESRU61	Aluminum	6430	mg/kg	*NX	20	13000	12000	7740

Number of Samples included in EU		10		
Maximum Value of all samples		10	Average Value	10
Exceed Screening for Max Value?	Antimony	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Antimony	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU56C	SO	7/22/2004	NSDA2PESRU56	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU58C	SO	7/26/2004	NSDA2PESRU58	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU59C	SO	7/28/2004	NSDA2PESRU59	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU61C	SO	7/28/2004	NSDA2PESRU61	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU62C	SO	7/29/2004	NSDA2PESRU62	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU64C	SO	8/3/2004	NSDA2PESRU64	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU65C	SO	8/6/2004	NSDA2PESRU65	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU68C	SO	8/6/2004	NSDA2PESRU68	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU68C	SO	8/6/2004	NSDA2PESRU68D	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		54.6	Average Value	29.38
Exceed Screening for Max Value?	Arsenic	Yes		
UCL 95 (ProUCL)		37.05		
Exceed Screening for UCL95?	Arsenic	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU58C	SO	7/26/2004	NSDA2PESRU58	Arsenic	54.6	mg/kg	X	20	12	7.9	0.236
RU59C	SO	7/28/2004	NSDA2PESRU59	Arsenic	49.2	mg/kg	X	20	12	7.9	0.236
RU62C	SO	7/29/2004	NSDA2PESRU62	Arsenic	34.6	mg/kg	X	20	12	7.9	0.236
RU61C	SO	7/28/2004	NSDA2PESRU61	Arsenic	33.8	mg/kg	X	20	12	7.9	0.236
RU55C	SO	7/22/2004	NSDA2PESRU55	Arsenic	21	mg/kg		20	12	7.9	0.236
RU56C	SO	7/22/2004	NSDA2PESRU56	Arsenic	20.6	mg/kg		20	12	7.9	0.236
RU64C	SO	8/3/2004	NSDA2PESRU64	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU65C	SO	8/6/2004	NSDA2PESRU65	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU68C	SO	8/6/2004	NSDA2PESRU68	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU68C	SO	8/6/2004	NSDA2PESRU68D	Arsenic	20	mg/kg	U	20	12	7.9	0.236

Number of Samples included in EU		10		
Maximum Value of all samples		121	Average Value	93.53
Exceed Screening for Max Value?	Barium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Barium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU65C	SO	8/6/2004	NSDA2PESRU65	Barium	121	mg/kg	N	2.5	200	170	1530
RU55C	SO	7/22/2004	NSDA2PESRU55	Barium	107	mg/kg	*N	2.5	200	170	1530
RU64C	SO	8/3/2004	NSDA2PESRU64	Barium	104	mg/kg	N	2.5	200	170	1530
RU58C	SO	7/26/2004	NSDA2PESRU58	Barium	99.8	mg/kg	N	2.5	200	170	1530
RU56C	SO	7/22/2004	NSDA2PESRU56	Barium	94.7	mg/kg	*N	2.5	200	170	1530
RU59C	SO	7/28/2004	NSDA2PESRU59	Barium	91.7	mg/kg	N	2.5	200	170	1530
RU68C	SO	8/6/2004	NSDA2PESRU68	Barium	89.7	mg/kg	N	2.5	200	170	1530
RU62C	SO	7/29/2004	NSDA2PESRU62	Barium	81.5	mg/kg	N	2.5	200	170	1530
RU61C	SO	7/28/2004	NSDA2PESRU61	Barium	76.5	mg/kg	N	2.5	200	170	1530
RU68C	SO	8/6/2004	NSDA2PESRU68D	Barium	69.4	mg/kg	N	2.5	200	170	1530

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.709	Average Value	0.5329
Exceed Screening for Max Value?	Beryllium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Beryllium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU58C	SO	7/26/2004	NSDA2PESRU58	Beryllium	0.709	mg/kg		0.5	0.67	0.69	15.6
RU65C	SO	8/6/2004	NSDA2PESRU65	Beryllium	0.604	mg/kg		0.5	0.67	0.69	15.6
RU59C	SO	7/28/2004	NSDA2PESRU59	Beryllium	0.509	mg/kg		0.5	0.67	0.69	15.6
RU68C	SO	8/6/2004	NSDA2PESRU68	Beryllium	0.506	mg/kg		0.5	0.67	0.69	15.6
RU55C	SO	7/22/2004	NSDA2PESRU55	Beryllium	0.501	mg/kg		0.5	0.67	0.69	15.6
RU56C	SO	7/22/2004	NSDA2PESRU56	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU61C	SO	7/28/2004	NSDA2PESRU61	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU62C	SO	7/29/2004	NSDA2PESRU62	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU64C	SO	8/3/2004	NSDA2PESRU64	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU68C	SO	8/6/2004	NSDA2PESRU68D	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6

Number of Samples included in EU		10		
Maximum Value of all samples		2	Average Value	2
Exceed Screening for Max Value?	Cadmium	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Cadmium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU56C	SO	7/22/2004	NSDA2PESRU56	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU58C	SO	7/26/2004	NSDA2PESRU58	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU59C	SO	7/28/2004	NSDA2PESRU59	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU61C	SO	7/28/2004	NSDA2PESRU61	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU62C	SO	7/29/2004	NSDA2PESRU62	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU64C	SO	8/3/2004	NSDA2PESRU64	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU65C	SO	8/6/2004	NSDA2PESRU65	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU68C	SO	8/6/2004	NSDA2PESRU68	Cadmium	2	mg/kg	NU	2	0.21	0.21	5
RU68C	SO	8/6/2004	NSDA2PESRU68D	Cadmium	2	mg/kg	NU	2	0.21	0.21	5

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		19.5	Average Value	15.22
Exceed Screening for Max Value?	Chromium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Chromium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Chromium	19.5	mg/kg		2.5	16	43	15.5
RU68C	SO	8/6/2004	NSDA2PESRU68D	Chromium	16.7	mg/kg		2.5	16	43	15.5
RU59C	SO	7/28/2004	NSDA2PESRU59	Chromium	16.5	mg/kg		2.5	16	43	15.5
RU68C	SO	8/6/2004	NSDA2PESRU68	Chromium	16.2	mg/kg		2.5	16	43	15.5
RU64C	SO	8/3/2004	NSDA2PESRU64	Chromium	16.1	mg/kg		2.5	16	43	15.5
RU65C	SO	8/6/2004	NSDA2PESRU65	Chromium	15.4	mg/kg		2.5	16	43	15.5
RU58C	SO	7/26/2004	NSDA2PESRU58	Chromium	14.7	mg/kg		2.5	16	43	15.5
RU56C	SO	7/22/2004	NSDA2PESRU56	Chromium	14.1	mg/kg		2.5	16	43	15.5
RU62C	SO	7/29/2004	NSDA2PESRU62	Chromium	11.6	mg/kg		2.5	16	43	15.5
RU61C	SO	7/28/2004	NSDA2PESRU61	Chromium	11.4	mg/kg		2.5	16	43	15.5

Number of Samples included in EU		10		
Maximum Value of all samples		21.5	Average Value	13.282
Exceed Screening for Max Value?	Copper	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Copper	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Copper	21.5	mg/kg	J	2.5	19	25	313
RU58C	SO	7/26/2004	NSDA2PESRU58	Copper	19.8	mg/kg		2.5	19	25	313
RU65C	SO	8/6/2004	NSDA2PESRU65	Copper	16.1	mg/kg	J	2.5	19	25	313
RU59C	SO	7/28/2004	NSDA2PESRU59	Copper	14	mg/kg		2.5	19	25	313
RU56C	SO	7/22/2004	NSDA2PESRU56	Copper	12.8	mg/kg	J	2.5	19	25	313
RU62C	SO	7/29/2004	NSDA2PESRU62	Copper	11.2	mg/kg		2.5	19	25	313
RU61C	SO	7/28/2004	NSDA2PESRU61	Copper	11	mg/kg		2.5	19	25	313
RU68C	SO	8/6/2004	NSDA2PESRU68	Copper	10.4	mg/kg	J	2.5	19	25	313
RU64C	SO	8/3/2004	NSDA2PESRU64	Copper	8.08	mg/kg	J	2.5	19	25	313
RU68C	SO	8/6/2004	NSDA2PESRU68D	Copper	7.94	mg/kg	J	2.5	19	25	313

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		14200	Average Value	11392
Exceed Screening for Max Value?	Iron	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Iron	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Iron	14200	mg/kg	*NX	20	28000	28000	5480
RU58C	SO	7/26/2004	NSDA2PESRU58	Iron	13600	mg/kg	*NX	20	28000	28000	5480
RU56C	SO	7/22/2004	NSDA2PESRU56	Iron	13200	mg/kg	*NX	20	28000	28000	5480
RU59C	SO	7/28/2004	NSDA2PESRU59	Iron	12800	mg/kg	*NX	20	28000	28000	5480
RU68C	SO	8/6/2004	NSDA2PESRU68	Iron	12600	mg/kg	*NX	20	28000	28000	5480
RU65C	SO	8/6/2004	NSDA2PESRU65	Iron	12500	mg/kg	*NX	20	28000	28000	5480
RU61C	SO	7/28/2004	NSDA2PESRU61	Iron	9170	mg/kg	*NX	20	28000	28000	5480
RU64C	SO	8/3/2004	NSDA2PESRU64	Iron	9080	mg/kg	*NX	20	28000	28000	5480
RU68C	SO	8/6/2004	NSDA2PESRU68D	Iron	8670	mg/kg	*NX	20	28000	28000	5480
RU62C	SO	7/29/2004	NSDA2PESRU62	Iron	8100	mg/kg	*NX	20	28000	28000	5480

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Lead	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Lead	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Lead	20	mg/kg	U	20	36	23	400
RU56C	SO	7/22/2004	NSDA2PESRU56	Lead	20	mg/kg	U	20	36	23	400
RU58C	SO	7/26/2004	NSDA2PESRU58	Lead	20	mg/kg	U	20	36	23	400
RU59C	SO	7/28/2004	NSDA2PESRU59	Lead	20	mg/kg	U	20	36	23	400
RU61C	SO	7/28/2004	NSDA2PESRU61	Lead	20	mg/kg	U	20	36	23	400
RU62C	SO	7/29/2004	NSDA2PESRU62	Lead	20	mg/kg	U	20	36	23	400
RU64C	SO	8/3/2004	NSDA2PESRU64	Lead	20	mg/kg	NU	20	36	23	400
RU65C	SO	8/6/2004	NSDA2PESRU65	Lead	20	mg/kg	NU	20	36	23	400
RU68C	SO	8/6/2004	NSDA2PESRU68	Lead	20	mg/kg	NU	20	36	23	400
RU68C	SO	8/6/2004	NSDA2PESRU68D	Lead	20	mg/kg	NU	20	36	23	400

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		491	Average Value	298
Exceed Screening for Max Value?	Manganese	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Manganese	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU58C	SO	7/26/2004	NSDA2PESRU58	Manganese	491	mg/kg	*N	2.5	1500	820	183
RU55C	SO	7/22/2004	NSDA2PESRU55	Manganese	439	mg/kg	*N	2.5	1500	820	183
RU56C	SO	7/22/2004	NSDA2PESRU56	Manganese	420	mg/kg	*N	2.5	1500	820	183
RU65C	SO	8/6/2004	NSDA2PESRU65	Manganese	332	mg/kg	*N	2.5	1500	820	183
RU59C	SO	7/28/2004	NSDA2PESRU59	Manganese	270	mg/kg	*N	2.5	1500	820	183
RU68C	SO	8/6/2004	NSDA2PESRU68	Manganese	265	mg/kg	*JN	2.5	1500	820	183
RU62C	SO	7/29/2004	NSDA2PESRU62	Manganese	253	mg/kg	*N	2.5	1500	820	183
RU68C	SO	8/6/2004	NSDA2PESRU68D	Manganese	181	mg/kg	*JN	2.5	1500	820	183
RU61C	SO	7/28/2004	NSDA2PESRU61	Manganese	173	mg/kg	*N	2.5	1500	820	183
RU64C	SO	8/3/2004	NSDA2PESRU64	Manganese	156	mg/kg	*N	2.5	1500	820	183

Number of Samples included in EU		10		
Maximum Value of all samples		0.2	Average Value	0.063
Exceed Screening for Max Value?	Mercury	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Mercury	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU56C	SO	7/22/2004	NSDA2PESRU56	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU65C	SO	8/6/2004	NSDA2PESRU65	Mercury	0.06	mg/kg		0.02	0.2	0.13	2.35
RU61C	SO	7/28/2004	NSDA2PESRU61	Mercury	0.03	mg/kg	W	0.02	0.2	0.13	2.35
RU68C	SO	8/6/2004	NSDA2PESRU68	Mercury	0.03	mg/kg		0.02	0.2	0.13	2.35
RU68C	SO	8/6/2004	NSDA2PESRU68D	Mercury	0.03	mg/kg		0.02	0.2	0.13	2.35
RU58C	SO	7/26/2004	NSDA2PESRU58	Mercury	0.02	mg/kg	UW	0.02	0.2	0.13	2.35
RU59C	SO	7/28/2004	NSDA2PESRU59	Mercury	0.02	mg/kg	UW	0.02	0.2	0.13	2.35
RU62C	SO	7/29/2004	NSDA2PESRU62	Mercury	0.02	mg/kg	UW	0.02	0.2	0.13	2.35
RU64C	SO	8/3/2004	NSDA2PESRU64	Mercury	0.02	mg/kg	UW	0.02	0.2	0.13	2.35

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		31.2	Average Value	19.71
Exceed Screening for Max Value?	Nickel	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Nickel	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU61C	SO	7/28/2004	NSDA2PESRU61	Nickel	31.2	mg/kg	N	5	21	22	155
RU59C	SO	7/28/2004	NSDA2PESRU59	Nickel	27.8	mg/kg	N	5	21	22	155
RU68C	SO	8/6/2004	NSDA2PESRU68D	Nickel	22.9	mg/kg	N	5	21	22	155
RU62C	SO	7/29/2004	NSDA2PESRU62	Nickel	21.6	mg/kg	N	5	21	22	155
RU55C	SO	7/22/2004	NSDA2PESRU55	Nickel	20	mg/kg		5	21	22	155
RU58C	SO	7/26/2004	NSDA2PESRU58	Nickel	17.9	mg/kg	N	5	21	22	155
RU64C	SO	8/3/2004	NSDA2PESRU64	Nickel	17.3	mg/kg	N	5	21	22	155
RU68C	SO	8/6/2004	NSDA2PESRU68	Nickel	16.6	mg/kg	N	5	21	22	155
RU65C	SO	8/6/2004	NSDA2PESRU65	Nickel	11.2	mg/kg	N	5	21	22	155
RU56C	SO	7/22/2004	NSDA2PESRU56	Nickel	10.6	mg/kg		5	21	22	155

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Selenium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Selenium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU56C	SO	7/22/2004	NSDA2PESRU56	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU58C	SO	7/26/2004	NSDA2PESRU58	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU59C	SO	7/28/2004	NSDA2PESRU59	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU61C	SO	7/28/2004	NSDA2PESRU61	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU62C	SO	7/29/2004	NSDA2PESRU62	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1
RU64C	SO	8/3/2004	NSDA2PESRU64	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU65C	SO	8/6/2004	NSDA2PESRU65	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU68C	SO	8/6/2004	NSDA2PESRU68	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU68C	SO	8/6/2004	NSDA2PESRU68D	Selenium	20	mg/kg	U	20	0.8	0.7	39.1

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		2.5	Average Value	2.5
Exceed Screening for Max Value?	Silver	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Silver	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU56C	SO	7/22/2004	NSDA2PESRU56	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU58C	SO	7/26/2004	NSDA2PESRU58	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU59C	SO	7/28/2004	NSDA2PESRU59	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU61C	SO	7/28/2004	NSDA2PESRU61	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU62C	SO	7/29/2004	NSDA2PESRU62	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU64C	SO	8/3/2004	NSDA2PESRU64	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU65C	SO	8/6/2004	NSDA2PESRU65	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU68C	SO	8/6/2004	NSDA2PESRU68	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1
RU68C	SO	8/6/2004	NSDA2PESRU68D	Silver	2.5	mg/kg	*NU	2.5	2.3	2.7	39.1

Number of Samples included in EU		10		
Maximum Value of all samples		2	Average Value	2
Exceed Screening for Max Value?	Thallium	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Thallium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU56C	SO	7/22/2004	NSDA2PESRU56	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU58C	SO	7/26/2004	NSDA2PESRU58	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU59C	SO	7/28/2004	NSDA2PESRU59	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU61C	SO	7/28/2004	NSDA2PESRU61	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU62C	SO	7/29/2004	NSDA2PESRU62	Thallium	2	mg/kg	U	2	0.21	0.34	0.0782
RU64C	SO	8/3/2004	NSDA2PESRU64	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU65C	SO	8/6/2004	NSDA2PESRU65	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU68C	SO	8/6/2004	NSDA2PESRU68	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782
RU68C	SO	8/6/2004	NSDA2PESRU68D	Thallium	2	mg/kg	NU	2	0.21	0.34	0.0782

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		141	Average Value	108.8
Exceed Screening for Max Value?	Uranium	Yes		
UCL 95 (ProUCL)		118.6		
Exceed Screening for UCL95?	Uranium	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU59C	SO	7/28/2004	NSDA2PESRU59	Uranium	141	mg/kg	*N	100	4.9	4.6	23.4
RU58C	SO	7/26/2004	NSDA2PESRU58	Uranium	140	mg/kg	*N	100	4.9	4.6	23.4
RU61C	SO	7/28/2004	NSDA2PESRU61	Uranium	107	mg/kg	*N	100	4.9	4.6	23.4
RU55C	SO	7/22/2004	NSDA2PESRU55	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU56C	SO	7/22/2004	NSDA2PESRU56	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU62C	SO	7/29/2004	NSDA2PESRU62	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4
RU64C	SO	8/3/2004	NSDA2PESRU64	Uranium	100	mg/kg	*JNUX	100	4.9	4.6	23.4
RU65C	SO	8/6/2004	NSDA2PESRU65	Uranium	100	mg/kg	JU	100	4.9	4.6	23.4
RU68C	SO	8/6/2004	NSDA2PESRU68	Uranium	100	mg/kg	JU	100	4.9	4.6	23.4
RU68C	SO	8/6/2004	NSDA2PESRU68D	Uranium	100	mg/kg	JU	100	4.9	4.6	23.4

Number of Samples included in EU		10		
Maximum Value of all samples		23.4	Average Value	18.96
Exceed Screening for Max Value?	Vanadium	No		
UCL 95 (ProUCL)		20.72		
Exceed Screening for UCL95?	Vanadium	No		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU56C	SO	7/22/2004	NSDA2PESRU56	Vanadium	23.4	mg/kg		2.5	38	37	39.4
RU59C	SO	7/28/2004	NSDA2PESRU59	Vanadium	22.1	mg/kg		2.5	38	37	39.4
RU55C	SO	7/22/2004	NSDA2PESRU55	Vanadium	21.8	mg/kg		2.5	38	37	39.4
RU65C	SO	8/6/2004	NSDA2PESRU65	Vanadium	20.6	mg/kg		2.5	38	37	39.4
RU68C	SO	8/6/2004	NSDA2PESRU68	Vanadium	20.2	mg/kg		2.5	38	37	39.4
RU58C	SO	7/26/2004	NSDA2PESRU58	Vanadium	17.8	mg/kg		2.5	38	37	39.4
RU64C	SO	8/3/2004	NSDA2PESRU64	Vanadium	16.7	mg/kg		2.5	38	37	39.4
RU68C	SO	8/6/2004	NSDA2PESRU68D	Vanadium	16.4	mg/kg		2.5	38	37	39.4
RU61C	SO	7/28/2004	NSDA2PESRU61	Vanadium	16.2	mg/kg		2.5	38	37	39.4
RU62C	SO	7/29/2004	NSDA2PESRU62	Vanadium	14.4	mg/kg		2.5	38	37	39.4

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.13	Average Value	0.13
Exceed Screening for Max Value?	Total PCBs	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PCBs	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU56C	SO	7/22/2004	NSDA2PESRU56	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU58C	SO	7/26/2004	NSDA2PESRU58	Total PCBs	0.13	mg/kg	UX	0.13	n/a	n/a	0.067
RU59C	SO	7/28/2004	NSDA2PESRU59	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU61C	SO	7/28/2004	NSDA2PESRU61	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU62C	SO	7/29/2004	NSDA2PESRU62	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU64C	SO	8/3/2004	NSDA2PESRU64	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU65C	SO	8/6/2004	NSDA2PESRU65	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU68C	SO	8/6/2004	NSDA2PESRU68	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067
RU68C	SO	8/6/2004	NSDA2PESRU68D	Total PCBs	0.13	mg/kg	U	0.13	n/a	n/a	0.067

Number of Samples included in EU		10		
Maximum Value of all samples		0.5	Average Value	0.487
Exceed Screening for Max Value?	Total PAH	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PAH	No*		

Station	Media	Date Collected	Sample ID	Analysis	Max of Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU61C	SO	7/28/2004	NSDA2PESRU61	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU56C	SO	7/22/2004	NSDA2PESRU56	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU59C	SO	7/28/2004	NSDA2PESRU59	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU62C	SO	7/29/2004	NSDA2PESRU62	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU64C	SO	8/3/2004	NSDA2PESRU64	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU65C	SO	8/6/2004	NSDA2PESRU65	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU68C	SO	8/6/2004	NSDA2PESRU68	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU58C	SO	7/26/2004	NSDA2PESRU58	Total PAH	0.47	mg/kg	U	0.47	n/a	n/a	0.00577
RU68C	SO	8/6/2004	NSDA2PESRU68D	Total PAH	0.47	mg/kg	U	0.47	n/a	n/a	0.00577

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.774	Average Value	0.20456
Exceed Screening for Max Value?	Activity of U-235	Yes		
UCL 95 (ProUCL)		0.565		
Exceed Screening for UCL95?	Activity of U-235	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU58C	SO	7/26/2004	NSDA2PESRU58	Activity of U-235	0.774	pCi/g		0.2	0.06	0.06	0.332
RU61C	SO	7/28/2004	NSDA2PESRU61	Activity of U-235	0.551	pCi/g		0.194	0.06	0.06	0.332
RU55C	SO	7/22/2004	NSDA2PESRU55	Activity of U-235	0.267	pCi/g		0.185	0.06	0.06	0.332
RU59C	SO	7/28/2004	NSDA2PESRU59	Activity of U-235	0.181	pCi/g	U	0.184	0.06	0.06	0.332
RU62C	SO	7/29/2004	NSDA2PESRU62	Activity of U-235	0.116	pCi/g	U	0.216	0.06	0.06	0.332
RU68C	SO	8/6/2004	NSDA2PESRU68	Activity of U-235	0.0866	pCi/g	U	0.209	0.06	0.06	0.332
RU65C	SO	8/6/2004	NSDA2PESRU65	Activity of U-235	0.0495	pCi/g	U	0.206	0.06	0.06	0.332
RU56C	SO	7/22/2004	NSDA2PESRU56	Activity of U-235	0.0317	pCi/g	U	0.187	0.06	0.06	0.332
RU64C	SO	8/3/2004	NSDA2PESRU64	Activity of U-235	0.0189	pCi/g	U	0.215	0.06	0.06	0.332
RU68C	SO	8/6/2004	NSDA2PESRU68D	Activity of U-235	-0.0301	pCi/g	U	0.207	0.06	0.06	0.332

Number of Samples included in EU		10		
Maximum Value of all samples		0.112	Average Value	0.012314
Exceed Screening for Max Value?	Americium-241	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Americium-241	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU56C	SO	7/22/2004	NSDA2PESRU56	Americium-241	0.112	pCi/g	U	0.193	n/a	n/a	2.41
RU55C	SO	7/22/2004	NSDA2PESRU55	Americium-241	0.0651	pCi/g	U	0.19	n/a	n/a	2.41
RU62C	SO	7/29/2004	NSDA2PESRU62	Americium-241	0.0449	pCi/g	U	0.194	n/a	n/a	2.41
RU64C	SO	8/3/2004	NSDA2PESRU64	Americium-241	0.017	pCi/g	U	0.191	n/a	n/a	2.41
RU68C	SO	8/6/2004	NSDA2PESRU68D	Americium-241	0.00105	pCi/g	U	0.187	n/a	n/a	2.41
RU61C	SO	7/28/2004	NSDA2PESRU61	Americium-241	0.000593	pCi/g	U	0.191	n/a	n/a	2.41
RU58C	SO	7/26/2004	NSDA2PESRU58	Americium-241	-0.0121	pCi/g	U	0.188	n/a	n/a	2.41
RU65C	SO	8/6/2004	NSDA2PESRU65	Americium-241	-0.0145	pCi/g	U	0.188	n/a	n/a	2.41
RU59C	SO	7/28/2004	NSDA2PESRU59	Americium-241	-0.0286	pCi/g	U	0.192	n/a	n/a	2.41
RU68C	SO	8/6/2004	NSDA2PESRU68	Americium-241	-0.0623	pCi/g	U	0.185	n/a	n/a	2.41

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.0462	Average Value	0.011454
Exceed Screening for Max Value?	Cesium-137	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Cesium-137	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Cesium-137	0.0462	pCi/g	X	0.0289	0.49	0.28	0.1
RU56C	SO	7/22/2004	NSDA2PESRU56	Cesium-137	0.0451	pCi/g	X	0.0257	0.49	0.28	0.1
RU58C	SO	7/26/2004	NSDA2PESRU58	Cesium-137	0.0216	pCi/g	UX	0.0312	0.49	0.28	0.1
RU68C	SO	8/6/2004	NSDA2PESRU68	Cesium-137	0.0119	pCi/g	U	0.0301	0.49	0.28	0.1
RU64C	SO	8/3/2004	NSDA2PESRU64	Cesium-137	0.00547	pCi/g	U	0.0283	0.49	0.28	0.1
RU59C	SO	7/28/2004	NSDA2PESRU59	Cesium-137	0.00228	pCi/g	U	0.0268	0.49	0.28	0.1
RU65C	SO	8/6/2004	NSDA2PESRU65	Cesium-137	0.00135	pCi/g	U	0.0222	0.49	0.28	0.1
RU62C	SO	7/29/2004	NSDA2PESRU62	Cesium-137	-0.00102	pCi/g	U	0.0265	0.49	0.28	0.1
RU68C	SO	8/6/2004	NSDA2PESRU68D	Cesium-137	-0.00834	pCi/g	U	0.025	0.49	0.28	0.1
RU61C	SO	7/28/2004	NSDA2PESRU61	Cesium-137	-0.01	pCi/g	U	0.0288	0.49	0.28	0.1

Number of Samples included in EU		10		
Maximum Value of all samples		0.697	Average Value	0.27851
Exceed Screening for Max Value?	Neptunium-237	Yes		
UCL 95 (ProUCL)		0.417		
Exceed Screening for UCL95?	Neptunium-237	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU68C	SO	8/6/2004	NSDA2PESRU68	Neptunium-237	0.697	pCi/g		0.117	0.1	n/a	0.221
RU55C	SO	7/22/2004	NSDA2PESRU55	Neptunium-237	0.592	pCi/g		0.121	0.1	n/a	0.221
RU62C	SO	7/29/2004	NSDA2PESRU62	Neptunium-237	0.468	pCi/g		0.122	0.1	n/a	0.221
RU61C	SO	7/28/2004	NSDA2PESRU61	Neptunium-237	0.315	pCi/g		0.128	0.1	n/a	0.221
RU56C	SO	7/22/2004	NSDA2PESRU56	Neptunium-237	0.266	pCi/g		0.133	0.1	n/a	0.221
RU59C	SO	7/28/2004	NSDA2PESRU59	Neptunium-237	0.205	pCi/g		0.131	0.1	n/a	0.221
RU58C	SO	7/26/2004	NSDA2PESRU58	Neptunium-237	0.107	pCi/g	U	0.122	0.1	n/a	0.221
RU64C	SO	8/3/2004	NSDA2PESRU64	Neptunium-237	0.105	pCi/g	U	0.112	0.1	n/a	0.221
RU68C	SO	8/6/2004	NSDA2PESRU68D	Neptunium-237	0.0467	pCi/g	U	0.103	0.1	n/a	0.221
RU65C	SO	8/6/2004	NSDA2PESRU65	Neptunium-237	-0.0166	pCi/g	U	0.114	0.1	n/a	0.221

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		0.199	Average Value	0.047326	
Exceed Screening for Max Value?	Plutonium-239/240	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Plutonium-239/240	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU56C	SO	7/22/2004	NSDA2PESRU56	Plutonium-239/240	0.199	pCi/g		0.077	0.025	n/a	2.85
RU58C	SO	7/26/2004	NSDA2PESRU58	Plutonium-239/240	0.128	pCi/g		0.0801	0.025	n/a	2.85
RU55C	SO	7/22/2004	NSDA2PESRU55	Plutonium-239/240	0.105	pCi/g		0.0827	0.025	n/a	2.85
RU61C	SO	7/28/2004	NSDA2PESRU61	Plutonium-239/240	0.0516	pCi/g	U	0.0798	0.025	n/a	2.85
RU65C	SO	8/6/2004	NSDA2PESRU65	Plutonium-239/240	0.0199	pCi/g	U	0.0857	0.025	n/a	2.85
RU64C	SO	8/3/2004	NSDA2PESRU64	Plutonium-239/240	0.00597	pCi/g	U	0.0877	0.025	n/a	2.85
RU68C	SO	8/6/2004	NSDA2PESRU68	Plutonium-239/240	0.00507	pCi/g	U	0.081	0.025	n/a	2.85
RU68C	SO	8/6/2004	NSDA2PESRU68D	Plutonium-239/240	-0.00918	pCi/g	U	0.0797	0.025	n/a	2.85
RU62C	SO	7/29/2004	NSDA2PESRU62	Plutonium-239/240	-0.0144	pCi/g	U	0.0782	0.025	n/a	2.85
RU59C	SO	7/28/2004	NSDA2PESRU59	Plutonium-239/240	-0.0177	pCi/g	U	0.184	0.025	n/a	2.85

Number of Samples included in EU		10			
Maximum Value of all samples		12.3	Average Value	4.4957	
Exceed Screening for Max Value?	Technetium-99	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Technetium-99	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU55C	SO	7/22/2004	NSDA2PESRU55	Technetium-99	12.3	pCi/g		1.56	2.5	2.8	99.1
RU56C	SO	7/22/2004	NSDA2PESRU56	Technetium-99	8.47	pCi/g		1.56	2.5	2.8	99.1
RU58C	SO	7/26/2004	NSDA2PESRU58	Technetium-99	6.55	pCi/g		1.56	2.5	2.8	99.1
RU65C	SO	8/6/2004	NSDA2PESRU65	Technetium-99	4.49	pCi/g		2.01	2.5	2.8	99.1
RU68C	SO	8/6/2004	NSDA2PESRU68	Technetium-99	3.65	pCi/g		2.01	2.5	2.8	99.1
RU59C	SO	7/28/2004	NSDA2PESRU59	Technetium-99	3.44	pCi/g		1.56	2.5	2.8	99.1
RU64C	SO	8/3/2004	NSDA2PESRU64	Technetium-99	1.97	pCi/g	U	2.15	2.5	2.8	99.1
RU68C	SO	8/6/2004	NSDA2PESRU68D	Technetium-99	1.85	pCi/g	U	2.01	2.5	2.8	99.1
RU62C	SO	7/29/2004	NSDA2PESRU62	Technetium-99	1.37	pCi/g	U	2.15	2.5	2.8	99.1
RU61C	SO	7/28/2004	NSDA2PESRU61	Technetium-99	0.867	pCi/g	U	1.56	2.5	2.8	99.1

Number of Samples included in EU		10		
Maximum Value of all samples		5	Average Value	1.2537
Exceed Screening for Max Value?	Thorium-230	Yes		
UCL 95 (ProUCL)		2.673		
Exceed Screening for UCL95?	Thorium-230	No		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU56C	SO	7/22/2004	NSDA2PESRU56	Thorium-230	5	pCi/g		1.18	1.5	1.4	3.84
RU55C	SO	7/22/2004	NSDA2PESRU55	Thorium-230	2.91	pCi/g		1.18	1.5	1.4	3.84
RU58C	SO	7/26/2004	NSDA2PESRU58	Thorium-230	1.91	pCi/g		1.18	1.5	1.4	3.84
RU61C	SO	7/28/2004	NSDA2PESRU61	Thorium-230	0.719	pCi/g	U	1.22	1.5	1.4	3.84
RU62C	SO	7/29/2004	NSDA2PESRU62	Thorium-230	0.559	pCi/g	U	1.22	1.5	1.4	3.84
RU59C	SO	7/28/2004	NSDA2PESRU59	Thorium-230	0.371	pCi/g	U	1.18	1.5	1.4	3.84
RU64C	SO	8/3/2004	NSDA2PESRU64	Thorium-230	0.349	pCi/g	U	1.22	1.5	1.4	3.84
RU65C	SO	8/6/2004	NSDA2PESRU65	Thorium-230	0.316	pCi/g	U	1.25	1.5	1.4	3.84
RU68C	SO	8/6/2004	NSDA2PESRU68	Thorium-230	0.291	pCi/g	U	1.25	1.5	1.4	3.84
RU68C	SO	8/6/2004	NSDA2PESRU68D	Thorium-230	0.112	pCi/g	U	1.25	1.5	1.4	3.84

Number of Samples included in EU		10		
Maximum Value of all samples		12.1	Average Value	3.18211
Exceed Screening for Max Value?	Uranium-234	Yes		
UCL 95 (ProUCL)		7.66		
Exceed Screening for UCL95?	Uranium-234	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU58C	SO	7/26/2004	NSDA2PESRU58	Uranium-234	12.1	pCi/g		2.81	1.2	1.2	4.97
RU61C	SO	7/28/2004	NSDA2PESRU61	Uranium-234	8.3	pCi/g		2.81	1.2	1.2	4.97
RU55C	SO	7/22/2004	NSDA2PESRU55	Uranium-234	3.82	pCi/g		2.81	1.2	1.2	4.97
RU59C	SO	7/28/2004	NSDA2PESRU59	Uranium-234	2.76	pCi/g	U	2.8	1.2	1.2	4.97
RU62C	SO	7/29/2004	NSDA2PESRU62	Uranium-234	1.78	pCi/g	U	2.81	1.2	1.2	4.97
RU68C	SO	8/6/2004	NSDA2PESRU68	Uranium-234	1.26	pCi/g	U	2.8	1.2	1.2	4.97
RU56C	SO	7/22/2004	NSDA2PESRU56	Uranium-234	1.02	pCi/g	U	2.81	1.2	1.2	4.97
RU65C	SO	8/6/2004	NSDA2PESRU65	Uranium-234	0.545	pCi/g	U	2.8	1.2	1.2	4.97
RU64C	SO	8/3/2004	NSDA2PESRU64	Uranium-234	0.16	pCi/g	U	2.81	1.2	1.2	4.97
RU68C	SO	8/6/2004	NSDA2PESRU68D	Uranium-234	0.0761	pCi/g	U	2.8	1.2	1.2	4.97

Screening for NSDD EU 4 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		21.2	Average Value	4.62936
Exceed Screening for Max Value?	Uranium-238	Yes		
UCL 95 (ProUCL)		12.41		
Exceed Screening for UCL95?	Uranium-238	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU58C	SO	7/26/2004	NSDA2PESRU58	Uranium-238	21.2	pCi/g		0.992	1.2	1.2	1.13
RU61C	SO	7/28/2004	NSDA2PESRU61	Uranium-238	10.7	pCi/g		0.986	1.2	1.2	1.13
RU55C	SO	7/22/2004	NSDA2PESRU55	Uranium-238	5.23	pCi/g		0.984	1.2	1.2	1.13
RU59C	SO	7/28/2004	NSDA2PESRU59	Uranium-238	3.28	pCi/g		0.982	1.2	1.2	1.13
RU62C	SO	7/29/2004	NSDA2PESRU62	Uranium-238	2.39	pCi/g		1.03	1.2	1.2	1.13
RU68C	SO	8/6/2004	NSDA2PESRU68	Uranium-238	1.55	pCi/g		0.957	1.2	1.2	1.13
RU56C	SO	7/22/2004	NSDA2PESRU56	Uranium-238	1.12	pCi/g		1.04	1.2	1.2	1.13
RU65C	SO	8/6/2004	NSDA2PESRU65	Uranium-238	0.673	pCi/g	U	0.956	1.2	1.2	1.13
RU64C	SO	8/3/2004	NSDA2PESRU64	Uranium-238	0.086	pCi/g	U	0.972	1.2	1.2	1.13
RU68C	SO	8/6/2004	NSDA2PESRU68D	Uranium-238	0.0646	pCi/g	U	0.956	1.2	1.2	1.13

NOTE: A blank in the Lab Qualifier indicates a qualifier was not applied to the result.
An explanation of qualifier codes is found at the end of the appendix.
"No*" for exceeds screening indicates the value is exceeded, but the results are all nondetect.
NALs taken from 2012 updated NALs (DOE 2012).

Screening for NSDD EU 5 Verification Sampling

Number of Samples included in EU		10			
Maximum Value of all samples		9300	Average Value	7371	
Exceed Screening for Max Value?	Aluminum	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Aluminum	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU85C	SO	12/19/2003	NSDA2PES85	Aluminum	9300	mg/kg	NW	20	13000	12000	7740
RU80C	SO	11/7/2003	NSDA2PES80	Aluminum	8940	mg/kg	NW	20	13000	12000	7740
RU82C	SO	12/12/2003	NSDA2PES82	Aluminum	8700	mg/kg	*NW	20	13000	12000	7740
RU70C	SO	11/13/2003	NSDA2PES70	Aluminum	7340	mg/kg	NW	20	13000	12000	7740
RU77C	SO	10/24/2003	NSDA2PES77	Aluminum	7040	mg/kg	W	20	13000	12000	7740
RU75C	SO	10/21/2003	NSDA2PES75	Aluminum	6880	mg/kg	W	20	13000	12000	7740
RU74C	SO	11/26/2003	NSDA2PES74D	Aluminum	6830	mg/kg	*NW	20	13000	12000	7740
RU83C	SO	12/17/2003	NSDA2PES83	Aluminum	6590	mg/kg	*NW	20	13000	12000	7740
RU74C	SO	11/26/2003	NSDA2PES74	Aluminum	6310	mg/kg	*NW	20	13000	12000	7740
RU73C	SO	11/26/2003	NSDA2PES73	Aluminum	5780	mg/kg	*NW	20	13000	12000	7740

Number of Samples included in EU		10			
Maximum Value of all samples		10	Average Value	10	
Exceed Screening for Max Value?	Antimony	No*			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Antimony	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU73C	SO	11/26/2003	NSDA2PES73	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU74C	SO	11/26/2003	NSDA2PES74	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU74C	SO	11/26/2003	NSDA2PES74D	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU75C	SO	10/21/2003	NSDA2PES75	Antimony	10	mg/kg	U	10	0.21	0.21	3.13
RU77C	SO	10/24/2003	NSDA2PES77	Antimony	10	mg/kg	U	10	0.21	0.21	3.13
RU80C	SO	11/7/2003	NSDA2PES80	Antimony	10	mg/kg	NU	10	0.21	0.21	3.13
RU82C	SO	12/12/2003	NSDA2PES82	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU83C	SO	12/17/2003	NSDA2PES83	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13
RU85C	SO	12/19/2003	NSDA2PES85	Antimony	10	mg/kg	*NU	10	0.21	0.21	3.13

Screening for NSDD EU 5 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Arsenic	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Arsenic	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU73C	SO	11/26/2003	NSDA2PES73	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU74C	SO	11/26/2003	NSDA2PES74	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU74C	SO	11/26/2003	NSDA2PES74D	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU75C	SO	10/21/2003	NSDA2PES75	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU77C	SO	10/24/2003	NSDA2PES77	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU80C	SO	11/7/2003	NSDA2PES80	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU82C	SO	12/12/2003	NSDA2PES82	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU83C	SO	12/17/2003	NSDA2PES83	Arsenic	20	mg/kg	U	20	12	7.9	0.236
RU85C	SO	12/19/2003	NSDA2PES85	Arsenic	20	mg/kg	NU	20	12	7.9	0.236

Number of Samples included in EU		10		
Maximum Value of all samples		110	Average Value	73.73
Exceed Screening for Max Value?	Barium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Barium	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Barium	110	mg/kg	*N	2.5	200	170	1530
RU74C	SO	11/26/2003	NSDA2PES74D	Barium	105	mg/kg	*N	2.5	200	170	1530
RU75C	SO	10/21/2003	NSDA2PES75	Barium	82.3	mg/kg		2.5	200	170	1530
RU73C	SO	11/26/2003	NSDA2PES73	Barium	69.8	mg/kg	*N	2.5	200	170	1530
RU74C	SO	11/26/2003	NSDA2PES74	Barium	68.3	mg/kg	*N	2.5	200	170	1530
RU82C	SO	12/12/2003	NSDA2PES82	Barium	63.4	mg/kg		2.5	200	170	1530
RU77C	SO	10/24/2003	NSDA2PES77	Barium	61	mg/kg		2.5	200	170	1530
RU85C	SO	12/19/2003	NSDA2PES85	Barium	60.7	mg/kg		2.5	200	170	1530
RU80C	SO	11/7/2003	NSDA2PES80	Barium	59.5	mg/kg	*N	2.5	200	170	1530
RU83C	SO	12/17/2003	NSDA2PES83	Barium	57.3	mg/kg		2.5	200	170	1530

Number of Samples included in EU		10			
Maximum Value of all samples		0.558	Average Value	0.5127	
Exceed Screening for Max Value?	Beryllium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Beryllium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU85C	SO	12/19/2003	NSDA2PES85	Beryllium	0.558	mg/kg		0.5	0.67	0.69	15.6
RU83C	SO	12/17/2003	NSDA2PES83	Beryllium	0.554	mg/kg		0.5	0.67	0.69	15.6
RU82C	SO	12/12/2003	NSDA2PES82	Beryllium	0.515	mg/kg		0.5	0.67	0.69	15.6
RU70C	SO	11/13/2003	NSDA2PES70	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU73C	SO	11/26/2003	NSDA2PES73	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU74C	SO	11/26/2003	NSDA2PES74	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU74C	SO	11/26/2003	NSDA2PES74D	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU75C	SO	10/21/2003	NSDA2PES75	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU77C	SO	10/24/2003	NSDA2PES77	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6
RU80C	SO	11/7/2003	NSDA2PES80	Beryllium	0.5	mg/kg	U	0.5	0.67	0.69	15.6

Number of Samples included in EU		10			
Maximum Value of all samples		2	Average Value	2	
Exceed Screening for Max Value?	Cadmium	No*			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Cadmium	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU73C	SO	11/26/2003	NSDA2PES73	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU74C	SO	11/26/2003	NSDA2PES74	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU74C	SO	11/26/2003	NSDA2PES74D	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU75C	SO	10/21/2003	NSDA2PES75	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU77C	SO	10/24/2003	NSDA2PES77	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU80C	SO	11/7/2003	NSDA2PES80	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU82C	SO	12/12/2003	NSDA2PES82	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU83C	SO	12/17/2003	NSDA2PES83	Cadmium	2	mg/kg	U	2	0.21	0.21	5
RU85C	SO	12/19/2003	NSDA2PES85	Cadmium	2	mg/kg	NU	2	0.21	0.21	5

Screening for NSDD EU 5 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		18	Average Value	13.449	
Exceed Screening for Max Value?	Chromium	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Chromium	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU80C	SO	11/7/2003	NSDA2PES80	Chromium	18	mg/kg		2.5	16	43	15.5
RU75C	SO	10/21/2003	NSDA2PES75	Chromium	16.3	mg/kg	JX	2.5	16	43	15.5
RU85C	SO	12/19/2003	NSDA2PES85	Chromium	16	mg/kg		2.5	16	43	15.5
RU73C	SO	11/26/2003	NSDA2PES73	Chromium	15.7	mg/kg		2.5	16	43	15.5
RU82C	SO	12/12/2003	NSDA2PES82	Chromium	14.1	mg/kg		2.5	16	43	15.5
RU77C	SO	10/24/2003	NSDA2PES77	Chromium	13	mg/kg	JX	2.5	16	43	15.5
RU70C	SO	11/13/2003	NSDA2PES70	Chromium	11.4	mg/kg		2.5	16	43	15.5
RU83C	SO	12/17/2003	NSDA2PES83	Chromium	11	mg/kg		2.5	16	43	15.5
RU74C	SO	11/26/2003	NSDA2PES74D	Chromium	10.1	mg/kg		2.5	16	43	15.5
RU74C	SO	11/26/2003	NSDA2PES74	Chromium	8.89	mg/kg		2.5	16	43	15.5

Number of Samples included in EU		10			
Maximum Value of all samples		16.2	Average Value	11.404	
Exceed Screening for Max Value?	Copper	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Copper	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU75C	SO	10/21/2003	NSDA2PES75	Copper	16.2	mg/kg		2.5	19	25	313
RU73C	SO	11/26/2003	NSDA2PES73	Copper	13.5	mg/kg		2.5	19	25	313
RU74C	SO	11/26/2003	NSDA2PES74	Copper	12.9	mg/kg		2.5	19	25	313
RU80C	SO	11/7/2003	NSDA2PES80	Copper	12.5	mg/kg		2.5	19	25	313
RU85C	SO	12/19/2003	NSDA2PES85	Copper	12	mg/kg		2.5	19	25	313
RU74C	SO	11/26/2003	NSDA2PES74D	Copper	10.8	mg/kg		2.5	19	25	313
RU82C	SO	12/12/2003	NSDA2PES82	Copper	10.8	mg/kg		2.5	19	25	313
RU70C	SO	11/13/2003	NSDA2PES70	Copper	10.5	mg/kg		2.5	19	25	313
RU83C	SO	12/17/2003	NSDA2PES83	Copper	8.12	mg/kg		2.5	19	25	313
RU77C	SO	10/24/2003	NSDA2PES77	Copper	6.72	mg/kg		2.5	19	25	313

Screening for NSDD EU 5 Verification Sampling (Continued)

Number of Samples included in EU		10			
Maximum Value of all samples		12900	Average Value	10409	
Exceed Screening for Max Value?	Iron	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Iron	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Iron	12900	mg/kg	*NW	20	28000	28000	5480
RU85C	SO	12/19/2003	NSDA2PES85	Iron	12600	mg/kg	*NW	20	28000	28000	5480
RU74C	SO	11/26/2003	NSDA2PES74D	Iron	10700	mg/kg	*NW	20	28000	28000	5480
RU74C	SO	11/26/2003	NSDA2PES74	Iron	10600	mg/kg	*NW	20	28000	28000	5480
RU83C	SO	12/17/2003	NSDA2PES83	Iron	10500	mg/kg	*NW	20	28000	28000	5480
RU75C	SO	10/21/2003	NSDA2PES75	Iron	10200	mg/kg	W	20	28000	28000	5480
RU80C	SO	11/7/2003	NSDA2PES80	Iron	10000	mg/kg	*NW	20	28000	28000	5480
RU82C	SO	12/12/2003	NSDA2PES82	Iron	9600	mg/kg	*NW	20	28000	28000	5480
RU77C	SO	10/24/2003	NSDA2PES77	Iron	9300	mg/kg	W	20	28000	28000	5480
RU73C	SO	11/26/2003	NSDA2PES73	Iron	7690	mg/kg	*NW	20	28000	28000	5480

Number of Samples included in EU		10			
Maximum Value of all samples		20	Average Value	20	
Exceed Screening for Max Value?	Lead	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Lead	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Lead	20	mg/kg	U	20	36	23	400
RU73C	SO	11/26/2003	NSDA2PES73	Lead	20	mg/kg	U	20	36	23	400
RU74C	SO	11/26/2003	NSDA2PES74	Lead	20	mg/kg	U	20	36	23	400
RU74C	SO	11/26/2003	NSDA2PES74D	Lead	20	mg/kg	U	20	36	23	400
RU75C	SO	10/21/2003	NSDA2PES75	Lead	20	mg/kg	U	20	36	23	400
RU77C	SO	10/24/2003	NSDA2PES77	Lead	20	mg/kg	U	20	36	23	400
RU80C	SO	11/7/2003	NSDA2PES80	Lead	20	mg/kg	U	20	36	23	400
RU82C	SO	12/12/2003	NSDA2PES82	Lead	20	mg/kg	U	20	36	23	400
RU83C	SO	12/17/2003	NSDA2PES83	Lead	20	mg/kg	U	20	36	23	400
RU85C	SO	12/19/2003	NSDA2PES85	Lead	20	mg/kg	NU	20	36	23	400

Screening for NSDD EU 5 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		391	Average Value	227.7
Exceed Screening for Max Value?	Manganese	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Manganese	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Manganese	391	mg/kg	*N	5	1500	820	183
RU77C	SO	10/24/2003	NSDA2PES77	Manganese	284	mg/kg		5	1500	820	183
RU74C	SO	11/26/2003	NSDA2PES74	Manganese	264	mg/kg	*N	5	1500	820	183
RU74C	SO	11/26/2003	NSDA2PES74D	Manganese	256	mg/kg	*N	5	1500	820	183
RU83C	SO	12/17/2003	NSDA2PES83	Manganese	234	mg/kg	*N	5	1500	820	183
RU82C	SO	12/12/2003	NSDA2PES82	Manganese	211	mg/kg	*N	5	1500	820	183
RU75C	SO	10/21/2003	NSDA2PES75	Manganese	198	mg/kg		5	1500	820	183
RU80C	SO	11/7/2003	NSDA2PES80	Manganese	198	mg/kg	*N	5	1500	820	183
RU73C	SO	11/26/2003	NSDA2PES73	Manganese	126	mg/kg	*N	5	1500	820	183
RU85C	SO	12/19/2003	NSDA2PES85	Manganese	115	mg/kg	*N	5	1500	820	183

Number of Samples included in EU		10		
Maximum Value of all samples		0.2	Average Value	0.2
Exceed Screening for Max Value?	Mercury	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Mercury	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU73C	SO	11/26/2003	NSDA2PES73	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU74C	SO	11/26/2003	NSDA2PES74	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU74C	SO	11/26/2003	NSDA2PES74D	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU75C	SO	10/21/2003	NSDA2PES75	Mercury	0.2	mg/kg	BU	0.2	0.2	0.13	2.35
RU77C	SO	10/24/2003	NSDA2PES77	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU80C	SO	11/7/2003	NSDA2PES80	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU82C	SO	12/12/2003	NSDA2PES82	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU83C	SO	12/17/2003	NSDA2PES83	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35
RU85C	SO	12/19/2003	NSDA2PES85	Mercury	0.2	mg/kg	U	0.2	0.2	0.13	2.35

Screening for NSDD EU 5 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		30.1	Average Value	16.434
Exceed Screening for Max Value?	Nickel	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Nickel	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Nickel	30.1	mg/kg	N	5	21	22	155
RU73C	SO	11/26/2003	NSDA2PES73	Nickel	25.7	mg/kg	N	5	21	22	155
RU80C	SO	11/7/2003	NSDA2PES80	Nickel	25.1	mg/kg	N	5	21	22	155
RU77C	SO	10/24/2003	NSDA2PES77	Nickel	24.8	mg/kg		5	21	22	155
RU75C	SO	10/21/2003	NSDA2PES75	Nickel	23.5	mg/kg		5	21	22	155
RU74C	SO	11/26/2003	NSDA2PES74D	Nickel	7.83	mg/kg	N	5	21	22	155
RU74C	SO	11/26/2003	NSDA2PES74	Nickel	7.78	mg/kg	N	5	21	22	155
RU85C	SO	12/19/2003	NSDA2PES85	Nickel	7.07	mg/kg	N	5	21	22	155
RU83C	SO	12/17/2003	NSDA2PES83	Nickel	6.28	mg/kg	N	5	21	22	155
RU82C	SO	12/12/2003	NSDA2PES82	Nickel	6.18	mg/kg	N	5	21	22	155

Number of Samples included in EU		10		
Maximum Value of all samples		20	Average Value	20
Exceed Screening for Max Value?	Selenium	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Selenium	No*		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU73C	SO	11/26/2003	NSDA2PES73	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU74C	SO	11/26/2003	NSDA2PES74	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU74C	SO	11/26/2003	NSDA2PES74D	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU75C	SO	10/21/2003	NSDA2PES75	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU77C	SO	10/24/2003	NSDA2PES77	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU80C	SO	11/7/2003	NSDA2PES80	Selenium	20	mg/kg	U	20	0.8	0.7	39.1
RU82C	SO	12/12/2003	NSDA2PES82	Selenium	20	mg/kg	JUX	20	0.8	0.7	39.1
RU83C	SO	12/17/2003	NSDA2PES83	Selenium	20	mg/kg	JUX	20	0.8	0.7	39.1
RU85C	SO	12/19/2003	NSDA2PES85	Selenium	20	mg/kg	NU	20	0.8	0.7	39.1

Number of Samples included in EU		10			
Maximum Value of all samples		2.5	Average Value	2.5	
Exceed Screening for Max Value?	Silver	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Silver	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU73C	SO	11/26/2003	NSDA2PES73	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU74C	SO	11/26/2003	NSDA2PES74	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU74C	SO	11/26/2003	NSDA2PES74D	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1
RU75C	SO	10/21/2003	NSDA2PES75	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU77C	SO	10/24/2003	NSDA2PES77	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU80C	SO	11/7/2003	NSDA2PES80	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU82C	SO	12/12/2003	NSDA2PES82	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU83C	SO	12/17/2003	NSDA2PES83	Silver	2.5	mg/kg	U	2.5	2.3	2.7	39.1
RU85C	SO	12/19/2003	NSDA2PES85	Silver	2.5	mg/kg	NU	2.5	2.3	2.7	39.1

Number of Samples included in EU		10			
Maximum Value of all samples		20	Average Value	20	
Exceed Screening for Max Value?	Thallium	No*			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Thallium	No*			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU70C	SO	11/13/2003	NSDA2PES70	Thallium	20	mg/kg	U	20	0.21	0.34	0.0782
RU73C	SO	11/26/2003	NSDA2PES73	Thallium	20	mg/kg	NU	20	0.21	0.34	0.0782
RU74C	SO	11/26/2003	NSDA2PES74	Thallium	20	mg/kg	NU	20	0.21	0.34	0.0782
RU74C	SO	11/26/2003	NSDA2PES74D	Thallium	20	mg/kg	NU	20	0.21	0.34	0.0782
RU75C	SO	10/21/2003	NSDA2PES75	Thallium	20	mg/kg	U	20	0.21	0.34	0.0782
RU77C	SO	10/24/2003	NSDA2PES77	Thallium	20	mg/kg	U	20	0.21	0.34	0.0782
RU80C	SO	11/7/2003	NSDA2PES80	Thallium	20	mg/kg	U	20	0.21	0.34	0.0782
RU82C	SO	12/12/2003	NSDA2PES82	Thallium	20	mg/kg	NU	20	0.21	0.34	0.0782
RU83C	SO	12/17/2003	NSDA2PES83	Thallium	20	mg/kg	NU	20	0.21	0.34	0.0782
RU85C	SO	12/19/2003	NSDA2PES85	Thallium	20	mg/kg	NU	20	0.21	0.34	0.0782

Number of Samples included in EU		10			
Maximum Value of all samples		218	Average Value	120.9	
Exceed Screening for Max Value?	Uranium	Yes			
UCL 95 (ProUCL)		146.7			
Exceed Screening for UCL95?	Uranium	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU75C	SO	10/21/2003	NSDA2PES75	Uranium	218	mg/kg		100	4.9	4.6	23.4
RU77C	SO	10/24/2003	NSDA2PES77	Uranium	191	mg/kg		100	4.9	4.6	23.4
RU70C	SO	11/13/2003	NSDA2PES70	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4
RU73C	SO	11/26/2003	NSDA2PES73	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU74C	SO	11/26/2003	NSDA2PES74	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU74C	SO	11/26/2003	NSDA2PES74D	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU80C	SO	11/7/2003	NSDA2PES80	Uranium	100	mg/kg	*NU	100	4.9	4.6	23.4
RU82C	SO	12/12/2003	NSDA2PES82	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU83C	SO	12/17/2003	NSDA2PES83	Uranium	100	mg/kg	U	100	4.9	4.6	23.4
RU85C	SO	12/19/2003	NSDA2PES85	Uranium	100	mg/kg	*U	100	4.9	4.6	23.4

Number of Samples included in EU		10			
Maximum Value of all samples		42	Average Value	20.37	
Exceed Screening for Max Value?	Vanadium	Yes			
UCL 95 (ProUCL)		25.96			
Exceed Screening for UCL95?	Vanadium	No			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU75C	SO	10/21/2003	NSDA2PES75	Vanadium	42	mg/kg		2.5	38	37	39.4
RU83C	SO	12/17/2003	NSDA2PES83	Vanadium	22.6	mg/kg		2.5	38	37	39.4
RU77C	SO	10/24/2003	NSDA2PES77	Vanadium	22	mg/kg		2.5	38	37	39.4
RU85C	SO	12/19/2003	NSDA2PES85	Vanadium	22	mg/kg		2.5	38	37	39.4
RU70C	SO	11/13/2003	NSDA2PES70	Vanadium	20.6	mg/kg		2.5	38	37	39.4
RU80C	SO	11/7/2003	NSDA2PES80	Vanadium	19.8	mg/kg		2.5	38	37	39.4
RU82C	SO	12/12/2003	NSDA2PES82	Vanadium	17.7	mg/kg		2.5	38	37	39.4
RU74C	SO	11/26/2003	NSDA2PES74	Vanadium	13.1	mg/kg		2.5	38	37	39.4
RU73C	SO	11/26/2003	NSDA2PES73	Vanadium	12.6	mg/kg		2.5	38	37	39.4
RU74C	SO	11/26/2003	NSDA2PES74D	Vanadium	11.3	mg/kg		2.5	38	37	39.4

Screening for NSDD EU 5 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.8	Average Value	0.17
Exceed Screening for Max Value?	Total PCBs	Yes		
UCL 95 (ProUCL)		0.475		
Exceed Screening for UCL95?	Total PCBs	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU77C	SO	10/24/2003	NSDA2PES77	Total PCBs	0.8	mg/kg		0.1	n/a	n/a	0.067
RU70C	SO	11/13/2003	NSDA2PES70	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU73C	SO	11/26/2003	NSDA2PES73	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU74C	SO	11/26/2003	NSDA2PES74	Total PCBs	0.1	mg/kg	X	0.1	n/a	n/a	0.067
RU74C	SO	11/26/2003	NSDA2PES74D	Total PCBs	0.1	mg/kg	X	0.1	n/a	n/a	0.067
RU75C	SO	10/21/2003	NSDA2PES75	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU80C	SO	11/7/2003	NSDA2PES80	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU82C	SO	12/12/2003	NSDA2PES82	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU83C	SO	12/17/2003	NSDA2PES83	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067
RU85C	SO	12/19/2003	NSDA2PES85	Total PCBs	0.1	mg/kg	U	0.1	n/a	n/a	0.067

Number of Samples included in EU		10		
Maximum Value of all samples		0.5	Average Value	0.488
Exceed Screening for Max Value?	Total PAH	No*		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Total PAH	No*		

Station	Media	Date Collected	Sample ID	Analysis	Max of Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU74C	SO	11/26/2003	NSDA2PES74	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU75C	SO	10/21/2003	NSDA2PES75	Total PAH	0.5	mg/kg	U	0.5	n/a	n/a	0.00577
RU70C	SO	11/13/2003	NSDA2PES70	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU73C	SO	11/26/2003	NSDA2PES73	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU74C	SO	11/26/2003	NSDA2PES74D	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU83C	SO	12/17/2003	NSDA2PES83	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU85C	SO	12/19/2003	NSDA2PES85	Total PAH	0.49	mg/kg	U	0.49	n/a	n/a	0.00577
RU77C	SO	10/24/2003	NSDA2PES77	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU80C	SO	11/7/2003	NSDA2PES80	Total PAH	0.48	mg/kg	U	0.48	n/a	n/a	0.00577
RU82C	SO	12/12/2003	NSDA2PES82	Total PAH	0.47	mg/kg	U	0.47	n/a	n/a	0.00577

Number of Samples included in EU		10			
Maximum Value of all samples		0.616	Average Value	0.25457	
Exceed Screening for Max Value?	Activity of U-235	Yes			
UCL 95 (ProUCL)		0.513			
Exceed Screening for UCL95?	Activity of U-235	Yes			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU75C	SO	10/21/2003	NSDA2PES75	Activity of U-235	0.616	pCi/g		0.0462	0.06	0.06	0.332
RU73C	SO	11/26/2003	NSDA2PES73	Activity of U-235	0.582	pCi/g		0.0408	0.06	0.06	0.332
RU77C	SO	10/24/2003	NSDA2PES77	Activity of U-235	0.501	pCi/g		0.0585	0.06	0.06	0.332
RU70C	SO	11/13/2003	NSDA2PES70	Activity of U-235	0.287	pCi/g		0.0378	0.06	0.06	0.332
RU80C	SO	11/7/2003	NSDA2PES80	Activity of U-235	0.28	pCi/g		0.0433	0.06	0.06	0.332
RU85C	SO	12/19/2003	NSDA2PES85	Activity of U-235	0.104	pCi/g		0.0363	0.06	0.06	0.332
RU82C	SO	12/12/2003	NSDA2PES82	Activity of U-235	0.0664	pCi/g		0.0397	0.06	0.06	0.332
RU74C	SO	11/26/2003	NSDA2PES74	Activity of U-235	0.0449	pCi/g		0.0325	0.06	0.06	0.332
RU83C	SO	12/17/2003	NSDA2PES83	Activity of U-235	0.0342	pCi/g	U	0.0343	0.06	0.06	0.332
RU74C	SO	11/26/2003	NSDA2PES74D	Activity of U-235	0.0302	pCi/g	U	0.0315	0.06	0.06	0.332

Number of Samples included in EU		10			
Maximum Value of all samples		0.415	Average Value	0.08664	
Exceed Screening for Max Value?	Americium-241	No			
UCL 95 (ProUCL)		n/a			
Exceed Screening for UCL95?	Americium-241	n/a			

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU77C	SO	10/24/2003	NSDA2PES77	Americium-241	0.415	pCi/g		0.222	n/a	n/a	2.41
RU73C	SO	11/26/2003	NSDA2PES73	Americium-241	0.324	pCi/g	U	0.322	n/a	n/a	2.41
RU74C	SO	11/26/2003	NSDA2PES74	Americium-241	0.173	pCi/g	U	0.238	n/a	n/a	2.41
RU85C	SO	12/19/2003	NSDA2PES85	Americium-241	0.0998	pCi/g	U	0.149	n/a	n/a	2.41
RU83C	SO	12/17/2003	NSDA2PES83	Americium-241	0.0971	pCi/g	U	0.188	n/a	n/a	2.41
RU70C	SO	11/13/2003	NSDA2PES70	Americium-241	-0.0162	pCi/g	U	0.295	n/a	n/a	2.41
RU80C	SO	11/7/2003	NSDA2PES80	Americium-241	-0.0232	pCi/g	U	0.407	n/a	n/a	2.41
RU75C	SO	10/21/2003	NSDA2PES75	Americium-241	-0.0329	pCi/g	U	0.357	n/a	n/a	2.41
RU74C	SO	11/26/2003	NSDA2PES74D	Americium-241	-0.0442	pCi/g	U	0.221	n/a	n/a	2.41
RU82C	SO	12/12/2003	NSDA2PES82	Americium-241	-0.126	pCi/g	U	0.295	n/a	n/a	2.41

Screening for NSDD EU 5 Verification Sampling (Continued)

Number of Samples included in EU		10		
Maximum Value of all samples		0.171	Average Value	0.021356
Exceed Screening for Max Value?	Cesium-137	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Cesium-137	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU77C	SO	10/24/2003	NSDA2PES77	Cesium-137	0.171	pCi/g		0.0509	0.49	0.28	0.1
RU74C	SO	11/26/2003	NSDA2PES74	Cesium-137	0.0369	pCi/g		0.0308	0.49	0.28	0.1
RU74C	SO	11/26/2003	NSDA2PES74D	Cesium-137	0.0228	pCi/g	U	0.0276	0.49	0.28	0.1
RU70C	SO	11/13/2003	NSDA2PES70	Cesium-137	0.00886	pCi/g	U	0.0463	0.49	0.28	0.1
RU75C	SO	10/21/2003	NSDA2PES75	Cesium-137	0.00803	pCi/g	U	0.0537	0.49	0.28	0.1
RU85C	SO	12/19/2003	NSDA2PES85	Cesium-137	0.000846	pCi/g	U	0.0296	0.49	0.28	0.1
RU83C	SO	12/17/2003	NSDA2PES83	Cesium-137	-0.0013	pCi/g	U	0.0379	0.49	0.28	0.1
RU82C	SO	12/12/2003	NSDA2PES82	Cesium-137	-0.00642	pCi/g	U	0.0311	0.49	0.28	0.1
RU80C	SO	11/7/2003	NSDA2PES80	Cesium-137	-0.00776	pCi/g	U	0.0337	0.49	0.28	0.1
RU73C	SO	11/26/2003	NSDA2PES73	Cesium-137	-0.0194	pCi/g	U	0.0294	0.49	0.28	0.1

Number of Samples included in EU		10		
Maximum Value of all samples		0.619	Average Value	0.30324
Exceed Screening for Max Value?	Neptunium-237	Yes		
UCL 95 (ProUCL)		0.416		
Exceed Screening for UCL95?	Neptunium-237	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU77C	SO	10/24/2003	NSDA2PES77	Neptunium-237	0.619	pCi/g		0.0931	0.1	n/a	0.221
RU70C	SO	11/13/2003	NSDA2PES70	Neptunium-237	0.532	pCi/g		0.0683	0.1	n/a	0.221
RU83C	SO	12/17/2003	NSDA2PES83	Neptunium-237	0.483	pCi/g		0.0619	0.1	n/a	0.221
RU80C	SO	11/7/2003	NSDA2PES80	Neptunium-237	0.334	pCi/g		0.0728	0.1	n/a	0.221
RU85C	SO	12/19/2003	NSDA2PES85	Neptunium-237	0.332	pCi/g		0.0497	0.1	n/a	0.221
RU75C	SO	10/21/2003	NSDA2PES75	Neptunium-237	0.281	pCi/g	U	0.114	0.1	n/a	0.221
RU74C	SO	11/26/2003	NSDA2PES74	Neptunium-237	0.155	pCi/g		0.0593	0.1	n/a	0.221
RU73C	SO	11/26/2003	NSDA2PES73	Neptunium-237	0.136	pCi/g	U	0.0752	0.1	n/a	0.221
RU74C	SO	11/26/2003	NSDA2PES74D	Neptunium-237	0.131	pCi/g	U	0.0683	0.1	n/a	0.221
RU82C	SO	12/12/2003	NSDA2PES82	Neptunium-237	0.0294	pCi/g	U	0.071	0.1	n/a	0.221

Number of Samples included in EU		10		
Maximum Value of all samples		0.63	Average Value	0.083754
Exceed Screening for Max Value?	Plutonium-239/240	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Plutonium-239/240	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU74C	SO	11/26/2003	NSDA2PES74	Plutonium-239/240	0.63	pCi/g		0.044	0.025	n/a	2.85
RU74C	SO	11/26/2003	NSDA2PES74D	Plutonium-239/240	0.171	pCi/g		0.0439	0.025	n/a	2.85
RU77C	SO	10/24/2003	NSDA2PES77	Plutonium-239/240	0.0296	pCi/g	U	0.0689	0.025	n/a	2.85
RU75C	SO	10/21/2003	NSDA2PES75	Plutonium-239/240	0.0212	pCi/g	U	0.0683	0.025	n/a	2.85
RU70C	SO	11/13/2003	NSDA2PES70	Plutonium-239/240	0.0204	pCi/g	U	0.0448	0.025	n/a	2.85
RU82C	SO	12/12/2003	NSDA2PES82	Plutonium-239/240	0.0101	pCi/g	U	0.0553	0.025	n/a	2.85
RU85C	SO	12/19/2003	NSDA2PES85	Plutonium-239/240	-0.00696	pCi/g	U	0.0547	0.025	n/a	2.85
RU83C	SO	12/17/2003	NSDA2PES83	Plutonium-239/240	-0.0082	pCi/g	U	0.0528	0.025	n/a	2.85
RU73C	SO	11/26/2003	NSDA2PES73	Plutonium-239/240	-0.0141	pCi/g	U	0.0445	0.025	n/a	2.85
RU80C	SO	11/7/2003	NSDA2PES80	Plutonium-239/240	-0.0155	pCi/g	U	0.0573	0.025	n/a	2.85

Number of Samples included in EU		10		
Maximum Value of all samples		12.3	Average Value	4.41
Exceed Screening for Max Value?	Technetium-99	No		
UCL 95 (ProUCL)		n/a		
Exceed Screening for UCL95?	Technetium-99	n/a		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU74C	SO	11/26/2003	NSDA2PES74	Technetium-99	12.3	pCi/g		2.84	2.5	2.8	99.1
RU80C	SO	11/7/2003	NSDA2PES80	Technetium-99	5.77	pCi/g		1.61	2.5	2.8	99.1
RU75C	SO	10/21/2003	NSDA2PES75	Technetium-99	5.74	pCi/g		2.33	2.5	2.8	99.1
RU74C	SO	11/26/2003	NSDA2PES74D	Technetium-99	5.46	pCi/g		2.84	2.5	2.8	99.1
RU82C	SO	12/12/2003	NSDA2PES82	Technetium-99	4.6	pCi/g		2.52	2.5	2.8	99.1
RU77C	SO	10/24/2003	NSDA2PES77	Technetium-99	2.89	pCi/g		2.33	2.5	2.8	99.1
RU85C	SO	12/19/2003	NSDA2PES85	Technetium-99	2.57	pCi/g		2.22	2.5	2.8	99.1
RU73C	SO	11/26/2003	NSDA2PES73	Technetium-99	1.93	pCi/g	U	2.84	2.5	2.8	99.1
RU83C	SO	12/17/2003	NSDA2PES83	Technetium-99	1.7	pCi/g	U	2.55	2.5	2.8	99.1
RU70C	SO	11/13/2003	NSDA2PES70	Technetium-99	1.14	pCi/g	U	2.22	2.5	2.8	99.1

Number of Samples included in EU		10		
Maximum Value of all samples		9.84	Average Value	1.6638
Exceed Screening for Max Value?	Thorium-230	Yes		
UCL 95 (ProUCL)		5.856		
Exceed Screening for UCL95?	Thorium-230	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU74C	SO	11/26/2003	NSDA2PES74	Thorium-230	9.84	pCi/g		0.311	1.5	1.4	3.84
RU74C	SO	11/26/2003	NSDA2PES74D	Thorium-230	3.54	pCi/g		0.307	1.5	1.4	3.84
RU77C	SO	10/24/2003	NSDA2PES77	Thorium-230	0.845	pCi/g		0.257	1.5	1.4	3.84
RU82C	SO	12/12/2003	NSDA2PES82	Thorium-230	0.462	pCi/g		0.288	1.5	1.4	3.84
RU75C	SO	10/21/2003	NSDA2PES75	Thorium-230	0.414	pCi/g		0.257	1.5	1.4	3.84
RU85C	SO	12/19/2003	NSDA2PES85	Thorium-230	0.343	pCi/g		0.286	1.5	1.4	3.84
RU83C	SO	12/17/2003	NSDA2PES83	Thorium-230	0.337	pCi/g		0.287	1.5	1.4	3.84
RU73C	SO	11/26/2003	NSDA2PES73	Thorium-230	0.302	pCi/g	U	0.307	1.5	1.4	3.84
RU70C	SO	11/13/2003	NSDA2PES70	Thorium-230	0.298	pCi/g	U	0.307	1.5	1.4	3.84
RU80C	SO	11/7/2003	NSDA2PES80	Thorium-230	0.257	pCi/g	U	0.305	1.5	1.4	3.84

Number of Samples included in EU		8		
Maximum Value of all samples		9.53	Average Value	4.811625
Exceed Screening for Max Value?	Uranium-234	Yes		
UCL 95 (ProUCL)		7.228		
Exceed Screening for UCL95?	Uranium-234	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU75C	SO	10/21/2003	NSDA2PES75	Uranium-234	9.53	pCi/g	J	0.838	1.2	1.2	4.97
RU73C	SO	11/26/2003	NSDA2PES73	Uranium-234	9.09	pCi/g	J	0.752	1.2	1.2	4.97
RU77C	SO	10/24/2003	NSDA2PES77	Uranium-234	7.75	pCi/g	J	0.807	1.2	1.2	4.97
RU70C	SO	11/13/2003	NSDA2PES70	Uranium-234	4.7	pCi/g	J	0.751	1.2	1.2	4.97
RU80C	SO	11/7/2003	NSDA2PES80	Uranium-234	4.05	pCi/g	J	0.518	1.2	1.2	4.97
RU85C	SO	12/19/2003	NSDA2PES85	Uranium-234	1.63	pCi/g	JU	0.676	1.2	1.2	4.97
RU82C	SO	12/12/2003	NSDA2PES82	Uranium-234	1.13	pCi/g	JU	0.806	1.2	1.2	4.97
RU74C	SO	11/26/2003	NSDA2PES74	Uranium-234	0.613	pCi/g	JU	0.282	1.2	1.2	4.97
RU74C	SO	11/26/2003	NSDA2PES74D	Uranium-234		pCi/g	U		1.2	1.2	4.97
RU83C	SO	12/17/2003	NSDA2PES83	Uranium-234		pCi/g	U		1.2	1.2	4.97

Number of Samples included in EU		8		
Maximum Value of all samples		15.2	Average Value	7.65375
Exceed Screening for Max Value?	Uranium-238	Yes		
UCL 95 (ProUCL)		11.47		
Exceed Screening for UCL95?	Uranium-238	Yes		

Station	Media	Date Collected	Sample ID	Analysis	Results	Units	Lab Qualifier	Detection Limit	Background-Surface	Background-Subsurface	Child Resident
RU75C	SO	10/21/2003	NSDA2PES75	Uranium-238	15.2	pCi/g	J	1.34	1.2	1.2	1.13
RU73C	SO	11/26/2003	NSDA2PES73	Uranium-238	13.7	pCi/g	J	1.14	1.2	1.2	1.13
RU77C	SO	10/24/2003	NSDA2PES77	Uranium-238	12.4	pCi/g	J	1.29	1.2	1.2	1.13
RU80C	SO	11/7/2003	NSDA2PES80	Uranium-238	9.11	pCi/g	J	1.16	1.2	1.2	1.13
RU70C	SO	11/13/2003	NSDA2PES70	Uranium-238	5.54	pCi/g	J	0.887	1.2	1.2	1.13
RU85C	SO	12/19/2003	NSDA2PES85	Uranium-238	2.41	pCi/g	J	1	1.2	1.2	1.13
RU74C	SO	11/26/2003	NSDA2PES74	Uranium-238	1.81	pCi/g	J	0.831	1.2	1.2	1.13
RU82C	SO	12/12/2003	NSDA2PES82	Uranium-238	1.06	pCi/g	J	0.759	1.2	1.2	1.13
RU74C	SO	11/26/2003	NSDA2PES74D	Uranium-238		pCi/g	U		1.2	1.2	1.13
RU83C	SO	12/17/2003	NSDA2PES83	Uranium-238		pCi/g	U		1.2	1.2	1.13

NOTE: A blank in the Lab Qualifier indicates a qualifier was not applied to the result.
An explanation of qualifier codes is found at the end of the appendix.
"No*" for exceeds screening indicates the value is exceeded, but the results are all nondetect.
NALs taken from 2012 updated NALs (DOE 2012).

Screening for NSDD Outdoor Worker Verification Sampling

	Outdoor Worker NAL		UCL 95 (mg/kg or pCi/g)					
	HI	**ELCR**	**Overall**	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	2.86E+04	n/a	9.14E+03	1.16E+04	n/a	n/a	n/a	n/a
Arsenic	6.67E+00	4.15E-01	2.35E+01	n/a	n/a	2.05E+01	3.71E+01	n/a
Chromium	4.32E+04	2.68E+02	1.77E+01	3.10E+01	n/a	n/a	n/a	n/a
Uranium	8.61E+01	n/a	1.24E+02	1.80E+02	1.01E+02	1.02E+02	1.19E+02	1.47E+02
Vanadium	1.45E+02	n/a	2.18E+01	n/a	2.66E+01	n/a	n/a	2.60E+01
Total PCBs	n/a	1.70E-01	1.81E-01	n/a	n/a	1.43E-01	n/a	4.75E-01
Activity of U-235	n/a	4.85E-01	3.62E-01	7.82E-01	2.09E-01	6.36E-01	5.65E-01	5.13E-01
Neptunium-237	n/a	3.22E-01	4.27E-01	8.85E-01	5.77E-01	6.02E-01	4.17E-01	4.16E-01
Technetium-99	n/a	3.09E+02	3.08E+01	1.06E+02	n/a	n/a	n/a	n/a
Thorium-230	n/a	5.70E+00	4.46E+00	8.78E+00	1.10E+01	6.26E+00	2.67E+00	5.86E+00
Uranium-234	n/a	8.72E+00	4.25E+00	7.32E+00	n/a	7.93E+00	7.66E+00	7.23E+00
Uranium-238	n/a	1.81E+00	6.31E+00	2.55E+01	2.81E+00	1.00E+01	1.24E+01	1.15E+01

HAZARD INDEX						
	Overall	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	0.0	0.0	n/a	n/a	n/a	n/a
Arsenic	0.4	n/a	n/a	0.3	0.6	n/a
Chromium	0.0	0.0	n/a	n/a	n/a	n/a
Uranium	0.1	0.2	0.1	0.1	0.1	0.2
Vanadium	0.0	n/a	0.0	n/a	n/a	0.0
Total PCBs	n/a	n/a	n/a	n/a	n/a	n/a
Activity of U-235	n/a	n/a	n/a	n/a	n/a	n/a
Neptunium-237	n/a	n/a	n/a	n/a	n/a	n/a
Technetium-99	n/a	n/a	n/a	n/a	n/a	n/a
Thorium-230	n/a	n/a	n/a	n/a	n/a	n/a
Uranium-234	n/a	n/a	n/a	n/a	n/a	n/a
Uranium-238	n/a	n/a	n/a	n/a	n/a	n/a
Totals	0.5	0.2	0.1	0.4	0.7	0.2

ELCR						
	Overall	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	n/a	n/a	n/a	n/a	n/a	n/a
Arsenic	5.66E-05	n/a	n/a	4.93E-05	8.93E-05	n/a
Chromium	6.60E-08	1.15E-07	n/a	n/a	n/a	n/a
Uranium	n/a	n/a	n/a	n/a	n/a	n/a
Vanadium	n/a	n/a	n/a	n/a	n/a	n/a
Total PCBs	1.06E-06	n/a	n/a	8.41E-07	n/a	2.79E-06
Activity of U-235	7.46E-07	1.61E-06	4.31E-07	1.31E-06	1.16E-06	1.06E-06
Neptunium-237	1.33E-06	2.75E-06	1.79E-06	1.87E-06	1.30E-06	1.29E-06
Technetium-99	9.97E-08	3.43E-07	n/a	n/a	n/a	n/a
Thorium-230	7.82E-07	1.54E-06	1.93E-06	1.10E-06	4.69E-07	1.03E-06
Uranium-234	4.87E-07	8.40E-07	n/a	9.09E-07	8.78E-07	8.29E-07
Uranium-238	3.49E-06	1.41E-05	1.55E-06	5.55E-06	6.86E-06	6.34E-06
Totals	6.47E-05	2.13E-05	5.71E-06	6.09E-05	9.99E-05	1.33E-05

NAL = No Action Level

NALs taken from 2012 updated NALs (DOE 2012).

Screening for NSDD Industrial Worker Verification Sampling

	ndustrial Worker NAL		UCL 95 (mg/kg or pCi/g)					
	HI	**ELCR**	**Overall**	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	1.00E+05	n/a	9.14E+03	1.16E+04	n/a	n/a	n/a	n/a
Arsenic	6.09E+01	3.81E+00	2.35E+01	n/a	n/a	2.05E+01	3.71E+01	n/a
Chromium	1.00E+05	1.98E+02	1.77E+01	3.10E+01	n/a	n/a	n/a	n/a
Uranium	5.98E+02	n/a	1.24E+02	1.80E+02	1.01E+02	1.02E+02	1.19E+02	1.47E+02
Vanadium	1.03E+03	n/a	2.18E+01	n/a	2.66E+01	n/a	n/a	2.60E+01
Total PCBs	n/a	2.86E+00	1.81E-01	n/a	n/a	1.43E-01	n/a	4.75E-01
Activity of U-235	n/a	1.84E+00	3.62E-01	7.82E-01	2.09E-01	6.36E-01	5.65E-01	5.13E-01
Neptunium-237	n/a	1.21E+00	4.27E-01	8.85E-01	5.77E-01	6.02E-01	4.17E-01	4.16E-01
Technetium-99	n/a	2.02E+03	3.08E+01	1.06E+02	n/a	n/a	n/a	n/a
Thorium-230	n/a	3.95E+01	4.46E+00	8.78E+00	1.10E+01	6.26E+00	2.67E+00	5.86E+00
Uranium-234	n/a	6.11E+01	4.25E+00	7.32E+00	n/a	7.93E+00	7.66E+00	7.23E+00
Uranium-238	n/a	7.48E+00	6.31E+00	2.55E+01	2.81E+00	1.00E+01	1.24E+01	1.15E+01

HAZARD INDEX						
	Overall	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	0.0	0.0	n/a	n/a	n/a	n/a
Arsenic	0.0	n/a	n/a	0.0	0.1	n/a
Chromium	0.0	0.0	n/a	n/a	n/a	n/a
Uranium	0.0	0.0	0.0	0.0	0.0	0.0
Vanadium	0.0	n/a	0.0	n/a	n/a	0.0
Total PCBs	n/a	n/a	n/a	n/a	n/a	n/a
Activity of U-235	n/a	n/a	n/a	n/a	n/a	n/a
Neptunium-237	n/a	n/a	n/a	n/a	n/a	n/a
Technetium-99	n/a	n/a	n/a	n/a	n/a	n/a
Thorium-230	n/a	n/a	n/a	n/a	n/a	n/a
Uranium-234	n/a	n/a	n/a	n/a	n/a	n/a
Uranium-238	n/a	n/a	n/a	n/a	n/a	n/a
Totals	0.1	0.0	0.0	0.1	0.1	0.0

ELCR						
	Overall	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	n/a	n/a	n/a	n/a	n/a	n/a
Arsenic	6.17E-06	n/a	n/a	5.38E-06	9.72E-06	n/a
Chromium	8.94E-08	1.56E-07	n/a	n/a	n/a	n/a
Uranium	n/a	n/a	n/a	n/a	n/a	n/a
Vanadium	n/a	n/a	n/a	n/a	n/a	n/a
Total PCBs	6.33E-08	n/a	n/a	5.00E-08	n/a	1.66E-07
Activity of U-235	1.97E-07	4.25E-07	1.14E-07	3.46E-07	3.07E-07	2.79E-07
Neptunium-237	3.53E-07	7.31E-07	4.77E-07	4.98E-07	3.45E-07	3.44E-07
Technetium-99	1.52E-08	5.24E-08	n/a	n/a	n/a	n/a
Thorium-230	1.13E-07	2.22E-07	2.79E-07	1.58E-07	6.77E-08	1.48E-07
Uranium-234	6.96E-08	1.20E-07	n/a	1.30E-07	1.25E-07	1.18E-07
Uranium-238	8.44E-07	3.41E-06	3.76E-07	1.34E-06	1.66E-06	1.53E-06
Totals	7.91E-06	5.12E-06	1.25E-06	7.90E-06	1.22E-05	2.59E-06

NAL = No Action Level
NALs taken from 2012 updated NALs (DOE 2012).

Screening for NSDD Child Resident Verification Sampling

	Child Resident NAL		UCL 95 (mg/kg or pCi/g)					
	HI	ELCR	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	7.74E+03	n/a	9.14E+03	1.16E+04	n/a	n/a	n/a	n/a
Arsenic	1.65E+00	2.36E-01	2.35E+01	n/a	n/a	2.05E+01	3.71E+01	n/a
Chromium	1.17E+04	1.55E+01	1.77E+01	3.10E+01	n/a	n/a	n/a	n/a
Uranium	2.34E+01	n/a	1.24E+02	1.80E+02	1.01E+02	1.02E+02	1.19E+02	1.47E+02
Vanadium	3.94E+01	n/a	2.18E+01	n/a	2.66E+01	n/a	n/a	2.60E+01
Total PCBs	n/a	6.70E-02	1.81E-01	n/a	n/a	1.43E-01	n/a	4.75E-01
Activity of U-235	n/a	3.32E-01	3.62E-01	7.82E-01	2.09E-01	6.36E-01	5.65E-01	5.13E-01
Neptunium-237	n/a	2.21E-01	4.27E-01	8.85E-01	5.77E-01	6.02E-01	4.17E-01	4.16E-01
Technetium-99	n/a	9.91E+01	3.08E+01	1.06E+02	n/a	n/a	n/a	n/a
Thorium-230	n/a	3.84E+00	4.46E+00	8.78E+00	1.10E+01	6.26E+00	2.67E+00	5.86E+00
Uranium-234	n/a	4.97E+00	4.25E+00	7.32E+00	n/a	7.93E+00	7.66E+00	7.23E+00
Uranium-238	n/a	1.13E+00	6.31E+00	2.55E+01	2.81E+00	1.00E+01	1.24E+01	1.15E+01

HAZARD INDEX						
	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	0.1	0.1	n/a	n/a	n/a	n/a
Arsenic	1.4	n/a	n/a	1.2	2.2	n/a
Chromium	0.0	0.0	n/a	n/a	n/a	n/a
Uranium	0.5	0.8	0.4	0.4	0.5	0.6
Vanadium	0.1	n/a	0.1	n/a	n/a	0.1
Total PCBs	n/a	n/a	n/a	n/a	n/a	n/a
Activity of U-235	n/a	n/a	n/a	n/a	n/a	n/a
Neptunium-237	n/a	n/a	n/a	n/a	n/a	n/a
Technetium-99	n/a	n/a	n/a	n/a	n/a	n/a
Thorium-230	n/a	n/a	n/a	n/a	n/a	n/a
Uranium-234	n/a	n/a	n/a	n/a	n/a	n/a
Uranium-238	n/a	n/a	n/a	n/a	n/a	n/a
Totals	2.1	0.9	0.5	1.7	2.8	0.7

ELCR						
	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	n/a	n/a	n/a	n/a	n/a	n/a
Arsenic	9.96E-05	n/a	n/a	8.68E-05	1.57E-04	n/a
Chromium	1.14E-06	2.00E-06	n/a	n/a	n/a	n/a
Uranium	n/a	n/a	n/a	n/a	n/a	n/a
Vanadium	n/a	n/a	n/a	n/a	n/a	n/a
Total PCBs	2.70E-06	n/a	n/a	2.13E-06	n/a	7.09E-06
Activity of U-235	1.09E-06	2.36E-06	6.30E-07	1.92E-06	1.70E-06	1.55E-06
Neptunium-237	1.93E-06	4.00E-06	2.61E-06	2.72E-06	1.89E-06	1.88E-06
Technetium-99	3.11E-07	1.07E-06	n/a	n/a	n/a	n/a
Thorium-230	1.16E-06	2.29E-06	2.87E-06	1.63E-06	6.96E-07	1.53E-06
Uranium-234	8.55E-07	1.47E-06	n/a	1.59E-06	1.54E-06	1.45E-06
Uranium-238	5.58E-06	2.26E-05	2.49E-06	8.88E-06	1.10E-05	1.02E-05
Totals	1.14E-04	3.58E-05	8.60E-06	1.06E-04	1.74E-04	2.36E-05

NAL = No Action Level

NALs taken from 2012 updated NALs (DOE 2012).

Lab Qualifier	Explanation
*	Duplicate analysis was not within control limits
B	Value was less than the CRDL (Contract Required Detection Limit) or RRL (Required Reporting Limit) specified, but greater than or equal to the IDL (Instrument Detection Limit)/MDL (Method Detection Limit)
J	Estimated Quantitation
N	Spike recovery not within control limits
T	Tracer recovery is <20% or >105%
U	Not detected; RADS: Value reported is < MDA and/or TPU.
W	Post-digestion spike for AA(Atomic Absorption) out of control limit
X	Used when more than five qualifiers are required for a result

Note: Per the Risk Methods Document, The screening value for Chromium VI presented in the screening tables should only be used if the comparison is to a Chromium VI result. For a 'Total Chromium' result, the screening value listed for 'Total Chromium' should be used. The cancer-based screening value for Total Chromium was derived using the cancer slope factor for Chromium VI reported in the EPA Integrated Risk Information System database (DOE 2011).

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ATTACHMENT

PROUCL OUTPUT

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EU 1

Aluminum

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		**Log-transformed Statistics**	
Minimum	7460	Minimum of Log Data	8.917
Maximum	13100	Maximum of Log Data	9.48
Mean	10427	Mean of log Data	9.234
Geometric Mean	10243	SD of log Data	0.202
Median	10650		
SD	2004		
Std. Error of Mean	633.6		
Coefficient of Variation	0.192		
Skewness	-0.34		
Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.935	Shapiro Wilk Test Statistic	0.912
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	11588	95% H-UCL	11870
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13352
95% Adjusted-CLT UCL (Chen-1995)	11396	97.5% Chebyshev (MVUE) UCL	14614
95% Modified-t UCL (Johnson-1978)	11577	99% Chebyshev (MVUE) UCL	17095
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	19.88	Data appear Normal at 5% Significance Level	
Theta Star	524.6		
MLE of Mean	10427		
MLE of Standard Deviation	2339		
nu star	397.5		
Approximate Chi Square Value (.05)	352.3	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0267	95% CLT UCL	11469
Adjusted Chi Square Value	344.9	95% Jackknife UCL	11588
		95% Standard Bootstrap UCL	11401
Anderson-Darling Test Statistic	0.352	95% Bootstrap-t UCL	11520
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	11341
Kolmogorov-Smirnov Test Statistic	0.169	95% Percentile Bootstrap UCL	11370
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	11335
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13189
		97.5% Chebyshev(Mean, Sd) UCL	14384
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	16731
95% Approximate Gamma UCL (Use when n >= 40)	11765		
95% Adjusted Gamma UCL (Use when n < 40)	12018		
Potential UCL to Use		Use 95% Student's-t UCL	11588

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Note: For highly negative-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Chromium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	10.7	Minimum of Log Data	2.37
Maximum	53.5	Maximum of Log Data	3.98
Mean	22.29	Mean of log Data	2.981
Geometric Mean	19.7	SD of log Data	0.497
Median	17.65		
SD	13.19		
Std. Error of Mean	4.17		
Coefficient of Variation	0.592		
Skewness	1.778		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.799	Shapiro Wilk Test Statistic	0.932
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	29.93	95% H-UCL	32.17
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	37.32
95% Adjusted-CLT UCL (Chen-1995)	31.65	97.5% Chebyshev (MVUE) UCL	43.95
95% Modified-t UCL (Johnson-1978)	30.33	99% Chebyshev (MVUE) UCL	56.98

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.01	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7.405		
MLE of Mean	22.29		
MLE of Standard Deviation	12.85		
nu star	60.2		
Approximate Chi Square Value (.05)	43.36	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	29.15
Adjusted Chi Square Value	40.89	95% Jackknife UCL	29.93
		95% Standard Bootstrap UCL	28.7
Anderson-Darling Test Statistic	0.491	95% Bootstrap-t UCL	41.64
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	65.51
Kolmogorov-Smirnov Test Statistic	0.206	95% Percentile Bootstrap UCL	29.62
Kolmogorov-Smirnov 5% Critical Value	0.268	95% BCA Bootstrap UCL	31.08
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	40.47
		97.5% Chebyshev(Mean, Sd) UCL	48.33
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	63.78
95% Approximate Gamma UCL (Use when n >= 40)	30.95		
95% Adjusted Gamma UCL (Use when n < 40)	32.82		

Potential UCL to Use		Use 95% Approximate Gamma UCL	30.95

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	100	Minimum of Log Data	4.605
Maximum	290	Maximum of Log Data	5.67
Mean	143.7	Mean of log Data	4.9
Geometric Mean	134.3	SD of log Data	0.367
Median	113		
SD	62.22		
Std. Error of Mean	19.67		
Coefficient of Variation	0.433		
Skewness	1.712		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.754	Shapiro Wilk Test Statistic	0.814
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	179.8	95% H-UCL	184.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	215.6
95% Adjusted-CLT UCL (Chen-1995)	187.4	97.5% Chebyshev (MVUE) UCL	247.1
95% Modified-t UCL (Johnson-1978)	181.5	99% Chebyshev (MVUE) UCL	309.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.363	Data do not follow a Discernable Distribution (0.05)	
Theta Star	26.79		
MLE of Mean	143.7		
MLE of Standard Deviation	62.05		
nu star	107.3		
Approximate Chi Square Value (.05)	84.37	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	176.1
Adjusted Chi Square Value	80.84	95% Jackknife UCL	179.8
		95% Standard Bootstrap UCL	173.6
Anderson-Darling Test Statistic	0.912	95% Bootstrap-t UCL	206.4
Anderson-Darling 5% Critical Value	0.727	95% Hall's Bootstrap UCL	185.4
Kolmogorov-Smirnov Test Statistic	0.272	95% Percentile Bootstrap UCL	178.4
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL	185.3
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	229.5
		97.5% Chebyshev(Mean, Sd) UCL	266.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	339.5
95% Approximate Gamma UCL (Use when n >= 40)	182.7		
95% Adjusted Gamma UCL (Use when n < 40)	190.7		

Potential UCL to Use		
	Use 95% Student's-t UCL	179.8
	or 95% Modified-t UCL	181.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Activity of U-235

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	0.0101	Minimum of Log Data	-4.595
Maximum	0.782	Maximum of Log Data	-0.246
Mean	0.186	Mean of log Data	-2.97
Geometric Mean	0.0513	SD of log Data	1.729
Median	0.0212		
SD	0.288		
Std. Error of Mean	0.091		
Coefficient of Variation	1.544		
Skewness	1.605		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.677	Shapiro Wilk Test Statistic	0.83
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.353	95% H-UCL	3.524
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.604
95% Adjusted-CLT UCL (Chen-1995)	0.385	97.5% Chebyshev (MVUE) UCL	0.791
95% Modified-t UCL (Johnson-1978)	0.361	99% Chebyshev (MVUE) UCL	1.158

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.412	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.453		
MLE of Mean	0.186		
MLE of Standard Deviation	0.29		
nu star	8.24		
Approximate Chi Square Value (.05)	2.875	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.336
Adjusted Chi Square Value	2.353	95% Jackknife UCL	0.353
		95% Standard Bootstrap UCL	0.328
Anderson-Darling Test Statistic	0.952	95% Bootstrap-t UCL	0.738
Anderson-Darling 5% Critical Value	0.778	95% Hall's Bootstrap UCL	1.03
Kolmogorov-Smirnov Test Statistic	0.318	95% Percentile Bootstrap UCL	0.339
Kolmogorov-Smirnov 5% Critical Value	0.281	95% BCA Bootstrap UCL	0.398
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.583
		97.5% Chebyshev(Mean, Sd) UCL	0.755
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.092
95% Approximate Gamma UCL (Use when n >= 40)	0.534		
95% Adjusted Gamma UCL (Use when n < 40)	0.653		

Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	1.092
Recommended UCL exceeds the maximum observation			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Neptunium-237

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics
Minimum	-0.00597	Log Statistics Not Avaliable
Maximum	1.58	
Mean	0.201	
Geometric Mean	N/A	
Median	0.00735	
SD	0.496	
Std. Error of Mean	0.157	
Coefficient of Variation	2.467	
Skewness	2.915	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.486	Not Available
Shapiro Wilk Critical Value	0.842	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.489	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.489	95% Adjusted-CLT UCL (Chen 1995)	0.614
		95% Modified-t UCL (Johnson-1978)	0.513

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	0.885	95% CLT UCL	0.459
		95% Jackknife UCL	0.489
		95% Standard Bootstrap UCL	0.446
		95% Bootstrap-t UCL	6.01
		95% Hall's Bootstrap UCL	5.054
		95% Percentile Bootstrap UCL	0.482
		95% BCA Bootstrap UCL	0.67
		95% Chebyshev(Mean, Sd) UCL	0.885
		97.5% Chebyshev(Mean, Sd) UCL	1.182
		99% Chebyshev(Mean, Sd) UCL	1.763

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Technetium-99

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics
Minimum	-1.14	Log Statistics Not Avaliable
Maximum	182	
Mean	29.34	
Geometric Mean	N/A	
Median	6.97	
SD	55.52	
Std. Error of Mean	17.56	
Coefficient of Variation	1.892	
Skewness	2.79	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.583	Not Available
Shapiro Wilk Critical Value	0.842	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	61.52	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	61.52	95% Adjusted-CLT UCL (Chen 1995)	74.77
		95% Modified-t UCL (Johnson-1978)	64.1

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	105.9	95% CLT UCL	58.22
		95% Jackknife UCL	61.52
		95% Standard Bootstrap UCL	56.8
		95% Bootstrap-t UCL	134.2
		95% Hall's Bootstrap UCL	160.1
		95% Percentile Bootstrap UCL	62.23
		95% BCA Bootstrap UCL	71.02
		95% Chebyshev(Mean, Sd) UCL	105.9
		97.5% Chebyshev(Mean, Sd) UCL	139
		99% Chebyshev(Mean, Sd) UCL	204

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Thorium-230

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	0.281	Minimum of Log Data	-1.269
Maximum	15.9	Maximum of Log Data	2.766
Mean	2.068	Mean of log Data	-0.369
Geometric Mean	0.692	SD of log Data	1.166
Median	0.479		
SD	4.867		
Std. Error of Mean	1.539		
Coefficient of Variation	2.354		
Skewness	3.147		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.405	Shapiro Wilk Test Statistic	0.652
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	4.889	95% H-UCL	5.224
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.334
95% Adjusted-CLT UCL (Chen-1995)	6.235	97.5% Chebyshev (MVUE) UCL	4.241
95% Modified-t UCL (Johnson-1978)	5.144	99% Chebyshev (MVUE) UCL	6.024

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.465	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4.448		
MLE of Mean	2.068		
MLE of Standard Deviation	3.033		
nu star	9.296		
Approximate Chi Square Value (.05)	3.507	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	4.599
Adjusted Chi Square Value	2.917	95% Jackknife UCL	4.889
		95% Standard Bootstrap UCL	4.473
Anderson-Darling Test Statistic	2.278	95% Bootstrap-t UCL	90.72
Anderson-Darling 5% Critical Value	0.771	95% Hall's Bootstrap UCL	38.45
Kolmogorov-Smirnov Test Statistic	0.426	95% Percentile Bootstrap UCL	5.099
Kolmogorov-Smirnov 5% Critical Value	0.28	95% BCA Bootstrap UCL	6.701
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.776
		97.5% Chebyshev(Mean, Sd) UCL	11.68
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	17.38
95% Approximate Gamma UCL (Use when n >= 40)	5.481		
95% Adjusted Gamma UCL (Use when n < 40)	6.59		

Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	8.776

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-234

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	9

Raw Statistics		Log-transformed Statistics	
Minimum	0.056	Minimum of Log Data	-2.882
Maximum	11.6	Maximum of Log Data	2.451
Mean	2.609	Mean of log Data	-0.277
Geometric Mean	0.758	SD of log Data	1.744
Median	0.377		
SD	3.987		
Std. Error of Mean	1.261		
Coefficient of Variation	1.528		
Skewness	1.74		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.696	Shapiro Wilk Test Statistic	0.918
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	4.92	95% H-UCL	55.88
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9.152
95% Adjusted-CLT UCL (Chen-1995)	5.424	97.5% Chebyshev (MVUE) UCL	11.99
95% Modified-t UCL (Johnson-1978)	5.036	99% Chebyshev (MVUE) UCL	17.55

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.425	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	6.139		
MLE of Mean	2.609		
MLE of Standard Deviation	4.002		
nu star	8.5		
Approximate Chi Square Value (.05)	3.028	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	4.683
Adjusted Chi Square Value	2.489	95% Jackknife UCL	4.92
		95% Standard Bootstrap UCL	4.567
Anderson-Darling Test Statistic	0.705	95% Bootstrap-t UCL	9.881
Anderson-Darling 5% Critical Value	0.776	95% Hall's Bootstrap UCL	14.09
Kolmogorov-Smirnov Test Statistic	0.31	95% Percentile Bootstrap UCL	4.777
Kolmogorov-Smirnov 5% Critical Value	0.281	95% BCA Bootstrap UCL	5.244
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.104
		97.5% Chebyshev(Mean, Sd) UCL	10.48
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	15.15
95% Approximate Gamma UCL (Use when n >= 40)	7.324		
95% Adjusted Gamma UCL (Use when n < 40)	8.91		

Potential UCL to Use		Use 95% Approximate Gamma UCL	7.324

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-238

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	0.149	Minimum of Log Data	-1.904
Maximum	20.2	Maximum of Log Data	3.006
Mean	4.065	Mean of log Data	0.0235
Geometric Mean	1.024	SD of log Data	1.767
Median	0.454		
SD	6.813		
Std. Error of Mean	2.155		
Coefficient of Variation	1.676		
Skewness	1.956		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.654	Shapiro Wilk Test Statistic	0.868
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	8.015	95% H-UCL	84.24
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12.85
95% Adjusted-CLT UCL (Chen-1995)	9.033	97.5% Chebyshev (MVUE) UCL	16.84
95% Modified-t UCL (Johnson-1978)	8.237	99% Chebyshev (MVUE) UCL	24.68

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.393	Data appear Lognormal at 5% Significance Level	
Theta Star	10.35		
MLE of Mean	4.065		
MLE of Standard Deviation	6.487		
nu star	7.854		
Approximate Chi Square Value (.05)	2.651	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	7.609
Adjusted Chi Square Value	2.155	95% Jackknife UCL	8.015
		95% Standard Bootstrap UCL	7.511
Anderson-Darling Test Statistic	0.889	95% Bootstrap-t UCL	19.84
Anderson-Darling 5% Critical Value	0.783	95% Hall's Bootstrap UCL	25.17
Kolmogorov-Smirnov Test Statistic	0.318	95% Percentile Bootstrap UCL	7.669
Kolmogorov-Smirnov 5% Critical Value	0.282	95% BCA Bootstrap UCL	8.993
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13.46
		97.5% Chebyshev(Mean, Sd) UCL	17.52
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	25.5
95% Approximate Gamma UCL (Use when n >= 40)	12.04		
95% Adjusted Gamma UCL (Use when n < 40)	14.81		

Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	25.5
Recommended UCL exceeds the maximum observation			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

EU 2

Uranium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	2

Raw Statistics		Log-transformed Statistics	
Minimum	100	Minimum of Log Data	4.605
Maximum	104	Maximum of Log Data	4.644
Mean	100.4	Mean of log Data	4.609
Geometric Mean	100.4	SD of log Data	0.0124
Median	100		
SD	1.265		
Std. Error of Mean	0.4		
Coefficient of Variation	0.0126		
Skewness	3.162		

Warning: There are only 2 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.366	Shapiro Wilk Test Statistic	0.366
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	101.1	95% H-UCL	N/A
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	102.1
95% Adjusted-CLT UCL (Chen-1995)	101.5	97.5% Chebyshev (MVUE) UCL	102.9
95% Modified-t UCL (Johnson-1978)	101.2	99% Chebyshev (MVUE) UCL	104.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5004	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0201		
MLE of Mean	100.4		
MLE of Standard Deviation	1.419		
nu star	100075		
Approximate Chi Square Value (.05)	99340	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	101.1
Adjusted Chi Square Value	99213	95% Jackknife UCL	N/A
		95% Standard Bootstrap UCL	N/A
Anderson-Darling Test Statistic	3.872	95% Bootstrap-t UCL	N/A
Anderson-Darling 5% Critical Value	0.724	95% Hall's Bootstrap UCL	N/A
Kolmogorov-Smirnov Test Statistic	0.594	95% Percentile Bootstrap UCL	N/A
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	N/A
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	102.1
		97.5% Chebyshev(Mean, Sd) UCL	102.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	104.4
95% Approximate Gamma UCL (Use when n >= 40)	101.1		
95% Adjusted Gamma UCL (Use when n < 40)	101.3		

Potential UCL to Use		
	Use 95% Student's-t UCL	101.1
	or 95% Modified-t UCL	101.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	11.7	Minimum of Log Data	2.46
Maximum	43.3	Maximum of Log Data	3.768
Mean	20.02	Mean of log Data	2.904
Geometric Mean	18.24	SD of log Data	0.429
Median	15.55		
SD	10.22		
Std. Error of Mean	3.232		
Coefficient of Variation	0.511		
Skewness	1.67		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.784	Shapiro Wilk Test Statistic	0.879
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.95	95% H-UCL	27.12
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	31.7
95% Adjusted-CLT UCL (Chen-1995)	27.16	97.5% Chebyshev (MVUE) UCL	36.84
95% Modified-t UCL (Johnson-1978)	26.23	99% Chebyshev (MVUE) UCL	46.95
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	3.946	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.074		
MLE of Mean	20.02		
MLE of Standard Deviation	10.08		
nu star	78.92		
Approximate Chi Square Value (.05)	59.45	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	25.34
Adjusted Chi Square Value	56.52	95% Jackknife UCL	25.95
		95% Standard Bootstrap UCL	24.97
Anderson-Darling Test Statistic	0.69	95% Bootstrap-t UCL	34.69
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	50.67
Kolmogorov-Smirnov Test Statistic	0.252	95% Percentile Bootstrap UCL	25.28
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL	27.09
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	34.11
		97.5% Chebyshev(Mean, Sd) UCL	40.21
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	52.18
95% Approximate Gamma UCL (Use when n >= 40)	26.58		
95% Adjusted Gamma UCL (Use when n < 40)	27.95		
Potential UCL to Use		Use 95% Approximate Gamma UCL	26.58

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Activity of U-235

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics
Minimum	-0.0344	Log Statistics Not Avaliable
Maximum	0.355	
Mean	0.054	
Geometric Mean	N/A	
Median	0.0236	
SD	0.112	
Std. Error of Mean	0.0355	
Coefficient of Variation	2.083	
Skewness	2.532	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.684	Not Available
Shapiro Wilk Critical Value	0.842	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.119	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.119	95% Adjusted-CLT UCL (Chen 1995)	0.143
		95% Modified-t UCL (Johnson-1978)	0.124

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	0.209	95% CLT UCL	0.112
		95% Jackknife UCL	0.119
		95% Standard Bootstrap UCL	0.11
		95% Bootstrap-t UCL	0.231
		95% Hall's Bootstrap UCL	0.387
		95% Percentile Bootstrap UCL	0.118
		95% BCA Bootstrap UCL	0.141
		95% Chebyshev(Mean, Sd) UCL	0.209
		97.5% Chebyshev(Mean, Sd) UCL	0.276
		99% Chebyshev(Mean, Sd) UCL	0.408

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Neptunium-237

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	0.00302	Minimum of Log Data	-5.802
Maximum	1.09	Maximum of Log Data	0.0862
Mean	0.144	Mean of log Data	-3.552
Geometric Mean	0.0287	SD of log Data	1.781
Median	0.0259		
SD	0.335		
Std. Error of Mean	0.106		
Coefficient of Variation	2.334		
Skewness	3.065		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.47	Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.338	95% H-UCL	2.524
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.368
95% Adjusted-CLT UCL (Chen-1995)	0.428	97.5% Chebyshev (MVUE) UCL	0.483
95% Modified-t UCL (Johnson-1978)	0.355	99% Chebyshev (MVUE) UCL	0.708
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.352	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.409		
MLE of Mean	0.144		
MLE of Standard Deviation	0.242		
nu star	7.034		
Approximate Chi Square Value (.05)	2.189	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.318
Adjusted Chi Square Value	1.75	95% Jackknife UCL	0.338
		95% Standard Bootstrap UCL	0.311
Anderson-Darling Test Statistic	0.857	95% Bootstrap-t UCL	1.731
Anderson-Darling 5% Critical Value	0.794	95% Hall's Bootstrap UCL	1.09
Kolmogorov-Smirnov Test Statistic	0.229	95% Percentile Bootstrap UCL	0.344
Kolmogorov-Smirnov 5% Critical Value	0.284	95% BCA Bootstrap UCL	0.456
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.606
		97.5% Chebyshev(Mean, Sd) UCL	0.806
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.199
95% Approximate Gamma UCL (Use when n >= 40)	0.462		
95% Adjusted Gamma UCL (Use when n < 40)	0.577		
Potential UCL to Use		Use 95% Adjusted Gamma UCL	0.577

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Thorium-230

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	0.176	Minimum of Log Data	-1.737
Maximum	17.6	Maximum of Log Data	2.868
Mean	3.283	Mean of log Data	0.102
Geometric Mean	1.107	SD of log Data	1.467
Median	0.684		
SD	5.612		
Std. Error of Mean	1.775		
Coefficient of Variation	1.71		
Skewness	2.288		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.617	Shapiro Wilk Test Statistic	0.877
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.536	95% H-UCL	24.43
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.508
95% Adjusted-CLT UCL (Chen-1995)	7.574	97.5% Chebyshev (MVUE) UCL	11.02
95% Modified-t UCL (Johnson-1978)	6.75	99% Chebyshev (MVUE) UCL	15.94
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.467	Data appear Lognormal at 5% Significance Level	
Theta Star	7.023		
MLE of Mean	3.283		
MLE of Standard Deviation	4.801		
nu star	9.348		
Approximate Chi Square Value (.05)	3.539	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	6.202
Adjusted Chi Square Value	2.945	95% Jackknife UCL	6.536
		95% Standard Bootstrap UCL	6.141
Anderson-Darling Test Statistic	1.054	95% Bootstrap-t UCL	19.16
Anderson-Darling 5% Critical Value	0.771	95% Hall's Bootstrap UCL	22.22
Kolmogorov-Smirnov Test Statistic	0.372	95% Percentile Bootstrap UCL	6.383
Kolmogorov-Smirnov 5% Critical Value	0.279	95% BCA Bootstrap UCL	7.706
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	11.02
		97.5% Chebyshev(Mean, Sd) UCL	14.37
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	20.94
95% Approximate Gamma UCL (Use when n >= 40)	8.671		
95% Adjusted Gamma UCL (Use when n < 40)	10.42		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	11.02

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-238

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	0.133	Minimum of Log Data	-2.017
Maximum	6.24	Maximum of Log Data	1.831
Mean	1.231	Mean of log Data	-0.567
Geometric Mean	0.567	SD of log Data	1.234
Median	0.402		
SD	1.886		
Std. Error of Mean	0.596		
Coefficient of Variation	1.532		
Skewness	2.499		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.632	Shapiro Wilk Test Statistic	0.917
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.324	95% H-UCL	5.352
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.034
95% Adjusted-CLT UCL (Chen-1995)	2.716	97.5% Chebyshev (MVUE) UCL	3.877
95% Modified-t UCL (Johnson-1978)	2.403	99% Chebyshev (MVUE) UCL	5.534
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.606	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.031		
MLE of Mean	1.231		
MLE of Standard Deviation	1.581		
nu star	12.12		
Approximate Chi Square Value (.05)	5.305	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	2.212
Adjusted Chi Square Value	4.547	95% Jackknife UCL	2.324
		95% Standard Bootstrap UCL	2.161
Anderson-Darling Test Statistic	0.731	95% Bootstrap-t UCL	4.41
Anderson-Darling 5% Critical Value	0.756	95% Hall's Bootstrap UCL	5.235
Kolmogorov-Smirnov Test Statistic	0.257	95% Percentile Bootstrap UCL	2.267
Kolmogorov-Smirnov 5% Critical Value	0.276	95% BCA Bootstrap UCL	2.699
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.831
		97.5% Chebyshev(Mean, Sd) UCL	4.956
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	7.165
95% Approximate Gamma UCL (Use when n >= 40)	2.811		
95% Adjusted Gamma UCL (Use when n < 40)	3.281		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.811

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

EU 3

Arsenic

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	3

Raw Statistics		Log-transformed Statistics	
Minimum	20	Minimum of Log Data	2.996
Maximum	21.4	Maximum of Log Data	3.063
Mean	20.21	Mean of log Data	3.006
Geometric Mean	20.21	SD of log Data	0.0229
Median	20		
SD	0.472		
Std. Error of Mean	0.149		
Coefficient of Variation	0.0234		
Skewness	2.277		

Warning: There are only 3 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.532	Shapiro Wilk Test Statistic	0.533
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	20.48	95% H-UCL	N/A
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	20.85
95% Adjusted-CLT UCL (Chen-1995)	20.57	97.5% Chebyshev (MVUE) UCL	21.12
95% Modified-t UCL (Johnson-1978)	20.5	99% Chebyshev (MVUE) UCL	21.67

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1463	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0138		
MLE of Mean	20.21		
MLE of Standard Deviation	0.528		
nu star	29262		
Approximate Chi Square Value (.05)	28865	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	20.46
Adjusted Chi Square Value	28796	95% Jackknife UCL	20.48
		95% Standard Bootstrap UCL	N/A
Anderson-Darling Test Statistic	2.428	95% Bootstrap-t UCL	N/A
Anderson-Darling 5% Critical Value	0.724	95% Hall's Bootstrap UCL	N/A
Kolmogorov-Smirnov Test Statistic	0.484	95% Percentile Bootstrap UCL	N/A
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	N/A
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20.86
		97.5% Chebyshev(Mean, Sd) UCL	21.14
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	21.7
95% Approximate Gamma UCL (Use when n >= 40)	20.49		
95% Adjusted Gamma UCL (Use when n < 40)	20.54		

Potential UCL to Use		
	Use 95% Student's-t UCL	20.48
	or 95% Modified-t UCL	20.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	2

Raw Statistics		Log-transformed Statistics	
Minimum	100	Minimum of Log Data	4.605
Maximum	107	Maximum of Log Data	4.673
Mean	100.7	Mean of log Data	4.612
Geometric Mean	100.7	SD of log Data	0.0214
Median	100		
SD	2.214		
Std. Error of Mean	0.7		
Coefficient of Variation	0.022		
Skewness	3.162		

Warning: There are only 2 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.366	Shapiro Wilk Test Statistic	0.366
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	102	95% H-UCL	N/A
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	103.7
95% Adjusted-CLT UCL (Chen-1995)	102.6	97.5% Chebyshev (MVUE) UCL	105
95% Modified-t UCL (Johnson-1978)	102.1	99% Chebyshev (MVUE) UCL	107.5

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1669	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0603		
MLE of Mean	100.7		
MLE of Standard Deviation	2.465		
nu star	33377		
Approximate Chi Square Value (.05)	32953	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	101.9
Adjusted Chi Square Value	32880	95% Jackknife UCL	N/A
		95% Standard Bootstrap UCL	N/A
Anderson-Darling Test Statistic	3.35	95% Bootstrap-t UCL	N/A
Anderson-Darling 5% Critical Value	0.724	95% Hall's Bootstrap UCL	N/A
Kolmogorov-Smirnov Test Statistic	0.539	95% Percentile Bootstrap UCL	N/A
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	N/A
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	103.8
		97.5% Chebyshev(Mean, Sd) UCL	105.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	107.7
95% Approximate Gamma UCL (Use when n >= 40)	102		
95% Adjusted Gamma UCL (Use when n < 40)	102.2		

Potential UCL to Use		
	Use 95% Student's-t UCL	102
	or 95% Modified-t UCL	102.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	3

Raw Statistics		Log-transformed Statistics	
Minimum	0.11	Minimum of Log Data	-2.207
Maximum	0.18	Maximum of Log Data	-1.715
Mean	0.133	Mean of log Data	-2.024
Geometric Mean	0.132	SD of log Data	0.121
Median	0.13		
SD	0.0177		
Std. Error of Mean	0.00559		
Coefficient of Variation	0.133		
Skewness	2.302		

Warning: There are only 3 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.574	Shapiro Wilk Test Statistic	0.608
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.143	95% H-UCL	0.143
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.155
95% Adjusted-CLT UCL (Chen-1995)	0.147	97.5% Chebyshev (MVUE) UCL	0.165
95% Modified-t UCL (Johnson-1978)	0.144	99% Chebyshev (MVUE) UCL	0.184

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	50.34	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.00264		
MLE of Mean	0.133		
MLE of Standard Deviation	0.0187		
nu star	1007		
Approximate Chi Square Value (.05)	934.2	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.142
Adjusted Chi Square Value	922	95% Jackknife UCL	0.143
		95% Standard Bootstrap UCL	N/A
Anderson-Darling Test Statistic	2.195	95% Bootstrap-t UCL	N/A
Anderson-Darling 5% Critical Value	0.724	95% Hall's Bootstrap UCL	N/A
Kolmogorov-Smirnov Test Statistic	0.461	95% Percentile Bootstrap UCL	N/A
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	N/A
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.157
		97.5% Chebyshev(Mean, Sd) UCL	0.168
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.189
95% Approximate Gamma UCL (Use when n >= 40)	0.143		
95% Adjusted Gamma UCL (Use when n < 40)	0.145		

Potential UCL to Use			
		Use 95% Student's-t UCL	0.143
		or 95% Modified-t UCL	0.144

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Activity of U-235

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	9

Raw Statistics		Log-transformed Statistics	
Minimum	0.00494	Minimum of Log Data	-5.31
Maximum	1.18	Maximum of Log Data	0.166
Mean	0.294	Mean of log Data	-1.9
Geometric Mean	0.15	SD of log Data	1.467
Median	0.163		
SD	0.352		
Std. Error of Mean	0.111		
Coefficient of Variation	1.198		
Skewness	2.139		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.726	Shapiro Wilk Test Statistic	0.887
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.498	95% H-UCL	3.306
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	1.15
95% Adjusted-CLT UCL (Chen-1995)	0.557	97.5% Chebyshev (MVUE) UCL	1.489
95% Modified-t UCL (Johnson-1978)	0.51	99% Chebyshev (MVUE) UCL	2.155

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.675	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.435		
MLE of Mean	0.294		
MLE of Standard Deviation	0.357		
nu star	13.51		
Approximate Chi Square Value (.05)	6.236	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.477
Adjusted Chi Square Value	5.401	95% Jackknife UCL	0.498
		95% Standard Bootstrap UCL	0.47
Anderson-Darling Test Statistic	0.396	95% Bootstrap-t UCL	0.907
Anderson-Darling 5% Critical Value	0.753	95% Hall's Bootstrap UCL	1.358
Kolmogorov-Smirnov Test Statistic	0.211	95% Percentile Bootstrap UCL	0.485
Kolmogorov-Smirnov 5% Critical Value	0.275	95% BCA Bootstrap UCL	0.551
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.779
		97.5% Chebyshev(Mean, Sd) UCL	0.989
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1.401
95% Approximate Gamma UCL (Use when n >= 40)	0.636		
95% Adjusted Gamma UCL (Use when n < 40)	0.735		

Potential UCL to Use		Use 95% Approximate Gamma UCL	0.636

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

EU 3

Neptunium-237

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics
Minimum	-0.00161	Log Statistics Not Avaliable
Maximum	0.929	
Mean	0.236	
Geometric Mean	N/A	
Median	0.217	
SD	0.266	
Std. Error of Mean	0.0841	
Coefficient of Variation	1.128	
Skewness	2.212	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.719	Not Available
Shapiro Wilk Critical Value	0.842	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.39	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.39	95% Adjusted-CLT UCL (Chen 1995)	0.437
		95% Modified-t UCL (Johnson-1978)	0.4

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	0.602	95% CLT UCL	0.374
		95% Jackknife UCL	0.39
		95% Standard Bootstrap UCL	0.366
		95% Bootstrap-t UCL	0.494
		95% Hall's Bootstrap UCL	0.992
		95% Percentile Bootstrap UCL	0.381
		95% BCA Bootstrap UCL	0.422
		95% Chebyshev(Mean, Sd) UCL	0.602
		97.5% Chebyshev(Mean, Sd) UCL	0.761
		99% Chebyshev(Mean, Sd) UCL	1.072

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Thorium-230

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	0.521	Minimum of Log Data	-0.652
Maximum	8.95	Maximum of Log Data	2.192
Mean	2.388	Mean of log Data	0.355
Geometric Mean	1.426	SD of log Data	1.015
Median	0.836		
SD	2.807		
Std. Error of Mean	0.888		
Coefficient of Variation	1.176		
Skewness	1.794		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.72	Shapiro Wilk Test Statistic	0.85
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	4.015	95% H-UCL	6.887
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	5.494
95% Adjusted-CLT UCL (Chen-1995)	4.386	97.5% Chebyshev (MVUE) UCL	6.908
95% Modified-t UCL (Johnson-1978)	4.099	99% Chebyshev (MVUE) UCL	9.685
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.841	Data appear Lognormal at 5% Significance Level	
Theta Star	2.837		
MLE of Mean	2.388		
MLE of Standard Deviation	2.603		
nu star	16.83		
Approximate Chi Square Value (.05)	8.55	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	3.848
Adjusted Chi Square Value	7.546	95% Jackknife UCL	4.015
		95% Standard Bootstrap UCL	3.736
Anderson-Darling Test Statistic	0.887	95% Bootstrap-t UCL	6.161
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	9.568
Kolmogorov-Smirnov Test Statistic	0.318	95% Percentile Bootstrap UCL	3.862
Kolmogorov-Smirnov 5% Critical Value	0.273	95% BCA Bootstrap UCL	4.291
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	6.257
		97.5% Chebyshev(Mean, Sd) UCL	7.931
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11.22
95% Approximate Gamma UCL (Use when n >= 40)	4.699		
95% Adjusted Gamma UCL (Use when n < 40)	5.324		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	6.257

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-234

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	0.389	Minimum of Log Data	-0.944
Maximum	12.8	Maximum of Log Data	2.549
Mean	4.294	Mean of log Data	1.035
Geometric Mean	2.816	SD of log Data	1.017
Median	2.43		
SD	4.112		
Std. Error of Mean	1.3		
Coefficient of Variation	0.958		
Skewness	1.333		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.796	Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	6.678	95% H-UCL	13.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	10.89
95% Adjusted-CLT UCL (Chen-1995)	7.018	97.5% Chebyshev (MVUE) UCL	13.7
95% Modified-t UCL (Johnson-1978)	6.769	99% Chebyshev (MVUE) UCL	19.21

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.996	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	4.313		
MLE of Mean	4.294		
MLE of Standard Deviation	4.303		
nu star	19.91		
Approximate Chi Square Value (.05)	10.79	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	6.433
Adjusted Chi Square Value	9.638	95% Jackknife UCL	6.678
		95% Standard Bootstrap UCL	6.325
Anderson-Darling Test Statistic	0.544	95% Bootstrap-t UCL	8.423
Anderson-Darling 5% Critical Value	0.742	95% Hall's Bootstrap UCL	6.686
Kolmogorov-Smirnov Test Statistic	0.279	95% Percentile Bootstrap UCL	6.525
Kolmogorov-Smirnov 5% Critical Value	0.272	95% BCA Bootstrap UCL	6.565
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9.962
		97.5% Chebyshev(Mean, Sd) UCL	12.41
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	17.23
95% Approximate Gamma UCL (Use when n >= 40)	7.927		
95% Adjusted Gamma UCL (Use when n < 40)	8.87		

Potential UCL to Use		Use 95% Approximate Gamma UCL	7.927

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-238

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		**Log-transformed Statistics**	
Minimum	0.552	Minimum of Log Data	-0.594
Maximum	15.8	Maximum of Log Data	2.76
Mean	5.6	Mean of log Data	1.34
Geometric Mean	3.819	SD of log Data	0.98
Median	3.575		
SD	5.031		
Std. Error of Mean	1.591		
Coefficient of Variation	0.898		
Skewness	1.264		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.823	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	8.517	95% H-UCL	16.77
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13.98
95% Adjusted-CLT UCL (Chen-1995)	8.897	97.5% Chebyshev (MVUE) UCL	17.53
95% Modified-t UCL (Johnson-1978)	8.623	99% Chebyshev (MVUE) UCL	24.49
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	1.082	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.178		
MLE of Mean	5.6		
MLE of Standard Deviation	5.385		
nu star	21.63		
Approximate Chi Square Value (.05)	12.06	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0267	95% CLT UCL	8.217
Adjusted Chi Square Value	10.84	95% Jackknife UCL	8.517
		95% Standard Bootstrap UCL	8.084
Anderson-Darling Test Statistic	0.411	95% Bootstrap-t UCL	10.74
Anderson-Darling 5% Critical Value	0.74	95% Hall's Bootstrap UCL	9.192
Kolmogorov-Smirnov Test Statistic	0.26	95% Percentile Bootstrap UCL	8.226
Kolmogorov-Smirnov 5% Critical Value	0.271	95% BCA Bootstrap UCL	8.824
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	12.54
		97.5% Chebyshev(Mean, Sd) UCL	15.54
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	21.43
95% Approximate Gamma UCL (Use when n >= 40)	10.04		
95% Adjusted Gamma UCL (Use when n < 40)	11.18		
Potential UCL to Use		Use 95% Approximate Gamma UCL	10.04

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

EU 4

Arsenic

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	7
Raw Statistics		Log-transformed Statistics	
Minimum	20	Minimum of Log Data	2.996
Maximum	54.6	Maximum of Log Data	4
Mean	29.38	Mean of log Data	3.301
Geometric Mean	27.15	SD of log Data	0.403
Median	20.8		
SD	13.23		
Std. Error of Mean	4.183		
Coefficient of Variation	0.45		
Skewness	1.169		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.747	Shapiro Wilk Test Statistic	0.76
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	37.05	95% H-UCL	39.02
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	45.63
95% Adjusted-CLT UCL (Chen-1995)	37.91	97.5% Chebyshev (MVUE) UCL	52.74
95% Modified-t UCL (Johnson-1978)	37.31	99% Chebyshev (MVUE) UCL	66.7
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.61	Data do not follow a Discernable Distribution (0.05)	
Theta Star	6.374		
MLE of Mean	29.38		
MLE of Standard Deviation	13.68		
nu star	92.19		
Approximate Chi Square Value (.05)	71.05	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	36.26
Adjusted Chi Square Value	67.83	95% Jackknife UCL	37.05
		95% Standard Bootstrap UCL	35.9
Anderson-Darling Test Statistic	1.185	95% Bootstrap-t UCL	43.08
Anderson-Darling 5% Critical Value	0.728	95% Hall's Bootstrap UCL	38.67
Kolmogorov-Smirnov Test Statistic	0.35	95% Percentile Bootstrap UCL	35.9
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL	37.24
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	47.61
		97.5% Chebyshev(Mean, Sd) UCL	55.5
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	71
95% Approximate Gamma UCL (Use when n >= 40)	38.12		
95% Adjusted Gamma UCL (Use when n < 40)	39.93		
Potential UCL to Use		Use 95% Student's-t UCL	37.05
		or 95% Modified-t UCL	37.31

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	4

Raw Statistics		Log-transformed Statistics	
Minimum	100	Minimum of Log Data	4.605
Maximum	141	Maximum of Log Data	4.949
Mean	108.8	Mean of log Data	4.68
Geometric Mean	107.8	SD of log Data	0.141
Median	100		
SD	16.85		
Std. Error of Mean	5.329		
Coefficient of Variation	0.155		
Skewness	1.712		

Warning: There are only 4 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.571	Shapiro Wilk Test Statistic	0.578
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	118.6	95% H-UCL	118.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	130
95% Adjusted-CLT UCL (Chen-1995)	120.6	97.5% Chebyshev (MVUE) UCL	139.1
95% Modified-t UCL (Johnson-1978)	119	99% Chebyshev (MVUE) UCL	157.2

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	36.76	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.96		
MLE of Mean	108.8		
MLE of Standard Deviation	17.95		
nu star	735.2		
Approximate Chi Square Value (.05)	673.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	117.6
Adjusted Chi Square Value	662.9	95% Jackknife UCL	118.6
		95% Standard Bootstrap UCL	116.7
Anderson-Darling Test Statistic	2.202	95% Bootstrap-t UCL	151
Anderson-Darling 5% Critical Value	0.724	95% Hall's Bootstrap UCL	206.2
Kolmogorov-Smirnov Test Statistic	0.411	95% Percentile Bootstrap UCL	117.5
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	118.3
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	132
		97.5% Chebyshev(Mean, Sd) UCL	142.1
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	161.8
95% Approximate Gamma UCL (Use when n >= 40)	118.8		
95% Adjusted Gamma UCL (Use when n < 40)	120.7		

Potential UCL to Use		
	Use 95% Student's-t UCL	118.6
	or 95% Modified-t UCL	119

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Activity of U-235

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics
Minimum	-0.0301	Log Statistics Not Avaliable
Maximum	0.774	
Mean	0.205	
Geometric Mean	N/A	
Median	0.101	
SD	0.261	
Std. Error of Mean	0.0826	
Coefficient of Variation	1.277	
Skewness	1.527	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.808	Not Available
Shapiro Wilk Critical Value	0.842	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.356	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.356	95% Adjusted-CLT UCL (Chen 1995)	0.383
		95% Modified-t UCL (Johnson-1978)	0.363

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	0.565	95% CLT UCL	0.34
		95% Jackknife UCL	0.356
		95% Standard Bootstrap UCL	0.329
		95% Bootstrap-t UCL	0.548
		95% Hall's Bootstrap UCL	1.074
		95% Percentile Bootstrap UCL	0.344
		95% BCA Bootstrap UCL	0.385
		95% Chebyshev(Mean, Sd) UCL	0.565
		97.5% Chebyshev(Mean, Sd) UCL	0.72
		99% Chebyshev(Mean, Sd) UCL	1.026

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Neptunium-237

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics
Minimum	-0.0166	Log Statistics Not Avaliable
Maximum	0.697	
Mean	0.279	
Geometric Mean	N/A	
Median	0.236	
SD	0.24	
Std. Error of Mean	0.0758	
Coefficient of Variation	0.86	
Skewness	0.628	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.934	Not Available
Shapiro Wilk Critical Value	0.842	
Data appear Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.417	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.417	95% Adjusted-CLT UCL (Chen 1995)	0.419
		95% Modified-t UCL (Johnson-1978)	0.42

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data appear Normal at 5% Significance Level

Potential UCL to Use

Use 95% Student's-t UCL	0.417	95% CLT UCL	0.403
		95% Jackknife UCL	0.417
		95% Standard Bootstrap UCL	0.394
		95% Bootstrap-t UCL	0.443
		95% Hall's Bootstrap UCL	0.419
		95% Percentile Bootstrap UCL	0.406
		95% BCA Bootstrap UCL	0.412
		95% Chebyshev(Mean, Sd) UCL	0.609
		97.5% Chebyshev(Mean, Sd) UCL	0.752
		99% Chebyshev(Mean, Sd) UCL	1.032

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Thorium-230

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	0.112	Minimum of Log Data	-2.189
Maximum	5	Maximum of Log Data	1.609
Mean	1.254	Mean of log Data	-0.421
Geometric Mean	0.657	SD of log Data	1.181
Median	0.465		
SD	1.588		
Std. Error of Mean	0.502		
Coefficient of Variation	1.266		
Skewness	1.815		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.727	Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.174	95% H-UCL	5.21
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.24
95% Adjusted-CLT UCL (Chen-1995)	2.387	97.5% Chebyshev (MVUE) UCL	4.126
95% Modified-t UCL (Johnson-1978)	2.222	99% Chebyshev (MVUE) UCL	5.867
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.699	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	1.793		
MLE of Mean	1.254		
MLE of Standard Deviation	1.499		
nu star	13.98		
Approximate Chi Square Value (.05)	6.559	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	2.079
Adjusted Chi Square Value	5.699	95% Jackknife UCL	2.174
		95% Standard Bootstrap UCL	2.042
Anderson-Darling Test Statistic	0.647	95% Bootstrap-t UCL	3.409
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL	2.798
Kolmogorov-Smirnov Test Statistic	0.247	95% Percentile Bootstrap UCL	2.129
Kolmogorov-Smirnov 5% Critical Value	0.275	95% BCA Bootstrap UCL	2.427
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.442
		97.5% Chebyshev(Mean, Sd) UCL	4.389
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	6.249
95% Approximate Gamma UCL (Use when n >= 40)	2.673		
95% Adjusted Gamma UCL (Use when n < 40)	3.076		
Potential UCL to Use		Use 95% Approximate Gamma UCL	2.673

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-234

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		**Log-transformed Statistics**	
Minimum	0.0761	Minimum of Log Data	-2.576
Maximum	12.1	Maximum of Log Data	2.493
Mean	3.182	Mean of log Data	0.278
Geometric Mean	1.32	SD of log Data	1.616
Median	1.52		
SD	3.977		
Std. Error of Mean	1.258		
Coefficient of Variation	1.25		
Skewness	1.65		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.776	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	5.488	95% H-UCL	54.29
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	12.91
95% Adjusted-CLT UCL (Chen-1995)	5.952	97.5% Chebyshev (MVUE) UCL	16.82
95% Modified-t UCL (Johnson-1978)	5.597	99% Chebyshev (MVUE) UCL	24.51
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.549	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	5.8		
MLE of Mean	3.182		
MLE of Standard Deviation	4.296		
nu star	10.97		
Approximate Chi Square Value (.05)	4.558	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0267	95% CLT UCL	5.251
Adjusted Chi Square Value	3.866	95% Jackknife UCL	5.488
		95% Standard Bootstrap UCL	5.17
Anderson-Darling Test Statistic	0.169	95% Bootstrap-t UCL	8.591
Anderson-Darling 5% Critical Value	0.762	95% Hall's Bootstrap UCL	15.98
Kolmogorov-Smirnov Test Statistic	0.108	95% Percentile Bootstrap UCL	5.251
Kolmogorov-Smirnov 5% Critical Value	0.277	95% BCA Bootstrap UCL	5.758
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.665
		97.5% Chebyshev(Mean, Sd) UCL	11.04
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	15.7
95% Approximate Gamma UCL (Use when n >= 40)	7.66		
95% Adjusted Gamma UCL (Use when n < 40)	9.032		

Potential UCL to Use			
		Use 95% Approximate Gamma UCL	7.66

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-238

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		**Log-transformed Statistics**	
Minimum	0.0646	Minimum of Log Data	-2.74
Maximum	21.2	Maximum of Log Data	3.054
Mean	4.629	Mean of log Data	0.41
Geometric Mean	1.507	SD of log Data	1.887
Median	1.97		
SD	6.646		
Std. Error of Mean	2.102		
Coefficient of Variation	1.436		
Skewness	2.099		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.718	Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	8.482	95% H-UCL	224.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	23.15
95% Adjusted-CLT UCL (Chen-1995)	9.577	97.5% Chebyshev (MVUE) UCL	30.45
95% Modified-t UCL (Johnson-1978)	8.715	99% Chebyshev (MVUE) UCL	44.81
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.456	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	10.14		
MLE of Mean	4.629		
MLE of Standard Deviation	6.853		
nu star	9.127		
Approximate Chi Square Value (.05)	3.404	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0267	95% CLT UCL	8.086
Adjusted Chi Square Value	2.824	95% Jackknife UCL	8.482
		95% Standard Bootstrap UCL	7.922
Anderson-Darling Test Statistic	0.188	95% Bootstrap-t UCL	16.38
Anderson-Darling 5% Critical Value	0.772	95% Hall's Bootstrap UCL	23.48
Kolmogorov-Smirnov Test Statistic	0.114	95% Percentile Bootstrap UCL	8.27
Kolmogorov-Smirnov 5% Critical Value	0.28	95% BCA Bootstrap UCL	9.712
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	13.79
		97.5% Chebyshev(Mean, Sd) UCL	17.75
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	25.54
95% Approximate Gamma UCL (Use when n >= 40)	12.41		
95% Adjusted Gamma UCL (Use when n < 40)	14.96		
Potential UCL to Use		Use 95% Approximate Gamma UCL	12.41

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

EU 5

Uranium

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	3

Raw Statistics		Log-transformed Statistics	
Minimum	100	Minimum of Log Data	4.605
Maximum	218	Maximum of Log Data	5.384
Mean	120.9	Mean of log Data	4.748
Geometric Mean	115.3	SD of log Data	0.302
Median	100		
SD	44.52		
Std. Error of Mean	14.08		
Coefficient of Variation	0.368		
Skewness	1.868		

Warning: There are only 3 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.535	Shapiro Wilk Test Statistic	0.53
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	146.7	95% H-UCL	147.4
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	170.6
95% Adjusted-CLT UCL (Chen-1995)	152.9	97.5% Chebyshev (MVUE) UCL	192.4
95% Modified-t UCL (Johnson-1978)	148.1	99% Chebyshev (MVUE) UCL	235.3

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	7.604	Data do not follow a Discernable Distribution (0.05)	
Theta Star	15.9		
MLE of Mean	120.9		
MLE of Standard Deviation	43.84		
nu star	152.1		
Approximate Chi Square Value (.05)	124.6	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	144.1
Adjusted Chi Square Value	120.3	95% Jackknife UCL	146.7
		95% Standard Bootstrap UCL	N/A
Anderson-Darling Test Statistic	2.552	95% Bootstrap-t UCL	N/A
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	N/A
Kolmogorov-Smirnov Test Statistic	0.492	95% Percentile Bootstrap UCL	N/A
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL	N/A
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	182.3
		97.5% Chebyshev(Mean, Sd) UCL	208.8
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	261
95% Approximate Gamma UCL (Use when n >= 40)	147.6		
95% Adjusted Gamma UCL (Use when n < 40)	152.9		

Potential UCL to Use		
	Use 95% Student's-t UCL	146.7
	or 95% Modified-t UCL	148.1

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Vanadium

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	9

Raw Statistics		Log-transformed Statistics	
Minimum	11.3	Minimum of Log Data	2.425
Maximum	42	Maximum of Log Data	3.738
Mean	20.37	Mean of log Data	2.945
Geometric Mean	19.02	SD of log Data	0.379
Median	20.2		
SD	8.7		
Std. Error of Mean	2.751		
Coefficient of Variation	0.427		
Skewness	1.797		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.802	Shapiro Wilk Test Statistic	0.911
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25.41	95% H-UCL	26.52
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	30.99
95% Adjusted-CLT UCL (Chen-1995)	26.57	97.5% Chebyshev (MVUE) UCL	35.62
95% Modified-t UCL (Johnson-1978)	25.67	99% Chebyshev (MVUE) UCL	44.72
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	5.273	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	3.863		
MLE of Mean	20.37		
MLE of Standard Deviation	8.871		
nu star	105.5		
Approximate Chi Square Value (.05)	82.76	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	24.9
Adjusted Chi Square Value	79.27	95% Jackknife UCL	25.41
		95% Standard Bootstrap UCL	24.6
Anderson-Darling Test Statistic	0.527	95% Bootstrap-t UCL	28.09
Anderson-Darling 5% Critical Value	0.727	95% Hall's Bootstrap UCL	46.41
Kolmogorov-Smirnov Test Statistic	0.241	95% Percentile Bootstrap UCL	24.98
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL	26.27
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	32.36
		97.5% Chebyshev(Mean, Sd) UCL	37.55
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	47.74
95% Approximate Gamma UCL (Use when n >= 40)	25.96		
95% Adjusted Gamma UCL (Use when n < 40)	27.1		
Potential UCL to Use		Use 95% Approximate Gamma UCL	25.96

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Total PCBs

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	2
Raw Statistics		Log-transformed Statistics	
Minimum	0.1	Minimum of Log Data	-2.303
Maximum	0.8	Maximum of Log Data	-0.223
Mean	0.17	Mean of log Data	-2.095
Geometric Mean	0.123	SD of log Data	0.658
Median	0.1		
SD	0.221		
Std. Error of Mean	0.07		
Coefficient of Variation	1.302		
Skewness	3.162		

Warning: There are only 2 Distinct Values in this data
There are insufficient Distinct Values to perform some GOF tests and bootstrap methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values to compute bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10-15 or more observations for accurate and meaningful bootstrap results.

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.366	Shapiro Wilk Test Statistic	0.366
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.298	95% H-UCL	0.262
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.288
95% Adjusted-CLT UCL (Chen-1995)	0.36	97.5% Chebyshev (MVUE) UCL	0.348
95% Modified-t UCL (Johnson-1978)	0.31	99% Chebyshev (MVUE) UCL	0.466
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.255	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.136		
MLE of Mean	0.17		
MLE of Standard Deviation	0.152		
nu star	25.09		
Approximate Chi Square Value (.05)	14.68	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.285
Adjusted Chi Square Value	13.32	95% Jackknife UCL	N/A
		95% Standard Bootstrap UCL	N/A
Anderson-Darling Test Statistic	3.357	95% Bootstrap-t UCL	N/A
Anderson-Darling 5% Critical Value	0.738	95% Hall's Bootstrap UCL	N/A
Kolmogorov-Smirnov Test Statistic	0.543	95% Percentile Bootstrap UCL	N/A
Kolmogorov-Smirnov 5% Critical Value	0.271	95% BCA Bootstrap UCL	N/A
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.475
		97.5% Chebyshev(Mean, Sd) UCL	0.607
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.866
95% Approximate Gamma UCL (Use when n >= 40)	0.291		
95% Adjusted Gamma UCL (Use when n < 40)	0.32		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.475

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Activity of U-235

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10
Raw Statistics		Log-transformed Statistics	
Minimum	0.0302	Minimum of Log Data	-3.5
Maximum	0.616	Maximum of Log Data	-0.485
Mean	0.255	Mean of log Data	-1.919
Geometric Mean	0.147	SD of log Data	1.207
Median	0.192		
SD	0.236		
Std. Error of Mean	0.0746		
Coefficient of Variation	0.927		
Skewness	0.592		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.838	Shapiro Wilk Test Statistic	0.882
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.391	95% H-UCL	1.263
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.752
95% Adjusted-CLT UCL (Chen-1995)	0.392	97.5% Chebyshev (MVUE) UCL	0.959
95% Modified-t UCL (Johnson-1978)	0.394	99% Chebyshev (MVUE) UCL	1.367
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.796	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	0.32		
MLE of Mean	0.255		
MLE of Standard Deviation	0.285		
nu star	15.93		
Approximate Chi Square Value (.05)	7.911	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.377
Adjusted Chi Square Value	6.951	95% Jackknife UCL	0.391
		95% Standard Bootstrap UCL	0.372
Anderson-Darling Test Statistic	0.534	95% Bootstrap-t UCL	0.43
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	0.36
Kolmogorov-Smirnov Test Statistic	0.179	95% Percentile Bootstrap UCL	0.377
Kolmogorov-Smirnov 5% Critical Value	0.274	95% BCA Bootstrap UCL	0.39
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.58
		97.5% Chebyshev(Mean, Sd) UCL	0.721
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.997
95% Approximate Gamma UCL (Use when n >= 40)	0.513		
95% Adjusted Gamma UCL (Use when n < 40)	0.583		
Potential UCL to Use		Use 95% Approximate Gamma UCL	0.513

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Neptunium-237

General Statistics

Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	0.0294	Minimum of Log Data	-3.527
Maximum	0.619	Maximum of Log Data	-0.48
Mean	0.303	Mean of log Data	-1.473
Geometric Mean	0.229	SD of log Data	0.915
Median	0.307		
SD	0.195		
Std. Error of Mean	0.0616		
Coefficient of Variation	0.642		
Skewness	0.296		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Test Statistic	0.886
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.416	95% H-UCL	0.851
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.765
95% Adjusted-CLT UCL (Chen-1995)	0.411	97.5% Chebyshev (MVUE) UCL	0.953
95% Modified-t UCL (Johnson-1978)	0.417	99% Chebyshev (MVUE) UCL	1.322

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.425	Data appear Normal at 5% Significance Level	
Theta Star	0.213		
MLE of Mean	0.303		
MLE of Standard Deviation	0.254		
nu star	28.49		
Approximate Chi Square Value (.05)	17.31	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.405
Adjusted Chi Square Value	15.81	95% Jackknife UCL	0.416
		95% Standard Bootstrap UCL	0.4
Anderson-Darling Test Statistic	0.312	95% Bootstrap-t UCL	0.436
Anderson-Darling 5% Critical Value	0.736	95% Hall's Bootstrap UCL	0.407
Kolmogorov-Smirnov Test Statistic	0.155	95% Percentile Bootstrap UCL	0.4
Kolmogorov-Smirnov 5% Critical Value	0.27	95% BCA Bootstrap UCL	0.405
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.572
		97.5% Chebyshev(Mean, Sd) UCL	0.688
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.916
95% Approximate Gamma UCL (Use when n >= 40)	0.499		
95% Adjusted Gamma UCL (Use when n < 40)	0.546		

Potential UCL to Use		Use 95% Student's-t UCL	0.416

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Thorium-230

General Statistics			
Number of Valid Observations	10	Number of Distinct Observations	10

Raw Statistics		Log-transformed Statistics	
Minimum	0.257	Minimum of Log Data	-1.359
Maximum	9.84	Maximum of Log Data	2.286
Mean	1.664	Mean of log Data	-0.42
Geometric Mean	0.657	SD of log Data	1.227
Median	0.379		
SD	3.041		
Std. Error of Mean	0.962		
Coefficient of Variation	1.828		
Skewness	2.648		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.539	Shapiro Wilk Test Statistic	0.743
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	3.427	95% H-UCL	6.044
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.474
95% Adjusted-CLT UCL (Chen-1995)	4.106	97.5% Chebyshev (MVUE) UCL	4.437
95% Modified-t UCL (Johnson-1978)	3.561	99% Chebyshev (MVUE) UCL	6.33
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.526	Data do not follow a Discernable Distribution (0.05)	
Theta Star	3.161		
MLE of Mean	1.664		
MLE of Standard Deviation	2.293		
nu star	10.53		
Approximate Chi Square Value (.05)	4.273	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	3.246
Adjusted Chi Square Value	3.607	95% Jackknife UCL	3.427
		95% Standard Bootstrap UCL	3.189
Anderson-Darling Test Statistic	1.601	95% Bootstrap-t UCL	24.33
Anderson-Darling 5% Critical Value	0.764	95% Hall's Bootstrap UCL	21.53
Kolmogorov-Smirnov Test Statistic	0.362	95% Percentile Bootstrap UCL	3.287
Kolmogorov-Smirnov 5% Critical Value	0.278	95% BCA Bootstrap UCL	4.476
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	5.856
		97.5% Chebyshev(Mean, Sd) UCL	7.67
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11.23
95% Approximate Gamma UCL (Use when n >= 40)	4.098		
95% Adjusted Gamma UCL (Use when n < 40)	4.855		

Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	5.856

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Uranium-234

General Statistics

Number of Valid Observations	8	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	0.613	Minimum of Log Data	-0.489
Maximum	9.53	Maximum of Log Data	2.254
Mean	4.812	Mean of log Data	1.197
Geometric Mean	3.311	SD of log Data	1.037
Median	4.375		
SD	3.608		
Std. Error of Mean	1.275		
Coefficient of Variation	0.75		
Skewness	0.212		

Warning: There are only 8 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.898
Shapiro Wilk Critical Value	0.818	Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	7.228	95% H-UCL	22.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13.64
95% Adjusted-CLT UCL (Chen-1995)	7.012	97.5% Chebyshev (MVUE) UCL	17.3
95% Modified-t UCL (Johnson-1978)	7.244	99% Chebyshev (MVUE) UCL	24.49

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.009	Data appear Normal at 5% Significance Level	
Theta Star	4.766		
MLE of Mean	4.812		
MLE of Standard Deviation	4.789		
nu star	16.15		
Approximate Chi Square Value (.05)	8.069	Nonparametric Statistics	
Adjusted Level of Significance	0.0195	95% CLT UCL	6.91
Adjusted Chi Square Value	6.677	95% Jackknife UCL	7.228
		95% Standard Bootstrap UCL	6.747
Anderson-Darling Test Statistic	0.373	95% Bootstrap-t UCL	7.379
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	6.555
Kolmogorov-Smirnov Test Statistic	0.19	95% Percentile Bootstrap UCL	6.794
Kolmogorov-Smirnov 5% Critical Value	0.299	95% BCA Bootstrap UCL	6.905
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	10.37
		97.5% Chebyshev(Mean, Sd) UCL	12.78
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	17.5
95% Approximate Gamma UCL (Use when n >= 40)	9.631		
95% Adjusted Gamma UCL (Use when n < 40)	11.64		

Potential UCL to Use		Use 95% Student's-t UCL	7.228

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

EU 5

Uranium-238

General Statistics

Number of Valid Observations	8	Number of Distinct Observations	8

Raw Statistics		Log-transformed Statistics	
Minimum	1.06	Minimum of Log Data	0.0583
Maximum	15.2	Maximum of Log Data	2.721
Mean	7.654	Mean of log Data	1.664
Geometric Mean	5.278	SD of log Data	1.028
Median	7.325		
SD	5.704		
Std. Error of Mean	2.017		
Coefficient of Variation	0.745		
Skewness	0.124		

Warning: There are only 8 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.893	Shapiro Wilk Test Statistic	0.89
Shapiro Wilk Critical Value	0.818	Shapiro Wilk Critical Value	0.818
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	11.47	95% H-UCL	34.8
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	21.47
95% Adjusted-CLT UCL (Chen-1995)	11.07	97.5% Chebyshev (MVUE) UCL	27.21
95% Modified-t UCL (Johnson-1978)	11.49	99% Chebyshev (MVUE) UCL	38.49

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	1.015	Data appear Normal at 5% Significance Level	
Theta Star	7.542		
MLE of Mean	7.654		
MLE of Standard Deviation	7.598		
nu star	16.24		
Approximate Chi Square Value (.05)	8.13	Nonparametric Statistics	
Adjusted Level of Significance	0.0195	95% CLT UCL	10.97
Adjusted Chi Square Value	6.731	95% Jackknife UCL	11.47
		95% Standard Bootstrap UCL	10.79
Anderson-Darling Test Statistic	0.421	95% Bootstrap-t UCL	11.78
Anderson-Darling 5% Critical Value	0.729	95% Hall's Bootstrap UCL	10.45
Kolmogorov-Smirnov Test Statistic	0.192	95% Percentile Bootstrap UCL	10.89
Kolmogorov-Smirnov 5% Critical Value	0.299	95% BCA Bootstrap UCL	10.89
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	16.44
		97.5% Chebyshev(Mean, Sd) UCL	20.25
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	27.72
95% Approximate Gamma UCL (Use when n >= 40)	15.29		
95% Adjusted Gamma UCL (Use when n < 40)	18.46		

Potential UCL to Use		Use 95% Student's-t UCL	11.47

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Aluminum

General Statistics			
Number of Valid Observations	50	Number of Distinct Observations	47
Raw Statistics		Log-transformed Statistics	
Minimum	4710	Minimum of Log Data	8.457
Maximum	13100	Maximum of Log Data	9.48
Mean	8681	Mean of log Data	9.043
Geometric Mean	8463	SD of log Data	0.23
Median	8525		
SD	1952		
Std. Error of Mean	276.1		
Coefficient of Variation	0.225		
Skewness	0.266		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.979	Shapiro Wilk Test Statistic	0.981
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	9144	95% H-UCL	9229
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	9933
95% Adjusted-CLT UCL (Chen-1995)	9146	97.5% Chebyshev (MVUE) UCL	10473
95% Modified-t UCL (Johnson-1978)	9145	99% Chebyshev (MVUE) UCL	11533
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	18.65	Data appear Normal at 5% Significance Level	
Theta Star	465.6		
MLE of Mean	8681		
MLE of Standard Deviation	2010		
nu star	1865		
Approximate Chi Square Value (.05)	1765	Nonparametric Statistics	
Adjusted Level of Significance	0.0452	95% CLT UCL	9135
Adjusted Chi Square Value	1762	95% Jackknife UCL	9144
		95% Standard Bootstrap UCL	9127
Anderson-Darling Test Statistic	0.117	95% Bootstrap-t UCL	9151
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	9147
Kolmogorov-Smirnov Test Statistic	0.0579	95% Percentile Bootstrap UCL	9134
Kolmogorov-Smirnov 5% Critical Value	0.125	95% BCA Bootstrap UCL	9150
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	9884
		97.5% Chebyshev(Mean, Sd) UCL	10405
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	11428
95% Approximate Gamma UCL (Use when n >= 40)	9169		
95% Adjusted Gamma UCL (Use when n < 40)	9184		
Potential UCL to Use		Use 95% Student's-t UCL	9144

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Arsenic

General Statistics			
Number of Valid Observations	50	Number of Distinct Observations	9
Raw Statistics		Log-transformed Statistics	
Minimum	20	Minimum of Log Data	2.996
Maximum	54.6	Maximum of Log Data	4
Mean	21.92	Mean of log Data	3.059
Geometric Mean	21.3	SD of log Data	0.212
Median	20		
SD	6.811		
Std. Error of Mean	0.963		
Coefficient of Variation	0.311		
Skewness	3.944		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.326	Shapiro Wilk Test Statistic	0.343
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	23.53	95% H-UCL	23.02
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	24.65
95% Adjusted-CLT UCL (Chen-1995)	24.08	97.5% Chebyshev (MVUE) UCL	25.9
95% Modified-t UCL (Johnson-1978)	23.62	99% Chebyshev (MVUE) UCL	28.34
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	16.71	Data do not follow a Discernable Distribution (0.05)	
Theta Star	1.312		
MLE of Mean	21.92		
MLE of Standard Deviation	5.363		
nu star	1671		
Approximate Chi Square Value (.05)	1577	Nonparametric Statistics	
Adjusted Level of Significance	0.0452	95% CLT UCL	23.5
Adjusted Chi Square Value	1574	95% Jackknife UCL	23.53
		95% Standard Bootstrap UCL	23.53
Anderson-Darling Test Statistic	15.44	95% Bootstrap-t UCL	26.81
Anderson-Darling 5% Critical Value	0.748	95% Hall's Bootstrap UCL	24.05
Kolmogorov-Smirnov Test Statistic	0.458	95% Percentile Bootstrap UCL	23.63
Kolmogorov-Smirnov 5% Critical Value	0.125	95% BCA Bootstrap UCL	24.45
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	26.12
		97.5% Chebyshev(Mean, Sd) UCL	27.93
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	31.5
95% Approximate Gamma UCL (Use when n >= 40)	23.22		
95% Adjusted Gamma UCL (Use when n < 40)	23.26		
Potential UCL to Use		Use 95% Student's-t UCL	23.53
		or 95% Modified-t UCL	23.62

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Chromium

General Statistics			
Number of Valid Observations	50	Number of Distinct Observations	46
Raw Statistics		**Log-transformed Statistics**	
Minimum	7.5	Minimum of Log Data	2.015
Maximum	53.5	Maximum of Log Data	3.98
Mean	15.97	Mean of log Data	2.705
Geometric Mean	14.95	SD of log Data	0.342
Median	14.7		
SD	7.208		
Std. Error of Mean	1.019		
Coefficient of Variation	0.451		
Skewness	3.371		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.704	Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	17.68	95% H-UCL	17.32
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	19.25
95% Adjusted-CLT UCL (Chen-1995)	18.17	97.5% Chebyshev (MVUE) UCL	20.72
95% Modified-t UCL (Johnson-1978)	17.76	99% Chebyshev (MVUE) UCL	23.62
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	7.303	Data do not follow a Discernable Distribution (0.05)	
Theta Star	2.187		
MLE of Mean	15.97		
MLE of Standard Deviation	5.91		
nu star	730.3		
Approximate Chi Square Value (.05)	668.6	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0452	95% CLT UCL	17.65
Adjusted Chi Square Value	666.9	95% Jackknife UCL	17.68
		95% Standard Bootstrap UCL	17.64
Anderson-Darling Test Statistic	1.339	95% Bootstrap-t UCL	18.7
Anderson-Darling 5% Critical Value	0.751	95% Hall's Bootstrap UCL	26.46
Kolmogorov-Smirnov Test Statistic	0.143	95% Percentile Bootstrap UCL	17.7
Kolmogorov-Smirnov 5% Critical Value	0.125	95% BCA Bootstrap UCL	18.15
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	20.41
		97.5% Chebyshev(Mean, Sd) UCL	22.34
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	26.11
95% Approximate Gamma UCL (Use when n >= 40)	17.45		
95% Adjusted Gamma UCL (Use when n < 40)	17.49		
Potential UCL to Use		Use 95% Student's-t UCL	17.68
		or 95% Modified-t UCL	17.76

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Uranium

General Statistics

Number of Valid Observations	50	Number of Distinct Observations	14

Raw Statistics		Log-transformed Statistics	
Minimum	100	Minimum of Log Data	4.605
Maximum	290	Maximum of Log Data	5.67
Mean	114.9	Mean of log Data	4.71
Geometric Mean	111	SD of log Data	0.239
Median	100		
SD	37.37		
Std. Error of Mean	5.285		
Coefficient of Variation	0.325		
Skewness	3.126		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.479	Shapiro Wilk Test Statistic	0.517
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	123.8	95% H-UCL	121.6
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	131.2
95% Adjusted-CLT UCL (Chen-1995)	126.1	97.5% Chebyshev (MVUE) UCL	138.6
95% Modified-t UCL (Johnson-1978)	124.2	99% Chebyshev (MVUE) UCL	153.1

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	13.88	Data do not follow a Discernable Distribution (0.05)	
Theta Star	8.275		
MLE of Mean	114.9		
MLE of Standard Deviation	30.84		
nu star	1388		
Approximate Chi Square Value (.05)	1303	Nonparametric Statistics	
Adjusted Level of Significance	0.0452	95% CLT UCL	123.6
Adjusted Chi Square Value	1300	95% Jackknife UCL	123.8
		95% Standard Bootstrap UCL	123.7
Anderson-Darling Test Statistic	11.17	95% Bootstrap-t UCL	128.2
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	125.8
Kolmogorov-Smirnov Test Statistic	0.388	95% Percentile Bootstrap UCL	124.2
Kolmogorov-Smirnov 5% Critical Value	0.125	95% BCA Bootstrap UCL	126.7
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	137.9
		97.5% Chebyshev(Mean, Sd) UCL	147.9
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	167.5
95% Approximate Gamma UCL (Use when n >= 40)	122.4		
95% Adjusted Gamma UCL (Use when n < 40)	122.7		

Potential UCL to Use		
	Use 95% Student's-t UCL	123.8
	or 95% Modified-t UCL	124.2

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Vanadium

General Statistics

Number of Valid Observations	50	Number of Distinct Observations	44

Raw Statistics		Log-transformed Statistics	
Minimum	11.3	Minimum of Log Data	2.425
Maximum	43.3	Maximum of Log Data	3.768
Mean	20.28	Mean of log Data	2.967
Geometric Mean	19.44	SD of log Data	0.286
Median	19.8		
SD	6.436		
Std. Error of Mean	0.91		
Coefficient of Variation	0.317		
Skewness	1.704		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.86	Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	21.8	95% H-UCL	21.81
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	23.86
95% Adjusted-CLT UCL (Chen-1995)	22.01	97.5% Chebyshev (MVUE) UCL	25.43
95% Modified-t UCL (Johnson-1978)	21.84	99% Chebyshev (MVUE) UCL	28.52

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	11.3	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	1.794		
MLE of Mean	20.28		
MLE of Standard Deviation	6.03		
nu star	1130		
Approximate Chi Square Value (.05)	1053	Nonparametric Statistics	
Adjusted Level of Significance	0.0452	95% CLT UCL	21.77
Adjusted Chi Square Value	1051	95% Jackknife UCL	21.8
		95% Standard Bootstrap UCL	21.75
Anderson-Darling Test Statistic	0.683	95% Bootstrap-t UCL	22.13
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	22.3
Kolmogorov-Smirnov Test Statistic	0.136	95% Percentile Bootstrap UCL	21.84
Kolmogorov-Smirnov 5% Critical Value	0.125	95% BCA Bootstrap UCL	22.01
Data follow Appr. Gamma Distribution at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	24.24
		97.5% Chebyshev(Mean, Sd) UCL	25.96
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	29.33
95% Approximate Gamma UCL (Use when n >= 40)	21.76		
95% Adjusted Gamma UCL (Use when n < 40)	21.8		

Potential UCL to Use		Use 95% Approximate Gamma UCL	21.76

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Total PCBs

General Statistics

Number of Valid Observations	50	Number of Distinct Observations	6
Raw Statistics		Log-transformed Statistics	
Minimum	0.1	Minimum of Log Data	-2.303
Maximum	0.8	Maximum of Log Data	-0.223
Mean	0.156	Mean of log Data	-1.959
Geometric Mean	0.141	SD of log Data	0.388
Median	0.13		
SD	0.105		
Std. Error of Mean	0.0148		
Coefficient of Variation	0.672		
Skewness	4.974		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.468	Shapiro Wilk Test Statistic	0.719
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.181	95% H-UCL	0.168
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.189
95% Adjusted-CLT UCL (Chen-1995)	0.192	97.5% Chebyshev (MVUE) UCL	0.206
95% Modified-t UCL (Johnson-1978)	0.183	99% Chebyshev (MVUE) UCL	0.237
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	4.833	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0323		
MLE of Mean	0.156		
MLE of Standard Deviation	0.071		
nu star	483.3		
Approximate Chi Square Value (.05)	433.4	Nonparametric Statistics	
Adjusted Level of Significance	0.0452	95% CLT UCL	0.18
Adjusted Chi Square Value	432	95% Jackknife UCL	0.181
		95% Standard Bootstrap UCL	0.179
Anderson-Darling Test Statistic	5.759	95% Bootstrap-t UCL	0.201
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	0.279
Kolmogorov-Smirnov Test Statistic	0.379	95% Percentile Bootstrap UCL	0.184
Kolmogorov-Smirnov 5% Critical Value	0.126	95% BCA Bootstrap UCL	0.196
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.221
		97.5% Chebyshev(Mean, Sd) UCL	0.249
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.304
95% Approximate Gamma UCL (Use when n >= 40)	0.174		
95% Adjusted Gamma UCL (Use when n < 40)	0.175		
Potential UCL to Use		Use 95% Student's-t UCL	0.181
		or 95% Modified-t UCL	0.183

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Activity of U-235

General Statistics

Number of Valid Observations	50	Number of Distinct Observations	48

Raw Statistics		Log-transformed Statistics
Minimum	-0.0344	Log Statistics Not Avaliable
Maximum	1.18	
Mean	0.199	
Geometric Mean	N/A	
Median	0.093	
SD	0.264	
Std. Error of Mean	0.0374	
Coefficient of Variation	1.33	
Skewness	1.775	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.769	Not Available
Shapiro Wilk Critical Value	0.947	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.261	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.261	95% Adjusted-CLT UCL (Chen 1995)	0.27
		95% Modified-t UCL (Johnson-1978)	0.263

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	0.362	95% CLT UCL	0.26
		95% Jackknife UCL	0.261
		95% Standard Bootstrap UCL	0.26
		95% Bootstrap-t UCL	0.276
		95% Hall's Bootstrap UCL	0.274
		95% Percentile Bootstrap UCL	0.263
		95% BCA Bootstrap UCL	0.268
		95% Chebyshev(Mean, Sd) UCL	0.362
		97.5% Chebyshev(Mean, Sd) UCL	0.432
		99% Chebyshev(Mean, Sd) UCL	0.571

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Neptunium-237

General Statistics

Number of Valid Observations	50	Number of Distinct Observations	49

Raw Statistics		Log-transformed Statistics
Minimum	-0.0166	Log Statistics Not Avaliable
Maximum	1.58	
Mean	0.232	
Geometric Mean	N/A	
Median	0.134	
SD	0.316	
Std. Error of Mean	0.0446	
Coefficient of Variation	1.358	
Skewness	2.328	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.742	Not Available
Shapiro Wilk Critical Value	0.947	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.307	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.307	95% Adjusted-CLT UCL (Chen 1995)	0.322
		95% Modified-t UCL (Johnson-1978)	0.31

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	0.427	95% CLT UCL	0.306
		95% Jackknife UCL	0.307
		95% Standard Bootstrap UCL	0.305
		95% Bootstrap-t UCL	0.33
		95% Hall's Bootstrap UCL	0.329
		95% Percentile Bootstrap UCL	0.309
		95% BCA Bootstrap UCL	0.326
		95% Chebyshev(Mean, Sd) UCL	0.427
		97.5% Chebyshev(Mean, Sd) UCL	0.511
		99% Chebyshev(Mean, Sd) UCL	0.677

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Technetium-99

General Statistics

Number of Valid Observations	50	Number of Distinct Observations	49

Raw Statistics		Log-transformed Statistics
Minimum	-1.14	Log Statistics Not Avaliable
Maximum	182	
Mean	12.94	
Geometric Mean	N/A	
Median	4.07	
SD	28.95	
Std. Error of Mean	4.095	
Coefficient of Variation	2.238	
Skewness	4.767	

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.437	Not Available
Shapiro Wilk Critical Value	0.947	
Data not Normal at 5% Significance Level		

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	19.8	95% H-UCL	N/A
Assuming Normal Distribution		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	19.8	95% Adjusted-CLT UCL (Chen 1995)	22.62
		95% Modified-t UCL (Johnson-1978)	20.26

Gamma Distribution Test	Data Distribution
Gamma Statistics Not Available	Data do not follow a Discernable Distribution (0.05)

Potential UCL to Use

Use 95% Chebyshev (Mean, Sd) UCL	30.79	95% CLT UCL	19.67
		95% Jackknife UCL	19.8
		95% Standard Bootstrap UCL	19.68
		95% Bootstrap-t UCL	30.07
		95% Hall's Bootstrap UCL	48.85
		95% Percentile Bootstrap UCL	20.35
		95% BCA Bootstrap UCL	24.3
		95% Chebyshev(Mean, Sd) UCL	30.79
		97.5% Chebyshev(Mean, Sd) UCL	38.51
		99% Chebyshev(Mean, Sd) UCL	53.68

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Thorium-230

General Statistics			
Number of Valid Observations	50	Number of Distinct Observations	50
Raw Statistics		**Log-transformed Statistics**	
Minimum	0.112	Minimum of Log Data	-2.189
Maximum	17.6	Maximum of Log Data	2.868
Mean	2.131	Mean of log Data	-0.15
Geometric Mean	0.86	SD of log Data	1.213
Median	0.61		
SD	3.772		
Std. Error of Mean	0.533		
Coefficient of Variation	1.77		
Skewness	2.86		

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.552	Shapiro Wilk Test Statistic	0.875
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	3.025	95% H-UCL	2.809
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	3.376
95% Adjusted-CLT UCL (Chen-1995)	3.239	97.5% Chebyshev (MVUE) UCL	4.079
95% Modified-t UCL (Johnson-1978)	3.061	99% Chebyshev (MVUE) UCL	5.459
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.643	Data do not follow a Discernable Distribution (0.05)	
Theta Star	3.312		
MLE of Mean	2.131		
MLE of Standard Deviation	2.657		
nu star	64.34		
Approximate Chi Square Value (.05)	46.89	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0452	95% CLT UCL	3.009
Adjusted Chi Square Value	46.45	95% Jackknife UCL	3.025
		95% Standard Bootstrap UCL	2.999
Anderson-Darling Test Statistic	4.779	95% Bootstrap-t UCL	3.508
Anderson-Darling 5% Critical Value	0.8	95% Hall's Bootstrap UCL	3.313
Kolmogorov-Smirnov Test Statistic	0.304	95% Percentile Bootstrap UCL	3.05
Kolmogorov-Smirnov 5% Critical Value	0.131	95% BCA Bootstrap UCL	3.263
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	4.456
		97.5% Chebyshev(Mean, Sd) UCL	5.463
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	7.439
95% Approximate Gamma UCL (Use when n >= 40)	2.924		
95% Adjusted Gamma UCL (Use when n < 40)	2.952		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	4.456

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Uranium-234

General Statistics			
Number of Valid Observations	48	Number of Distinct Observations	44
Raw Statistics		**Log-transformed Statistics**	
Minimum	0.056	Minimum of Log Data	-2.882
Maximum	12.8	Maximum of Log Data	2.549
Mean	3.094	Mean of log Data	0.26
Geometric Mean	1.297	SD of log Data	1.498
Median	1.63		
SD	3.667		
Std. Error of Mean	0.529		
Coefficient of Variation	1.185		
Skewness	1.35		

Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.771	Shapiro Wilk Test Statistic	0.947
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	3.982	95% H-UCL	7.55
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	8.539
95% Adjusted-CLT UCL (Chen-1995)	4.075	97.5% Chebyshev (MVUE) UCL	10.59
95% Modified-t UCL (Johnson-1978)	3.999	99% Chebyshev (MVUE) UCL	14.62
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.666	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	4.644		
MLE of Mean	3.094		
MLE of Standard Deviation	3.791		
nu star	63.95		
Approximate Chi Square Value (.05)	46.55	**Nonparametric Statistics**	
Adjusted Level of Significance	0.045	95% CLT UCL	3.965
Adjusted Chi Square Value	46.09	95% Jackknife UCL	3.982
		95% Standard Bootstrap UCL	3.959
Anderson-Darling Test Statistic	0.752	95% Bootstrap-t UCL	4.017
Anderson-Darling 5% Critical Value	0.797	95% Hall's Bootstrap UCL	4.058
Kolmogorov-Smirnov Test Statistic	0.113	95% Percentile Bootstrap UCL	3.969
Kolmogorov-Smirnov 5% Critical Value	0.134	95% BCA Bootstrap UCL	4.069
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	5.401
		97.5% Chebyshev(Mean, Sd) UCL	6.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8.361
95% Approximate Gamma UCL (Use when n >= 40)	4.25		
95% Adjusted Gamma UCL (Use when n < 40)	4.292		

Potential UCL to Use		Use 95% Approximate Gamma UCL	4.25

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Overall

Uranium-238

General Statistics			
Number of Valid Observations	48	Number of Distinct Observations	46
Raw Statistics		**Log-transformed Statistics**	
Minimum	0.0646	Minimum of Log Data	-2.74
Maximum	21.2	Maximum of Log Data	3.054
Mean	4.51	Mean of log Data	0.529
Geometric Mean	1.697	SD of log Data	1.608
Median	2.185		
SD	5.656		
Std. Error of Mean	0.816		
Coefficient of Variation	1.254		
Skewness	1.517		
Relevant UCL Statistics			
Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.759	Shapiro Wilk Test Statistic	0.946
Shapiro Wilk Critical Value	0.947	Shapiro Wilk Critical Value	0.947
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	5.88	95% H-UCL	12.69
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	13.82
95% Adjusted-CLT UCL (Chen-1995)	6.044	97.5% Chebyshev (MVUE) UCL	17.27
95% Modified-t UCL (Johnson-1978)	5.91	99% Chebyshev (MVUE) UCL	24.06
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.602	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	7.486		
MLE of Mean	4.51		
MLE of Standard Deviation	5.81		
nu star	57.84		
Approximate Chi Square Value (.05)	41.36	**Nonparametric Statistics**	
Adjusted Level of Significance	0.045	95% CLT UCL	5.853
Adjusted Chi Square Value	40.92	95% Jackknife UCL	5.88
		95% Standard Bootstrap UCL	5.875
Anderson-Darling Test Statistic	0.734	95% Bootstrap-t UCL	6.107
Anderson-Darling 5% Critical Value	0.803	95% Hall's Bootstrap UCL	6.085
Kolmogorov-Smirnov Test Statistic	0.111	95% Percentile Bootstrap UCL	5.882
Kolmogorov-Smirnov 5% Critical Value	0.134	95% BCA Bootstrap UCL	6.192
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	8.069
		97.5% Chebyshev(Mean, Sd) UCL	9.608
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	12.63
95% Approximate Gamma UCL (Use when n >= 40)	6.308		
95% Adjusted Gamma UCL (Use when n < 40)	6.374		
Potential UCL to Use		Use 95% Approximate Gamma UCL	6.308

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

APPENDIX B

ALTERNATE RISK EVALUATION USING MAXIMUM CONCENTRATIONS

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Table B.1. Hazard and Cancer Risks by EU at NSDD Sections 1 and 2 for the Outdoor Worker Alternatively Estimated Using Maximum Concentrations

	Outdoor Worker NAL		Maximum Result (mg/kg or pCi/g)				
	HI	**ELCR**	**EU 1**	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	2.86E+04	n/a	1.31E+04	n/a	n/a	n/a	n/a
Arsenic	6.67E+00	4.15E-01	n/a	n/a	2.14E+01	5.46E+01	n/a
Chromium	4.32E+04	2.68E+02	5.35E+01	n/a	n/a	n/a	n/a
Uranium	8.61E+01	n/a	2.90E+02	1.04E+02	1.07E+02	1.41E+02	2.18E+02
Vanadium	1.45E+02	n/a	n/a	4.33E+01	n/a	n/a	4.20E+01
Total PCBs	n/a	1.70E-01	n/a	n/a	1.80E-01	n/a	8.00E-01
Activity of U-235	n/a	4.85E-01	7.82E-01	3.55E-01	1.18E+00	7.74E-01	6.16E-01
Neptunium-237	n/a	3.22E-01	1.58E+00	1.09E+00	9.29E-01	6.97E-01	6.19E-01
Technetium-99	n/a	3.09E+02	1.82E+02	n/a	n/a	n/a	n/a
Thorium-230	n/a	5.70E+00	1.59E+01	1.76E+01	8.95E+00	5.00E+00	9.84E+00
Uranium-234	n/a	8.72E+00	1.16E+01	n/a	1.28E+01	1.21E+01	9.53E+00
Uranium-238	n/a	1.81E+00	2.02E+01	6.24E+00	1.58E+01	2.12E+01	1.52E+01

HAZARD INDEX					
	EU 1	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	0.0	n/a	n/a	n/a	n/a
Arsenic	n/a	n/a	0.3	0.8	n/a
Chromium	0.0	n/a	n/a	n/a	n/a
Uranium	0.3	0.1	0.1	0.2	0.3
Vanadium	n/a	0.0	n/a	n/a	0.0
Total PCBs	n/a	n/a	n/a	n/a	n/a
Activity of U-235	n/a	n/a	n/a	n/a	n/a
Neptunium-237	n/a	n/a	n/a	n/a	n/a
Technetium-99	n/a	n/a	n/a	n/a	n/a
Thorium-230	n/a	n/a	n/a	n/a	n/a
Uranium-234	n/a	n/a	n/a	n/a	n/a
Uranium-238	n/a	n/a	n/a	n/a	n/a
Totals	0.4	0.2	0.4	1.0	0.3

ELCR					
	EU 1	**EU 2**	**EU 3**	**EU 4**	**EU 5**
Aluminum	n/a	n/a	n/a	n/a	n/a
Arsenic	n/a	n/a	5.16E-05	1.32E-04	n/a
Chromium	2.00E-07	n/a	n/a	n/a	n/a
Uranium	n/a	n/a	n/a	n/a	n/a
Vanadium	n/a	n/a	n/a	n/a	n/a
Total PCBs	n/a	n/a	1.06E-06	n/a	4.71E-06
Activity of U-235	1.61E-06	7.32E-07	2.43E-06	1.60E-06	1.27E-06
Neptunium-237	4.91E-06	3.39E-06	2.89E-06	2.16E-06	1.92E-06
Technetium-99	5.89E-07	n/a	n/a	n/a	n/a
Thorium-230	2.79E-06	3.09E-06	1.57E-06	8.77E-07	1.73E-06
Uranium-234	1.33E-06	n/a	1.47E-06	1.39E-06	1.09E-06
Uranium-238	1.12E-05	3.45E-06	8.73E-06	1.17E-05	8.40E-06
Totals	2.26E-05	1.07E-05	6.97E-05	1.49E-04	1.91E-05

NAL = No Action Level

[a] NALs taken from 2012 updated NALs (DOE 2012).

Table B.2. Hazard and Cancer Risks by EU at NSDD Sections 1 and 2 for the Industrial Worker Alternatively Estimated Using Maximum Concentrations

	Industrial Worker NAL		Maximum Result (mg/kg or pCi/g)				
	HI	ELCR	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	1.00E+05	n/a	1.31E+04	n/a	n/a	n/a	n/a
Arsenic	6.09E+01	3.81E+00	n/a	n/a	2.14E+01	5.46E+01	n/a
Chromium	1.00E+05	1.98E+02	5.35E+01	n/a	n/a	n/a	n/a
Uranium	5.98E+02	n/a	2.90E+02	1.04E+02	1.07E+02	1.41E+02	2.18E+02
Vanadium	1.03E+03	n/a	n/a	4.33E+01	n/a	n/a	4.20E+01
Total PCBs	n/a	2.86E+00	n/a	n/a	1.80E-01	n/a	8.00E-01
Activity of U-235	n/a	1.84E+00	7.82E-01	3.55E-01	1.18E+00	7.74E-01	6.16E-01
Neptunium-237	n/a	1.21E+00	1.58E+00	1.09E+00	9.29E-01	6.97E-01	6.19E-01
Technetium-99	n/a	2.02E+03	1.82E+02	n/a	n/a	n/a	n/a
Thorium-230	n/a	3.95E+01	1.59E+01	1.76E+01	8.95E+00	5.00E+00	9.84E+00
Uranium-234	n/a	6.11E+01	1.16E+01	n/a	1.28E+01	1.21E+01	9.53E+00
Uranium-238	n/a	7.48E+00	2.02E+01	6.24E+00	1.58E+01	2.12E+01	1.52E+01

HAZARD INDEX

	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	0.0	n/a	n/a	n/a	n/a
Arsenic	n/a	n/a	0.1	0.1	n/a
Chromium	0.0	n/a	n/a	n/a	n/a
Uranium	0.0	0.0	0.0	0.0	0.0
Vanadium	n/a	0.0	n/a	n/a	0.0
Total PCBs	n/a	n/a	n/a	n/a	n/a
Activity of U-235	n/a	n/a	n/a	n/a	n/a
Neptunium-237	n/a	n/a	n/a	n/a	n/a
Technetium-99	n/a	n/a	n/a	n/a	n/a
Thorium-230	n/a	n/a	n/a	n/a	n/a
Uranium-234	n/a	n/a	n/a	n/a	n/a
Uranium-238	n/a	n/a	n/a	n/a	n/a
Totals	0.1	0.0	0.1	0.1	0.0

ELCR

	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	n/a	n/a	n/a	n/a	n/a
Arsenic	n/a	n/a	5.62E-06	1.43E-05	n/a
Chromium	2.70E-07	n/a	n/a	n/a	n/a
Uranium	n/a	n/a	n/a	n/a	n/a
Vanadium	n/a	n/a	n/a	n/a	n/a
Total PCBs	n/a	n/a	6.29E-08	n/a	2.80E-07
Activity of U-235	4.25E-07	1.93E-07	6.41E-07	4.21E-07	3.35E-07
Neptunium-237	1.31E-06	9.01E-07	7.68E-07	5.76E-07	5.12E-07
Technetium-99	9.01E-08	n/a	n/a	n/a	n/a
Thorium-230	4.03E-07	4.46E-07	2.27E-07	1.27E-07	2.49E-07
Uranium-234	1.90E-07	n/a	2.09E-07	1.98E-07	1.56E-07
Uranium-238	2.70E-06	8.34E-07	2.11E-06	2.83E-06	2.03E-06
Totals	5.38E-06	2.37E-06	9.64E-06	1.85E-05	3.56E-06

NAL = No Action Level

[a] NALs taken from 2012 updated NALs (DOE 2012).

APPENDIX C

HOT SPOT FIGURES FOR ARSENIC AND URANIUM-238

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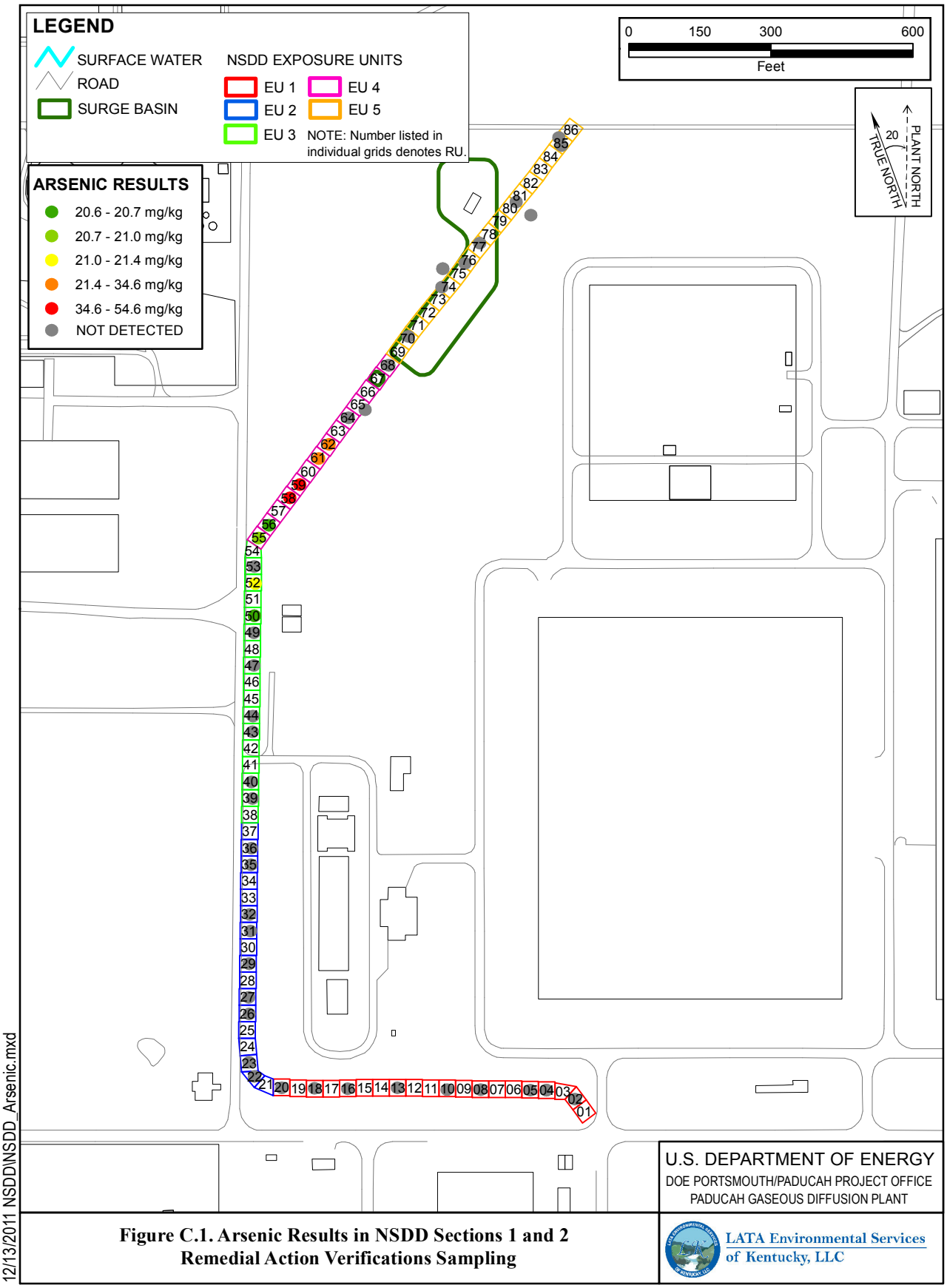

Figure C.1. Arsenic Results in NSDD Sections 1 and 2 Remedial Action Verifications Sampling

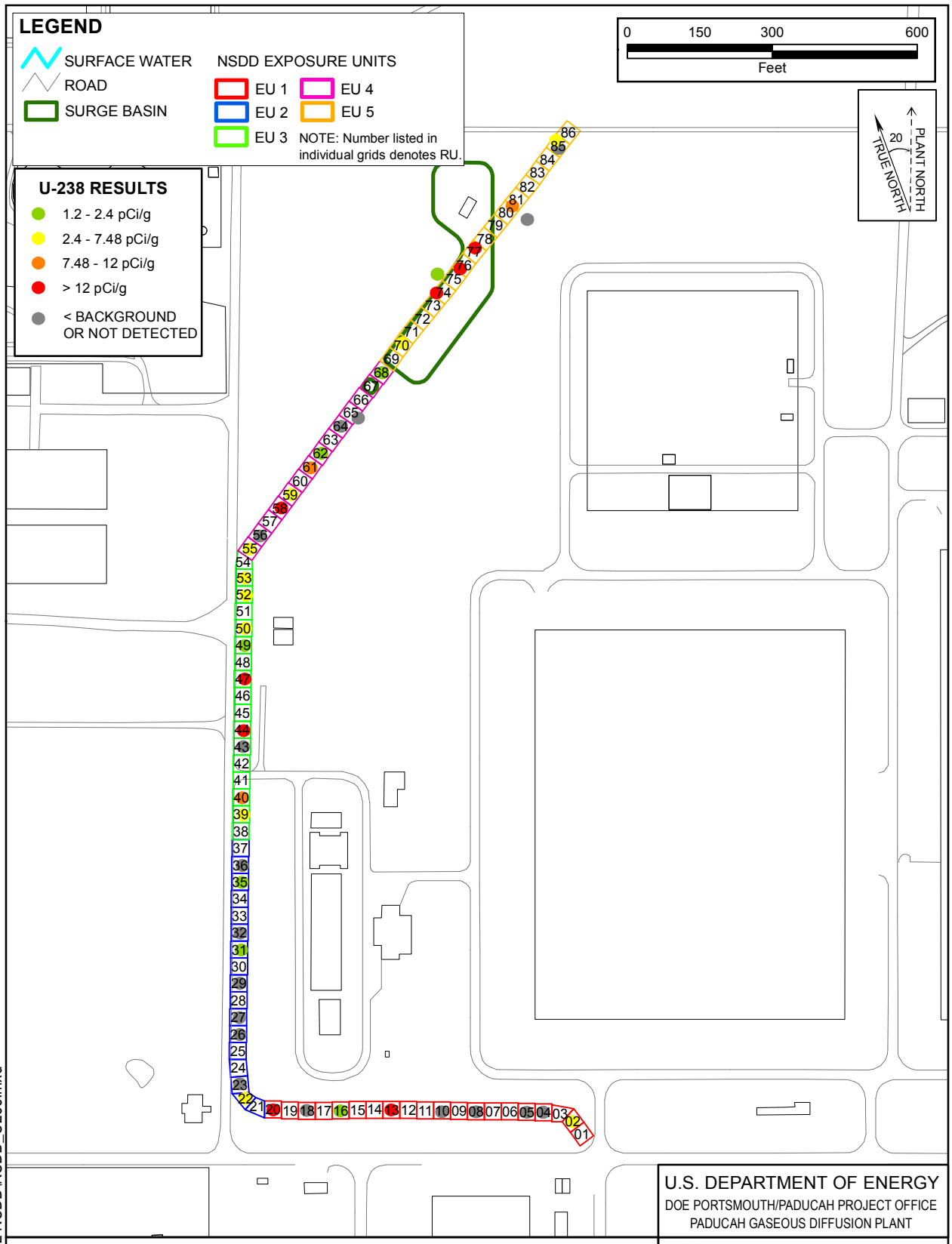

Figure C.2. Uranium-238 Results in NSDD Sections 1 and 2 Remedial Action Verifications Sampling

APPENDIX D

EXPOSURE CONCENTRATIONS USED IN ESTIMATING RESIDUAL RISK PRIOR TO NSDD EXCAVATION

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Exposure Concentrations Used in Estimating Residual Risk Prior to NSDD Excavation

COC	Industrial Worker NAL HI (DOE 2012)	Exposure Concentrations[1]					
		Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	1.00E+05	11,667	12,200	17,500	9,260	9,670	10,058
Arsenic	6.09E+01	7.1	ND	30.1	5.57	8.56	3.54
Barium	3.59E+04	159	118	413	124	89.8	114
Beryllium	3.95E+02	1.23	0.673	4.48	0.835	0.958	0.413
Chromium	1.00E+05	26.6	14.8	36.4	24.1	16.2	33.5
Copper	8.18E+03	45.9	14.6	149	15.8	13.3	33.9
Iron	1.00E+05	17,850	20,900	26,111	21,000	30,200	15,131
Manganese	4.21E+03	347	316	478	306	439	399
Mercury	6.13E+01	0.239	ND	ND	ND	ND	0.579
Nickel	3.80E+03	34.4	16.4	49.6	24.8	21.1	44
Selenium	1.02E+03	0.674	ND	0.783	ND	ND	0.835
Vanadium	1.03E+03	32.5	29	74.8	35.1	30.1	27.2

HAZARD INDEX						
	Overall	EU 1	EU 2	EU 3	EU 4	EU 5
Aluminum	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic	<0.1	n/a	<0.1	<0.1	<0.1	<0.1
Barium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Copper	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Iron	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury	<0.1	n/a	n/a	n/a	n/a	<0.1
Nickel	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium	<0.1	n/a	<0.1	n/a	n/a	<0.1
Vanadium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Totals	0.0	<0.1	0.0	0.0	0.0	<0.1

[1] Exposure concentrations are from BJC 2003, Appendix A, Attachment 6, Table 4.

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