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Hanford Site Background: Evaluation of Existing Soil Radionuclide Data

United States
Department of Energy
Richland, Washington

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CONTENTS

1.0 DESCRIPTION OF EXISTING DATA 1-1

2.0 DATA QUALITY OBJECTIVES 2-1
2.1 USE OF THE DATA 2-1
2.1.1 Risk Assessment Applications 2-2
2.1.2 Environmental Cleanup Applications 2-3
2.2 RADIOLOGICAL BACKGROUND CONCEPTUAL MODELS 2-4
2.3 SUMMARY 2-4

3.0 DATA EVALUATION RESULTS 3-1
3.1 EVALUATION OF DATA QUALITY 3-1
3.1.1 Comparability 3-1
3.1.2 Data Quantity 3-2
3.1.3 Precision 3-2
3.1.4 Completeness 3-3
3.1.5 Representativeness 3-4
3.2 DATA DISTRIBUTION AND STATISTICS 3-4
3.2.1 Distribution of Data 3-4
3.2.2 Summary Statistics 3-6
3.3 DOSE AND RISK ESTIMATES 3-6
3.4 DATA USE ISSUES 3-7
3.4.2 Field Use 3-8
3.5 SUMMARY 3-9

4.0 CONCLUSIONS AND RECOMMENDATIONS 4-1
4.1 RECOMMENDATIONS 4-2

5.0 REFERENCES 5-1

FIGURES

1-1. Sampling Sites for Washington State Department of Health (after PNL 1992) 1-4
1-2. Sampling Sites for Pacific Northwest Laboratory Soil Monitoring Program (after PNL 1992) 1-5
3-1. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of ^{40}K Data 3-11
3-2. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of ^{60}Co Data 3-12
3-3. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of ^{137}Cs Data 3-13
3-4. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of $^{239/240}Pu$ Data 3-14
3-5. Comparison of Means Between DOH and PNL Split Samples 3-15
3-6. Comparison of Standard Deviations Between DOH and PNL Split Samples 3-15
3-7. Lognormal (top) and Weibull (bottom) Distributions for ^{40}K, from the Sitewide Background Data 3-16
3-8. Lognormal (top) and Weibull (bottom) Distributions for ^{90}Sr, from the Sitewide Background Data 3-17
3-9. Lognormal (top) and Weibull (bottom) Distributions for ^{137}Cs, from the Sitewide Background Data 3-18
3-10. Lognormal (top) and Weibull (bottom) Distributions for ^{226}Ra, from the Sitewide Background Data 3-19
3-11. Lognormal (top) and Weibull (bottom) Distributions for ^{234}U, from the Sitewide Background Data 3-20
3-12. Lognormal (top) and Weibull (bottom) Distributions for ^{238}U, from the Sitewide Background Data 3-21
3-13. Lognormal (top) and Weibull (bottom) Distributions for Gross Beta from the Sitewide Background Data 3-22

TABLES

1-1. Suggested Radionuclides for the Evaluation of Sitewide Soil Background 1-6
3-1. Summary of Number of Screened Samples in Existing Radionuclide Data Set 3-23
3-2. Summary of Results of Distribution Fitting Process 3-24
3-3. Fitting Parameters and Statistics for Weibull Distributions 3-25
3-4. Fitting Parameters and Statistics for Lognormal Distributions 3-26
3-5. Nonparametric Statistics 3-26
3-6. RESRAD Parameters Used to Model Background Dose 3-27
3-7. Dose and Risk from Existing Sitewide Background Data Set 3-28

1.0 DESCRIPTION OF EXISTING DATA

This report is an evaluation of the existing data on radiological background for soils in the vicinity of the Hanford Site. The primary purpose of this report is to assess the adequacy of the existing data to serve as a radiological background baseline for use in environmental restoration and remediation activities at the Hanford Site.

Background radiation is found in the environment from natural and anthropogenic sources. Natural radiation is produced from radionuclides deposited and accumulated in the soil and groundwater (terrestrial), and from extraterrestrial and atmospheric radiation (cosmic). Concentrations of terrestrial radionuclides are largely dependent on sedimentary, pedogenic, and fluvial processes, but modification of the natural concentrations may also be affected by the activities of man. Cosmic radiation is almost exclusively dependent on elevation, but is also influenced by solar activity.

Anthropogenic radiation is produced from radioactive isotopes generated or dramatically concentrated by human activities. These include all of the anthropogenic radionuclides produced in fission and fusion reactions, as well as naturally-occurring radionuclides that have been concentrated during the manufacture of fuel for nuclear reactors. Most of the anthropogenic radionuclides important for characterizing background have been produced by above-ground nuclear explosions and accidents and deposited by precipitation of atmospheric particles.

The soil background data compiled and evaluated in this report were collected by the Pacific Northwest Laboratory (PNL) and Washington State Department of Health (DOH) radiation surveillance programs in southeastern Washington. These two programs provide the largest well-documented, quantitative data sets available to evaluate background conditions at the Hanford Site. The data quality objectives (DQOs) considered in this evaluation include the amount of data, number of sampling localities, spatial coverage, number and types of radionuclides reported, frequency of reporting, documentation and traceability of sampling and laboratory methods used, and comparability between sets of data. Although other data on soil radionuclide abundances around the Hanford Site exist, they are generally limited in scope and lack the DQOs necessary for consideration with the PNL and DOH data sets. Collectively, these two sources provide data on the activities of 25 radionuclides and four other parameters (gross alpha, gross beta, total uranium, and total thorium). These measurements were made on samples from the upper 2.5 cm of soil at over 70 localities within the region.

Most of the data used in this report can be found in the PNL annual reports, from 1987 to 1992 (e.g., PNL 1992). The State of Washington Department of Health (DOH) also collects and analyzes soil and other samples in order to monitor the Hanford Site, the Washington Public Power Supply System, the U.S. Ecology site, and other industrial facilities where radioactive material is handled. Data collected and analyzed by the DOH from 1985 to 1992 were used in this report, and are also published in annual reports (e.g., DOH, 1991). PNL and DOH also collect a limited number of background samples away from the Hanford Site. Dose rates from

external radiation at several locations are documented in the PNL and DOH reports, however, only data from soil samples collected in the field and analyzed in the laboratory are evaluated in this report.

Data collected prior to the mid-1980's are available, but for the following reasons only the more recent data were used in this report.

1. These data are publicly available and easily obtainable in the reports cited above.

2. Precision, accuracy, and detection limits of the more recent data are generally of higher quality than those associated with older data.

3. Decay corrections for most isotopic activities obtained within the last several years are negligible. The main exceptions are radionuclides with relatively short half-lives that can contribute significantly to calculated dose or risk and which have decayed by more than about 10% since the data were collected (i.e., radionuclides with half-lives > 45 years).

The sampling locations for the soil background data evaluated in this report are shown in Figures 1-1 and 1-2. The PNL sites can be divided into 3 general categories: on-site, perimeter, and distant. Perimeter samples are those located just outside the boundaries of Hanford, generally in a downwind direction (to the southeast). Distant locations are at least 10 km away from the Hanford Site, and as much as 70 km from its boundaries. Samples from several of the locations were collected by both PNL and DOH, although occasionally at different times and different places. The sample names and locations, along with all of the data discussed in this report, are contained in Appendices A and C.

Because the data are from samples composited from the top 2.5 cm of soil at each locality, they do not provide any information on the isotopic activities for soils beneath this depth in the vadose zone. Vertical variation of naturally occurring nonradioactive analytes in Hanford vadose zone materials is well documented (DOE/RL 1992); these serve as an analogue for the naturally occurring radioisotopes. Most of the manmade (anthropogenic) radionuclides are expected to occur only near the surface, but vertical variations have been shown to occur in the upper 15 cm of soil (Price 1991). The potential significance of vertical variability in the characterization and use of soil background data is discussed elsewhere (DOE 1994a).

The radionuclides typically measured in soil samples collected in the surveillance programs include the naturally occurring isotopes that contribute significantly to total dose (e.g., ^{40}K), and anthropogenic radionuclides that are ubiquitous in global fallout (e.g., ^{137}Cs) or that could be a contaminant from the monitored facility (e.g., uranium isotopes). Of the hundreds of radionuclides that could be considered for characterizing background, only a few are of concern when their half-lives, abundances, and threat to human health are evaluated. Perkins and Jenquin (1994) surveyed the types and amounts of radionuclides that have been produced at Hanford and recommended 26 radionuclides for consideration in characterizing background. Of these, one is tritium and is a concern only in aqueous media. The other 25 radionuclides recommended by

Perkins and Jenquin (1994) are listed in Table 1-1 along with their half-lives and primary mode of origin (natural or anthropogenic). Table 1-1 also lists the radionuclides that have been recommended for background determination by a joint agreement between the EPA, Ecology, DOH, and DOE.

External radiation measurements made with thermoluminescent dosimeters (TLDs) are also measured by PNL and DOH and recorded in their annual reports. The TLDs measure natural and anthropogenic sources, including cosmic radiation, radiation from the air and ground, and worldwide fallout. These measurements are reported in milliroentgens per day (mR/day) and usually are converted into millirems per year (mrem/year).

The only data evaluated in this report for adequacy as background were those from sampling locations considered to be uncontaminated by DOH and PNL (Appendix A). This data set consists of 149 samples from 39 localities and provides data for 16 radionuclides of concern. There are a total of 1420 data associated with this data set.

Over 160 additional samples were originally subjected to a systematic screening process designed to distinguish contaminated from uncontaminated samples and to serve as a technical basis for selecting the data appropriate for the characterization of radiological background for soils. Although most of these data passed the screening process, at the request of the regulatory agencies these data were not included in the background data set. A description and the results of this screening process are included in Appendix B to provide documentation of additional data that may also represent background compositions. This information may be valuable to other users.

The data quality objectives used to evaluate the adequacy of the background data are presented in Chapter 2. Results of the evaluation of the existing data and summary statistics computed from them are presented in Chapter 3. Conclusions and recommendations regarding the adequacy of these data to serve as sitewide background for environmental restoration and remediation applications at the Hanford Site are presented in Chapter 4.

Figure 1-1. Sampling Sites for Pacific Northwest Laboratory Soil Monitoring Program (after PNL 1992). Numbers in parentheses correspond to site numbers in Appendix A.

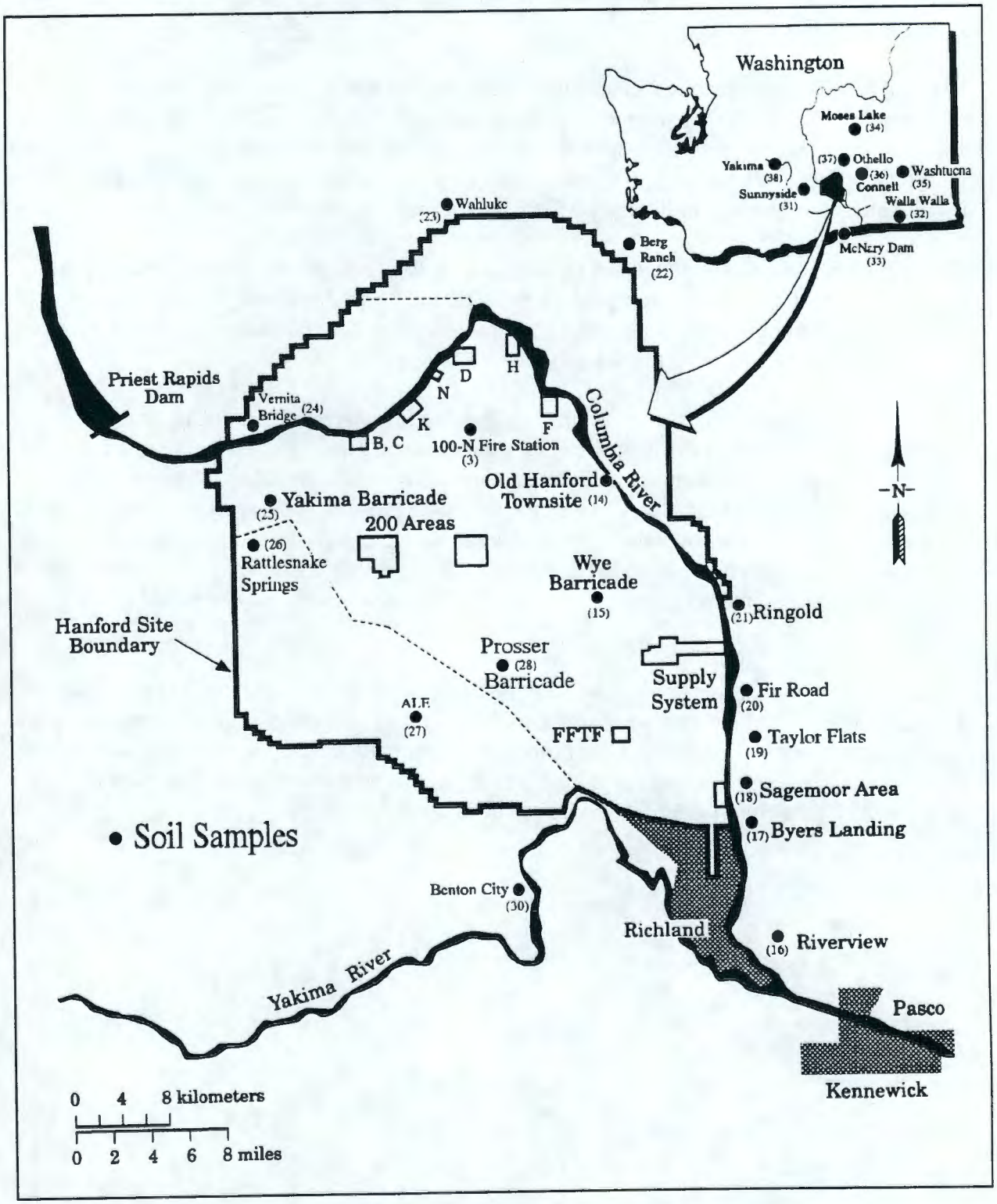

Figure 1-2. Sampling Sites for Washington State Department of Health (after PNL 1992).
Numbers in parentheses correspond to site numbers in Appendix A.

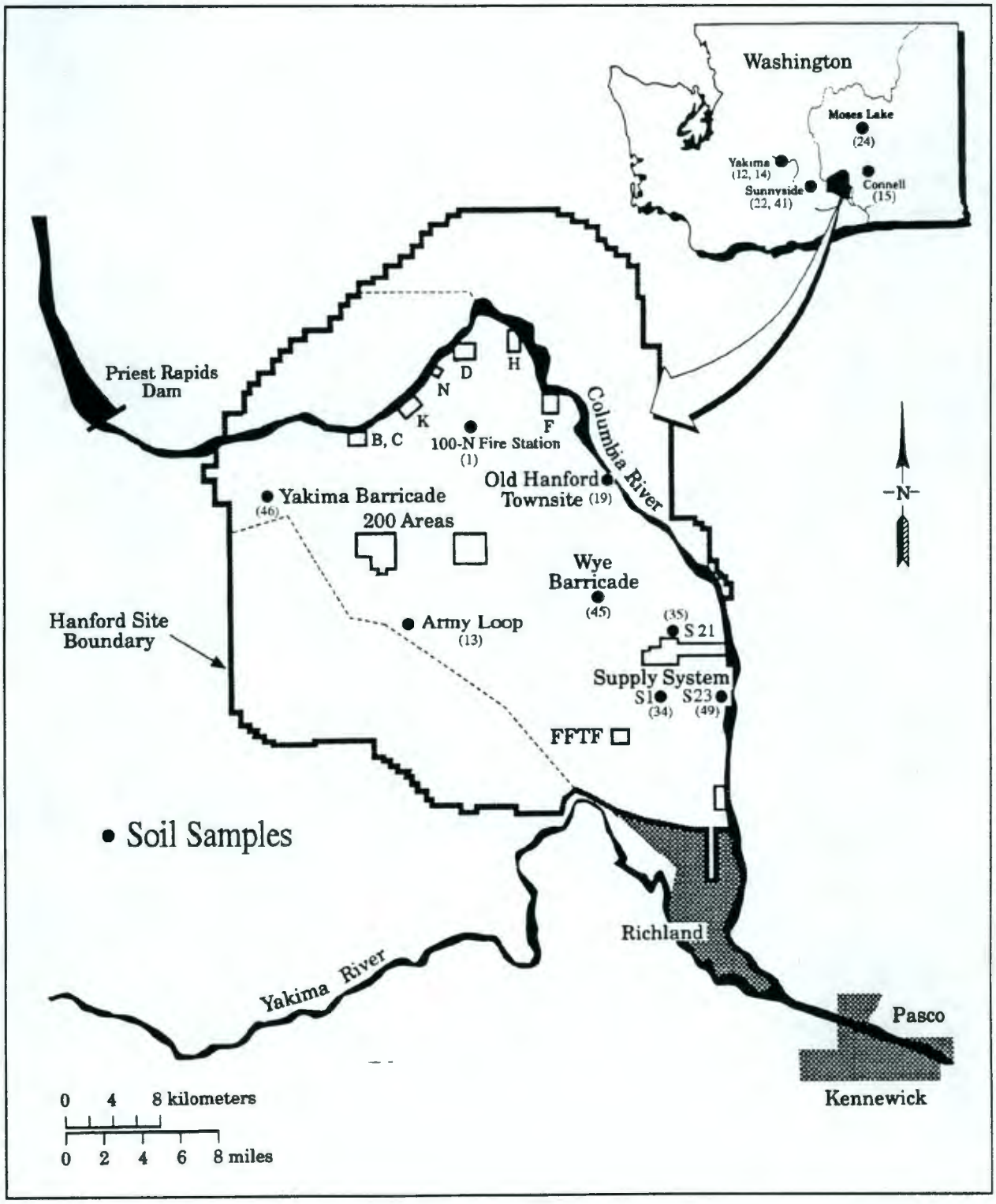

Table 1-1. Suggested Radionuclides for the Evaluation of Sitewide Soil Background.

Radionuclide	Recommended by Perkins & Jenquin	Recommended by DOH, EPA, Ecology & DOE	Half-Life
Potassium-40	**^{40}K**	**^{40}K**	**1.28×10^9 yr**
Cobalt-60	^{60}Co	^{60}Co	5.3 yr
Strontium-90	^{90}Sr	^{90}Sr	29.1 yr
Technetium-99	^{99}Tc		2.12×10^5 yr
Ruthenium-106	^{106}Ru		367 days
Antimony-125	^{125}Sb		2.7 yr
Iodine-129	^{129}I		1.57×10^7 yr
Cesium-134	^{134}Cs	^{134}Cs	2.06 yr
Cesium-137	^{137}Cs	^{137}Cs	30.2 yr
Europium-152	^{152}Eu	^{152}Eu	13.5 yr
Europium-154	^{154}Eu		8.6 yr
Europium-155	^{155}Eu		4.75 yr
Radium-226	**^{226}Ra**	**^{226}Ra**	**1600 yr**
Thorium-232	**^{232}Th**	**^{232}Th**	**1.4×10^{10} yr**
Uranium-233	^{233}U		1.6×10^5 yr
Uranium-234	**^{234}U**	**^{234}U**	**2.4×10^5 yr**
Uranium-235	**^{235}U**	**^{235}U**	**7×10^8 yr**
Uranium-238	**^{238}U**	**^{238}U**	**4.5×10^9 yr**
Neptunium-237	^{237}Np		2.14×10^6
Plutonium-238	^{238}Pu	^{238}Pu	87.7 yr
Plutonium-239 combined	^{239}Pu	^{239}Pu	2.4×10^4 yr
Plutonium-240	^{240}Pu	^{240}Pu	6537 yr
Plutonium-241	^{241}Pu		14.4 yr
Americium-241	^{241}Am	^{241}Am	433 yr
Curium-244	^{244}Cm		18.11
Gross beta		gross-β	NA

Radionuclides in **bold** are naturally-occurring; others are anthropogenic.
NA = Not Applicable

2.0 DATA QUALITY OBJECTIVES

The sample locations identified by PNL and DOH for use as background were evaluated in terms of their adequacy to serve as background data for use in environmental activities at the Hanford Site. This evaluation considered all radionuclides in Table 1-1, but the focus of this report is on the anthropogenic background components. Additional data on the natural background components have been obtained and will be presented in a later report. An important objective of the present evaluation is an assessment of the need for additional data on the anthropogenic background.

A modified version of the data quality objectives process approach (EPA 1993) was used to evaluate these data. This approach focused on aspects of the DQO guidelines appropriate for assessing the adequacy of these data to serve as sitewide background.

The following is a summary of the objectives, purposes, and applications for which these data are intended, and a discussion of how these data are expected to be used (e.g., decision rules). This aspect of the evaluation focused on the adequacy of these data for their intended uses in terms of the representativeness of the samples and/or data, the data types, and the completeness, comparability, and quality (e.g., accuracy, precision) of the data types.

2.1 USE OF THE DATA

Background data are primarily used to determine the levels of chemicals and/or radionuclides that persistently occur in natural media, as compared to analytes enriched by local contamination. This data may also include information on processes and characteristics that influence background compositions. For environmental activities, background data are primarily used to define contamination and establish cleanup or performance levels in conjunction with the *Resource Conservation and Recovery Act* (RCRA, which only applies to chemicals), the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), *National Resource Damage Assessment* (NRDA, a provision of CERCLA), and other applicable regulations (e.g., *Washington State Model Toxics Control Act*).

Another important application of background data is to assess the levels of baseline risk to which humans or other receptors are typically exposed. These assessments are very important in establishing protection levels for risk management and other cleanup decisions, particularly in instances where background concentrations are nearly equal to or greater than calculated protection levels. Risk assessment applications of radiological data involve the increased risk of cancer death resulting from external and internal exposures to radiation.

To date, the regulatory agencies have not reached a decision or concurred on the type(s) of radiological soil background data needed or the specific manner in which the data are to be used. Most of the known or proposed uses of the data at the Hanford Site are expected to involve two

types of decision rules: 1) uses associated with the activities of specific radionuclides, and 2) uses associated with the effective dose levels attributable to background. The adequacy of the data evaluated here are, therefore, limited to isotopic data and dose levels calculated from these data. Other types of data that may be collected to support these two decision rules include field measurements of isotopic activities, field measurements of potential energy deposition (e.g., rad), and field data relating isotopic activity data to potential energy deposition.

2.1.1 Risk Assessment Applications

Most quantitative risk assessment applications utilize radionuclide-specific activity data to obtain the most robust estimate of the total dose equivalent. Specific environmental quality factors for each radionuclide, pathway, and target organ are used in these calculations. Although there are no radionuclides on a single list that are routinely analyzed in radiological background characterization, the radionuclides of concern for applications at the Hanford Site have been identified (Table 1-1). These are based on knowledge of Hanford operations, dose- and risk-based considerations, and persistence (i.e., radionuclide half-lives). This list includes the common and ubiquitous naturally occurring radionuclides such as ^{40}K, and anthropogenic background radionuclides such as ^{137}Cs.

The role of field data in radiological risk assessment has not been adequately addressed by the regulatory agencies, but it may be useful when expedient, qualitative assessments of risk are required. Background data from TLDs are useful for qualitative and semiquantitative surveillance and monitoring, but because they are geometry-specific measurements of energy deposition these data are not comparable to dose equivalent calculations based on isotopic activities. These data cannot, therefore, be effectively used in risk assessment applications which require isotope activities to calculate effective dose equivalents. These applications include computer models for calculating dose and risk contributions from various pathways and procedures described in *Hanford Site Risk Assessment Methodology* (DOE/RL 1995),

The DQO considerations identified by EPA (1993) to ensure that adequate and appropriate data are obtained to support risk assessment needs address most of the important evaluation criteria. These include the following:

- Data of sufficient quality and quantity to calculate reliable estimates of exposure point concentrations at appropriate locations.
- Data collected at locations and in media to evaluate whether particular media or pathways are or are not significant.
- Detection limits low enough to allow comparison to risk-based action levels.

- Background level data that provide a basis for differentiating contamination at a site from other possible sources and that can be used as a basis for establishing action levels.

- QA/QC samples and qualifiers needed to screen data for use in risk assessment.

The main criteria used in the evaluation of the quality and adequacy of the existing data, therefore, included data type, data quantity, accuracy, precision, detectability, and the completeness, comparability, and representativeness of the data in the context of the conceptual models and analytes of concern. Also considered in the evaluation were the preliminary recommendations from the regulatory agencies for radiological cleanup levels (EPA 1994, NRC 1994). These reports focus on background and incremental exposure levels above background (e.g., 15 mrem/yr above background).

2.1.2 Environmental Cleanup Applications

The uses of radiological soil background in remediation activities involving nuclear wastes may be based on the specific activities of one or more isotopes and/or on the dose contributed by background. Radiation protection standards for water include specific isotopic activities, dose contributions, or both. Although isotopic protection levels have been proposed for soils, decision rules focusing on incremental dose levels above background appear to be gaining acceptance in the regulatory community.

If total dose is a major consideration in setting cleanup levels for radionuclides in soil, then the importance of the naturally occurring components dominates the decisionmaking process as these are the major contributors to background dose. Evaluations concerning the adequacy of the existing data for use in this manner involve additional considerations, including 1) how background and waste site doses are determined, and 2) how incremental dose is distinguished from background.

These considerations are important because they relate to the type of data required (e.g., isotopic activities or direct measurements of energy deposition), the measurement methods, comparability of data, and the data quality required. At waste sites involving only anthropogenic radionuclides, for example, characterization of the natural background components may not be necessary if isotope-specific measurement methods are employed. However, measurement methods that cannot discriminate natural radiation from waste site radiation would require background and characterization data of appropriate type and quality to discriminate the incremental waste site dose from background. To address these different goals, the evaluation process also considered the comparability of laboratory data to field data, the manner in which dose is determined, and the magnitude and variability (i.e., uncertainty) of the background versus an allowable incremental dose.

The characterization of anthropogenic background components (e.g., ^{137}Cs) may be important for cleanup applications based on isotopic activities and for dose-based applications where

anthropogenic background components contribute significantly to total background dose or its uncertainty. For some uses, it may also be important to discriminate between background (i.e., fallout) and waste site levels of radionuclides to support thorough and cost-effective cleanup in the event that any level of anthropogenic radioactivity is regarded as contamination requiring action.

2.2 RADIOLOGICAL BACKGROUND CONCEPTUAL MODELS

Input to decisions involving the use of background data also include conceptual models. These background conceptual models serve as the technical basis for evaluating adequate quantity and quality of data in terms of representativeness, completeness, comparability, and for understanding the processes and factors that control and influence the distribution of background radiation in the environment. These models focus on the types, sources, spatial distribution, and relative abundances that occur in soil in the vicinity of the Hanford Site, and are integral to evaluations regarding the viability of a sitewide versus unit-based approach to the characterization of radiological background.

The conceptual models are based on the recognition that radiological background includes natural and anthropogenic components, and that the occurrences and distribution of these two components for soils in the vicinity of the Hanford Site are not the same. The naturally occurring radionuclides in soil at Hanford are distributed throughout the vadose zone in a manner similar to that of inorganic, nonradioactive analytes (DOE-RL 1992). However, the anthropogenic radionuclides in soil should be largely restricted to the top portion of the soil column with abundances that vary laterally as a function of climate and geography. In this region, the anthropogenic radionuclides largely occur in the upper several centimeters of soil, and have distinctive activity profiles for each radionuclide. A more complete description of these conceptual models is provided in DOE-RL-94-98 (DOE/RL 1994a).

2.3 SUMMARY

The existing data compiled and evaluated here are limited to radionuclide activities measured from soil samples collected in the field and analyzed in the laboratory. The evaluation addresses both the quality of these data and the adequacy of the data in terms of the criteria described above.

3.0 DATA EVALUATION RESULTS

The data approved for inclusion in the existing background data set were evaluated in the context of the data quality objectives criteria described in Section 2.0 to assess their suitability as Sitewide background. This evaluation included an examination of the activity distribution characteristics and computation of summary statistics for each radionuclide, and their calculated dose contributions for background exposures.

The data collected by PNL and DOH were not intended to be used to characterize background for the Hanford Site, and therefore were not collected in accordance with data quality objectives for evaluation of natural and anthropogenic background. Because of this, the data lack a statistically significant number of samples for several of the radionuclides listed on Table 1-1 (e.g., ^{241}Am, ^{152}Eu), or have detection limits higher than or approximately equal to expected background concentrations (e.g., ^{60}Co). The existing data also include some analytes that are not found on Table 1-1. These include ^{7}Be, ^{54}Mn, ^{65}Zn, ^{89}Sr, ^{95}Zr, ^{109}Cd, ^{230}Th, gross α, total U, and total Th. Most of these have only a few measurements and will not be considered further in this analysis. The dose rate data measured by TLDs are also of limited use as background in environmental applications although they can be used to estimate external dose for the purpose of qualitatively assessing risk (e.g., DOE/RL 1994c).

3.1 EVALUATION OF DATA QUALITY

Comparability of the data, and the type and spatial distribution of samples, was considered in evaluating the representativeness of the data. Quantitative assessments of the adequacy of these data for their intended use were primarily based on statistical considerations of quantity, precision, and completeness of the data. These and other aspects of data quality are described below.

3.1.1 Comparability

A necessary condition for use of the data set as sitewide background is that the analyte concentrations share a common distribution. This condition is satisfied for the naturally occurring radionuclides because their behavior is expected to be the same as naturally occurring nonradioactive analytes. A technical basis regarding the existence of such distributions in the Pasco Basin has been documented in DOE/RL-92-24 (DOE/RL 1992).

The concentrations of the anthropogenic radionuclides in surface samples throughout the region are also expected to have characteristically distinct yet common distributions. Because they are deposited as fallout, the composition and amounts of wet and dry precipitation will control the concentration and distribution of these radionuclides. Estimates of the average wet precipitation rates for many of the sites are well documented and range from 16 cm/yr (6.3 inches/yr) at the

Hanford Site, to 20 cm/yr (8.0 inches/yr) for Yakima and 41 cm/yr (16 inches/yr) for Walla Walla. It is indicated from the rainfall data that the global fallout component in soils at the Hanford Site should not exceed those of the distant sampling locations.

To test for significant differences between the Hanford and distant sampling sites, the Wilcoxon Rank Sum (WRS) test was used at a 5% significance level (Appendix B; DOE/RL 1994b) for each radionuclide with 4 or more reported values. The results of this test showed that with the exception of ^{40}K and ^{238}Pu there was no significant difference between these two subsamples. Nearly all of the ^{238}Pu data are below detection limit. The indication of no significant difference in anthropogenic radionuclides between the Hanford and distant sites suggests that deposition processes of anthropogenic radionuclides from global fallout for these areas are similar, therefore comparable. A presentation of the test results is included in Appendix B.

The data are also comparable from an analytical perspective, as both data sets were produced by similar measurement processes. Radionuclide data gathered in the field would not be directly comparable to the laboratory data used here, as different volumes of material are measured, and field instruments cannot detect some of the radionuclides routinely analyzed in the laboratory at low levels.

3.1.2 Data Quantity

In general, data quantity requirements are linked to the type I and type II errors allowed by the data user for specific data applications. The amount of data required for a valid statistical analysis is difficult to determine in the absence of a specific understanding of the manner in which the data are to be used (i.e., decision rules).

The number of analyses reported for each radionuclide in the data set is summarized in Table 3-1. This table shows that there are no data for ^{241}Am and only a few data for ^{232}Th (3 analyses). Americium-241 was not routinely reported if it was below the detection limit, although other radionuclides were reported even if the majority of the analyses were below the detection limit (e.g., ^{60}Co). A related assessment of the amount of data above detection levels is described in the following section.

3.1.3 Precision

Radionuclide data are generally reported with detection limits and errors associated with each datum. Detection limits associated with PNL and DOH are often different, so the data were independently assessed by using the error for each reported value. A value was interpreted as not detected if its associated uncertainty was greater than or equal to the measured value (i.e., uncertainty $\geq$ 100%).

Results of this analysis show that 6 of the 15 radionuclides in the database have significantly large uncertainties. Over half of the data for ^{60}Co, ^{106}Ru, ^{134}Cs, ^{154}Eu, ^{155}Eu, and ^{238}Pu are dominated by the measurement uncertainties as shown in Table 3-1. Large uncertainties may not be important for radionuclides with concentrations far below any cleanup level. An example is ^{60}Co which has a detection limit of approximately 0.03 pCi/g and a cleanup level of approximately 1 pCi/g for a 15 mrem/yr dose. However, specific analytes (e.g., ^{137}Cs) with concentrations and/or detection limits that are a fraction of cleanup levels may be of concern in environmental risk assessment applications, as their concentrations may be bioaccumulated up to a factor of 10 (Landeen et al. 1994).

The reproducibility of the data was also evaluated by comparing the data reported from the two different laboratories. The possibility of systematic bias in accuracy and/or precision between the laboratories was examined by plotting the measured values of split samples analyzed by the two different laboratories against their associated uncertainties. Figures 3-1 through 3-4 show these plots for ^{40}K, ^{60}Co, ^{137}Cs, and $^{239/240}Pu$. The most notable difference between the two data sets is in their reported errors. The PNL data have approximately 2 times the reported error compared to the DOH data for ^{40}K, ^{60}Co, ^{90}Sr, ^{106}Ru, ^{235}U, and ^{238}U. This disparity can be explained by the different ways the two laboratories report measurement errors: PNL reports total errors and DOH reports only the counting errors. The DOH data have errors 2 to 5 times greater than those reported by PNL for ^{234}U, ^{238}Pu, and $^{239/240}Pu$ (Figure 3-4).

Figures 3-5 and 3-6 provide a more generalized comparison of laboratory performance based on the split samples analyzed by both DOH and PNL. These bar charts plot the average and standard deviation, by laboratory, for each of the analytes in the data set. The performance of the two laboratories, as evaluated by a comparison of mean values, was comparable for most of the analytes measured with the exception of ^{238}Pu. Standard deviations of the different radionuclides were also similar except for ^{238}Pu and $^{239,240}Pu$. The lower standard deviations reported by PNL for ^{238}Pu and $^{239/240}Pu$ probably relate to the lower error associated with these analytes.

3.1.4 Completeness

Little or no data were reported for 4 of the radionuclides of concern identified by DOE and the regulatory agencies, nor for 9 of the 25 radionuclides recommended by Perkins and Jenquin (1994) (Table 1-1). Of the 15 radionuclides of concern identified by DOE and the regulatory agencies, few data are currently available for ^{232}Th, and there are no values available for ^{152}Eu, ^{238}Pu, or ^{241}Am. Data for ^{99}Tc, ^{129}I, ^{233}U, ^{237}Np, and ^{244}Cm, analytes proposed by Perkins and Jenquin (1994) for consideration in background characterization, are completely missing and there are only a few data for ^{125}Sb.

3.1.5 Representativeness

In order for the data set to be considered representative of background conditions, it should adequately characterize the soil in terms of spatial coverage (both horizontal and vertical) and

soil types. Geographic representation of the existing data is adequate, because the sample locations used by PNL and DOH (Figures 1-1 and 1-2) cover the area of interest even though they are not optimized for the collection of background data.

Samples in the data set were collected from only the upper 2.5 cm at the sampling locations, so deeper portions of the soil profile are not represented. This sampling bias does not adequately characterize naturally occurring radionuclides, so the data for ^{40}K, ^{226}Ra, ^{232}Th, and natural uranium isotopes should be considered provisional until they are more comprehensively evaluated.

The existing data for anthropogenic radionuclides may be adequate for characterization of background levels of radioactive fallout materials, as these tend to be concentrated in the upper portion of the soil column. Studies have shown that some of the anthropogenic radionuclides reach their highest concentrations below the surface at levels deeper than 2.5 cm (e.g., Price 1991). Thus, the values in the data set may be biased low for radionuclides that have been found to exhibit some degree of vertical migration. These include ^{90}Sr and $^{239/240}Pu$, as reported by Price (1991).

3.2 DATA DISTRIBUTION AND STATISTICS

In order to use the data for a preliminary assessment of background, it is necessary to evaluate the distribution of the data and the associated uncertainties. This section considers these issues and presents the statistical values associated with the data.

3.2.1 Distribution of Data

Background data represent a range of values which can be represented by one or more statistical distributions. Data showing a good fit to a distribution can be regarded as representing a single population, thus satisfying one of the DQOs for consideration of a sitewide background population. The distribution analysis reported here is intended to test the hypothesis that the data are of a single population.

Radionuclide data are typically reported as measured values and associated uncertainties for each radionuclide or parameter. Unlike chemical analytical data, radionuclide data that are less than the uncertainty limit (or *a priori* determined detection limit) are not required to be censored at a "less than" value. The result is a data set that is a mixture of two distributions: the analyte distribution and the measurement error distribution. The percent of mixing between the two distributions is dependent upon the true concentration levels relative to the detection limit. If the true concentration levels are small relative to the detection limit, then the data represent primarily the distribution of measurement errors. If the true concentrations are large relative to the detection limit, then the data represent the distribution of the radionuclide in the environment.

When the true concentrations are similar to the detection limits, the data represent a mixed distribution.

Distributions were fit for analytes which have 90% or more of the data above the uncertainty. Analytes that met this criterion were ^{40}K, ^{90}Sr, ^{137}Cs, ^{226}Ra, ^{234}U, ^{238}U, as well as the aggregate parameter Gross Beta. Weibull and lognormal distributions were fit to the background data for these analytes using the same fitting process described in DOE/RL-92-24 (DOE/RL 1994). Censoring at the low end was performed to make all the data positive (in the case of ^{137}Cs) and improve the fit of the distribution. Suspension of data at the high concentration end of the distribution was performed for data that fell outside the 95% upper confidence band of the best fit distribution (i.e. possible outlier data). These procedures were used to identify the best fit to the bulk of the data, but all of the suspended data were used to compute the summary statistics. The cumulative distribution plots are shown in Figures 3-7 through 3-13. Table 3-2 summarizes the distribution fitting results.

3.2.1.1 Parametric Distribution Parameters. The fitting parameters for the parametric distributions are presented in Tables 3-3 and 3-4. Cesium-137 was the only analyte for which the lognormal distribution was a poor representation. The parameters for ^{137}Cs ($t_o = 0$, $\beta = 1.15$) indicate that these data can be considered to be exponentially distributed[1]. Strontium-90 similarly can be considered a shifted exponential distribution ($\beta \approx 1$ but $t_o > 0$). The remainder of the radionuclides for which distributions were fit all have significantly higher shape factors ($\beta > 2$) that indicate near-normal distributions.

Based on this analysis, the distribution of radionuclide activities that are dominated by the fallout contribution (^{90}Sr, ^{137}Cs) are expected to be highly skewed, while the distribution of the natural radionuclides will be more symmetrical.

3.2.1.2 Nonparametric Percentiles. Nonparametric percentiles were also calculated for all of the radionuclides, using the method described by Nelson (1982, pp. 241-242). This method provides percentile estimates for each of the radionuclides not evaluated by the lognormal or Weibull distributions. The method is approximate and depends on large sample sizes so the normal approximation to the binomial distribution is valid. For sample sizes less than 59, the computation is not valid. Samples sizes for ^{234}U, ^{235}U, ^{238}U, and Gross Beta were too small to compute the 95% UCL.

3.2.1.3 Summary of Distribution Analysis. The distribution fits demonstrate that the existing data for both natural and anthropogenic radionuclides can be considered a single population representing the soils in southeast Washington including the Hanford Site. This indicates that the sitewide background conceptual model is also valid for radionuclides.

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1 The Exponential distribution is a special case of the Weibull distribution where $t_o = 0$ and $\beta = 1$

3.2.2 Summary Statistics

After demonstrating that data for each radionuclide conform to a single distribution and can be described as a single population, some summary statistics were computed for each of the analytes for which sufficient data were available. Percentiles computed from the lognormal and Weibull distributions are in Tables 3-3 and 3-4, and nonparametric percentiles are presented in Table 3-5. A comparison of the Weibull and nonparametric values show an average relative percent difference of less than 5% for the two statistical techniques. The nonparametric values are the most appropriate to use if percentile data are required. These provide information for all analytes, where the Weibull and lognormal values can only be computed for analytes with large sample sizes.

3.3 DOSE AND RISK ESTIMATES

Dose and risk estimates for the data described above were prepared as a means of evaluating the adequacy of the data for use at the Hanford Site. The estimates were prepared using the RESRAD computer code (Version 5.43, ANL 1993) to model a residential soil exposure scenario. These estimates are used only as a framework for evaluating the background data, and should not be used for other purposes. The parameters used in RESRAD for these estimates are presented in Table 3-6. Dose and risk due to radon and groundwater were not included.

The methods used to calculate dose equivalent and risk from isotopic activities require information and assumptions concerning pathways, potential biological damage (i.e., quality factors), and other aspects of exposures for each radionuclide. The residential soil human health risk scenario included external exposure, fugitive dust inhalation, and ingestion of plant, meat, milk, and soil pathways.

Sample means for each radionuclide were computed and used to estimate a mean dose from each radionuclide by each pathway. Sample standard deviations for each radionuclide were computed and used to estimate a standard deviation of the dose from each radionuclide by each pathway. The mean doses from each pathway were summed to produce a mean dose for each radionuclide, and the total mean dose was calculated by summing the mean doses for all radionuclides. The standard deviations of the doses for each pathway were also summed for each radionuclide. The variations of dose and risk across pathways was assumed 100% correlated through the dependence of each on the radionuclide concentration variations, hence the direct summation was used rather than a square root sum of squares (SRSS) combination.

The dose estimate resulting from these calculations is 59 ± 14 mrem/yr, and the corresponding risk level is 7.1e-04 ± 1.6e-05. The possible increases to dose and risk from the covariance of the minor dose/risk contributors was determined to be negligible. These values do not include the radon pathway, groundwater ingestion, or cosmic radiation. The dose and risk for mean concentrations and nonparametric 95th percentiles for each radionuclide are presented in Table 3-7.

The dose and risk estimates are dominated by ^{40}K, which constitutes 50% of the dose and 67% of the risk. Other significant contributors are the ^{238}U and ^{232}Th decay series, which contribute 25% and 22% of the dose, and 14% and 16% of the risk, respectively.

3.4 DATA USE ISSUES

The adequacy of the existing data depends on the way the data are to be used and the type and quality of data required for those uses. The adequacy of the data for dose and risk assessment applications and field use are described in this section.

3.4.1 Dose and Risk Assessment Applications

The adequacy of these data for dose and risk assessment applications was evaluated to determine the extent to which the data provide useful information. This aspect of the evaluation addressed the significance of the reported data with regard to the magnitude of reported activities and the levels of detection needed for risk assessment applications. The constituents of concern that were not measured or poorly represented in the existing data set were also evaluated with respect to their potential contribution to dose and risk. A hazard identification screening approach was employed to provide a basis for evaluating the significance of these data and related data quality issues by comparing the relative contribution of the various radionuclides to calculated dose and risk.

The methods used to calculate dose equivalent and risk from isotopic activities require information and assumptions concerning pathways, potential biological damage (i.e., quality factors), and other aspects of exposures for each radionuclide. For the purpose of this evaluation, dose equivalents and risk levels were calculated using the RESRAD code, as described in Section 3.3.

It is indicated from these calculations that six of the radionuclides analyzed (^{40}K, ^{90}Sr, ^{137}Cs, ^{232}Th+daughters, and ^{238}U + daughters, which include ^{226}Ra but exclude ^{222}Rn) have mean values that exceed risk levels of 10^{-6}. These radionuclides constitute approximately 99% of the residential risk and dose from background. These estimates do not include exposure to cosmic radiation or radon, which would contribute an average of 30 and 200 mrem/yr respectively (NCRP 1987). The only anthropogenic radionuclide which is significant in background dose and risk is ^{137}Cs, which contributes 1.5 mrem/yr at a calculated risk of 1.9e-05. The contribution to risk and dose from ^{152}Eu cannot be evaluated because of the lack of data, but the risk associated with detection limits reported by DOH is computed at 2.6e-06.

The significance of the contributions of ^{232}Th to terrestrial radiation background is equivocal because there are so few data. Although the significance of other radionuclides missing from the data set cannot be evaluated, their contribution to the total background dose or baseline risk is

not expected to be significant (with the probable exception of radon) based on the relative abundances of the radionuclides expected in fallout.

One of the potentially most important omissions from the existing data set is information about radon flux. Inhalation of gaseous radon from the decay of uranium and thorium and their decay products is the single largest component of background radiation dose to humans, comprising about 55% of total average dose, or about 200 mrem (NCRP 1987). Radon is commonly omitted from the characterization activities, or inadequately accounted for because its effects are presumed to be included with uranium, thorium, and/or radium as a calculable daughter, or when radon exposure or inhalation pathways are excluded from the assessment of baseline risk for other reasons. However, background for radon differs from that for other radionuclides because the levels of radon background are derived not only from the uranium and thorium in the immediate vicinity, but also from the migration and accumulation of radon gas upward through the soil from deeper levels. Thus, the background levels of outdoor radon are most appropriately measured in the field as the intrinsic flux at a given location. Data on the outdoor radon flux levels can then be used in evaluating the radon contribution to baseline risk for various exposure scenarios. Therefore, omission of radon flux measurements from background characterization is a primary concern because radon flux is likely to differ from location to location as part of a natural sitewide distribution, and because radon contribution to background radiation cannot be ignored if incremental dose levels above background are used as cleanup levels. The exclusion of background radon in risk assessment activities could even lead to counterproductive cleanup activities (e.g., in cases where the dose and/or risk from "clean" backfill could exceed that of contaminated soil removed from a site).

New data collected for the purpose of characterizing background are not expected to significantly change the relative contributions to dose and risk of the analytes discussed above, with the possible exception of ^{232}Th and its daughters. However, the uncertainties associated with some of these radionuclides may significantly affect the overall magnitude of the background dose and risk. Based on the conceptual models and previous studies (e.g., Price 1991), the activity levels of some anthropogenic radionuclides in the soil are expected to be greater at depths below the upper 2.5 cm, but probably not by more than a factor of 2. The only anthropogenic radionuclide that contributes significantly to dose, ^{137}Cs, appears to be primarily restricted to the upper 2.5 cm of soil in the Hanford area (Price 1991).

3.4.2 Field Use

The existing data cannot practically be used as radiological background for field measurements of soil because of differences in data types and comparability. The radionuclide data presented and discussed here were obtained from laboratory measurements on samples with masses of 2 g to 1000 g depending on the type of analysis. In contrast, field measurements typically measure greater volumes (and masses) of soil, on the order of 50 cubic meters for a gamma detector placed 1 meter above the ground surface. The variance of the laboratory data obtained from small samples can be expected to be much larger than data collected in the field, which tends to

average small-scale inhomogeneities. There is presently no information available to scale the variance to larger sample sizes or to correlate the two types of data. Use of field instrumentation will require the collection of direct background measurements and formulation of a basis for comparing the two data types.

Absorbed dose rate data collected by TLDs is also not directly comparable to doses modeled from soil isotopic data, for several reasons. Because TLDs are field measurements, the volume of soil measured is larger, as discussed above. Also, most TLDs are used for long-term monitoring and thus represent an average dose over time exposed. Like all techniques for measuring outdoor radiation, these dosimeters, if they are not shielded, record the cosmic component of natural radiation. As discussed in Section 2.1.1, TLDs measure total energy deposition, precluding their use for calculating dose and risk contributions from specific radionuclides by individual pathways.

3.5 SUMMARY

Interpretations regarding the adequacy of the existing data fall into two categories: (1) the overall quality of the data, and (2) the adequacy of data from the upper 2.5 cm of soil to represent radiological background for the Hanford Site. The main finding of the evaluation of this data in the context of DQO parameters include the following:

Data Type, Quantity, Detectability, and Completeness:

- The existing data provide activity measurements for 15 radionuclides and gross β, from laboratory analyses of samples collected from 39 sampling locations within the region.

- The data for 8 of the 15 reported radionuclides (^{40}K, ^{90}Sr, ^{137}Cs, ^{226}Ra, ^{234}U, ^{235}U, ^{238}U, and $^{239/240}Pu$) appear to be adequate for evaluating background activity in terms of data quantity, precision, and detectability.

- Little or no data were reported for 9 of the potential radionuclides of concern listed in Table 1-1 (^{99}Tc, ^{125}Sb, ^{152}Eu, ^{232}Th, ^{233}U, ^{237}Np, ^{241}Am, ^{241}Pu, and ^{244}Cm).

- Insufficient data are currently available for evaluating ^{232}Th.

- There are no data available for evaluating outdoor radon levels.

Precision and Accuracy:

- Less than 25% of the data for 4 radionuclides (^{60}Co, ^{106}Ru, ^{134}Cs, ^{154}Eu) are above detection levels.

- Interlaboratory variability is negligible for the 8 radionuclides that have adequate data quality, but because of their different detection limits, analytes with abundances near or below the detection limits may not be comparable between the two laboratories.

Significance of Reported Background Levels:

- Six of the radionuclides considered here (^{40}K, ^{90}Sr, ^{137}Cs, ^{232}Th+daughters, and ^{238}U + daughters, which include ^{226}Ra but exclude ^{222}Rn) have average background concentrations that contribute significantly to baseline risk (i.e., risk levels > 10^{-6}).

- Five of the radionuclides that contribute significantly to baseline risk have adequate data quality and/or quantity to evaluate background activities (^{40}K, ^{90}Sr, ^{137}Cs, ^{226}Ra, and ^{238}U).

- The contribution to risk from the radionuclides that are unreported or are represented by only a few analyses is not well known.

- The actual contribution to risk is not well known for those radionuclides that have detection limits which exceed activity levels corresponding to significant risk levels (e.g., ^{152}Eu).

Figure 3-1. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of ^{40}K Data.

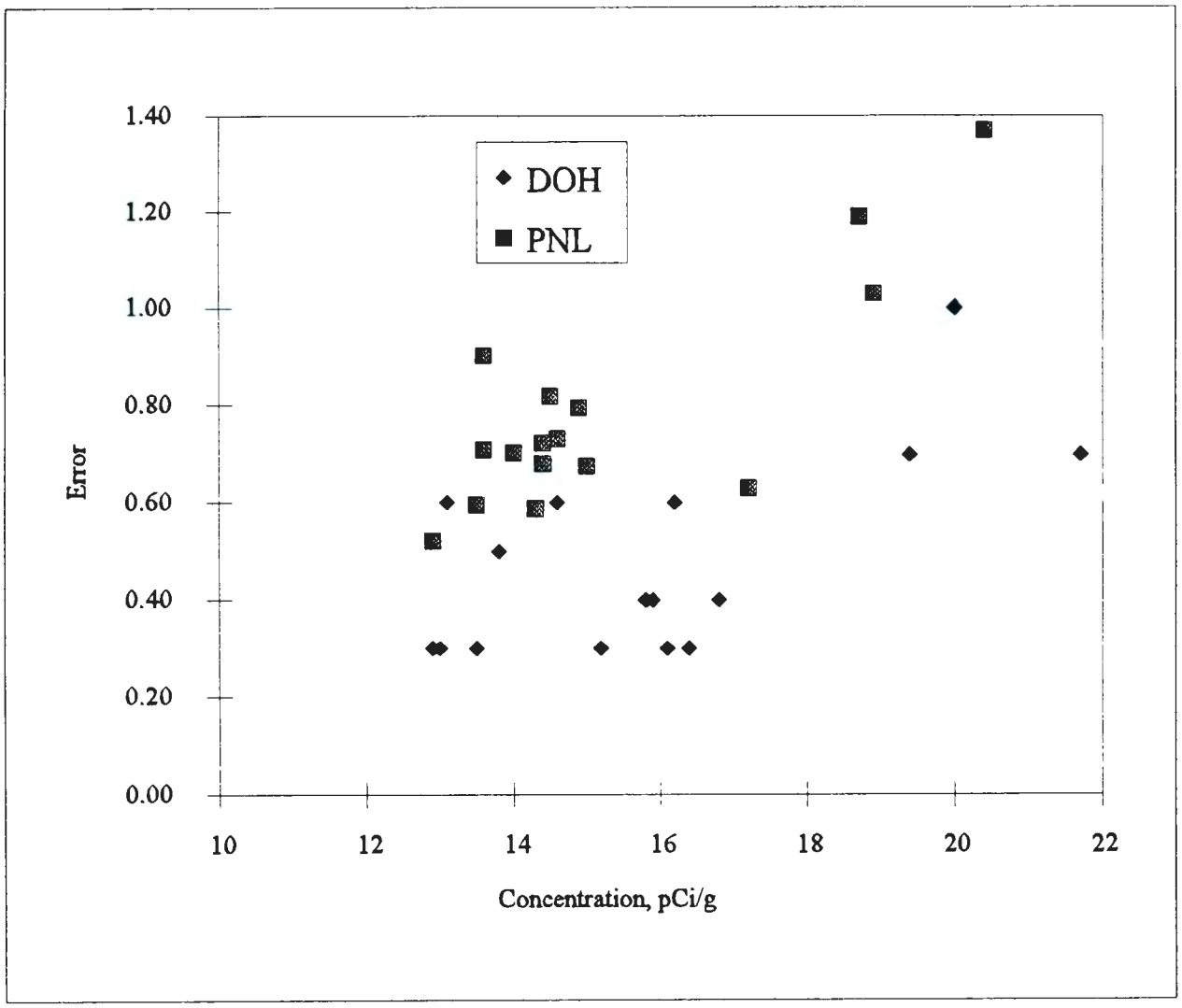


Figure 3-2. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of ^{60}Co.

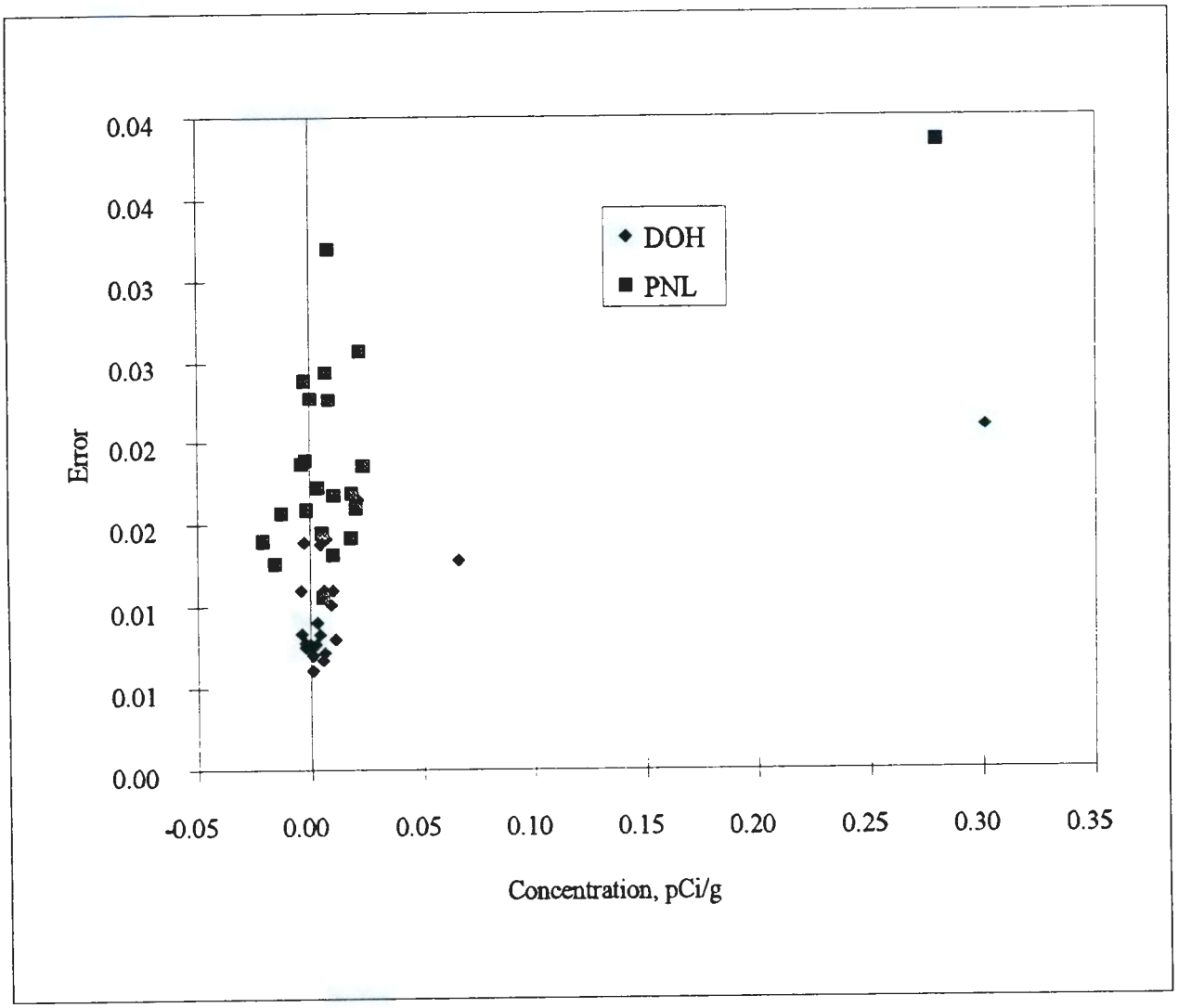


Figure 3-3. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of ^{137}Cs Data.

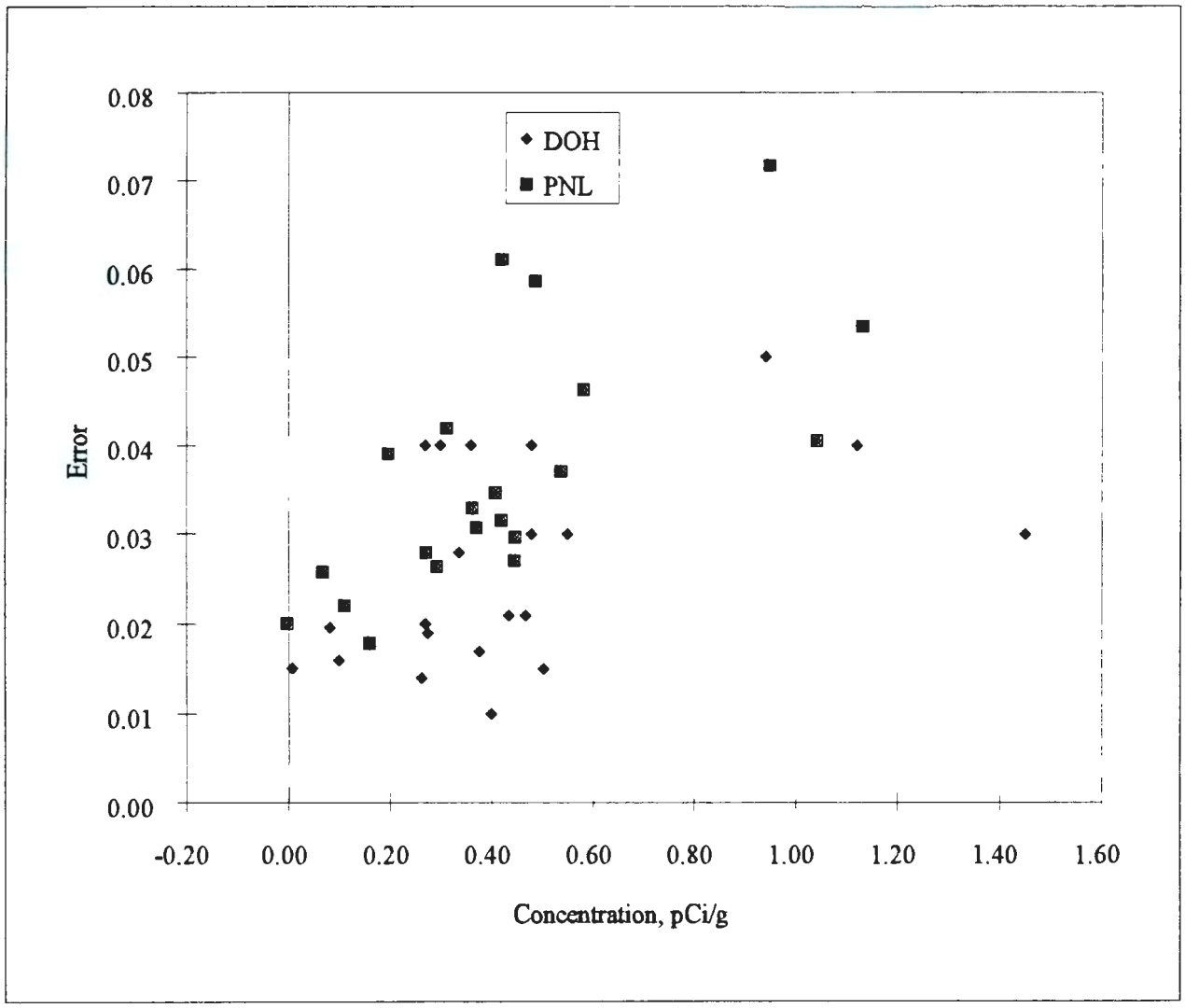


Figure 3-4. Interlaboratory Comparison of Data: Plot of Concentration vs. Uncertainty for Split Analyses of $^{239/240}Pu$ Data.

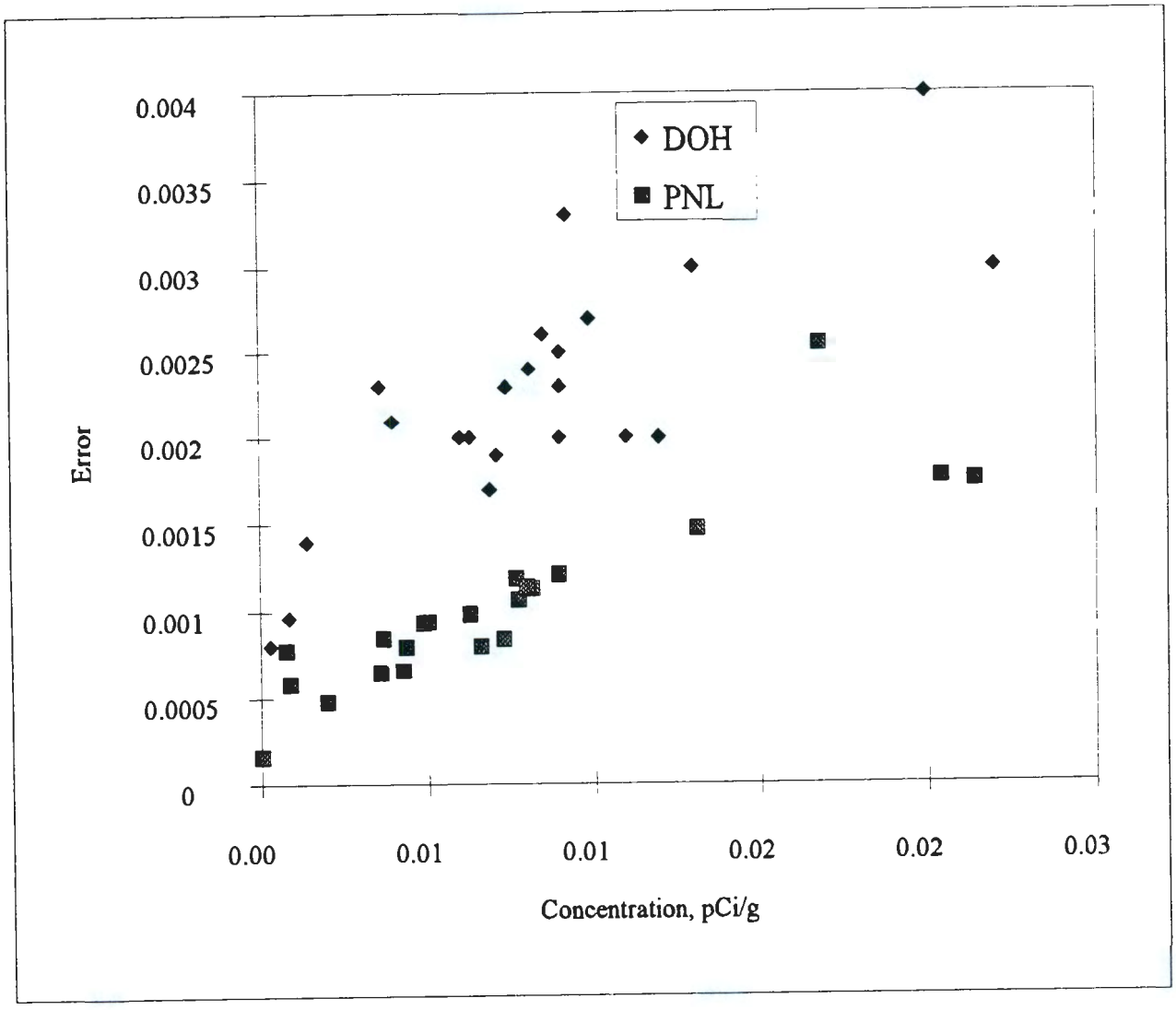


Figure 3-5. Comparison of Means Between DOH and PNL Split Samples.

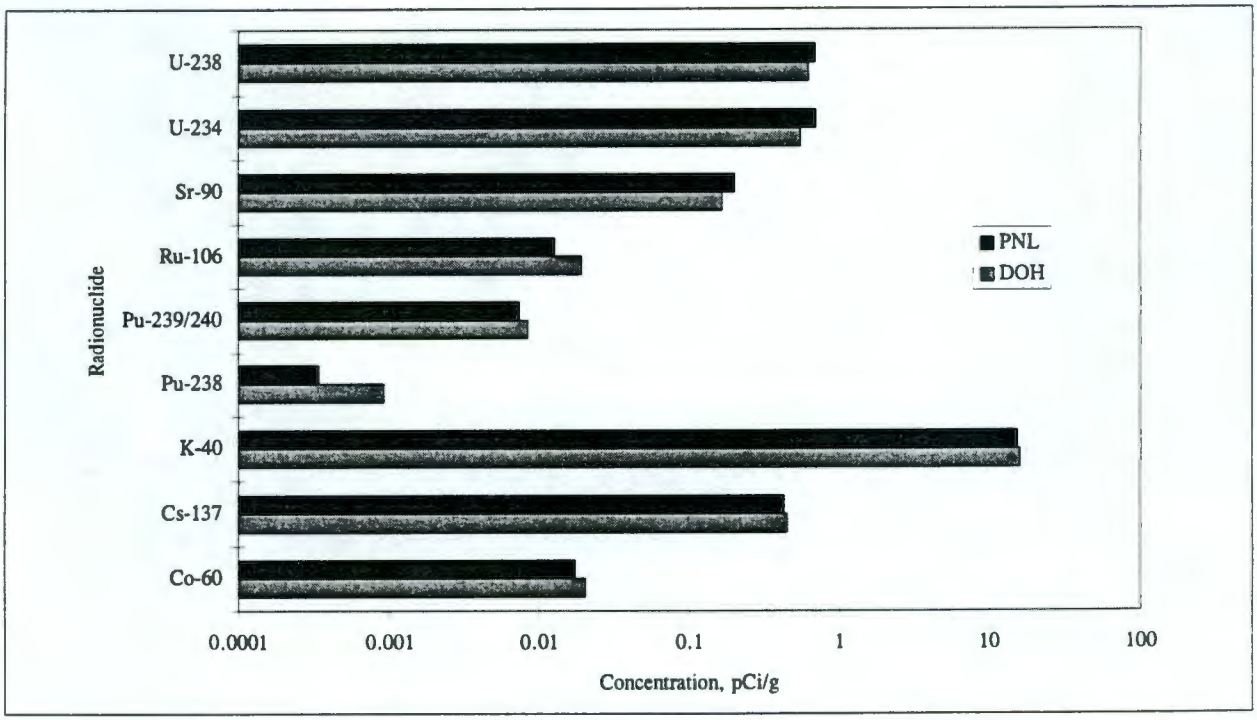


Figure 3-6. Comparison of Standard Deviations Between DOH and PNL Split Samples.

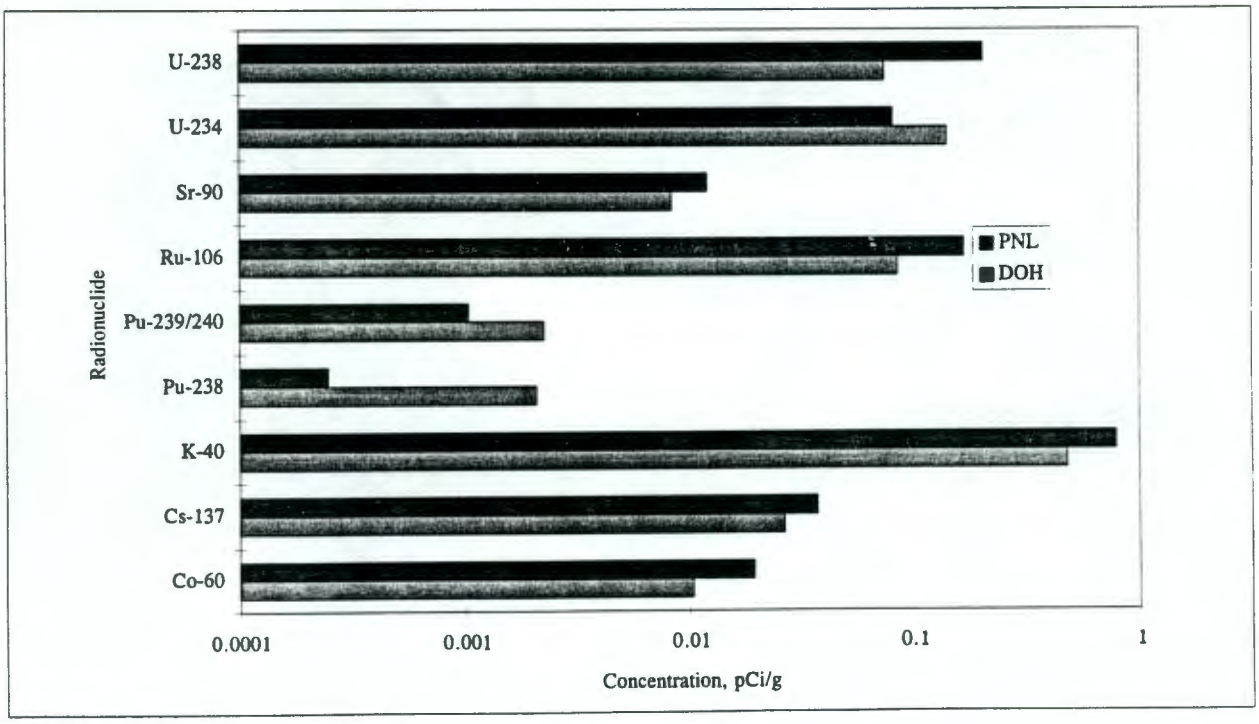
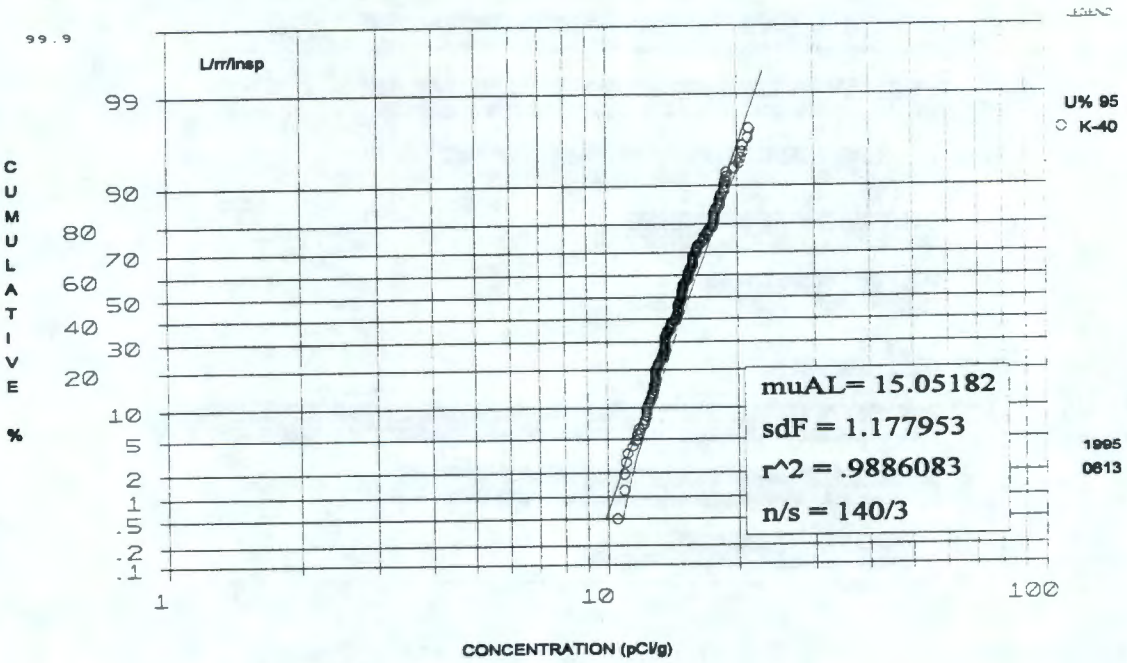


Figure 3-7. Lognormal (top) and Weibull (bottom) Distributions for ^{40}K, from the Sitewide Background Data.



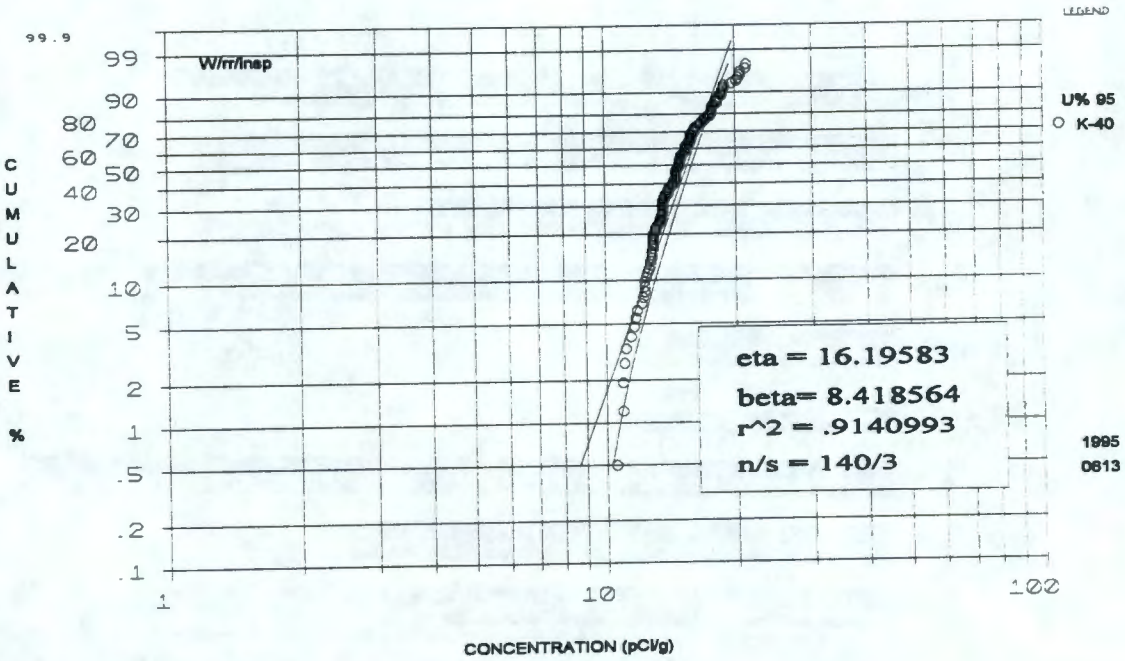
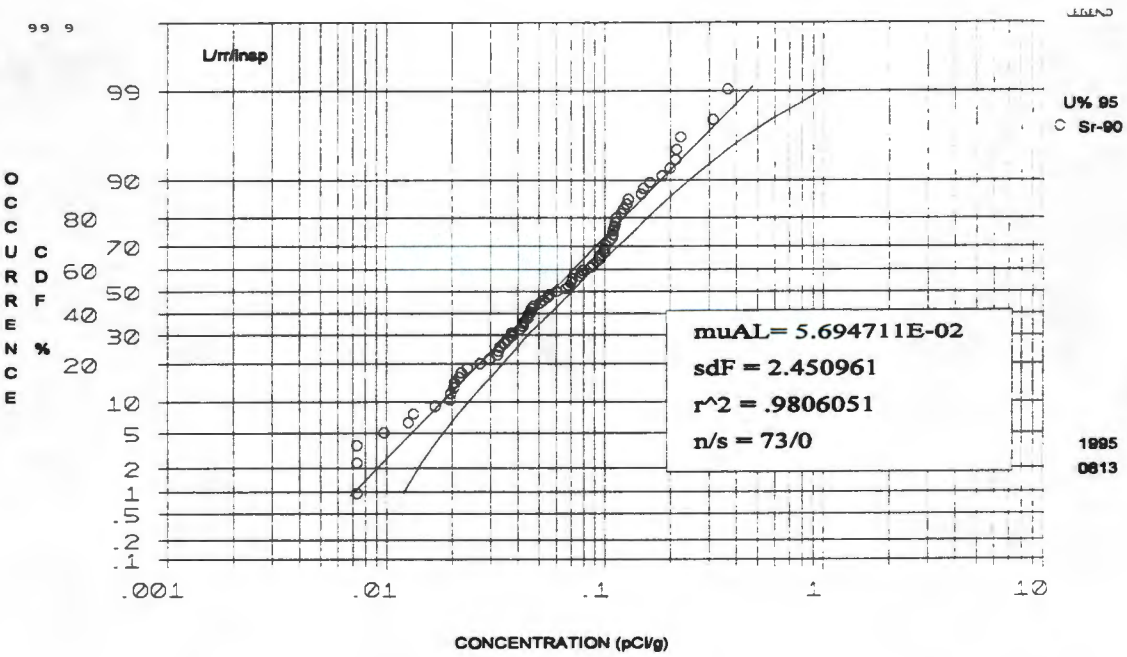


Figure 3-8. Lognormal (top) and Weibull (bottom) Distributions for ^{90}Sr, from the Sitewide Background Data.



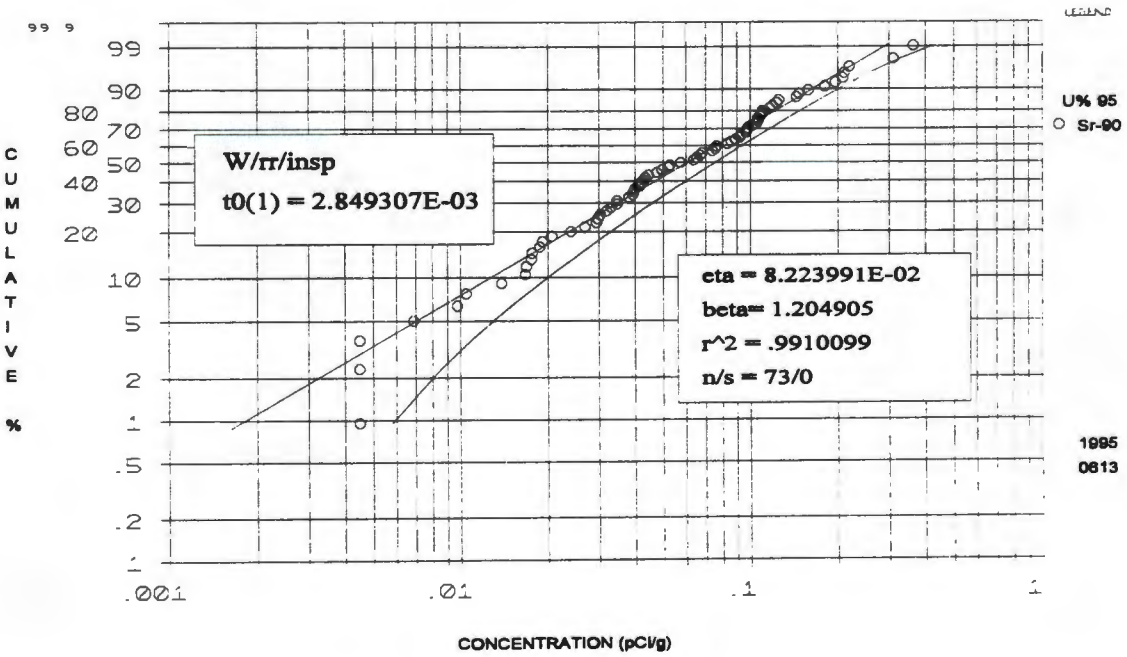
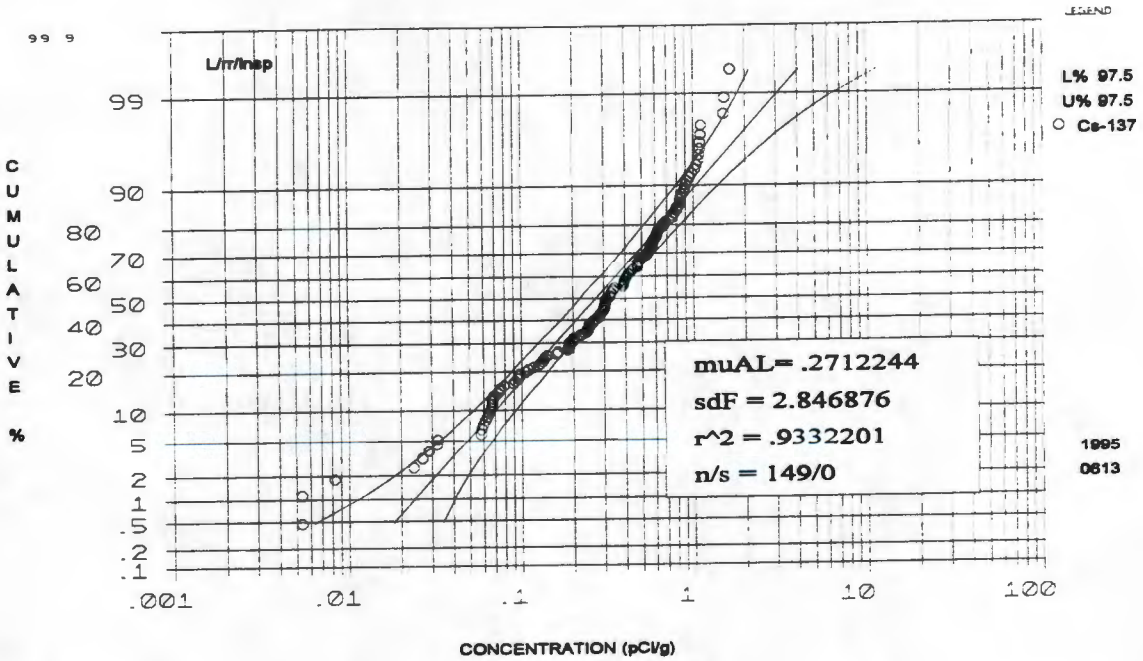


Figure 3-9. Lognormal (top) and Weibull (bottom) Distributions for ^{137}Cs, from the Sitewide Background Data.



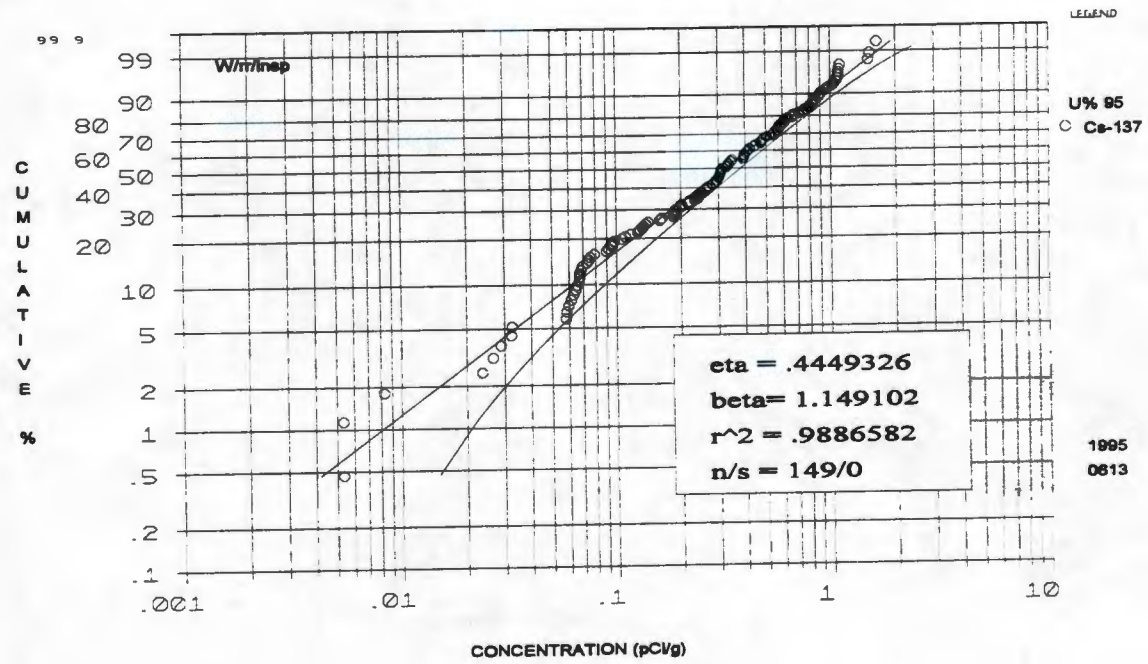
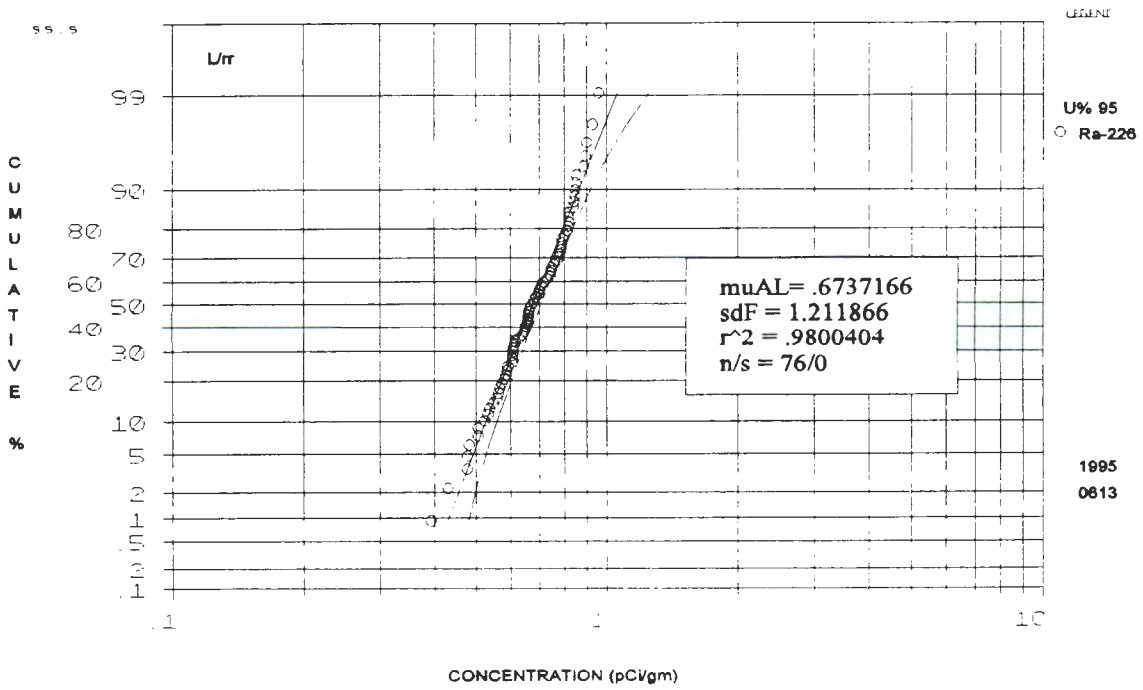


Figure 3-10. Lognormal (top) and Weibull (bottom) Distributions for ^{226}Ra, from the Sitewide Background Data.



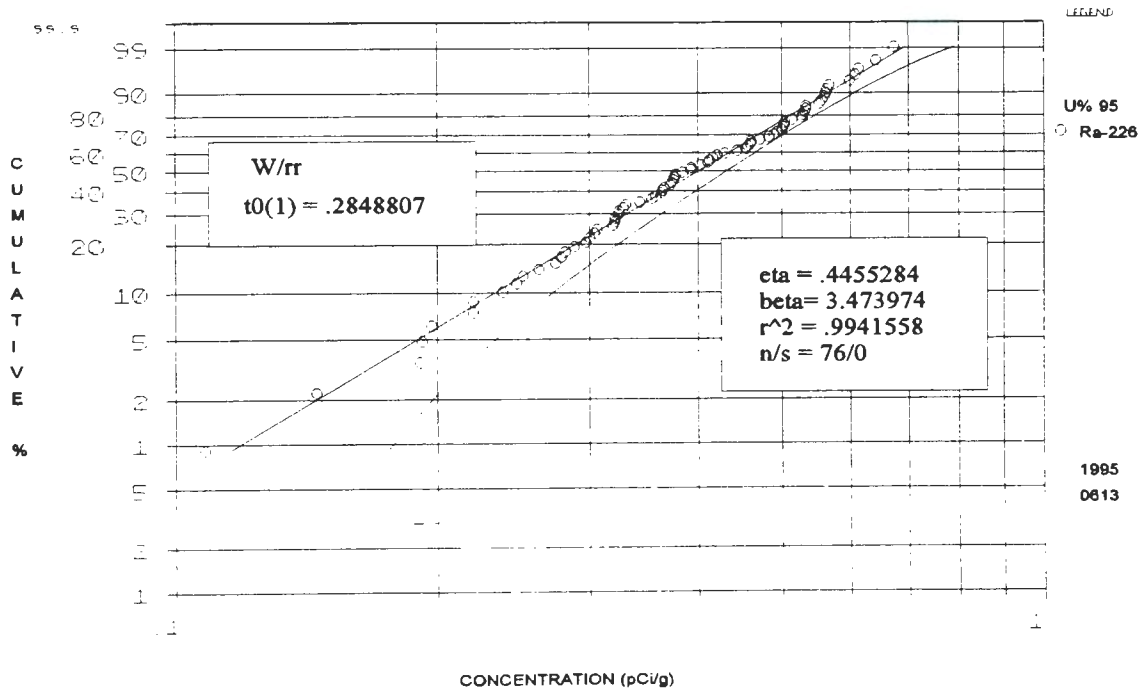
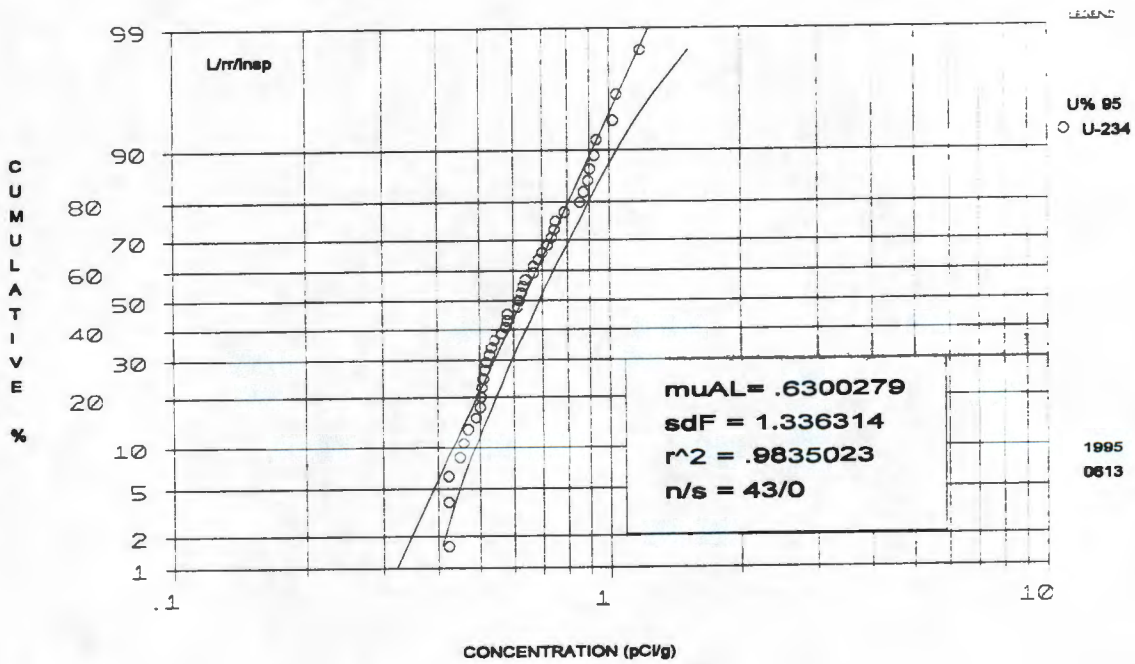


Figure 3-11. Lognormal (top) and Weibull (bottom) Distributions for ^{234}U, from the Sitewide Background Data.



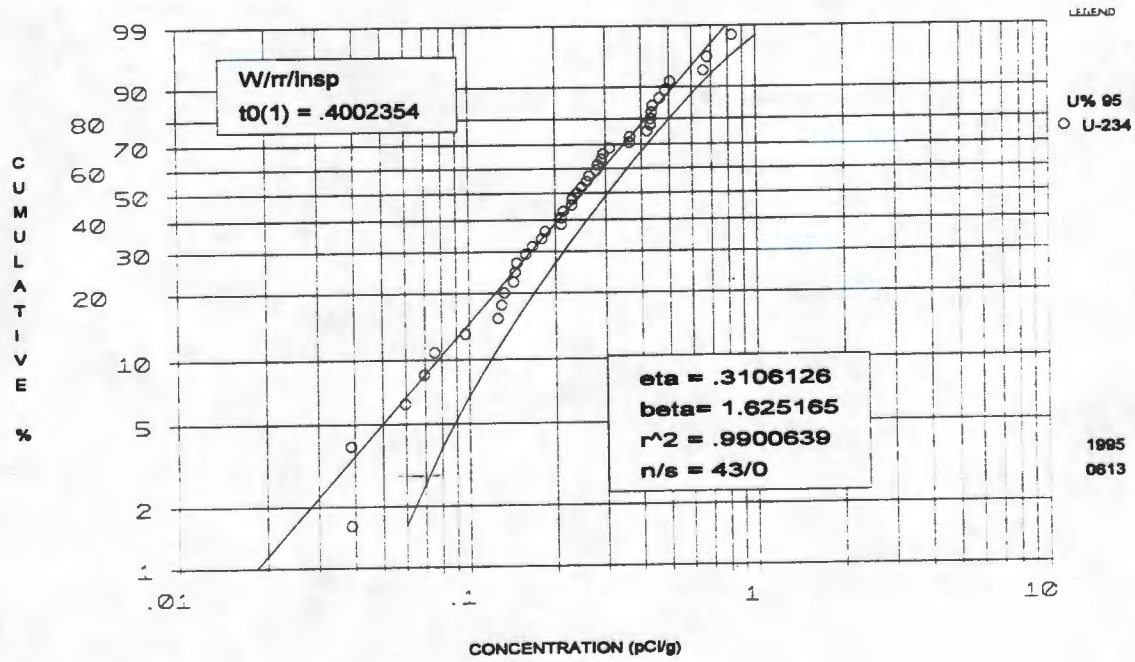
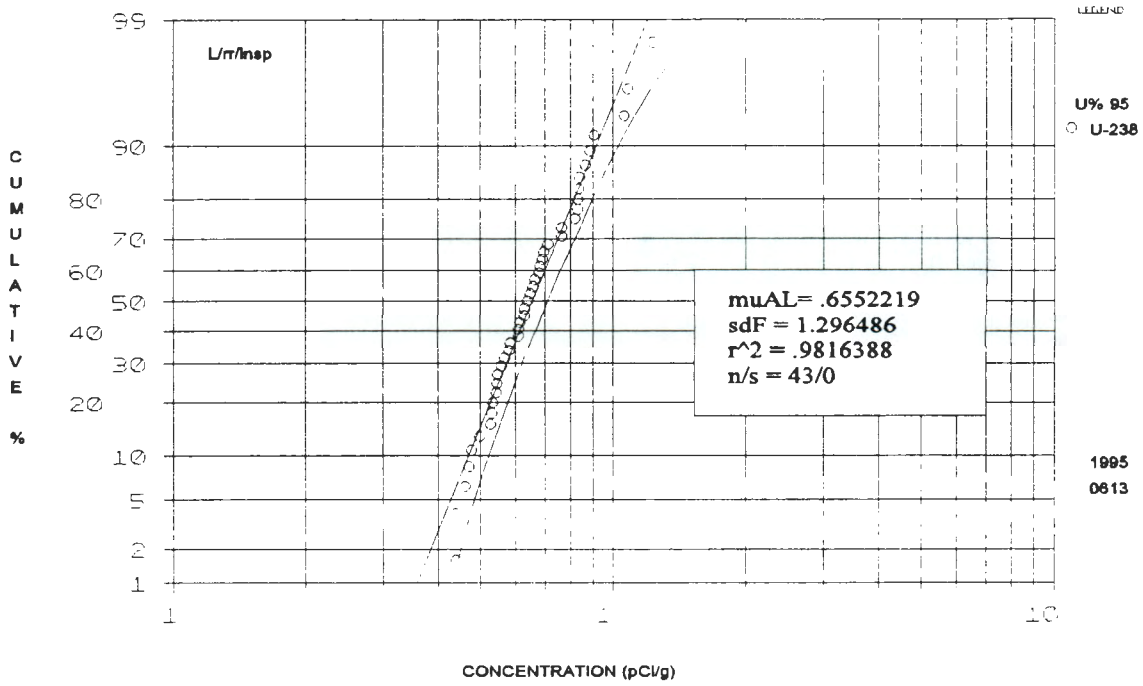


Figure 3-12. Lognormal (top) and Weibull (bottom) Distributions for ^{238}U, from the Sitewide Background Data.



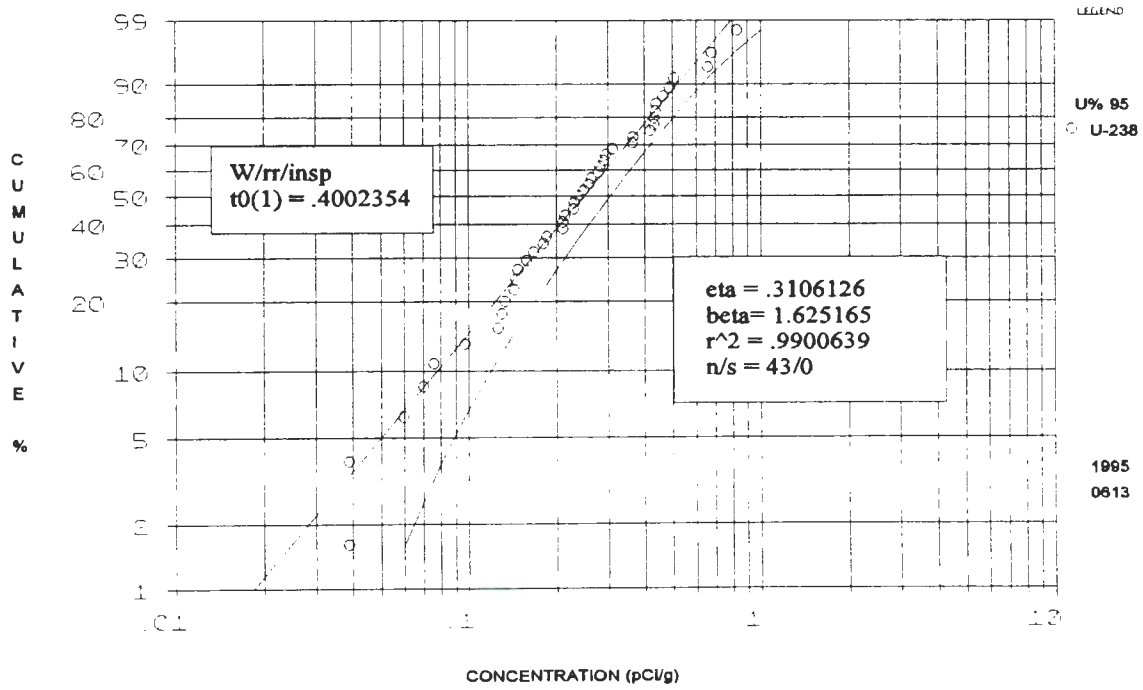
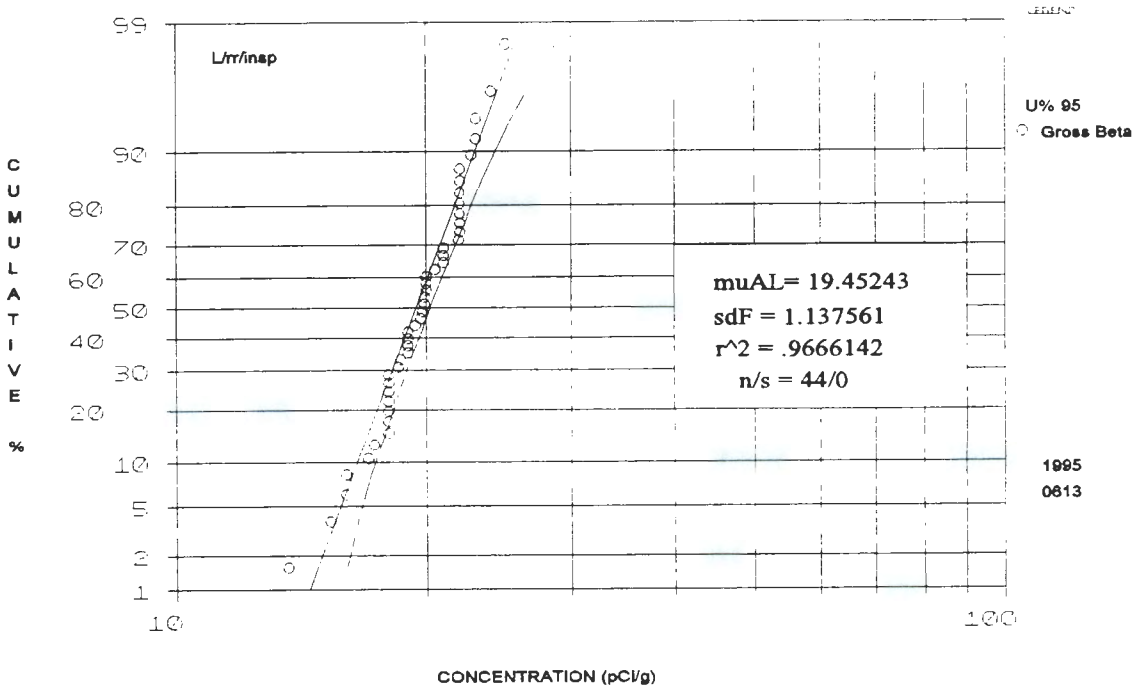


Figure 3-13. Lognormal (top) and Weibull (bottom) Distributions for Gross Beta from the Sitewide Background Data.



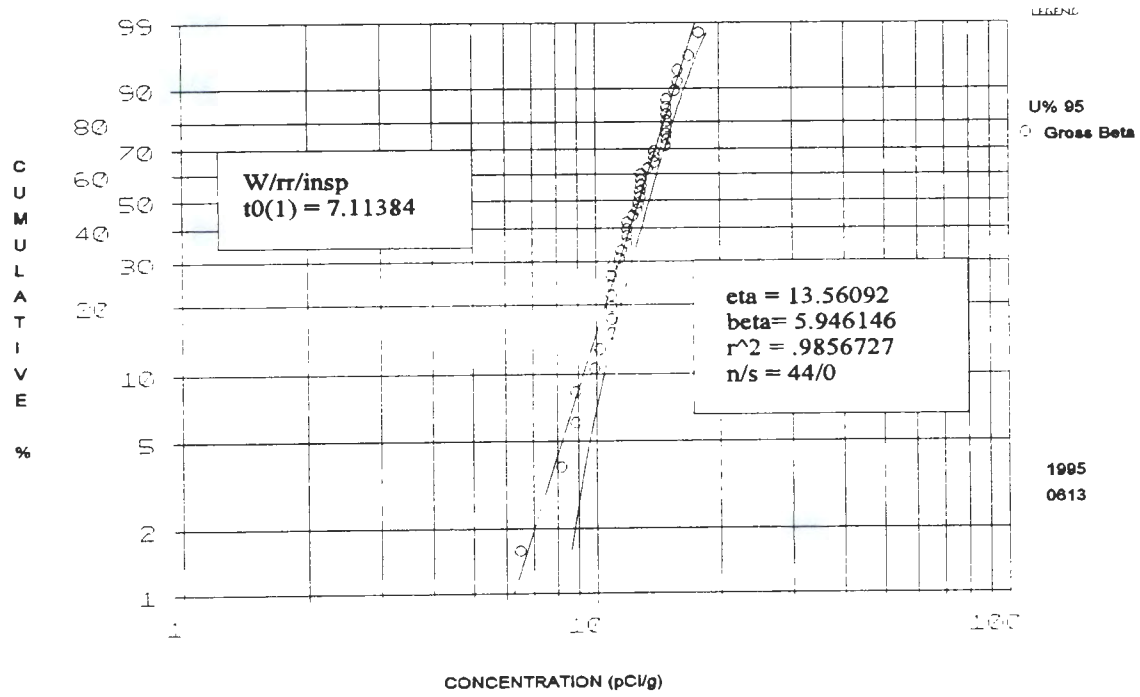


Table 3-1. Summary of Number of Screened Samples in Existing Radionuclide Data Set.

	Total Number of Samples = 149				Numbers of Samples by Location		
Radionuclide	**Total # of Samples**	**% Complete**	**Below Detection**	**%Below Detection**	**Hanford**	**Perimeter**	**Distant**
K-40	140	93.7%	0	0.0%	41	48	51
Co-60	135	90.6%	117	86.7%	38	48	49
Sr-90	73	50.0%	0	0.0%	22	0	51
Ru-106	121	81.2%	120	99.2%	26	48	47
Cs-134	105	70.5%	81	77.1%	16	48	41
Cs-137	149	100%	3	2.0%	50	48	51
Eu-154	105	70.5%	101	96.2%	16	48	41
Eu-155	105	70.5%	70	66.7%	16	48	41
Ra-226	76	51.0%	0	0.0%	24	23	29
Th-232	3	100%	0	0.0%	0	0	3
U-234	43	28.9%	0	0.0%	11	13	19
U-235	29	19.5%	4	13.8%	4	13	12
U-238	43	28.9%	0	0.0%	11	13	19
Pu-238	68	45.6%	36	52.9%	17	0	51
Pu-239/240	127	85.2%	10	7.9%	33	43	51
Gross β	44	29.5%	0	0.0%	34	0	10

Table 3-2. Summary of Results of Distribution Fitting Process.

Analyte	Weibull	Lognormal	Comment
Cs-137	Acceptable	Not Acceptable	Lowest datum negative, censored to allow regression fitting
K-40	Acceptable	Acceptable	3 largest data suspended as outliers
Ra-226	Acceptable	Acceptable	
Sr-90	Acceptable	Acceptable	
U-234	Acceptable	Acceptable	lowest datum censored to improve regression fit
U-238	Acceptable	Acceptable	
Gross β	Acceptable	Acceptable	
Total U	Acceptable	Acceptable	3 lowest data censored to the 4th lowest datum, to improve the regression fit.

Table 3-3. Fitting Parameters and Statistics for Weibull Distributions. UCLs are at 95%.

Radio-nuclide	N	R^2	T_o	Eta	Beta	50th percen-tile	80th percen-tile	80th percen-tile UCL	90th percen-tile	90th percen-tile UCL	95th percen-tile	95th percen-tile UCL
			pCi/g	pCi/g		pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
K-40	140	0.991	9.91	5.99	2.28	15.01	17.29	17.87	18.55	19.26	19.61	20.51
Sr-90	73	0.991	0.00285	0.082	1.2	0.06355	0.12485	0.15085	0.16685	0.20485	0.20685	0.26185
Cs-137	149	0.987	0	0.445	1.149	0.323	0.673	0.777	0.919	1.07	1.16	1.37
Ra-226	76	0.994	0.285	0.446	3.47	0.686	0.796	0.831	0.851	0.893	0.896	0.947
U-234	43	0.988	0.383	0.305	1.47	0.621	0.804	0.9	0.92	1.051	1.025	1.208
U-238	43	0.99	0.4	0.311	1.63	0.648	0.817	0.901	0.919	1.033	1.01	1.167
Gross β	44	0.986	7.11	13.6	5.95	19.86	21.81	22.51	22.71	23.61	23.41	24.41

Table 3-4. Fitting Parameters and Statistics for Lognormal Distributions. UCLs are at 95%. Cesium-137 not included because of unacceptably poor fit.

Radio-nuclide	N	R^2	T_o	Eta	50th percen-tile	80th percen-tile	80th percen-tile UCL	90th percen-tile	90th percen-tile UCL	95th percen-tile	95th percen-tile UCL
			pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
K-40	140	0.987	2.71	0.164	15.1	17.3	17.9	18.6	19.3	19.7	20.7
Sr-90	73	0.981	-2.87	0.896	0.057	0.12	0.16	0.18	0.24	0.25	0.37
Ra-226	76	0.98	-0.395	0.192	0.67	0.79	0.84	0.86	0.92	0.92	1
U-234	43	0.984	-0.46	0.29	0.63	0.81	0.9	0.91	1.04	1.01	1.2
U-238	43	0.982	-0.423	0.26	0.66	0.82	0.9	0.91	1.03	1	1.17
Gross β	44	0.967	2.97	0.129	19.5	21.7	22.7	23	24.3	24	25.9

Table 3-5. Nonparametric Statistics. UCLs are at 95%.

Radionuclide	N	50th percentile	80th percentile	80th percentile UCL	90th percentile	90th percentile UCL	95th percentile	95th percentile UCL
		pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
K-40	140	14.9	17.6	17.9	18.7	19.7	20.4	21.3
Co-60	133	0.00089	0.00506	0.00619	0.00694	0.00977	0.01012	0.01321
Sr-90	73	0.0603	0.112	0.147	0.161	0.211	0.211	0.313
Ru-106	120	0.00016	0.00110	0.00182	0.00285	0.00365	0.00447	0.00759
Cs-134	104	-0.00142	0.00190	0.00282	0.00345	0.00413	0.00506	0.00523
Cs-137	149	0.313	0.667	0.801	0.891	1.035	1.084	1.101
Eu-154	103	0.00182	0.0188	0.0276	0.0321	0.0395	0.0404	0.0486
Eu-155	105	0.0206	0.0355	0.0424	0.0511	0.0550	0.0552	0.0625
Ra-226	76	0.669	0.813	0.838	0.845	0.884	0.884	0.927
Th-232	3	NR	NR	NR	NR	NR	NR	NR
U-234	43	0.619	0.788	0.903	0.924	1.02	1.02	NR
U-235	29	0.0271	0.0361	0.0408	0.0408	0.0460	0.0460	NR
U-238	43	0.580	0.819	0.836	0.905	1.06	1.06	NR
Pu-238	67	0.00038	0.00236	0.00258	0.00357	0.00645	0.00645	0.0135
Pu-239/240	128	0.00765	0.0149	0.0181	0.0210	0.0250	0.0262	0.0280
Gross β	44	19.8	22	22	22.7	23	23	NR

NR Insufficient data to compute desired percentile and confidence levels.

Table 3-6. RESRAD Parameters Used to Model Background Dose.
Parameters not listed use default RESRAD values.

Parameter	Selected Value	Default	Units	Rationale for Change from Default
Area of contaminated zone	1,000,000	10,000	m^2	Dealing with background, not contamination
Thickness of contaminated zone	2	2	m	
Cover depth	0	0	m	
Soil density	1.7	1.5	g/cm3	Based on 110 lb/ft3
Evapotranpiration coefficient	0.66	0.5		Calculated from evapotranspiration rate of 29" (74 cm/yr)
Precipitation	0.15	1	m/yr	Based on 6"/yr annual rainfall
Irrigation	0.76	0.2	m/yr	Based on irrigation rates obtained from Franklin Conservation District.
Runoff coefficient	0.2	0.2		
Inhalation	7300	8400		DOE/RL 1995
Mass loading for inhalation	1.00E-04	2.00E-04	g/m^3	Based on total suspended particulate measurements in Tri-Cities area.
Shielding factor for inhalation	0.4	0.4		Default
Shielding factor for external gamma radiation	0.7	0.7		Default
Fraction of time spent indoors on-site	0.5	0.5		Default
Fraction of time spent outdoors on site	0.25	0.25		Default
Fruits, vegetables and grain consumption	160	160	kg/yr	Default
Leafy vegetable consumption	14	14	kg/yr	Default
Milk consumption	92	92	l/yr	Default
Meat and poultry consumption	63	63	kg/yr	Default
Soil ingestion	42	36.5	g/yr	DOE/RL 1995
Livestock Intake of Soil	0.5	0.5	kg/day	Default
Depth of roots	0.9	0.9	m	Default

Table 3-7. Dose and Risk from Existing Sitewide Background Data Set.

Analyte	Sample Average			95th Percentile (Nonparametric), pCi/g		
	Activity, pCi/g	Dose, mrem/yr	Risk	Activity, pCi/g	Dose, mrem/yr	Risk
K-40	15.4	29.6	4.7e-04	20.4	39.2	6.3e-04
Co-60	0.00132	0.019	2.1e-07	0.0101	0.14	1.6e-06
Sr-90	0.0806	0.45	3.4e-06	0.211	1.2	9.1e-06
Cs-137	0.417	1.5	1.9e-05	1.08	3.9	5.0e-05
Eu-154	0.00083	0.0055	2.3e-12	0.040	0.27	3.0e-06
Eu-155	0.0234	0.0024	1.0e-11	0.055	0.006	5.9e-08
Ra-226	**0.686**	**9.4**	**8.4e-05**	**0.884**	**12.2**	**1.1e-04**
Th-232+D	0.687	12.9	1.2e-04	NC	*12.9*	*1.2e-04*
U-235+D	0.0271	0.62	7.9e-07	0.046	1.1	1.3e-06
U-238+D	0.675	14.3	1.0e-04	1.06	19.4	1.3e-04
Pu-238	0.00158	0.001	3.3e-10	0.0065	0.004	7.7e-09
Pu-239/240	0.00935	0.007	2.0e-09	0.0262	.018	3.2e-08
Totals		58.9	7.1e-04		78.4	1.7e-03

Dose and risk computed by RESRAD, with exposure parameters as described in text and Table 3-X.
A "D" after a radionuclide indicates that the dose and risk for the entire decay chain is listed.
NC=Nonparametric values for Th-232 could not be computed, due to small sample size. Values in italics are mean values, recorded here in order for a sum to be computed.
Ra-226 is part of the U-238 decay chain, and is included in U-238+D entry.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Existing radiological activity data were evaluated to determine their adequacy to represent background for environmental applications at the Hanford Site. These data were reported by PNL and DOH on samples collected from 39 localities throughout the region. The soil sampling locations provide good lateral coverage within the region. The extent to which these samples compare to those in the vicinity of the Hanford Site in terms of soil characteristics, deposition, and retention of anthropogenic components is unknown, because they were obtained from only the upper 2.5 cm of the vadose zone. Although these data were collected for surveillance purposes rather than the characterization of radiological soil background, the data from several of the best-measured radionuclides describe a single population for each analyte (Figures 3-7 through 3-13). These data are therefore consistent with the Sitewide approach for defining the distribution of the naturally occurring and anthropogenic background components, and appear to be appropriate for use as Sitewide background.

These existing data provide valuable information on the magnitude of radiological background for surface soils in the region. However, these data alone are not entirely sufficient to provide a comprehensive characterization of radiological background. Data for 12 of the 15 analytes in the DOE/regulator list and 15 of 25 radionuclides of concern identified by Perkins and Jenquin (1995, Table 1-1) are included in the data set. Of these, the data for 8 radionuclides have adequate quality for the measurement process. Most of the deficiencies do not appear to be significant for dose and risk assessment applications. Only 4 of the 15 radionuclides for which data are available contribute significantly to background dose and baseline risk (^{40}K, ^{137}Cs, and ^{238}U+daughters, which include ^{226}Ra); ^{232}Th and its daughters are also major contributors although the paucity of data do not allow accurate dose/risk estimates. These five radionuclides collectively account for a background dose of approximately 59 ± 14 mrem/yr as modeled by RESRAD, using the parameters listed in Table 3-6. The risk associated with this dose is approximately 7e-04. These dose and risk approximations exclude contributions from radon, groundwater ingestion, and cosmic radiation. Of the 5 main contributors to dose and risk, ^{137}Cs is the only anthropogenic radionuclide, and it contributes from 3% to 5% to the total dose and risk.

Important concerns regarding the quality and adequacy of these data for dose and risk assessment applications are: 1) the magnitude of the total uncertainty in calculated total dose and risk, 2) the comparability of these and other laboratory-determined isotopic activity measurements to field data, and 3) the lack of any data for radon. There is also significant uncertainty in the data because the upper 2.5 cm of soil cannot be regarded as complete or representative for the radiological background levels of natural radiological background components throughout the unsaturated zone.

The adequacy of the anthropogenic background data was of primary concern in this evaluation, because new data on the naturally occurring radionuclides have been obtained to supplement this data set. The anthropogenic background data may be adequate, as ^{137}Cs is the only component of

fallout that contributes significantly to dose and risk, and it occurs predominantly in the upper few centimeters of surface soil (Price 1991). The background activity levels of the other anthropogenic radionuclides in the soils, including those missing from the data set, are not expected to contribute significantly to the background dose or baseline risk. An exception to this is radon, for which appropriate background data (i.e., radon flux) are not available. Additional data on the natural background components (other than radon) are to be included in the final report on radiological soil background at the Hanford Site. This will provide a more accurate, complete, and representative characterization of the range and distribution of natural radiological background components.

The types and comparability of measurements for isotopic activities, energy deposition, and/or dose should also be considered when assessing radiological background. As a result of the different measurement processes, data obtained in the field and in the laboratory may not be comparable. Decisions regarding the presence or absence of contamination and achieving cleanup goals could, in some instances, be driven as much by the differences in laboratory performance as by any real differences at a waste site.

Radiation doses calculated from the accepted data set indicate that the standard deviation of the dose is 14 mrem/yr. An issue associated with this is the capability of differentiating a regulatory limit above background (e.g., 15 mrem/yr), if the allowable increment above background is similar to the uncertainty associated with the data.

4.1 RECOMMENDATIONS

Recommendations based on the results of the data evaluation are presented in this section. These recommendations focus on the use of the existing data set and on additional data needs for improving the quality of the Sitewide background data. The following is a summary of the data use recommendations:

- The existing data are the best presently available for radiological background in soil, and should be used to the maximum extent possible.

- These data do not necessarily represent radiological background levels for soils in the unsaturated zone other than the upper 2.5 cm. Caution should be exercised when using these data alone for comparison to deeper soils and in most quantitative uses such as risk assessment.

- The background data for 8 of the radionuclides (^{40}K, ^{90}Sr, ^{137}Cs, ^{226}Ra, ^{234}U, ^{235}U, ^{238}U, $^{239/240}Pu$) are of sufficient quality for use in preliminary screening activities. Four of these radionuclides (^{40}K, ^{137}Cs, ^{238}U+daughters, which includes ^{226}Ra) contribute significantly to baseline risk.

- The existing data for ^{60}Co, ^{106}Ru, ^{134}Cs, ^{154}Eu, ^{232}Th, and ^{238}Pu provide information on the range of background concentrations for these radionuclides, but have data quality problems involving accuracy, precision, data quantity, and detection that preclude their use as Sitewide background. The data for ^{232}Th are a concern because of the substantial contribution of this radionuclide to dose and risk.

Any future acquisition of background soil radionuclide data should also be designed to compliment the data set collected and evaluated by the Sitewide background project. The primary data gaps that remain include the following:

- Background data appropriate for relating field instrument measurements with laboratory analyses, including the relationship between dose rates measured in the field and dose rates calculated from isotopic activities.

- Data on the levels of outdoor radon or radon flux, in order to establish true levels of intrinsic baseline risk under existing site conditions.

The quality of the data could be improved by incorporating the following suggestions:

- Gather data on ^{152}Eu and ^{241}Am to establish background levels for these anthropogenic radionuclides and to verify their contribution to background dose and risk.

- Obtain data for subsurface anthropogenic radionuclides (to depths extending to at least 10 cm).

- Improving precision in terms of uncertainties associated with individual measurements and interlaboratory variability.

Whether or not efforts such as additional data collection and quality assurance are warranted depends on the extent to which the data quality can be improved, the significance of the improvements on the decisions involving the data, and the cost-effectiveness of such improvements. Coordination and integration of any additional data collection efforts regarding background issues will insure comparability and maximum usability of the data, and avoid duplication of efforts.

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APPENDIX A

EXISTING RADIONUCLIDE SOIL DATA USED TO CALCULATE BACKGROUND

Table A-1. Sampling Locations of Existing Data Used to Calculate Background.
(Sheet 1 of 2)

Site ID	Site Name	Northing	Easting	Site Type	Colocated
1DOH	100N FIRE	145209.47	572394.79	1a	3PNL
3PNL	100 AREA FIRE STAT	145209.47	572394.79	1a	
12DOH	ACI-YAKIMA	137361.32	496973.75	5	
13DOH	ARMY LOOP	131394.07	568070.70	1	10PNL
14DOH	CEMETERY-YAKIMA	138303.78	4967163.16	5	
14PNL	HANFORD TOWNSITE	139836.10	584875.44	1	
15DOH	CONNELL	149477.32	624888.47	4	36PNL
15PNL	WYE BARRICADE	127841.03	584606.13	1	
16PNL	RIVERVIEW-HARRIS	102674.70	598862.28	2	
17PNL	BYERS LANDING	115960.36	595483.54	2	
18PNL	SAGEMOOR FARM	118131.17	595680.16	2	
19DOH	HANFORD TOWN	139836.10	584875.44	1	14PNL
19PNL	TAYLOR FLATS NO. 2	121373.05	595629.02	2	
20PNL	W END OF FIR ROAD	123008.16	595972.17	2	
21PNL	RINGOLD AREA	132523.56	595453.15	2	
22DOH	INDEPENDENCE	109402.16	538418.25	5	
22PNL	BERG RANCH	156984.12	589663.70	2	
23PNL	WAHLUKE SLOPE	156551.88	567940.53	2	
24DOH	MOSES LAKE	199909.58	594260.92	5	34PNL
24PNL	N END VERNITA BRIDGE	146068.83	559491.65	2	
25PNL	YAKIMA BARRICADE	138436.38	581721.26	1	
26PNL	RATTLESNAKE SPRINGS	130424.44	562370.79	2	
27PNL	ALE FIELD LAB	116983.33	577587.64	2	
28PNL	PROSSER BARRICADE	117644.59	582786.99	2	
30PNL	BENTON CITY	110497.73	577454.97	5	
31PNL	SUNNYSIDE	113107.06	538394.79	5	
32PNL	WALLA WALLA	83724.07	664943.41	4	
33PNL	MC NARY DAM	69232.92	592946.61	4	
34DOH	S 1, WNP-2	125039.86	589485.80	1	

Table A-1. Sampling Locations of Existing Data Used to Calculate Background.
(Sheet 2 of 2)

Site ID	Site Name	Northing	Easting	Site Type	Colocated
34PNL	MOSES LAKE AREA	199909.58	594260.92	5	
35DOH	S 21, WNP-2	127321.47	591894.53	1	
35PNL	WASHTUCNA	161642.45	667932.65	4	
36PNL	CONNELL	149477.32	624888.47	4	
37PNL	OTHELLO	167568.84	601622.29	4	
38PNL	YAKIMA	143551.84	499909.89	5	
41DOH	SUNNYSIDE			5	31PNL
45DOH	WYE	127841.03	584606.13	1	15PNL
46DOH	YAKIMA B.	138436.38	581721.26	1	25PNL
49DOH	S 23, WNP-2			1	

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 1 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
15DOH	Be-7	8/1/91	1.98e-01	9.10e-02	1.00e-01	5.29e-02	2.43e-02	pCi/g
45DOH	Be-7	6/21/88	1.50e-01	9.00e-02	8.70e-02	1.30e-02	7.79e-03	pCi/g
1DOH	Co-60	7/31/91	-2.80e-03	1.39e-02	2.00e-02	-1.73e-03	8.60e-03	pCi/g
3PNL	Co-60	4/29/87	9.22e-03	1.97e-02	2.00e-02	3.26e-03	6.97e-03	pCi/g
3PNL	Co-60	6/6/88	-1.42e-03	2.49e-02	2.00e-02	-5.81e-04	1.02e-02	pCi/g
3PNL	Co-60	5/2/89	-1.40e-02	1.92e-02	2.00e-02	-6.45e-03	8.85e-03	pCi/g
3PNL	Co-60	7/31/91	7.20e-03	2.44e-02	2.00e-02	4.46e-03	1.51e-02	pCi/g
12DOH	Co-60	8/1/91	-2.99e-03	7.79e-03	2.00e-02	-1.85e-03	4.82e-03	pCi/g
13DOH	Co-60	6/27/89	-2.00e-03	7.00e-03	1.00e-02	-9.40e-04	3.29e-03	pCi/g
13DOH	Co-60	6/26/90	1.40e-02	8.00e-03	1.00e-02	7.50e-03	4.29e-03	pCi/g
14DOH	Co-60	7/1/92	-2.00e-04	7.70e-03	2.00e-02	-1.40e-04	5.38e-03	pCi/g
14PNL	Co-60	4/29/87	-2.00e-02	2.10e-02	2.00e-02	-7.08e-03	7.43e-03	pCi/g
14PNL	Co-60	6/6/88	-1.59e-02	2.37e-02	2.00e-02	-6.50e-03	9.70e-03	pCi/g
14PNL	Co-60	5/2/89	-3.78e-03	1.54e-02	2.00e-02	-1.74e-03	7.10e-03	pCi/g
14PNL	Co-60	7/31/91	-1.28e-02	1.57e-02	2.00e-02	-7.92e-03	9.72e-03	pCi/g
15DOH	Co-60	8/1/91	3.66e-03	7.31e-03	2.00e-02	2.27e-03	4.53e-03	pCi/g
15PNL	Co-60	4/29/87	2.83e-03	1.52e-02	2.00e-02	1.00e-03	5.38e-03	pCi/g
15PNL	Co-60	5/25/88	2.97e-03	1.65e-02	2.00e-02	1.21e-03	6.72e-03	pCi/g
15PNL	Co-60	5/3/89	2.11e-02	1.65e-02	2.00e-02	9.73e-03	7.61e-03	pCi/g
15PNL	Co-60	7/31/91	1.01e-02	1.32e-02	2.00e-02	6.25e-03	8.17e-03	pCi/g
16PNL	Co-60	5/15/87	-1.11e-02	1.98e-02	2.00e-02	-3.95e-03	7.05e-03	pCi/g
16PNL	Co-60	6/20/88	-1.06e-02	1.90e-02	2.00e-02	-4.36e-03	7.81e-03	pCi/g
16PNL	Co-60	5/8/89	9.39e-04	1.35e-02	2.00e-02	4.34e-04	6.23e-03	pCi/g
16PNL	Co-60	8/8/91	6.22e-02	4.63e-02	2.00e-02	3.86e-02	2.87e-02	pCi/g
16PNL	Co-60	7/28/92	2.22e-02	2.57e-02	2.00e-02	1.57e-02	1.81e-02	pCi/g
17PNL	Co-60	5/15/87	1.75e-02	1.40e-02	2.00e-02	6.23e-03	4.98e-03	pCi/g
17PNL	Co-60	6/20/88	3.95e-03	1.52e-02	2.00e-02	1.62e-03	6.25e-03	pCi/g
17PNL	Co-60	5/10/89	-4.75e-03	1.83e-02	2.00e-02	-2.20e-03	8.46e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 2 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
17PNL	Co-60	10/4/90	-6.81e-03	2.24e-02	2.00e-02	-3.78e-03	1.24e-02	pCi/g
17PNL	Co-60	8/8/91	-3.29e-03	1.69e-02	2.00e-02	-2.04e-03	1.05e-02	pCi/g
17PNL	Co-60	6/23/92	3.00e-03	1.58e-02	2.00e-02	2.09e-03	1.10e-02	pCi/g
18PNL	Co-60	5/15/87	9.35e-03	1.79e-02	2.00e-02	3.33e-03	6.37e-03	pCi/g
18PNL	Co-60	4/1/88	7.20e-03	1.47e-02	2.00e-02	2.88e-03	5.87e-03	pCi/g
18PNL	Co-60	5/10/89	-7.87e-03	1.70e-02	2.00e-02	-3.64e-03	7.86e-03	pCi/g
18PNL	Co-60	10/4/90	-1.52e-02	1.80e-02	2.00e-02	-8.44e-03	1.00e-02	pCi/g
18PNL	Co-60	8/8/91	-5.26e-03	2.10e-02	2.00e-02	-3.27e-03	1.30e-02	pCi/g
18PNL	Co-60	7/27/92	8.35e-03	2.27e-02	2.00e-02	5.89e-03	1.60e-02	pCi/g
19DOH	Co-60	7/31/91	-2.16e-03	7.73e-03	2.00e-02	-1.34e-03	4.79e-03	pCi/g
19PNL	Co-60	5/15/87	-1.02e-02	2.61e-02	2.00e-02	-3.63e-03	9.29e-03	pCi/g
19PNL	Co-60	6/20/88	-8.53e-03	2.09e-02	2.00e-02	-3.51e-03	8.59e-03	pCi/g
19PNL	Co-60	5/10/89	-2.26e-03	2.62e-02	2.00e-02	-1.04e-03	1.21e-02	pCi/g
19PNL	Co-60	10/4/90	-2.88e-03	2.09e-02	2.00e-02	-1.60e-03	1.16e-02	pCi/g
20PNL	Co-60	5/15/87	-5.64e-04	2.15e-02	2.00e-02	-2.01e-04	7.65e-03	pCi/g
20PNL	Co-60	6/20/88	-1.10e-03	1.94e-02	2.00e-02	-4.52e-04	7.98e-03	pCi/g
20PNL	Co-60	5/10/89	2.40e-02	1.79e-02	2.00e-02	1.11e-02	8.27e-03	pCi/g
21PNL	Co-60	5/15/87	1.63e-02	2.14e-02	2.00e-02	5.80e-03	7.62e-03	pCi/g
21PNL	Co-60	4/1/88	3.13e-02	1.74e-02	2.00e-02	1.25e-02	6.95e-03	pCi/g
21PNL	Co-60	5/10/89	6.12e-03	2.04e-02	2.00e-02	2.83e-03	9.43e-03	pCi/g
21PNL	Co-60	10/8/90	-9.25e-03	1.80e-02	2.00e-02	-5.15e-03	1.00e-02	pCi/g
21PNL	Co-60	8/8/91	0.00e+00	2.18e-02	2.00e-02	0.00e+00	1.35e-02	pCi/g
21PNL	Co-60	7/28/92	8.21e-03	3.20e-02	2.00e-02	5.79e-03	2.26e-02	pCi/g
22DOH	Co-60	7/1/92	4.20e-03	8.28e-03	2.00e-02	2.93e-03	5.78e-03	pCi/g
22PNL	Co-60	5/26/87	5.63e-03	1.82e-02	2.00e-02	2.01e-03	6.50e-03	pCi/g
22PNL	Co-60	6/10/88	4.39e-03	1.46e-02	2.00e-02	1.80e-03	5.98e-03	pCi/g
22PNL	Co-60	5/9/89	-7.63e-03	2.16e-02	2.00e-02	-3.53e-03	9.98e-03	pCi/g
22PNL	Co-60	10/8/90	1.19e-02	1.94e-02	2.00e-02	6.62e-03	1.08e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 3 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
23PNL	Co-60	5/26/87	9.56e-03	1.56e-02	2.00e-02	3.42e-03	5.58e-03	pCi/g
23PNL	Co-60	6/10/88	3.27e-03	1.78e-02	2.00e-02	1.34e-03	7.29e-03	pCi/g
23PNL	Co-60	5/5/89	1.52e-03	1.94e-02	2.00e-02	7.01e-04	8.95e-03	pCi/g
23PNL	Co-60	10/3/90	-6.55e-04	1.91e-02	2.00e-02	-3.64e-04	1.06e-02	pCi/g
24DOH	Co-60	8/1/91	7.00e-03	1.41e-02	2.00e-02	4.33e-03	8.73e-03	pCi/g
24PNL	Co-60	6/10/88	1.65e-02	1.81e-02	2.00e-02	6.76e-03	7.42e-03	pCi/g
24PNL	Co-60	5/5/89	-8.36e-03	2.33e-02	2.00e-02	-3.86e-03	1.07e-02	pCi/g
25PNL	Co-60	5/7/87	-5.77e-03	1.77e-02	2.00e-02	-2.05e-03	6.28e-03	pCi/g
25PNL	Co-60	5/25/88	1.27e-02	1.59e-02	2.00e-02	5.17e-03	6.48e-03	pCi/g
25PNL	Co-60	5/5/89	-1.49e-02	1.86e-02	2.00e-02	-6.87e-03	8.58e-03	pCi/g
25PNL	Co-60	7/31/91	-3.68e-03	1.87e-02	2.00e-02	-2.28e-03	1.16e-02	pCi/g
26PNL	Co-60	5/7/87	-2.39e-02	1.89e-02	2.00e-02	-8.48e-03	6.71e-03	pCi/g
26PNL	Co-60	6/7/88	1.84e-03	1.20e-02	2.00e-02	7.53e-04	4.91e-03	pCi/g
26PNL	Co-60	5/5/89	7.49e-03	1.16e-02	2.00e-02	3.46e-03	5.35e-03	pCi/g
27PNL	Co-60	5/20/87	-5.44e-03	2.23e-02	2.00e-02	-1.94e-03	7.95e-03	pCi/g
27PNL	Co-60	6/8/88	-1.36e-02	2.28e-02	2.00e-02	-5.57e-03	9.33e-03	pCi/g
27PNL	Co-60	5/5/89	1.81e-04	1.82e-02	2.00e-02	8.35e-05	8.40e-03	pCi/g
28PNL	Co-60	5/25/88	4.08e-03	1.45e-02	2.00e-02	1.66e-03	5.91e-03	pCi/g
28PNL	Co-60	5/3/89	-2.41e-03	1.83e-02	2.00e-02	-1.11e-03	8.44e-03	pCi/g
30PNL	Co-60	5/20/87	-1.21e-03	1.59e-02	2.00e-02	-4.31e-04	5.67e-03	pCi/g
30PNL	Co-60	3/21/88	-6.13e-03	2.36e-02	2.00e-02	-2.44e-03	9.39e-03	pCi/g
30PNL	Co-60	5/9/89	-6.82e-03	1.84e-02	2.00e-02	-3.15e-03	8.50e-03	pCi/g
31PNL	Co-60	5/21/87	-7.83e-03	2.20e-02	2.00e-02	-2.79e-03	7.85e-03	pCi/g
31PNL	Co-60	5/24/88	9.05e-03	1.83e-02	2.00e-02	3.69e-03	7.44e-03	pCi/g
31PNL	Co-60	5/9/89	-4.14e-03	1.83e-02	2.00e-02	-1.91e-03	8.45e-03	pCi/g
31PNL	Co-60	10/3/90	-4.49e-03	2.17e-02	2.00e-02	-2.49e-03	1.21e-02	pCi/g
31PNL	Co-60	8/1/91	-2.71e-03	2.39e-02	2.00e-02	-1.68e-03	1.48e-02	pCi/g
31PNL	Co-60	7/1/92	-1.58e-02	1.26e-02	2.00e-02	-1.10e-02	8.80e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 4 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
32PNL	Co-60	5/29/87	8.98e-03	1.71e-02	2.00e-02	3.21e-03	6.11e-03	pCi/g
32PNL	Co-60	5/27/88	2.17e-03	1.58e-02	2.00e-02	8.85e-04	6.44e-03	pCi/g
32PNL	Co-60	5/8/89	-1.10e-02	2.39e-02	2.00e-02	-5.08e-03	1.10e-02	pCi/g
32PNL	Co-60	10/3/90	1.11e-02	4.12e-02	2.00e-02	6.16e-03	2.29e-02	pCi/g
33PNL	Co-60	5/29/87	-8.86e-03	2.06e-02	2.00e-02	-3.17e-03	7.37e-03	pCi/g
33PNL	Co-60	5/27/88	8.83e-03	1.74e-02	2.00e-02	3.60e-03	7.09e-03	pCi/g
33PNL	Co-60	5/8/89	-7.31e-03	1.77e-02	2.00e-02	-3.38e-03	8.17e-03	pCi/g
33PNL	Co-60	10/3/90	7.70e-03	2.33e-02	2.00e-02	4.28e-03	1.29e-02	pCi/g
34DOH	Co-60	5/2/89	3.00e-03	8.00e-03	1.00e-02	1.38e-03	3.69e-03	pCi/g
34DOH	Co-60	5/8/90	-7.00e-03	7.00e-03	1.00e-02	-3.69e-03	3.69e-03	pCi/g
34DOH	Co-60	5/16/91	8.60e-03	7.70e-03	2.00e-02	5.18e-03	4.64e-03	pCi/g
34DOH	Co-60	5/14/92	1.00e-02	9.20e-03	2.00e-02	6.87e-03	6.32e-03	pCi/g
34PNL	Co-60	5/8/87	3.63e-03	1.76e-02	2.00e-02	1.29e-03	6.24e-03	pCi/g
34PNL	Co-60	6/17/88	2.27e-02	1.78e-02	2.00e-02	9.32e-03	7.31e-03	pCi/g
34PNL	Co-60	5/8/89	1.69e-03	2.13e-02	2.00e-02	7.80e-04	9.84e-03	pCi/g
34PNL	Co-60	10/5/90	9.37e-03	2.23e-02	2.00e-02	5.21e-03	1.24e-02	pCi/g
34PNL	Co-60	8/1/91	3.39e-03	1.73e-02	2.00e-02	2.10e-03	1.07e-02	pCi/g
35DOH	Co-60	5/2/89	1.50e-02	7.00e-03	1.00e-02	6.91e-03	3.23e-03	pCi/g
35DOH	Co-60	5/8/90	-3.00e-03	6.00e-03	1.00e-02	-1.58e-03	3.16e-03	pCi/g
35DOH	Co-60	5/16/91	8.32e-03	8.44e-03	2.00e-02	5.01e-03	5.09e-03	pCi/g
35DOH	Co-60	5/14/92	1.47e-02	8.70e-03	2.00e-02	1.01e-02	5.97e-03	pCi/g
35PNL	Co-60	5/8/87	7.90e-04	1.73e-02	2.00e-02	2.80e-04	6.13e-03	pCi/g
35PNL	Co-60	6/17/88	-5.69e-03	1.94e-02	2.00e-02	-2.34e-03	7.97e-03	pCi/g
35PNL	Co-60	5/8/89	-3.65e-04	2.03e-02	2.00e-02	-1.69e-04	9.38e-03	pCi/g
35PNL	Co-60	10/3/90	3.20e-02	4.17e-02	2.00e-02	1.78e-02	2.32e-02	pCi/g
36PNL	Co-60	5/26/87	-1.48e-02	1.71e-02	2.00e-02	-5.28e-03	6.11e-03	pCi/g
36PNL	Co-60	6/10/88	1.65e-02	1.84e-02	2.00e-02	6.76e-03	7.54e-03	pCi/g
36PNL	Co-60	5/9/89	3.00e-03	2.06e-02	2.00e-02	1.39e-03	9.52e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 5 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
36PNL	Co-60	10/5/90	-3.54e-03	4.31e-02	2.00e-02	-1.97e-03	2.40e-02	pCi/g
36PNL	Co-60	8/1/91	0.00e+00	2.39e-02	2.00e-02	0.00e+00	1.48e-02	pCi/g
37PNL	Co-60	5/26/87	-8.59e-03	2.14e-02	2.00e-02	-3.07e-03	7.66e-03	pCi/g
37PNL	Co-60	6/10/88	5.53e-03	1.56e-02	2.00e-02	2.27e-03	6.39e-03	pCi/g
37PNL	Co-60	5/9/89	-3.83e-03	2.05e-02	2.00e-02	-1.77e-03	9.47e-03	pCi/g
37PNL	Co-60	10/5/90	4.38e-03	2.12e-02	2.00e-02	2.43e-03	1.18e-02	pCi/g
38PNL	Co-60	5/21/87	-1.96e-02	2.33e-02	2.00e-02	-6.97e-03	8.32e-03	pCi/g
38PNL	Co-60	6/8/88	1.95e-03	1.86e-02	2.00e-02	7.98e-04	7.61e-03	pCi/g
38PNL	Co-60	5/9/89	2.34e-02	1.41e-02	2.00e-02	1.08e-02	6.51e-03	pCi/g
38PNL	Co-60	10/3/90	2.37e-02	1.78e-02	2.00e-02	1.32e-02	9.89e-03	pCi/g
38PNL	Co-60	8/1/91	2.13e-03	2.04e-02	2.00e-02	1.32e-03	1.26e-02	pCi/g
38PNL	Co-60	7/1/92	4.97e-03	1.45e-02	2.00e-02	3.47e-03	1.01e-02	pCi/g
41DOH	Co-60	6/27/89	3.00e-03	8.00e-03	1.00e-02	1.41e-03	3.76e-03	pCi/g
41DOH	Co-60	6/26/90	1.60e-02	9.00e-03	1.00e-02	8.58e-03	4.82e-03	pCi/g
41DOH	Co-60	8/1/91	4.50e-03	1.38e-02	2.00e-02	2.79e-03	8.55e-03	pCi/g
45DOH	Co-60	6/27/89	6.00e-03	6.00e-03	1.00e-02	2.82e-03	2.82e-03	pCi/g
45DOH	Co-60	6/26/90	1.00e-04	7.60e-03	1.00e-02	5.36e-05	4.07e-03	pCi/g
45DOH	Co-60	7/31/91	-2.30e-03	7.50e-03	2.00e-02	-1.42e-03	4.64e-03	pCi/g
46DOH	Co-60	6/27/89	3.00e-03	7.00e-03	1.00e-02	1.41e-03	3.29e-03	pCi/g
46DOH	Co-60	6/26/90	3.00e-03	8.90e-03	1.00e-02	1.61e-03	4.77e-03	pCi/g
46DOH	Co-60	7/31/91	-3.61e-03	8.31e-03	2.00e-02	-2.23e-03	5.14e-03	pCi/g
49DOH	Co-60	5/2/89	5.00e-03	7.00e-03	1.00e-02	2.30e-03	3.23e-03	pCi/g
49DOH	Co-60	5/8/90	8.00e-03	6.00e-03	1.00e-02	4.21e-03	3.16e-03	pCi/g
49DOH	Co-60	5/16/91	8.37e-03	8.05e-03	2.00e-02	5.04e-03	4.85e-03	pCi/g
49DOH	Co-60	5/14/92	1.08e-02	9.50e-03	2.00e-02	7.42e-03	6.52e-03	pCi/g
3PNL	Cs-134	4/29/87	7.30e-02	1.88e-02	2.00e-02	5.12e-03	1.32e-03	pCi/g
3PNL	Cs-134	6/6/88	1.27e-02	1.96e-02	2.00e-02	1.29e-03	1.99e-03	pCi/g
3PNL	Cs-134	5/2/89	-5.61e-02	2.05e-02	2.00e-02	-7.73e-03	2.82e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 6 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
3PNL	Cs-134	7/31/91	-1.63e-01	2.90e-02	2.00e-02	-4.78e-02	8.50e-03	pCi/g
14PNL	Cs-134	4/29/87	7.77e-02	2.02e-02	2.00e-02	5.45e-03	1.42e-03	pCi/g
14PNL	Cs-134	6/6/88	-2.42e-03	1.66e-02	2.00e-02	-2.46e-04	1.69e-03	pCi/g
14PNL	Cs-134	5/2/89	-6.09e-02	1.88e-02	2.00e-02	-8.39e-03	2.59e-03	pCi/g
14PNL	Cs-134	7/31/91	-5.12e-02	1.57e-02	2.00e-02	-1.50e-02	4.60e-03	pCi/g
15PNL	Cs-134	4/29/87	2.07e-02	1.76e-02	2.00e-02	1.45e-03	1.23e-03	pCi/g
15PNL	Cs-134	5/25/88	5.43e-03	1.20e-02	2.00e-02	5.46e-04	1.21e-03	pCi/g
15PNL	Cs-134	5/3/89	0.00e+00	1.57e-02	2.00e-02	0.00e+00	2.17e-03	pCi/g
15PNL	Cs-134	7/31/91	-4.51e-02	1.57e-02	2.00e-02	-1.32e-02	4.60e-03	pCi/g
16PNL	Cs-134	5/15/87	4.46e-02	1.57e-02	2.00e-02	3.17e-03	1.12e-03	pCi/g
16PNL	Cs-134	6/20/88	-3.56e-02	1.78e-02	2.00e-02	-3.66e-03	1.83e-03	pCi/g
16PNL	Cs-134	5/8/89	-1.27e-03	1.20e-02	2.00e-02	-1.76e-04	1.66e-03	pCi/g
16PNL	Cs-134	8/8/91	-2.75e-01	5.32e-02	2.00e-02	-8.12e-02	1.57e-02	pCi/g
16PNL	Cs-134	7/28/92	-1.28e-01	2.96e-02	2.00e-02	-5.24e-02	1.21e-02	pCi/g
17PNL	Cs-134	5/15/87	3.69e-02	2.25e-02	2.00e-02	2.63e-03	1.60e-03	pCi/g
17PNL	Cs-134	6/20/88	-7.59e-02	1.66e-02	2.00e-02	-7.81e-03	1.71e-03	pCi/g
17PNL	Cs-134	5/10/89	-3.05e-02	1.83e-02	2.00e-02	-4.23e-03	2.54e-03	pCi/g
17PNL	Cs-134	10/4/90	-7.75e-02	2.38e-02	2.00e-02	-1.72e-02	5.29e-03	pCi/g
17PNL	Cs-134	8/8/91	-1.21e-02	1.57e-02	2.00e-02	-3.57e-03	4.64e-03	pCi/g
17PNL	Cs-134	6/23/92	-1.12e-01	1.65e-02	2.00e-02	-4.44e-02	6.54e-03	pCi/g
18PNL	Cs-134	5/15/87	4.86e-02	2.19e-02	2.00e-02	3.46e-03	1.56e-03	pCi/g
18PNL	Cs-134	4/1/88	-2.97e-03	1.31e-02	2.00e-02	-2.84e-04	1.25e-03	pCi/g
18PNL	Cs-134	5/10/89	-3.67e-02	1.68e-02	2.00e-02	-5.10e-03	2.33e-03	pCi/g
18PNL	Cs-134	10/4/90	-7.56e-02	2.10e-02	2.00e-02	-1.68e-02	4.67e-03	pCi/g
18PNL	Cs-134	8/8/91	-2.94e-02	1.72e-02	2.00e-02	-8.68e-03	5.08e-03	pCi/g
18PNL	Cs-134	7/27/92	4.57e-03	2.42e-02	2.00e-02	1.87e-03	9.90e-03	pCi/g
19PNL	Cs-134	5/15/87	8.48e-02	2.82e-02	2.00e-02	6.04e-03	2.01e-03	pCi/g
19PNL	Cs-134	6/20/88	1.86e-04	2.11e-02	2.00e-02	1.91e-05	2.17e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 7 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
19PNL	Cs-134	5/10/89	6.99e-04	2.25e-02	2.00e-02	9.70e-05	3.12e-03	pCi/g
19PNL	Cs-134	10/4/90	-1.17e-01	2.34e-02	2.00e-02	-2.60e-02	5.20e-03	pCi/g
20PNL	Cs-134	5/15/87	7.12e-02	2.66e-02	2.00e-02	5.07e-03	1.89e-03	pCi/g
20PNL	Cs-134	6/20/88	-3.45e-03	1.58e-02	2.00e-02	-3.55e-04	1.63e-03	pCi/g
20PNL	Cs-134	5/10/89	-5.71e-02	2.01e-02	2.00e-02	-7.93e-03	2.79e-03	pCi/g
21PNL	Cs-134	5/15/87	7.36e-02	2.57e-02	2.00e-02	5.24e-03	1.83e-03	pCi/g
21PNL	Cs-134	4/1/88	-5.18e-02	1.81e-02	2.00e-02	-4.95e-03	1.73e-03	pCi/g
21PNL	Cs-134	5/10/89	-1.53e-02	1.96e-02	2.00e-02	-2.12e-03	2.72e-03	pCi/g
21PNL	Cs-134	10/8/90	-9.46e-02	2.26e-02	2.00e-02	-2.11e-02	5.04e-03	pCi/g
21PNL	Cs-134	8/8/91	-6.60e-02	2.30e-02	2.00e-02	-1.95e-02	6.79e-03	pCi/g
21PNL	Cs-134	7/28/92	-2.61e-02	2.90e-02	2.00e-02	-1.07e-02	1.19e-02	pCi/g
22PNL	Cs-134	5/26/87	3.31e-02	2.64e-02	2.00e-02	2.38e-03	1.90e-03	pCi/g
22PNL	Cs-134	6/10/88	8.71e-04	1.45e-02	2.00e-02	8.88e-05	1.48e-03	pCi/g
22PNL	Cs-134	5/9/89	-5.60e-03	1.94e-02	2.00e-02	-7.77e-04	2.69e-03	pCi/g
22PNL	Cs-134	10/8/90	-8.31e-02	2.11e-02	2.00e-02	-1.85e-02	4.71e-03	pCi/g
23PNL	Cs-134	5/26/87	4.20e-02	1.94e-02	2.00e-02	3.02e-03	1.40e-03	pCi/g
23PNL	Cs-134	6/10/88	3.83e-03	1.59e-02	2.00e-02	3.91e-04	1.62e-03	pCi/g
23PNL	Cs-134	5/5/89	-1.10e-02	1.62e-02	2.00e-02	-1.52e-03	2.24e-03	pCi/g
23PNL	Cs-134	10/3/90	-8.48e-02	2.34e-02	2.00e-02	-1.88e-02	5.20e-03	pCi/g
24PNL	Cs-134	6/10/88	-1.02e-01	2.18e-02	2.00e-02	-1.04e-02	2.22e-03	pCi/g
24PNL	Cs-134	5/5/89	-7.50e-02	2.31e-02	2.00e-02	-1.04e-02	3.19e-03	pCi/g
25PNL	Cs-134	5/7/87	2.88e-02	2.47e-02	2.00e-02	2.03e-03	1.74e-03	pCi/g
25PNL	Cs-134	5/25/88	-1.05e-01	1.97e-02	2.00e-02	-1.06e-02	1.98e-03	pCi/g
25PNL	Cs-134	5/5/89	-5.99e-02	1.66e-02	2.00e-02	-8.28e-03	2.29e-03	pCi/g
25PNL	Cs-134	7/31/91	-2.62e-01	2.85e-02	2.00e-02	-7.68e-02	8.36e-03	pCi/g
26PNL	Cs-134	5/7/87	4.83e-02	2.09e-02	2.00e-02	3.41e-03	1.48e-03	pCi/g
26PNL	Cs-134	6/7/88	4.64e-03	1.03e-02	2.00e-02	4.72e-04	1.05e-03	pCi/g
26PNL	Cs-134	5/5/89	-8.58e-03	1.25e-02	2.00e-02	-1.19e-03	1.73e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 8 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
27PNL	Cs-134	5/20/87	4.96e-03	2.93e-02	2.00e-02	3.55e-04	2.10e-03	pCi/g
27PNL	Cs-134	6/8/88	-1.99e-02	1.58e-02	2.00e-02	-2.03e-03	1.61e-03	pCi/g
27PNL	Cs-134	5/5/89	6.83e-03	1.72e-02	2.00e-02	9.44e-04	2.38e-03	pCi/g
28PNL	Cs-134	5/25/88	9.14e-03	1.13e-02	2.00e-02	9.19e-04	1.14e-03	pCi/g
28PNL	Cs-134	5/3/89	-1.03e-02	1.52e-02	2.00e-02	-1.42e-03	2.10e-03	pCi/g
30PNL	Cs-134	5/20/87	2.47e-02	2.24e-02	2.00e-02	1.77e-03	1.60e-03	pCi/g
30PNL	Cs-134	3/21/88	2.25e-02	2.15e-02	2.00e-02	2.13e-03	2.04e-03	pCi/g
30PNL	Cs-134	5/9/89	3.66e-03	1.70e-02	2.00e-02	5.08e-04	2.36e-03	pCi/g
31PNL	Cs-134	5/21/87	4.19e-02	2.26e-02	2.00e-02	3.00e-03	1.62e-03	pCi/g
31PNL	Cs-134	5/24/88	-1.24e-02	1.75e-02	2.00e-02	-1.24e-03	1.76e-03	pCi/g
31PNL	Cs-134	5/9/89	-3.34e-02	1.88e-02	2.00e-02	-4.63e-03	2.61e-03	pCi/g
31PNL	Cs-134	10/3/90	-1.63e-01	3.36e-02	2.00e-02	-3.62e-02	7.46e-03	pCi/g
31PNL	Cs-134	8/1/91	-1.18e-01	2.97e-02	2.00e-02	-3.46e-02	8.72e-03	pCi/g
31PNL	Cs-134	7/1/92	-2.60e-03	9.46e-03	2.00e-02	-1.04e-03	3.78e-03	pCi/g
32PNL	Cs-134	5/29/87	7.15e-02	2.15e-02	2.00e-02	5.16e-03	1.55e-03	pCi/g
32PNL	Cs-134	5/27/88	4.10e-02	1.45e-02	2.00e-02	4.13e-03	1.46e-03	pCi/g
32PNL	Cs-134	5/8/89	-4.79e-02	2.41e-02	2.00e-02	-6.64e-03	3.34e-03	pCi/g
32PNL	Cs-134	10/3/90	-1.51e-01	4.85e-02	2.00e-02	-3.35e-02	1.08e-02	pCi/g
33PNL	Cs-134	5/29/87	4.91e-02	2.38e-02	2.00e-02	3.54e-03	1.72e-03	pCi/g
33PNL	Cs-134	5/27/88	-1.19e-02	1.56e-02	2.00e-02	-1.20e-03	1.57e-03	pCi/g
33PNL	Cs-134	5/8/89	6.34e-03	1.50e-02	2.00e-02	8.79e-04	2.08e-03	pCi/g
33PNL	Cs-134	10/3/90	-6.43e-02	2.66e-02	2.00e-02	-1.43e-02	5.91e-03	pCi/g
34PNL	Cs-134	5/8/87	2.72e-02	2.35e-02	2.00e-02	1.92e-03	1.66e-03	pCi/g
34PNL	Cs-134	6/17/88	-2.23e-02	1.76e-02	2.00e-02	-2.29e-03	1.81e-03	pCi/g
34PNL	Cs-134	5/8/89	-1.56e-02	1.71e-02	2.00e-02	-2.16e-03	2.37e-03	pCi/g
34PNL	Cs-134	10/5/90	-6.29e-02	2.58e-02	2.00e-02	-1.40e-02	5.74e-03	pCi/g
34PNL	Cs-134	8/1/91	-4.71e-02	2.14e-02	2.00e-02	-1.38e-02	6.28e-03	pCi/g
35PNL	Cs-134	5/8/87	2.69e-02	1.85e-02	2.00e-02	1.90e-03	1.30e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 9 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
35PNL	Cs-134	6/17/88	8.78e-03	1.85e-02	2.00e-02	9.01e-04	1.90e-03	pCi/g
35PNL	Cs-134	5/8/89	5.19e-03	1.66e-02	2.00e-02	7.19e-04	2.30e-03	pCi/g
35PNL	Cs-134	10/3/90	-1.39e-01	4.29e-02	2.00e-02	-3.09e-02	9.53e-03	pCi/g
36PNL	Cs-134	5/26/87	3.93e-02	1.82e-02	2.00e-02	2.82e-03	1.31e-03	pCi/g
36PNL	Cs-134	6/10/88	5.51e-04	1.46e-02	2.00e-02	5.62e-05	1.49e-03	pCi/g
36PNL	Cs-134	5/9/89	-1.18e-03	1.68e-02	2.00e-02	-1.64e-04	2.33e-03	pCi/g
36PNL	Cs-134	10/5/90	-7.39e-02	4.16e-02	2.00e-02	-1.64e-02	9.26e-03	pCi/g
36PNL	Cs-134	8/1/91	-1.05e-01	2.61e-02	2.00e-02	-3.08e-02	7.66e-03	pCi/g
37PNL	Cs-134	5/26/87	5.45e-02	2.59e-02	2.00e-02	3.92e-03	1.86e-03	pCi/g
37PNL	Cs-134	6/10/88	-1.85e-02	1.56e-02	2.00e-02	-1.89e-03	1.59e-03	pCi/g
37PNL	Cs-134	5/9/89	-2.71e-02	1.72e-02	2.00e-02	-3.76e-03	2.39e-03	pCi/g
37PNL	Cs-134	10/5/90	-6.38e-02	2.43e-02	2.00e-02	-1.42e-02	5.41e-03	pCi/g
38PNL	Cs-134	5/21/87	5.42e-02	2.47e-02	2.00e-02	3.88e-03	1.76e-03	pCi/g
38PNL	Cs-134	6/8/88	-3.52e-02	1.79e-02	2.00e-02	-3.58e-03	1.82e-03	pCi/g
38PNL	Cs-134	5/9/89	5.08e-04	1.37e-02	2.00e-02	7.05e-05	1.90e-03	pCi/g
38PNL	Cs-134	10/3/90	-7.61e-02	2.43e-02	2.00e-02	-1.69e-02	5.40e-03	pCi/g
38PNL	Cs-134	8/1/91	-3.31e-03	1.56e-02	2.00e-02	-9.71e-04	4.58e-03	pCi/g
38PNL	Cs-134	7/1/92	-1.62e-01	1.73e-02	2.00e-02	-6.47e-02	6.91e-03	pCi/g
1DOH	Cs-137	7/31/91	3.36e-01	2.80e-02	2.00e-02	3.09e-01	2.57e-02	pCi/g
3PNL	Cs-137	4/29/87	1.30e+00	5.81e-02	1.50e-02	1.08e+00	4.84e-02	pCi/g
3PNL	Cs-137	6/6/88	1.21e+00	7.12e-02	1.50e-02	1.03e+00	6.09e-02	pCi/g
3PNL	Cs-137	5/2/89	1.12e+00	5.64e-02	1.50e-02	9.77e-01	4.92e-02	pCi/g
3PNL	Cs-137	7/31/91	3.12e-01	4.19e-02	1.50e-02	2.87e-01	3.85e-02	pCi/g
12DOH	Cs-137	8/1/91	3.72e-01	1.80e-02	2.00e-02	3.42e-01	1.65e-02	pCi/g
13DOH	Cs-137	6/3/87	1.31e-01	6.00e-03	1.00e-02	1.09e-01	5.01e-03	pCi/g
13DOH	Cs-137	6/21/88	8.00e-02	1.00e-02	1.00e-02	6.84e-02	8.56e-03	pCi/g
13DOH	Cs-137	6/27/89	7.50e-02	1.20e-02	1.00e-02	6.57e-02	1.05e-02	pCi/g
13DOH	Cs-137	6/26/90	7.50e-02	1.30e-02	1.00e-02	6.72e-02	1.17e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 10 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
14DOH	Cs-137	7/1/92	4.68e-01	2.10e-02	2.00e-02	4.39e-01	1.97e-02	pCi/g
14PNL	Cs-137	4/29/87	1.14e+00	5.74e-02	1.50e-02	9.50e-01	4.78e-02	pCi/g
14PNL	Cs-137	6/6/88	8.82e-01	5.54e-02	1.50e-02	7.54e-01	4.74e-02	pCi/g
14PNL	Cs-137	5/2/89	1.17e+00	5.25e-02	1.50e-02	1.02e+00	4.58e-02	pCi/g
14PNL	Cs-137	7/31/91	2.71e-01	2.80e-02	1.50e-02	2.49e-01	2.57e-02	pCi/g
15DOH	Cs-137	8/1/91	3.30e-01	1.60e-02	2.00e-02	3.03e-01	1.47e-02	pCi/g
15PNL	Cs-137	4/29/87	5.88e-01	3.59e-02	1.50e-02	4.90e-01	2.99e-02	pCi/g
15PNL	Cs-137	5/25/88	5.59e-01	3.97e-02	1.50e-02	4.77e-01	3.39e-02	pCi/g
15PNL	Cs-137	5/3/89	3.91e-01	3.99e-02	1.50e-02	3.41e-01	3.48e-02	pCi/g
15PNL	Cs-137	7/31/91	6.60e-01	4.03e-02	1.50e-02	6.07e-01	3.70e-02	pCi/g
16PNL	Cs-137	5/15/87	8.60e-01	5.03e-02	1.50e-02	7.17e-01	4.20e-02	pCi/g
16PNL	Cs-137	6/20/88	1.30e+00	5.69e-02	1.50e-02	1.11e+00	4.87e-02	pCi/g
16PNL	Cs-137	5/8/89	4.51e-01	3.71e-02	1.50e-02	3.94e-01	3.24e-02	pCi/g
16PNL	Cs-137	8/8/91	1.78e+00	1.05e-01	1.50e-02	1.64e+00	9.66e-02	pCi/g
16PNL	Cs-137	7/28/92	1.97e-01	3.90e-02	1.50e-02	1.85e-01	3.67e-02	pCi/g
17PNL	Cs-137	5/15/87	2.27e-01	3.04e-02	1.50e-02	1.89e-01	2.54e-02	pCi/g
17PNL	Cs-137	6/20/88	5.23e-01	3.40e-02	1.50e-02	4.47e-01	2.91e-02	pCi/g
17PNL	Cs-137	5/10/89	6.82e-01	4.25e-02	1.50e-02	5.96e-01	3.71e-02	pCi/g
17PNL	Cs-137	10/4/90	6.23e-01	4.51e-02	1.50e-02	5.62e-01	4.07e-02	pCi/g
17PNL	Cs-137	8/8/91	5.97e-01	3.77e-02	1.50e-02	5.49e-01	3.47e-02	pCi/g
17PNL	Cs-137	6/23/92	8.52e-01	3.77e-02	1.50e-02	8.00e-01	3.54e-02	pCi/g
18PNL	Cs-137	5/15/87	1.17e-01	2.41e-02	1.50e-02	9.76e-02	2.01e-02	pCi/g
18PNL	Cs-137	4/1/88	9.78e-01	4.17e-02	1.50e-02	8.32e-01	3.55e-02	pCi/g
18PNL	Cs-137	5/10/89	1.21e-01	2.37e-02	1.50e-02	1.06e-01	2.07e-02	pCi/g
18PNL	Cs-137	10/4/90	1.06e-01	2.44e-02	1.50e-02	9.56e-02	2.20e-02	pCi/g
18PNL	Cs-137	8/8/91	4.73e-01	3.63e-02	1.50e-02	4.35e-01	3.34e-02	pCi/g
18PNL	Cs-137	7/27/92	4.21e-01	6.11e-02	1.50e-02	3.96e-01	5.75e-02	pCi/g
19DOH	Cs-137	7/31/91	2.63e-01	1.40e-02	2.00e-02	2.42e-01	1.29e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 11 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
19PNL	Cs-137	5/15/87	6.04e-01	5.48e-02	1.50e-02	5.04e-01	4.57e-02	pCi/g
19PNL	Cs-137	6/20/88	3.90e-01	3.77e-02	1.50e-02	3.34e-01	3.23e-02	pCi/g
19PNL	Cs-137	5/10/89	7.85e-01	5.92e-02	1.50e-02	6.85e-01	5.17e-02	pCi/g
19PNL	Cs-137	10/4/90	1.02e-01	2.06e-02	1.50e-02	9.20e-02	1.86e-02	pCi/g
20PNL	Cs-137	5/15/87	2.27e-01	3.33e-02	1.50e-02	1.89e-01	2.78e-02	pCi/g
20PNL	Cs-137	6/20/88	2.84e-01	3.48e-02	1.50e-02	2.43e-01	2.98e-02	pCi/g
20PNL	Cs-137	5/10/89	1.25e+00	5.94e-02	1.50e-02	1.09e+00	5.19e-02	pCi/g
21PNL	Cs-137	5/15/87	1.02e+00	6.13e-02	1.50e-02	8.51e-01	5.11e-02	pCi/g
21PNL	Cs-137	4/1/88	1.78e+00	5.87e-02	1.50e-02	1.52e+00	5.00e-02	pCi/g
21PNL	Cs-137	5/10/89	1.72e+00	7.56e-02	1.50e-02	1.50e+00	6.60e-02	pCi/g
21PNL	Cs-137	10/8/90	5.83e-01	4.22e-02	1.50e-02	5.26e-01	3.81e-02	pCi/g
21PNL	Cs-137	8/8/91	7.26e-01	5.04e-02	1.50e-02	6.68e-01	4.64e-02	pCi/g
21PNL	Cs-137	7/28/92	9.47e-01	7.17e-02	1.50e-02	8.91e-01	6.74e-02	pCi/g
22DOH	Cs-137	7/1/92	4.34e-01	2.10e-02	2.00e-02	4.08e-01	1.97e-02	pCi/g
22PNL	Cs-137	5/26/87	3.10e-01	3.54e-02	1.50e-02	2.59e-01	2.95e-02	pCi/g
22PNL	Cs-137	6/10/88	3.47e-01	3.16e-02	1.50e-02	2.97e-01	2.70e-02	pCi/g
22PNL	Cs-137	5/9/89	4.53e-01	4.24e-02	1.50e-02	3.96e-01	3.70e-02	pCi/g
22PNL	Cs-137	10/8/90	6.37e-01	4.21e-02	1.50e-02	5.75e-01	3.80e-02	pCi/g
23PNL	Cs-137	5/26/87	1.59e-01	3.16e-02	1.50e-02	1.33e-01	2.64e-02	pCi/g
23PNL	Cs-137	6/10/88	2.22e-01	3.34e-02	1.50e-02	1.90e-01	2.86e-02	pCi/g
23PNL	Cs-137	5/5/89	2.50e-01	3.04e-02	1.50e-02	2.18e-01	2.65e-02	pCi/g
23PNL	Cs-137	10/3/90	2.24e-01	2.90e-02	1.50e-02	2.02e-01	2.62e-02	pCi/g
24DOH	Cs-137	8/1/91	9.00e-03	1.51e-02	2.00e-02	8.27e-03	1.39e-02	pCi/g
24PNL	Cs-137	6/10/88	1.91e-01	2.71e-02	1.50e-02	1.63e-01	2.32e-02	pCi/g
24PNL	Cs-137	5/5/89	6.60e-01	4.82e-02	1.50e-02	5.76e-01	4.21e-02	pCi/g
25PNL	Cs-137	5/7/87	8.06e-02	2.03e-02	1.50e-02	6.72e-02	1.69e-02	pCi/g
25PNL	Cs-137	5/25/88	7.84e-02	2.25e-02	1.50e-02	6.70e-02	1.92e-02	pCi/g
25PNL	Cs-137	5/5/89	5.39e-01	3.92e-02	1.50e-02	4.71e-01	3.42e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 12 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
25PNL	Cs-137	7/31/91	3.62e-01	3.29e-02	1.50e-02	3.33e-01	3.02e-02	pCi/g
26PNL	Cs-137	5/7/87	3.19e-01	3.52e-02	1.50e-02	2.66e-01	2.93e-02	pCi/g
26PNL	Cs-137	6/7/88	8.11e-02	1.70e-02	1.50e-02	6.93e-02	1.45e-02	pCi/g
26PNL	Cs-137	5/5/89	4.62e-01	3.41e-02	1.50e-02	4.03e-01	2.98e-02	pCi/g
27PNL	Cs-137	5/20/87	1.08e+00	6.13e-02	1.50e-02	9.01e-01	5.11e-02	pCi/g
27PNL	Cs-137	6/8/88	9.88e-01	5.49e-02	1.50e-02	8.45e-01	4.69e-02	pCi/g
27PNL	Cs-137	5/5/89	9.57e-01	5.87e-02	1.50e-02	8.35e-01	5.12e-02	pCi/g
28PNL	Cs-137	5/25/88	3.32e-01	2.71e-02	1.50e-02	2.84e-01	2.31e-02	pCi/g
28PNL	Cs-137	5/3/89	8.61e-01	5.14e-02	1.50e-02	7.51e-01	4.49e-02	pCi/g
30PNL	Cs-137	5/20/87	6.54e-01	4.21e-02	1.50e-02	5.46e-01	3.51e-02	pCi/g
30PNL	Cs-137	3/21/88	9.10e-01	6.18e-02	1.50e-02	7.74e-01	5.26e-02	pCi/g
30PNL	Cs-137	5/9/89	7.63e-01	4.79e-02	1.50e-02	6.66e-01	4.18e-02	pCi/g
31PNL	Cs-137	5/21/87	2.87e-01	3.64e-02	1.50e-02	2.39e-01	3.04e-02	pCi/g
31PNL	Cs-137	5/24/88	1.04e+00	5.78e-02	1.50e-02	8.84e-01	4.94e-02	pCi/g
31PNL	Cs-137	5/9/89	4.81e-01	3.98e-02	1.50e-02	4.20e-01	3.48e-02	pCi/g
31PNL	Cs-137	10/3/90	1.22e+00	6.41e-02	1.50e-02	1.10e+00	5.78e-02	pCi/g
31PNL	Cs-137	8/1/91	6.68e-02	2.58e-02	1.50e-02	6.14e-02	2.37e-02	pCi/g
31PNL	Cs-137	7/1/92	4.20e-01	3.15e-02	1.50e-02	3.94e-01	2.96e-02	pCi/g
32PNL	Cs-137	5/29/87	6.95e-02	2.05e-02	1.50e-02	5.80e-02	1.71e-02	pCi/g
32PNL	Cs-137	5/27/88	2.32e-01	3.32e-02	1.50e-02	1.98e-01	2.84e-02	pCi/g
32PNL	Cs-137	5/8/89	7.20e-02	2.75e-02	1.50e-02	6.29e-02	2.40e-02	pCi/g
32PNL	Cs-137	10/3/90	3.33e-01	6.19e-02	1.50e-02	3.00e-01	5.58e-02	pCi/g
33PNL	Cs-137	5/29/87	2.96e-01	3.54e-02	1.50e-02	2.47e-01	2.96e-02	pCi/g
33PNL	Cs-137	5/27/88	4.79e-01	4.05e-02	1.50e-02	4.09e-01	3.46e-02	pCi/g
33PNL	Cs-137	5/8/89	5.40e-01	4.25e-02	1.50e-02	4.71e-01	3.71e-02	pCi/g
33PNL	Cs-137	10/3/90	2.76e-01	3.98e-02	1.50e-02	2.49e-01	3.59e-02	pCi/g
34DOH	Cs-137	5/20/87	1.15e-01	1.40e-02	1.00e-02	9.59e-02	1.17e-02	pCi/g
34DOH	Cs-137	5/17/88	3.30e-01	1.00e-02	1.00e-02	2.82e-01	8.54e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 13 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
34DOH	Cs-137	5/2/89	1.05e+00	3.00e-02	1.00e-02	9.16e-01	2.62e-02	pCi/g
34DOH	Cs-137	5/8/90	3.70e-01	2.00e-02	1.00e-02	3.31e-01	1.79e-02	pCi/g
34DOH	Cs-137	5/16/91	6.37e-01	2.40e-02	2.00e-02	5.83e-01	2.20e-02	pCi/g
34DOH	Cs-137	5/14/92	2.49e-01	2.40e-02	2.00e-02	2.33e-01	2.25e-02	pCi/g
34PNL	Cs-137	5/8/87	1.55e-01	2.79e-02	1.50e-02	1.29e-01	2.33e-02	pCi/g
34PNL	Cs-137	6/17/88	3.82e-01	4.24e-02	1.50e-02	3.27e-01	3.63e-02	pCi/g
34PNL	Cs-137	5/8/89	1.83e-01	3.27e-02	1.50e-02	1.60e-01	2.86e-02	pCi/g
34PNL	Cs-137	10/5/90	2.43e-01	3.46e-02	1.50e-02	2.19e-01	3.12e-02	pCi/g
34PNL	Cs-137	8/1/91	-1.70e-03	2.01e-02	1.50e-02	-1.56e-03	1.85e-02	pCi/g
35DOH	Cs-137	5/20/87	3.46e-02	1.15e-02	1.00e-02	2.89e-02	9.59e-03	pCi/g
35DOH	Cs-137	5/17/88	3.10e-02	7.00e-03	1.00e-02	2.65e-02	5.98e-03	pCi/g
35DOH	Cs-137	5/2/89	2.70e-02	1.00e-02	1.00e-02	2.36e-02	8.73e-03	pCi/g
35DOH	Cs-137	5/8/90	3.60e-02	9.00e-03	1.00e-02	3.22e-02	8.04e-03	pCi/g
35DOH	Cs-137	5/16/91	3.55e-02	1.21e-02	2.00e-02	3.25e-02	1.11e-02	pCi/g
35DOH	Cs-137	5/14/92	5.71e-03	9.86e-03	2.00e-02	5.35e-03	9.23e-03	pCi/g
35PNL	Cs-137	5/8/87	3.76e-01	3.55e-02	1.50e-02	3.13e-01	2.96e-02	pCi/g
35PNL	Cs-137	6/17/88	9.69e-01	6.00e-02	1.50e-02	8.29e-01	5.13e-02	pCi/g
35PNL	Cs-137	5/8/89	9.17e-01	5.25e-02	1.50e-02	8.01e-01	4.58e-02	pCi/g
35PNL	Cs-137	10/3/90	2.88e-01	4.97e-02	1.50e-02	2.60e-01	4.48e-02	pCi/g
36PNL	Cs-137	5/26/87	3.50e-01	3.50e-02	1.50e-02	2.92e-01	2.92e-02	pCi/g
36PNL	Cs-137	6/10/88	4.56e-01	4.07e-02	1.50e-02	3.90e-01	3.48e-02	pCi/g
36PNL	Cs-137	5/9/89	6.68e-01	5.24e-02	1.50e-02	5.83e-01	4.58e-02	pCi/g
36PNL	Cs-137	10/5/90	1.19e+00	9.05e-02	1.50e-02	1.07e+00	8.16e-02	pCi/g
36PNL	Cs-137	8/1/91	3.34e-01	3.88e-02	1.50e-02	3.07e-01	3.57e-02	pCi/g
37PNL	Cs-137	5/26/87	7.63e-01	6.43e-02	1.50e-02	6.37e-01	5.37e-02	pCi/g
37PNL	Cs-137	6/10/88	2.19e-01	3.14e-02	1.50e-02	1.87e-01	2.68e-02	pCi/g
37PNL	Cs-137	5/9/89	5.39e-01	4.13e-02	1.50e-02	4.71e-01	3.61e-02	pCi/g
37PNL	Cs-137	10/5/90	3.44e-01	4.13e-02	1.50e-02	3.10e-01	3.73e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 14 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
38PNL	Cs-137	5/21/87	1.61e-01	3.05e-02	1.50e-02	1.34e-01	2.55e-02	pCi/g
38PNL	Cs-137	6/8/88	1.05e-01	2.22e-02	1.50e-02	8.98e-02	1.90e-02	pCi/g
38PNL	Cs-137	5/9/89	5.55e-01	4.23e-02	1.50e-02	4.85e-01	3.69e-02	pCi/g
38PNL	Cs-137	10/3/90	5.99e-01	4.59e-02	1.50e-02	5.40e-01	4.14e-02	pCi/g
38PNL	Cs-137	8/1/91	3.34e-01	3.53e-02	1.50e-02	3.07e-01	3.25e-02	pCi/g
38PNL	Cs-137	7/1/92	4.45e-01	2.71e-02	1.50e-02	4.18e-01	2.54e-02	pCi/g
41DOH	Cs-137	6/3/87	7.00e-02	1.00e-02	1.00e-02	5.85e-02	8.35e-03	pCi/g
41DOH	Cs-137	6/21/88	7.00e-02	1.00e-02	1.00e-02	5.99e-02	8.56e-03	pCi/g
41DOH	Cs-137	6/27/89	9.00e-02	1.40e-02	1.00e-02	7.88e-02	1.23e-02	pCi/g
41DOH	Cs-137	6/26/90	7.20e-02	1.70e-02	1.00e-02	6.45e-02	1.52e-02	pCi/g
41DOH	Cs-137	8/1/91	8.20e-02	1.96e-02	2.00e-02	7.54e-02	1.80e-02	pCi/g
45DOH	Cs-137	6/3/87	8.70e-02	9.00e-03	1.00e-02	7.26e-02	7.52e-03	pCi/g
45DOH	Cs-137	6/21/88	1.60e-01	1.00e-02	1.00e-02	1.37e-01	8.56e-03	pCi/g
45DOH	Cs-137	6/27/89	8.50e-02	1.20e-02	1.00e-02	7.44e-02	1.05e-02	pCi/g
45DOH	Cs-137	6/26/90	1.40e-01	1.00e-02	1.00e-02	1.25e-01	8.96e-03	pCi/g
45DOH	Cs-137	7/31/91	1.19e+00	2.00e-02	2.00e-02	1.09e+00	1.84e-02	pCi/g
46DOH	Cs-137	6/3/87	3.60e-01	1.00e-02	1.00e-02	3.01e-01	8.35e-03	pCi/g
46DOH	Cs-137	6/21/88	7.20e-01	2.00e-02	1.00e-02	6.16e-01	1.71e-02	pCi/g
46DOH	Cs-137	6/27/89	2.30e-01	2.00e-02	1.00e-02	2.01e-01	1.75e-02	pCi/g
46DOH	Cs-137	6/26/90	1.30e-01	1.00e-02	1.00e-02	1.17e-01	8.96e-03	pCi/g
46DOH	Cs-137	7/31/91	3.77e-01	1.70e-02	2.00e-02	3.47e-01	1.56e-02	pCi/g
49DOH	Cs-137	5/20/87	1.69e-01	1.50e-02	1.00e-02	1.41e-01	1.25e-02	pCi/g
49DOH	Cs-137	5/17/88	3.20e-01	1.00e-02	1.00e-02	2.73e-01	8.54e-03	pCi/g
49DOH	Cs-137	5/2/89	7.00e-01	2.00e-02	1.00e-02	6.11e-01	1.75e-02	pCi/g
49DOH	Cs-137	5/8/90	3.40e-01	2.00e-02	1.00e-02	3.04e-01	1.79e-02	pCi/g
49DOH	Cs-137	5/16/91	6.17e-01	2.50e-02	2.00e-02	5.64e-01	2.29e-02	pCi/g
49DOH	Cs-137	5/14/92	6.66e-01	2.60e-02	2.00e-02	6.23e-01	2.43e-02	pCi/g
3PNL	Eu-154	4/29/87	-3.75e-03	5.46e-02	5.00e-02	-1.97e-03	2.87e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 15 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
3PNL	Eu-154	6/6/88	-6.37e-02	6.78e-02	5.00e-02	-3.66e-02	3.90e-02	pCi/g
3PNL	Eu-154	5/2/89	1.21e-02	6.50e-02	5.00e-02	7.48e-03	4.02e-02	pCi/g
3PNL	Eu-154	7/31/91	1.48e-02	7.39e-02	5.00e-02	8.93e-03	4.46e-02	pCi/g
14PNL	Eu-154	4/29/87	-2.17e-02	6.00e-02	5.00e-02	-1.14e-02	3.15e-02	pCi/g
14PNL	Eu-154	6/6/88	2.48e-02	7.81e-02	5.00e-02	1.42e-02	4.49e-02	pCi/g
14PNL	Eu-154	5/2/89	-3.81e-02	5.80e-02	5.00e-02	-2.36e-02	3.59e-02	pCi/g
14PNL	Eu-154	7/31/91	-1.62e-02	5.38e-02	5.00e-02	-1.20e-02	4.00e-02	pCi/g
15PNL	Eu-154	4/29/87	8.51e-03	4.29e-02	5.00e-02	4.47e-03	2.25e-02	pCi/g
15PNL	Eu-154	5/25/88	1.38e-02	5.85e-02	5.00e-02	7.91e-03	3.35e-02	pCi/g
15PNL	Eu-154	5/3/89	3.23e-02	5.94e-02	5.00e-02	2.00e-02	3.68e-02	pCi/g
15PNL	Eu-154	7/31/91	1.58e-02	4.80e-02	5.00e-02	1.17e-02	3.57e-02	pCi/g
16PNL	Eu-154	5/15/87	5.22e-03	5.99e-02	5.00e-02	2.75e-03	3.16e-02	pCi/g
16PNL	Eu-154	6/20/88	1.89e-02	6.46e-02	5.00e-02	1.09e-02	3.72e-02	pCi/g
16PNL	Eu-154	5/8/89	-6.75e-02	5.63e-02	5.00e-02	-4.18e-02	3.49e-02	pCi/g
16PNL	Eu-154	8/8/91	9.64e-02	1.52e-01	5.00e-02	7.17e-02	1.13e-01	pCi/g
16PNL	Eu-154	7/28/92	-9.07e-02	8.89e-02	5.00e-02	-7.31e-02	7.16e-02	pCi/g
17PNL	Eu-154	5/15/87	-1.19e-02	5.79e-02	5.00e-02	-6.27e-03	3.05e-02	pCi/g
17PNL	Eu-154	6/20/88	-2.95e-02	5.11e-02	5.00e-02	-1.70e-02	2.95e-02	pCi/g
17PNL	Eu-154	5/10/89	-1.17e-03	6.06e-02	5.00e-02	-7.25e-04	3.76e-02	pCi/g
17PNL	Eu-154	10/4/90	4.64e-02	6.28e-02	5.00e-02	3.22e-02	4.36e-02	pCi/g
17PNL	Eu-154	8/8/91	-5.19e-02	6.27e-02	5.00e-02	-3.86e-02	4.67e-02	pCi/g
17PNL	Eu-154	6/23/92	3.98e-02	5.34e-02	5.00e-02	3.18e-02	4.27e-02	pCi/g
18PNL	Eu-154	5/15/87	1.21e-03	5.79e-02	5.00e-02	6.38e-04	3.05e-02	pCi/g
18PNL	Eu-154	4/1/88	1.11e-02	4.77e-02	5.00e-02	6.28e-03	2.70e-02	pCi/g
18PNL	Eu-154	5/10/89	4.68e-02	5.61e-02	5.00e-02	2.90e-02	3.48e-02	pCi/g
18PNL	Eu-154	10/4/90	-3.28e-02	6.08e-02	5.00e-02	-2.28e-02	4.22e-02	pCi/g
18PNL	Eu-154	8/8/91	-3.18e-02	5.80e-02	5.00e-02	-2.37e-02	4.32e-02	pCi/g
18PNL	Eu-154	7/27/92	-2.50e-02	1.02e-01	5.00e-02	-2.01e-02	8.21e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 16 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
19PNL	Eu-154	5/15/87	7.45e-02	7.23e-02	5.00e-02	3.93e-02	3.81e-02	pCi/g
19PNL	Eu-154	6/20/88	1.62e-02	7.18e-02	5.00e-02	9.34e-03	4.14e-02	pCi/g
19PNL	Eu-154	5/10/89	6.92e-02	8.27e-02	5.00e-02	4.29e-02	5.12e-02	pCi/g
19PNL	Eu-154	10/4/90	3.64e-03	6.79e-02	5.00e-02	2.53e-03	4.72e-02	pCi/g
20PNL	Eu-154	5/15/87	-3.53e-02	7.60e-02	5.00e-02	-1.86e-02	4.01e-02	pCi/g
20PNL	Eu-154	6/20/88	1.02e-02	5.96e-02	5.00e-02	5.88e-03	3.44e-02	pCi/g
20PNL	Eu-154	5/10/89	7.80e-02	6.03e-02	5.00e-02	4.83e-02	3.74e-02	pCi/g
21PNL	Eu-154	5/15/87	2.46e-02	6.52e-02	5.00e-02	1.30e-02	3.44e-02	pCi/g
21PNL	Eu-154	4/1/88	-1.56e-02	5.82e-02	5.00e-02	-8.83e-03	3.30e-02	pCi/g
21PNL	Eu-154	5/10/89	-9.79e-03	6.28e-02	5.00e-02	-6.07e-03	3.89e-02	pCi/g
21PNL	Eu-154	10/8/90	1.29e-02	5.99e-02	5.00e-02	8.97e-03	4.16e-02	pCi/g
21PNL	Eu-154	8/8/91	5.11e-02	7.23e-02	5.00e-02	3.80e-02	5.38e-02	pCi/g
21PNL	Eu-154	7/28/92	9.78e-02	1.06e-01	5.00e-02	7.88e-02	8.54e-02	pCi/g
22PNL	Eu-154	5/26/87	-6.85e-02	6.64e-02	5.00e-02	-3.62e-02	3.51e-02	pCi/g
22PNL	Eu-154	6/10/88	2.23e-03	4.70e-02	5.00e-02	1.28e-03	2.70e-02	pCi/g
22PNL	Eu-154	5/9/89	-4.16e-02	7.18e-02	5.00e-02	-2.58e-02	4.45e-02	pCi/g
22PNL	Eu-154	10/8/90	3.96e-02	5.69e-02	5.00e-02	2.75e-02	3.96e-02	pCi/g
23PNL	Eu-154	5/26/87	4.77e-02	5.12e-02	5.00e-02	2.52e-02	2.71e-02	pCi/g
23PNL	Eu-154	6/10/88	-1.04e-03	6.64e-02	5.00e-02	-5.98e-04	3.82e-02	pCi/g
23PNL	Eu-154	5/5/89	1.55e-02	6.55e-02	5.00e-02	9.59e-03	4.05e-02	pCi/g
23PNL	Eu-154	10/3/90	2.61e-03	6.55e-02	5.00e-02	1.81e-03	4.55e-02	pCi/g
24PNL	Eu-154	6/10/88	1.22e-02	6.59e-02	5.00e-02	7.02e-03	3.79e-02	pCi/g
24PNL	Eu-154	5/5/89	-1.95e-02	7.66e-02	5.00e-02	-1.21e-02	4.74e-02	pCi/g
25PNL	Eu-154	5/7/87	-2.69e-02	5.98e-02	5.00e-02	-1.42e-02	3.15e-02	pCi/g
25PNL	Eu-154	5/25/88	5.57e-02	5.56e-02	5.00e-02	3.19e-02	3.19e-02	pCi/g
25PNL	Eu-154	5/5/89	-7.88e-03	6.01e-02	5.00e-02	-4.88e-03	3.72e-02	pCi/g
25PNL	Eu-154	7/31/91	-6.82e-02	6.20e-02	5.00e-02	-5.07e-02	4.61e-02	pCi/g
26PNL	Eu-154	5/7/87	-3.61e-02	6.10e-02	5.00e-02	-1.90e-02	3.21e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 17 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
26PNL	Eu-154	6/7/88	9.10e-03	4.41e-02	5.00e-02	5.23e-03	2.53e-02	pCi/g
26PNL	Eu-154	5/5/89	1.86e-02	4.47e-02	5.00e-02	1.15e-02	2.77e-02	pCi/g
27PNL	Eu-154	5/20/87	0.00e+00	6.76e-02	5.00e-02	0.00e+00	3.57e-02	pCi/g
27PNL	Eu-154	6/8/88	2.30e-03	5.76e-02	5.00e-02	1.32e-03	3.31e-02	pCi/g
27PNL	Eu-154	5/5/89	0.00e+00	6.16e-02	5.00e-02	0.00e+00	3.81e-02	pCi/g
28PNL	Eu-154	5/25/88	1.94e-02	4.22e-02	5.00e-02	1.11e-02	2.42e-02	pCi/g
28PNL	Eu-154	5/3/89	2.74e-02	6.55e-02	5.00e-02	1.70e-02	4.05e-02	pCi/g
30PNL	Eu-154	5/20/87	-4.57e-02	5.79e-02	5.00e-02	-2.41e-02	3.06e-02	pCi/g
30PNL	Eu-154	3/21/88	-5.73e-03	6.65e-02	5.00e-02	-3.24e-03	3.76e-02	pCi/g
30PNL	Eu-154	5/9/89	-5.20e-02	5.52e-02	5.00e-02	-3.22e-02	3.42e-02	pCi/g
31PNL	Eu-154	5/21/87	-1.06e-02	7.17e-02	5.00e-02	-5.59e-03	3.78e-02	pCi/g
31PNL	Eu-154	5/24/88	-2.01e-02	5.60e-02	5.00e-02	-1.15e-02	3.21e-02	pCi/g
31PNL	Eu-154	5/9/89	-3.65e-02	6.61e-02	5.00e-02	-2.26e-02	4.10e-02	pCi/g
31PNL	Eu-154	10/3/90	2.84e-02	7.73e-02	5.00e-02	1.97e-02	5.37e-02	pCi/g
31PNL	Eu-154	8/1/91	-4.17e-02	8.07e-02	5.00e-02	-3.10e-02	6.00e-02	pCi/g
31PNL	Eu-154	7/1/92	-1.42e-02	4.16e-02	5.00e-02	-1.14e-02	3.33e-02	pCi/g
32PNL	Eu-154	5/29/87	-4.22e-02	6.48e-02	5.00e-02	-2.23e-02	3.42e-02	pCi/g
32PNL	Eu-154	5/27/88	-2.22e-02	6.54e-02	5.00e-02	-1.27e-02	3.75e-02	pCi/g
32PNL	Eu-154	5/8/89	2.11e-02	8.58e-02	5.00e-02	1.31e-02	5.31e-02	pCi/g
32PNL	Eu-154	10/3/90	4.03e-02	1.17e-01	5.00e-02	2.80e-02	8.13e-02	pCi/g
33PNL	Eu-154	5/29/87	2.13e-02	6.29e-02	5.00e-02	1.12e-02	3.33e-02	pCi/g
33PNL	Eu-154	5/27/88	2.51e-02	4.98e-02	5.00e-02	1.44e-02	2.86e-02	pCi/g
33PNL	Eu-154	5/8/89	-9.17e-04	6.47e-02	5.00e-02	-5.68e-04	4.01e-02	pCi/g
33PNL	Eu-154	10/3/90	3.39e-03	7.42e-02	5.00e-02	2.35e-03	5.15e-02	pCi/g
34PNL	Eu-154	5/8/87	-2.52e-02	6.80e-02	5.00e-02	-1.32e-02	3.58e-02	pCi/g
34PNL	Eu-154	6/17/88	-1.21e-02	6.96e-02	5.00e-02	-6.97e-03	4.01e-02	pCi/g
34PNL	Eu-154	5/8/89	-5.93e-02	6.33e-02	5.00e-02	-3.67e-02	3.92e-02	pCi/g
34PNL	Eu-154	10/5/90	6.87e-02	6.71e-02	5.00e-02	4.77e-02	4.66e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 18 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
34PNL	Eu-154	8/1/91	-4.02e-02	6.31e-02	5.00e-02	-2.99e-02	4.69e-02	pCi/g
35PNL	Eu-154	5/8/87	-4.24e-02	5.53e-02	5.00e-02	-2.23e-02	2.91e-02	pCi/g
35PNL	Eu-154	6/17/88	3.24e-02	5.33e-02	5.00e-02	1.87e-02	3.07e-02	pCi/g
35PNL	Eu-154	5/8/89	4.30e-02	5.67e-02	5.00e-02	2.66e-02	3.51e-02	pCi/g
35PNL	Eu-154	10/3/90	-2.05e-02	1.34e-01	5.00e-02	-1.42e-02	9.31e-02	pCi/g
36PNL	Eu-154	5/26/87	-1.42e-02	5.27e-02	5.00e-02	-7.49e-03	2.79e-02	pCi/g
36PNL	Eu-154	6/10/88	-2.37e-03	5.67e-02	5.00e-02	-1.36e-03	3.26e-02	pCi/g
36PNL	Eu-154	5/9/89	1.32e-02	6.07e-02	5.00e-02	8.18e-03	3.76e-02	pCi/g
36PNL	Eu-154	10/5/90	2.19e-02	1.36e-01	5.00e-02	1.52e-02	9.45e-02	pCi/g
36PNL	Eu-154	8/1/91	5.03e-02	7.24e-02	5.00e-02	3.74e-02	5.38e-02	pCi/g
37PNL	Eu-154	5/26/87	7.00e-03	7.09e-02	5.00e-02	3.70e-03	3.75e-02	pCi/g
37PNL	Eu-154	6/10/88	3.87e-03	5.02e-02	5.00e-02	2.23e-03	2.89e-02	pCi/g
37PNL	Eu-154	5/9/89	3.15e-02	5.83e-02	5.00e-02	1.95e-02	3.61e-02	pCi/g
37PNL	Eu-154	10/5/90	-3.48e-02	8.84e-02	5.00e-02	-2.42e-02	6.14e-02	pCi/g
38PNL	Eu-154	5/21/87	-6.23e-02	7.46e-02	5.00e-02	-3.29e-02	3.94e-02	pCi/g
38PNL	Eu-154	6/8/88	3.58e-02	5.54e-02	5.00e-02	2.06e-02	3.18e-02	pCi/g
38PNL	Eu-154	5/9/89	-2.74e-02	5.48e-02	5.00e-02	-1.70e-02	3.40e-02	pCi/g
38PNL	Eu-154	10/3/90	1.49e-02	6.54e-02	5.00e-02	1.03e-02	4.54e-02	pCi/g
38PNL	Eu-154	8/1/91	5.42e-02	5.96e-02	5.00e-02	4.03e-02	4.43e-02	pCi/g
38PNL	Eu-154	7/1/92	-5.30e-02	4.59e-02	5.00e-02	-4.24e-02	3.67e-02	pCi/g
3PNL	Eu-155	4/29/87	5.28e-02	4.84e-02	5.00e-02	1.67e-02	1.53e-02	pCi/g
3PNL	Eu-155	6/6/88	1.11e-01	7.44e-02	5.00e-02	4.13e-02	2.77e-02	pCi/g
3PNL	Eu-155	5/2/89	4.92e-02	6.38e-02	5.00e-02	2.09e-02	2.71e-02	pCi/g
3PNL	Eu-155	7/31/91	9.36e-02	1.00e-01	5.00e-02	5.50e-02	5.88e-02	pCi/g
14PNL	Eu-155	4/29/87	4.13e-02	6.37e-02	5.00e-02	1.31e-02	2.02e-02	pCi/g
14PNL	Eu-155	6/6/88	1.44e-01	7.40e-02	5.00e-02	5.35e-02	2.75e-02	pCi/g
14PNL	Eu-155	5/2/89	3.80e-02	5.06e-02	5.00e-02	1.61e-02	2.15e-02	pCi/g
14PNL	Eu-155	7/31/91	1.21e-02	4.20e-02	5.00e-02	7.12e-03	2.47e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 19 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
15PNL	Eu-155	4/29/87	2.07e-02	3.58e-02	5.00e-02	6.55e-03	1.13e-02	pCi/g
15PNL	Eu-155	5/25/88	9.67e-02	6.88e-02	5.00e-02	3.58e-02	2.55e-02	pCi/g
15PNL	Eu-155	5/3/89	4.86e-02	4.68e-02	5.00e-02	2.06e-02	1.99e-02	pCi/g
15PNL	Eu-155	7/31/91	3.34e-02	4.23e-02	5.00e-02	1.96e-02	2.49e-02	pCi/g
16PNL	Eu-155	5/15/87	7.50e-02	5.36e-02	5.00e-02	2.39e-02	1.71e-02	pCi/g
16PNL	Eu-155	6/20/88	8.35e-02	6.85e-02	5.00e-02	3.12e-02	2.56e-02	pCi/g
16PNL	Eu-155	5/8/89	4.60e-02	4.13e-02	5.00e-02	1.96e-02	1.76e-02	pCi/g
16PNL	Eu-155	8/8/91	1.04e-01	1.89e-01	5.00e-02	6.14e-02	1.12e-01	pCi/g
16PNL	Eu-155	7/28/92	6.59e-02	7.95e-02	5.00e-02	4.48e-02	5.40e-02	pCi/g
17PNL	Eu-155	5/15/87	1.44e-02	5.56e-02	5.00e-02	4.59e-03	1.77e-02	pCi/g
17PNL	Eu-155	6/20/88	1.68e-02	4.98e-02	5.00e-02	6.28e-03	1.86e-02	pCi/g
17PNL	Eu-155	5/10/89	4.30e-02	6.15e-02	5.00e-02	1.83e-02	2.62e-02	pCi/g
17PNL	Eu-155	10/4/90	8.46e-02	6.09e-02	5.00e-02	4.41e-02	3.18e-02	pCi/g
17PNL	Eu-155	8/8/91	8.79e-02	5.90e-02	5.00e-02	5.19e-02	3.48e-02	pCi/g
17PNL	Eu-155	6/23/92	9.34e-02	5.05e-02	5.00e-02	6.26e-02	3.38e-02	pCi/g
18PNL	Eu-155	5/15/87	1.01e-01	5.48e-02	5.00e-02	3.22e-02	1.75e-02	pCi/g
18PNL	Eu-155	4/1/88	7.63e-02	5.56e-02	5.00e-02	2.76e-02	2.01e-02	pCi/g
18PNL	Eu-155	5/10/89	6.15e-02	6.24e-02	5.00e-02	2.62e-02	2.66e-02	pCi/g
18PNL	Eu-155	10/4/90	4.92e-02	4.79e-02	5.00e-02	2.57e-02	2.50e-02	pCi/g
18PNL	Eu-155	8/8/91	2.24e-02	6.27e-02	5.00e-02	1.32e-02	3.70e-02	pCi/g
18PNL	Eu-155	7/27/92	1.45e-01	7.14e-02	5.00e-02	9.85e-02	4.85e-02	pCi/g
19PNL	Eu-155	5/15/87	6.72e-02	7.98e-02	5.00e-02	2.14e-02	2.54e-02	pCi/g
19PNL	Eu-155	6/20/88	4.52e-02	6.73e-02	5.00e-02	1.69e-02	2.52e-02	pCi/g
19PNL	Eu-155	5/10/89	1.30e-01	9.79e-02	5.00e-02	5.53e-02	4.17e-02	pCi/g
19PNL	Eu-155	10/4/90	6.78e-02	5.00e-02	5.00e-02	3.54e-02	2.61e-02	pCi/g
20PNL	Eu-155	5/15/87	1.63e-02	7.88e-02	5.00e-02	5.19e-03	2.51e-02	pCi/g
20PNL	Eu-155	6/20/88	7.93e-02	5.86e-02	5.00e-02	2.96e-02	2.19e-02	pCi/g
20PNL	Eu-155	5/10/89	5.63e-02	6.00e-02	5.00e-02	2.40e-02	2.55e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 20 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
21PNL	Eu-155	5/15/87	8.17e-02	7.45e-02	5.00e-02	2.60e-02	2.37e-02	pCi/g
21PNL	Eu-155	4/1/88	5.92e-02	5.65e-02	5.00e-02	2.14e-02	2.05e-02	pCi/g
21PNL	Eu-155	5/10/89	8.37e-02	6.42e-02	5.00e-02	3.56e-02	2.73e-02	pCi/g
21PNL	Eu-155	10/8/90	4.76e-02	5.03e-02	5.00e-02	2.49e-02	2.63e-02	pCi/g
21PNL	Eu-155	8/8/91	9.91e-02	5.81e-02	5.00e-02	5.85e-02	3.43e-02	pCi/g
21PNL	Eu-155	7/28/92	4.52e-02	1.01e-01	5.00e-02	3.07e-02	6.86e-02	pCi/g
22PNL	Eu-155	5/26/87	5.63e-02	5.91e-02	5.00e-02	1.80e-02	1.89e-02	pCi/g
22PNL	Eu-155	6/10/88	3.45e-02	5.04e-02	5.00e-02	1.28e-02	1.88e-02	pCi/g
22PNL	Eu-155	5/9/89	4.11e-02	7.89e-02	5.00e-02	1.75e-02	3.36e-02	pCi/g
22PNL	Eu-155	10/8/90	1.00e-02	5.77e-02	5.00e-02	5.23e-03	3.02e-02	pCi/g
23PNL	Eu-155	5/26/87	5.48e-02	5.06e-02	5.00e-02	1.75e-02	1.62e-02	pCi/g
23PNL	Eu-155	6/10/88	-3.14e-03	7.00e-02	5.00e-02	-1.17e-03	2.61e-02	pCi/g
23PNL	Eu-155	5/5/89	5.62e-02	6.60e-02	5.00e-02	2.39e-02	2.80e-02	pCi/g
23PNL	Eu-155	10/3/90	3.29e-02	5.12e-02	5.00e-02	1.72e-02	2.67e-02	pCi/g
24PNL	Eu-155	6/10/88	5.20e-02	6.17e-02	5.00e-02	1.94e-02	2.30e-02	pCi/g
24PNL	Eu-155	5/5/89	-1.32e-02	8.16e-02	5.00e-02	-5.61e-03	3.47e-02	pCi/g
25PNL	Eu-155	5/7/87	6.53e-02	7.26e-02	5.00e-02	2.07e-02	2.31e-02	pCi/g
25PNL	Eu-155	5/25/88	5.59e-02	5.67e-02	5.00e-02	2.07e-02	2.10e-02	pCi/g
25PNL	Eu-155	5/5/89	-2.44e-03	5.65e-02	5.00e-02	-1.04e-03	2.40e-02	pCi/g
25PNL	Eu-155	7/31/91	2.06e-02	6.26e-02	5.00e-02	1.21e-02	3.68e-02	pCi/g
26PNL	Eu-155	5/7/87	3.88e-03	5.58e-02	5.00e-02	1.23e-03	1.77e-02	pCi/g
26PNL	Eu-155	6/7/88	1.89e-02	3.76e-02	5.00e-02	7.03e-03	1.40e-02	pCi/g
26PNL	Eu-155	5/5/89	4.61e-02	3.96e-02	5.00e-02	1.96e-02	1.68e-02	pCi/g
27PNL	Eu-155	5/20/87	6.73e-02	6.94e-02	5.00e-02	2.15e-02	2.22e-02	pCi/g
27PNL	Eu-155	6/8/88	5.73e-02	7.67e-02	5.00e-02	2.13e-02	2.85e-02	pCi/g
27PNL	Eu-155	5/5/89	3.66e-02	5.83e-02	5.00e-02	1.55e-02	2.48e-02	pCi/g
28PNL	Eu-155	5/25/88	1.31e-02	4.39e-02	5.00e-02	4.85e-03	1.62e-02	pCi/g
28PNL	Eu-155	5/3/89	1.89e-02	5.00e-02	5.00e-02	8.02e-03	2.12e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 21 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
30PNL	Eu-155	5/20/87	2.75e-02	4.44e-02	5.00e-02	8.78e-03	1.42e-02	pCi/g
30PNL	Eu-155	3/21/88	1.09e-01	7.81e-02	5.00e-02	3.93e-02	2.82e-02	pCi/g
30PNL	Eu-155	5/9/89	5.80e-02	5.57e-02	5.00e-02	2.47e-02	2.37e-02	pCi/g
31PNL	Eu-155	5/21/87	3.90e-02	6.21e-02	5.00e-02	1.25e-02	1.98e-02	pCi/g
31PNL	Eu-155	5/24/88	5.66e-02	5.68e-02	5.00e-02	2.09e-02	2.10e-02	pCi/g
31PNL	Eu-155	5/9/89	3.91e-02	6.76e-02	5.00e-02	1.66e-02	2.88e-02	pCi/g
31PNL	Eu-155	10/3/90	2.29e-02	8.06e-02	5.00e-02	1.19e-02	4.20e-02	pCi/g
31PNL	Eu-155	8/1/91	2.34e-02	1.01e-01	5.00e-02	1.38e-02	5.94e-02	pCi/g
31PNL	Eu-155	7/1/92	3.53e-02	3.66e-02	5.00e-02	2.37e-02	2.46e-02	pCi/g
32PNL	Eu-155	5/29/87	7.50e-02	5.87e-02	5.00e-02	2.40e-02	1.88e-02	pCi/g
32PNL	Eu-155	5/27/88	4.36e-02	5.81e-02	5.00e-02	1.61e-02	2.15e-02	pCi/g
32PNL	Eu-155	5/8/89	6.54e-02	7.16e-02	5.00e-02	2.78e-02	3.04e-02	pCi/g
32PNL	Eu-155	10/3/90	-3.60e-02	1.65e-01	5.00e-02	-1.88e-02	8.60e-02	pCi/g
33PNL	Eu-155	5/29/87	3.04e-02	6.30e-02	5.00e-02	9.74e-03	2.02e-02	pCi/g
33PNL	Eu-155	5/27/88	4.59e-02	5.96e-02	5.00e-02	1.70e-02	2.21e-02	pCi/g
33PNL	Eu-155	5/8/89	6.30e-02	6.91e-02	5.00e-02	2.68e-02	2.94e-02	pCi/g
33PNL	Eu-155	10/3/90	3.68e-02	9.62e-02	5.00e-02	1.92e-02	5.02e-02	pCi/g
34PNL	Eu-155	5/8/87	1.81e-02	6.78e-02	5.00e-02	5.74e-03	2.15e-02	pCi/g
34PNL	Eu-155	6/17/88	2.71e-02	5.16e-02	5.00e-02	1.01e-02	1.93e-02	pCi/g
34PNL	Eu-155	5/8/89	1.74e-02	4.77e-02	5.00e-02	7.40e-03	2.03e-02	pCi/g
34PNL	Eu-155	10/5/90	9.86e-02	5.17e-02	5.00e-02	5.15e-02	2.70e-02	pCi/g
34PNL	Eu-155	8/1/91	8.70e-02	5.17e-02	5.00e-02	5.12e-02	3.04e-02	pCi/g
35PNL	Eu-155	5/8/87	3.05e-02	4.77e-02	5.00e-02	9.69e-03	1.52e-02	pCi/g
35PNL	Eu-155	6/17/88	2.54e-03	6.46e-02	5.00e-02	9.48e-04	2.41e-02	pCi/g
35PNL	Eu-155	5/8/89	1.00e-01	5.33e-02	5.00e-02	4.25e-02	2.27e-02	pCi/g
35PNL	Eu-155	10/3/90	1.63e-01	1.16e-01	5.00e-02	8.50e-02	6.05e-02	pCi/g
36PNL	Eu-155	5/26/87	4.21e-02	5.20e-02	5.00e-02	1.35e-02	1.66e-02	pCi/g
36PNL	Eu-155	6/10/88	3.52e-02	5.26e-02	5.00e-02	1.31e-02	1.96e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 22 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
36PNL	Eu-155	5/9/89	5.01e-02	5.48e-02	5.00e-02	2.13e-02	2.33e-02	pCi/g
36PNL	Eu-155	10/5/90	9.65e-02	1.33e-01	5.00e-02	5.04e-02	6.94e-02	pCi/g
36PNL	Eu-155	8/1/91	1.45e-02	9.24e-02	5.00e-02	8.53e-03	5.44e-02	pCi/g
37PNL	Eu-155	5/26/87	5.68e-02	7.92e-02	5.00e-02	1.82e-02	2.54e-02	pCi/g
37PNL	Eu-155	6/10/88	7.45e-03	4.73e-02	5.00e-02	2.77e-03	1.76e-02	pCi/g
37PNL	Eu-155	5/9/89	3.76e-02	5.51e-02	5.00e-02	1.60e-02	2.34e-02	pCi/g
37PNL	Eu-155	10/5/90	9.54e-02	7.72e-02	5.00e-02	4.98e-02	4.03e-02	pCi/g
38PNL	Eu-155	5/21/87	4.80e-03	7.57e-02	5.00e-02	1.53e-03	2.42e-02	pCi/g
38PNL	Eu-155	6/8/88	5.57e-02	5.70e-02	5.00e-02	2.07e-02	2.12e-02	pCi/g
38PNL	Eu-155	5/9/89	5.30e-02	4.52e-02	5.00e-02	2.25e-02	1.92e-02	pCi/g
38PNL	Eu-155	10/3/90	7.67e-02	5.13e-02	5.00e-02	4.00e-02	2.68e-02	pCi/g
38PNL	Eu-155	8/1/91	5.42e-02	6.31e-02	5.00e-02	3.19e-02	3.71e-02	pCi/g
38PNL	Eu-155	7/1/92	5.32e-02	4.57e-02	5.00e-02	3.58e-02	3.07e-02	pCi/g
1DOH	Gross Beta	7/31/91	2.20e+01	3.00e-03	1.00e+00			pCi/g
12DOH	Gross Beta	8/1/91	1.80e+01	3.00e-03	1.00e+00			pCi/g
13DOH	Gross Beta	6/3/87	1.90e+01	2.00e+00	1.00e+00			pCi/g
13DOH	Gross Beta	6/21/88	1.70e+01	2.00e+00	1.00e+00			pCi/g
13DOH	Gross Beta	6/27/89	2.20e+01	3.00e+00	1.00e+00			pCi/g
13DOH	Gross Beta	6/26/90	1.90e+01	3.00e+00	1.00e+00			pCi/g
14DOH	Gross Beta	7/1/92	1.80e+01	3.00e+00	1.00e+00			pCi/g
15DOH	Gross Beta	8/1/91	1.80e+01	3.00e-03	1.00e+00			pCi/g
19DOH	Gross Beta	7/31/91	1.90e+01	3.00e-03	1.00e+00			pCi/g
22DOH	Gross Beta	7/1/92	2.00e+01	3.00e+00	1.00e+00			pCi/g
24DOH	Gross Beta	8/1/91	2.20e+01	3.00e-03	1.00e+00			pCi/g
34DOH	Gross Beta	5/20/87	2.10e+01	2.60e+00	1.00e+00			pCi/g
34DOH	Gross Beta	5/17/88	2.10e+01	2.00e+00	1.00e+00			pCi/g
34DOH	Gross Beta	5/2/89	2.50e+01	2.00e+00	1.00e+00			pCi/g
34DOH	Gross Beta	5/8/90	2.05e+01	2.20e+00	1.00e+00			pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 23 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
34DOH	Gross Beta	5/16/91	1.85e+01	2.10e+00	1.00e+00			pCi/g
34DOH	Gross Beta	5/14/92	1.98e+01	2.90e+00	1.00e+00			pCi/g
35DOH	Gross Beta	5/20/87	2.27e+01	2.70e+00	1.00e+00			pCi/g
35DOH	Gross Beta	5/17/88	2.20e+01	2.00e+00	1.00e+00			pCi/g
35DOH	Gross Beta	5/2/89	2.40e+01	3.00e+00	1.00e+00			pCi/g
35DOH	Gross Beta	5/8/90	1.73e+01	2.00e+00	1.00e+00			pCi/g
35DOH	Gross Beta	5/16/91	1.86e+01	2.10e+00	1.00e+00			pCi/g
35DOH	Gross Beta	5/14/92	1.53e+01	2.50e+00	1.00e+00			pCi/g
41DOH	Gross Beta	6/3/87	1.94e+01	1.50e+00	1.00e+00			pCi/g
41DOH	Gross Beta	6/21/88	1.60e+01	2.00e+00	1.00e+00			pCi/g
41DOH	Gross Beta	6/27/89	2.00e+01	2.00e+00	1.00e+00			pCi/g
41DOH	Gross Beta	6/26/90	1.80e+01	3.00e+00	1.00e+00			pCi/g
41DOH	Gross Beta	8/1/91	2.00e+01	3.00e-03	1.00e+00			pCi/g
45DOH	Gross Beta	6/3/87	1.90e+01	1.50e+00	1.00e+00			pCi/g
45DOH	Gross Beta	6/21/88	1.36e+01	1.60e+00	1.00e+00			pCi/g
45DOH	Gross Beta	6/27/89	1.60e+01	3.00e+00	1.00e+00			pCi/g
45DOH	Gross Beta	6/26/90	1.80e+01	3.00e+00	1.00e+00			pCi/g
45DOH	Gross Beta	7/31/91	2.20e+01	3.00e-03	1.00e+00			pCi/g
46DOH	Gross Beta	6/3/87	2.30e+01	1.60e+00	1.00e+00			pCi/g
46DOH	Gross Beta	6/21/88	1.80e+01	2.00e+00	1.00e+00			pCi/g
46DOH	Gross Beta	6/27/89	2.20e+01	3.00e+00	1.00e+00			pCi/g
46DOH	Gross Beta	6/26/90	1.80e+01	3.00e+00	1.00e+00			pCi/g
46DOH	Gross Beta	7/31/91	2.20e+01	3.00e-03	1.00e+00			pCi/g
49DOH	Gross Beta	5/20/87	2.19e+01	1.60e+00	1.00e+00			pCi/g
49DOH	Gross Beta	5/17/88	2.10e+01	2.00e+00	1.00e+00			pCi/g
49DOH	Gross Beta	5/2/89	2.30e+01	3.00e+00	1.00e+00			pCi/g
49DOH	Gross Beta	5/8/90	1.97e+01	2.00e+00	1.00e+00			pCi/g
49DOH	Gross Beta	5/16/91	1.99e+01	2.20e+00	1.00e+00			pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 24 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
49DOH	Gross Beta	5/14/92	1.99e+01	2.90e+00	1.00e+00			pCi/g
1DOH	K-40	7/31/91	1.62e+01	6.00e-01	1.00e-01	1.62e+01	6.00e-01	pCi/g
3PNL	K-40	4/29/87	1.36e+01	7.48e-01	3.50e-01	1.36e+01	7.48e-01	pCi/g
3PNL	K-40	6/6/88	1.28e+01	9.16e-01	3.50e-01	1.28e+01	9.16e-01	pCi/g
3PNL	K-40	5/2/89	1.58e+01	8.09e-01	3.50e-01	1.58e+01	8.09e-01	pCi/g
3PNL	K-40	7/31/91	1.45e+01	8.17e-01	3.50e-01	1.45e+01	8.17e-01	pCi/g
12DOH	K-40	8/1/91	1.29e+01	3.00e-01	1.00e-01	1.29e+01	3.00e-01	pCi/g
13DOH	K-40	6/3/87	1.10e+01	3.00e-01	1.00e-01	1.10e+01	3.00e-01	pCi/g
13DOH	K-40	6/21/88	1.46e+01	3.00e-01	1.00e-01	1.46e+01	3.00e-01	pCi/g
13DOH	K-40	6/27/89	1.49e+01	3.00e-01	1.00e-01	1.49e+01	3.00e-01	pCi/g
13DOH	K-40	6/26/90	1.58e+01	3.00e-01	1.00e-01	1.58e+01	3.00e-01	pCi/g
14DOH	K-40	7/1/92	1.30e+01	3.00e-01	1.00e-01	1.30e+01	3.00e-01	pCi/g
14PNL	K-40	4/29/87	1.58e+01	8.20e-01	3.50e-01	1.58e+01	8.20e-01	pCi/g
14PNL	K-40	6/6/88	1.44e+01	8.47e-01	3.50e-01	1.44e+01	8.47e-01	pCi/g
14PNL	K-40	5/2/89	1.37e+01	6.97e-01	3.50e-01	1.37e+01	6.97e-01	pCi/g
14PNL	K-40	7/31/91	1.44e+01	6.81e-01	3.50e-01	1.44e+01	6.81e-01	pCi/g
15DOH	K-40	8/1/91	1.36e+01	3.00e-01	1.00e-01	1.36e+01	3.00e-01	pCi/g
15PNL	K-40	4/29/87	1.46e+01	6.30e-01	3.50e-01	1.46e+01	6.30e-01	pCi/g
15PNL	K-40	5/25/88	1.68e+01	7.76e-01	3.50e-01	1.68e+01	7.76e-01	pCi/g
15PNL	K-40	5/3/89	1.52e+01	7.80e-01	3.50e-01	1.52e+01	7.80e-01	pCi/g
15PNL	K-40	7/31/91	1.50e+01	6.76e-01	3.50e-01	1.50e+01	6.76e-01	pCi/g
16PNL	K-40	5/15/87	1.82e+01	8.71e-01	3.50e-01	1.82e+01	8.71e-01	pCi/g
16PNL	K-40	6/20/88	1.66e+01	8.03e-01	3.50e-01	1.66e+01	8.03e-01	pCi/g
16PNL	K-40	5/8/89	1.87e+01	8.03e-01	3.50e-01	1.87e+01	8.03e-01	pCi/g
16PNL	K-40	8/8/91	3.82e+01	1.77e+00	3.50e-01	3.82e+01	1.77e+00	pCi/g
16PNL	K-40	7/28/92	1.89e+01	1.03e+00	3.50e-01	1.89e+01	1.03e+00	pCi/g
17PNL	K-40	5/15/87	1.50e+01	7.59e-01	3.50e-01	1.50e+01	7.59e-01	pCi/g
17PNL	K-40	6/20/88	1.54e+01	6.69e-01	3.50e-01	1.54e+01	6.69e-01	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 25 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
17PNL	K-40	5/10/89	1.87e+01	8.22e-01	3.50e-01	1.87e+01	8.22e-01	pCi/g
17PNL	K-40	10/4/90	1.76e+01	8.41e-01	3.50e-01	1.76e+01	8.41e-01	pCi/g
17PNL	K-40	8/8/91	1.54e+01	7.24e-01	3.50e-01	1.54e+01	7.24e-01	pCi/g
17PNL	K-40	6/23/92	1.82e+01	6.54e-01	3.50e-01	1.82e+01	6.54e-01	pCi/g
18PNL	K-40	5/15/87	1.77e+01	8.18e-01	3.50e-01	1.77e+01	8.18e-01	pCi/g
18PNL	K-40	4/1/88	1.89e+01	6.87e-01	3.50e-01	1.89e+01	6.87e-01	pCi/g
18PNL	K-40	5/10/89	1.77e+01	8.20e-01	3.50e-01	1.77e+01	8.20e-01	pCi/g
18PNL	K-40	10/4/90	1.68e+01	7.46e-01	3.50e-01	1.68e+01	7.46e-01	pCi/g
18PNL	K-40	8/8/91	1.46e+01	7.31e-01	3.50e-01	1.46e+01	7.31e-01	pCi/g
18PNL	K-40	7/27/92	2.04e+01	1.37e+00	3.50e-01	2.04e+01	1.37e+00	pCi/g
19DOH	K-40	7/31/91	1.61e+01	3.00e-01	1.00e-01	1.61e+01	3.00e-01	pCi/g
19PNL	K-40	5/15/87	1.82e+01	1.08e+00	3.50e-01	1.82e+01	1.08e+00	pCi/g
19PNL	K-40	6/20/88	1.84e+01	9.37e-01	3.50e-01	1.84e+01	9.37e-01	pCi/g
19PNL	K-40	5/10/89	2.06e+01	1.10e+00	3.50e-01	2.06e+01	1.10e+00	pCi/g
19PNL	K-40	10/4/90	2.13e+01	8.83e-01	3.50e-01	2.13e+01	8.83e-01	pCi/g
20PNL	K-40	5/15/87	1.97e+01	9.63e-01	3.50e-01	1.97e+01	9.63e-01	pCi/g
20PNL	K-40	6/20/88	1.77e+01	8.56e-01	3.50e-01	1.77e+01	8.56e-01	pCi/g
20PNL	K-40	5/10/89	1.67e+01	8.13e-01	3.50e-01	1.67e+01	8.13e-01	pCi/g
21PNL	K-40	5/15/87	1.79e+01	9.57e-01	3.50e-01	1.79e+01	9.57e-01	pCi/g
21PNL	K-40	4/1/88	2.06e+01	7.64e-01	3.50e-01	2.06e+01	7.64e-01	pCi/g
21PNL	K-40	5/10/89	1.76e+01	9.39e-01	3.50e-01	1.76e+01	9.39e-01	pCi/g
21PNL	K-40	10/8/90	1.83e+01	8.16e-01	3.50e-01	1.83e+01	8.16e-01	pCi/g
21PNL	K-40	8/8/91	1.88e+01	9.19e-01	3.50e-01	1.88e+01	9.19e-01	pCi/g
21PNL	K-40	7/28/92	1.87e+01	1.19e+00	3.50e-01	1.87e+01	1.19e+00	pCi/g
22DOH	K-40	7/1/92	1.29e+01	3.00e-01	1.00e-01	1.29e+01	3.00e-01	pCi/g
22PNL	K-40	5/26/87	1.38e+01	7.52e-01	3.50e-01	1.38e+01	7.52e-01	pCi/g
22PNL	K-40	6/10/88	1.36e+01	6.89e-01	3.50e-01	1.36e+01	6.89e-01	pCi/g
22PNL	K-40	5/9/89	1.32e+01	8.50e-01	3.50e-01	1.32e+01	8.50e-01	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 26 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
22PNL	K-40	10/8/90	1.40e+01	7.43e-01	3.50e-01	1.40e+01	7.43e-01	pCi/g
23PNL	K-40	5/26/87	1.54e+01	7.11e-01	3.50e-01	1.54e+01	7.11e-01	pCi/g
23PNL	K-40	6/10/88	1.27e+01	7.96e-01	3.50e-01	1.27e+01	7.96e-01	pCi/g
23PNL	K-40	5/5/89	1.43e+01	7.89e-01	3.50e-01	1.43e+01	7.89e-01	pCi/g
23PNL	K-40	10/3/90	1.50e+01	7.80e-01	3.50e-01	1.50e+01	7.80e-01	pCi/g
24DOH	K-40	8/1/91	1.46e+01	6.00e-01	1.00e-01	1.46e+01	6.00e-01	pCi/g
24PNL	K-40	6/10/88	1.75e+01	8.60e-01	3.50e-01	1.75e+01	8.60e-01	pCi/g
24PNL	K-40	5/5/89	2.02e+01	9.82e-01	3.50e-01	2.02e+01	9.82e-01	pCi/g
25PNL	K-40	5/7/87	1.49e+01	8.41e-01	3.50e-01	1.49e+01	8.41e-01	pCi/g
25PNL	K-40	5/25/88	1.55e+01	7.19e-01	3.50e-01	1.55e+01	7.19e-01	pCi/g
25PNL	K-40	5/5/89	1.49e+01	7.41e-01	3.50e-01	1.49e+01	7.41e-01	pCi/g
25PNL	K-40	7/31/91	1.40e+01	7.02e-01	3.50e-01	1.40e+01	7.02e-01	pCi/g
26PNL	K-40	5/7/87	1.37e+01	7.52e-01	3.50e-01	1.37e+01	7.52e-01	pCi/g
26PNL	K-40	6/7/88	1.41e+01	6.27e-01	3.50e-01	1.41e+01	6.27e-01	pCi/g
26PNL	K-40	5/5/89	1.09e+01	5.90e-01	3.50e-01	1.09e+01	5.90e-01	pCi/g
27PNL	K-40	5/20/87	1.50e+01	8.46e-01	3.50e-01	1.50e+01	8.46e-01	pCi/g
27PNL	K-40	6/8/88	1.53e+01	8.11e-01	3.50e-01	1.53e+01	8.11e-01	pCi/g
27PNL	K-40	5/5/89	1.49e+01	8.37e-01	3.50e-01	1.49e+01	8.37e-01	pCi/g
28PNL	K-40	5/25/88	1.62e+01	6.81e-01	3.50e-01	1.62e+01	6.81e-01	pCi/g
28PNL	K-40	5/3/89	1.71e+01	8.55e-01	3.50e-01	1.71e+01	8.55e-01	pCi/g
30PNL	K-40	5/20/87	1.54e+01	7.29e-01	3.50e-01	1.54e+01	7.29e-01	pCi/g
30PNL	K-40	3/21/88	1.71e+01	9.76e-01	3.50e-01	1.71e+01	9.76e-01	pCi/g
30PNL	K-40	5/9/89	1.45e+01	8.00e-01	3.50e-01	1.45e+01	8.00e-01	pCi/g
31PNL	K-40	5/21/87	1.31e+01	7.78e-01	3.50e-01	1.31e+01	7.78e-01	pCi/g
31PNL	K-40	5/24/88	1.28e+01	7.96e-01	3.50e-01	1.28e+01	7.96e-01	pCi/g
31PNL	K-40	5/9/89	1.29e+01	7.91e-01	3.50e-01	1.29e+01	7.91e-01	pCi/g
31PNL	K-40	10/3/90	1.36e+01	8.09e-01	3.50e-01	1.36e+01	8.09e-01	pCi/g
31PNL	K-40	8/1/91	1.36e+01	8.99e-01	3.50e-01	1.36e+01	8.99e-01	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 27 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
31PNL	K-40	7/1/92	1.35e+01	5.95e-01	3.50e-01	1.35e+01	5.95e-01	pCi/g
32PNL	K-40	5/29/87	1.61e+01	7.77e-01	3.50e-01	1.61e+01	7.77e-01	pCi/g
32PNL	K-40	5/27/88	1.48e+01	7.73e-01	3.50e-01	1.48e+01	7.73e-01	pCi/g
32PNL	K-40	5/8/89	1.77e+01	9.41e-01	3.50e-01	1.77e+01	9.41e-01	pCi/g
32PNL	K-40	10/3/90	2.12e+01	1.50e+00	3.50e-01	2.12e+01	1.50e+00	pCi/g
33PNL	K-40	5/29/87	1.56e+01	8.18e-01	3.50e-01	1.56e+01	8.18e-01	pCi/g
33PNL	K-40	5/27/88	1.41e+01	7.55e-01	3.50e-01	1.41e+01	7.55e-01	pCi/g
33PNL	K-40	5/8/89	1.47e+01	7.99e-01	3.50e-01	1.47e+01	7.99e-01	pCi/g
33PNL	K-40	10/3/90	1.23e+01	9.63e-01	3.50e-01	1.23e+01	9.63e-01	pCi/g
34DOH	K-40	5/20/87	1.58e+01	4.00e-01	1.00e-01	1.58e+01	4.00e-01	pCi/g
34DOH	K-40	5/17/88	1.34e+01	2.00e-01	1.00e-01	1.34e+01	2.00e-01	pCi/g
34DOH	K-40	5/2/89	1.46e+01	3.00e-01	1.00e-01	1.46e+01	3.00e-01	pCi/g
34PNL	K-40	5/8/87	1.24e+01	8.55e-01	3.50e-01	1.24e+01	8.55e-01	pCi/g
34PNL	K-40	6/17/88	1.36e+01	8.43e-01	3.50e-01	1.36e+01	8.43e-01	pCi/g
34PNL	K-40	5/8/89	1.23e+01	8.33e-01	3.50e-01	1.23e+01	8.33e-01	pCi/g
34PNL	K-40	10/5/90	1.22e+01	8.78e-01	3.50e-01	1.22e+01	8.78e-01	pCi/g
34PNL	K-40	8/1/91	1.49e+01	7.94e-01	3.50e-01	1.49e+01	7.94e-01	pCi/g
35DOH	K-40	5/20/87	1.78e+01	4.00e-01	1.00e-01	1.78e+01	4.00e-01	pCi/g
35DOH	K-40	5/17/88	1.61e+01	3.00e-01	1.00e-01	1.61e+01	3.00e-01	pCi/g
35DOH	K-40	5/2/89	1.72e+01	3.00e-01	1.00e-01	1.72e+01	3.00e-01	pCi/g
35PNL	K-40	5/8/87	1.23e+01	7.00e-01	3.50e-01	1.23e+01	7.00e-01	pCi/g
35PNL	K-40	6/17/88	1.05e+01	8.02e-01	3.50e-01	1.05e+01	8.02e-01	pCi/g
35PNL	K-40	5/8/89	1.33e+01	7.93e-01	3.50e-01	1.33e+01	7.93e-01	pCi/g
35PNL	K-40	10/3/90	2.56e+01	1.53e+00	3.50e-01	2.56e+01	1.53e+00	pCi/g
36PNL	K-40	5/26/87	1.29e+01	6.90e-01	3.50e-01	1.29e+01	6.90e-01	pCi/g
36PNL	K-40	6/10/88	1.14e+01	7.36e-01	3.50e-01	1.14e+01	7.36e-01	pCi/g
36PNL	K-40	5/9/89	1.46e+01	8.54e-01	3.50e-01	1.46e+01	8.54e-01	pCi/g
36PNL	K-40	10/5/90	2.48e+01	1.53e+00	3.50e-01	2.48e+01	1.53e+00	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 28 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
36PNL	K-40	8/1/91	1.26e+01	8.29e-01	3.50e-01	1.26e+01	8.29e-01	pCi/g
37PNL	K-40	5/26/87	1.48e+01	9.24e-01	3.50e-01	1.48e+01	9.24e-01	pCi/g
37PNL	K-40	6/10/88	1.17e+01	7.40e-01	3.50e-01	1.17e+01	7.40e-01	pCi/g
37PNL	K-40	5/9/89	1.36e+01	8.02e-01	3.50e-01	1.36e+01	8.02e-01	pCi/g
37PNL	K-40	10/5/90	1.34e+01	9.00e-01	3.50e-01	1.34e+01	9.00e-01	pCi/g
38PNL	K-40	5/21/87	1.38e+01	8.33e-01	3.50e-01	1.38e+01	8.33e-01	pCi/g
38PNL	K-40	6/8/88	1.36e+01	6.93e-01	3.50e-01	1.36e+01	6.93e-01	pCi/g
38PNL	K-40	5/9/89	1.09e+01	6.77e-01	3.50e-01	1.09e+01	6.77e-01	pCi/g
38PNL	K-40	10/3/90	1.16e+01	7.59e-01	3.50e-01	1.16e+01	7.59e-01	pCi/g
38PNL	K-40	8/1/91	1.21e+01	7.55e-01	3.50e-01	1.21e+01	7.55e-01	pCi/g
38PNL	K-40	7/1/92	1.29e+01	5.23e-01	3.50e-01	1.29e+01	5.23e-01	pCi/g
41DOH	K-40	6/3/87	1.11e+01	3.00e-01	1.00e-01	1.11e+01	3.00e-01	pCi/g
41DOH	K-40	6/21/88	1.29e+01	3.00e-01	1.00e-01	1.29e+01	3.00e-01	pCi/g
41DOH	K-40	6/27/89	1.18e+01	3.00e-01	1.00e-01	1.18e+01	3.00e-01	pCi/g
41DOH	K-40	6/26/90	1.35e+01	3.00e-01	1.00e-01	1.35e+01	3.00e-01	pCi/g
41DOH	K-40	8/1/91	1.31e+01	6.00e-01	1.00e-01	1.31e+01	6.00e-01	pCi/g
45DOH	K-40	6/3/87	1.27e+01	3.00e-01	1.00e-01	1.27e+01	3.00e-01	pCi/g
45DOH	K-40	6/21/88	1.58e+01	3.00e-01	1.00e-01	1.58e+01	3.00e-01	pCi/g
45DOH	K-40	6/27/89	1.29e+01	3.00e-01	1.00e-01	1.29e+01	3.00e-01	pCi/g
45DOH	K-40	6/26/90	1.57e+01	3.00e-01	1.00e-01	1.57e+01	3.00e-01	pCi/g
45DOH	K-40	7/31/91	1.64e+01	3.00e-01	1.00e-01	1.64e+01	3.00e-01	pCi/g
46DOH	K-40	6/3/87	1.25e+01	3.00e-01	1.00e-01	1.25e+01	3.00e-01	pCi/g
46DOH	K-40	6/21/88	1.46e+01	3.00e-01	1.00e-01	1.46e+01	3.00e-01	pCi/g
46DOH	K-40	6/27/89	1.40e+01	3.00e-01	1.00e-01	1.40e+01	3.00e-01	pCi/g
46DOH	K-40	6/26/90	1.54e+01	3.00e-01	1.00e-01	1.54e+01	3.00e-01	pCi/g
46DOH	K-40	7/31/91	1.58e+01	4.00e-01	1.00e-01	1.58e+01	4.00e-01	pCi/g
49DOH	K-40	5/20/87	1.59e+01	4.00e-01	1.00e-01	1.59e+01	4.00e-01	pCi/g
49DOH	K-40	5/17/88	1.56e+01	2.00e-01	1.00e-01	1.56e+01	2.00e-01	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 29 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
49DOH	K-40	5/2/89	1.51e+01	3.00e-01	1.00e-01	1.51e+01	3.00e-01	pCi/g
1DOH	Pu-238	7/31/91	1.20e-03	2.40e-03	3.00e-02	1.17e-03	2.33e-03	pCi/g
12DOH	Pu-238	8/1/91	0.00e+00	2.60e-03	3.00e-02	0.00e+00	2.53e-03	pCi/g
13DOH	Pu-238	6/3/87	2.00e-04	1.80e-03	3.00e-02	1.88e-04	1.69e-03	pCi/g
13DOH	Pu-238	6/21/88	1.30e-03	2.50e-03	3.00e-02	1.23e-03	2.37e-03	pCi/g
13DOH	Pu-238	6/27/89	2.00e-03	2.20e-03	3.00e-02	1.91e-03	2.10e-03	pCi/g
13DOH	Pu-238	6/26/90	1.40e-02	9.00e-03	3.00e-02	1.35e-02	8.67e-03	pCi/g
14DOH	Pu-238	7/1/92	8.00e-04	2.40e-03	3.00e-02	7.83e-04	2.35e-03	pCi/g
15DOH	Pu-238	8/1/91	9.00e-04	2.80e-03	3.00e-02	8.74e-04	2.72e-03	pCi/g
19DOH	Pu-238	7/31/91	2.60e-03	4.30e-03	3.00e-02	2.53e-03	4.18e-03	pCi/g
22DOH	Pu-238	7/1/92	-5.00e-04	1.30e-03	3.00e-02	-4.89e-04	1.27e-03	pCi/g
24DOH	Pu-238	8/1/91	-1.00e-04	2.20e-03	3.00e-02	-9.72e-05	2.14e-03	pCi/g
30PNL	Pu-238	5/20/87	2.78e-04	2.06e-04	6.00e-04	2.61e-04	1.94e-04	pCi/g
30PNL	Pu-238	3/21/88	6.17e-04	3.27e-04	6.00e-04	5.84e-04	3.09e-04	pCi/g
30PNL	Pu-238	5/9/89	6.77e-04	3.10e-04	6.00e-04	6.46e-04	2.96e-04	pCi/g
31PNL	Pu-238	5/21/87	2.38e-04	2.20e-04	6.00e-04	2.24e-04	2.07e-04	pCi/g
31PNL	Pu-238	5/24/88	7.84e-04	2.90e-04	6.00e-04	7.42e-04	2.74e-04	pCi/g
31PNL	Pu-238	5/9/89	3.03e-04	3.38e-04	6.00e-04	2.89e-04	3.23e-04	pCi/g
31PNL	Pu-238	10/3/90	6.16e-03	1.51e-03	6.00e-04	5.95e-03	1.46e-03	pCi/g
31PNL	Pu-238	8/1/91	9.83e-05	2.54e-04	6.00e-04	9.55e-05	2.47e-04	pCi/g
31PNL	Pu-238	7/1/92	1.69e-04	1.85e-04	6.00e-04	1.65e-04	1.81e-04	pCi/g
32PNL	Pu-238	5/29/87	4.55e-05	1.67e-04	6.00e-04	4.28e-05	1.57e-04	pCi/g
32PNL	Pu-238	5/27/88	1.05e-04	1.37e-04	6.00e-04	9.95e-05	1.30e-04	pCi/g
32PNL	Pu-238	5/8/89	-1.61e-05	2.63e-04	6.00e-04	-1.54e-05	2.51e-04	pCi/g
32PNL	Pu-238	10/3/90	2.44e-03	4.89e-04	6.00e-04	2.36e-03	4.72e-04	pCi/g
33PNL	Pu-238	5/29/87	1.01e-04	1.45e-04	6.00e-04	9.46e-05	1.37e-04	pCi/g
33PNL	Pu-238	5/27/88	2.83e-04	1.98e-04	6.00e-04	2.68e-04	1.88e-04	pCi/g
33PNL	Pu-238	5/8/89	5.48e-04	4.62e-04	6.00e-04	5.23e-04	4.41e-04	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 30 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
33PNL	Pu-238	10/3/90	2.62e-04	1.68e-04	6.00e-04	2.53e-04	1.62e-04	pCi/g
34PNL	Pu-238	5/8/87	4.00e-05	1.49e-04	6.00e-04	3.76e-05	1.40e-04	pCi/g
34PNL	Pu-238	6/17/88	3.93e-04	2.55e-04	6.00e-04	3.73e-04	2.42e-04	pCi/g
34PNL	Pu-238	5/8/89	4.17e-05	1.15e-04	6.00e-04	3.98e-05	1.10e-04	pCi/g
34PNL	Pu-238	10/5/90	2.63e-04	1.55e-04	6.00e-04	2.54e-04	1.50e-04	pCi/g
34PNL	Pu-238	8/1/91	1.10e-04	2.33e-04	6.00e-04	1.07e-04	2.26e-04	pCi/g
35PNL	Pu-238	5/8/87	1.34e-04	1.79e-04	6.00e-04	1.26e-04	1.68e-04	pCi/g
35PNL	Pu-238	6/17/88	5.78e-04	2.59e-04	6.00e-04	5.48e-04	2.46e-04	pCi/g
35PNL	Pu-238	5/8/89	4.75e-04	4.01e-04	6.00e-04	4.53e-04	3.83e-04	pCi/g
35PNL	Pu-238	10/3/90	-1.60e-05	8.88e-05	6.00e-04	-1.54e-05	8.57e-05	pCi/g
36PNL	Pu-238	5/26/87	3.06e-04	1.93e-04	6.00e-04	2.88e-04	1.81e-04	pCi/g
36PNL	Pu-238	6/10/88	3.27e-04	2.07e-04	6.00e-04	3.10e-04	1.96e-04	pCi/g
36PNL	Pu-238	5/9/89	4.55e-04	4.44e-04	6.00e-04	4.34e-04	4.24e-04	pCi/g
36PNL	Pu-238	10/5/90	1.06e-03	3.24e-04	6.00e-04	1.02e-03	3.13e-04	pCi/g
36PNL	Pu-238	8/1/91	1.46e-04	1.68e-04	6.00e-04	1.42e-04	1.63e-04	pCi/g
37PNL	Pu-238	5/26/87	3.87e-04	2.92e-04	6.00e-04	3.63e-04	2.74e-04	pCi/g
37PNL	Pu-238	6/10/88	2.07e-04	1.68e-04	6.00e-04	1.96e-04	1.59e-04	pCi/g
37PNL	Pu-238	5/9/89	1.36e-04	3.05e-04	6.00e-04	1.30e-04	2.91e-04	pCi/g
37PNL	Pu-238	10/5/90	8.42e-05	1.00e-04	6.00e-04	8.13e-05	9.65e-05	pCi/g
38PNL	Pu-238	5/21/87	1.18e-04	1.72e-04	6.00e-04	1.11e-04	1.62e-04	pCi/g
38PNL	Pu-238	6/8/88	1.24e-04	1.92e-04	6.00e-04	1.18e-04	1.82e-04	pCi/g
38PNL	Pu-238	5/9/89	2.19e-04	1.56e-04	6.00e-04	2.09e-04	1.49e-04	pCi/g
38PNL	Pu-238	10/3/90	4.49e-04	2.47e-04	6.00e-04	4.33e-04	2.38e-04	pCi/g
38PNL	Pu-238	8/1/91	4.26e-04	3.60e-04	6.00e-04	4.14e-04	3.50e-04	pCi/g
38PNL	Pu-238	7/1/92	6.51e-04	3.15e-04	6.00e-04	6.37e-04	3.08e-04	pCi/g
41DOH	Pu-238	6/3/87	2.70e-03	2.50e-03	3.00e-02	2.54e-03	2.35e-03	pCi/g
41DOH	Pu-238	6/21/88	6.00e-03	4.10e-03	3.00e-02	5.69e-03	3.89e-03	pCi/g
41DOH	Pu-238	6/27/89	4.00e-04	2.90e-03	3.00e-02	3.82e-04	2.77e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 31 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
41DOH	Pu-238	6/26/90	1.30e-02	1.00e-02	3.00e-02	1.25e-02	9.63e-03	pCi/g
41DOH	Pu-238	8/1/91	2.50e-03	3.20e-03	3.00e-02	2.43e-03	3.11e-03	pCi/g
45DOH	Pu-238	6/3/87	3.40e-03	2.60e-03	3.00e-02	3.20e-03	2.44e-03	pCi/g
45DOH	Pu-238	6/21/88	1.00e-03	1.80e-03	3.00e-02	9.48e-04	1.71e-03	pCi/g
45DOH	Pu-238	6/27/89	2.70e-03	2.80e-03	3.00e-02	2.58e-03	2.68e-03	pCi/g
45DOH	Pu-238	6/26/90	6.70e-03	9.80e-03	3.00e-02	6.45e-03	9.44e-03	pCi/g
45DOH	Pu-238	7/31/91	3.00e-04	2.90e-03	3.00e-02	2.91e-04	2.82e-03	pCi/g
46DOH	Pu-238	6/3/87	3.80e-03	4.00e-03	3.00e-02	3.57e-03	3.76e-03	pCi/g
46DOH	Pu-238	6/21/88	4.60e-03	3.00e-04	3.00e-02	4.36e-03	2.84e-04	pCi/g
46DOH	Pu-238	6/27/89	4.00e-04	2.10e-03	3.00e-02	3.82e-04	2.01e-03	pCi/g
46DOH	Pu-238	6/26/90	2.00e-02	9.00e-03	3.00e-02	1.93e-02	8.67e-03	pCi/g
46DOH	Pu-238	7/31/91	1.00e-04	1.70e-03	3.00e-02	9.72e-05	1.65e-03	pCi/g
49DOH	Pu-238	5/2/89	2.00e-03	2.00e-03	3.00e-02	1.91e-03	1.91e-03	pCi/g
1DOH	Pu-239/240	7/31/91	6.30e-03	2.00e-03	6.00e-03	6.30e-03	2.00e-03	pCi/g
3PNL	Pu-239/240	4/29/87	1.65e-02	1.39e-03	6.00e-04	1.65e-02	1.39e-03	pCi/g
3PNL	Pu-239/240	6/6/88	2.67e-02	1.78e-03	6.00e-04	2.67e-02	1.78e-03	pCi/g
3PNL	Pu-239/240	5/2/89	2.62e-02	2.26e-03	6.00e-04	2.62e-02	2.26e-03	pCi/g
3PNL	Pu-239/240	7/31/91	4.88e-03	9.34e-04	6.00e-04	4.88e-03	9.34e-04	pCi/g
12DOH	Pu-239/240	8/1/91	8.70e-03	2.70e-03	6.00e-03	8.70e-03	2.70e-03	pCi/g
13DOH	Pu-239/240	6/3/87	7.20e-03	2.50e-03	6.00e-03	7.20e-03	2.50e-03	pCi/g
13DOH	Pu-239/240	6/21/88	2.60e-03	2.10e-03	6.00e-03	2.60e-03	2.10e-03	pCi/g
13DOH	Pu-239/240	6/27/89	5.00e-04	1.20e-03	6.00e-03	5.00e-04	1.20e-03	pCi/g
13DOH	Pu-239/240	6/26/90	9.00e-04	3.40e-03	6.00e-03	9.00e-04	3.40e-03	pCi/g
14DOH	Pu-239/240	7/1/92	9.20e-03	3.30e-03	6.00e-03	9.20e-03	3.30e-03	pCi/g
14PNL	Pu-239/240	4/29/87	1.92e-02	2.33e-03	6.00e-04	1.92e-02	2.33e-03	pCi/g
14PNL	Pu-239/240	6/6/88	2.09e-02	1.60e-03	6.00e-04	2.09e-02	1.60e-03	pCi/g
14PNL	Pu-239/240	5/2/89	2.70e-02	2.63e-03	6.00e-04	2.70e-02	2.63e-03	pCi/g
14PNL	Pu-239/240	7/31/91	3.68e-03	8.46e-04	6.00e-04	3.68e-03	8.46e-04	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 32 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
15DOH	Pu-239/240	8/1/91	2.20e-03	1.50e-03	6.00e-03	2.20e-03	1.50e-03	pCi/g
15PNL	Pu-239/240	4/29/87	1.07e-02	1.03e-03	6.00e-04	1.07e-02	1.03e-03	pCi/g
15PNL	Pu-239/240	5/25/88	8.25e-03	8.56e-04	6.00e-04	8.25e-03	8.56e-04	pCi/g
15PNL	Pu-239/240	5/3/89	7.48e-03	1.33e-03	6.00e-04	7.48e-03	1.33e-03	pCi/g
15PNL	Pu-239/240	7/31/91	1.68e-02	2.55e-03	6.00e-04	1.68e-02	2.55e-03	pCi/g
17PNL	Pu-239/240	5/15/87	3.45e-03	5.73e-04	6.00e-04	3.45e-03	5.73e-04	pCi/g
17PNL	Pu-239/240	6/20/88	9.75e-03	1.07e-03	6.00e-04	9.75e-03	1.07e-03	pCi/g
17PNL	Pu-239/240	5/10/89	1.38e-02	1.58e-03	6.00e-04	1.38e-02	1.58e-03	pCi/g
17PNL	Pu-239/240	10/4/90	9.01e-03	1.39e-03	6.00e-04	9.01e-03	1.39e-03	pCi/g
17PNL	Pu-239/240	8/8/91	1.33e-02	1.45e-03	6.00e-04	1.33e-02	1.45e-03	pCi/g
17PNL	Pu-239/240	6/23/92	2.04e-02	1.55e-03	6.00e-04	2.04e-02	1.55e-03	pCi/g
18PNL	Pu-239/240	5/15/87	1.82e-03	4.50e-04	6.00e-04	1.82e-03	4.50e-04	pCi/g
18PNL	Pu-239/240	4/1/88	1.98e-02	1.55e-03	6.00e-04	1.98e-02	1.55e-03	pCi/g
18PNL	Pu-239/240	5/10/89	1.87e-03	4.73e-04	6.00e-04	1.87e-03	4.73e-04	pCi/g
18PNL	Pu-239/240	10/4/90	1.41e-03	7.61e-04	6.00e-04	1.41e-03	7.61e-04	pCi/g
18PNL	Pu-239/240	8/8/91	9.36e-03	1.05e-03	6.00e-04	9.36e-03	1.05e-03	pCi/g
18PNL	Pu-239/240	7/27/92	6.61e-03	8.01e-04	6.00e-04	6.61e-03	8.01e-04	pCi/g
19DOH	Pu-239/240	7/31/91	3.60e-03	2.30e-03	6.00e-03	3.60e-03	2.30e-03	pCi/g
19PNL	Pu-239/240	5/15/87	1.09e-02	1.18e-03	6.00e-04	1.09e-02	1.18e-03	pCi/g
19PNL	Pu-239/240	6/20/88	4.42e-03	8.47e-04	6.00e-04	4.42e-03	8.47e-04	pCi/g
19PNL	Pu-239/240	5/10/89	1.49e-02	1.40e-03	6.00e-04	1.49e-02	1.40e-03	pCi/g
19PNL	Pu-239/240	10/4/90	3.81e-04	2.85e-04	6.00e-04	3.81e-04	2.85e-04	pCi/g
20PNL	Pu-239/240	5/15/87	2.89e-03	6.51e-04	6.00e-04	2.89e-03	6.51e-04	pCi/g
20PNL	Pu-239/240	6/20/88	4.43e-03	8.14e-04	6.00e-04	4.43e-03	8.14e-04	pCi/g
20PNL	Pu-239/240	5/10/89	2.80e-02	1.78e-03	6.00e-04	2.80e-02	1.78e-03	pCi/g
21PNL	Pu-239/240	5/15/87	1.68e-02	1.66e-03	6.00e-04	1.68e-02	1.66e-03	pCi/g
21PNL	Pu-239/240	4/1/88	3.31e-02	2.18e-03	6.00e-04	3.31e-02	2.18e-03	pCi/g
21PNL	Pu-239/240	5/10/89	2.89e-02	2.72e-03	6.00e-04	2.89e-02	2.72e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 33 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
21PNL	Pu-239/240	10/8/90	1.12e-02	1.17e-03	6.00e-04	1.12e-02	1.17e-03	pCi/g
21PNL	Pu-239/240	8/8/91	1.83e-02	2.14e-03	6.00e-04	1.83e-02	2.14e-03	pCi/g
21PNL	Pu-239/240	7/28/92	2.14e-02	1.75e-03	6.00e-04	2.14e-02	1.75e-03	pCi/g
22DOH	Pu-239/240	7/1/92	9.00e-03	2.50e-03	6.00e-03	9.00e-03	2.50e-03	pCi/g
22PNL	Pu-239/240	5/26/87	6.12e-03	9.77e-04	6.00e-04	6.12e-03	9.77e-04	pCi/g
22PNL	Pu-239/240	6/10/88	8.30e-03	9.90e-04	6.00e-04	8.30e-03	9.90e-04	pCi/g
22PNL	Pu-239/240	5/9/89	9.14e-03	1.80e-03	6.00e-04	9.14e-03	1.80e-03	pCi/g
22PNL	Pu-239/240	10/8/90	1.24e-02	1.44e-03	6.00e-04	1.24e-02	1.44e-03	pCi/g
23PNL	Pu-239/240	5/26/87	2.86e-03	7.58e-04	6.00e-04	2.86e-03	7.58e-04	pCi/g
23PNL	Pu-239/240	6/10/88	6.73e-03	9.23e-04	6.00e-04	6.73e-03	9.23e-04	pCi/g
23PNL	Pu-239/240	5/5/89	5.26e-03	7.84e-04	6.00e-04	5.26e-03	7.84e-04	pCi/g
23PNL	Pu-239/240	10/3/90	7.11e-03	9.80e-04	6.00e-04	7.11e-03	9.80e-04	pCi/g
24DOH	Pu-239/240	8/1/91	3.00e-04	8.00e-04	6.00e-03	3.00e-04	8.00e-04	pCi/g
24PNL	Pu-239/240	6/10/88	3.24e-03	5.98e-04	6.00e-04	3.24e-03	5.98e-04	pCi/g
24PNL	Pu-239/240	5/5/89	1.31e-02	1.83e-03	6.00e-04	1.31e-02	1.83e-03	pCi/g
25PNL	Pu-239/240	5/7/87	1.51e-03	4.04e-04	6.00e-04	1.51e-03	4.04e-04	pCi/g
25PNL	Pu-239/240	5/25/88	2.71e-03	6.12e-04	6.00e-04	2.71e-03	6.12e-04	pCi/g
25PNL	Pu-239/240	5/5/89	1.14e-02	1.14e-03	6.00e-04	1.14e-02	1.14e-03	pCi/g
25PNL	Pu-239/240	7/31/91	5.02e-03	9.38e-04	6.00e-04	5.02e-03	9.38e-04	pCi/g
26PNL	Pu-239/240	5/7/87	6.08e-03	8.14e-04	6.00e-04	6.08e-03	8.14e-04	pCi/g
26PNL	Pu-239/240	6/7/88	1.79e-03	4.67e-04	6.00e-04	1.79e-03	4.67e-04	pCi/g
26PNL	Pu-239/240	5/5/89	1.07e-02	1.28e-03	6.00e-04	1.07e-02	1.28e-03	pCi/g
27PNL	Pu-239/240	5/20/87	2.43e-02	2.01e-03	6.00e-04	2.43e-02	2.01e-03	pCi/g
27PNL	Pu-239/240	6/8/88	2.55e-02	1.71e-03	6.00e-04	2.55e-02	1.71e-03	pCi/g
27PNL	Pu-239/240	5/5/89	2.12e-02	1.56e-03	6.00e-04	2.12e-02	1.56e-03	pCi/g
28PNL	Pu-239/240	5/25/88	6.18e-03	7.78e-04	6.00e-04	6.18e-03	7.78e-04	pCi/g
28PNL	Pu-239/240	5/3/89	1.81e-02	1.70e-03	6.00e-04	1.81e-02	1.70e-03	pCi/g
30PNL	Pu-239/240	5/20/87	1.43e-02	1.26e-03	6.00e-04	1.43e-02	1.26e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 34 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
30PNL	Pu-239/240	3/21/88	1.43e-02	1.56e-03	6.00e-04	1.43e-02	1.56e-03	pCi/g
30PNL	Pu-239/240	5/9/89	1.49e-02	1.44e-03	6.00e-04	1.49e-02	1.44e-03	pCi/g
31PNL	Pu-239/240	5/21/87	6.06e-03	1.00e-03	6.00e-04	6.06e-03	1.00e-03	pCi/g
31PNL	Pu-239/240	5/24/88	2.26e-02	1.54e-03	6.00e-04	2.25e-02	1.54e-03	pCi/g
31PNL	Pu-239/240	5/9/89	1.06e-02	1.65e-03	6.00e-04	1.06e-02	1.65e-03	pCi/g
31PNL	Pu-239/240	10/3/90	2.91e-02	3.27e-03	6.00e-04	2.91e-02	3.27e-03	pCi/g
31PNL	Pu-239/240	8/1/91	8.85e-04	5.77e-04	6.00e-04	8.85e-04	5.77e-04	pCi/g
31PNL	Pu-239/240	7/1/92	7.66e-03	1.19e-03	6.00e-04	7.66e-03	1.19e-03	pCi/g
32PNL	Pu-239/240	5/29/87	1.29e-03	5.95e-04	6.00e-04	1.29e-03	5.95e-04	pCi/g
32PNL	Pu-239/240	5/27/88	3.00e-03	6.37e-04	6.00e-04	3.00e-03	6.37e-04	pCi/g
32PNL	Pu-239/240	5/8/89	3.47e-04	4.54e-04	6.00e-04	3.47e-04	4.54e-04	pCi/g
32PNL	Pu-239/240	10/3/90	3.06e-03	5.46e-04	6.00e-04	3.06e-03	5.46e-04	pCi/g
33PNL	Pu-239/240	5/29/87	5.76e-03	8.92e-04	6.00e-04	5.76e-03	8.92e-04	pCi/g
33PNL	Pu-239/240	5/27/88	8.93e-03	1.06e-03	6.00e-04	8.93e-03	1.06e-03	pCi/g
33PNL	Pu-239/240	5/8/89	8.82e-03	1.84e-03	6.00e-04	8.82e-03	1.84e-03	pCi/g
33PNL	Pu-239/240	10/3/90	6.07e-03	7.83e-04	6.00e-04	6.07e-03	7.83e-04	pCi/g
34PNL	Pu-239/240	5/8/87	2.49e-03	6.56e-04	6.00e-04	2.48e-03	6.56e-04	pCi/g
34PNL	Pu-239/240	6/17/88	8.45e-03	1.07e-03	6.00e-04	8.45e-03	1.07e-03	pCi/g
34PNL	Pu-239/240	5/8/89	1.99e-03	7.01e-04	6.00e-04	1.99e-03	7.01e-04	pCi/g
34PNL	Pu-239/240	10/5/90	4.12e-03	5.96e-04	6.00e-04	4.12e-03	5.96e-04	pCi/g
34PNL	Pu-239/240	8/1/91	3.36e-05	1.62e-04	6.00e-04	3.36e-05	1.62e-04	pCi/g
35PNL	Pu-239/240	5/8/87	5.62e-03	9.85e-04	6.00e-04	5.62e-03	9.85e-04	pCi/g
35PNL	Pu-239/240	6/17/88	1.63e-02	1.36e-03	6.00e-04	1.63e-02	1.36e-03	pCi/g
35PNL	Pu-239/240	5/8/89	1.68e-02	2.36e-03	6.00e-04	1.68e-02	2.36e-03	pCi/g
35PNL	Pu-239/240	10/3/90	2.60e-03	5.73e-04	6.00e-04	2.60e-03	5.73e-04	pCi/g
36PNL	Pu-239/240	5/26/87	6.75e-03	8.20e-04	6.00e-04	6.75e-03	8.20e-04	pCi/g
36PNL	Pu-239/240	6/10/88	7.76e-03	9.84e-04	6.00e-04	7.76e-03	9.84e-04	pCi/g
36PNL	Pu-239/240	5/9/89	1.02e-02	1.80e-03	6.00e-04	1.02e-02	1.80e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 35 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
36PNL	Pu-239/240	10/5/90	1.64e-02	1.27e-03	6.00e-04	1.64e-02	1.27e-03	pCi/g
36PNL	Pu-239/240	8/1/91	3.99e-03	7.78e-04	6.00e-04	3.99e-03	7.78e-04	pCi/g
37PNL	Pu-239/240	5/26/87	1.25e-02	1.49e-03	6.00e-04	1.25e-02	1.49e-03	pCi/g
37PNL	Pu-239/240	6/10/88	3.76e-03	6.93e-04	6.00e-04	3.76e-03	6.93e-04	pCi/g
37PNL	Pu-239/240	5/9/89	8.04e-03	1.58e-03	6.00e-04	8.04e-03	1.58e-03	pCi/g
37PNL	Pu-239/240	10/5/90	7.65e-03	8.78e-04	6.00e-04	7.65e-03	8.78e-04	pCi/g
38PNL	Pu-239/240	5/21/87	2.76e-03	6.99e-04	6.00e-04	2.75e-03	6.98e-04	pCi/g
38PNL	Pu-239/240	6/8/88	1.16e-03	5.06e-04	6.00e-04	1.16e-03	5.06e-04	pCi/g
38PNL	Pu-239/240	5/9/89	1.03e-02	1.04e-03	6.00e-04	1.03e-02	1.04e-03	pCi/g
38PNL	Pu-239/240	10/3/90	1.06e-02	1.11e-03	6.00e-04	1.06e-02	1.11e-03	pCi/g
38PNL	Pu-239/240	8/1/91	8.61e-03	1.53e-03	6.00e-04	8.61e-03	1.53e-03	pCi/g
38PNL	Pu-239/240	7/1/92	7.76e-03	1.07e-03	6.00e-04	7.76e-03	1.07e-03	pCi/g
41DOH	Pu-239/240	6/3/87	3.60e-03	2.10e-03	6.00e-03	3.60e-03	2.10e-03	pCi/g
41DOH	Pu-239/240	6/21/88	2.30e-03	2.20e-03	6.00e-03	2.30e-03	2.20e-03	pCi/g
41DOH	Pu-239/240	6/27/89	1.70e-03	2.30e-03	6.00e-03	1.70e-03	2.30e-03	pCi/g
41DOH	Pu-239/240	6/26/90	-5.00e-03	4.00e-03	6.00e-03	-5.00e-03	4.00e-03	pCi/g
41DOH	Pu-239/240	8/1/91	1.40e-03	1.40e-03	6.00e-03	1.40e-03	1.40e-03	pCi/g
45DOH	Pu-239/240	6/3/87	2.20e-03	1.70e-03	6.00e-03	2.20e-03	1.70e-03	pCi/g
45DOH	Pu-239/240	6/21/88	2.60e-03	1.80e-03	6.00e-03	2.60e-03	1.80e-03	pCi/g
45DOH	Pu-239/240	6/27/89	1.50e-03	1.70e-03	6.00e-03	1.50e-03	1.70e-03	pCi/g
45DOH	Pu-239/240	6/26/90	1.30e-03	4.40e-03	6.00e-03	1.30e-03	4.40e-03	pCi/g
45DOH	Pu-239/240	7/31/91	1.30e-02	3.00e-03	6.00e-03	1.30e-02	3.00e-03	pCi/g
46DOH	Pu-239/240	6/3/87	1.20e-02	4.00e-03	6.00e-03	1.20e-02	4.00e-03	pCi/g
46DOH	Pu-239/240	6/21/88	2.10e-02	5.00e-03	6.00e-03	2.10e-02	5.00e-03	pCi/g
46DOH	Pu-239/240	6/27/89	8.60e-03	3.20e-03	6.00e-03	8.60e-03	3.20e-03	pCi/g
46DOH	Pu-239/240	6/26/90	1.40e-03	3.90e-03	6.00e-03	1.40e-03	3.90e-03	pCi/g
46DOH	Pu-239/240	7/31/91	7.10e-03	1.90e-03	6.00e-03	7.10e-03	1.90e-03	pCi/g
49DOH	Pu-239/240	5/2/89	2.50e-02	4.00e-03	6.00e-03	2.50e-02	4.00e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 36 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
1DOH	Ra-226	7/31/91	8.00e-01	3.30e-02	8.00e-02	7.99e-01	3.29e-02	pCi/g
3PNL	Ra-226	4/29/87	6.45e-01	6.30e-02	0.00e+00	6.43e-01	6.28e-02	pCi/g
3PNL	Ra-226	6/6/88	5.93e-01	7.26e-02	0.00e+00	5.91e-01	7.24e-02	pCi/g
12DOH	Ra-226	8/1/91	6.97e-01	2.10e-02	8.00e-02	6.96e-01	2.10e-02	pCi/g
13DOH	Ra-226	6/3/87	7.90e-01	2.00e-02	2.00e-02	7.87e-01	1.99e-02	pCi/g
13DOH	Ra-226	6/21/88	6.50e-01	2.00e-02	2.00e-02	6.48e-01	1.99e-02	pCi/g
13DOH	Ra-226	6/27/89	7.00e-01	2.00e-02	2.00e-02	6.98e-01	2.00e-02	pCi/g
13DOH	Ra-226	6/26/90	6.40e-01	7.00e-02	2.00e-02	6.39e-01	6.99e-02	pCi/g
14DOH	Ra-226	7/1/92	6.62e-01	2.00e-02	8.00e-02	6.61e-01	2.00e-02	pCi/g
14PNL	Ra-226	4/29/87	8.51e-01	7.04e-02	0.00e+00	8.48e-01	7.02e-02	pCi/g
14PNL	Ra-226	6/6/88	6.17e-01	6.39e-02	0.00e+00	6.15e-01	6.37e-02	pCi/g
15DOH	Ra-226	8/1/91	5.06e-01	1.80e-02	8.00e-02	5.05e-01	1.80e-02	pCi/g
15PNL	Ra-226	4/29/87	4.79e-01	4.30e-02	0.00e+00	4.77e-01	4.29e-02	pCi/g
15PNL	Ra-226	5/25/88	5.65e-01	5.20e-02	0.00e+00	5.63e-01	5.18e-02	pCi/g
16PNL	Ra-226	5/15/87	5.38e-01	5.57e-02	0.00e+00	5.36e-01	5.55e-02	pCi/g
16PNL	Ra-226	6/20/88	5.34e-01	5.50e-02	0.00e+00	5.32e-01	5.48e-02	pCi/g
17PNL	Ra-226	5/15/87	7.45e-01	6.14e-02	0.00e+00	7.42e-01	6.12e-02	pCi/g
17PNL	Ra-226	6/20/88	5.49e-01	4.99e-02	0.00e+00	5.47e-01	4.98e-02	pCi/g
18PNL	Ra-226	5/15/87	6.90e-01	7.04e-02	0.00e+00	6.88e-01	7.02e-02	pCi/g
18PNL	Ra-226	4/1/88	6.64e-01	4.92e-02	0.00e+00	6.62e-01	4.91e-02	pCi/g
18PNL	Ra-226	10/4/90	5.24e-01	5.14e-02	0.00e+00	5.23e-01	5.13e-02	pCi/g
19DOH	Ra-226	7/31/91	7.07e-01	1.90e-02	8.00e-02	7.06e-01	1.90e-02	pCi/g
19PNL	Ra-226	5/15/87	7.92e-01	8.14e-02	0.00e+00	7.89e-01	8.11e-02	pCi/g
19PNL	Ra-226	6/20/88	6.71e-01	7.40e-02	0.00e+00	6.69e-01	7.38e-02	pCi/g
20PNL	Ra-226	5/15/87	9.61e-01	7.47e-02	0.00e+00	9.58e-01	7.44e-02	pCi/g
20PNL	Ra-226	6/20/88	5.75e-01	6.03e-02	0.00e+00	5.73e-01	6.01e-02	pCi/g
21PNL	Ra-226	5/15/87	7.49e-01	7.21e-02	0.00e+00	7.46e-01	7.19e-02	pCi/g
21PNL	Ra-226	4/1/88	8.48e-01	5.79e-02	0.00e+00	8.45e-01	5.77e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 37 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
22DOH	Ra-226	7/1/92	8.14e-01	2.50e-02	8.00e-02	8.13e-01	2.50e-02	pCi/g
22PNL	Ra-226	5/26/87	7.78e-01	6.28e-02	0.00e+00	7.75e-01	6.26e-02	pCi/g
22PNL	Ra-226	6/10/88	6.80e-01	5.87e-02	0.00e+00	6.78e-01	5.85e-02	pCi/g
23PNL	Ra-226	5/26/87	7.43e-01	5.58e-02	0.00e+00	7.40e-01	5.56e-02	pCi/g
23PNL	Ra-226	6/10/88	6.15e-01	7.22e-02	0.00e+00	6.13e-01	7.20e-02	pCi/g
24DOH	Ra-226	8/1/91	8.15e-01	3.60e-02	8.00e-02	8.14e-01	3.59e-02	pCi/g
24PNL	Ra-226	6/10/88	7.03e-01	6.58e-02	0.00e+00	7.01e-01	6.56e-02	pCi/g
25PNL	Ra-226	5/7/87	7.17e-01	6.36e-02	0.00e+00	7.15e-01	6.34e-02	pCi/g
25PNL	Ra-226	5/25/88	5.84e-01	5.66e-02	0.00e+00	5.82e-01	5.64e-02	pCi/g
26PNL	Ra-226	5/7/87	6.30e-01	5.87e-02	0.00e+00	6.28e-01	5.85e-02	pCi/g
26PNL	Ra-226	6/7/88	3.94e-01	4.20e-02	0.00e+00	3.93e-01	4.19e-02	pCi/g
27PNL	Ra-226	5/20/87	8.87e-01	7.38e-02	0.00e+00	8.84e-01	7.36e-02	pCi/g
27PNL	Ra-226	6/8/88	7.47e-01	6.80e-02	0.00e+00	7.45e-01	6.78e-02	pCi/g
28PNL	Ra-226	5/25/88	4.31e-01	4.26e-02	0.00e+00	4.30e-01	4.25e-02	pCi/g
30PNL	Ra-226	5/20/87	7.91e-01	5.95e-02	0.00e+00	7.88e-01	5.93e-02	pCi/g
30PNL	Ra-226	3/21/88	8.96e-01	8.64e-02	0.00e+00	8.93e-01	8.61e-02	pCi/g
31PNL	Ra-226	5/21/87	8.44e-01	7.68e-02	0.00e+00	8.41e-01	7.65e-02	pCi/g
31PNL	Ra-226	5/24/88	6.59e-01	6.77e-02	0.00e+00	6.57e-01	6.75e-02	pCi/g
31PNL	Ra-226	10/3/90	6.07e-01	6.68e-02	0.00e+00	6.06e-01	6.67e-02	pCi/g
32PNL	Ra-226	5/29/87	8.55e-01	6.66e-02	0.00e+00	8.52e-01	6.64e-02	pCi/g
32PNL	Ra-226	5/27/88	6.62e-01	5.95e-02	0.00e+00	6.60e-01	5.93e-02	pCi/g
33PNL	Ra-226	5/29/87	6.52e-01	6.05e-02	0.00e+00	6.49e-01	6.03e-02	pCi/g
33PNL	Ra-226	5/27/88	5.87e-01	6.40e-02	0.00e+00	5.85e-01	6.38e-02	pCi/g
34PNL	Ra-226	5/8/87	5.91e-01	6.89e-02	0.00e+00	5.89e-01	6.86e-02	pCi/g
34PNL	Ra-226	6/17/88	6.08e-01	6.91e-02	0.00e+00	6.06e-01	6.89e-02	pCi/g
35PNL	Ra-226	5/8/87	6.06e-01	5.59e-02	0.00e+00	6.04e-01	5.57e-02	pCi/g
35PNL	Ra-226	6/17/88	4.83e-01	7.68e-02	0.00e+00	4.82e-01	7.66e-02	pCi/g
36PNL	Ra-226	5/26/87	5.68e-01	5.41e-02	0.00e+00	5.66e-01	5.39e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 38 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
36PNL	Ra-226	6/10/88	4.77e-01	5.76e-02	0.00e+00	4.76e-01	5.74e-02	pCi/g
37PNL	Ra-226	5/26/87	8.20e-01	7.98e-02	0.00e+00	8.17e-01	7.95e-02	pCi/g
37PNL	Ra-226	6/10/88	5.06e-01	6.26e-02	0.00e+00	5.05e-01	6.24e-02	pCi/g
38PNL	Ra-226	5/21/87	7.88e-01	7.14e-02	0.00e+00	7.85e-01	7.12e-02	pCi/g
38PNL	Ra-226	6/8/88	7.31e-01	6.07e-02	0.00e+00	7.29e-01	6.05e-02	pCi/g
41DOH	Ra-226	6/3/87	7.60e-01	2.00e-02	2.00e-02	7.57e-01	1.99e-02	pCi/g
41DOH	Ra-226	6/21/88	8.40e-01	2.00e-02	2.00e-02	8.38e-01	1.99e-02	pCi/g
41DOH	Ra-226	6/27/89	8.20e-01	3.00e-02	2.00e-02	8.18e-01	2.99e-02	pCi/g
41DOH	Ra-226	6/26/90	9.00e-01	8.00e-02	2.00e-02	8.98e-01	7.98e-02	pCi/g
41DOH	Ra-226	8/1/91	6.52e-01	2.90e-02	8.00e-02	6.51e-01	2.90e-02	pCi/g
45DOH	Ra-226	6/3/87	6.60e-01	1.00e-02	2.00e-02	6.58e-01	9.97e-03	pCi/g
45DOH	Ra-226	6/21/88	6.80e-01	2.00e-02	2.00e-02	6.78e-01	1.99e-02	pCi/g
45DOH	Ra-226	6/27/89	5.60e-01	2.00e-02	2.00e-02	5.59e-01	2.00e-02	pCi/g
45DOH	Ra-226	6/26/90	6.10e-01	6.00e-02	2.00e-02	6.09e-01	5.99e-02	pCi/g
45DOH	Ra-226	7/31/91	6.10e-01	1.70e-02	8.00e-02	6.09e-01	1.70e-02	pCi/g
46DOH	Ra-226	6/3/87	8.50e-01	2.00e-02	2.00e-02	8.47e-01	1.99e-02	pCi/g
46DOH	Ra-226	6/21/88	9.30e-01	2.00e-02	2.00e-02	9.27e-01	1.99e-02	pCi/g
46DOH	Ra-226	6/27/89	8.20e-01	2.00e-02	2.00e-02	8.18e-01	2.00e-02	pCi/g
46DOH	Ra-226	6/26/90	7.70e-01	7.00e-02	2.00e-02	7.68e-01	6.99e-02	pCi/g
46DOH	Ra-226	7/31/91	7.80e-01	1.90e-02	8.00e-02	7.79e-01	1.90e-02	pCi/g
1DOH	Ru-106	7/31/91	3.90e-02	1.20e-01	2.00e-01	3.18e-03	9.78e-03	pCi/g
3PNL	Ru-106	4/29/87	-1.49e-02	1.62e-01	1.70e-01	-6.53e-05	7.10e-04	pCi/g
3PNL	Ru-106	6/6/88	-3.80e-03	1.88e-01	1.70e-01	-3.55e-05	1.76e-03	pCi/g
3PNL	Ru-106	5/2/89	-1.30e-02	1.65e-01	1.70e-01	-2.27e-04	2.88e-03	pCi/g
3PNL	Ru-106	7/31/91	1.59e-02	2.12e-01	1.70e-01	1.30e-03	1.73e-02	pCi/g
12DOH	Ru-106	8/1/91	-3.28e-02	7.12e-02	2.00e-01	-2.68e-03	5.82e-03	pCi/g
13DOH	Ru-106	6/27/89	3.30e-02	7.20e-02	1.00e-01	6.39e-04	1.39e-03	pCi/g
13DOH	Ru-106	6/26/90	3.30e-02	7.50e-02	1.00e-01	1.27e-03	2.88e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 39 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
14PNL	Ru-106	4/29/87	3.92e-02	1.61e-01	1.70e-01	1.72e-04	7.06e-04	pCi/g
14PNL	Ru-106	6/6/88	-1.67e-02	1.88e-01	1.70e-01	-1.56e-04	1.76e-03	pCi/g
14PNL	Ru-106	5/2/89	-1.82e-02	1.47e-01	1.70e-01	-3.17e-04	2.56e-03	pCi/g
14PNL	Ru-106	7/31/91	8.16e-03	1.31e-01	1.70e-01	6.65e-04	1.07e-02	pCi/g
15DOH	Ru-106	8/1/91	-1.52e-02	6.53e-02	2.00e-01	-1.24e-03	5.33e-03	pCi/g
15PNL	Ru-106	4/29/87	-4.90e-02	1.10e-01	1.70e-01	-2.15e-04	4.82e-04	pCi/g
15PNL	Ru-106	5/25/88	-4.55e-02	1.38e-01	1.70e-01	-4.17e-04	1.26e-03	pCi/g
15PNL	Ru-106	5/3/89	-2.69e-03	1.38e-01	1.70e-01	-4.70e-05	2.41e-03	pCi/g
15PNL	Ru-106	7/31/91	-7.23e-04	1.40e-01	1.70e-01	-5.89e-05	1.14e-02	pCi/g
16PNL	Ru-106	5/15/87	0.00e+00	1.50e-01	1.70e-01	0.00e+00	6.78e-04	pCi/g
16PNL	Ru-106	6/20/88	-3.06e-02	1.53e-01	1.70e-01	-2.94e-04	1.47e-03	pCi/g
16PNL	Ru-106	5/8/89	-9.85e-02	1.23e-01	1.70e-01	-1.74e-03	2.17e-03	pCi/g
16PNL	Ru-106	8/8/91	2.95e-02	4.13e-01	1.70e-01	2.44e-03	3.42e-02	pCi/g
16PNL	Ru-106	7/28/92	-9.70e-02	2.27e-01	1.70e-01	-1.57e-02	3.67e-02	pCi/g
17PNL	Ru-106	5/15/87	3.96e-02	1.31e-01	1.70e-01	1.79e-04	5.92e-04	pCi/g
17PNL	Ru-106	6/20/88	4.53e-02	1.20e-01	1.70e-01	4.35e-04	1.15e-03	pCi/g
17PNL	Ru-106	5/10/89	5.16e-02	1.53e-01	1.70e-01	9.13e-04	2.71e-03	pCi/g
17PNL	Ru-106	10/4/90	6.21e-02	2.20e-01	1.70e-01	2.88e-03	1.02e-02	pCi/g
17PNL	Ru-106	8/8/91	1.19e-02	1.43e-01	1.70e-01	9.85e-04	1.18e-02	pCi/g
17PNL	Ru-106	6/23/92	-2.19e-02	1.22e-01	1.70e-01	-3.31e-03	1.84e-02	pCi/g
18PNL	Ru-106	5/15/87	-1.13e-01	1.46e-01	1.70e-01	-5.11e-04	6.60e-04	pCi/g
18PNL	Ru-106	4/1/88	-2.46e-02	1.18e-01	1.70e-01	-2.03e-04	9.75e-04	pCi/g
18PNL	Ru-106	5/10/89	1.39e-01	1.45e-01	1.70e-01	2.46e-03	2.57e-03	pCi/g
18PNL	Ru-106	10/4/90	7.95e-02	2.02e-01	1.70e-01	3.68e-03	9.36e-03	pCi/g
18PNL	Ru-106	8/8/91	9.25e-02	1.43e-01	1.70e-01	7.66e-03	1.18e-02	pCi/g
18PNL	Ru-106	7/27/92	-1.71e-02	2.46e-01	1.70e-01	-2.76e-03	3.96e-02	pCi/g
19DOH	Ru-106	7/31/91	-3.60e-03	6.85e-02	2.00e-01	-2.93e-04	5.58e-03	pCi/g
19PNL	Ru-106	5/15/87	-8.78e-02	2.14e-01	1.70e-01	-3.97e-04	9.67e-04	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 40 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
19PNL	Ru-106	6/20/88	1.06e-01	1.74e-01	1.70e-01	1.02e-03	1.67e-03	pCi/g
19PNL	Ru-106	5/10/89	1.04e-01	2.08e-01	1.70e-01	1.84e-03	3.68e-03	pCi/g
19PNL	Ru-106	10/4/90	-1.01e-03	2.04e-01	1.70e-01	-4.68e-05	9.45e-03	pCi/g
20PNL	Ru-106	5/15/87	9.64e-02	1.52e-01	1.70e-01	4.36e-04	6.87e-04	pCi/g
20PNL	Ru-106	6/20/88	6.46e-02	1.49e-01	1.70e-01	6.21e-04	1.43e-03	pCi/g
20PNL	Ru-106	5/10/89	8.08e-03	1.62e-01	1.70e-01	1.43e-04	2.87e-03	pCi/g
21PNL	Ru-106	5/15/87	1.41e-01	1.66e-01	1.70e-01	6.37e-04	7.50e-04	pCi/g
21PNL	Ru-106	4/1/88	-1.26e-01	1.44e-01	1.70e-01	-1.04e-03	1.19e-03	pCi/g
21PNL	Ru-106	5/10/89	5.41e-02	1.89e-01	1.70e-01	9.57e-04	3.34e-03	pCi/g
21PNL	Ru-106	10/8/90	-7.95e-02	1.90e-01	1.70e-01	-3.71e-03	8.87e-03	pCi/g
21PNL	Ru-106	8/8/91	-5.84e-02	1.92e-01	1.70e-01	-4.83e-03	1.59e-02	pCi/g
21PNL	Ru-106	7/28/92	-3.36e-02	2.60e-01	1.70e-01	-5.43e-03	4.20e-02	pCi/g
22PNL	Ru-106	5/26/87	-7.02e-02	1.49e-01	1.70e-01	-3.24e-04	6.88e-04	pCi/g
22PNL	Ru-106	6/10/88	1.15e-02	1.35e-01	1.70e-01	1.08e-04	1.27e-03	pCi/g
22PNL	Ru-106	5/9/89	-4.31e-02	1.85e-01	1.70e-01	-7.61e-04	3.27e-03	pCi/g
22PNL	Ru-106	10/8/90	-1.37e-01	2.18e-01	1.70e-01	-6.40e-03	1.02e-02	pCi/g
23PNL	Ru-106	5/26/87	1.21e-01	1.26e-01	1.70e-01	5.58e-04	5.81e-04	pCi/g
23PNL	Ru-106	6/10/88	3.15e-02	1.66e-01	1.70e-01	2.97e-04	1.56e-03	pCi/g
23PNL	Ru-106	5/5/89	6.30e-02	1.45e-01	1.70e-01	1.10e-03	2.54e-03	pCi/g
23PNL	Ru-106	10/3/90	-1.90e-01	2.01e-01	1.70e-01	-8.78e-03	9.29e-03	pCi/g
24DOH	Ru-106	8/1/91	4.10e-02	1.20e-01	2.00e-01	3.35e-03	9.80e-03	pCi/g
24PNL	Ru-106	6/10/88	-9.81e-02	1.62e-01	1.70e-01	-9.25e-04	1.53e-03	pCi/g
24PNL	Ru-106	5/5/89	4.08e-02	2.00e-01	1.70e-01	7.15e-04	3.51e-03	pCi/g
25PNL	Ru-106	5/7/87	-7.51e-02	1.55e-01	1.70e-01	-3.34e-04	6.90e-04	pCi/g
25PNL	Ru-106	5/25/88	8.55e-02	1.44e-01	1.70e-01	7.83e-04	1.32e-03	pCi/g
25PNL	Ru-106	5/5/89	9.15e-03	1.36e-01	1.70e-01	1.60e-04	2.38e-03	pCi/g
25PNL	Ru-106	7/31/91	4.27e-02	1.62e-01	1.70e-01	3.48e-03	1.32e-02	pCi/g
26PNL	Ru-106	5/7/87	-1.33e-01	1.35e-01	1.70e-01	-5.92e-04	6.01e-04	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 41 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
26PNL	Ru-106	6/7/88	3.44e-02	9.56e-02	1.70e-01	3.22e-04	8.96e-04	pCi/g
26PNL	Ru-106	5/5/89	9.82e-03	1.15e-01	1.70e-01	1.72e-04	2.02e-03	pCi/g
27PNL	Ru-106	5/20/87	2.36e-01	1.54e-01	1.70e-01	1.08e-03	7.03e-04	pCi/g
27PNL	Ru-106	6/8/88	2.58e-02	1.79e-01	1.70e-01	2.42e-04	1.68e-03	pCi/g
27PNL	Ru-106	5/5/89	9.29e-02	1.71e-01	1.70e-01	1.63e-03	3.00e-03	pCi/g
28PNL	Ru-106	5/25/88	-1.43e-02	1.12e-01	1.70e-01	-1.31e-04	1.03e-03	pCi/g
28PNL	Ru-106	5/3/89	-6.60e-02	1.45e-01	1.70e-01	-1.15e-03	2.53e-03	pCi/g
30PNL	Ru-106	5/20/87	5.63e-02	1.31e-01	1.70e-01	2.57e-04	5.98e-04	pCi/g
30PNL	Ru-106	3/21/88	4.69e-02	1.83e-01	1.70e-01	3.80e-04	1.48e-03	pCi/g
30PNL	Ru-106	5/9/89	-8.59e-02	1.58e-01	1.70e-01	-1.52e-03	2.79e-03	pCi/g
31PNL	Ru-106	5/21/87	3.50e-02	1.48e-01	1.70e-01	1.60e-04	6.76e-04	pCi/g
31PNL	Ru-106	5/24/88	-3.95e-02	1.62e-01	1.70e-01	-3.61e-04	1.48e-03	pCi/g
31PNL	Ru-106	5/9/89	6.31e-02	1.58e-01	1.70e-01	1.11e-03	2.79e-03	pCi/g
31PNL	Ru-106	10/3/90	-1.87e-01	3.05e-01	1.70e-01	-8.65e-03	1.41e-02	pCi/g
31PNL	Ru-106	8/1/91	2.11e-01	2.25e-01	1.70e-01	1.72e-02	1.84e-02	pCi/g
31PNL	Ru-106	7/1/92	-1.22e-01	1.02e-01	1.70e-01	-1.87e-02	1.56e-02	pCi/g
32PNL	Ru-106	5/29/87	-1.02e-01	1.54e-01	1.70e-01	-4.71e-04	7.14e-04	pCi/g
32PNL	Ru-106	5/27/88	-8.24e-02	1.58e-01	1.70e-01	-7.58e-04	1.45e-03	pCi/g
32PNL	Ru-106	5/8/89	-4.62e-02	1.81e-01	1.70e-01	-8.14e-04	3.19e-03	pCi/g
32PNL	Ru-106	10/3/90	-1.83e-01	4.16e-01	1.70e-01	-8.46e-03	1.92e-02	pCi/g
33PNL	Ru-106	5/29/87	-2.95e-02	1.49e-01	1.70e-01	-1.37e-04	6.89e-04	pCi/g
33PNL	Ru-106	5/27/88	-1.10e-01	1.52e-01	1.70e-01	-1.01e-03	1.40e-03	pCi/g
33PNL	Ru-106	5/8/89	5.15e-02	1.66e-01	1.70e-01	9.08e-04	2.93e-03	pCi/g
33PNL	Ru-106	10/3/90	-1.12e-01	2.63e-01	1.70e-01	-5.18e-03	1.22e-02	pCi/g
34PNL	Ru-106	5/8/87	8.65e-02	1.46e-01	1.70e-01	3.85e-04	6.51e-04	pCi/g
34PNL	Ru-106	6/17/88	-1.63e-01	1.61e-01	1.70e-01	-1.56e-03	1.54e-03	pCi/g
34PNL	Ru-106	5/8/89	4.68e-02	1.61e-01	1.70e-01	8.25e-04	2.84e-03	pCi/g
34PNL	Ru-106	10/5/90	4.73e-02	2.10e-01	1.70e-01	2.20e-03	9.75e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 42 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
34PNL	Ru-106	8/1/91	5.51e-02	1.73e-01	1.70e-01	4.50e-03	1.41e-02	pCi/g
35PNL	Ru-106	5/8/87	-2.21e-02	1.40e-01	1.70e-01	-9.86e-05	6.22e-04	pCi/g
35PNL	Ru-106	6/17/88	5.01e-02	1.57e-01	1.70e-01	4.79e-04	1.50e-03	pCi/g
35PNL	Ru-106	5/8/89	-9.98e-02	1.47e-01	1.70e-01	-1.76e-03	2.59e-03	pCi/g
35PNL	Ru-106	10/3/90	-3.16e-01	4.05e-01	1.70e-01	-1.46e-02	1.87e-02	pCi/g
36PNL	Ru-106	5/26/87	2.68e-02	1.25e-01	1.70e-01	1.23e-04	5.77e-04	pCi/g
36PNL	Ru-106	6/10/88	2.87e-02	1.43e-01	1.70e-01	2.70e-04	1.35e-03	pCi/g
36PNL	Ru-106	5/9/89	2.19e-02	1.65e-01	1.70e-01	3.87e-04	2.91e-03	pCi/g
36PNL	Ru-106	10/5/90	2.11e-01	4.14e-01	1.70e-01	9.79e-03	1.92e-02	pCi/g
36PNL	Ru-106	8/1/91	2.83e-02	1.98e-01	1.70e-01	2.31e-03	1.62e-02	pCi/g
37PNL	Ru-106	5/26/87	-9.82e-02	1.74e-01	1.70e-01	-4.53e-04	8.05e-04	pCi/g
37PNL	Ru-106	6/10/88	1.05e-01	1.36e-01	1.70e-01	9.90e-04	1.28e-03	pCi/g
37PNL	Ru-106	5/9/89	6.35e-02	1.48e-01	1.70e-01	1.12e-03	2.61e-03	pCi/g
37PNL	Ru-106	10/5/90	1.65e-01	2.08e-01	1.70e-01	7.66e-03	9.65e-03	pCi/g
38PNL	Ru-106	5/21/87	3.55e-03	1.69e-01	1.70e-01	1.62e-05	7.70e-04	pCi/g
38PNL	Ru-106	6/8/88	-7.96e-02	1.58e-01	1.70e-01	-7.47e-04	1.48e-03	pCi/g
38PNL	Ru-106	5/9/89	5.08e-02	1.23e-01	1.70e-01	8.97e-04	2.17e-03	pCi/g
38PNL	Ru-106	10/3/90	-4.68e-02	2.03e-01	1.70e-01	-2.16e-03	9.39e-03	pCi/g
38PNL	Ru-106	8/1/91	-4.27e-02	1.75e-01	1.70e-01	-3.49e-03	1.43e-02	pCi/g
38PNL	Ru-106	7/1/92	4.87e-02	1.10e-01	1.70e-01	7.47e-03	1.69e-02	pCi/g
41DOH	Ru-106	6/27/89	6.00e-02	8.00e-02	1.00e-01	1.16e-03	1.55e-03	pCi/g
41DOH	Ru-106	6/26/90	1.60e-02	8.20e-02	1.00e-01	6.15e-04	3.15e-03	pCi/g
41DOH	Ru-106	8/1/91	1.80e-02	1.13e-01	2.00e-01	1.47e-03	9.23e-03	pCi/g
45DOH	Ru-106	6/27/89	4.00e-02	6.00e-02	1.00e-01	7.74e-04	1.16e-03	pCi/g
45DOH	Ru-106	6/26/90	6.00e-03	7.10e-02	1.00e-01	2.31e-04	2.73e-03	pCi/g
45DOH	Ru-106	7/31/91	3.90e-02	6.60e-02	2.00e-01	3.18e-03	5.38e-03	pCi/g
46DOH	Ru-106	6/27/89	-1.00e-02	8.00e-02	1.00e-01	-1.94e-04	1.55e-03	pCi/g
46DOH	Ru-106	6/26/90	7.00e-03	7.70e-02	1.00e-01	2.69e-04	2.96e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 43 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
46DOH	Ru-106	7/31/91	7.02e-02	7.10e-02	2.00e-01	5.72e-03	5.79e-03	pCi/g
1DOH	Sr-90	7/31/91	1.19e-01	7.00e-03	3.00e-03	1.09e-01	6.42e-03	pCi/g
12DOH	Sr-90	8/1/91	1.04e-01	7.00e-03	3.00e-03	9.53e-02	6.42e-03	pCi/g
13DOH	Sr-90	6/3/87	1.20e-01	1.00e-02	3.00e-03	9.96e-02	8.30e-03	pCi/g
13DOH	Sr-90	6/21/88	2.30e-02	6.00e-03	3.00e-03	1.96e-02	5.11e-03	pCi/g
13DOH	Sr-90	6/27/89	3.70e-02	5.00e-03	3.00e-03	3.23e-02	4.36e-03	pCi/g
13DOH	Sr-90	6/26/90	2.20e-02	4.00e-03	3.00e-03	1.96e-02	3.57e-03	pCi/g
14DOH	Sr-90	7/1/92	1.20e-01	1.00e-02	3.00e-03	1.12e-01	9.37e-03	pCi/g
15DOH	Sr-90	8/1/91	5.50e-02	4.00e-03	3.00e-03	5.04e-02	3.67e-03	pCi/g
19DOH	Sr-90	7/31/91	5.00e-02	1.00e-02	3.00e-03	4.58e-02	9.17e-03	pCi/g
22DOH	Sr-90	7/1/92	9.80e-02	6.00e-03	3.00e-03	9.18e-02	5.62e-03	pCi/g
24DOH	Sr-90	8/1/91	8.00e-03	4.00e-03	3.00e-03	7.33e-03	3.67e-03	pCi/g
30PNL	Sr-90	5/20/87	2.40e-01	1.39e-02	5.00e-03	1.99e-01	1.15e-02	pCi/g
30PNL	Sr-90	3/21/88	4.32e-01	1.89e-02	5.00e-03	3.65e-01	1.60e-02	pCi/g
30PNL	Sr-90	5/9/89	1.69e-01	8.87e-03	5.00e-03	1.47e-01	7.71e-03	pCi/g
31PNL	Sr-90	5/21/87	2.54e-01	2.21e-02	5.00e-03	2.11e-01	1.83e-02	pCi/g
31PNL	Sr-90	5/24/88	2.62e-01	1.07e-02	5.00e-03	2.22e-01	9.06e-03	pCi/g
31PNL	Sr-90	5/9/89	1.28e-01	8.22e-03	5.00e-03	1.11e-01	7.14e-03	pCi/g
31PNL	Sr-90	10/3/90	3.48e-01	1.34e-02	5.00e-03	3.13e-01	1.20e-02	pCi/g
31PNL	Sr-90	8/1/91	2.93e-02	6.14e-03	5.00e-03	2.69e-02	5.63e-03	pCi/g
31PNL	Sr-90	7/1/92	3.83e-02	4.66e-03	5.00e-03	3.59e-02	4.37e-03	pCi/g
32PNL	Sr-90	5/29/87	2.02e-02	5.70e-03	5.00e-03	1.67e-02	4.73e-03	pCi/g
32PNL	Sr-90	5/27/88	4.08e-02	4.28e-03	5.00e-03	3.47e-02	3.64e-03	pCi/g
32PNL	Sr-90	5/8/89	1.12e-02	5.24e-03	5.00e-03	9.73e-03	4.55e-03	pCi/g
32PNL	Sr-90	10/3/90	4.55e-02	5.84e-03	5.00e-03	4.09e-02	5.25e-03	pCi/g
33PNL	Sr-90	5/29/87	7.27e-02	8.55e-03	5.00e-03	6.03e-02	7.09e-03	pCi/g
33PNL	Sr-90	5/27/88	1.27e-01	7.53e-03	5.00e-03	1.08e-01	6.40e-03	pCi/g
33PNL	Sr-90	5/8/89	8.82e-02	6.68e-03	5.00e-03	7.66e-02	5.81e-03	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 44 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
33PNL	Sr-90	10/3/90	7.89e-02	8.04e-03	5.00e-03	7.09e-02	7.23e-03	pCi/g
34DOH	Sr-90	5/20/87	4.52e-02	2.30e-03	3.00e-03	3.75e-02	1.91e-03	pCi/g
34DOH	Sr-90	5/17/88	1.90e-01	1.00e-02	3.00e-03	1.61e-01	8.49e-03	pCi/g
34PNL	Sr-90	5/8/87	6.33e-02	1.02e-02	5.00e-03	5.24e-02	8.41e-03	pCi/g
34PNL	Sr-90	6/17/88	7.81e-02	5.89e-03	5.00e-03	6.64e-02	5.01e-03	pCi/g
34PNL	Sr-90	5/8/89	5.31e-02	5.28e-03	5.00e-03	4.61e-02	4.59e-03	pCi/g
34PNL	Sr-90	10/5/90	6.12e-02	8.60e-03	5.00e-03	5.50e-02	7.73e-03	pCi/g
34PNL	Sr-90	8/1/91	1.37e-02	4.29e-03	5.00e-03	1.26e-02	3.93e-03	pCi/g
35DOH	Sr-90	5/20/87	7.97e-03	1.36e-03	3.00e-03	6.61e-03	1.13e-03	pCi/g
35DOH	Sr-90	5/17/88	8.00e-03	4.00e-03	3.00e-03	6.79e-03	3.40e-03	pCi/g
35PNL	Sr-90	5/8/87	1.15e-01	1.18e-02	5.00e-03	9.50e-02	9.78e-03	pCi/g
35PNL	Sr-90	6/17/88	2.50e-01	1.14e-02	5.00e-03	2.13e-01	9.70e-03	pCi/g
35PNL	Sr-90	5/8/89	1.20e-01	7.48e-03	5.00e-03	1.04e-01	6.50e-03	pCi/g
35PNL	Sr-90	10/3/90	4.96e-02	5.99e-03	5.00e-03	4.46e-02	5.38e-03	pCi/g
36PNL	Sr-90	5/26/87	1.21e-01	1.03e-02	5.00e-03	1.00e-01	8.55e-03	pCi/g
36PNL	Sr-90	6/10/88	9.31e-02	6.67e-03	5.00e-03	7.92e-02	5.67e-03	pCi/g
36PNL	Sr-90	5/9/89	1.40e-01	8.80e-03	5.00e-03	1.22e-01	7.65e-03	pCi/g
36PNL	Sr-90	10/5/90	2.04e-01	1.25e-02	5.00e-03	1.83e-01	1.12e-02	pCi/g
36PNL	Sr-90	8/1/91	9.40e-02	1.06e-02	5.00e-03	8.62e-02	9.72e-03	pCi/g
37PNL	Sr-90	5/26/87	1.52e-01	1.14e-02	5.00e-03	1.26e-01	9.49e-03	pCi/g
37PNL	Sr-90	6/10/88	3.83e-02	4.46e-03	5.00e-03	3.26e-02	3.79e-03	pCi/g
37PNL	Sr-90	5/9/89	8.03e-02	7.63e-03	5.00e-03	6.98e-02	6.63e-03	pCi/g
37PNL	Sr-90	10/5/90	7.59e-02	7.80e-03	5.00e-03	6.82e-02	7.01e-03	pCi/g
38PNL	Sr-90	5/21/87	5.70e-02	8.27e-03	5.00e-03	4.73e-02	6.85e-03	pCi/g
38PNL	Sr-90	6/8/88	9.24e-02	8.87e-03	5.00e-03	7.86e-02	7.54e-03	pCi/g
38PNL	Sr-90	5/9/89	1.02e-01	6.96e-03	5.00e-03	8.86e-02	6.05e-03	pCi/g
38PNL	Sr-90	10/3/90	1.26e-01	8.52e-03	5.00e-03	1.13e-01	7.66e-03	pCi/g
38PNL	Sr-90	8/1/91	1.19e-01	1.11e-02	5.00e-03	1.09e-01	1.02e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 45 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
38PNL	Sr-90	7/1/92	4.52e-02	5.15e-03	5.00e-03	4.23e-02	4.83e-03	pCi/g
41DOH	Sr-90	6/3/87	1.60e-02	4.00e-03	3.00e-03	1.33e-02	3.32e-03	pCi/g
41DOH	Sr-90	6/21/88	2.40e-02	4.00e-03	3.00e-03	2.04e-02	3.40e-03	pCi/g
41DOH	Sr-90	6/27/89	2.70e-02	8.00e-03	3.00e-03	2.35e-02	6.97e-03	pCi/g
41DOH	Sr-90	6/26/90	2.30e-02	5.00e-03	3.00e-03	2.05e-02	4.46e-03	pCi/g
41DOH	Sr-90	8/1/91	2.40e-02	4.00e-03	3.00e-03	2.20e-02	3.67e-03	pCi/g
45DOH	Sr-90	6/3/87	2.60e-02	2.00e-03	3.00e-03	2.16e-02	1.66e-03	pCi/g
45DOH	Sr-90	6/21/88	3.90e-02	5.00e-03	3.00e-03	3.32e-02	4.25e-03	pCi/g
45DOH	Sr-90	6/27/89	3.40e-02	9.00e-03	3.00e-03	2.96e-02	7.85e-03	pCi/g
45DOH	Sr-90	6/26/90	4.80e-02	6.00e-03	3.00e-03	4.29e-02	5.36e-03	pCi/g
45DOH	Sr-90	7/31/91	1.64e-01	7.00e-03	3.00e-03	1.50e-01	6.42e-03	pCi/g
46DOH	Sr-90	6/3/87	6.70e-02	4.00e-03	3.00e-03	5.56e-02	3.32e-03	pCi/g
46DOH	Sr-90	6/21/88	1.50e-01	2.00e-02	3.00e-03	1.28e-01	1.70e-02	pCi/g
46DOH	Sr-90	6/27/89	5.10e-02	6.00e-03	3.00e-03	4.45e-02	5.23e-03	pCi/g
46DOH	Sr-90	6/26/90	4.20e-02	5.00e-03	3.00e-03	3.75e-02	4.46e-03	pCi/g
46DOH	Sr-90	7/31/91	1.10e-01	1.00e-02	3.00e-03	1.01e-01	9.17e-03	pCi/g
49DOH	Sr-90	5/20/87	5.08e-02	2.50e-03	3.00e-03	4.21e-02	2.07e-03	pCi/g
49DOH	Sr-90	5/17/88	1.40e-01	1.00e-02	3.00e-03	1.19e-01	8.49e-03	pCi/g
34PNL	Th-232	6/17/88	6.89e-01	1.13e-01	0.00e+00	6.89e-01	1.13e-01	pCi/g
35PNL	Th-232	6/17/88	4.79e-01	1.10e-01	0.00e+00	4.79e-01	1.10e-01	pCi/g
38PNL	Th-232	6/8/88	8.93e-01	1.04e-01	0.00e+00	8.93e-01	1.04e-01	pCi/g
1DOH	Total U	7/31/91	8.62e-01	4.12e-01	4.00e-01			pCi/g
12DOH	Total U	8/1/91	1.15e+00	2.60e-01	4.00e-01			pCi/g
13DOH	Total U	6/3/87	1.20e+00	2.00e-01	2.00e-01			pCi/g
13DOH	Total U	6/21/88	9.80e-01	2.20e-01	1.00e-01			pCi/g
13DOH	Total U	6/27/89	1.10e+00	3.00e-01	1.00e-01			pCi/g
13DOH	Total U	6/26/90	1.20e+00	2.00e-01	2.00e-01			pCi/g
14DOH	Total U	7/1/92	1.61e+00	2.50e-01	4.00e-01			pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 46 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
15DOH	Total U	8/1/91	9.35e-01	2.38e-01	4.00e-01			pCi/g
19DOH	Total U	7/31/91	2.12e+00	2.40e-01	4.00e-01			pCi/g
22DOH	Total U	7/1/92	2.41e+00	3.80e-01	4.00e-01			pCi/g
24DOH	Total U	8/1/91	2.08e+00	4.60e-01	4.00e-01			pCi/g
41DOH	Total U	6/3/87	1.90e+00	2.00e-01	2.00e-01			pCi/g
41DOH	Total U	6/21/88	1.20e+00	2.00e-01	1.00e-01			pCi/g
41DOH	Total U	6/27/89	1.60e+00	4.00e-01	1.00e-01			pCi/g
41DOH	Total U	6/26/90	1.10e+00	1.00e-01	2.00e-01			pCi/g
41DOH	Total U	8/1/91	1.30e+00	4.40e-01	4.00e-01			pCi/g
45DOH	Total U	6/3/87	9.00e-01	1.00e-01	2.00e-01			pCi/g
45DOH	Total U	6/21/88	7.70e-01	1.20e-01	1.00e-01			pCi/g
45DOH	Total U	6/27/89	8.00e-01	3.00e-01	1.00e-01			pCi/g
45DOH	Total U	6/26/90	1.00e+00	2.00e-01	2.00e-01			pCi/g
45DOH	Total U	7/31/91	5.83e-01	2.30e-01	4.00e-01			pCi/g
46DOH	Total U	6/3/87	1.40e+00	2.00e-01	2.00e-01			pCi/g
46DOH	Total U	6/21/88	1.20e+00	3.00e-01	1.00e-01			pCi/g
46DOH	Total U	6/27/89	1.10e+00	2.00e-01	1.00e-01			pCi/g
46DOH	Total U	6/26/90	1.10e+00	2.00e-01	2.00e-01			pCi/g
46DOH	Total U	7/31/91	1.04e+00	2.60e-01	4.00e-01			pCi/g
1DOH	U-234	7/31/91	4.23e-01	2.06e-01	5.00e-03	4.23e-01	2.06e-01	pCi/g
3PNL	U-234	7/31/91	6.26e-01	7.84e-02	5.00e-02	6.26e-01	7.84e-02	pCi/g
12DOH	U-234	8/1/91	5.63e-01	1.30e-01	5.00e-03	5.63e-01	1.30e-01	pCi/g
13DOH	U-234	6/26/90	4.70e-01	1.10e-01	5.00e-03	4.70e-01	1.10e-01	pCi/g
14DOH	U-234	7/1/92	7.88e-01	1.27e-01	0.00e+00	7.88e-01	1.27e-01	pCi/g
14PNL	U-234	7/31/91	7.36e-01	8.10e-02	5.00e-02	7.36e-01	8.10e-02	pCi/g
15DOH	U-234	8/1/91	4.59e-01	1.19e-01	5.00e-03	4.59e-01	1.19e-01	pCi/g
15PNL	U-234	7/31/91	6.13e-01	5.39e-02	5.00e-02	6.13e-01	5.39e-02	pCi/g
16PNL	U-234	8/8/91	8.73e-01	8.79e-02	5.00e-02	8.73e-01	8.79e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 47 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
16PNL	U-234	7/28/92	8.56e-01	5.93e-02	5.00e-02	8.56e-01	5.93e-02	pCi/g
17PNL	U-234	10/4/90	5.27e-01	8.62e-02	5.00e-02	5.27e-01	8.62e-02	pCi/g
17PNL	U-234	8/8/91	6.86e-01	8.11e-02	5.00e-02	6.86e-01	8.11e-02	pCi/g
18PNL	U-234	10/4/90	7.52e-01	9.42e-02	5.00e-02	7.52e-01	9.42e-02	pCi/g
18PNL	U-234	8/8/91	9.36e-01	9.05e-02	5.00e-02	9.36e-01	9.05e-02	pCi/g
18PNL	U-234	7/27/92	6.68e-01	5.06e-02	5.00e-02	6.68e-01	5.06e-02	pCi/g
19DOH	U-234	7/31/91	1.04e+00	1.20e-01	5.00e-03	1.04e+00	1.20e-01	pCi/g
19PNL	U-234	10/4/90	9.24e-01	7.96e-02	5.00e-02	9.24e-01	7.96e-02	pCi/g
21PNL	U-234	10/8/90	7.20e-01	7.63e-02	5.00e-02	7.20e-01	7.63e-02	pCi/g
21PNL	U-234	8/8/91	8.93e-01	9.31e-02	5.00e-02	8.93e-01	9.31e-02	pCi/g
21PNL	U-234	7/28/92	6.68e-01	5.24e-02	5.00e-02	6.68e-01	5.24e-02	pCi/g
22DOH	U-234	7/1/92	1.18e+00	1.90e-01	0.00e+00	1.18e+00	1.90e-01	pCi/g
22PNL	U-234	10/8/90	5.81e-01	7.31e-02	5.00e-02	5.81e-01	7.31e-02	pCi/g
23PNL	U-234	10/3/90	5.40e-01	6.67e-02	5.00e-02	5.40e-01	6.67e-02	pCi/g
24DOH	U-234	8/1/91	1.02e+00	2.30e-01	5.00e-03	1.02e+00	2.30e-01	pCi/g
25PNL	U-234	7/31/91	7.47e-01	5.73e-02	5.00e-02	7.47e-01	5.73e-02	pCi/g
31PNL	U-234	10/3/90	5.76e-01	9.70e-02	5.00e-02	5.76e-01	9.70e-02	pCi/g
31PNL	U-234	8/1/91	6.32e-01	7.60e-02	5.00e-02	6.32e-01	7.60e-02	pCi/g
32PNL	U-234	10/3/90	7.00e-01	7.48e-02	5.00e-02	7.00e-01	7.48e-02	pCi/g
33PNL	U-234	10/3/90	9.03e-01	8.50e-02	5.00e-02	9.03e-01	8.50e-02	pCi/g
34PNL	U-234	10/5/90	5.01e-01	6.81e-02	5.00e-02	5.01e-01	6.81e-02	pCi/g
34PNL	U-234	8/1/91	6.19e-01	8.27e-02	5.00e-02	6.19e-01	8.27e-02	pCi/g
35PNL	U-234	10/3/90	5.04e-01	6.77e-02	5.00e-02	5.04e-01	6.77e-02	pCi/g
36PNL	U-234	10/5/90	5.33e-01	7.49e-02	5.00e-02	5.33e-01	7.49e-02	pCi/g
36PNL	U-234	8/1/91	5.80e-01	7.42e-02	5.00e-02	5.80e-01	7.42e-02	pCi/g
37PNL	U-234	10/5/90	5.14e-01	7.03e-02	5.00e-02	5.14e-01	7.03e-02	pCi/g
38PNL	U-234	10/3/90	5.06e-01	6.47e-02	5.00e-02	5.06e-01	6.47e-02	pCi/g
38PNL	U-234	8/1/91	5.18e-01	6.80e-02	5.00e-02	5.18e-01	6.80e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 48 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
41DOH	U-234	6/26/90	4.90e-01	9.00e-02	5.00e-03	4.90e-01	9.00e-02	pCi/g
41DOH	U-234	8/1/91	6.39e-01	2.18e-01	5.00e-03	6.39e-01	2.18e-01	pCi/g
45DOH	U-234	6/26/90	4.50e-01	1.40e-01	5.00e-03	4.50e-01	1.40e-01	pCi/g
45DOH	U-234	7/31/91	2.86e-01	1.15e-01	5.00e-03	2.86e-01	1.15e-01	pCi/g
46DOH	U-234	6/26/90	3.90e-01	1.10e-01	5.00e-03	3.90e-01	1.10e-01	pCi/g
46DOH	U-234	7/31/91	5.10e-01	1.31e-01	5.00e-03	5.10e-01	1.31e-01	pCi/g
3PNL	U-235	7/31/91	2.78e-02	1.77e-02	5.00e-02	2.78e-02	1.77e-02	pCi/g
14PNL	U-235	7/31/91	3.44e-02	1.81e-02	5.00e-02	3.44e-02	1.81e-02	pCi/g
15PNL	U-235	7/31/91	2.19e-02	1.09e-02	5.00e-02	2.19e-02	1.09e-02	pCi/g
16PNL	U-235	8/8/91	4.08e-02	1.96e-02	5.00e-02	4.08e-02	1.96e-02	pCi/g
16PNL	U-235	7/28/92	3.73e-02	1.26e-02	5.00e-02	3.73e-02	1.26e-02	pCi/g
17PNL	U-235	10/4/90	1.43e-02	1.66e-02	5.00e-02	1.43e-02	1.66e-02	pCi/g
17PNL	U-235	8/8/91	9.72e-03	1.13e-02	5.00e-02	9.72e-03	1.13e-02	pCi/g
18PNL	U-235	10/4/90	4.27e-02	2.64e-02	5.00e-02	4.27e-02	2.64e-02	pCi/g
18PNL	U-235	8/8/91	4.60e-02	2.09e-02	5.00e-02	4.60e-02	2.09e-02	pCi/g
18PNL	U-235	7/27/92	2.15e-02	9.59e-03	5.00e-02	2.15e-02	9.59e-03	pCi/g
19PNL	U-235	10/4/90	4.76e-02	1.95e-02	5.00e-02	4.76e-02	1.95e-02	pCi/g
21PNL	U-235	10/8/90	3.08e-02	1.65e-02	5.00e-02	3.08e-02	1.65e-02	pCi/g
21PNL	U-235	8/8/91	2.87e-02	1.76e-02	5.00e-02	2.87e-02	1.76e-02	pCi/g
21PNL	U-235	7/28/92	1.69e-02	9.35e-03	5.00e-02	1.69e-02	9.35e-03	pCi/g
22PNL	U-235	10/8/90	2.38e-02	1.59e-02	5.00e-02	2.38e-02	1.59e-02	pCi/g
23PNL	U-235	10/3/90	6.63e-03	9.73e-03	5.00e-02	6.63e-03	9.73e-03	pCi/g
25PNL	U-235	7/31/91	3.99e-02	1.38e-02	5.00e-02	3.99e-02	1.38e-02	pCi/g
31PNL	U-235	10/3/90	2.71e-02	2.47e-02	5.00e-02	2.71e-02	2.47e-02	pCi/g
31PNL	U-235	8/1/91	2.12e-02	1.52e-02	5.00e-02	2.12e-02	1.52e-02	pCi/g
32PNL	U-235	10/3/90	3.61e-02	1.76e-02	5.00e-02	3.61e-02	1.76e-02	pCi/g
33PNL	U-235	10/3/90	1.72e-02	1.28e-02	5.00e-02	1.72e-02	1.28e-02	pCi/g
34PNL	U-235	10/5/90	2.88e-02	1.71e-02	5.00e-02	2.88e-02	1.71e-02	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 49 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
34PNL	U-235	8/1/91	3.56e-02	2.05e-02	5.00e-02	3.56e-02	2.05e-02	pCi/g
35PNL	U-235	10/3/90	1.26e-02	1.45e-02	5.00e-02	1.26e-02	1.45e-02	pCi/g
36PNL	U-235	10/5/90	2.35e-02	1.67e-02	5.00e-02	2.35e-02	1.67e-02	pCi/g
36PNL	U-235	8/1/91	2.13e-02	1.59e-02	5.00e-02	2.13e-02	1.59e-02	pCi/g
37PNL	U-235	10/5/90	3.42e-02	1.89e-02	5.00e-02	3.42e-02	1.89e-02	pCi/g
38PNL	U-235	10/3/90	1.95e-02	1.58e-02	5.00e-02	1.95e-02	1.58e-02	pCi/g
38PNL	U-235	8/1/91	1.70e-02	1.34e-02	5.00e-02	1.70e-02	1.34e-02	pCi/g
1DOH	U-238	7/31/91	4.39e-01	2.06e-01	4.00e-01	4.39e-01	2.06e-01	pCi/g
3PNL	U-238	7/31/91	5.45e-01	7.27e-02	5.00e-02	5.45e-01	7.27e-02	pCi/g
12DOH	U-238	8/1/91	5.85e-01	1.30e-01	4.00e-01	5.85e-01	1.30e-01	pCi/g
13DOH	U-238	6/26/90	6.10e-01	1.00e-01	3.00e-03	6.10e-01	1.00e-01	pCi/g
14DOH	U-238	7/1/92	8.19e-01	1.27e-01	4.00e-01	8.19e-01	1.27e-01	pCi/g
14PNL	U-238	7/31/91	8.87e-01	8.80e-02	5.00e-02	8.87e-01	8.80e-02	pCi/g
15DOH	U-238	8/1/91	4.76e-01	1.19e-01	4.00e-01	4.76e-01	1.19e-01	pCi/g
15PNL	U-238	7/31/91	6.14e-01	5.35e-02	5.00e-02	6.14e-01	5.35e-02	pCi/g
16PNL	U-238	8/8/91	8.32e-01	8.53e-02	5.00e-02	8.32e-01	8.53e-02	pCi/g
16PNL	U-238	7/28/92	8.39e-01	5.86e-02	5.00e-02	8.39e-01	5.86e-02	pCi/g
17PNL	U-238	10/4/90	6.79e-01	9.66e-02	5.00e-02	6.79e-01	9.66e-02	pCi/g
17PNL	U-238	8/8/91	7.64e-01	8.50e-02	5.00e-02	7.64e-01	8.50e-02	pCi/g
18PNL	U-238	10/4/90	7.65e-01	9.54e-02	5.00e-02	7.65e-01	9.54e-02	pCi/g
18PNL	U-238	8/8/91	8.64e-01	8.65e-02	5.00e-02	8.64e-01	8.65e-02	pCi/g
18PNL	U-238	7/27/92	6.48e-01	4.97e-02	5.00e-02	6.48e-01	4.97e-02	pCi/g
19DOH	U-238	7/31/91	1.08e+00	1.20e-01	4.00e-01	1.08e+00	1.20e-01	pCi/g
19PNL	U-238	10/4/90	9.05e-01	7.84e-02	5.00e-02	9.05e-01	7.84e-02	pCi/g
21PNL	U-238	10/8/90	6.91e-01	7.43e-02	5.00e-02	6.91e-01	7.43e-02	pCi/g
21PNL	U-238	8/8/91	8.31e-01	8.93e-02	5.00e-02	8.31e-01	8.93e-02	pCi/g
21PNL	U-238	7/28/92	6.82e-01	5.25e-02	5.00e-02	6.82e-01	5.25e-02	pCi/g
22DOH	U-238	7/1/92	1.23e+00	1.90e-01	4.00e-01	1.23e+00	1.90e-01	pCi/g

Table A-2. Existing Soil Radionuclide Data Used to Calculate Background.
(Sheet 50 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decayed Value	Decayed Error	Units
22PNL	U-238	10/8/90	6.29e-01	7.53e-02	5.00e-02	6.29e-01	7.53e-02	pCi/g
23PNL	U-238	10/3/90	5.43e-01	6.63e-02	5.00e-02	5.43e-01	6.63e-02	pCi/g
24DOH	U-238	8/1/91	1.06e+00	2.30e-01	4.00e-01	1.06e+00	2.30e-01	pCi/g
25PNL	U-238	7/31/91	7.11e-01	5.57e-02	5.00e-02	7.11e-01	5.57e-02	pCi/g
31PNL	U-238	10/3/90	5.67e-01	9.54e-02	5.00e-02	5.67e-01	9.54e-02	pCi/g
31PNL	U-238	8/1/91	6.39e-01	7.57e-02	5.00e-02	6.39e-01	7.57e-02	pCi/g
32PNL	U-238	10/3/90	6.95e-01	7.38e-02	5.00e-02	6.95e-01	7.38e-02	pCi/g
33PNL	U-238	10/3/90	8.36e-01	8.14e-02	5.00e-02	8.36e-01	8.14e-02	pCi/g
34PNL	U-238	10/5/90	4.60e-01	6.48e-02	5.00e-02	4.60e-01	6.48e-02	pCi/g
34PNL	U-238	8/1/91	5.80e-01	7.96e-02	5.00e-02	5.80e-01	7.96e-02	pCi/g
35PNL	U-238	10/3/90	5.33e-01	6.89e-02	5.00e-02	5.33e-01	6.89e-02	pCi/g
36PNL	U-238	10/5/90	6.58e-01	8.23e-02	5.00e-02	6.58e-01	8.23e-02	pCi/g
36PNL	U-238	8/1/91	5.58e-01	7.23e-02	5.00e-02	5.58e-01	7.23e-02	pCi/g
37PNL	U-238	10/5/90	5.26e-01	7.04e-02	5.00e-02	5.26e-01	7.04e-02	pCi/g
38PNL	U-238	10/3/90	4.97e-01	6.38e-02	5.00e-02	4.97e-01	6.38e-02	pCi/g
38PNL	U-238	8/1/91	5.47e-01	6.90e-02	5.00e-02	5.47e-01	6.90e-02	pCi/g
41DOH	U-238	6/26/90	6.30e-01	9.00e-02	3.00e-03	6.30e-01	9.00e-02	pCi/g
41DOH	U-238	8/1/91	6.63e-01	2.18e-01	4.00e-01	6.63e-01	2.18e-01	pCi/g
45DOH	U-238	6/26/90	4.70e-01	1.10e-01	3.00e-03	4.70e-01	1.10e-01	pCi/g
45DOH	U-238	7/31/91	2.97e-01	1.15e-01	4.00e-01	2.97e-01	1.15e-01	pCi/g
46DOH	U-238	6/26/90	6.10e-01	1.00e-01	3.00e-03	6.10e-01	1.00e-01	pCi/g
46DOH	U-238	7/31/91	5.30e-01	1.31e-01	4.00e-01	5.30e-01	1.31e-01	pCi/g

APPENDIX B

DATA SCREENING PROCESS AND RESULTS

APPENDIX B

DATA SCREENING PROCESS AND RESULTS

Included in this appendix are all the data that were obtained from PNL and DOH, including data from sampling sites that could be considered impacted by Hanford activities. A screening process was applied to these data to identify contaminated samples and exclude those data from further consideration. The screening process was intended to serve as an unbiased technical basis for selecting the data that could be considered representative of soil background compositions. The data set, chosen by personnel at DOH and PNL, that was used in the body of this report for evaluation of background, was a subset of the data which is discussed in this appendix.

The existing data were organized, screened, and statistically analyzed in order to evaluate the background radionuclide content in soils. The data set was organized in a FoxPro[1] database to be traceable and to act as an accessible repository for background data. The screening procedure was developed to provide the technical, documented basis used to evaluate the data for inclusion as background. As decisions were made regarding the status of the data, flags were set in the database to either accept or reject the data as representative of background.

The data were also screened by the original collectors as to the suitability of individual sampling sites for use as background. Both PNL and DOH submitted a list of sites they considered to be appropriate for evaluation of background levels. These levels were used in the body of this report to evaluate sitewide soil radionuclide background.

A description of the criteria and the procedure developed for the screening process, the results of the screening process, and the characteristics of these data are described in the following sections.

B.1 SCREENING PROCEDURES

The screening process primarily employed statistical tests that were performed on every radionuclide for which enough analyses were reported to define a single statistical population. To establish the acceptability of the data where data were insufficient for such tests, comparisons between analytes were made on the basis of correlations with previously tested analytes. For some analytes, the basis for both of these comparisons was inadequate. In order to maintain a conservative bias in these cases, all the data associated with that analyte were rejected.

The data were screened in several sequential steps. Each step resulted in the acceptance or rejection of all data associated with specific samples and/or individual analytes for all samples in

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1 FoxPro is a registered trademark of Microsoft Corporation

specific sample groups (e.g., perimeter samples). The screening process was applied to all reported radionuclides. The various steps of this sequential screening process are described below.

1) Outliers were identified by first fitting the data to lognormal and Weibull distributions. Data that plotted outside the distribution curves or fell outside the 95% confidence bands were considered potential outliers, and were rejected from the data set if they were associated with a known monitoring location or were on the Hanford Site. Outliers that were not associated with an identifiable waste site (e.g., Sunnyside) were accepted as background. These steps were taken to ensure internal consistency of the data and that the data are of a single distribution. Acceptance of all data from the distant sites not associated with a waste site (i.e., background sites) was made on the presumption that these sites were not contaminated.

2) All data from the same sample as that containing an outlier were rejected. This was done to maintain the integrity and conservatism of the data set.

3) To evaluate possible systematic geographic differences or pervasive contamination of Hanford samples, the data were stratified into three subsets: Hanford, perimeter, and distant. The Hanford subset lay within the Hanford Site. The perimeter subset lay near the boundary of the Hanford Site (i.e., Pasco Basin), and the distant subset included all other locations (e.g., Yakima, Walla Walla).

4) Those analytes with sufficient data (total sample size > 80) were tested for statistically significant differences between the three subsets using the Wilcoxon Rank Sum (WRS) test at a 5% significance level (DOE/RL 1994b). Data from the Hanford subset were compared with the distant under the null hypothesis (H_o): "no significant difference between Hanford and distant subsets." Analytes that either failed to reject H_o or showed Hanford to be less than distant were accepted as background along with the perimeter subset for the same analyte. Where the WRS test did reject H_o, the Hanford subset data were rejected.

5) The analytes from Hanford that were rejected by the above test were used to evaluate the perimeter subset. The WRS test was used to compare the perimeter subset against both the Hanford and distant subsets. Acceptance of the perimeter subset as background depended on rejecting H_o against the Hanford subset and accepting H_o against the distant subset. All other combinations of WRS results led to rejection of the perimeter subset. This test was designed to maintain the conservative bias of the data set by assuming that the perimeter samples are contaminated, unless it could be positively demonstrated that they are not.

6) Analytes that could not be evaluated by the WRS test (i.e., had ≤ 80 samples) were screened by constructing a correlation matrix and comparing them to those that were evaluated by WRS. A "weight of evidence" judgement was then made by using the

correlation matrix to compare all analytes to the results of the WRS testing. Analytes with few data that correlated well with subsets accepted by the WRS test were accepted as background. Analytes that correlated well with a subset that was rejected by the WRS test, or those for which no determination could be made because of a weak correlation or no correlation, were rejected from the background database. This step was taken to maintain internal consistency and the conservative bias of the data.

B.2 SUMMARY OF SCREENING RESULTS

Data from the PNL and DOH samples collected from 1987 to 1992 were screened by the process described above. There was a total of 312 samples in these data sets comprised of 3041 data on 29 analytes. The screening process resulted in the rejection of all data for 32 samples associated with one or more outliers. Comparison of the 3 subsets resulted in the rejection of 995 data for a total of 2046 data.

A description of the screening results for the various methods used are described below. These results document the data that failed the screening process and the justification for their exclusion from the background data evaluation.

B.2.1 Outlier Analysis

The screening process identified 32 possible outliers involving 10 analytes. These are listed in Table B-1 along with their location and value. Twenty-eight of the 32 outliers are located on the Hanford Site. Three of the outliers are for ^{40}K in samples taken east of Hanford. The fourth offsite outlier is for ^{60}Co in a sample from the ACI plant in Yakima, which was the site of a radioactive decontamination and waste compaction facility. The only samples from this list of possible outliers that are included in the final background database are those for ^{40}K.

An additional 151 data were rejected because they were in a sample that contained at least one outlier. These data were primarily ^{60}Co, ^{134}Cs, ^{137}Cs, $^{239,240}Pu$, ^{226}Ra, ^{106}Ru and total U.

B.2.2 Statistical Tests

Using the WRS tests to evaluate Hanford data vs. distant data resulted in rejection of Hanford data for ^{238}Pu, ^{90}Sr, and gross β. Acceptance of Hanford data as well as the perimeter data was made for ^{60}Co, ^{134}Cs, ^{137}Cs, ^{40}K, $^{239,240}Pu$, ^{226}Ra, ^{106}Ru and total U. The results of this phase of the WRS testing are shown in Table B-2.

The analytes in the perimeter subset that were associated with rejected Hanford data were compared, using the WRS test, with both the Hanford and distant samples. Results of these tests are shown in Table B-3. Gross β could not be evaluated because of a lack of perimeter samples.

This test led to the rejection of ^{90}Sr and ^{238}Pu. The results for both of these radionuclides show that the perimeter data are statistically no different than the Hanford data, but the perimeter data are significantly larger than the distant samples. The perimeter data for ^{90}Sr and ^{238}Pu were thus rejected as candidates for background.

B.2.3 Weight of Evidence

The weight of evidence comparisons used a correlation matrix that led to the acceptance of Hanford and perimeter subset data as background for ^{241}Am, ^{154}Eu, ^{155}Eu, ^{234}U, ^{235}U, ^{238}U. The correlation matrix used all existing data before the screening procedure was applied.

Data for ^{152}Eu, gross a, total Th, and ^{232}Th were rejected. There was insufficient evidence, either in the form of correlated samples or direct comparisons of distant data vs Hanford data, upon which to base a decision. The decision to reject the data was judged to be the conservative course of action.

The initial screening process led to the rejection of 32 samples containing outliers, most of which were collected from the Hanford Site. All data associated with a sample that contained even one outlier were rejected from the sitewide database (with the exception of ^{40}K). Statistical tests on the remaining data, which compared the Hanford data to the distant and perimeter subsets, resulted in the rejection of 3 analytes for Hanford and perimeter samples: ^{238}Pu, ^{90}Sr, and gross β. Further evaluation resulted in also rejecting the perimeter subset data for these analytes. Appendix C contains all of the data that were evaluated in this screening process that are not listed in Appendix A. The column labeled "Source" in Appendix C contains a 1 if the datum passed the screening process and a -1 or 0 if it failed.

The samples collected by PNL and DOH from 1987 to 1992 resulted in 3048 data for 29 analytes and 314 samples. After the initial screening for outliers and associated samples, 2962 data remained. The screening based on comparison of the three subsets identified another 868 samples to be rejected from the database. The entire screening processes rejected 954 data, leaving 2,099 data which passed the screening process. A summary of the results of the data screening process is presented in Table B-4.

Table B-1. Outliers Determined in the Data Screening Processes.
Site ID, site name, and site type are further identified in Appendix A. X- and Y-coordinates refer to the Washington Coordinate System of 1983.

Analyte	Value	Site ID	Site Name	Site Type	X-Coordinate	Y-Coordinate
K-40	38.2	16PNL	RIVERVIEW-HARRIS	2	598862.3	102674.7
K-40	25.6	35PNL	WASHTUCNA	4	667932.7	161642.5
K-40	24.8	36PNL	CONNELL	4	624888.5	149477.3
Co-60	42	9DOH	ACI PLANT	3	494715.9	141531.1
Sr-90	34	36DOH	S200E	1	574409.7	130801.8
Sr-90	4.3	42DOH	SW BC	1		
Sr-90	8.8	45DOH	WYE	1	584606.1	127841
Sr-90	7.6	4DOH	200ESE	1	576476.4	134288
Sr-90	10.8	7DOH	216-T-4-1	1		
Sr-90	2.7	9PNL	E OF 200 W GATE	1	571251.1	135691.5
Cs-137	17.9	4PNL	200 ENC	1	575189.6	137829.1
Cs-137	16	4PNL	200 ENC	1	575189.6	137829.1
Cs-137	26.1	4PNL	200 ENC	1	575189.6	137829.1
Cs-137	501	8DOH	216-U-10	1		
U-234	4.4	8DOH	216-U-10	1		
Pu-238	0.21	4DOH	200ESE	1	576476.4	134288
U-238	4.12	8DOH	216-U-10	1		
Total U	3.06	21DOH	HGP	1		
Total U	34	52DOH	WASTE	1		
Total U	9.08	8DOH	216-U-10	1		
Pu-239/240	0.0656	4PNL	200 ENC	1	575189.6	137829.1
Pu-239/240	0.4225	6DOH	216-S-10	1		
Pu-239/240	0.07	7DOH	216-T-4-1	1		
Pu-239/240	0.91	8DOH	216-U-10	1		
Pu-239/240	0.656	9PNL	E OF 200 W GATE	1	571251.1	135691.5
Pu-239/240	0.64	9PNL	E OF 200 W GATE	1	571251.1	135691.5
Pu-239/240	0.17	9PNL	E OF 200 W GATE	1	571251.1	135691.5
Pu-239/240	0.286	9PNL	E OF 200 W GATE	1	571251.1	135691.5
Pu-239/240	0.707	9PNL	E OF 200 W GATE	1	571251.1	135691.5
Pu-239/240	0.53	9PNL	E OF 200 W GATE	1	571251.1	135691.5
Gross b	47.3	7DOH	216-T-4-1	1		
Gross b	330	8DOH	216-U-10	1		

Table B-2. Comparison of the Hanford and Distant Data Subsets.
WRS test with H_o = no significant difference, α = 5%. Approximate β determined from Table A2.a in DOE/RL (1994b). Pr is the sample-based probability of a Hanford datum being larger than a distant datum (DOE/RL 1994b).

Analyte	# Hanford data	# Distant data	Test statistic	P-value (1)	Result (2)	P_r value	Approx. Power (3,4)
Co-60	130	60	-0.91	0.179	Accept	0.524	N/A
Cs-134	67	44	-1.59	0.055	Accept	0.437	N/A
Cs-137	185	62	0.1	0.455	Accept	0.495	N/A
Eu-154	66	41	0.29	0.384	Accept	0.530	N/A
Eu-155	66	41	0.01	0.492	Accept	0.479	N/A
Gross β	122	14	2.20	0.013	**Reject**	0.682	0.49
Pu-238	144	51	2.96	0.001	**Reject**	0.638	≥0.88
Pu-239/240	143	52	1.13	0.129	Accept	0.587	N/A
Ra-226	109	31	0.20	0.418	Accept	0.512	N/A
Ru-106	119	47	0.95	0.17	Accept	0.552	N/A
Sr-90	145	53	3.35	0.000	**Reject**	0.671	≥0.81
Total U	87	11	-2.89	0.001	Accept	0.264	N/A

1: P-value = Probability of the test statistic value or smaller (greater, depending on the sign) occurring. If P-value is ≤ a, then reject H_o. The sign of the test statistic indicates the direction of the test; i.e. positive means the perimeter subset data is on average larger than the data to which it is being compared.

2: Accept = Accept the null hypothesis of no significant difference between the Hanford data subset and the distant data subset.

Reject = Reject the null hypothesis of no significant difference between the Hanford data subset and the distant data subset.

3: N/A = Not Applicable given result of the test, i.e. accept H_o.

Table B-3. Comparison of the Perimeter Data Subset to the Hanford and Distant Data Subsets. WRS test with H_o = no significant difference, α = 5%. Approximate β determined from Table A2.a in DOE/RL 1994b. Pr is the sample-based probability of a perimeter datum that is larger than a Hanford site or distant datum.

Analyte	# Hanford data	# Perimeter data	Test statistic	P-value (1)	Result (2)
Pu-238	144	48	-1.43	0.074	Accept
Sr-90	145	48	-0.87	0.189	Accept
	# Distant data				
Pu-238	51	48	1.67	0.046	Reject
Sr-90	53	48	2.63	0.004	Reject

1: P-value = Probability of the test statistic value or smaller (greater, depending on the sign) occurring. If P-value is $\leq$ a, then reject H_o. The sign of the test statistic indicates the direction of the test; i.e. positive means the Perimeter subset data is on average larger than the data to which it is being compared.

2: Accept = Accept the null hypothesis of no significant difference between the perimeter data subset and Hanford or Distant data subset.

Reject = Reject the null hypothesis of no significant difference between the perimeter data subset and Hanford or Distant data subset.

Table B-4. Summary of Screening Results

Radionuclide	Number of Samples in Database	Number of Samples Accepted
K-40	276	276
Co-60	244	207
Sr-90	256	53
Ru-106	215	194
Sb-125	2	0
Cs-134	159	146
Cs-137	307	253
Eu-154	155	145
Eu-155	155	145
Ra-226	163	163
Th-232	17	3
Total Th	11	1
U-234	70	59
U-235	43	40
Pu-238	247	51
U-238	78	65
Total U	103	74
Pu-239/240	255	214
Am-241	2	1
Gross α	18	3
Gross β	148	14

APPENDIX C

ADDITIONAL SOIL RADIONUCLIDE DATA

Table C-1. Sampling Locations of Screened Data. (Sheet 1 of 3)

Site ID	Site Name	Northing	Easting	Site Type	Colocated
1PNL	NE OF 100 N AREA	150881.96	572655.73	1	
2DOH	100N-1	149365.01	571296.63	1a	
2PNL	E OF 100 N AREA	148850.91	573200.58	1	
3DOH	116-C-1			1a	
3PNL	100 AREA FIRE STAT	145209.47	572394.79	1a	
4DOH	200ESE	134288.02	576476.41	1a	6PNL
4PNL	200 ENC	137829.07	575189.63	1	
5DOH	200GTE	135691.50	571251.13	1	9PNL
5PNL	E OF 200 E	135732.52	577301.79	1a	
6DOH	216-S-10			1a	
6PNL	200 ESE	134288.02	576476.41	1a	
7DOH	216-T-4-1			1a	
7PNL	SW OF B/C/ Cribs	131441.21	572137.75	1a	
8DOH	216-U-10			1a	
8PNL	S OF 200 E	130801.77	574409.67	1a	
9DOH	ACI PLANT	141531.09	494715.87	3	
9PNL	E OF 200 W GATE	135691.50	571251.13	1	
10DOH	ACI-1			3	
10PNL	S OF 200 W	131394.07	568070.70	1	
11DOH	ACI-2			3	
11PNL	400 E	124282.76	588421.16	1	
12PNL	SE SIDE OF FFTF	121500.82	589438.13	1	
13DOH	ARMY LOOP	131394.07	568070.70	1	10PNL
13PNL	NORTH 300 AREA	116304.63	593823.76	1	
14PNL	HANFORD TOWNSITE	139836.10	584875.44	1	
15PNL	WYE BARRICADE	127841.03	584606.13	1	
16DOH	E200E	135732.52	577301.79	1a	5PNL

Table C-1. Sampling Locations of Screened Data. (Sheet 2 of 3)

16PNL	RIVERVIEW-HARRIS	102674.70	598862.28	2	
17PNL	BYERS LANDING	115960.36	595483.54	2	
18DOH	FRONT DRIVE			3	
18PNL	SAGEMOOR FARM	118131.17	595680.16	2	
19PNL	TAYLOR FLATS NO. 2	121373.05	595629.02	2	
20DOH	HEALTH			1a	
20PNL	W END OF FIR ROAD	123008.16	595972.17	2	
21DOH	HGP			1a	
21PNL	RINGOLD AREA	132523.56	595453.15	2	
22PNL	BERG RANCH	156984.12	589663.70	2	
23DOH	LAB			1a	
23PNL	WAHLUKE SLOPE	156551.88	567940.53	2	
24PNL	N END VERNITA BRIDGE	146068.83	559491.65	2	
25DOH	MW-5			1a	
25PNL	YAKIMA BARRICADE	138436.38	581721.26	1	
26DOH	MW-8			1a	
26PNL	RATTLESNAKE SPRINGS	130424.44	562370.79	2	
27DOH	N-51			1a	
27PNL	ALE FIELD LAB	116983.33	577587.64	2	
28DOH	N200E	137829.07	575189.63	1	4PNL
28PNL	PROSSER BARRICADE	117644.59	582786.99	2	
29DOH	NE CORNER	134394.94	572524.45	1	
29PNL	SOUTH 300 AREA	114877.55	593768.86	1	
30DOH	NW CORNER	134169.25	572243.32	1a	
31DOH	P-11			1a	
32DOH	R.C.S. OFFICE			1a	
33DOH	RT 11A-9	138209.69	569856.88	1	
34DOH	S 1, WNP-2	125039.86	589485.80	1	
35DOH	S 21, WNP-2	127321.47	591894.53	1	
36DOH	S200E	130801.77	574409.67	1a	8PNL

Table C-1. Sampling Locations of Screened Data. (Sheet 3 of 3)

37DOH	SE CORNER	133794.85	572539.32	1a	
38DOH	SIDE DRIVE			3	
39DOH	STA 10			1a	
40DOH	STA 7			1a	
41DOH	SUNNYSIDE			5	31PNL
42DOH	SW BC			1a	7PNL
43DOH	SW CORNER	133791.63	572270.84	1a	
44DOH	WALK GATE			3	
45DOH	WYE	127841.03	584606.13	1	15PNL
46DOH	YAKIMA B.	138436.38	581721.26	1	25PNL
47DOH	Z DITCH			1a	
49DOH	S 23, WNP-2			1	
50DOH	STA 4			0	
51DOH	STA 6			0	
52DOH	WASTE			0	

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 1 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
6DOH	Am-241	5/20/87	1.25e-01	3.90e-02	2.00e-02	1.23e-01	3.85e-02	pCi/g	-1
16DOH	Am-241	7/31/91	1.40e-01	4.00e-02	6.00e-02	1.39e-01	3.98e-02	pCi/g	1
1PNL	Co-60	6/6/88	6.53e-02	2.62e-02	2.00e-02	2.68e-02	1.08e-02	pCi/g	1
1PNL	Co-60	5/3/89	8.76e-04	2.20e-02	2.00e-02	4.05e-04	1.02e-02	pCi/g	1
1PNL	Co-60	8/14/91	-1.27e-02	2.20e-02	2.00e-02	-7.92e-03	1.37e-02	pCi/g	1
2DOH	Co-60	7/31/91	3.01e-01	2.10e-02	2.00e-02	1.87e-01	1.30e-02	pCi/g	1
2PNL	Co-60	4/29/87	6.61e-02	2.49e-02	2.00e-02	2.35e-02	8.86e-03	pCi/g	1
2PNL	Co-60	6/6/88	8.04e-02	2.45e-02	2.00e-02	3.30e-02	1.01e-02	pCi/g	1
2PNL	Co-60	5/5/89	2.93e-02	2.26e-02	2.00e-02	1.36e-02	1.05e-02	pCi/g	1
2PNL	Co-60	8/14/91	3.31e-02	2.49e-02	2.00e-02	2.06e-02	1.55e-02	pCi/g	1
4DOH	Co-60	6/27/89	2.00e-03	7.00e-03	1.00e-02	9.44e-04	3.30e-03	pCi/g	-1
4DOH	Co-60	6/26/90	-2.00e-03	8.20e-03	1.00e-02	-1.08e-03	4.41e-03	pCi/g	-1
4DOH	Co-60	7/31/91	6.27e-03	7.20e-03	2.00e-02	3.89e-03	4.47e-03	pCi/g	-1
4PNL	Co-60	5/7/87	-2.15e-02	1.70e-02	2.00e-02	-7.67e-03	6.06e-03	pCi/g	-1
4PNL	Co-60	3/22/88	1.76e-02	1.89e-02	2.00e-02	7.04e-03	7.56e-03	pCi/g	-1
4PNL	Co-60	5/2/89	-9.76e-03	1.88e-02	2.00e-02	-4.51e-03	8.70e-03	pCi/g	-1
4PNL	Co-60	8/13/91	1.50e-03	1.72e-02	2.00e-02	9.35e-04	1.07e-02	pCi/g	-1
5DOH	Co-60	6/27/89	7.00e-03	7.00e-03	1.00e-02	3.30e-03	3.30e-03	pCi/g	1
5DOH	Co-60	6/26/90	1.00e-02	8.00e-03	1.00e-02	5.38e-03	4.30e-03	pCi/g	1
5DOH	Co-60	7/31/91	-1.54e-03	9.23e-03	2.00e-02	-9.55e-04	5.73e-03	pCi/g	1
5PNL	Co-60	5/7/87	-2.96e-04	1.30e-02	2.00e-02	-1.06e-04	4.64e-03	pCi/g	1
5PNL	Co-60	6/6/88	-9.76e-03	1.93e-02	2.00e-02	-4.01e-03	7.93e-03	pCi/g	1
5PNL	Co-60	5/2/89	-5.48e-04	2.08e-02	2.00e-02	-2.53e-04	9.62e-03	pCi/g	1
5PNL	Co-60	7/31/91	-2.13e-03	1.89e-02	2.00e-02	-1.32e-03	1.17e-02	pCi/g	1
6PNL	Co-60	5/7/87	-1.52e-03	1.19e-02	2.00e-02	-5.42e-04	4.25e-03	pCi/g	1
6PNL	Co-60	3/22/88	-1.65e-02	1.71e-02	2.00e-02	-6.60e-03	6.84e-03	pCi/g	1
6PNL	Co-60	5/2/89	8.78e-03	1.94e-02	2.00e-02	4.06e-03	8.97e-03	pCi/g	1
6PNL	Co-60	7/31/91	2.36e-02	1.86e-02	2.00e-02	1.46e-02	1.15e-02	pCi/g	1
7PNL	Co-60	5/7/87	1.93e-02	1.44e-02	2.00e-02	6.88e-03	5.14e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 2 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
7PNL	Co-60	6/6/88	1.36e-02	1.39e-02	2.00e-02	5.59e-03	5.71e-03	pCi/g	1
7PNL	Co-60	5/3/89	-1.18e-03	1.87e-02	2.00e-02	-5.46e-04	8.65e-03	pCi/g	1
7PNL	Co-60	8/13/91	3.87e-03	1.68e-02	2.00e-02	2.41e-03	1.05e-02	pCi/g	1
8DOH	Co-60	5/13/87	3.35e-01	8.80e-02	1.00e-02	1.20e-01	3.15e-02	pCi/g	-1
8PNL	Co-60	5/7/87	2.00e-02	1.55e-02	2.00e-02	7.13e-03	5.53e-03	pCi/g	1
8PNL	Co-60	6/7/88	-1.76e-03	1.76e-02	2.00e-02	-7.23e-04	7.23e-03	pCi/g	1
8PNL	Co-60	5/3/89	-4.68e-03	1.74e-02	2.00e-02	-2.17e-03	8.05e-03	pCi/g	1
8PNL	Co-60	8/13/91	5.16e-03	2.71e-02	2.00e-02	3.22e-03	1.69e-02	pCi/g	1
9DOH	Co-60	9/25/85	3.90e-01	2.00e-02	1.00e-02	1.13e-01	5.78e-03	pCi/g	-1
9DOH	Co-60	9/26/85	2.90e+00	4.00e-02	1.00e-02	8.38e-01	1.16e-02	pCi/g	-1
9DOH	Co-60	9/24/86	6.12e+00	1.25e-01	1.00e-02	2.01e+00	4.10e-02	pCi/g	-1
9DOH	Co-60	12/17/86	4.20e+01	6.00e-01	1.00e-02	1.42e+01	2.03e-01	pCi/g	-1
9DOH	Co-60	9/23/87	9.52e-03	2.86e-03	1.00e-02	3.57e-03	1.07e-03	pCi/g	-1
9PNL	Co-60	5/7/87	5.03e-02	1.38e-02	2.00e-02	1.79e-02	4.92e-03	pCi/g	-1
9PNL	Co-60	3/31/88	1.96e-02	1.63e-02	2.00e-02	7.86e-03	6.54e-03	pCi/g	-1
9PNL	Co-60	4/5/88	1.62e-02	2.20e-02	2.00e-02	6.51e-03	8.84e-03	pCi/g	-1
9PNL	Co-60	5/3/89	1.34e-02	1.64e-02	2.00e-02	6.20e-03	7.59e-03	pCi/g	-1
9PNL	Co-60	10/4/90	6.58e-03	2.52e-02	2.00e-02	3.67e-03	1.40e-02	pCi/g	-1
9PNL	Co-60	8/13/91	-6.98e-03	2.21e-02	2.00e-02	-4.35e-03	1.38e-02	pCi/g	-1
10DOH	Co-60	8/18/89	4.40e-01	2.00e-02	1.00e-02	2.11e-01	9.61e-03	pCi/g	0
10PNL	Co-60	6/7/88	1.39e-02	1.40e-02	2.00e-02	5.71e-03	5.75e-03	pCi/g	1
10PNL	Co-60	5/3/89	4.37e-04	1.67e-02	2.00e-02	2.02e-04	7.73e-03	pCi/g	1
10PNL	Co-60	8/13/91	1.12e-02	2.09e-02	2.00e-02	6.98e-03	1.30e-02	pCi/g	1
11DOH	Co-60	8/18/89	7.71e-01	2.50e-02	1.00e-02	3.71e-01	1.20e-02	pCi/g	0
11PNL	Co-60	4/29/87	-1.75e-02	2.08e-02	2.00e-02	-6.22e-03	7.40e-03	pCi/g	1
11PNL	Co-60	6/9/88	6.23e-03	1.44e-02	2.00e-02	2.56e-03	5.92e-03	pCi/g	1
11PNL	Co-60	5/3/89	1.21e-03	1.25e-02	2.00e-02	5.60e-04	5.78e-03	pCi/g	1
11PNL	Co-60	8/13/91	3.56e-03	2.12e-02	2.00e-02	2.22e-03	1.32e-02	pCi/g	1
12PNL	Co-60	6/9/88	1.27e-03	1.63e-02	2.00e-02	5.22e-04	6.70e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 3 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
12PNL	Co-60	5/3/89	1.34e-02	1.34e-02	2.00e-02	6.20e-03	6.20e-03	pCi/g	1
12PNL	Co-60	8/13/91	3.28e-03	1.51e-02	2.00e-02	2.04e-03	9.41e-03	pCi/g	1
13PNL	Co-60	4/29/87	-1.10e-02	1.93e-02	2.00e-02	-3.91e-03	6.86e-03	pCi/g	1
13PNL	Co-60	6/9/88	-6.72e-04	1.96e-02	2.00e-02	-2.76e-04	8.06e-03	pCi/g	1
13PNL	Co-60	5/2/89	9.43e-03	1.51e-02	2.00e-02	4.36e-03	6.98e-03	pCi/g	1
13PNL	Co-60	8/8/91	-4.29e-04	1.67e-02	2.00e-02	-2.67e-04	1.04e-02	pCi/g	1
16DOH	Co-60	6/27/89	6.50e-03	7.20e-03	1.00e-02	3.07e-03	3.40e-03	pCi/g	1
16DOH	Co-60	6/26/90	-1.00e-02	8.00e-03	1.00e-02	-5.38e-03	4.30e-03	pCi/g	1
16DOH	Co-60	7/31/91	6.62e-02	1.28e-02	2.00e-02	4.11e-02	7.94e-03	pCi/g	1
18DOH	Co-60	9/27/89	2.70e-01	2.00e-02	1.00e-02	1.32e-01	9.75e-03	pCi/g	0
20DOH	Co-60	1/17/85	5.00e-02	5.00e-02	1.00e-02	1.32e-02	1.32e-02	pCi/g	1
21DOH	Co-60	6/30/92	9.90e-03	1.01e-02	2.00e-02	6.92e-03	7.06e-03	pCi/g	-1
23DOH	Co-60	11/6/91	7.24e-03	8.19e-03	2.00e-02	4.65e-03	5.26e-03	pCi/g	1
25DOH	Co-60	11/5/91	-6.20e-03	8.30e-03	2.00e-02	-3.98e-03	5.33e-03	pCi/g	1
26DOH	Co-60	11/6/91	4.49e-03	8.09e-03	2.00e-02	2.88e-03	5.20e-03	pCi/g	1
27DOH	Co-60	6/30/92	2.13e-02	1.65e-02	2.00e-02	1.49e-02	1.15e-02	pCi/g	1
28DOH	Co-60	6/27/89	3.00e-04	8.00e-03	1.00e-02	1.42e-04	3.77e-03	pCi/g	1
28DOH	Co-60	6/26/90	7.90e-03	8.30e-03	1.00e-02	4.25e-03	4.46e-03	pCi/g	1
28DOH	Co-60	7/31/91	-7.10e-03	1.41e-02	2.00e-02	-4.40e-03	8.75e-03	pCi/g	1
29DOH	Co-60	11/19/85	2.00e-02	2.00e-02	1.00e-02	5.89e-03	5.89e-03	pCi/g	1
29DOH	Co-60	11/7/89	-1.00e-03	6.00e-03	1.00e-02	-4.95e-04	2.97e-03	pCi/g	1
29DOH	Co-60	11/5/90	1.00e-03	8.00e-03	2.00e-02	5.63e-04	4.51e-03	pCi/g	1
29DOH	Co-60	11/6/91	-1.30e-03	7.70e-03	2.00e-02	-8.35e-04	4.95e-03	pCi/g	1
29PNL	Co-60	6/9/88	-1.01e-02	1.82e-02	2.00e-02	-4.15e-03	7.49e-03	pCi/g	1
29PNL	Co-60	5/2/89	-1.73e-02	1.96e-02	2.00e-02	-8.00e-03	9.07e-03	pCi/g	1
29PNL	Co-60	8/8/91	-3.92e-03	2.37e-02	2.00e-02	-2.44e-03	1.47e-02	pCi/g	1
30DOH	Co-60	11/19/85	1.30e-02	1.30e-02	1.00e-02	3.83e-03	3.83e-03	pCi/g	1
30DOH	Co-60	11/7/89	7.00e-04	8.00e-03	1.00e-02	3.46e-04	3.96e-03	pCi/g	1
30DOH	Co-60	11/5/90	3.00e-03	7.00e-03	2.00e-02	1.69e-03	3.94e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 4 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
30DOH	Co-60	11/6/91	4.80e-04	8.34e-03	2.00e-02	3.08e-04	5.36e-03	pCi/g	1
32DOH	Co-60	6/26/90	8.00e-04	7.80e-03	1.00e-02	4.30e-04	4.19e-03	pCi/g	1
33DOH	Co-60	6/27/89	1.20e-02	8.00e-03	1.00e-02	5.66e-03	3.77e-03	pCi/g	1
33DOH	Co-60	6/26/90	1.20e-03	9.00e-03	1.00e-02	6.45e-04	4.84e-03	pCi/g	1
33DOH	Co-60	7/31/91	-3.80e-04	8.21e-03	2.00e-02	-2.36e-04	5.09e-03	pCi/g	1
34DOH	Co-60	5/28/85	4.00e-02	4.00e-02	1.00e-02	1.11e-02	1.11e-02	pCi/g	1
35DOH	Co-60	5/28/85	3.00e-02	3.00e-02	1.00e-02	8.30e-03	8.30e-03	pCi/g	1
36DOH	Co-60	6/27/89	-4.00e-03	8.00e-03	1.00e-02	-1.89e-03	3.77e-03	pCi/g	-1
36DOH	Co-60	6/26/90	8.00e-03	8.50e-03	1.00e-02	4.30e-03	4.57e-03	pCi/g	-1
37DOH	Co-60	11/19/85	1.40e-02	1.40e-02	1.00e-02	4.12e-03	4.12e-03	pCi/g	1
37DOH	Co-60	11/7/89	-5.00e-03	8.00e-03	1.00e-02	-2.47e-03	3.96e-03	pCi/g	1
37DOH	Co-60	11/5/90	2.00e-03	8.00e-03	2.00e-02	1.13e-03	4.51e-03	pCi/g	-1
38DOH	Co-60	9/27/89	8.10e-02	1.00e-02	1.00e-02	3.95e-02	4.88e-03	pCi/g	0
39DOH	Co-60	11/7/89	9.00e-03	7.00e-03	1.00e-02	4.45e-03	3.46e-03	pCi/g	1
39DOH	Co-60	11/5/90	-3.00e-03	8.00e-03	2.00e-02	-1.69e-03	4.51e-03	pCi/g	1
42DOH	Co-60	6/27/89	-4.00e-03	9.00e-03	1.00e-02	-1.89e-03	4.25e-03	pCi/g	-1
42DOH	Co-60	6/26/90	6.80e-03	8.70e-03	1.00e-02	3.66e-03	4.68e-03	pCi/g	-1
43DOH	Co-60	11/19/85	1.40e-02	1.40e-02	1.00e-02	4.12e-03	4.12e-03	pCi/g	1
43DOH	Co-60	11/7/89	3.00e-04	8.00e-03	1.00e-02	1.48e-04	3.96e-03	pCi/g	1
43DOH	Co-60	11/5/90	7.00e-03	7.00e-03	2.00e-02	3.94e-03	3.94e-03	pCi/g	1
44DOH	Co-60	9/27/89	3.00e-02	1.50e-02	1.00e-02	1.46e-02	7.31e-03	pCi/g	0
49DOH	Co-60	5/28/85	4.00e-02	4.00e-02	1.00e-02	1.11e-02	1.11e-02	pCi/g	-1
1PNL	Cs-134	6/6/88	-2.12e-02	1.75e-02	2.00e-02	-2.15e-03	1.77e-03	pCi/g	1
1PNL	Cs-134	5/3/89	-5.22e-02	1.99e-02	2.00e-02	-7.19e-03	2.74e-03	pCi/g	1
1PNL	Cs-134	8/14/91	-5.22e-02	1.92e-02	2.00e-02	-1.55e-02	5.69e-03	pCi/g	1
2PNL	Cs-134	4/29/87	1.02e-02	2.02e-02	2.00e-02	7.14e-04	1.41e-03	pCi/g	1
2PNL	Cs-134	6/6/88	-4.56e-03	1.60e-02	2.00e-02	-4.62e-04	1.62e-03	pCi/g	1
2PNL	Cs-134	5/5/89	-4.81e-02	1.91e-02	2.00e-02	-6.63e-03	2.63e-03	pCi/g	1
2PNL	Cs-134	8/14/91	-1.08e-02	1.58e-02	2.00e-02	-3.20e-03	4.68e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 5 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
4PNL	Cs-134	5/7/87	3.84e-02	2.19e-02	2.00e-02	2.71e-03	1.54e-03	pCi/g	-1
4PNL	Cs-134	3/22/88	-8.25e-02	3.22e-02	2.00e-02	-7.81e-03	3.05e-03	pCi/g	-1
4PNL	Cs-134	5/2/89	-6.66e-02	3.03e-02	2.00e-02	-9.16e-03	4.17e-03	pCi/g	-1
4PNL	Cs-134	8/13/91	-3.95e-02	1.71e-02	2.00e-02	-1.17e-02	5.07e-03	pCi/g	-1
5PNL	Cs-134	5/7/87	1.28e-02	1.62e-02	2.00e-02	9.03e-04	1.14e-03	pCi/g	1
5PNL	Cs-134	6/6/88	-8.82e-02	2.20e-02	2.00e-02	-8.95e-03	2.23e-03	pCi/g	1
5PNL	Cs-134	5/2/89	-5.07e-02	2.32e-02	2.00e-02	-6.97e-03	3.19e-03	pCi/g	1
5PNL	Cs-134	7/31/91	-3.14e-02	1.85e-02	2.00e-02	-9.19e-03	5.41e-03	pCi/g	1
6PNL	Cs-134	5/7/87	2.94e-02	1.54e-02	2.00e-02	2.07e-03	1.09e-03	pCi/g	1
6PNL	Cs-134	3/22/88	-7.58e-02	1.96e-02	2.00e-02	-7.17e-03	1.86e-03	pCi/g	1
6PNL	Cs-134	5/2/89	-1.12e-02	1.71e-02	2.00e-02	-1.54e-03	2.35e-03	pCi/g	1
6PNL	Cs-134	7/31/91	-1.86e-01	2.45e-02	2.00e-02	-5.44e-02	7.17e-03	pCi/g	1
7PNL	Cs-134	5/7/87	3.45e-02	1.82e-02	2.00e-02	2.43e-03	1.28e-03	pCi/g	1
7PNL	Cs-134	6/6/88	-9.31e-03	1.29e-02	2.00e-02	-9.44e-04	1.31e-03	pCi/g	1
7PNL	Cs-134	5/3/89	-1.98e-02	1.40e-02	2.00e-02	-2.73e-03	1.93e-03	pCi/g	1
7PNL	Cs-134	8/13/91	-4.24e-02	1.78e-02	2.00e-02	-1.26e-02	5.27e-03	pCi/g	1
8PNL	Cs-134	5/7/87	3.95e-02	1.87e-02	2.00e-02	2.79e-03	1.32e-03	pCi/g	1
8PNL	Cs-134	6/7/88	-2.76e-02	1.59e-02	2.00e-02	-2.80e-03	1.61e-03	pCi/g	1
8PNL	Cs-134	5/3/89	1.85e-03	1.43e-02	2.00e-02	2.55e-04	1.97e-03	pCi/g	1
8PNL	Cs-134	8/13/91	-1.54e-01	3.04e-02	2.00e-02	-4.56e-02	9.00e-03	pCi/g	1
9PNL	Cs-134	5/7/87	4.18e-02	2.01e-02	2.00e-02	2.95e-03	1.42e-03	pCi/g	-1
9PNL	Cs-134	3/31/88	6.05e-04	1.49e-02	2.00e-02	5.77e-05	1.42e-03	pCi/g	-1
9PNL	Cs-134	4/5/88	-3.06e-02	2.14e-02	2.00e-02	-2.93e-03	2.05e-03	pCi/g	-1
9PNL	Cs-134	5/3/89	-7.36e-02	2.10e-02	2.00e-02	-1.01e-02	2.89e-03	pCi/g	-1
9PNL	Cs-134	10/4/90	-1.36e-01	3.21e-02	2.00e-02	-3.02e-02	7.12e-03	pCi/g	-1
9PNL	Cs-134	8/13/91	-2.05e-02	1.83e-02	2.00e-02	-6.07e-03	5.42e-03	pCi/g	-1
10DOH	Cs-134	8/18/89	2.33e-02	7.80e-03	2.00e-02	3.54e-03	1.18e-03	pCi/g	0
10PNL	Cs-134	6/7/88	-4.50e-03	1.19e-02	2.00e-02	-4.57e-04	1.21e-03	pCi/g	1
10PNL	Cs-134	5/3/89	-6.65e-02	1.89e-02	2.00e-02	-9.15e-03	2.60e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 6 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
10PNL	Cs-134	8/13/91	-2.50e-01	2.92e-02	2.00e-02	-7.41e-02	8.65e-03	pCi/g	1
11DOH	Cs-134	8/18/89	4.52e-02	9.70e-03	2.00e-02	6.86e-03	1.47e-03	pCi/g	0
11PNL	Cs-134	4/29/87	5.13e-02	1.77e-02	2.00e-02	3.59e-03	1.24e-03	pCi/g	1
11PNL	Cs-134	6/9/88	-4.16e-03	1.24e-02	2.00e-02	-4.23e-04	1.26e-03	pCi/g	1
11PNL	Cs-134	5/3/89	-8.23e-03	1.09e-02	2.00e-02	-1.13e-03	1.50e-03	pCi/g	1
11PNL	Cs-134	8/13/91	-2.16e-01	2.92e-02	2.00e-02	-6.40e-02	8.65e-03	pCi/g	1
12PNL	Cs-134	6/9/88	-8.65e-02	1.77e-02	2.00e-02	-8.80e-03	1.80e-03	pCi/g	1
12PNL	Cs-134	5/3/89	3.21e-03	1.41e-02	2.00e-02	4.42e-04	1.94e-03	pCi/g	1
12PNL	Cs-134	8/13/91	-4.51e-02	1.55e-02	2.00e-02	-1.34e-02	4.59e-03	pCi/g	1
13PNL	Cs-134	4/29/87	4.51e-02	3.15e-02	2.00e-02	3.16e-03	2.20e-03	pCi/g	1
13PNL	Cs-134	6/9/88	-1.00e-02	1.62e-02	2.00e-02	-1.02e-03	1.65e-03	pCi/g	1
13PNL	Cs-134	5/2/89	-1.47e-02	1.40e-02	2.00e-02	-2.02e-03	1.93e-03	pCi/g	1
13PNL	Cs-134	8/8/91	-1.64e-01	2.37e-02	2.00e-02	-4.84e-02	6.99e-03	pCi/g	1
16DOH	Cs-134	6/3/87	1.80e-02	9.00e-03	2.00e-02	1.30e-03	6.50e-04	pCi/g	1
18DOH	Cs-134	9/27/89	3.00e-02	1.00e-02	2.00e-02	4.72e-03	1.57e-03	pCi/g	0
29PNL	Cs-134	6/9/88	-6.75e-02	1.95e-02	2.00e-02	-6.86e-03	1.98e-03	pCi/g	1
29PNL	Cs-134	5/2/89	-3.21e-03	1.76e-02	2.00e-02	-4.41e-04	2.42e-03	pCi/g	1
29PNL	Cs-134	8/8/91	-7.42e-02	2.46e-02	2.00e-02	-2.19e-02	7.25e-03	pCi/g	1
1PNL	Cs-137	6/6/88	7.96e-01	5.35e-02	1.50e-02	6.80e-01	4.57e-02	pCi/g	1
1PNL	Cs-137	5/3/89	9.56e-01	5.47e-02	1.50e-02	8.34e-01	4.77e-02	pCi/g	1
1PNL	Cs-137	8/14/91	6.52e-01	4.41e-02	1.50e-02	6.00e-01	4.06e-02	pCi/g	1
2DOH	Cs-137	7/31/91	1.01e-01	1.60e-02	2.00e-02	9.28e-02	1.47e-02	pCi/g	1
2PNL	Cs-137	4/29/87	1.08e+00	5.21e-02	1.50e-02	9.00e-01	4.34e-02	pCi/g	1
2PNL	Cs-137	6/6/88	7.43e-01	4.78e-02	1.50e-02	6.35e-01	4.08e-02	pCi/g	1
2PNL	Cs-137	5/5/89	6.27e-01	4.64e-02	1.50e-02	5.47e-01	4.05e-02	pCi/g	1
2PNL	Cs-137	8/14/91	7.68e-01	6.11e-02	1.50e-02	7.06e-01	5.62e-02	pCi/g	1
3DOH	Cs-137	5/14/87	1.75e-01	1.10e-02	1.00e-02	1.46e-01	9.17e-03	pCi/g	1
4DOH	Cs-137	9/26/85	5.80e-01	3.00e-02	1.00e-02	4.66e-01	2.41e-02	pCi/g	-1
4DOH	Cs-137	8/5/86	8.91e-02	7.31e-03	1.00e-02	7.30e-02	5.99e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 7 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
4DOH	Cs-137	6/3/87	1.20e-01	1.00e-02	1.00e-02	1.00e-01	8.35e-03	pCi/g	-1
4DOH	Cs-137	6/21/88	7.20e-02	8.00e-03	1.00e-02	6.16e-02	6.84e-03	pCi/g	-1
4DOH	Cs-137	6/27/89	3.82e-01	1.70e-02	1.00e-02	3.35e-01	1.49e-02	pCi/g	-1
4DOH	Cs-137	6/26/90	1.30e-01	1.00e-02	1.00e-02	1.17e-01	8.96e-03	pCi/g	-1
4DOH	Cs-137	7/31/91	5.04e-01	1.50e-02	2.00e-02	4.63e-01	1.38e-02	pCi/g	-1
4PNL	Cs-137	5/7/87	1.60e+01	1.91e-01	1.50e-02	1.33e+01	1.59e-01	pCi/g	-1
4PNL	Cs-137	3/22/88	2.61e+01	2.61e-01	1.50e-02	2.22e+01	2.22e-01	pCi/g	-1
4PNL	Cs-137	5/2/89	1.79e+01	2.09e-01	1.50e-02	1.56e+01	1.82e-01	pCi/g	-1
4PNL	Cs-137	8/13/91	2.95e-01	2.95e-02	1.50e-02	2.71e-01	2.71e-02	pCi/g	-1
5DOH	Cs-137	9/24/85	7.00e-02	1.00e-02	1.00e-02	5.62e-02	8.03e-03	pCi/g	1
5DOH	Cs-137	8/5/86	1.22e-01	1.00e-03	1.00e-02	9.99e-02	8.19e-04	pCi/g	1
5DOH	Cs-137	6/3/87	1.30e-01	1.00e-02	1.00e-02	1.09e-01	8.35e-03	pCi/g	1
5DOH	Cs-137	6/21/88	9.70e-02	9.00e-03	1.00e-02	8.30e-02	7.70e-03	pCi/g	1
5DOH	Cs-137	6/27/89	9.90e-02	1.20e-02	1.00e-02	8.67e-02	1.05e-02	pCi/g	1
5DOH	Cs-137	6/26/90	4.20e-01	2.00e-02	1.00e-02	3.76e-01	1.79e-02	pCi/g	1
5DOH	Cs-137	7/31/91	1.76e-01	1.50e-02	2.00e-02	1.62e-01	1.38e-02	pCi/g	1
5PNL	Cs-137	5/7/87	6.89e-01	3.64e-02	1.50e-02	5.74e-01	3.03e-02	pCi/g	1
5PNL	Cs-137	6/6/88	1.76e+00	6.89e-02	1.50e-02	1.50e+00	5.89e-02	pCi/g	1
5PNL	Cs-137	5/2/89	2.11e+00	7.78e-02	1.50e-02	1.84e+00	6.79e-02	pCi/g	1
5PNL	Cs-137	7/31/91	1.13e+00	5.34e-02	1.50e-02	1.04e+00	4.91e-02	pCi/g	1
6DOH	Cs-137	5/20/87	4.06e-01	2.05e-02	1.00e-02	3.39e-01	1.71e-02	pCi/g	-1
6PNL	Cs-137	5/7/87	6.13e-01	3.63e-02	1.50e-02	5.11e-01	3.03e-02	pCi/g	1
6PNL	Cs-137	3/22/88	1.62e+00	6.17e-02	1.50e-02	1.38e+00	5.25e-02	pCi/g	1
6PNL	Cs-137	5/2/89	5.87e-01	4.41e-02	1.50e-02	5.12e-01	3.85e-02	pCi/g	1
6PNL	Cs-137	7/31/91	4.08e-01	3.46e-02	1.50e-02	3.75e-01	3.18e-02	pCi/g	1
7DOH	Cs-137	5/19/87	8.13e-02	2.92e-02	1.00e-02	6.78e-02	2.44e-02	pCi/g	-1
7PNL	Cs-137	5/7/87	1.13e-02	1.60e-02	1.50e-02	9.42e-03	1.33e-02	pCi/g	1
7PNL	Cs-137	6/6/88	4.23e-02	1.86e-02	1.50e-02	3.61e-02	1.59e-02	pCi/g	1
7PNL	Cs-137	5/3/89	5.18e-01	3.84e-02	1.50e-02	4.52e-01	3.35e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 8 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
7PNL	Cs-137	8/13/91	3.46e-01	3.16e-02	1.50e-02	3.18e-01	2.91e-02	pCi/g	1
8DOH	Cs-137	5/13/87	5.01e+02	2.00e+00	1.00e-02	4.18e+02	1.67e+00	pCi/g	-1
8PNL	Cs-137	5/7/87	1.34e-01	2.48e-02	1.50e-02	1.12e-01	2.07e-02	pCi/g	1
8PNL	Cs-137	6/7/88	5.76e-01	3.88e-02	1.50e-02	4.92e-01	3.32e-02	pCi/g	1
8PNL	Cs-137	5/3/89	7.99e-01	4.36e-02	1.50e-02	6.97e-01	3.81e-02	pCi/g	1
8PNL	Cs-137	8/13/91	3.57e-01	4.07e-02	1.50e-02	3.28e-01	3.74e-02	pCi/g	1
9DOH	Cs-137	9/24/86	1.23e-01	3.27e-02	1.00e-02	1.01e-01	2.69e-02	pCi/g	-1
9DOH	Cs-137	12/17/86	8.00e-01	1.40e-01	1.00e-02	6.61e-01	1.16e-01	pCi/g	-1
9PNL	Cs-137	5/7/87	1.30e+00	5.36e-02	1.50e-02	1.08e+00	4.47e-02	pCi/g	-1
9PNL	Cs-137	3/31/88	4.73e+00	8.57e-02	1.50e-02	4.03e+00	7.29e-02	pCi/g	-1
9PNL	Cs-137	4/5/88	6.06e+00	1.15e-01	1.50e-02	5.16e+00	9.79e-02	pCi/g	-1
9PNL	Cs-137	5/3/89	2.98e+00	8.46e-02	1.50e-02	2.60e+00	7.38e-02	pCi/g	-1
9PNL	Cs-137	10/4/90	3.86e+00	1.05e-01	1.50e-02	3.48e+00	9.47e-02	pCi/g	-1
9PNL	Cs-137	8/13/91	1.60e+00	6.47e-02	1.50e-02	1.47e+00	5.95e-02	pCi/g	-1
10DOH	Cs-137	8/18/89	1.03e-01	1.40e-02	1.00e-02	9.05e-02	1.23e-02	pCi/g	0
10PNL	Cs-137	6/7/88	4.94e-01	3.84e-02	1.50e-02	4.22e-01	3.28e-02	pCi/g	1
10PNL	Cs-137	5/3/89	6.33e-01	4.23e-02	1.50e-02	5.52e-01	3.69e-02	pCi/g	1
10PNL	Cs-137	8/13/91	4.96e-01	4.26e-02	1.50e-02	4.56e-01	3.92e-02	pCi/g	1
11DOH	Cs-137	8/18/89	2.35e-01	1.70e-02	1.00e-02	2.06e-01	1.49e-02	pCi/g	0
11PNL	Cs-137	4/29/87	3.25e-01	3.26e-02	1.50e-02	2.71e-01	2.72e-02	pCi/g	1
11PNL	Cs-137	6/9/88	2.39e-01	2.76e-02	1.50e-02	2.04e-01	2.36e-02	pCi/g	1
11PNL	Cs-137	5/3/89	1.86e-01	2.18e-02	1.50e-02	1.62e-01	1.90e-02	pCi/g	1
11PNL	Cs-137	8/13/91	3.87e-01	3.75e-02	1.50e-02	3.56e-01	3.45e-02	pCi/g	1
12PNL	Cs-137	6/9/88	1.18e-01	2.42e-02	1.50e-02	1.01e-01	2.07e-02	pCi/g	1
12PNL	Cs-137	5/3/89	2.17e-01	2.78e-02	1.50e-02	1.89e-01	2.43e-02	pCi/g	1
12PNL	Cs-137	8/13/91	1.42e-01	2.40e-02	1.50e-02	1.31e-01	2.21e-02	pCi/g	1
13DOH	Cs-137	9/24/85	8.50e-02	1.70e-02	1.00e-02	6.82e-02	1.36e-02	pCi/g	1
13DOH	Cs-137	8/5/86	9.99e-02	1.34e-02	1.00e-02	8.18e-02	1.10e-02	pCi/g	1
13PNL	Cs-137	4/29/87	1.17e+00	6.18e-02	1.50e-02	9.75e-01	5.15e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 9 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
13PNL	Cs-137	6/9/88	5.09e-01	4.47e-02	1.50e-02	4.35e-01	3.82e-02	pCi/g	1
13PNL	Cs-137	5/2/89	1.23e+00	4.89e-02	1.50e-02	1.07e+00	4.27e-02	pCi/g	1
13PNL	Cs-137	8/8/91	7.09e-01	4.29e-02	1.50e-02	6.52e-01	3.94e-02	pCi/g	1
16DOH	Cs-137	9/26/85	2.75e+00	5.00e-02	1.00e-02	2.21e+00	4.02e-02	pCi/g	1
16DOH	Cs-137	8/5/86	1.44e+00	3.22e-02	1.00e-02	1.18e+00	2.64e-02	pCi/g	1
16DOH	Cs-137	6/3/87	3.28e+00	4.00e-02	1.00e-02	2.74e+00	3.34e-02	pCi/g	1
16DOH	Cs-137	6/21/88	3.07e+00	3.00e-02	1.00e-02	2.63e+00	2.57e-02	pCi/g	1
16DOH	Cs-137	6/27/89	5.09e-01	1.70e-02	1.00e-02	4.46e-01	1.49e-02	pCi/g	1
16DOH	Cs-137	6/26/90	8.90e-01	2.00e-02	1.00e-02	7.98e-01	1.79e-02	pCi/g	1
16DOH	Cs-137	7/31/91	1.45e+00	3.00e-02	2.00e-02	1.33e+00	2.76e-02	pCi/g	1
18DOH	Cs-137	9/27/89	1.30e-01	1.00e-02	1.00e-02	1.15e-01	8.81e-03	pCi/g	0
20DOH	Cs-137	1/17/85	2.00e-02	1.00e-02	1.00e-02	1.58e-02	7.90e-03	pCi/g	1
21DOH	Cs-137	6/30/92	2.75e-01	1.90e-02	2.00e-02	2.58e-01	1.78e-02	pCi/g	-1
23DOH	Cs-137	11/6/91	1.65e-02	1.14e-02	2.00e-02	1.53e-02	1.05e-02	pCi/g	1
25DOH	Cs-137	11/5/91	2.59e-02	1.38e-02	2.00e-02	2.40e-02	1.28e-02	pCi/g	1
26DOH	Cs-137	11/6/91	2.59e-02	1.00e-02	2.00e-02	2.40e-02	9.25e-03	pCi/g	1
27DOH	Cs-137	6/30/92	1.12e+00	4.00e-02	2.00e-02	1.05e+00	3.76e-02	pCi/g	1
28DOH	Cs-137	9/26/85	1.74e+00	1.00e-01	1.00e-02	1.40e+00	8.03e-02	pCi/g	1
28DOH	Cs-137	8/5/86	1.74e+00	4.00e-02	1.00e-02	1.43e+00	3.28e-02	pCi/g	1
28DOH	Cs-137	6/3/87	1.29e+00	2.00e-02	1.00e-02	1.08e+00	1.67e-02	pCi/g	1
28DOH	Cs-137	6/21/88	7.50e-01	2.00e-02	1.00e-02	6.42e-01	1.71e-02	pCi/g	1
28DOH	Cs-137	6/27/89	8.05e-01	2.40e-02	1.00e-02	7.05e-01	2.10e-02	pCi/g	1
28DOH	Cs-137	6/26/90	1.90e+00	0.00e+00	1.00e-02	1.70e+00	0.00e+00	pCi/g	1
28DOH	Cs-137	7/31/91	1.62e+00	4.00e-02	2.00e-02	1.49e+00	3.68e-02	pCi/g	1
29DOH	Cs-137	11/19/85	8.00e-02	1.00e-02	1.00e-02	6.45e-02	8.06e-03	pCi/g	1
29DOH	Cs-137	11/10/86	1.04e-01	1.10e-02	1.00e-02	8.57e-02	9.07e-03	pCi/g	1
29DOH	Cs-137	10/27/88	9.63e-02	1.15e-02	1.00e-02	8.30e-02	9.92e-03	pCi/g	1
29DOH	Cs-137	11/7/89	8.00e-02	1.00e-02	1.00e-02	7.06e-02	8.83e-03	pCi/g	1
29DOH	Cs-137	11/5/90	6.00e-02	2.00e-02	2.00e-02	5.42e-02	1.81e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 10 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
29DOH	Cs-137	11/6/91	1.65e-01	1.30e-02	2.00e-02	1.53e-01	1.20e-02	pCi/g	1
29PNL	Cs-137	6/9/88	7.74e-01	4.39e-02	1.50e-02	6.62e-01	3.75e-02	pCi/g	1
29PNL	Cs-137	5/2/89	1.10e+00	5.90e-02	1.50e-02	9.60e-01	5.15e-02	pCi/g	1
29PNL	Cs-137	8/8/91	7.51e-01	5.14e-02	1.50e-02	6.91e-01	4.73e-02	pCi/g	1
30DOH	Cs-137	11/19/85	9.10e-02	1.00e-02	1.00e-02	7.33e-02	8.06e-03	pCi/g	1
30DOH	Cs-137	11/10/86	3.13e-01	1.70e-02	1.00e-02	2.58e-01	1.40e-02	pCi/g	1
30DOH	Cs-137	10/27/88	3.60e-01	1.40e-02	1.00e-02	3.10e-01	1.21e-02	pCi/g	1
30DOH	Cs-137	11/7/89	3.80e-01	2.00e-02	1.00e-02	3.36e-01	1.77e-02	pCi/g	1
30DOH	Cs-137	11/5/90	2.90e-01	2.00e-02	2.00e-02	2.62e-01	1.81e-02	pCi/g	1
30DOH	Cs-137	11/6/91	2.43e-01	1.40e-02	2.00e-02	2.25e-01	1.29e-02	pCi/g	1
31DOH	Cs-137	6/4/87	1.86e-01	1.70e-02	1.00e-02	1.55e-01	1.42e-02	pCi/g	1
32DOH	Cs-137	6/26/90	1.10e-01	1.00e-02	1.00e-02	9.86e-02	8.96e-03	pCi/g	1
33DOH	Cs-137	9/26/85	3.69e+00	7.00e-02	1.00e-02	2.96e+00	5.62e-02	pCi/g	1
33DOH	Cs-137	8/5/86	6.20e-01	4.00e-02	1.00e-02	5.08e-01	3.28e-02	pCi/g	1
33DOH	Cs-137	6/3/87	3.70e-02	8.00e-03	1.00e-02	3.09e-02	6.68e-03	pCi/g	1
33DOH	Cs-137	6/21/88	6.50e-02	9.00e-03	1.00e-02	5.56e-02	7.70e-03	pCi/g	1
33DOH	Cs-137	6/27/89	5.20e-01	2.00e-02	1.00e-02	4.55e-01	1.75e-02	pCi/g	1
33DOH	Cs-137	6/26/90	4.20e-01	2.00e-02	1.00e-02	3.76e-01	1.79e-02	pCi/g	1
33DOH	Cs-137	7/31/91	3.08e-01	1.70e-02	2.00e-02	2.83e-01	1.56e-02	pCi/g	1
34DOH	Cs-137	5/28/85	2.10e-01	2.10e-01	1.00e-02	1.67e-01	1.67e-01	pCi/g	1
35DOH	Cs-137	5/28/85	4.00e-02	4.00e-02	1.00e-02	3.19e-02	3.19e-02	pCi/g	1
35DOH	Cs-137	5/14/86	3.24e-01	2.87e-01	1.00e-02	2.64e-01	2.34e-01	pCi/g	1
36DOH	Cs-137	9/26/85	2.70e-01	2.00e-02	1.00e-02	2.17e-01	1.61e-02	pCi/g	-1
36DOH	Cs-137	8/5/86	7.24e-01	2.61e-02	1.00e-02	5.93e-01	2.14e-02	pCi/g	-1
36DOH	Cs-137	6/3/87	4.80e-01	1.00e-02	1.00e-02	4.01e-01	8.35e-03	pCi/g	-1
36DOH	Cs-137	6/21/88	2.30e-01	1.00e-02	1.00e-02	1.97e-01	8.55e-03	pCi/g	-1
36DOH	Cs-137	6/27/89	1.61e-01	1.50e-02	1.00e-02	1.41e-01	1.31e-02	pCi/g	-1
36DOH	Cs-137	6/26/90	2.80e-01	2.00e-02	1.00e-02	2.51e-01	1.79e-02	pCi/g	-1
37DOH	Cs-137	11/19/85	1.30e-01	1.00e-02	1.00e-02	1.05e-01	8.06e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 11 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
37DOH	Cs-137	11/10/86	8.96e-03	7.75e-03	1.00e-02	7.38e-03	6.39e-03	pCi/g	1
37DOH	Cs-137	10/27/88	9.30e-03	5.80e-03	1.00e-02	8.02e-03	5.00e-03	pCi/g	1
37DOH	Cs-137	11/7/89	2.00e-02	1.00e-02	1.00e-02	1.77e-02	8.83e-03	pCi/g	1
37DOH	Cs-137	11/5/90	5.00e-02	1.00e-02	2.00e-02	4.52e-02	9.04e-03	pCi/g	-1
38DOH	Cs-137	9/27/89	6.00e-02	1.00e-02	1.00e-02	5.28e-02	8.81e-03	pCi/g	0
39DOH	Cs-137	10/27/88	1.00e-01	1.40e-02	1.00e-02	8.62e-02	1.21e-02	pCi/g	1
39DOH	Cs-137	11/7/89	3.70e-01	2.00e-02	1.00e-02	3.27e-01	1.77e-02	pCi/g	1
39DOH	Cs-137	11/5/90	2.90e-01	2.00e-02	2.00e-02	2.62e-01	1.81e-02	pCi/g	1
40DOH	Cs-137	10/27/88	8.90e-03	7.90e-03	1.00e-02	7.67e-03	6.81e-03	pCi/g	1
41DOH	Cs-137	9/23/85	1.10e-01	2.00e-02	1.00e-02	8.83e-02	1.61e-02	pCi/g	1
41DOH	Cs-137	8/5/86	8.36e-02	1.62e-03	1.00e-02	6.85e-02	1.33e-03	pCi/g	1
42DOH	Cs-137	9/26/85	8.00e-02	2.00e-02	1.00e-02	6.42e-02	1.61e-02	pCi/g	-1
42DOH	Cs-137	8/5/86	5.60e-02	1.34e-02	1.00e-02	4.59e-02	1.10e-02	pCi/g	-1
42DOH	Cs-137	6/3/87	5.70e-02	8.00e-03	1.00e-02	4.76e-02	6.68e-03	pCi/g	-1
42DOH	Cs-137	6/21/88	5.90e-02	1.00e-03	1.00e-02	5.05e-02	8.55e-04	pCi/g	-1
42DOH	Cs-137	6/27/89	6.13e-02	1.27e-02	1.00e-02	5.37e-02	1.11e-02	pCi/g	-1
42DOH	Cs-137	6/26/90	4.90e-02	1.10e-02	1.00e-02	4.39e-02	9.86e-03	pCi/g	-1
43DOH	Cs-137	11/19/85	1.80e-01	1.30e-02	1.00e-02	1.45e-01	1.05e-02	pCi/g	1
43DOH	Cs-137	11/10/86	6.50e-02	9.40e-03	1.00e-02	5.36e-02	7.75e-03	pCi/g	1
43DOH	Cs-137	10/27/88	1.81e-02	7.20e-03	1.00e-02	1.56e-02	6.21e-03	pCi/g	1
43DOH	Cs-137	11/7/89	3.10e-02	1.10e-02	1.00e-02	2.74e-02	9.71e-03	pCi/g	1
43DOH	Cs-137	11/5/90	2.00e-02	1.00e-02	2.00e-02	1.81e-02	9.04e-03	pCi/g	1
44DOH	Cs-137	9/27/89	3.60e-02	1.20e-02	1.00e-02	3.17e-02	1.06e-02	pCi/g	0
45DOH	Cs-137	8/5/86	2.30e-01	8.40e-03	1.00e-02	1.88e-01	6.88e-03	pCi/g	-1
46DOH	Cs-137	9/24/85	3.40e-01	2.00e-02	1.00e-02	2.73e-01	1.61e-02	pCi/g	1
46DOH	Cs-137	8/5/86	6.49e-01	2.70e-02	1.00e-02	5.32e-01	2.21e-02	pCi/g	1
47DOH	Cs-137	12/16/87	2.52e-01	1.90e-02	1.00e-02	2.13e-01	1.61e-02	pCi/g	1
49DOH	Cs-137	5/28/85	4.00e-01	4.00e-01	1.00e-02	3.19e-01	3.19e-01	pCi/g	-1
49DOH	Cs-137	5/14/86	2.60e-01	2.80e-02	1.00e-02	2.12e-01	2.28e-02	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 12 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
3DOH	Eu-152	5/14/87	2.91e-01	2.80e-02	4.00e-02	1.94e-01	1.86e-02	pCi/g	-1
1PNL	Eu-154	6/6/88	1.99e-02	5.58e-02	5.00e-02	1.14e-02	3.20e-02	pCi/g	1
1PNL	Eu-154	5/3/89	3.27e-02	6.44e-02	5.00e-02	2.02e-02	3.98e-02	pCi/g	1
1PNL	Eu-154	8/14/91	1.44e-02	5.98e-02	5.00e-02	1.07e-02	4.45e-02	pCi/g	1
2PNL	Eu-154	4/29/87	-5.57e-03	5.28e-02	5.00e-02	-2.92e-03	2.77e-02	pCi/g	1
2PNL	Eu-154	6/6/88	-4.56e-02	5.45e-02	5.00e-02	-2.62e-02	3.13e-02	pCi/g	1
2PNL	Eu-154	5/5/89	3.09e-02	6.23e-02	5.00e-02	1.91e-02	3.85e-02	pCi/g	1
2PNL	Eu-154	8/14/91	1.93e-02	5.85e-02	5.00e-02	1.44e-02	4.36e-02	pCi/g	1
4PNL	Eu-154	5/7/87	-2.02e-02	5.39e-02	5.00e-02	-1.06e-02	2.83e-02	pCi/g	-1
4PNL	Eu-154	3/22/88	-6.81e-02	6.74e-02	5.00e-02	-3.85e-02	3.81e-02	pCi/g	-1
4PNL	Eu-154	5/2/89	4.78e-02	6.61e-02	5.00e-02	2.96e-02	4.09e-02	pCi/g	-1
4PNL	Eu-154	8/13/91	-3.21e-02	5.50e-02	5.00e-02	-2.39e-02	4.10e-02	pCi/g	-1
5PNL	Eu-154	5/7/87	-3.05e-02	4.55e-02	5.00e-02	-1.60e-02	2.39e-02	pCi/g	1
5PNL	Eu-154	6/6/88	-1.87e-02	5.76e-02	5.00e-02	-1.07e-02	3.31e-02	pCi/g	1
5PNL	Eu-154	5/2/89	8.37e-03	6.92e-02	5.00e-02	5.18e-03	4.28e-02	pCi/g	1
5PNL	Eu-154	7/31/91	1.26e-02	6.32e-02	5.00e-02	9.35e-03	4.69e-02	pCi/g	1
6PNL	Eu-154	5/7/87	4.92e-03	4.11e-02	5.00e-02	2.59e-03	2.16e-02	pCi/g	1
6PNL	Eu-154	3/22/88	2.87e-02	5.07e-02	5.00e-02	1.62e-02	2.86e-02	pCi/g	1
6PNL	Eu-154	5/2/89	4.04e-02	6.27e-02	5.00e-02	2.50e-02	3.88e-02	pCi/g	1
6PNL	Eu-154	7/31/91	-4.66e-02	6.59e-02	5.00e-02	-3.46e-02	4.89e-02	pCi/g	1
7PNL	Eu-154	5/7/87	-1.64e-02	5.80e-02	5.00e-02	-8.62e-03	3.05e-02	pCi/g	1
7PNL	Eu-154	6/6/88	-1.64e-02	5.36e-02	5.00e-02	-9.42e-03	3.08e-02	pCi/g	1
7PNL	Eu-154	5/3/89	2.83e-02	4.85e-02	5.00e-02	1.75e-02	3.00e-02	pCi/g	1
7PNL	Eu-154	8/13/91	-5.10e-02	6.33e-02	5.00e-02	-3.80e-02	4.71e-02	pCi/g	1
8PNL	Eu-154	5/7/87	3.20e-02	4.90e-02	5.00e-02	1.68e-02	2.58e-02	pCi/g	1
8PNL	Eu-154	6/7/88	2.61e-02	5.75e-02	5.00e-02	1.50e-02	3.30e-02	pCi/g	1
8PNL	Eu-154	5/3/89	-8.11e-02	6.09e-02	5.00e-02	-5.02e-02	3.77e-02	pCi/g	1
8PNL	Eu-154	8/13/91	-6.15e-03	7.48e-02	5.00e-02	-4.58e-03	5.57e-02	pCi/g	1
9PNL	Eu-154	5/7/87	3.12e-03	5.00e-02	5.00e-02	1.64e-03	2.63e-02	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 13 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
9PNL	Eu-154	3/31/88	1.69e-02	3.99e-02	5.00e-02	9.56e-03	2.26e-02	pCi/g	-1
9PNL	Eu-154	4/5/88	-1.44e-02	6.86e-02	5.00e-02	-8.16e-03	3.89e-02	pCi/g	-1
9PNL	Eu-154	5/3/89	5.39e-03	5.63e-02	5.00e-02	3.33e-03	3.48e-02	pCi/g	-1
9PNL	Eu-154	10/4/90	-6.24e-02	7.64e-02	5.00e-02	-4.33e-02	5.30e-02	pCi/g	-1
9PNL	Eu-154	8/13/91	4.02e-03	6.03e-02	5.00e-02	2.99e-03	4.49e-02	pCi/g	-1
10PNL	Eu-154	6/7/88	1.19e-02	4.80e-02	5.00e-02	6.84e-03	2.76e-02	pCi/g	1
10PNL	Eu-154	5/3/89	1.96e-03	5.48e-02	5.00e-02	1.21e-03	3.39e-02	pCi/g	1
10PNL	Eu-154	8/13/91	3.92e-03	6.74e-02	5.00e-02	2.92e-03	5.02e-02	pCi/g	1
11PNL	Eu-154	4/29/87	-4.51e-02	6.12e-02	5.00e-02	-2.37e-02	3.21e-02	pCi/g	1
11PNL	Eu-154	6/9/88	-2.96e-02	5.89e-02	5.00e-02	-1.70e-02	3.38e-02	pCi/g	1
11PNL	Eu-154	5/3/89	6.42e-02	3.86e-02	5.00e-02	3.97e-02	2.39e-02	pCi/g	1
11PNL	Eu-154	8/13/91	-3.15e-02	7.42e-02	5.00e-02	-2.35e-02	5.53e-02	pCi/g	1
12PNL	Eu-154	6/9/88	1.41e-02	5.33e-02	5.00e-02	8.10e-03	3.06e-02	pCi/g	1
12PNL	Eu-154	5/3/89	5.07e-02	5.18e-02	5.00e-02	3.14e-02	3.20e-02	pCi/g	1
12PNL	Eu-154	8/13/91	7.49e-03	5.30e-02	5.00e-02	5.58e-03	3.95e-02	pCi/g	1
13PNL	Eu-154	4/29/87	3.99e-02	4.89e-02	5.00e-02	2.09e-02	2.57e-02	pCi/g	1
13PNL	Eu-154	6/9/88	7.70e-03	5.68e-02	5.00e-02	4.43e-03	3.26e-02	pCi/g	1
13PNL	Eu-154	5/2/89	-8.28e-03	4.72e-02	5.00e-02	-5.12e-03	2.92e-02	pCi/g	1
13PNL	Eu-154	8/8/91	-3.81e-02	6.17e-02	5.00e-02	-2.83e-02	4.59e-02	pCi/g	1
29PNL	Eu-154	6/9/88	-1.16e-03	5.53e-02	5.00e-02	-6.67e-04	3.18e-02	pCi/g	1
29PNL	Eu-154	5/2/89	-7.79e-03	5.79e-02	5.00e-02	-4.82e-03	3.58e-02	pCi/g	1
29PNL	Eu-154	8/8/91	-2.70e-02	6.87e-02	5.00e-02	-2.01e-02	5.11e-02	pCi/g	1
1PNL	Eu-155	6/6/88	3.41e-02	5.37e-02	5.00e-02	1.27e-02	1.99e-02	pCi/g	1
1PNL	Eu-155	5/3/89	4.52e-02	6.42e-02	5.00e-02	1.92e-02	2.72e-02	pCi/g	1
1PNL	Eu-155	8/14/91	6.65e-02	6.59e-02	5.00e-02	3.93e-02	3.89e-02	pCi/g	1
2PNL	Eu-155	4/29/87	1.06e-01	5.28e-02	5.00e-02	3.35e-02	1.67e-02	pCi/g	1
2PNL	Eu-155	6/6/88	5.03e-02	4.94e-02	5.00e-02	1.87e-02	1.83e-02	pCi/g	1
2PNL	Eu-155	5/5/89	2.07e-02	6.26e-02	5.00e-02	8.78e-03	2.66e-02	pCi/g	1
2PNL	Eu-155	8/14/91	1.01e-01	5.71e-02	5.00e-02	5.97e-02	3.37e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 14 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
4PNL	Eu-155	5/7/87	8.73e-02	8.56e-02	5.00e-02	2.77e-02	2.72e-02	pCi/g	-1
4PNL	Eu-155	3/22/88	7.03e-02	9.43e-02	5.00e-02	2.53e-02	3.40e-02	pCi/g	-1
4PNL	Eu-155	5/2/89	1.23e-01	9.82e-02	5.00e-02	5.21e-02	4.16e-02	pCi/g	-1
4PNL	Eu-155	8/13/91	2.86e-02	4.58e-02	5.00e-02	1.69e-02	2.71e-02	pCi/g	-1
5PNL	Eu-155	5/7/87	8.55e-03	3.77e-02	5.00e-02	2.71e-03	1.20e-02	pCi/g	1
5PNL	Eu-155	6/6/88	3.94e-02	6.14e-02	5.00e-02	1.46e-02	2.28e-02	pCi/g	1
5PNL	Eu-155	5/2/89	7.55e-02	7.52e-02	5.00e-02	3.20e-02	3.19e-02	pCi/g	1
5PNL	Eu-155	7/31/91	-4.82e-03	6.20e-02	5.00e-02	-2.83e-03	3.64e-02	pCi/g	1
6PNL	Eu-155	5/7/87	-6.28e-03	3.73e-02	5.00e-02	-1.99e-03	1.18e-02	pCi/g	1
6PNL	Eu-155	3/22/88	3.94e-02	4.90e-02	5.00e-02	1.42e-02	1.77e-02	pCi/g	1
6PNL	Eu-155	5/2/89	4.68e-02	5.05e-02	5.00e-02	1.98e-02	2.14e-02	pCi/g	1
6PNL	Eu-155	7/31/91	2.99e-02	6.00e-02	5.00e-02	1.76e-02	3.53e-02	pCi/g	1
7PNL	Eu-155	5/7/87	4.98e-02	5.73e-02	5.00e-02	1.58e-02	1.82e-02	pCi/g	1
7PNL	Eu-155	6/6/88	6.27e-02	4.55e-02	5.00e-02	2.33e-02	1.69e-02	pCi/g	1
7PNL	Eu-155	5/3/89	3.85e-02	4.63e-02	5.00e-02	1.63e-02	1.96e-02	pCi/g	1
7PNL	Eu-155	8/13/91	4.46e-02	4.89e-02	5.00e-02	2.63e-02	2.89e-02	pCi/g	1
8PNL	Eu-155	5/7/87	7.02e-04	5.18e-02	5.00e-02	2.23e-04	1.64e-02	pCi/g	1
8PNL	Eu-155	6/7/88	3.69e-02	5.66e-02	5.00e-02	1.37e-02	2.10e-02	pCi/g	1
8PNL	Eu-155	5/3/89	3.32e-02	5.27e-02	5.00e-02	1.41e-02	2.23e-02	pCi/g	1
8PNL	Eu-155	8/13/91	5.02e-02	1.08e-01	5.00e-02	2.97e-02	6.38e-02	pCi/g	1
9PNL	Eu-155	5/7/87	3.24e-02	5.26e-02	5.00e-02	1.03e-02	1.67e-02	pCi/g	-1
9PNL	Eu-155	3/31/88	7.36e-02	6.54e-02	5.00e-02	2.66e-02	2.37e-02	pCi/g	-1
9PNL	Eu-155	4/5/88	9.24e-02	7.62e-02	5.00e-02	3.35e-02	2.76e-02	pCi/g	-1
9PNL	Eu-155	5/3/89	3.19e-02	6.63e-02	5.00e-02	1.35e-02	2.81e-02	pCi/g	-1
9PNL	Eu-155	10/4/90	3.64e-02	8.65e-02	5.00e-02	1.90e-02	4.51e-02	pCi/g	-1
9PNL	Eu-155	8/13/91	6.10e-02	7.06e-02	5.00e-02	3.60e-02	4.17e-02	pCi/g	-1
10PNL	Eu-155	6/7/88	4.78e-02	5.27e-02	5.00e-02	1.78e-02	1.96e-02	pCi/g	1
10PNL	Eu-155	5/3/89	8.36e-02	6.22e-02	5.00e-02	3.54e-02	2.64e-02	pCi/g	1
10PNL	Eu-155	8/13/91	6.07e-02	7.07e-02	5.00e-02	3.59e-02	4.18e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 15 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
11PNL	Eu-155	4/29/87	8.81e-03	4.45e-02	5.00e-02	2.79e-03	1.41e-02	pCi/g	1
11PNL	Eu-155	6/9/88	6.35e-02	5.90e-02	5.00e-02	2.36e-02	2.19e-02	pCi/g	1
11PNL	Eu-155	5/3/89	5.10e-03	3.58e-02	5.00e-02	2.16e-03	1.52e-02	pCi/g	1
11PNL	Eu-155	8/13/91	7.27e-02	6.71e-02	5.00e-02	4.29e-02	3.96e-02	pCi/g	1
12PNL	Eu-155	6/9/88	-2.13e-02	5.24e-02	5.00e-02	-7.92e-03	1.95e-02	pCi/g	1
12PNL	Eu-155	5/3/89	3.59e-02	4.18e-02	5.00e-02	1.52e-02	1.77e-02	pCi/g	1
12PNL	Eu-155	8/13/91	5.71e-02	4.31e-02	5.00e-02	3.37e-02	2.55e-02	pCi/g	1
13PNL	Eu-155	4/29/87	1.33e-02	7.75e-02	5.00e-02	4.21e-03	2.45e-02	pCi/g	1
13PNL	Eu-155	6/9/88	2.57e-02	6.20e-02	5.00e-02	9.56e-03	2.31e-02	pCi/g	1
13PNL	Eu-155	5/2/89	3.11e-02	4.24e-02	5.00e-02	1.32e-02	1.80e-02	pCi/g	1
13PNL	Eu-155	8/8/91	8.25e-02	5.96e-02	5.00e-02	4.86e-02	3.51e-02	pCi/g	1
29PNL	Eu-155	6/9/88	3.46e-02	5.71e-02	5.00e-02	1.29e-02	2.12e-02	pCi/g	1
29PNL	Eu-155	5/2/89	6.98e-02	5.46e-02	5.00e-02	2.96e-02	2.31e-02	pCi/g	1
29PNL	Eu-155	8/8/91	4.73e-02	8.80e-02	5.00e-02	2.79e-02	5.19e-02	pCi/g	1
4DOH	Gross Alph	8/5/86	8.00e+00	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Alph	8/5/86	8.00e+00	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
13DOH	Gross Alph	8/5/86	1.10e+01	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Alph	8/5/86	5.00e+00	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
20DOH	Gross Alph	1/17/85	1.30e+01	1.30e+01	4.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Alph	8/5/86	9.00e+00	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
29DOH	Gross Alph	11/19/85	1.00e+01	1.00e+01	4.00e+00	NA	NA	pCi/g	-1
30DOH	Gross Alph	11/19/85	1.00e+01	1.00e+01	4.00e+00	NA	NA	pCi/g	-1
33DOH	Gross Alph	8/5/86	1.20e+01	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
36DOH	Gross Alph	8/5/86	8.00e+00	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
37DOH	Gross Alph	11/19/85	1.00e+01	1.00e+01	4.00e+00	NA	NA	pCi/g	-1
41DOH	Gross Alph	8/5/86	8.00e+00	1.00e+00	4.00e+00	NA	NA	pCi/g	1
42DOH	Gross Alph	8/5/86	1.00e+01	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
43DOH	Gross Alph	11/19/85	1.00e+01	1.00e+01	4.00e+00	NA	NA	pCi/g	-1
45DOH	Gross Alph	8/5/86	4.00e+00	1.00e+00	4.00e+00	NA	NA	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 16 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
46DOH	Gross Alph	8/5/86	1.00e+01	1.00e+00	4.00e+00	NA	NA	pCi/g	-1
2DOH	Gross Beta	7/31/91	2.10e-02	3.00e-03	1.00e+00	NA	NA	pCi/g	-1
3DOH	Gross Beta	5/14/87	1.52e+01	1.40e+00	1.00e+00	NA	NA	pCi/g	-1
4DOH	Gross Beta	9/26/85	2.10e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
4DOH	Gross Beta	8/5/86	2.00e+01	1.60e+00	1.00e+00	NA	NA	pCi/g	-1
4DOH	Gross Beta	6/3/87	1.60e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
4DOH	Gross Beta	6/21/88	1.00e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
4DOH	Gross Beta	6/27/89	1.90e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
4DOH	Gross Beta	6/26/90	1.80e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
4DOH	Gross Beta	7/31/91	1.90e-02	3.00e-03	1.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Beta	9/24/85	2.20e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Beta	8/5/86	2.10e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Beta	6/3/87	2.10e+01	1.60e+00	1.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Beta	6/21/88	1.60e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Beta	6/27/89	2.20e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Beta	6/26/90	2.00e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
5DOH	Gross Beta	7/31/91	2.10e-02	3.00e-03	1.00e+00	NA	NA	pCi/g	-1
6DOH	Gross Beta	5/20/87	2.14e+01	1.01e+01	1.00e+00	NA	NA	pCi/g	-1
7DOH	Gross Beta	5/19/87	4.73e+01	1.80e+00	1.00e+00	NA	NA	pCi/g	-1
8DOH	Gross Beta	5/13/87	3.30e+02	6.00e+00	1.00e+00	NA	NA	pCi/g	-1
13DOH	Gross Beta	9/24/85	2.10e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
13DOH	Gross Beta	8/5/86	2.10e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Beta	9/26/85	2.70e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Beta	8/5/86	2.30e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Beta	6/3/87	2.71e+01	1.70e+00	1.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Beta	6/21/88	1.90e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Beta	6/27/89	2.20e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Beta	6/26/90	2.00e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
16DOH	Gross Beta	7/31/91	2.20e-02	3.00e-03	1.00e+00	NA	NA	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 17 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
20DOH	Gross Beta	1/17/85	1.50e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
21DOH	Gross Beta	6/30/92	2.60e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
23DOH	Gross Beta	11/6/91	1.80e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
25DOH	Gross Beta	11/5/91	1.90e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
26DOH	Gross Beta	11/6/91	2.00e+01	2.20e+00	1.00e+00	NA	NA	pCi/g	-1
27DOH	Gross Beta	6/30/92	2.40e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Beta	9/26/85	2.60e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Beta	8/5/86	2.20e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Beta	6/3/87	2.40e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Beta	6/21/88	1.60e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Beta	6/27/89	2.40e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Beta	6/26/90	2.10e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
28DOH	Gross Beta	7/31/91	2.30e-02	3.00e-03	1.00e+00	NA	NA	pCi/g	-1
29DOH	Gross Beta	11/19/85	2.00e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
29DOH	Gross Beta	11/10/86	2.00e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
29DOH	Gross Beta	10/27/88	2.20e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
29DOH	Gross Beta	11/7/89	1.80e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
29DOH	Gross Beta	11/5/90	2.00e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
29DOH	Gross Beta	11/6/91	1.80e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
30DOH	Gross Beta	11/19/85	2.00e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
30DOH	Gross Beta	11/10/86	2.01e+01	1.29e+00	1.00e+00	NA	NA	pCi/g	-1
30DOH	Gross Beta	10/27/88	1.90e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
30DOH	Gross Beta	11/7/89	1.80e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
30DOH	Gross Beta	11/5/90	1.90e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
30DOH	Gross Beta	11/6/91	2.01e+01	2.20e+00	1.00e+00	NA	NA	pCi/g	-1
31DOH	Gross Beta	6/4/87	2.06e+01	1.60e+00	1.00e+00	NA	NA	pCi/g	-1
32DOH	Gross Beta	6/26/90	1.70e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
33DOH	Gross Beta	9/26/85	2.60e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
33DOH	Gross Beta	8/5/86	2.20e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 18 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
33DOH	Gross Beta	6/3/87	2.16e+01	1.60e+00	1.00e+00	NA	NA	pCi/g	-1
33DOH	Gross Beta	6/21/88	1.70e+01	1.80e+00	1.00e+00	NA	NA	pCi/g	-1
33DOH	Gross Beta	6/27/89	2.20e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
33DOH	Gross Beta	6/26/90	1.80e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
33DOH	Gross Beta	7/31/91	2.10e-02	3.00e-03	1.00e+00	NA	NA	pCi/g	-1
34DOH	Gross Beta	5/28/85	2.00e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
34DOH	Gross Beta	5/14/86	1.22e+01	9.00e-01	1.00e+00	NA	NA	pCi/g	-1
35DOH	Gross Beta	5/28/85	1.50e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
35DOH	Gross Beta	5/14/86	1.47e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
36DOH	Gross Beta	9/26/85	2.10e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
36DOH	Gross Beta	8/5/86	2.70e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
36DOH	Gross Beta	6/3/87	2.40e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
36DOH	Gross Beta	6/21/88	2.30e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
36DOH	Gross Beta	6/27/89	2.40e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
36DOH	Gross Beta	6/26/90	2.30e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
37DOH	Gross Beta	11/19/85	1.80e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
37DOH	Gross Beta	11/10/86	2.10e+01	1.30e+00	1.00e+00	NA	NA	pCi/g	-1
37DOH	Gross Beta	10/27/88	2.10e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
37DOH	Gross Beta	11/7/89	1.90e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
37DOH	Gross Beta	11/5/90	1.90e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
39DOH	Gross Beta	10/27/88	2.10e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
39DOH	Gross Beta	11/7/89	1.90e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
39DOH	Gross Beta	11/5/90	1.70e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
40DOH	Gross Beta	10/27/88	1.80e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
41DOH	Gross Beta	9/23/85	1.90e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	1
41DOH	Gross Beta	8/5/86	1.90e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	1
42DOH	Gross Beta	9/26/85	2.40e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
42DOH	Gross Beta	8/5/86	2.20e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
42DOH	Gross Beta	6/3/87	2.26e+01	1.60e+00	1.00e+00	NA	NA	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 19 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
42DOH	Gross Beta	6/21/88	1.70e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
42DOH	Gross Beta	6/27/89	2.10e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
42DOH	Gross Beta	6/26/90	2.00e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
43DOH	Gross Beta	11/19/85	1.90e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
43DOH	Gross Beta	11/10/86	2.01e+01	1.30e+00	1.00e+00	NA	NA	pCi/g	-1
43DOH	Gross Beta	10/27/88	2.10e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
43DOH	Gross Beta	11/7/89	2.00e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
43DOH	Gross Beta	11/5/90	1.70e+01	3.00e+00	1.00e+00	NA	NA	pCi/g	-1
45DOH	Gross Beta	8/5/86	1.90e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
46DOH	Gross Beta	9/24/85	2.20e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
46DOH	Gross Beta	8/5/86	2.30e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
47DOH	Gross Beta	12/16/87	1.72e+01	5.00e-01	1.00e+00	NA	NA	pCi/g	-1
49DOH	Gross Beta	5/28/85	2.00e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
49DOH	Gross Beta	5/14/86	1.52e+01	1.00e+00	1.00e+00	NA	NA	pCi/g	-1
50DOH	Gross Beta	10/27/88	2.00e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
51DOH	Gross Beta	10/27/88	2.00e+01	2.00e+00	1.00e+00	NA	NA	pCi/g	-1
1PNL	K-40	6/6/88	1.30e+01	8.14e-01	3.50e-01	1.30e+01	8.14e-01	pCi/g	1
1PNL	K-40	5/3/89	1.77e+01	8.71e-01	3.50e-01	1.77e+01	8.71e-01	pCi/g	1
1PNL	K-40	8/14/91	1.46e+01	7.70e-01	3.50e-01	1.46e+01	7.70e-01	pCi/g	1
2DOH	K-40	7/31/91	1.59e+01	4.00e-01	1.00e-01	1.59e+01	4.00e-01	pCi/g	1
2PNL	K-40	4/29/87	1.46e+01	7.13e-01	3.50e-01	1.46e+01	7.13e-01	pCi/g	1
2PNL	K-40	6/6/88	1.29e+01	7.46e-01	3.50e-01	1.29e+01	7.46e-01	pCi/g	1
2PNL	K-40	5/5/89	1.55e+01	8.32e-01	3.50e-01	1.55e+01	8.32e-01	pCi/g	1
2PNL	K-40	8/14/91	1.48e+01	8.62e-01	3.50e-01	1.48e+01	8.62e-01	pCi/g	1
3DOH	K-40	5/14/87	1.07e+01	2.40e-01	1.00e-01	1.07e+01	2.40e-01	pCi/g	1
4DOH	K-40	8/5/86	1.31e+01	2.34e-01	1.00e-01	1.31e+01	2.34e-01	pCi/g	1
4DOH	K-40	6/3/87	1.19e+01	2.00e-01	1.00e-01	1.19e+01	2.00e-01	pCi/g	1
4DOH	K-40	6/21/88	1.38e+01	3.00e-01	1.00e-01	1.38e+01	3.00e-01	pCi/g	1
4DOH	K-40	6/27/89	1.32e+01	3.00e-01	1.00e-01	1.32e+01	3.00e-01	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 20 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
4DOH	K-40	6/26/90	1.41e+01	3.00e-01	1.00e-01	1.41e+01	3.00e-01	pCi/g	-1
4DOH	K-40	7/31/91	1.52e+01	3.00e-01	1.00e-01	1.52e+01	3.00e-01	pCi/g	1
4PNL	K-40	5/7/87	1.43e+01	7.22e-01	3.50e-01	1.43e+01	7.22e-01	pCi/g	-1
4PNL	K-40	3/22/88	1.54e+01	8.10e-01	3.50e-01	1.54e+01	8.10e-01	pCi/g	-1
4PNL	K-40	5/2/89	1.59e+01	8.27e-01	3.50e-01	1.59e+01	8.27e-01	pCi/g	-1
4PNL	K-40	8/13/91	1.66e+01	7.64e-01	3.50e-01	1.66e+01	7.64e-01	pCi/g	1
5DOH	K-40	8/5/86	1.45e+01	4.00e-01	1.00e-01	1.45e+01	4.00e-01	pCi/g	1
5DOH	K-40	6/3/87	1.15e+01	3.00e-01	1.00e-01	1.15e+01	3.00e-01	pCi/g	1
5DOH	K-40	6/21/88	1.42e+01	3.00e-01	1.00e-01	1.42e+01	3.00e-01	pCi/g	1
5DOH	K-40	6/27/89	1.40e+01	3.00e-01	1.00e-01	1.40e+01	3.00e-01	pCi/g	1
5DOH	K-40	6/26/90	1.54e+01	3.00e-01	1.00e-01	1.54e+01	3.00e-01	pCi/g	1
5DOH	K-40	7/31/91	1.52e+01	4.00e-01	1.00e-01	1.52e+01	4.00e-01	pCi/g	1
5PNL	K-40	5/7/87	1.39e+01	5.91e-01	3.50e-01	1.39e+01	5.91e-01	pCi/g	1
5PNL	K-40	6/6/88	1.44e+01	7.55e-01	3.50e-01	1.44e+01	7.55e-01	pCi/g	1
5PNL	K-40	5/2/89	1.48e+01	8.42e-01	3.50e-01	1.48e+01	8.42e-01	pCi/g	1
5PNL	K-40	7/31/91	1.36e+01	7.09e-01	3.50e-01	1.36e+01	7.09e-01	pCi/g	1
6DOH	K-40	5/20/87	1.45e+01	4.58e-01	1.00e-01	1.45e+01	4.58e-01	pCi/g	-1
6PNL	K-40	5/7/87	1.31e+01	5.86e-01	3.50e-01	1.31e+01	5.86e-01	pCi/g	1
6PNL	K-40	3/22/88	1.34e+01	7.02e-01	3.50e-01	1.34e+01	7.02e-01	pCi/g	1
6PNL	K-40	5/2/89	1.52e+01	8.39e-01	3.50e-01	1.52e+01	8.39e-01	pCi/g	1
6PNL	K-40	7/31/91	1.44e+01	7.22e-01	3.50e-01	1.44e+01	7.22e-01	pCi/g	1
7DOH	K-40	5/19/87	1.90e+01	7.20e-01	1.00e-01	1.90e+01	7.20e-01	pCi/g	-1
7PNL	K-40	5/7/87	1.65e+01	7.21e-01	3.50e-01	1.65e+01	7.21e-01	pCi/g	1
7PNL	K-40	6/6/88	1.56e+01	7.00e-01	3.50e-01	1.56e+01	7.00e-01	pCi/g	1
7PNL	K-40	5/3/89	1.62e+01	7.44e-01	3.50e-01	1.62e+01	7.44e-01	pCi/g	1
7PNL	K-40	8/13/91	1.66e+01	7.98e-01	3.50e-01	1.66e+01	7.98e-01	pCi/g	1
8DOH	K-40	5/13/87	1.49e+01	1.50e+00	1.00e-01	1.49e+01	1.50e+00	pCi/g	-1
8PNL	K-40	5/7/87	1.69e+01	7.18e-01	3.50e-01	1.69e+01	7.18e-01	pCi/g	1
8PNL	K-40	6/7/88	1.64e+01	7.20e-01	3.50e-01	1.64e+01	7.20e-01	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 21 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
8PNL	K-40	5/3/89	1.64e+01	7.45e-01	3.50e-01	1.64e+01	7.45e-01	pCi/g	1
8PNL	K-40	8/13/91	1.74e+01	9.38e-01	3.50e-01	1.74e+01	9.38e-01	pCi/g	1
9PNL	K-40	5/7/87	1.38e+01	6.69e-01	3.50e-01	1.38e+01	6.69e-01	pCi/g	-1
9PNL	K-40	3/31/88	1.50e+01	6.24e-01	3.50e-01	1.50e+01	6.24e-01	pCi/g	-1
9PNL	K-40	4/5/88	1.72e+01	7.78e-01	3.50e-01	1.72e+01	7.78e-01	pCi/g	-1
9PNL	K-40	5/3/89	1.47e+01	7.58e-01	3.50e-01	1.47e+01	7.58e-01	pCi/g	-1
9PNL	K-40	10/4/90	1.27e+01	7.71e-01	3.50e-01	1.27e+01	7.71e-01	pCi/g	-1
9PNL	K-40	8/13/91	1.29e+01	7.39e-01	3.50e-01	1.29e+01	7.39e-01	pCi/g	-1
10DOH	K-40	8/18/89	1.07e+01	2.60e+00	1.00e-01	1.07e+01	2.60e+00	pCi/g	1
10PNL	K-40	6/7/88	1.41e+01	6.87e-01	3.50e-01	1.41e+01	6.87e-01	pCi/g	1
10PNL	K-40	5/3/89	1.51e+01	7.39e-01	3.50e-01	1.51e+01	7.39e-01	pCi/g	1
10PNL	K-40	8/13/91	1.65e+01	8.26e-01	3.50e-01	1.65e+01	8.26e-01	pCi/g	1
11DOH	K-40	8/18/89	9.47e+00	2.70e-01	1.00e-01	9.47e+00	2.70e-01	pCi/g	1
11PNL	K-40	4/29/87	1.51e+01	7.47e-01	3.50e-01	1.51e+01	7.47e-01	pCi/g	1
11PNL	K-40	6/9/88	1.39e+01	6.80e-01	3.50e-01	1.39e+01	6.80e-01	pCi/g	1
11PNL	K-40	5/3/89	1.01e+01	5.20e-01	3.50e-01	1.01e+01	5.20e-01	pCi/g	1
11PNL	K-40	8/13/91	1.58e+01	8.46e-01	3.50e-01	1.58e+01	8.46e-01	pCi/g	1
12PNL	K-40	6/9/88	1.50e+01	7.11e-01	3.50e-01	1.50e+01	7.11e-01	pCi/g	1
12PNL	K-40	5/3/89	1.34e+01	7.22e-01	3.50e-01	1.34e+01	7.22e-01	pCi/g	1
12PNL	K-40	8/13/91	1.44e+01	6.92e-01	3.50e-01	1.44e+01	6.92e-01	pCi/g	1
13DOH	K-40	8/5/86	1.55e+01	4.40e-01	1.00e-01	1.55e+01	4.40e-01	pCi/g	1
13PNL	K-40	4/29/87	1.59e+01	8.55e-01	3.50e-01	1.59e+01	8.55e-01	pCi/g	1
13PNL	K-40	6/9/88	1.65e+01	8.56e-01	3.50e-01	1.65e+01	8.56e-01	pCi/g	1
13PNL	K-40	5/2/89	1.29e+01	6.20e-01	3.50e-01	1.29e+01	6.20e-01	pCi/g	1
13PNL	K-40	8/8/91	1.51e+01	7.44e-01	3.50e-01	1.51e+01	7.44e-01	pCi/g	1
16DOH	K-40	8/5/86	1.42e+01	3.90e-01	1.00e-01	1.42e+01	3.90e-01	pCi/g	1
16DOH	K-40	6/3/87	1.25e+01	3.00e-01	1.00e-01	1.25e+01	3.00e-01	pCi/g	1
16DOH	K-40	6/21/88	1.43e+01	3.00e-01	1.00e-01	1.43e+01	3.00e-01	pCi/g	1
16DOH	K-40	6/27/89	1.41e+01	3.00e-01	1.00e-01	1.41e+01	3.00e-01	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 22 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
16DOH	K-40	6/26/90	1.49e+01	3.00e-01	1.00e-01	1.49e+01	3.00e-01	pCi/g	1
16DOH	K-40	7/31/91	1.35e+01	3.00e-01	1.00e-01	1.35e+01	3.00e-01	pCi/g	1
18DOH	K-40	9/27/89	1.02e+01	3.00e-01	1.00e-01	1.02e+01	3.00e-01	pCi/g	1
20DOH	K-40	1/17/85	1.41e+01	3.00e-01	1.00e-01	1.41e+01	3.00e-01	pCi/g	1
21DOH	K-40	6/30/92	1.68e+01	4.00e-01	1.00e-01	1.68e+01	4.00e-01	pCi/g	-1
27DOH	K-40	6/30/92	1.38e+01	5.00e-01	1.00e-01	1.38e+01	5.00e-01	pCi/g	1
28DOH	K-40	8/5/86	1.35e+01	5.00e-01	1.00e-01	1.35e+01	5.00e-01	pCi/g	1
28DOH	K-40	6/3/87	1.22e+01	3.00e-01	1.00e-01	1.22e+01	3.00e-01	pCi/g	1
28DOH	K-40	6/21/88	1.49e+01	3.00e-01	1.00e-01	1.49e+01	3.00e-01	pCi/g	1
28DOH	K-40	6/27/89	1.39e+01	4.00e-01	1.00e-01	1.39e+01	4.00e-01	pCi/g	1
28DOH	K-40	6/26/90	1.59e-01	3.00e-03	1.00e-01	1.59e-01	3.00e-03	pCi/g	1
28DOH	K-40	7/31/91	1.65e+01	6.00e-01	1.00e-01	1.65e+01	6.00e-01	pCi/g	1
29DOH	K-40	11/19/85	1.43e+01	3.10e-01	1.00e-01	1.43e+01	3.10e-01	pCi/g	1
29DOH	K-40	11/10/86	1.48e+01	3.00e-01	1.00e-01	1.48e+01	3.00e-01	pCi/g	1
29DOH	K-40	10/27/88	1.47e+01	3.00e-01	1.00e-01	1.47e+01	3.00e-01	pCi/g	1
29DOH	K-40	11/7/89	1.34e+01	3.00e-01	1.00e-01	1.34e+01	3.00e-01	pCi/g	1
29DOH	K-40	11/5/90	1.55e+01	4.00e-01	1.00e-01	1.55e+01	4.00e-01	pCi/g	1
29PNL	K-40	6/9/88	1.48e+01	7.45e-01	3.50e-01	1.48e+01	7.45e-01	pCi/g	1
29PNL	K-40	5/2/89	1.58e+01	8.34e-01	3.50e-01	1.58e+01	8.34e-01	pCi/g	1
29PNL	K-40	8/8/91	1.11e+01	7.41e-01	3.50e-01	1.11e+01	7.41e-01	pCi/g	1
30DOH	K-40	11/19/85	1.36e+01	2.90e-01	1.00e-01	1.36e+01	2.90e-01	pCi/g	1
30DOH	K-40	11/10/86	1.45e+01	3.00e-01	1.00e-01	1.45e+01	3.00e-01	pCi/g	1
30DOH	K-40	10/27/88	1.34e+01	2.00e-01	1.00e-01	1.34e+01	2.00e-01	pCi/g	1
30DOH	K-40	11/7/89	1.46e+01	3.00e-01	1.00e-01	1.46e+01	3.00e-01	pCi/g	1
30DOH	K-40	11/5/90	1.30e+01	3.00e-01	1.00e-01	1.30e+01	3.00e-01	pCi/g	1
31DOH	K-40	6/4/87	1.58e+01	5.00e-01	1.00e-01	1.58e+01	5.00e-01	pCi/g	1
32DOH	K-40	6/26/90	1.40e+01	3.00e-01	1.00e-01	1.40e+01	3.00e-01	pCi/g	1
33DOH	K-40	8/5/86	1.25e+01	4.70e-01	1.00e-01	1.25e+01	4.70e-01	pCi/g	1
33DOH	K-40	6/3/87	1.24e+01	3.00e-01	1.00e-01	1.24e+01	3.00e-01	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 23 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
33DOH	K-40	6/21/88	1.72e+01	3.00e-01	1.00e-01	1.72e+01	3.00e-01	pCi/g	1
33DOH	K-40	6/27/89	1.44e+01	3.00e-01	1.00e-01	1.44e+01	3.00e-01	pCi/g	1
33DOH	K-40	6/26/90	1.61e+01	4.00e-01	1.00e-01	1.61e+01	4.00e-01	pCi/g	1
33DOH	K-40	7/31/91	1.59e+01	4.00e-01	1.00e-01	1.59e+01	4.00e-01	pCi/g	1
34DOH	K-40	5/28/85	1.25e+01	1.25e+01	1.00e-01	1.25e+01	1.25e+01	pCi/g	1
34DOH	K-40	5/14/86	1.34e+01	4.00e-01	1.00e-01	1.34e+01	4.00e-01	pCi/g	1
35DOH	K-40	5/28/85	1.15e+01	1.15e+01	1.00e-01	1.15e+01	1.15e+01	pCi/g	1
35DOH	K-40	5/14/86	1.45e+01	4.00e-01	1.00e-01	1.45e+01	4.00e-01	pCi/g	1
36DOH	K-40	8/5/86	1.66e+01	2.31e-01	1.00e-01	1.66e+01	2.31e-01	pCi/g	1
36DOH	K-40	6/3/87	1.34e+01	3.00e-01	1.00e-01	1.34e+01	3.00e-01	pCi/g	1
36DOH	K-40	6/21/88	1.66e+01	3.00e+01	1.00e-01	1.66e+01	3.00e+01	pCi/g	1
36DOH	K-40	6/27/89	1.73e+01	4.00e-01	1.00e-01	1.73e+01	4.00e-01	pCi/g	1
36DOH	K-40	6/26/90	1.75e+01	3.00e-03	1.00e-01	1.75e+01	3.00e-03	pCi/g	-1
37DOH	K-40	11/19/85	1.31e+01	2.90e-01	1.00e-01	1.31e+01	2.90e-01	pCi/g	1
37DOH	K-40	11/10/86	1.56e+01	3.00e-01	1.00e-01	1.56e+01	3.00e-01	pCi/g	1
37DOH	K-40	10/27/88	1.22e+01	3.00e-01	1.00e-01	1.22e+01	3.00e-01	pCi/g	1
37DOH	K-40	11/7/89	1.56e+01	3.00e-01	1.00e-01	1.56e+01	3.00e-01	pCi/g	1
37DOH	K-40	11/5/90	1.52e+01	4.00e-01	1.00e-01	1.52e+01	4.00e-01	pCi/g	-1
38DOH	K-40	9/27/89	1.09e+01	3.00e-01	1.00e-01	1.09e+01	3.00e-01	pCi/g	1
39DOH	K-40	10/27/88	1.49e+01	3.00e-01	1.00e-01	1.49e+01	3.00e-01	pCi/g	1
39DOH	K-40	11/7/89	1.45e+01	3.00e-01	1.00e-01	1.45e+01	3.00e-01	pCi/g	1
39DOH	K-40	11/5/90	1.46e+01	3.00e-01	1.00e-01	1.46e+01	3.00e-01	pCi/g	1
40DOH	K-40	10/27/88	1.24e+01	3.00e-01	1.00e-01	1.24e+01	3.00e-01	pCi/g	1
41DOH	K-40	8/5/86	1.32e+01	5.20e-01	1.00e-01	1.32e+01	5.20e-01	pCi/g	1
42DOH	K-40	8/5/86	1.45e+01	4.10e-01	1.00e-01	1.45e+01	4.10e-01	pCi/g	1
42DOH	K-40	6/3/87	1.37e+01	3.00e-01	1.00e-01	1.37e+01	3.00e-01	pCi/g	1
42DOH	K-40	6/21/88	1.54e+01	3.00e-01	1.00e-01	1.54e+01	3.00e-01	pCi/g	1
42DOH	K-40	6/27/89	1.66e+01	4.00e-01	1.00e-01	1.66e+01	4.00e-01	pCi/g	1
42DOH	K-40	6/26/90	1.68e+01	3.00e-01	1.00e-01	1.68e+01	3.00e-01	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 24 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
43DOH	K-40	11/19/85	1.38e+01	3.00e-01	1.00e-01	1.38e+01	3.00e-01	pCi/g	1
43DOH	K-40	11/10/86	1.44e+01	3.00e-01	1.00e-01	1.44e+01	3.00e-01	pCi/g	1
43DOH	K-40	10/27/88	1.41e+01	2.00e-01	1.00e-01	1.41e+01	2.00e-01	pCi/g	1
43DOH	K-40	11/7/89	1.54e+01	3.00e-01	1.00e-01	1.54e+01	3.00e-01	pCi/g	1
43DOH	K-40	11/5/90	1.50e+01	4.00e-01	1.00e-01	1.50e+01	4.00e-01	pCi/g	1
44DOH	K-40	9/27/89	1.07e+01	3.00e-01	1.00e-01	1.07e+01	3.00e-01	pCi/g	1
45DOH	K-40	8/5/86	1.46e+01	4.00e-01	1.00e-01	1.46e+01	4.00e-01	pCi/g	1
46DOH	K-40	8/5/86	1.47e+01	4.85e-01	1.00e-01	1.47e+01	4.85e-01	pCi/g	1
49DOH	K-40	5/28/85	1.33e+01	1.33e+01	1.00e-01	1.33e+01	1.33e+01	pCi/g	-1
49DOH	K-40	5/14/86	1.46e+01	4.00e-01	1.00e-01	1.46e+01	4.00e-01	pCi/g	-1
50DOH	K-40	10/27/88	1.22e+01	2.00e-01	1.00e-01	1.22e+01	2.00e-01	pCi/g	-1
51DOH	K-40	10/27/88	1.18e+01	2.00e-01	1.00e-01	1.18e+01	2.00e-01	pCi/g	-1
1PNL	Pu-238	6/6/88	2.60e-04	1.82e-04	6.00e-04	2.46e-04	1.72e-04	pCi/g	-1
1PNL	Pu-238	5/3/89	2.90e-04	2.74e-04	6.00e-04	2.77e-04	2.62e-04	pCi/g	-1
1PNL	Pu-238	8/14/91	7.32e-04	3.12e-04	6.00e-04	7.11e-04	3.03e-04	pCi/g	-1
2DOH	Pu-238	7/31/91	2.00e-04	2.20e-03	3.00e-02	1.94e-04	2.14e-03	pCi/g	-1
2PNL	Pu-238	4/29/87	6.45e-04	3.38e-04	6.00e-04	6.06e-04	3.18e-04	pCi/g	-1
2PNL	Pu-238	6/6/88	7.77e-04	3.23e-04	6.00e-04	7.36e-04	3.06e-04	pCi/g	-1
2PNL	Pu-238	5/5/89	4.62e-04	2.09e-04	6.00e-04	4.41e-04	2.00e-04	pCi/g	-1
2PNL	Pu-238	8/14/91	3.68e-04	2.90e-04	6.00e-04	3.58e-04	2.82e-04	pCi/g	-1
3DOH	Pu-238	5/14/87	6.00e-03	1.30e-02	3.00e-02	5.64e-03	1.22e-02	pCi/g	-1
3PNL	Pu-238	4/29/87	5.54e-04	2.54e-04	6.00e-04	5.20e-04	2.39e-04	pCi/g	-1
3PNL	Pu-238	6/6/88	7.16e-04	2.99e-04	6.00e-04	6.79e-04	2.83e-04	pCi/g	-1
3PNL	Pu-238	5/2/89	3.73e-04	2.75e-04	6.00e-04	3.56e-04	2.62e-04	pCi/g	-1
3PNL	Pu-238	7/31/91	1.12e-04	1.81e-04	6.00e-04	1.09e-04	1.76e-04	pCi/g	-1
4DOH	Pu-238	6/3/87	2.80e-03	2.30e-03	3.00e-02	2.63e-03	2.16e-03	pCi/g	-1
4DOH	Pu-238	6/21/88	-5.00e-04	4.00e-03	3.00e-02	-4.74e-04	3.79e-03	pCi/g	-1
4DOH	Pu-238	6/27/89	2.70e-03	3.00e-03	3.00e-02	2.58e-03	2.87e-03	pCi/g	-1
4DOH	Pu-238	6/26/90	2.10e-01	8.90e-03	3.00e-02	2.02e-01	8.57e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 25 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
4DOH	Pu-238	7/31/91	-5.00e-04	3.00e-03	3.00e-02	-4.86e-04	2.91e-03	pCi/g	-1
4PNL	Pu-238	5/7/87	4.31e-04	2.68e-04	6.00e-04	4.05e-04	2.52e-04	pCi/g	-1
4PNL	Pu-238	3/22/88	1.71e-03	5.59e-04	6.00e-04	1.62e-03	5.29e-04	pCi/g	-1
4PNL	Pu-238	5/2/89	7.08e-04	4.54e-04	6.00e-04	6.76e-04	4.33e-04	pCi/g	-1
4PNL	Pu-238	8/13/91	4.39e-04	2.32e-04	6.00e-04	4.27e-04	2.25e-04	pCi/g	-1
5DOH	Pu-238	6/3/87	1.60e-03	2.00e-03	3.00e-02	1.50e-03	1.88e-03	pCi/g	-1
5DOH	Pu-238	6/21/88	1.60e-03	2.10e-03	3.00e-02	1.52e-03	1.99e-03	pCi/g	-1
5DOH	Pu-238	6/27/89	1.00e-04	2.00e-03	3.00e-02	9.56e-05	1.91e-03	pCi/g	-1
5DOH	Pu-238	6/26/90	2.30e-02	9.00e-03	3.00e-02	2.22e-02	8.67e-03	pCi/g	-1
5DOH	Pu-238	7/31/91	1.20e-03	3.50e-03	3.00e-02	1.17e-03	3.40e-03	pCi/g	-1
5PNL	Pu-238	5/7/87	1.22e-04	2.13e-04	6.00e-04	1.15e-04	2.00e-04	pCi/g	-1
5PNL	Pu-238	6/6/88	3.66e-04	1.85e-04	6.00e-04	3.47e-04	1.75e-04	pCi/g	-1
5PNL	Pu-238	5/2/89	8.42e-04	5.35e-04	6.00e-04	8.04e-04	5.11e-04	pCi/g	-1
5PNL	Pu-238	7/31/91	2.13e-04	2.00e-04	6.00e-04	2.07e-04	1.94e-04	pCi/g	-1
6DOH	Pu-238	5/20/87	7.75e-03	2.26e-02	3.00e-02	7.28e-03	2.12e-02	pCi/g	-1
6PNL	Pu-238	5/7/87	3.80e-04	2.31e-04	6.00e-04	3.57e-04	2.17e-04	pCi/g	-1
6PNL	Pu-238	3/22/88	1.07e-03	3.84e-04	6.00e-04	1.01e-03	3.63e-04	pCi/g	-1
6PNL	Pu-238	5/2/89	4.76e-04	2.84e-04	6.00e-04	4.54e-04	2.71e-04	pCi/g	-1
6PNL	Pu-238	7/31/91	2.13e-04	2.00e-04	6.00e-04	2.07e-04	1.94e-04	pCi/g	-1
7DOH	Pu-238	5/19/87	2.00e-03	1.25e-02	3.00e-02	1.88e-03	1.17e-02	pCi/g	-1
7PNL	Pu-238	5/7/87	-1.66e-05	7.16e-05	6.00e-04	-1.56e-05	6.73e-05	pCi/g	-1
7PNL	Pu-238	6/6/88	1.85e-05	6.35e-05	6.00e-04	1.75e-05	6.02e-05	pCi/g	-1
7PNL	Pu-238	5/3/89	9.98e-04	3.90e-04	6.00e-04	9.53e-04	3.72e-04	pCi/g	-1
7PNL	Pu-238	8/13/91	5.21e-04	3.80e-04	6.00e-04	5.06e-04	3.69e-04	pCi/g	-1
8DOH	Pu-238	5/13/87	3.30e-02	1.30e-02	3.00e-02	3.10e-02	1.22e-02	pCi/g	-1
8PNL	Pu-238	5/7/87	1.01e-04	1.25e-04	6.00e-04	9.49e-05	1.17e-04	pCi/g	-1
8PNL	Pu-238	6/7/88	5.04e-04	2.22e-04	6.00e-04	4.78e-04	2.10e-04	pCi/g	-1
8PNL	Pu-238	5/3/89	5.40e-04	4.20e-04	6.00e-04	5.15e-04	4.01e-04	pCi/g	-1
8PNL	Pu-238	8/13/91	4.40e-04	2.49e-04	6.00e-04	4.28e-04	2.42e-04	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 26 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
9PNL	Pu-238	5/7/87	2.11e-03	4.86e-04	6.00e-04	1.98e-03	4.57e-04	pCi/g	-1
9PNL	Pu-238	3/31/88	9.26e-03	9.99e-04	6.00e-04	8.76e-03	9.45e-04	pCi/g	-1
9PNL	Pu-238	4/5/88	1.06e-02	9.61e-04	6.00e-04	1.00e-02	9.10e-04	pCi/g	-1
9PNL	Pu-238	5/3/89	5.41e-03	1.03e-03	6.00e-04	5.16e-03	9.83e-04	pCi/g	-1
9PNL	Pu-238	10/4/90	3.96e-02	3.08e-03	6.00e-04	3.82e-02	2.97e-03	pCi/g	-1
9PNL	Pu-238	8/13/91	3.07e-03	5.68e-04	6.00e-04	2.98e-03	5.52e-04	pCi/g	-1
10PNL	Pu-238	6/7/88	5.53e-04	2.61e-04	6.00e-04	5.24e-04	2.47e-04	pCi/g	-1
10PNL	Pu-238	5/3/89	9.41e-04	3.91e-04	6.00e-04	8.98e-04	3.73e-04	pCi/g	-1
10PNL	Pu-238	8/13/91	6.63e-04	5.13e-04	6.00e-04	6.44e-04	4.99e-04	pCi/g	-1
11PNL	Pu-238	4/29/87	2.60e-04	1.65e-04	6.00e-04	2.44e-04	1.55e-04	pCi/g	-1
11PNL	Pu-238	6/9/88	1.71e-04	1.42e-04	6.00e-04	1.62e-04	1.35e-04	pCi/g	-1
11PNL	Pu-238	5/3/89	5.16e-04	3.76e-04	6.00e-04	4.93e-04	3.59e-04	pCi/g	-1
11PNL	Pu-238	8/13/91	3.92e-04	2.58e-04	6.00e-04	3.81e-04	2.51e-04	pCi/g	-1
12PNL	Pu-238	6/9/88	1.57e-04	1.63e-04	6.00e-04	1.49e-04	1.54e-04	pCi/g	-1
12PNL	Pu-238	5/3/89	1.58e-04	2.13e-04	6.00e-04	1.51e-04	2.03e-04	pCi/g	-1
12PNL	Pu-238	8/13/91	1.36e-04	1.53e-04	6.00e-04	1.32e-04	1.49e-04	pCi/g	-1
13PNL	Pu-238	4/29/87	6.50e-04	2.77e-04	6.00e-04	6.11e-04	2.60e-04	pCi/g	-1
13PNL	Pu-238	6/9/88	2.85e-04	1.97e-04	6.00e-04	2.70e-04	1.87e-04	pCi/g	-1
13PNL	Pu-238	5/2/89	8.28e-04	3.98e-04	6.00e-04	7.90e-04	3.80e-04	pCi/g	-1
13PNL	Pu-238	8/8/91	4.98e-04	2.80e-04	6.00e-04	4.84e-04	2.72e-04	pCi/g	-1
14PNL	Pu-238	4/29/87	4.95e-04	3.74e-04	6.00e-04	4.65e-04	3.51e-04	pCi/g	-1
14PNL	Pu-238	6/6/88	7.46e-04	3.16e-04	6.00e-04	7.07e-04	2.99e-04	pCi/g	-1
14PNL	Pu-238	5/2/89	8.15e-04	4.95e-04	6.00e-04	7.78e-04	4.72e-04	pCi/g	-1
14PNL	Pu-238	7/31/91	1.60e-05	9.60e-05	6.00e-04	1.55e-05	9.33e-05	pCi/g	-1
15PNL	Pu-238	4/29/87	6.45e-04	2.53e-04	6.00e-04	6.06e-04	2.38e-04	pCi/g	-1
15PNL	Pu-238	5/25/88	4.26e-04	2.07e-04	6.00e-04	4.04e-04	1.96e-04	pCi/g	-1
15PNL	Pu-238	5/3/89	2.19e-04	2.35e-04	6.00e-04	2.09e-04	2.24e-04	pCi/g	-1
15PNL	Pu-238	7/31/91	5.23e-04	4.75e-04	6.00e-04	5.08e-04	4.61e-04	pCi/g	-1
16DOH	Pu-238	6/3/87	3.40e-03	2.60e-03	3.00e-02	3.20e-03	2.44e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 27 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
16DOH	Pu-238	6/21/88	5.00e-04	3.00e-03	3.00e-02	4.74e-04	2.84e-03	pCi/g	-1
16DOH	Pu-238	6/27/89	1.30e-03	2.50e-03	3.00e-02	1.24e-03	2.39e-03	pCi/g	-1
16DOH	Pu-238	6/26/90	1.60e-02	1.10e-02	3.00e-02	1.54e-02	1.06e-02	pCi/g	-1
16DOH	Pu-238	7/31/91	1.20e-03	1.90e-03	3.00e-02	1.17e-03	1.85e-03	pCi/g	-1
16PNL	Pu-238	5/15/87	3.24e-04	1.94e-04	6.00e-04	3.05e-04	1.82e-04	pCi/g	-1
16PNL	Pu-238	6/20/88	1.05e-03	3.65e-04	6.00e-04	9.95e-04	3.46e-04	pCi/g	-1
16PNL	Pu-238	5/8/89	2.66e-04	2.23e-04	6.00e-04	2.54e-04	2.13e-04	pCi/g	-1
16PNL	Pu-238	8/8/91	3.26e-04	3.22e-04	6.00e-04	3.17e-04	3.13e-04	pCi/g	-1
16PNL	Pu-238	7/28/92	8.51e-05	1.01e-04	6.00e-04	8.33e-05	9.89e-05	pCi/g	-1
17PNL	Pu-238	5/15/87	6.59e-05	1.06e-04	6.00e-04	6.19e-05	9.96e-05	pCi/g	-1
17PNL	Pu-238	6/20/88	6.52e-04	2.79e-04	6.00e-04	6.18e-04	2.64e-04	pCi/g	-1
17PNL	Pu-238	5/10/89	1.42e-03	5.39e-04	6.00e-04	1.36e-03	5.15e-04	pCi/g	-1
17PNL	Pu-238	10/4/90	1.11e-03	5.55e-04	6.00e-04	1.07e-03	5.36e-04	pCi/g	-1
17PNL	Pu-238	8/8/91	4.17e-04	3.05e-04	6.00e-04	4.05e-04	2.96e-04	pCi/g	-1
17PNL	Pu-238	6/23/92	8.54e-04	3.23e-04	6.00e-04	8.36e-04	3.16e-04	pCi/g	-1
18PNL	Pu-238	5/15/87	2.80e-06	7.79e-05	6.00e-04	2.63e-06	7.32e-05	pCi/g	-1
18PNL	Pu-238	4/1/88	8.92e-04	3.32e-04	6.00e-04	8.44e-04	3.14e-04	pCi/g	-1
18PNL	Pu-238	5/10/89	6.45e-04	2.87e-04	6.00e-04	6.16e-04	2.74e-04	pCi/g	-1
18PNL	Pu-238	10/4/90	2.24e-03	9.04e-04	6.00e-04	2.16e-03	8.73e-04	pCi/g	-1
18PNL	Pu-238	8/8/91	1.87e-04	1.74e-04	6.00e-04	1.82e-04	1.69e-04	pCi/g	-1
18PNL	Pu-238	7/27/92	2.49e-04	1.60e-04	6.00e-04	2.44e-04	1.57e-04	pCi/g	-1
19PNL	Pu-238	5/15/87	4.62e-04	2.57e-04	6.00e-04	4.34e-04	2.42e-04	pCi/g	-1
19PNL	Pu-238	6/20/88	1.86e-04	1.81e-04	6.00e-04	1.76e-04	1.72e-04	pCi/g	-1
19PNL	Pu-238	5/10/89	1.16e-03	3.93e-04	6.00e-04	1.11e-03	3.75e-04	pCi/g	-1
19PNL	Pu-238	10/4/90	5.79e-05	1.05e-04	6.00e-04	5.59e-05	1.01e-04	pCi/g	-1
20PNL	Pu-238	5/15/87	5.70e-05	1.26e-04	6.00e-04	5.36e-05	1.18e-04	pCi/g	-1
20PNL	Pu-238	6/20/88	1.33e-04	1.82e-04	6.00e-04	1.26e-04	1.73e-04	pCi/g	-1
20PNL	Pu-238	5/10/89	9.13e-04	3.23e-04	6.00e-04	8.72e-04	3.08e-04	pCi/g	-1
21DOH	Pu-238	6/30/92	9.00e-04	1.10e-03	3.00e-02	8.81e-04	1.08e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 28 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
21PNL	Pu-238	5/15/87	7.30e-04	3.59e-04	6.00e-04	6.86e-04	3.37e-04	pCi/g	-1
21PNL	Pu-238	4/1/88	1.35e-03	4.43e-04	6.00e-04	1.28e-03	4.19e-04	pCi/g	-1
21PNL	Pu-238	5/10/89	1.96e-03	7.08e-04	6.00e-04	1.87e-03	6.76e-04	pCi/g	-1
21PNL	Pu-238	10/8/90	2.51e-03	5.81e-04	6.00e-04	2.42e-03	5.61e-04	pCi/g	-1
21PNL	Pu-238	8/8/91	1.50e-03	6.06e-04	6.00e-04	1.46e-03	5.89e-04	pCi/g	-1
21PNL	Pu-238	7/28/92	8.44e-04	3.66e-04	6.00e-04	8.26e-04	3.58e-04	pCi/g	-1
22PNL	Pu-238	5/26/87	1.42e-04	1.74e-04	6.00e-04	1.33e-04	1.64e-04	pCi/g	-1
22PNL	Pu-238	6/10/88	3.35e-04	2.03e-04	6.00e-04	3.18e-04	1.92e-04	pCi/g	-1
22PNL	Pu-238	5/9/89	1.57e-04	2.45e-04	6.00e-04	1.50e-04	2.34e-04	pCi/g	-1
22PNL	Pu-238	10/8/90	1.10e-03	5.04e-04	6.00e-04	1.06e-03	4.87e-04	pCi/g	-1
23DOH	Pu-238	11/6/91	-1.00e-03	3.00e-03	3.00e-02	-9.74e-04	2.92e-03	pCi/g	-1
23PNL	Pu-238	5/26/87	4.73e-05	1.41e-04	6.00e-04	4.45e-05	1.33e-04	pCi/g	-1
23PNL	Pu-238	6/10/88	1.09e-04	1.53e-04	6.00e-04	1.03e-04	1.45e-04	pCi/g	-1
23PNL	Pu-238	5/5/89	1.29e-04	1.54e-04	6.00e-04	1.23e-04	1.47e-04	pCi/g	-1
23PNL	Pu-238	10/3/90	5.93e-04	3.58e-04	6.00e-04	5.72e-04	3.46e-04	pCi/g	-1
24PNL	Pu-238	6/10/88	1.76e-04	1.45e-04	6.00e-04	1.67e-04	1.37e-04	pCi/g	-1
24PNL	Pu-238	5/5/89	5.52e-04	3.79e-04	6.00e-04	5.27e-04	3.62e-04	pCi/g	-1
25DOH	Pu-238	11/5/91	-1.00e-03	3.00e-03	3.00e-02	-9.74e-04	2.92e-03	pCi/g	-1
25PNL	Pu-238	5/7/87	2.74e-05	9.20e-05	6.00e-04	2.57e-05	8.64e-05	pCi/g	-1
25PNL	Pu-238	5/25/88	1.55e-04	1.53e-04	6.00e-04	1.47e-04	1.45e-04	pCi/g	-1
25PNL	Pu-238	5/5/89	3.26e-04	1.98e-04	6.00e-04	3.11e-04	1.89e-04	pCi/g	-1
25PNL	Pu-238	7/31/91	1.84e-04	1.93e-04	6.00e-04	1.79e-04	1.88e-04	pCi/g	-1
26DOH	Pu-238	11/6/91	-1.00e-03	3.00e-03	3.00e-02	-9.74e-04	2.92e-03	pCi/g	-1
26PNL	Pu-238	5/7/87	4.37e-04	2.31e-04	6.00e-04	4.11e-04	2.17e-04	pCi/g	-1
26PNL	Pu-238	6/7/88	1.36e-05	5.93e-05	6.00e-04	1.29e-05	5.62e-05	pCi/g	-1
26PNL	Pu-238	5/5/89	5.61e-04	2.98e-04	6.00e-04	5.36e-04	2.84e-04	pCi/g	-1
27DOH	Pu-238	6/30/92	8.00e-04	1.20e-03	3.00e-02	7.83e-04	1.17e-03	pCi/g	-1
27PNL	Pu-238	5/20/87	9.91e-04	4.17e-04	6.00e-04	9.31e-04	3.92e-04	pCi/g	-1
27PNL	Pu-238	6/8/88	1.09e-03	3.58e-04	6.00e-04	1.03e-03	3.39e-04	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 29 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
27PNL	Pu-238	5/5/89	8.51e-04	3.27e-04	6.00e-04	8.12e-04	3.12e-04	pCi/g	-1
28DOH	Pu-238	6/3/87	2.70e-03	2.90e-03	3.00e-02	2.54e-03	2.73e-03	pCi/g	-1
28DOH	Pu-238	6/21/88	3.30e-03	3.00e-03	3.00e-02	3.13e-03	2.84e-03	pCi/g	-1
28DOH	Pu-238	6/27/89	1.10e-03	2.70e-03	3.00e-02	1.05e-03	2.58e-03	pCi/g	-1
28DOH	Pu-238	6/26/90	1.40e-02	8.00e-03	3.00e-02	1.35e-02	7.71e-03	pCi/g	-1
28DOH	Pu-238	7/31/91	-3.00e-04	1.70e-03	3.00e-02	-2.91e-04	1.65e-03	pCi/g	-1
28PNL	Pu-238	5/25/88	1.05e-04	1.09e-04	6.00e-04	9.95e-05	1.03e-04	pCi/g	-1
28PNL	Pu-238	5/3/89	3.31e-03	7.42e-04	6.00e-04	3.16e-03	7.08e-04	pCi/g	-1
29DOH	Pu-238	10/27/88	1.00e-07	2.00e-03	3.00e-02	9.51e-08	1.90e-03	pCi/g	-1
29DOH	Pu-238	11/7/89	1.00e-04	2.20e-03	3.00e-02	9.58e-05	2.11e-03	pCi/g	-1
29DOH	Pu-238	11/5/90	-5.00e-03	7.00e-03	3.00e-02	-4.83e-03	6.76e-03	pCi/g	-1
29DOH	Pu-238	11/6/91	1.00e-03	4.00e-03	3.00e-02	9.74e-04	3.89e-03	pCi/g	-1
29PNL	Pu-238	6/9/88	8.02e-04	2.99e-04	6.00e-04	7.60e-04	2.83e-04	pCi/g	-1
29PNL	Pu-238	5/2/89	7.56e-04	3.83e-04	6.00e-04	7.22e-04	3.66e-04	pCi/g	-1
29PNL	Pu-238	8/8/91	3.90e-04	2.45e-04	6.00e-04	3.79e-04	2.38e-04	pCi/g	-1
30DOH	Pu-238	10/27/88	1.00e-03	2.00e-03	3.00e-02	9.51e-04	1.90e-03	pCi/g	-1
30DOH	Pu-238	11/7/89	1.00e-03	2.00e-03	3.00e-02	9.58e-04	1.92e-03	pCi/g	-1
30DOH	Pu-238	11/5/90	9.00e-03	7.00e-03	3.00e-02	8.69e-03	6.76e-03	pCi/g	-1
30DOH	Pu-238	11/6/91	6.00e-03	4.00e-03	3.00e-02	5.84e-03	3.89e-03	pCi/g	-1
31DOH	Pu-238	6/4/87	-1.00e-04	9.00e-03	3.00e-02	-9.40e-05	8.46e-03	pCi/g	-1
32DOH	Pu-238	6/26/90	1.00e-02	1.00e-02	3.00e-02	9.63e-03	9.63e-03	pCi/g	-1
33DOH	Pu-238	6/3/87	2.50e-03	2.80e-03	3.00e-02	2.35e-03	2.63e-03	pCi/g	-1
33DOH	Pu-238	6/21/88	1.30e-03	2.40e-03	3.00e-02	1.23e-03	2.28e-03	pCi/g	-1
33DOH	Pu-238	6/27/89	1.20e-03	2.90e-03	3.00e-02	1.15e-03	2.77e-03	pCi/g	-1
33DOH	Pu-238	6/26/90	2.50e-02	1.20e-02	3.00e-02	2.41e-02	1.16e-02	pCi/g	-1
33DOH	Pu-238	7/31/91	-7.00e-04	2.90e-03	3.00e-02	-6.80e-04	2.82e-03	pCi/g	-1
36DOH	Pu-238	6/3/87	1.00e-04	3.00e-03	3.00e-02	9.40e-05	2.82e-03	pCi/g	-1
36DOH	Pu-238	6/21/88	3.00e-04	2.00e-03	3.00e-02	2.84e-04	1.90e-03	pCi/g	-1
36DOH	Pu-238	6/27/89	4.00e-03	2.60e-03	3.00e-02	3.82e-03	2.48e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 30 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
36DOH	Pu-238	6/26/90	6.00e-04	3.40e-03	3.00e-02	5.78e-04	3.27e-03	pCi/g	-1
37DOH	Pu-238	10/27/88	4.00e-04	2.00e-03	3.00e-02	3.80e-04	1.90e-03	pCi/g	-1
37DOH	Pu-238	11/7/89	-1.00e-03	1.00e-03	3.00e-02	-9.58e-04	9.58e-04	pCi/g	-1
37DOH	Pu-238	11/5/90	-7.00e-03	9.00e-03	3.00e-02	-6.76e-03	8.69e-03	pCi/g	-1
39DOH	Pu-238	10/27/88	2.00e-04	3.00e-03	3.00e-02	1.90e-04	2.85e-03	pCi/g	-1
39DOH	Pu-238	11/7/89	9.00e-03	5.00e-03	3.00e-02	8.63e-03	4.79e-03	pCi/g	-1
39DOH	Pu-238	11/5/90	-8.00e-03	8.00e-03	3.00e-02	-7.73e-03	7.73e-03	pCi/g	-1
40DOH	Pu-238	10/27/88	-1.00e-03	2.00e-03	3.00e-02	-9.51e-04	1.90e-03	pCi/g	-1
42DOH	Pu-238	6/3/87	2.40e-03	2.40e-03	3.00e-02	2.26e-03	2.26e-03	pCi/g	-1
42DOH	Pu-238	6/21/88	1.00e-03	3.00e-03	3.00e-02	9.48e-04	2.84e-03	pCi/g	-1
42DOH	Pu-238	6/27/89	-3.00e-04	2.60e-03	3.00e-02	-2.87e-04	2.48e-03	pCi/g	-1
42DOH	Pu-238	6/26/90	0.00e+00	5.00e-03	3.00e-02	0.00e+00	4.82e-03	pCi/g	-1
43DOH	Pu-238	10/27/88	2.00e-03	2.00e-03	3.00e-02	1.90e-03	1.90e-03	pCi/g	-1
43DOH	Pu-238	11/7/89	1.00e-03	2.00e-03	3.00e-02	9.58e-04	1.92e-03	pCi/g	-1
43DOH	Pu-238	11/5/90	2.00e-03	9.00e-03	3.00e-02	1.93e-03	8.69e-03	pCi/g	-1
50DOH	Pu-238	10/27/88	-7.00e-04	2.00e-03	3.00e-02	-6.65e-04	1.90e-03	pCi/g	-1
51DOH	Pu-238	10/27/88	-9.00e-04	2.00e-03	3.00e-02	-8.56e-04	1.90e-03	pCi/g	-1
1PNL	Pu239/240	6/6/88	1.14e-02	1.11e-03	6.00e-04	1.14e-02	1.11e-03	pCi/g	1
1PNL	Pu239/240	5/3/89	1.66e-02	2.02e-03	6.00e-04	1.66e-02	2.02e-03	pCi/g	1
1PNL	Pu239/240	8/14/91	1.29e-02	1.29e-03	6.00e-04	1.29e-02	1.29e-03	pCi/g	1
2DOH	Pu239/240	7/31/91	8.60e-04	9.60e-04	6.00e-03	8.60e-04	9.60e-04	pCi/g	1
2PNL	Pu239/240	4/29/87	2.33e-02	1.95e-03	6.00e-04	2.33e-02	1.95e-03	pCi/g	1
2PNL	Pu239/240	6/6/88	1.86e-02	1.55e-03	6.00e-04	1.86e-02	1.55e-03	pCi/g	1
2PNL	Pu239/240	5/5/89	1.31e-02	1.09e-03	6.00e-04	1.31e-02	1.09e-03	pCi/g	1
2PNL	Pu239/240	8/14/91	1.77e-02	1.97e-03	6.00e-04	1.77e-02	1.97e-03	pCi/g	1
3DOH	Pu239/240	5/14/87	7.60e-03	2.60e-03	6.00e-03	7.60e-03	2.60e-03	pCi/g	1
4DOH	Pu239/240	8/5/86	3.00e-03	3.00e-03	6.00e-03	3.00e-03	3.00e-03	pCi/g	-1
4DOH	Pu239/240	6/3/87	1.10e-03	1.50e-03	6.00e-03	1.10e-03	1.50e-03	pCi/g	-1
4DOH	Pu239/240	6/21/88	-5.00e-04	2.00e-03	6.00e-03	-5.00e-04	2.00e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 31 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
4DOH	Pu239/240	6/27/89	4.30e-03	2.30e-03	6.00e-03	4.30e-03	2.30e-03	pCi/g	-1
4DOH	Pu239/240	6/26/90	-1.00e-04	3.30e-03	6.00e-03	-1.00e-04	3.30e-03	pCi/g	-1
4DOH	Pu239/240	7/31/91	4.00e-03	2.10e-03	6.00e-03	4.00e-03	2.10e-03	pCi/g	-1
4PNL	Pu239/240	5/7/87	3.09e-02	2.14e-03	6.00e-04	3.09e-02	2.14e-03	pCi/g	-1
4PNL	Pu239/240	3/22/88	6.56e-02	3.45e-03	6.00e-04	6.56e-02	3.45e-03	pCi/g	-1
4PNL	Pu239/240	5/2/89	3.14e-02	2.85e-03	6.00e-04	3.14e-02	2.85e-03	pCi/g	-1
4PNL	Pu239/240	8/13/91	1.70e-02	1.40e-03	6.00e-04	1.70e-02	1.40e-03	pCi/g	-1
5DOH	PPu239/24	8/5/86	4.00e-03	3.00e-03	6.00e-03	4.00e-03	3.00e-03	pCi/g	1
5DOH	Pu239/240	6/3/87	6.50e-03	2.20e-03	6.00e-03	6.50e-03	2.20e-03	pCi/g	1
5DOH	Pu239/240	6/21/88	5.50e-03	2.50e-03	6.00e-03	5.50e-03	2.50e-03	pCi/g	1
5DOH	Pu239/240	6/27/89	2.90e-03	2.00e-03	6.00e-03	2.90e-03	2.00e-03	pCi/g	1
5DOH	Pu239/240	6/26/90	1.30e-02	4.00e-03	6.00e-03	1.30e-02	4.00e-03	pCi/g	1
5DOH	Pu239/240	7/31/91	2.80e-03	1.90e-03	6.00e-03	2.80e-03	1.90e-03	pCi/g	1
5PNL	Pu239/240	5/7/87	9.06e-03	1.26e-03	6.00e-04	9.06e-03	1.26e-03	pCi/g	1
5PNL	Pu239/240	6/6/88	1.68e-02	1.23e-03	6.00e-04	1.68e-02	1.23e-03	pCi/g	1
5PNL	Pu239/240	5/2/89	1.77e-02	2.25e-03	6.00e-04	1.77e-02	2.25e-03	pCi/g	1
5PNL	Pu239/240	7/31/91	8.95e-03	1.21e-03	6.00e-04	8.95e-03	1.21e-03	pCi/g	1
6DOH	Pu239/240	5/20/87	4.23e-01	2.76e-02	6.00e-03	4.22e-01	2.76e-02	pCi/g	-1
6PNL	Pu239/240	5/7/87	1.18e-02	1.20e-03	6.00e-04	1.18e-02	1.20e-03	pCi/g	1
6PNL	Pu239/240	3/22/88	3.56e-02	2.20e-03	6.00e-04	3.56e-02	2.20e-03	pCi/g	1
6PNL	Pu239/240	5/2/89	1.05e-02	1.32e-03	6.00e-04	1.05e-02	1.32e-03	pCi/g	1
6PNL	Pu239/240	7/31/91	7.99e-03	1.14e-03	6.00e-04	7.99e-03	1.14e-03	pCi/g	1
7DOH	Pu239/240	5/19/87	7.00e-02	1.00e-02	6.00e-03	7.00e-02	1.00e-02	pCi/g	-1
7PNL	Pu239/240	5/7/87	6.20e-04	3.03e-04	6.00e-04	6.20e-04	3.03e-04	pCi/g	1
7PNL	Pu239/240	6/6/88	1.49e-03	3.61e-04	6.00e-04	1.49e-03	3.61e-04	pCi/g	1
7PNL	Pu239/240	5/3/89	1.40e-02	1.45e-03	6.00e-04	1.40e-02	1.45e-03	pCi/g	1
7PNL	Pu239/240	8/13/91	8.44e-03	1.51e-03	6.00e-04	8.44e-03	1.51e-03	pCi/g	1
8DOH	Pu239/240	5/13/87	9.10e-01	3.00e-02	6.00e-03	9.10e-01	3.00e-02	pCi/g	-1
8PNL	Pu239/240	5/7/87	2.68e-03	5.25e-04	6.00e-04	2.68e-03	5.25e-04	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 32 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
8PNL	Pu239/240	6/7/88	1.30e-02	1.10e-03	6.00e-04	1.30e-02	1.10e-03	pCi/g	1
8PNL	Pu239/240	5/3/89	1.50e-02	2.18e-03	6.00e-04	1.50e-02	2.18e-03	pCi/g	1
8PNL	Pu239/240	8/13/91	1.04e-02	1.18e-03	6.00e-04	1.04e-02	1.18e-03	pCi/g	1
9PNL	Pu239/240	5/7/87	1.70e-01	4.30e-03	6.00e-04	1.70e-01	4.30e-03	pCi/g	-1
9PNL	Pu239/240	3/31/88	6.40e-01	8.28e-03	6.00e-04	6.40e-01	8.28e-03	pCi/g	-1
9PNL	Pu239/240	4/5/88	7.07e-01	7.82e-03	6.00e-04	7.07e-01	7.82e-03	pCi/g	-1
9PNL	Pu239/240	5/3/89	5.30e-01	1.00e-02	6.00e-04	5.30e-01	1.00e-02	pCi/g	-1
9PNL	Pu239/240	10/4/90	6.56e-01	1.25e-02	6.00e-04	6.56e-01	1.25e-02	pCi/g	-1
9PNL	Pu239/240	8/13/91	2.86e-01	5.46e-03	6.00e-04	2.86e-01	5.46e-03	pCi/g	-1
10PNL	Pu239/240	6/7/88	1.47e-02	1.31e-03	6.00e-04	1.47e-02	1.31e-03	pCi/g	1
10PNL	Pu239/240	5/3/89	2.20e-02	1.87e-03	6.00e-04	2.20e-02	1.87e-03	pCi/g	1
10PNL	Pu239/240	8/13/91	2.14e-02	2.89e-03	6.00e-04	2.14e-02	2.89e-03	pCi/g	1
11PNL	Pu239/240	4/29/87	5.54e-03	7.60e-04	6.00e-04	5.54e-03	7.60e-04	pCi/g	1
11PNL	Pu239/240	6/9/88	4.92e-03	7.27e-04	6.00e-04	4.92e-03	7.27e-04	pCi/g	1
11PNL	Pu239/240	5/3/89	3.83e-03	1.05e-03	6.00e-04	3.83e-03	1.05e-03	pCi/g	1
11PNL	Pu239/240	8/13/91	8.50e-03	1.18e-03	6.00e-04	8.50e-03	1.18e-03	pCi/g	1
12PNL	Pu239/240	6/9/88	3.18e-03	6.07e-04	6.00e-04	3.18e-03	6.07e-04	pCi/g	1
12PNL	Pu239/240	5/3/89	6.40e-03	1.06e-03	6.00e-04	6.40e-03	1.06e-03	pCi/g	1
12PNL	Pu239/240	8/13/91	3.95e-03	7.31e-04	6.00e-04	3.95e-03	7.31e-04	pCi/g	1
13DOH	Pu239/240	8/5/86	5.00e-03	3.00e-03	6.00e-03	5.00e-03	3.00e-03	pCi/g	1
13PNL	Pu239/240	4/29/87	1.43e-02	1.30e-03	6.00e-04	1.43e-02	1.30e-03	pCi/g	1
13PNL	Pu239/240	6/9/88	1.08e-02	1.10e-03	6.00e-04	1.08e-02	1.10e-03	pCi/g	1
13PNL	Pu239/240	5/2/89	2.39e-02	2.12e-03	6.00e-04	2.39e-02	2.12e-03	pCi/g	1
13PNL	Pu239/240	8/8/91	1.73e-02	1.61e-03	6.00e-04	1.73e-02	1.61e-03	pCi/g	1
16DOH	Pu239/240	8/5/86	1.40e-02	5.00e-03	6.00e-03	1.40e-02	5.00e-03	pCi/g	1
16DOH	Pu239/240	6/3/87	4.70e-02	8.00e-03	6.00e-03	4.70e-02	8.00e-03	pCi/g	1
16DOH	Pu239/240	6/21/88	2.10e-02	6.00e-03	6.00e-03	2.10e-02	6.00e-03	pCi/g	1
16DOH	Pu239/240	6/27/89	4.70e-03	2.60e-03	6.00e-03	4.70e-03	2.60e-03	pCi/g	1
16DOH	Pu239/240	6/26/90	1.10e-02	4.00e-03	6.00e-03	1.10e-02	4.00e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 33 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
16DOH	Pu239/240	7/31/91	1.20e-02	2.00e-03	6.00e-03	1.20e-02	2.00e-03	pCi/g	1
16PNL	Pu239/240	5/15/87	1.50e-02	1.23e-03	6.00e-04	1.50e-02	1.23e-03	pCi/g	0
16PNL	Pu239/240	6/20/88	2.16e-02	1.65e-03	6.00e-04	2.16e-02	1.65e-03	pCi/g	0
16PNL	Pu239/240	8/8/91	1.97e-02	2.12e-03	6.00e-04	1.97e-02	2.12e-03	pCi/g	0
16PNL	Pu239/240	7/28/92	4.27e-03	6.59e-04	6.00e-04	4.27e-03	6.59e-04	pCi/g	0
21DOH	Pu239/240	6/30/92	6.90e-03	1.70e-03	6.00e-03	6.90e-03	1.70e-03	pCi/g	-1
23DOH	Pu239/240	11/6/91	1.00e-03	2.00e-03	6.00e-03	1.00e-03	2.00e-03	pCi/g	1
25DOH	Pu239/240	11/5/91	1.00e-03	2.00e-03	6.00e-03	1.00e-03	2.00e-03	pCi/g	1
26DOH	Pu239/240	11/6/91	1.00e-03	1.00e-03	6.00e-03	1.00e-03	1.00e-03	pCi/g	1
27DOH	Pu239/240	6/30/92	2.20e-02	3.00e-03	6.00e-03	2.20e-02	3.00e-03	pCi/g	1
28DOH	Pu239/240	8/5/86	1.00e-02	4.00e-03	6.00e-03	1.00e-02	4.00e-03	pCi/g	1
28DOH	Pu239/240	6/3/87	8.90e-03	3.60e-03	6.00e-03	8.90e-03	3.60e-03	pCi/g	1
28DOH	Pu239/240	6/21/88	3.70e-03	2.40e-03	6.00e-03	3.70e-03	2.40e-03	pCi/g	1
28DOH	Pu239/240	6/27/89	1.80e-03	2.10e-03	6.00e-03	1.80e-03	2.10e-03	pCi/g	1
28DOH	Pu239/240	6/26/90	4.10e-02	4.00e-03	6.00e-03	4.10e-02	4.00e-03	pCi/g	1
28DOH	Pu239/240	7/31/91	5.00e-03	1.70e-03	6.00e-03	5.00e-03	1.70e-03	pCi/g	1
29DOH	Pu239/240	10/27/88	2.00e-03	2.00e-03	6.00e-03	2.00e-03	2.00e-03	pCi/g	1
29DOH	Pu239/240	11/7/89	2.40e-03	2.00e-03	6.00e-03	2.40e-03	2.00e-03	pCi/g	1
29DOH	Pu239/240	11/5/90	-2.00e-03	2.00e-03	6.00e-03	-2.00e-03	2.00e-03	pCi/g	1
29DOH	Pu239/240	11/6/91	2.00e-03	2.00e-03	6.00e-03	2.00e-03	2.00e-03	pCi/g	1
29PNL	Pu239/240	6/9/88	1.65e-02	1.34e-03	6.00e-04	1.65e-02	1.34e-03	pCi/g	1
29PNL	Pu239/240	5/2/89	2.54e-02	2.10e-03	6.00e-04	2.54e-02	2.10e-03	pCi/g	1
29PNL	Pu239/240	8/8/91	2.01e-02	1.73e-03	6.00e-04	2.01e-02	1.73e-03	pCi/g	1
30DOH	Pu239/240	10/27/88	1.40e-02	4.00e-03	6.00e-03	1.40e-02	4.00e-03	pCi/g	1
30DOH	Pu239/240	11/7/89	1.10e-02	3.00e-03	6.00e-03	1.10e-02	3.00e-03	pCi/g	1
30DOH	Pu239/240	11/5/90	9.00e-03	4.00e-03	6.00e-03	9.00e-03	4.00e-03	pCi/g	1
30DOH	Pu239/240	11/6/91	4.00e-03	3.00e-03	6.00e-03	4.00e-03	3.00e-03	pCi/g	1
31DOH	Pu239/240	6/4/87	7.00e-04	3.00e-03	6.00e-03	7.00e-04	3.00e-03	pCi/g	1
32DOH	Pu239/240	6/26/90	7.00e-04	3.60e-03	6.00e-03	7.00e-04	3.60e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 34 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
33DOH	Pu239/240	8/5/86	2.50e-02	6.00e-03	6.00e-03	2.50e-02	6.00e-03	pCi/g	1
33DOH	Pu239/240	6/3/87	1.50e-03	1.60e-03	6.00e-03	1.50e-03	1.60e-03	pCi/g	1
33DOH	Pu239/240	6/21/88	4.60e-02	6.00e-03	6.00e-03	4.60e-02	6.00e-03	pCi/g	1
33DOH	Pu239/240	6/27/89	1.50e-02	4.00e-03	6.00e-03	1.50e-02	4.00e-03	pCi/g	1
33DOH	Pu239/240	6/26/90	1.60e-02	6.00e-03	6.00e-03	1.60e-02	6.00e-03	pCi/g	1
33DOH	Pu239/240	7/31/91	8.40e-03	2.80e-03	6.00e-03	8.40e-03	2.80e-03	pCi/g	1
36DOH	Pu239/240	8/5/86	1.10e-02	5.00e-03	6.00e-03	1.10e-02	5.00e-03	pCi/g	-1
36DOH	Pu239/240	6/3/87	7.20e-03	3.80e-03	6.00e-03	7.20e-03	3.80e-03	pCi/g	-1
36DOH	Pu239/240	6/21/88	6.40e-03	2.60e-03	6.00e-03	6.40e-03	2.60e-03	pCi/g	-1
36DOH	Pu239/240	6/27/89	4.90e-03	2.10e-03	6.00e-03	4.90e-03	2.10e-03	pCi/g	-1
36DOH	Pu239/240	6/26/90	5.40e-03	2.90e-03	6.00e-03	5.40e-03	2.90e-03	pCi/g	-1
37DOH	Pu239/240	10/27/88	4.00e-04	1.00e-03	6.00e-03	4.00e-04	1.00e-03	pCi/g	1
37DOH	Pu239/240	11/7/89	1.00e-03	1.00e-03	6.00e-03	1.00e-03	1.00e-03	pCi/g	1
37DOH	Pu239/240	11/5/90	3.00e-04	3.30e-03	6.00e-03	3.00e-04	3.30e-03	pCi/g	-1
39DOH	Pu239/240	10/27/88	5.10e-03	3.00e-03	6.00e-03	5.10e-03	3.00e-03	pCi/g	1
39DOH	Pu239/240	11/7/89	2.00e-03	2.00e-03	6.00e-03	2.00e-03	2.00e-03	pCi/g	1
39DOH	Pu239/240	11/5/90	6.00e-03	4.00e-03	6.00e-03	6.00e-03	4.00e-03	pCi/g	1
40DOH	Pu239/240	10/27/88	1.00e-03	2.00e-03	6.00e-03	1.00e-03	2.00e-03	pCi/g	1
41DOH	Pu239/240	8/5/86	1.20e-02	5.00e-03	6.00e-03	1.20e-02	5.00e-03	pCi/g	1
42DOH	Pu239/240	6/3/87	9.00e-04	1.20e-03	6.00e-03	9.00e-04	1.20e-03	pCi/g	-1
42DOH	Pu239/240	6/21/88	3.00e-04	1.00e-03	6.00e-03	3.00e-04	1.00e-03	pCi/g	-1
42DOH	Pu239/240	6/27/89	6.00e-04	1.50e-03	6.00e-03	6.00e-04	1.50e-03	pCi/g	-1
42DOH	Pu239/240	6/26/90	1.20e-03	2.60e-03	6.00e-03	1.20e-03	2.60e-03	pCi/g	-1
43DOH	Pu239/240	10/27/88	2.40e-02	1.60e-02	6.00e-03	2.40e-02	1.60e-02	pCi/g	1
43DOH	Pu239/240	11/7/89	1.00e-03	1.00e-03	6.00e-03	1.00e-03	1.00e-03	pCi/g	1
43DOH	Pu239/240	11/5/90	3.00e-04	4.40e-03	6.00e-03	3.00e-04	4.40e-03	pCi/g	1
46DOH	Pu239/240	8/5/86	1.40e-02	5.00e-03	6.00e-03	1.40e-02	5.00e-03	pCi/g	1
50DOH	Pu239/240	10/27/88	4.00e-04	1.00e-03	6.00e-03	4.00e-04	1.00e-03	pCi/g	-1
51DOH	Pu239/240	10/27/88	4.00e-04	1.00e-03	6.00e-03	4.00e-04	1.00e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 35 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
1PNL	Ra-226	6/6/88	5.96e-01	6.61e-02	0.00e+00	5.94e-01	6.59e-02	pCi/g	1
2DOH	Ra-226	7/31/91	4.56e-01	1.70e-02	8.00e-02	4.55e-01	1.70e-02	pCi/g	1
2PNL	Ra-226	4/29/87	7.34e-01	5.69e-02	0.00e+00	7.31e-01	5.67e-02	pCi/g	1
2PNL	Ra-226	6/6/88	5.57e-01	6.30e-02	0.00e+00	5.55e-01	6.28e-02	pCi/g	1
3DOH	Ra-226	5/14/87	5.60e-01	1.00e-02	1.00e-01	5.58e-01	9.97e-03	pCi/g	1
4DOH	Ra-226	9/26/85	7.00e-01	1.00e-01	1.00e-01	6.97e-01	9.96e-02	pCi/g	1
4DOH	Ra-226	8/5/86	6.00e-01	1.00e-01	1.00e-01	5.98e-01	9.96e-02	pCi/g	1
4DOH	Ra-226	6/3/87	6.70e-01	2.00e-02	2.00e-02	6.68e-01	1.99e-02	pCi/g	1
4DOH	Ra-226	6/21/88	6.60e-01	2.00e-02	1.00e-01	6.58e-01	1.99e-02	pCi/g	1
4DOH	Ra-226	6/27/89	7.00e-01	2.00e-02	2.00e-02	6.98e-01	2.00e-02	pCi/g	1
4DOH	Ra-226	6/26/90	7.00e-01	7.00e-02	2.00e-02	6.99e-01	6.99e-02	pCi/g	-1
4DOH	Ra-226	7/31/91	6.70e-01	1.70e-02	8.00e-02	6.69e-01	1.70e-02	pCi/g	1
4PNL	Ra-226	5/7/87	6.89e-01	8.19e-02	0.00e+00	6.87e-01	8.16e-02	pCi/g	-1
4PNL	Ra-226	3/22/88	6.84e-01	8.80e-02	0.00e+00	6.82e-01	8.77e-02	pCi/g	-1
5DOH	Ra-226	9/24/85	7.00e-01	1.00e-01	1.00e-01	6.97e-01	9.96e-02	pCi/g	1
5DOH	Ra-226	8/5/86	9.00e-01	1.00e-01	1.00e-01	8.97e-01	9.96e-02	pCi/g	1
5DOH	Ra-226	6/3/87	8.00e-01	2.00e-02	2.00e-02	7.97e-01	1.99e-02	pCi/g	1
5DOH	Ra-226	6/21/88	8.30e-01	2.00e-02	2.00e-02	8.28e-01	1.99e-02	pCi/g	1
5DOH	Ra-226	6/27/89	8.30e-01	2.00e-02	2.00e-02	8.28e-01	2.00e-02	pCi/g	1
5DOH	Ra-226	6/26/90	7.80e-01	7.00e-02	2.00e-02	7.78e-01	6.99e-02	pCi/g	1
5DOH	Ra-226	7/31/91	7.62e-01	2.30e-02	1.00e-01	7.61e-01	2.30e-02	pCi/g	1
5PNL	Ra-226	5/7/87	5.68e-01	4.60e-02	0.00e+00	5.66e-01	4.58e-02	pCi/g	1
5PNL	Ra-226	6/6/88	6.22e-01	6.01e-02	0.00e+00	6.20e-01	5.99e-02	pCi/g	1
6DOH	Ra-226	5/20/87	5.30e-01	1.80e-02	2.00e-02	5.28e-01	1.80e-02	pCi/g	-1
6PNL	Ra-226	5/7/87	5.22e-01	4.27e-02	0.00e+00	5.20e-01	4.26e-02	pCi/g	1
6PNL	Ra-226	3/22/88	5.61e-01	5.44e-02	0.00e+00	5.59e-01	5.42e-02	pCi/g	1
7DOH	Ra-226	5/19/87	8.90e-01	3.00e-02	2.00e-02	8.87e-01	2.99e-02	pCi/g	-1
7PNL	Ra-226	5/7/87	5.36e-01	5.05e-02	0.00e+00	5.34e-01	5.03e-02	pCi/g	1
7PNL	Ra-226	6/6/88	5.02e-01	5.01e-02	0.00e+00	5.01e-01	5.00e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 36 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
8DOH	Ra-226	5/13/87	6.30e-01	2.30e-01	2.00e-02	6.28e-01	2.29e-01	pCi/g	-1
8PNL	Ra-226	5/7/87	6.72e-01	5.28e-02	0.00e+00	6.70e-01	5.26e-02	pCi/g	1
8PNL	Ra-226	6/7/88	5.94e-01	5.55e-02	0.00e+00	5.92e-01	5.53e-02	pCi/g	1
9PNL	Ra-226	5/7/87	6.33e-01	5.41e-02	0.00e+00	6.31e-01	5.39e-02	pCi/g	-1
9PNL	Ra-226	3/31/88	7.43e-01	5.55e-02	0.00e+00	7.41e-01	5.53e-02	pCi/g	-1
9PNL	Ra-226	4/5/88	8.70e-01	7.34e-02	0.00e+00	8.67e-01	7.32e-02	pCi/g	-1
9PNL	Ra-226	10/4/90	6.47e-01	7.65e-02	0.00e+00	6.46e-01	7.64e-02	pCi/g	-1
10PNL	Ra-226	6/7/88	5.46e-01	5.22e-02	0.00e+00	5.44e-01	5.20e-02	pCi/g	1
11PNL	Ra-226	4/29/87	6.02e-01	5.21e-02	0.00e+00	6.00e-01	5.19e-02	pCi/g	1
11PNL	Ra-226	6/9/88	5.44e-01	4.86e-02	0.00e+00	5.42e-01	4.85e-02	pCi/g	1
12PNL	Ra-226	6/9/88	5.18e-01	4.78e-02	0.00e+00	5.16e-01	4.77e-02	pCi/g	1
13DOH	Ra-226	9/24/85	6.00e-01	1.00e-01	1.00e-01	5.98e-01	9.96e-02	pCi/g	1
13DOH	Ra-226	8/5/86	7.00e-01	2.00e-01	1.00e-01	6.97e-01	1.99e-01	pCi/g	1
13PNL	Ra-226	4/29/87	5.04e-01	5.85e-02	0.00e+00	5.02e-01	5.83e-02	pCi/g	1
13PNL	Ra-226	6/9/88	4.49e-01	5.74e-02	0.00e+00	4.48e-01	5.72e-02	pCi/g	1
16DOH	Ra-226	9/26/85	8.00e-01	1.00e-01	1.00e-01	7.97e-01	9.96e-02	pCi/g	1
16DOH	Ra-226	8/5/86	1.20e+00	1.00e-01	1.00e-01	1.20e+00	9.96e-02	pCi/g	1
16DOH	Ra-226	6/3/87	8.60e-01	2.00e-02	2.00e-02	8.57e-01	1.99e-02	pCi/g	1
16DOH	Ra-226	6/21/88	8.10e-01	2.00e-02	2.00e-02	8.08e-01	1.99e-02	pCi/g	1
16DOH	Ra-226	6/27/89	8.20e-01	2.00e-02	2.00e-02	8.18e-01	2.00e-02	pCi/g	1
16DOH	Ra-226	6/26/90	7.00e-01	7.00e-02	2.00e-02	6.99e-01	6.99e-02	pCi/g	1
16DOH	Ra-226	7/31/91	7.98e-01	2.00e-02	8.00e-02	7.97e-01	2.00e-02	pCi/g	1
21DOH	Ra-226	6/30/92	9.71e-01	2.50e-02	8.00e-02	9.70e-01	2.50e-02	pCi/g	-1
27DOH	Ra-226	6/30/92	7.70e-01	3.50e-02	8.00e-02	7.69e-01	3.50e-02	pCi/g	1
28DOH	Ra-226	9/26/85	8.00e-01	1.00e-01	1.00e-01	7.97e-01	9.96e-02	pCi/g	1
28DOH	Ra-226	8/5/86	8.00e-01	1.00e-01	1.00e-01	7.97e-01	9.96e-02	pCi/g	1
28DOH	Ra-226	6/3/87	8.90e-01	2.00e-02	2.00e-02	8.87e-01	1.99e-02	pCi/g	1
28DOH	Ra-226	6/21/88	8.60e-01	2.00e-02	2.00e-02	8.57e-01	1.99e-02	pCi/g	1
28DOH	Ra-226	6/27/89	8.50e-01	3.00e-02	2.00e-02	8.48e-01	2.99e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 37 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
28DOH	Ra-226	6/26/90	6.90e-01	8.00e-02	2.00e-02	6.89e-01	7.98e-02	pCi/g	1
28DOH	Ra-226	7/31/91	8.48e-01	3.20e-02	8.00e-02	8.47e-01	3.19e-02	pCi/g	1
29PNL	Ra-226	6/9/88	5.80e-01	5.46e-02	0.00e+00	5.78e-01	5.44e-02	pCi/g	1
31DOH	Ra-226	6/4/87	5.00e-01	2.00e-02	2.00e-02	4.98e-01	1.99e-02	pCi/g	1
32DOH	Ra-226	6/26/90	6.40e-01	6.00e-02	2.00e-02	6.39e-01	5.99e-02	pCi/g	1
33DOH	Ra-226	9/26/85	8.00e-01	1.00e-01	1.00e-01	7.97e-01	9.96e-02	pCi/g	1
33DOH	Ra-226	8/5/86	1.00e+00	1.00e-01	1.00e-01	9.96e-01	9.96e-02	pCi/g	1
33DOH	Ra-226	6/3/87	8.80e-01	2.00e-02	2.00e-02	8.77e-01	1.99e-02	pCi/g	1
33DOH	Ra-226	6/21/88	1.09e+00	2.00e-02	2.00e-02	1.09e+00	1.99e-02	pCi/g	1
33DOH	Ra-226	6/27/89	8.30e-01	3.00e-02	2.00e-02	8.28e-01	2.99e-02	pCi/g	1
33DOH	Ra-226	6/26/90	7.70e-01	7.00e-02	2.00e-02	7.68e-01	6.99e-02	pCi/g	1
33DOH	Ra-226	7/31/91	7.72e-01	2.00e-02	8.00e-02	7.71e-01	2.00e-02	pCi/g	1
36DOH	Ra-226	9/26/85	7.00e-01	1.00e-01	1.00e-01	6.97e-01	9.96e-02	pCi/g	1
36DOH	Ra-226	8/5/86	8.00e-01	1.00e-01	1.00e-01	7.97e-01	9.96e-02	pCi/g	1
36DOH	Ra-226	6/3/87	7.30e-01	2.00e-02	2.00e-02	7.28e-01	1.99e-02	pCi/g	1
36DOH	Ra-226	6/21/88	7.60e-01	2.00e-02	2.00e-02	7.58e-01	1.99e-02	pCi/g	1
36DOH	Ra-226	6/27/89	9.00e-01	2.00e-02	2.00e-02	8.98e-01	2.00e-02	pCi/g	1
36DOH	Ra-226	6/26/90	7.90e-01	7.00e-02	2.00e-02	7.88e-01	6.99e-02	pCi/g	-1
41DOH	Ra-226	9/23/85	7.00e-01	1.00e-01	1.00e-01	6.97e-01	9.96e-02	pCi/g	1
41DOH	Ra-226	8/5/86	9.00e-01	1.00e-01	1.00e-01	8.97e-01	9.96e-02	pCi/g	1
42DOH	Ra-226	9/26/85	6.00e-01	1.00e-01	1.00e-01	5.98e-01	9.96e-02	pCi/g	1
42DOH	Ra-226	8/5/86	8.00e-01	1.00e-01	1.00e-01	7.97e-01	9.96e-02	pCi/g	1
42DOH	Ra-226	6/3/87	7.40e-01	2.00e-02	2.00e-02	7.38e-01	1.99e-02	pCi/g	1
42DOH	Ra-226	6/21/88	9.40e-01	2.00e-02	2.00e-02	9.37e-01	1.99e-02	pCi/g	1
42DOH	Ra-226	6/27/89	9.20e-01	3.00e-02	2.00e-02	9.18e-01	2.99e-02	pCi/g	1
42DOH	Ra-226	6/26/90	6.80e-01	7.00e-02	2.00e-02	6.79e-01	6.99e-02	pCi/g	1
45DOH	Ra-226	8/5/86	6.00e-01	2.00e-01	1.00e-01	5.98e-01	1.99e-01	pCi/g	1
46DOH	Ra-226	9/24/85	8.00e-01	1.00e-01	1.00e-01	7.97e-01	9.96e-02	pCi/g	1
46DOH	Ra-226	8/5/86	7.00e-01	1.00e-01	1.00e-01	6.97e-01	9.96e-02	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 38 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
1PNL	Ru-106	6/6/88	-9.15e-03	1.72e-01	1.70e-01	-8.42e-05	1.58e-03	pCi/g	1
1PNL	Ru-106	5/3/89	1.32e-01	1.71e-01	1.70e-01	2.27e-03	2.94e-03	pCi/g	1
1PNL	Ru-106	8/14/91	-5.24e-02	1.71e-01	1.70e-01	-4.34e-03	1.42e-02	pCi/g	1
2DOH	Ru-106	7/31/91	-3.56e-02	7.41e-02	2.00e-01	-2.87e-03	5.98e-03	pCi/g	1
2PNL	Ru-106	4/29/87	-1.03e-01	1.50e-01	1.70e-01	-4.43e-04	6.45e-04	pCi/g	1
2PNL	Ru-106	6/6/88	8.14e-02	1.29e-01	1.70e-01	7.49e-04	1.19e-03	pCi/g	1
2PNL	Ru-106	5/5/89	-8.36e-02	1.60e-01	1.70e-01	-1.44e-03	2.76e-03	pCi/g	1
2PNL	Ru-106	8/14/91	-3.71e-02	1.74e-01	1.70e-01	-3.07e-03	1.44e-02	pCi/g	1
4DOH	Ru-106	6/27/89	1.00e-02	6.00e-02	1.00e-01	1.91e-04	1.14e-03	pCi/g	-1
4DOH	Ru-106	6/26/90	8.60e-02	7.30e-02	1.00e-01	3.26e-03	2.77e-03	pCi/g	-1
4DOH	Ru-106	7/31/91	1.23e-02	6.11e-02	2.00e-01	9.92e-04	4.93e-03	pCi/g	-1
4PNL	Ru-106	5/7/87	3.11e-02	2.24e-01	1.70e-01	1.36e-04	9.79e-04	pCi/g	-1
4PNL	Ru-106	3/22/88	-5.21e-02	2.81e-01	1.70e-01	-4.16e-04	2.24e-03	pCi/g	-1
4PNL	Ru-106	5/2/89	-3.24e-01	2.85e-01	1.70e-01	-5.56e-03	4.89e-03	pCi/g	-1
4PNL	Ru-106	8/13/91	5.22e-02	1.56e-01	1.70e-01	4.32e-03	1.29e-02	pCi/g	-1
5DOH	Ru-106	6/27/89	-1.00e-02	7.00e-02	1.00e-01	-1.91e-04	1.34e-03	pCi/g	1
5DOH	Ru-106	6/26/90	2.20e-02	8.00e-02	1.00e-01	8.35e-04	3.03e-03	pCi/g	1
5DOH	Ru-106	7/31/91	6.19e-02	9.76e-02	2.00e-01	4.99e-03	7.87e-03	pCi/g	1
5PNL	Ru-106	5/7/87	-1.18e-01	1.18e-01	1.70e-01	-5.15e-04	5.15e-04	pCi/g	1
5PNL	Ru-106	6/6/88	7.61e-02	1.53e-01	1.70e-01	7.00e-04	1.41e-03	pCi/g	1
5PNL	Ru-106	5/2/89	3.42e-02	1.88e-01	1.70e-01	5.87e-04	3.23e-03	pCi/g	1
5PNL	Ru-106	7/31/91	7.79e-04	1.47e-01	1.70e-01	6.28e-05	1.19e-02	pCi/g	1
6PNL	Ru-106	5/7/87	1.64e-03	1.06e-01	1.70e-01	7.16e-06	4.63e-04	pCi/g	1
6PNL	Ru-106	3/22/88	3.90e-02	1.45e-01	1.70e-01	3.11e-04	1.16e-03	pCi/g	1
6PNL	Ru-106	5/2/89	-3.13e-02	1.57e-01	1.70e-01	-5.37e-04	2.70e-03	pCi/g	1
6PNL	Ru-106	7/31/91	-1.76e-01	1.66e-01	1.70e-01	-1.42e-02	1.34e-02	pCi/g	1
7PNL	Ru-106	5/7/87	1.42e-01	1.15e-01	1.70e-01	6.20e-04	5.02e-04	pCi/g	1
7PNL	Ru-106	6/6/88	-2.43e-02	1.22e-01	1.70e-01	-2.24e-04	1.12e-03	pCi/g	1
7PNL	Ru-106	5/3/89	3.28e-02	1.21e-01	1.70e-01	5.64e-04	2.08e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 39 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
7PNL	Ru-106	8/13/91	5.14e-02	1.59e-01	1.70e-01	4.25e-03	1.31e-02	pCi/g	1
8PNL	Ru-106	5/7/87	1.31e-02	1.25e-01	1.70e-01	5.72e-05	5.46e-04	pCi/g	1
8PNL	Ru-106	6/7/88	1.34e-01	1.49e-01	1.70e-01	1.24e-03	1.37e-03	pCi/g	1
8PNL	Ru-106	5/3/89	3.04e-02	1.43e-01	1.70e-01	5.23e-04	2.46e-03	pCi/g	1
8PNL	Ru-106	8/13/91	-5.82e-02	2.35e-01	1.70e-01	-4.81e-03	1.94e-02	pCi/g	1
9PNL	Ru-106	5/7/87	1.39e-01	1.25e-01	1.70e-01	6.07e-04	5.46e-04	pCi/g	-1
9PNL	Ru-106	3/31/88	1.72e-02	1.29e-01	1.70e-01	1.39e-04	1.05e-03	pCi/g	-1
9PNL	Ru-106	4/5/88	-1.90e-02	1.91e-01	1.70e-01	-1.56e-04	1.56e-03	pCi/g	-1
9PNL	Ru-106	5/3/89	-1.05e-02	1.68e-01	1.70e-01	-1.81e-04	2.89e-03	pCi/g	-1
9PNL	Ru-106	10/4/90	3.98e-01	2.97e-01	1.70e-01	1.82e-02	1.36e-02	pCi/g	-1
9PNL	Ru-106	8/13/91	-1.33e-01	1.82e-01	1.70e-01	-1.10e-02	1.50e-02	pCi/g	-1
10PNL	Ru-106	6/7/88	-3.47e-02	1.29e-01	1.70e-01	-3.20e-04	1.19e-03	pCi/g	1
10PNL	Ru-106	5/3/89	1.67e-02	1.34e-01	1.70e-01	2.87e-04	2.31e-03	pCi/g	1
10PNL	Ru-106	8/13/91	-7.27e-02	1.80e-01	1.70e-01	-6.01e-03	1.49e-02	pCi/g	1
11PNL	Ru-106	4/29/87	-7.08e-02	1.32e-01	1.70e-01	-3.05e-04	5.68e-04	pCi/g	1
11PNL	Ru-106	6/9/88	2.45e-02	1.34e-01	1.70e-01	2.27e-04	1.24e-03	pCi/g	1
11PNL	Ru-106	5/3/89	-1.82e-02	1.03e-01	1.70e-01	-3.13e-04	1.77e-03	pCi/g	1
11PNL	Ru-106	8/13/91	-2.39e-02	1.70e-01	1.70e-01	-1.98e-03	1.41e-02	pCi/g	1
12PNL	Ru-106	6/9/88	1.60e-02	1.31e-01	1.70e-01	1.48e-04	1.21e-03	pCi/g	1
12PNL	Ru-106	5/3/89	-1.70e-02	1.26e-01	1.70e-01	-2.92e-04	2.17e-03	pCi/g	1
12PNL	Ru-106	8/13/91	-4.17e-02	1.27e-01	1.70e-01	-3.45e-03	1.05e-02	pCi/g	1
13PNL	Ru-106	4/29/87	8.98e-02	1.66e-01	1.70e-01	3.86e-04	7.14e-04	pCi/g	1
13PNL	Ru-106	6/9/88	-1.08e-01	1.53e-01	1.70e-01	-9.99e-04	1.42e-03	pCi/g	1
13PNL	Ru-106	5/2/89	-6.69e-02	1.33e-01	1.70e-01	-1.15e-03	2.28e-03	pCi/g	1
13PNL	Ru-106	8/8/91	7.71e-02	1.52e-01	1.70e-01	6.31e-03	1.24e-02	pCi/g	1
16DOH	Ru-106	6/27/89	2.00e-02	7.00e-02	1.00e-01	3.82e-04	1.34e-03	pCi/g	1
16DOH	Ru-106	6/26/90	1.90e-02	7.83e+01	1.00e-01	7.21e-04	2.97e+00	pCi/g	1
16DOH	Ru-106	7/31/91	-8.00e-03	7.02e-02	2.00e-01	-6.45e-04	5.66e-03	pCi/g	1
20DOH	Ru-106	1/17/85	1.10e-01	3.00e-02	1.00e-01	9.81e-05	2.68e-05	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 40 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
23DOH	Ru-106	11/6/91	-2.73e-02	7.54e-02	2.00e-01	-2.65e-03	7.31e-03	pCi/g	1
25DOH	Ru-106	11/5/91	8.40e-02	7.10e-02	2.00e-01	8.13e-03	6.87e-03	pCi/g	1
26DOH	Ru-106	11/6/91	2.41e-02	6.98e-02	2.00e-01	2.34e-03	6.77e-03	pCi/g	1
28DOH	Ru-106	6/27/89	2.00e-02	8.00e-02	1.00e-01	3.82e-04	1.53e-03	pCi/g	1
28DOH	Ru-106	6/26/90	-4.80e-02	8.20e-02	1.00e-01	-1.82e-03	3.11e-03	pCi/g	1
28DOH	Ru-106	7/31/91	8.10e-02	1.19e-01	2.00e-01	6.53e-03	9.60e-03	pCi/g	1
29DOH	Ru-106	11/19/85	1.70e-01	1.70e-01	1.00e-01	2.70e-04	2.70e-04	pCi/g	1
29DOH	Ru-106	11/7/89	4.00e-02	6.00e-02	1.00e-01	9.79e-04	1.47e-03	pCi/g	1
29DOH	Ru-106	11/5/90	5.00e-02	8.00e-02	2.00e-01	2.43e-03	3.88e-03	pCi/g	1
29DOH	Ru-106	11/6/91	4.44e-02	6.99e-02	2.00e-01	4.30e-03	6.78e-03	pCi/g	1
29PNL	Ru-106	6/9/88	9.29e-02	1.44e-01	1.70e-01	8.60e-04	1.33e-03	pCi/g	1
29PNL	Ru-106	5/2/89	8.42e-03	1.50e-01	1.70e-01	1.45e-04	2.58e-03	pCi/g	1
29PNL	Ru-106	8/8/91	-7.62e-02	2.00e-01	1.70e-01	-6.24e-03	1.64e-02	pCi/g	1
30DOH	Ru-106	11/19/85	1.60e-01	1.60e-01	1.00e-01	2.54e-04	2.54e-04	pCi/g	1
30DOH	Ru-106	11/7/89	1.00e-01	1.00e-01	1.00e-01	2.45e-03	2.45e-03	pCi/g	1
30DOH	Ru-106	11/5/90	4.00e-02	7.00e-02	2.00e-01	1.94e-03	3.40e-03	pCi/g	1
30DOH	Ru-106	11/6/91	5.10e-03	7.32e-02	2.00e-01	4.94e-04	7.10e-03	pCi/g	1
32DOH	Ru-106	6/26/90	7.00e-03	6.60e-02	1.00e-01	2.66e-04	2.50e-03	pCi/g	1
33DOH	Ru-106	6/27/89	7.10e-02	7.00e-02	1.00e-01	1.35e-03	1.34e-03	pCi/g	1
33DOH	Ru-106	6/26/90	1.10e-02	7.60e-02	1.00e-01	4.17e-04	2.88e-03	pCi/g	1
33DOH	Ru-106	7/31/91	4.55e-02	7.23e-02	2.00e-01	3.67e-03	5.83e-03	pCi/g	1
34DOH	Ru-106	5/28/85	1.70e-01	1.70e-01	1.00e-01	1.95e-04	1.95e-04	pCi/g	1
35DOH	Ru-106	5/28/85	1.60e-01	1.60e-01	1.00e-01	1.83e-04	1.83e-04	pCi/g	1
36DOH	Ru-106	6/27/89	1.00e-01	7.00e-02	1.00e-01	1.91e-03	1.34e-03	pCi/g	-1
36DOH	Ru-106	6/26/90	-4.60e-02	7.60e-02	1.00e-01	-1.75e-03	2.88e-03	pCi/g	-1
37DOH	Ru-106	11/19/85	1.50e-01	1.50e-01	1.00e-01	2.38e-04	2.38e-04	pCi/g	1
37DOH	Ru-106	11/7/89	3.00e-02	7.00e-02	1.00e-01	7.34e-04	1.71e-03	pCi/g	1
37DOH	Ru-106	11/5/90	5.00e-02	8.00e-02	2.00e-01	2.43e-03	3.88e-03	pCi/g	-1
39DOH	Ru-106	11/7/89	2.00e-03	6.00e-02	1.00e-01	4.89e-05	1.47e-03	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 41 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
39DOH	Ru-106	11/5/90	-1.00e-02	7.00e-02	2.00e-01	-4.86e-04	3.40e-03	pCi/g	1
42DOH	Ru-106	6/27/89	2.00e-03	8.00e-04	1.00e-01	3.82e-05	1.53e-05	pCi/g	-1
42DOH	Ru-106	6/26/90	-4.90e-02	7.70e-02	1.00e-01	-1.86e-03	2.92e-03	pCi/g	-1
43DOH	Ru-106	11/19/85	1.60e-01	1.60e-01	1.00e-01	2.54e-04	2.54e-04	pCi/g	1
43DOH	Ru-106	11/7/89	-1.00e-02	7.00e-02	1.00e-01	-2.45e-04	1.71e-03	pCi/g	1
43DOH	Ru-106	11/5/90	1.00e-03	7.80e-02	2.00e-01	4.86e-05	3.79e-03	pCi/g	1
49DOH	Ru-106	5/28/85	1.90e-01	1.90e-01	1.00e-01	2.18e-04	2.18e-04	pCi/g	-1
9DOH	Sb-125	9/24/86	4.01e-01	8.77e-02	3.00e-02	4.52e-02	9.89e-03	pCi/g	-1
9DOH	Sb-125	12/17/86	2.00e+00	3.00e-01	3.00e-02	2.39e-01	3.59e-02	pCi/g	-1
1PNL	Sr-90	6/6/88	1.07e-01	7.29e-03	5.00e-03	9.09e-02	6.20e-03	pCi/g	-1
1PNL	Sr-90	5/3/89	1.84e-01	9.19e-03	5.00e-03	1.60e-01	7.98e-03	pCi/g	-1
1PNL	Sr-90	8/14/91	1.52e-01	1.20e-02	5.00e-03	1.39e-01	1.10e-02	pCi/g	-1
2DOH	Sr-90	7/31/91	1.33e+00	2.00e-02	3.00e-03	1.22e+00	1.83e-02	pCi/g	-1
2PNL	Sr-90	4/29/87	3.07e-01	1.35e-02	5.00e-03	2.54e-01	1.12e-02	pCi/g	-1
2PNL	Sr-90	6/6/88	2.19e-01	1.10e-02	5.00e-03	1.86e-01	9.35e-03	pCi/g	-1
2PNL	Sr-90	5/5/89	1.70e-01	9.71e-03	5.00e-03	1.48e-01	8.44e-03	pCi/g	-1
2PNL	Sr-90	8/14/91	1.60e-01	1.16e-02	5.00e-03	1.47e-01	1.06e-02	pCi/g	-1
3DOH	Sr-90	5/14/87	2.90e-02	2.00e-03	3.00e-03	2.40e-02	1.66e-03	pCi/g	-1
3PNL	Sr-90	4/29/87	3.31e-01	1.23e-02	5.00e-03	2.74e-01	1.02e-02	pCi/g	-1
3PNL	Sr-90	6/6/88	2.81e-01	1.58e-02	5.00e-03	2.39e-01	1.34e-02	pCi/g	-1
3PNL	Sr-90	5/2/89	3.07e-01	1.27e-02	5.00e-03	2.67e-01	1.10e-02	pCi/g	-1
3PNL	Sr-90	7/31/91	1.31e-01	1.10e-02	5.00e-03	1.20e-01	1.01e-02	pCi/g	-1
4DOH	Sr-90	9/26/85	1.70e-01	3.00e-03	3.00e-03	1.35e-01	2.39e-03	pCi/g	-1
4DOH	Sr-90	8/5/86	4.60e-02	1.00e-03	3.00e-03	3.74e-02	8.13e-04	pCi/g	-1
4DOH	Sr-90	6/3/87	3.90e-02	5.00e-03	3.00e-03	3.24e-02	4.15e-03	pCi/g	-1
4DOH	Sr-90	6/21/88	2.50e-02	4.00e-03	3.00e-03	2.13e-02	3.40e-03	pCi/g	-1
4DOH	Sr-90	6/27/89	1.40e-01	1.00e-02	3.00e-03	1.22e-01	8.72e-03	pCi/g	-1
4DOH	Sr-90	6/26/90	7.60e+00	1.00e+00	3.00e-03	6.78e+00	8.93e-01	pCi/g	-1
4DOH	Sr-90	7/31/91	1.06e-01	6.00e-03	3.00e-03	9.71e-02	5.50e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 42 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
4PNL	Sr-90	5/7/87	1.13e+00	4.06e-02	5.00e-03	9.36e-01	3.36e-02	pCi/g	-1
4PNL	Sr-90	3/22/88	7.74e-01	2.34e-02	5.00e-03	6.55e-01	1.98e-02	pCi/g	-1
4PNL	Sr-90	5/2/89	5.76e-01	4.93e-02	5.00e-03	5.00e-01	4.28e-02	pCi/g	-1
4PNL	Sr-90	8/13/91	4.09e-01	1.29e-02	5.00e-03	3.75e-01	1.18e-02	pCi/g	-1
5DOH	Sr-90	9/24/85	3.50e-02	1.00e-03	3.00e-03	2.79e-02	7.97e-04	pCi/g	-1
5DOH	Sr-90	8/5/86	3.30e-02	2.00e-03	3.00e-03	2.68e-02	1.63e-03	pCi/g	-1
5DOH	Sr-90	6/3/87	2.60e-02	3.00e-03	3.00e-03	2.16e-02	2.49e-03	pCi/g	-1
5DOH	Sr-90	6/21/88	4.30e-02	6.00e-03	3.00e-03	3.66e-02	5.10e-03	pCi/g	-1
5DOH	Sr-90	6/27/89	2.30e-02	3.00e-03	3.00e-03	2.01e-02	2.62e-03	pCi/g	-1
5DOH	Sr-90	6/26/90	1.10e-01	1.00e-02	3.00e-03	9.82e-02	8.93e-03	pCi/g	-1
5DOH	Sr-90	7/31/91	5.70e-02	5.00e-03	3.00e-03	5.22e-02	4.58e-03	pCi/g	-1
5PNL	Sr-90	5/7/87	3.44e-01	2.02e-02	5.00e-03	2.85e-01	1.67e-02	pCi/g	-1
5PNL	Sr-90	6/6/88	5.73e-01	2.26e-02	5.00e-03	4.87e-01	1.92e-02	pCi/g	-1
5PNL	Sr-90	5/2/89	4.13e-01	1.64e-02	5.00e-03	3.59e-01	1.42e-02	pCi/g	-1
5PNL	Sr-90	7/31/91	3.45e-01	1.27e-02	5.00e-03	3.16e-01	1.16e-02	pCi/g	-1
6DOH	Sr-90	5/20/87	1.14e-01	2.47e-02	3.00e-03	9.48e-02	2.04e-02	pCi/g	-1
6PNL	Sr-90	5/7/87	2.38e-01	1.77e-02	5.00e-03	1.97e-01	1.47e-02	pCi/g	-1
6PNL	Sr-90	3/22/88	5.89e-01	2.10e-02	5.00e-03	4.98e-01	1.78e-02	pCi/g	-1
6PNL	Sr-90	5/2/89	1.25e-01	7.49e-03	5.00e-03	1.09e-01	6.51e-03	pCi/g	-1
6PNL	Sr-90	7/31/91	1.73e-01	1.42e-02	5.00e-03	1.59e-01	1.30e-02	pCi/g	-1
7DOH	Sr-90	5/19/87	1.08e+01	1.00e-01	3.00e-03	8.95e+00	8.29e-02	pCi/g	-1
7PNL	Sr-90	5/7/87	2.01e-02	5.20e-03	5.00e-03	1.66e-02	4.31e-03	pCi/g	-1
7PNL	Sr-90	6/6/88	3.98e-02	5.07e-03	5.00e-03	3.38e-02	4.31e-03	pCi/g	-1
7PNL	Sr-90	5/3/89	1.19e-01	7.56e-03	5.00e-03	1.03e-01	6.57e-03	pCi/g	-1
7PNL	Sr-90	8/13/91	1.02e-01	9.61e-03	5.00e-03	9.36e-02	8.81e-03	pCi/g	-1
8DOH	Sr-90	5/13/87	7.60e-01	2.00e-02	3.00e-03	6.30e-01	1.66e-02	pCi/g	-1
8PNL	Sr-90	5/7/87	1.11e-01	1.16e-02	5.00e-03	9.19e-02	9.61e-03	pCi/g	-1
8PNL	Sr-90	6/7/88	2.33e-01	1.03e-02	5.00e-03	1.98e-01	8.76e-03	pCi/g	-1
8PNL	Sr-90	5/3/89	2.79e-01	1.14e-02	5.00e-03	2.42e-01	9.90e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 43 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
8PNL	Sr-90	8/13/91	2.14e-01	1.34e-02	5.00e-03	1.96e-01	1.23e-02	pCi/g	-1
9PNL	Sr-90	5/7/87	3.80e-01	1.99e-02	5.00e-03	3.15e-01	1.65e-02	pCi/g	-1
9PNL	Sr-90	3/31/88	8.20e-01	1.92e-02	5.00e-03	6.94e-01	1.62e-02	pCi/g	-1
9PNL	Sr-90	4/5/88	6.06e-01	2.15e-02	5.00e-03	5.13e-01	1.82e-02	pCi/g	-1
9PNL	Sr-90	5/3/89	4.95e-01	1.69e-02	5.00e-03	4.30e-01	1.47e-02	pCi/g	-1
9PNL	Sr-90	10/4/90	2.70e+00	7.14e-02	5.00e-03	2.43e+00	6.42e-02	pCi/g	-1
9PNL	Sr-90	8/13/91	3.74e-01	1.76e-02	5.00e-03	3.43e-01	1.61e-02	pCi/g	-1
10PNL	Sr-90	6/7/88	1.40e-01	7.94e-03	5.00e-03	1.19e-01	6.75e-03	pCi/g	-1
10PNL	Sr-90	5/3/89	1.43e-01	8.08e-03	5.00e-03	1.24e-01	7.02e-03	pCi/g	-1
10PNL	Sr-90	8/13/91	1.57e-01	1.18e-02	5.00e-03	1.44e-01	1.08e-02	pCi/g	-1
11PNL	Sr-90	4/29/87	8.55e-02	8.50e-03	5.00e-03	7.08e-02	7.04e-03	pCi/g	-1
11PNL	Sr-90	6/9/88	9.19e-02	6.18e-03	5.00e-03	7.81e-02	5.25e-03	pCi/g	-1
11PNL	Sr-90	5/3/89	4.99e-02	5.40e-03	5.00e-03	4.33e-02	4.69e-03	pCi/g	-1
11PNL	Sr-90	8/13/91	9.59e-02	7.18e-03	5.00e-03	8.80e-02	6.59e-03	pCi/g	-1
12PNL	Sr-90	6/9/88	7.00e-02	6.01e-03	5.00e-03	5.95e-02	5.11e-03	pCi/g	-1
12PNL	Sr-90	5/3/89	6.23e-02	5.90e-03	5.00e-03	5.41e-02	5.12e-03	pCi/g	-1
12PNL	Sr-90	8/13/91	5.06e-02	7.65e-03	5.00e-03	4.64e-02	7.02e-03	pCi/g	-1
13DOH	Sr-90	9/24/85	3.10e-02	2.00e-03	3.00e-03	2.47e-02	1.59e-03	pCi/g	-1
13DOH	Sr-90	8/5/86	3.70e-02	2.00e-02	3.00e-03	3.01e-02	1.63e-02	pCi/g	-1
13PNL	Sr-90	4/29/87	2.38e-01	1.43e-02	5.00e-03	1.97e-01	1.18e-02	pCi/g	-1
13PNL	Sr-90	6/9/88	1.25e-01	7.40e-03	5.00e-03	1.06e-01	6.29e-03	pCi/g	-1
13PNL	Sr-90	5/2/89	1.52e-01	7.99e-03	5.00e-03	1.32e-01	6.94e-03	pCi/g	-1
13PNL	Sr-90	8/8/91	1.67e-01	9.36e-03	5.00e-03	1.53e-01	8.58e-03	pCi/g	-1
14PNL	Sr-90	4/29/87	2.88e-01	1.18e-02	5.00e-03	2.38e-01	9.77e-03	pCi/g	-1
14PNL	Sr-90	6/6/88	1.25e-01	8.28e-03	5.00e-03	1.06e-01	7.04e-03	pCi/g	-1
14PNL	Sr-90	5/2/89	2.83e-01	1.20e-02	5.00e-03	2.46e-01	1.04e-02	pCi/g	-1
14PNL	Sr-90	7/31/91	5.74e-02	6.22e-03	5.00e-03	5.26e-02	5.70e-03	pCi/g	-1
15PNL	Sr-90	4/29/87	1.83e-01	8.78e-03	5.00e-03	1.52e-01	7.27e-03	pCi/g	-1
15PNL	Sr-90	5/25/88	1.38e-01	7.36e-03	5.00e-03	1.17e-01	6.25e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 44 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
15PNL	Sr-90	5/3/89	1.06e-01	7.34e-03	5.00e-03	9.21e-02	6.38e-03	pCi/g	-1
15PNL	Sr-90	7/31/91	2.31e-01	1.58e-02	5.00e-03	2.12e-01	1.45e-02	pCi/g	-1
16DOH	Sr-90	9/26/85	4.32e-01	4.00e-03	3.00e-03	3.44e-01	3.19e-03	pCi/g	-1
16DOH	Sr-90	8/5/86	3.60e-01	4.00e-03	3.00e-03	2.93e-01	3.25e-03	pCi/g	-1
16DOH	Sr-90	6/3/87	5.28e-01	4.50e-02	3.00e-03	4.38e-01	3.73e-02	pCi/g	-1
16DOH	Sr-90	6/21/88	6.30e-01	2.00e-02	3.00e-03	5.36e-01	1.70e-02	pCi/g	-1
16DOH	Sr-90	6/27/89	1.60e-01	8.00e-01	3.00e-03	1.39e-01	6.97e-01	pCi/g	-1
16DOH	Sr-90	6/26/90	2.80e-01	1.00e-02	3.00e-03	2.50e-01	8.93e-03	pCi/g	-1
16DOH	Sr-90	7/31/91	2.80e-01	1.00e-02	3.00e-03	2.57e-01	9.16e-03	pCi/g	-1
16PNL	Sr-90	5/15/87	1.87e-01	1.35e-02	5.00e-03	1.55e-01	1.12e-02	pCi/g	-1
16PNL	Sr-90	6/20/88	2.28e-01	9.39e-03	5.00e-03	1.94e-01	7.99e-03	pCi/g	-1
16PNL	Sr-90	5/8/89	6.85e-02	5.60e-03	5.00e-03	5.95e-02	4.87e-03	pCi/g	-1
16PNL	Sr-90	8/8/91	1.45e-01	1.17e-02	5.00e-03	1.33e-01	1.07e-02	pCi/g	-1
16PNL	Sr-90	7/28/92	6.23e-02	7.81e-03	5.00e-03	5.85e-02	7.33e-03	pCi/g	-1
17PNL	Sr-90	5/15/87	8.22e-02	1.05e-02	5.00e-03	6.81e-02	8.70e-03	pCi/g	-1
17PNL	Sr-90	6/20/88	9.91e-02	6.12e-03	5.00e-03	8.43e-02	5.21e-03	pCi/g	-1
17PNL	Sr-90	5/10/89	1.25e-01	7.93e-03	5.00e-03	1.09e-01	6.89e-03	pCi/g	-1
17PNL	Sr-90	10/4/90	1.22e-01	9.56e-03	5.00e-03	1.10e-01	8.59e-03	pCi/g	-1
17PNL	Sr-90	8/8/91	1.21e-01	8.13e-03	5.00e-03	1.11e-01	7.45e-03	pCi/g	-1
17PNL	Sr-90	6/23/92	1.46e-01	8.55e-03	5.00e-03	1.37e-01	8.01e-03	pCi/g	-1
18PNL	Sr-90	5/15/87	4.10e-02	7.59e-03	5.00e-03	3.40e-02	6.29e-03	pCi/g	-1
18PNL	Sr-90	4/1/88	2.02e-01	1.09e-02	5.00e-03	1.71e-01	9.22e-03	pCi/g	-1
18PNL	Sr-90	5/10/89	2.82e-02	4.05e-03	5.00e-03	2.45e-02	3.52e-03	pCi/g	-1
18PNL	Sr-90	10/4/90	3.78e-02	7.72e-03	5.00e-03	3.40e-02	6.94e-03	pCi/g	-1
18PNL	Sr-90	8/8/91	1.35e-01	7.86e-03	5.00e-03	1.24e-01	7.21e-03	pCi/g	-1
18PNL	Sr-90	7/27/92	8.51e-02	8.06e-03	5.00e-03	7.99e-02	7.56e-03	pCi/g	-1
19PNL	Sr-90	5/15/87	9.74e-02	1.01e-02	5.00e-03	8.07e-02	8.37e-03	pCi/g	-1
19PNL	Sr-90	6/20/88	6.04e-02	5.09e-03	5.00e-03	5.14e-02	4.33e-03	pCi/g	-1
19PNL	Sr-90	5/10/89	1.58e-01	9.09e-03	5.00e-03	1.37e-01	7.90e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 45 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
19PNL	Sr-90	10/4/90	2.29e-02	4.88e-03	5.00e-03	2.06e-02	4.39e-03	pCi/g	-1
20PNL	Sr-90	5/15/87	5.36e-02	7.80e-03	5.00e-03	4.44e-02	6.46e-03	pCi/g	-1
20PNL	Sr-90	6/20/88	7.98e-02	6.54e-03	5.00e-03	6.79e-02	5.56e-03	pCi/g	-1
20PNL	Sr-90	5/10/89	1.99e-01	9.89e-03	5.00e-03	1.73e-01	8.59e-03	pCi/g	-1
21DOH	Sr-90	6/30/92	2.70e-02	3.00e-03	3.00e-03	2.53e-02	2.81e-03	pCi/g	-1
21PNL	Sr-90	5/15/87	2.08e-01	1.40e-02	5.00e-03	1.72e-01	1.16e-02	pCi/g	-1
21PNL	Sr-90	4/1/88	2.85e-01	1.29e-02	5.00e-03	2.41e-01	1.09e-02	pCi/g	-1
21PNL	Sr-90	5/10/89	1.51e-01	8.55e-03	5.00e-03	1.31e-01	7.43e-03	pCi/g	-1
21PNL	Sr-90	10/8/90	1.21e-01	1.21e-02	5.00e-03	1.09e-01	1.09e-02	pCi/g	-1
21PNL	Sr-90	8/8/91	2.03e-01	1.40e-02	5.00e-03	1.86e-01	1.28e-02	pCi/g	-1
21PNL	Sr-90	7/28/92	1.37e-01	8.15e-03	5.00e-03	1.29e-01	7.65e-03	pCi/g	-1
22PNL	Sr-90	5/26/87	1.96e-01	1.36e-02	5.00e-03	1.63e-01	1.13e-02	pCi/g	-1
22PNL	Sr-90	6/10/88	1.01e-01	6.91e-03	5.00e-03	8.59e-02	5.87e-03	pCi/g	-1
22PNL	Sr-90	5/9/89	9.22e-02	6.59e-03	5.00e-03	8.01e-02	5.73e-03	pCi/g	-1
22PNL	Sr-90	10/8/90	1.38e-01	1.20e-02	5.00e-03	1.24e-01	1.08e-02	pCi/g	-1
23PNL	Sr-90	5/26/87	7.47e-02	1.01e-02	5.00e-03	6.20e-02	8.38e-03	pCi/g	-1
23PNL	Sr-90	6/10/88	9.30e-02	6.81e-03	5.00e-03	7.91e-02	5.79e-03	pCi/g	-1
23PNL	Sr-90	5/5/89	6.58e-02	5.52e-03	5.00e-03	5.72e-02	4.80e-03	pCi/g	-1
23PNL	Sr-90	10/3/90	6.28e-02	7.66e-03	5.00e-03	5.64e-02	6.88e-03	pCi/g	-1
24PNL	Sr-90	6/10/88	7.28e-02	6.35e-03	5.00e-03	6.19e-02	5.40e-03	pCi/g	-1
24PNL	Sr-90	5/5/89	1.24e-01	7.86e-03	5.00e-03	1.08e-01	6.83e-03	pCi/g	-1
25PNL	Sr-90	5/7/87	6.39e-02	1.21e-02	5.00e-03	5.29e-02	1.00e-02	pCi/g	-1
25PNL	Sr-90	5/25/88	6.87e-02	6.17e-03	5.00e-03	5.84e-02	5.24e-03	pCi/g	-1
25PNL	Sr-90	5/5/89	1.29e-01	8.26e-03	5.00e-03	1.12e-01	7.18e-03	pCi/g	-1
25PNL	Sr-90	7/31/91	1.43e-01	1.21e-02	5.00e-03	1.31e-01	1.11e-02	pCi/g	-1
26PNL	Sr-90	5/7/87	1.23e-01	1.34e-02	5.00e-03	1.02e-01	1.11e-02	pCi/g	-1
26PNL	Sr-90	6/7/88	3.91e-02	4.81e-03	5.00e-03	3.32e-02	4.09e-03	pCi/g	-1
26PNL	Sr-90	5/5/89	9.13e-02	6.68e-03	5.00e-03	7.93e-02	5.80e-03	pCi/g	-1
27DOH	Sr-90	6/30/92	2.20e-01	1.00e-02	3.00e-03	2.06e-01	9.37e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 46 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
27PNL	Sr-90	5/20/87	3.98e-01	2.56e-02	5.00e-03	3.30e-01	2.12e-02	pCi/g	-1
27PNL	Sr-90	6/8/88	3.39e-01	1.19e-02	5.00e-03	2.88e-01	1.01e-02	pCi/g	-1
27PNL	Sr-90	5/5/89	2.61e-01	1.06e-02	5.00e-03	2.27e-01	9.21e-03	pCi/g	-1
28DOH	Sr-90	9/26/85	3.55e-01	5.00e-03	3.00e-03	2.83e-01	3.98e-03	pCi/g	-1
28DOH	Sr-90	8/5/86	1.85e-01	1.40e-02	3.00e-03	1.50e-01	1.14e-02	pCi/g	-1
28DOH	Sr-90	6/3/87	2.10e-01	1.00e-02	3.00e-03	1.74e-01	8.30e-03	pCi/g	-1
28DOH	Sr-90	6/21/88	7.00e-02	1.00e-02	3.00e-03	5.96e-02	8.51e-03	pCi/g	-1
28DOH	Sr-90	6/27/89	1.10e-01	8.00e-01	3.00e-03	9.59e-02	6.97e-01	pCi/g	-1
28DOH	Sr-90	6/26/90	1.60e-01	1.00e-02	3.00e-03	1.43e-01	8.93e-03	pCi/g	-1
28DOH	Sr-90	7/31/91	2.31e-01	1.20e-02	3.00e-03	2.12e-01	1.10e-02	pCi/g	-1
28PNL	Sr-90	5/25/88	1.07e-01	7.36e-03	5.00e-03	9.09e-02	6.25e-03	pCi/g	-1
28PNL	Sr-90	5/3/89	2.44e-01	1.14e-02	5.00e-03	2.12e-01	9.90e-03	pCi/g	-1
29PNL	Sr-90	6/9/88	2.67e-01	1.18e-02	5.00e-03	2.27e-01	1.00e-02	pCi/g	-1
29PNL	Sr-90	5/2/89	2.96e-01	1.14e-02	5.00e-03	2.57e-01	9.90e-03	pCi/g	-1
29PNL	Sr-90	8/8/91	3.26e-01	1.22e-02	5.00e-03	2.99e-01	1.12e-02	pCi/g	-1
31DOH	Sr-90	6/4/87	4.30e-02	2.00e-03	3.00e-03	3.57e-02	1.66e-03	pCi/g	-1
32DOH	Sr-90	6/26/90	2.10e-02	4.00e-03	3.00e-03	1.87e-02	3.57e-03	pCi/g	-1
33DOH	Sr-90	9/26/85	3.30e-01	5.00e-03	3.00e-03	2.63e-01	3.98e-03	pCi/g	-1
33DOH	Sr-90	8/5/86	1.20e-01	3.00e-03	3.00e-03	9.76e-02	2.44e-03	pCi/g	-1
33DOH	Sr-90	6/3/87	1.70e-02	1.00e-03	3.00e-03	1.41e-02	8.30e-04	pCi/g	-1
33DOH	Sr-90	6/21/88	1.81e-01	9.00e-03	3.00e-03	1.54e-01	7.66e-03	pCi/g	-1
33DOH	Sr-90	6/27/89	9.30e-02	5.00e-03	3.00e-03	8.11e-02	4.36e-03	pCi/g	-1
33DOH	Sr-90	6/26/90	6.70e-02	5.00e-03	3.00e-03	5.98e-02	4.46e-03	pCi/g	-1
33DOH	Sr-90	7/31/91	5.80e-02	5.00e-03	3.00e-03	5.32e-02	4.58e-03	pCi/g	-1
34DOH	Sr-90	5/28/85	1.04e-01	5.00e-03	3.00e-03	8.22e-02	3.95e-03	pCi/g	-1
34DOH	Sr-90	5/14/86	4.90e-02	1.00e-03	3.00e-03	3.96e-02	8.09e-04	pCi/g	-1
35DOH	Sr-90	5/28/85	6.00e-03	2.00e-03	3.00e-03	4.74e-03	1.58e-03	pCi/g	-1
35DOH	Sr-90	5/14/86	1.00e-01	2.00e-03	3.00e-03	8.09e-02	1.62e-03	pCi/g	-1
36DOH	Sr-90	9/26/85	1.89e-01	3.00e-03	3.00e-03	1.51e-01	2.39e-03	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 47 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
36DOH	Sr-90	8/5/86	8.90e-01	1.00e-02	3.00e-03	7.24e-01	8.13e-03	pCi/g	-1
36DOH	Sr-90	6/3/87	3.10e-01	1.00e-02	3.00e-03	2.57e-01	8.30e-03	pCi/g	-1
36DOH	Sr-90	6/21/88	1.30e-01	8.00e-02	3.00e-03	1.11e-01	6.81e-02	pCi/g	-1
36DOH	Sr-90	6/27/89	9.00e-02	5.00e-03	3.00e-03	7.85e-02	4.36e-03	pCi/g	-1
36DOH	Sr-90	6/26/90	3.40e+01	2.00e+00	3.00e-03	3.04e+01	1.79e+00	pCi/g	-1
41DOH	Sr-90	9/23/85	2.80e-02	2.00e-03	3.00e-03	2.23e-02	1.59e-03	pCi/g	1
41DOH	Sr-90	8/5/86	3.00e-02	1.00e-03	3.00e-03	2.44e-02	8.13e-04	pCi/g	1
42DOH	Sr-90	9/26/85	2.02e-01	4.00e-03	3.00e-03	1.61e-01	3.19e-03	pCi/g	-1
42DOH	Sr-90	8/5/86	3.80e-02	2.00e-03	3.00e-03	3.09e-02	1.63e-03	pCi/g	-1
42DOH	Sr-90	6/3/87	2.60e-02	2.00e-03	3.00e-03	2.16e-02	1.66e-03	pCi/g	-1
42DOH	Sr-90	6/21/88	4.70e-02	4.00e-03	3.00e-03	4.00e-02	3.40e-03	pCi/g	-1
42DOH	Sr-90	6/27/89	3.30e-02	4.00e-03	3.00e-03	2.88e-02	3.49e-03	pCi/g	-1
42DOH	Sr-90	6/26/90	4.30e+00	8.00e-01	3.00e-03	3.84e+00	7.14e-01	pCi/g	-1
45DOH	Sr-90	8/5/86	8.60e-02	2.00e-03	3.00e-03	7.00e-02	1.63e-03	pCi/g	-1
46DOH	Sr-90	9/24/85	1.30e-01	1.00e-02	3.00e-03	1.04e-01	7.97e-03	pCi/g	-1
46DOH	Sr-90	8/5/86	1.99e-01	4.00e-03	3.00e-03	1.62e-01	3.25e-03	pCi/g	-1
49DOH	Sr-90	5/28/85	1.56e-01	6.00e-03	3.00e-03	1.23e-01	4.74e-03	pCi/g	-1
49DOH	Sr-90	5/14/86	1.22e-01	2.00e-03	3.00e-03	9.87e-02	1.62e-03	pCi/g	-1
3DOH	Th-232	5/14/87	3.50e-01	2.00e-02	1.40e-02	3.50e-01	2.00e-02	pCi/g	-1
6DOH	Th-232	5/20/87	4.93e-01	2.00e-02	1.40e-02	4.93e-01	2.00e-02	pCi/g	-1
7DOH	Th-232	5/19/87	5.60e-01	2.00e-02	1.40e-02	5.60e-01	2.00e-02	pCi/g	-1
8DOH	Th-232	5/13/87	6.80e-01	2.00e-02	1.40e-02	6.80e-01	2.00e-02	pCi/g	-1
8PNL	Th-232	6/7/88	9.52e-01	1.00e-01	0.00e+00	9.52e-01	1.00e-01	pCi/g	-1
10PNL	Th-232	6/7/88	6.50e-01	1.02e-01	0.00e+00	6.50e-01	1.02e-01	pCi/g	-1
16PNL	Th-232	6/20/88	7.52e-01	1.14e-01	0.00e+00	7.52e-01	1.14e-01	pCi/g	-1
17PNL	Th-232	6/20/88	8.11e-01	9.20e-02	0.00e+00	8.11e-01	9.20e-02	pCi/g	-1
19PNL	Th-232	6/20/88	1.16e+00	1.43e-01	0.00e+00	1.16e+00	1.43e-01	pCi/g	-1
20PNL	Th-232	6/20/88	9.79e-01	1.19e-01	0.00e+00	9.79e-01	1.19e-01	pCi/g	-1
22PNL	Th-232	6/10/88	7.71e-01	1.12e-01	0.00e+00	7.71e-01	1.12e-01	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 48 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
26PNL	Th-232	6/7/88	6.38e-01	8.41e-02	0.00e+00	6.38e-01	8.41e-02	pCi/g	-1
27PNL	Th-232	6/8/88	1.02e+00	1.24e-01	0.00e+00	1.02e+00	1.24e-01	pCi/g	-1
31DOH	Th-232	6/4/87	6.00e-01	2.00e-02	1.40e-02	6.00e-01	2.00e-02	pCi/g	-1
1PNL	U-234	8/14/91	7.57e-01	1.15e-01	5.00e-02	7.57e-01	1.15e-01	pCi/g	1
2DOH	U-234	7/31/91	4.53e-01	1.25e-01	0.00e+00	4.53e-01	1.25e-01	pCi/g	1
2PNL	U-234	8/14/91	6.05e-01	9.37e-02	5.00e-02	6.05e-01	9.37e-02	pCi/g	1
3DOH	U-234	5/14/87	4.81e-01	7.50e-02	5.00e-03	4.81e-01	7.50e-02	pCi/g	1
4DOH	U-234	6/26/90	3.00e-01	9.00e-02	5.00e-03	3.00e-01	9.00e-02	pCi/g	-1
4PNL	U-234	8/13/91	6.05e-01	1.14e-01	5.00e-02	6.05e-01	1.14e-01	pCi/g	-1
5DOH	U-234	6/26/90	6.10e-01	1.20e-01	5.00e-03	6.10e-01	1.20e-01	pCi/g	1
5PNL	U-234	7/31/91	9.06e-01	2.08e-01	5.00e-02	9.06e-01	2.08e-01	pCi/g	1
6DOH	U-234	5/20/87	5.30e-01	8.00e-02	5.00e-03	5.30e-01	8.00e-02	pCi/g	-1
6PNL	U-234	7/31/91	6.54e-01	9.22e-02	5.00e-02	6.54e-01	9.22e-02	pCi/g	1
7DOH	U-234	5/19/87	6.50e-01	8.00e-02	5.00e-03	6.50e-01	8.00e-02	pCi/g	-1
7PNL	U-234	8/13/91	5.15e-01	9.75e-02	5.00e-02	5.15e-01	9.75e-02	pCi/g	1
8DOH	U-234	5/13/87	4.40e+00	1.90e-01	5.00e-03	4.40e+00	1.90e-01	pCi/g	-1
8PNL	U-234	8/13/91	8.94e-01	1.14e-01	5.00e-02	8.94e-01	1.14e-01	pCi/g	1
9PNL	U-234	10/4/90	7.73e-01	1.07e-01	5.00e-02	7.73e-01	1.07e-01	pCi/g	-1
9PNL	U-234	8/13/91	7.94e-01	9.43e-02	5.00e-02	7.94e-01	9.43e-02	pCi/g	-1
10PNL	U-234	8/13/91	6.87e-01	8.98e-02	5.00e-02	6.87e-01	8.98e-02	pCi/g	1
11PNL	U-234	8/13/91	7.10e-01	1.22e-01	5.00e-02	7.10e-01	1.22e-01	pCi/g	1
12PNL	U-234	8/13/91	7.00e-01	1.14e-01	5.00e-02	7.00e-01	1.14e-01	pCi/g	1
13PNL	U-234	8/8/91	1.11e+00	1.04e-01	5.00e-02	1.11e+00	1.04e-01	pCi/g	1
16DOH	U-234	6/26/90	4.10e-01	1.10e-01	5.00e-03	4.10e-01	1.10e-01	pCi/g	1
21DOH	U-234	6/30/92	1.50e+00	1.60e-01	0.00e+00	1.50e+00	1.60e-01	pCi/g	-1
27DOH	U-234	6/30/92	7.88e-01	2.47e-01	0.00e+00	7.88e-01	2.47e-01	pCi/g	1
28DOH	U-234	6/26/90	4.80e-01	9.00e-02	5.00e-03	4.80e-01	9.00e-02	pCi/g	1
29PNL	U-234	8/8/91	7.95e-01	8.74e-02	5.00e-02	7.95e-01	8.74e-02	pCi/g	1
31DOH	U-234	6/4/87	6.20e-01	1.00e-01	5.00e-03	6.20e-01	1.00e-01	pCi/g	1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 49 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
32DOH	U-234	6/26/90	3.90e-01	9.00e-02	5.00e-03	3.90e-01	9.00e-02	pCi/g	1
33DOH	U-234	6/26/90	6.40e-01	1.40e-01	5.00e-03	6.40e-01	1.40e-01	pCi/g	1
36DOH	U-234	6/26/90	6.80e-01	1.20e-01	5.00e-03	6.80e-01	1.20e-01	pCi/g	-1
42DOH	U-234	6/26/90	5.00e-01	1.00e-01	5.00e-03	5.00e-01	1.00e-01	pCi/g	-1
1PNL	U-235	8/14/91	1.10e-02	1.71e-02	5.00e-02	1.10e-02	1.71e-02	pCi/g	1
2PNL	U-235	8/14/91	2.22e-02	1.98e-02	5.00e-02	2.22e-02	1.98e-02	pCi/g	1
4PNL	U-235	8/13/91	2.67e-02	2.52e-02	5.00e-02	2.67e-02	2.52e-02	pCi/g	-1
5PNL	U-235	7/31/91	1.88e-02	3.24e-02	5.00e-02	1.88e-02	3.24e-02	pCi/g	1
6PNL	U-235	7/31/91	2.28e-02	1.89e-02	5.00e-02	2.28e-02	1.89e-02	pCi/g	1
7PNL	U-235	8/13/91	-4.15e-03	1.20e-02	5.00e-02	-4.15e-03	1.20e-02	pCi/g	1
8PNL	U-235	8/13/91	3.83e-02	3.46e-02	5.00e-02	3.83e-02	3.46e-02	pCi/g	1
9PNL	U-235	10/4/90	4.60e-02	2.68e-02	5.00e-02	4.60e-02	2.68e-02	pCi/g	-1
9PNL	U-235	8/13/91	1.91e-02	1.64e-02	5.00e-02	1.91e-02	1.64e-02	pCi/g	-1
10PNL	U-235	8/13/91	1.62e-02	1.63e-02	5.00e-02	1.62e-02	1.63e-02	pCi/g	1
11PNL	U-235	8/13/91	2.08e-02	2.23e-02	5.00e-02	2.08e-02	2.23e-02	pCi/g	1
12PNL	U-235	8/13/91	2.77e-02	2.55e-02	5.00e-02	2.77e-02	2.55e-02	pCi/g	1
13PNL	U-235	8/8/91	4.00e-02	2.08e-02	5.00e-02	4.00e-02	2.08e-02	pCi/g	1
29PNL	U-235	8/8/91	5.52e-02	2.37e-02	5.00e-02	5.52e-02	2.37e-02	pCi/g	1
1PNL	U-238	8/14/91	6.69e-01	1.08e-01	5.00e-02	6.69e-01	1.08e-01	pCi/g	1
2DOH	U-238	7/31/91	4.71e-01	1.25e-01	4.00e-01	4.71e-01	1.25e-01	pCi/g	1
2PNL	U-238	8/14/91	6.87e-01	9.86e-02	5.00e-02	6.87e-01	9.86e-02	pCi/g	1
3DOH	U-238	5/14/87	4.06e-01	7.00e-02	3.00e-03	4.06e-01	7.00e-02	pCi/g	1
4DOH	U-238	6/26/90	3.40e-01	7.00e-02	3.00e-03	3.40e-01	7.00e-02	pCi/g	-1
4DOH	U-238	7/31/91	3.68e-01	1.10e-01	4.00e-01	3.68e-01	1.10e-01	pCi/g	-1
4PNL	U-238	8/13/91	5.35e-01	1.06e-01	5.00e-02	5.35e-01	1.06e-01	pCi/g	-1
5DOH	U-238	6/26/90	5.60e-01	9.00e-02	3.00e-03	5.60e-01	9.00e-02	pCi/g	1
5DOH	U-238	7/31/91	7.49e-01	1.55e-01	3.00e-03	7.49e-01	1.55e-01	pCi/g	1
5PNL	U-238	7/31/91	8.41e-01	1.99e-01	5.00e-02	8.41e-01	1.99e-01	pCi/g	1
6DOH	U-238	5/20/87	5.60e-01	8.26e-02	3.00e-03	5.60e-01	8.26e-02	pCi/g	-1

Table C-2. Additional Soil Radionuclide Data from Screening Process.
Not Used to Calculate Background (Sheet 50 of 50)

Site ID	Analyte	Sample Date	Value	Error	LLD	Decay Value	Decay Error	Units	Source
6PNL	U-238	7/31/91	6.65e-01	9.24e-02	5.00e-02	6.65e-01	9.24e-02	pCi/g	1
7DOH	U-238	5/19/87	6.60e-01	8.00e-02	3.00e-03	6.60e-01	8.00e-02	pCi/g	-1
7PNL	U-238	8/13/91	6.91e-01	1.11e-01	5.00e-02	6.91e-01	1.11e-01	pCi/g	1
8DOH	U-238	5/13/87	4.12e+00	1.90e-01	3.00e-03	4.12e+00	1.90e-01	pCi/g	-1
8PNL	U-238	8/13/91	9.57e-01	1.21e-01	5.00e-02	9.57e-01	1.21e-01	pCi/g	1
9PNL	U-238	10/4/90	8.26e-01	1.10e-01	5.00e-02	8.26e-01	1.10e-01	pCi/g	-1
9PNL	U-238	8/13/91	6.82e-01	8.70e-02	5.00e-02	6.82e-01	8.70e-02	pCi/g	-1
10PNL	U-238	8/13/91	6.10e-01	8.41e-02	5.00e-02	6.10e-01	8.41e-02	pCi/g	1
11PNL	U-238	8/13/91	5.77e-01	1.09e-01	5.00e-02	5.77e-01	1.09e-01	pCi/g	1
12PNL	U-238	8/13/91	7.48e-01	1.17e-01	5.00e-02	7.48e-01	1.17e-01	pCi/g	1
13PNL	U-238	8/8/91	1.02e+00	9.94e-02	5.00e-02	1.02e+00	9.94e-02	pCi/g	1
16DOH	U-238	6/26/90	5.10e-01	9.00e-02	3.00e-03	5.10e-01	9.00e-02	pCi/g	1
16DOH	U-238	7/31/91	7.20e-01	2.17e-01	4.00e-01	7.20e-01	2.17e-01	pCi/g	1
21DOH	U-238	6/30/92	1.56e+00	1.60e-01	4.00e-01	1.56e+00	1.60e-01	pCi/g	-1
27DOH	U-238	6/30/92	8.18e-01	2.47e-01	4.00e-01	8.18e-01	2.47e-01	pCi/g	1
28DOH	U-238	6/26/90	6.10e-01	8.00e-02	3.00e-03	6.10e-01	8.00e-02	pCi/g	1
28DOH	U-238	7/31/91	5.29e-01	2.51e-01	4.00e-01	5.29e-01	2.51e-01	pCi/g	1
29PNL	U-238	8/8/91	7.14e-01	8.23e-02	5.00e-02	7.14e-01	8.23e-02	pCi/g	1
31DOH	U-238	6/4/87	6.60e-01	1.00e-01	3.00e-03	6.60e-01	1.00e-01	pCi/g	1
32DOH	U-238	6/26/90	5.60e-01	8.00e-02	3.00e-03	5.60e-01	8.00e-02	pCi/g	1
33DOH	U-238	6/26/90	5.60e-01	1.10e-01	3.00e-03	5.60e-01	1.10e-01	pCi/g	1
33DOH	U-238	7/31/91	5.07e-01	1.07e-01	4.00e-01	5.07e-01	1.07e-01	pCi/g	1
36DOH	U-238	6/26/90	6.00e-01	9.00e-02	3.00e-03	6.00e-01	9.00e-02	pCi/g	-1
42DOH	U-238	6/26/90	7.00e-01	1.00e-01	3.00e-03	7.00e-01	1.00e-01	pCi/g	-1

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