NOTICE

All drawings located at the end of the document.

DRAFT

OBSERVATIONS ON THE OCCURRENCE OF PLUTONIUM AND AMERICIUM IN GROUND AND SURFACE WATER

Rocky Flats Plant

903 Pad, Mound, and East Trenches Areas

Operable Unit No. 2

U.S. Department of Energy
Rocky Flats Plant
Golden, Colorado

04 DECEMBER 1992

REVIEWED FOR CLASSIFICATION/UCNI
By
Date 12/9/92

ADMIN RECORD

A-OU02-000473

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04 DECEMBER 1992

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Prepared by:

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ADMIN RECORD

REVIEWED FOR CLASSIFICATION/UCNI
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EXECUTIVE SUMMARY

The primary purpose of this document is to provide an observational assessment of plutonium (Pu) and americium (Am) contamination in ground and surface water at Operable Unit No. 2 (OU2) at the Rocky Flats Plant. Ground and surface water radiochemistry data were first screened to generate a reliable data set in which there was a reasonable level of confidence that the reported activity represented the true activity. Ground-water radionuclide activities were then compared with surface water radionuclide activities. This comparison revealed substantially lower ground-water Pu and Am activities than in surface water. This suggests that ground water discharging to surface water does not account for all of the Pu and Am activity in surface water. Contrasting total Pu and Am activities to filtered water from the same stations indicates that more than one-half of the Pu and Am activity resides in material retained by a 0.45μ filter. Comparison of total Pu and Am activity to total suspended solids concentration reveals that, in some cases, a correlation between suspended solids and radioactivity exits. This further suggests that at least some of the radionuclide activity is associated with particles.

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LIST OF ACRONYMS

AM	americium
CDH	Colorado Department of Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	U.S. Environmental Protection Agency
IHSS	individual hazardous substance site
MDA	minimum detectable activity
OU	operable unit
QA	quality assurance
RFEDS	Rocky Flats Environmental Database System
RFI	RCRA Facility Investigation
RFP	Rocky Flats Plant
RI	Remedial Investigation
TSS	total suspended solids
WQCC	Colorado Water Quality Control Commission
μ	micron
pCi/ℓ	picoCuries per liter

SECTION 1
INTRODUCTION

1.1 PURPOSE

This document provides an assessment of the occurrence of plutonium (Pu) and americium (Am) in ground and surface water at the 903 Pad, Mound, and East Trenches Areas (Operable Unit No. 2 [OU2]) of the Rocky Flats Plant (RFP). The document has been prepared in advance of the OU2 Phase II Resource Recovery and Conservation Act (RCRA) Facility Investigation (RFI)/Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Investigation (RI) at the request of the U.S. Environmental Protection Agency (EPA) and Colorado Department of Health (CDH).

The primary purposes for preparation of this document are two-fold. First, the document provides a summary of the Pu and Am activity data that have been collected for OU2 ground and surface water. Second, the document presents a qualitative/observational assessment of these data to provide insight into the nature of Pu and Am contamination present in OU2 aqueous media. This project was not intended to be a scientifically rigorous study. In contrast, it is an observational exercise allowing early examination of existing data while the longer term scientific studies that rigorously evaluate RFP environmental data proceed (e.g., RI Program).

It should be noted that this document is not a requirement of the Inter-Agency Agreement between EPA, CDH, and DOE, and was not prepared as part of the RFP RI Program.

1.2 SCOPE

The scope of work for this data compilation and assessment project is limited to OU2, and includes the following four tasks:

- Summarize Pu and Am activity data for ground and surface water.
- Compare Pu and Am activity in ground water with that in surface water and note any observed differences in relative magnitude.

- Compare "total" and "filtered" Pu and Am surface water data (defined in Section 1.3), and compare "total" Pu and Am surface water activities with the associated total suspended solids TSS data.

- State conclusions based on the two data assessment tasks listed above.

The scope of this work involves compilation and assessment of Pu and Am activity data only. Other OU2 radionuclides of concern are not included in the scope of work. As such, the term "total radioactivity" used throughout this document refers to total activity of Pu or Am.

Not included in the scope of this work are analyses concerning the sources or mechanisms of transport of the Pu and Am contamination observed in the ground and surface water samples. The analytical data presented in this document are not sufficient to allow such analyses.

Statistical analysis of the data presented in this document is also beyond the scope of work. The purpose of this project is satisfied by qualitative observational methods. It is important to note, however, that statistical analysis of the data may provide additional insight into the character of the data sets which may prove useful in other studies (i.e., contaminant distribution, contaminant transport, etc.).

1.3 BACKGROUND INFORMATION

This subsection provides background information that is pertinent to the Pu and Am data summaries, data assessments, and conclusions presented in this document. The discussion presented below includes a brief overview of Pu and Am contamination at OU2, the expected behavior of Pu and Am in OU2 aqueous media, and definitions of the "total" and "filtered" data qualifiers used throughout this document. A summary of background activity levels and regulatory standards for Pu and Am in OU2 surface and ground water is also presented in this subsection. This information is provided as a convenient reference for examination of the actual OU2 Pu and Am data presented later in this document.

Pu and Am have been detected in surface water, and to a lesser extent in ground water, at OU2 (EG&G, 1991b; 1991c). Relatively high concentrations of Pu and Am occur in seeps located

within the 903 Pad Area (Figure 1-1). These radionuclides are elevated in surface soils in the vicinity of the 903 Pad (EG&G, 1990b) and occur at relatively higher concentrations in soils directly beneath the 903 Pad.

Leaking drums of waste cutting oil used in the machining of Pu at RFP were the original source of Pu at the 903 Pad site (Olsen et al., 1980). Olsen et al. report that the average particle size of plutonium oxide (PuO_2) in the waste cutting oils was approximately 0.2μ, and that up to 50% of the Pu released to the environment was in a dispersed form less than 0.1μ in size. The dispersed form resulted from dissolution of the Pu by the hydrochloric acid that formed in the drums of cutting oil. Olsen et al. report that the dispersed form is adsorbed to clay and/or organic material in the soil and/or precipitated as Fe_2O_3-PuO_2 on mineral surfaces.

The chemistry of Pu and Am in aqueous solutions is discussed in two scientific articles. Under oxidizing and near-neutral conditions, Pu exists as PuO_2 which is practically insoluble (Cleveland, 1979), and is likely to adsorb to particulates. Likewise, Am strongly complexes with particulate material (Orlandini et al., 1990). Results of treatability studies performed by EG&G indicate that Pu and Am in surface water at OU2 are associated with the particulate phase (EG&G, 1991a). This was demonstrated by decreases in Pu and Am activities of surface water filtrates obtained from filters with successively smaller nominal pore sizes.

Two types of Pu and Am activity data are presented in this document: "Total" and "Filtered." The total data are the Pu and Am activities of unfiltered water. In contrast, filtered data are the Pu and Am activities of water samples that have been passed through a 0.45μ filter. The filtered data thus represents the sum of any solubilized (i.e., dissolved) radionuclide contamination plus contamination adsorbed to particles that pass through a 0.45μ filter.

To put the activity levels of Pu and Am that have been measured in OU2 ground and surface water into perspective, the reader may wish to compare the data to the regulatory standards and RFP background levels presented in Table 1-1. The regulatory levels listed in the table are the Colorado Water Quality Control Commission (WQCC) state-wide and site-specific ground and surface water standards. The background levels listed are cited from the RFP Background Geochemical Characterization Report (EG&G, 1992).

Table 1-1
Background Activity and Water Quality Standards for Pu and Am
(all activities reported are in pCi/ℓ)

Parameter	Background[a]		WQCC Surface Water Standards		Background[a]		WQCC Ground Water Standards		
	Total Activity in Surface Water	Total Activity in Seep Water	State-Wide Radio-nuclide Standards[b]	Segment 5 Standards: Table 2 Radio-nuclides[c]	Total Activity in Upper Ground Water Flow System	Total Activity in Lower Ground Water Flow System	State-Wide Radio-nuclide Standard[d]	Site-Specific Standard for Ground Water Connected to Woman Creek[e]	Site-Specific Standard for Ground Water Connected to Walnut Creek[f]
$Pu^{239,240}$	0.019	1.812	15	0.05	0.056	0.007	15	0.05	0.05
Am^{241}	0.018	0.059	NA	0.05	0.031	0.042	NA	0.05	0.05

NA Not Available
pCi/ℓ picoCuries per liter

a Values represent the upper 95% tolerance limits reported in the Background Geochemical Characterization Report, EG&G,1992.
b 5 CCR 1002-8, Section 3.1.11
c 5 CCR 1002-8, Section 3.8.6
d 5 CCR 1002-8, Section 3.11.5(c)(2)
e 5 CCR 1002-8, Section 3.12.0
f 5 CCR 1002-8, Section 3.12.0

SECTION 2
APPROACH

The scope of work previously presented in Section 1.2 included the following data assessment tasks:

- Compare Pu and Am activities in ground and surface water and note any observed differences in relative magnitude.
- Compare "total" and "filtered" Pu and Am surface water data, and compare "total" Pu and Am surface water activities with the associated TSS data.

The approach used to conduct the data assessment tasks are described below. A brief rationale for each of the six data assessments is also provided.

1) **Assign each ground-water and surface water sampling station in OU2 to a drainage basin (Woman Creek or South Walnut Creek)** - Comparison of Pu and Am levels in ground water and surface water should be done within a given drainage basin.

2) **Assign each ground-water monitoring well to a specific hydrogeologic unit** - Generally, monitoring wells at OU2 are screened in discrete hydrogeologic units and radionuclide impacts to ground water should be evaluated and discussed with respect to specific hydrogeologic units (e.g., alluvium vs. bedrock).

3) **Develop a data set of reliable Pu and Am activities by screening existing analytical data with respect to quality assurance (QA) validation and minimum detectable activities (MDAs)** - This "reliable" data set should be used to determine the occurrence of radionuclides in ground water and surface water.

4) **Compare Pu and Am activities in ground water (if any) to those in surface water** - Relative levels should be compared to determine if the water sources are different.

5) **Compare total and filtered radionuclide concentrations in surface water** – This comparison should indicate whether Pu and Am are associated with particles larger than 0.45μ.

6) **On a station-by-station basis, compare the surface water activities of Pu and Am to total suspended solids (TSS)** – This correlation should indicate if Pu and Am activity in surface water is associated with particles larger than 0.45μ.

SECTION 3
ANALYTICAL DATA

3.1 DEVELOPMENT OF DATA SETS BY LOCATION AND HYDROGEOLOGIC UNITS

Monitor wells and surface water stations considered in this assessment are the OU2 Phase I and Phase II RFI/RI sampling locations in the South Walnut Creek and Woman Creek drainage basins. All historical total and filtered Pu and Am and TSS data for these sampling locations were extracted from the Rocky Flats Environmental Database System (RFEDS) on 31 April 1992, and include data collected from the Third Quarter 1986 through the Fourth Quarter 1991. The analytical data for the wells are provided in Appendix A-1 (South Walnut Creek Basin) and Appendix A-2 (Woman Creek Basin). The analytical data for the surface water stations are provided in Appendix B-1 (South Walnut Creek Basin) and Appendix B-2 (Woman Creek Basin).

The locations of the ground-water monitoring wells considered for this assessment are shown in Figure 3-1 (alluvial) and Figure 3-2 (bedrock). The wells were assigned to one of two drainage basins at OU2 (South Walnut Creek or Woman Creek). The potentiometric surface of the unconfined ground-water system is shown in Figure 3-3. Also, each monitor well has been classified according to the hydrogeologic unit in which the well was completed (alluvium and bedrock) (Figures 3-1 and 3-2). Unconfined ground water is present in the alluvium and the uppermost sandstone unit (Arapahoe Sandstone No. 1) of the Arapahoe Formation Sandstone that underlies the surficial materials (alluvium) in many areas of the 903 Pad, Mound, and East Trenches Areas (EG&G, 1991b). Confined ground water occurs in deeper sandstone beds.

The locations of the surface water stations in the South Walnut Creek and Woman Creek drainage basins considered for this analysis are provided in Figure 3-4. The surface water divide defining these drainage basins was extrapolated from the topography at OU2 (Figure 3-4).

3.2 DEVELOPMENT OF RELIABLE RADIONUCLIDE ACTIVITY DATA SETS

As radionuclide activities approach their lower limits of detection, there is increasing uncertainty as to the "true" activity of the sample. For the purposes of this document, it is instructive to have a data set of Pu and Am activities in which there is little uncertainty that the tabulated values are accurate and precise measures of the actual activities within the sample. This section presents the rationale for development of each data set.

Radionuclide activity data is reported in the form of a $\pm$ b where "a" is the reported radioactivity, and "b" is the propagated statistical counting uncertainty (error term) for the sample at the 95% confidence level. The detection limit for radiochemical analysis is known as the minimum detectable activity (MDA). The MDA is defined as the smallest level of radioactivity that has a 95% probability of being detected, i.e., there is only a 5% probability that a blank sample will yield a response interpreted to mean that radioactivity is present. The MDA is a function of the sample volume, counting efficiency, radiochemical yield, the radioactive decay constant for the particular radionuclide, and the elapsed time between sample collection and counting (EPA, 1980). Activities reported for samples that are below their respective MDAs are considered non-detectable at the level of the MDA.

Unfortunately, MDAs were not reported for much of the radiochemical data collected prior to 1990. In these cases, it is necessary to rely on the error term to determine if the reported activity is an accurate measure of the true activity in the sample. Review of the Pu activity data for ground water (the ground-water data set is sufficiently large for this analysis) indicated that, for the data where the reported value is less than the MDA, 90% of the time the error term is equal to or greater than the reported value. It also is extremely rare for the error term to exceed the reported value when the reported value exceeds the MDA. Therefore, in the absence of an MDA for a radionuclide measurement, the activity will be considered non-detectable at the level of the error term when the error term equals or exceeds the reported value.

Pre-1990 activity data were reported as reagent blank-subtracted values. As a result, the reported radioactivities are strongly dependent on the magnitude of the reagent blank correction. Consequently, many of the reported activities in the samples collected before 1990 were zero

or negative values. In development of this data set, samples with zero or negative activities are considered to have non-detectable activity levels.

Lastly, analytical data that have been flagged with a "rejected" data qualifier are not included in this data set. Validated data are identified in the appendices by a qualifier adjacent to each datum. The qualifiers "V" (valid), "A" (acceptable with qualifications), and "R" (rejected) are assigned in accordance with the Environmental Restoration Program Quality Assurance/Quality Control procedures. All other data including non-validated data are included in this data set if they pass the screening for "detectable" activities described above.

Analytical data which passed this screening exercise for both ground-water and surface water stations are tabulated and presented in Appendices C-1 and C-2, respectively; and summarized on Figures 3-1, 3-2 and 3-4.

3.3 COMPUTATION OF MEAN ACTIVITIES

In computation of mean radioactivities for a well/station or group of wells/stations, it is necessary to account for non-detectable activities. It is customary in calculating descriptive statistics to replace non-detectable analyte concentrations with one-half the detection limit. This practice will be utilized here except that the MDA (or error term in the absence of an MDA) is the detection limit for non-detected data. However, the MDA and error terms range from less than 0.01 picoCuries per liter (pCi/ℓ) to 3 pCi/ℓ. The true activity for a sample where the activity is non-detectable at 3 pCi/ℓ may be as low as 0.01 pCi/ℓ. Therefore, it would bias the data high if one-half the MDA (or error term) were always used as replacement values for non-detected data. It would likewise bias the data low if a default replacement value of one-half the MDA of 0.01 pCi/ℓ were always used for non-detected data. To avoid being biased in determination of mean activities, all non-detects greater than two times the minimum reported MDA (0.01 pCi/ℓ) are omitted in the computation. This policy has been adopted in the background geochemical characterization of the RFP (EG&G, 1992).

3.4 OTHER ELEMENTS OF UNCERTAINTY

It is recognized that the screened intervals and integrity of monitor wells constructed prior to 1986 is largely unknown. This is cause for uncertainty regarding the representations of the ground-water quality data generated from these wells. Data from these wells has not been excluded from the analysis because these wells are often located in potential radionuclide source areas, and evidence of Pu contamination in ground water at these wells is corroborated by data from adjacent 1986 and post-1986 monitor wells (as will be shown).

SECTION 4

OCCURRENCE OF PLUTONIUM AND AMERICIUM AT OU2

4.1 INTRODUCTION

This section presents the ranges of activities of Pu and Am found in ground water and surface water at OU2, a discussion of suspected anomalous data points, and an evaluation of the occurrence of these radionuclides with respect to total and filtered samples.

4.2 GROUND WATER

4.2.1 Range of Pu and Am Activities

Pu and Am were detected in ground water at OU2 in alluvial, unconfined bedrock and confined bedrock hydrogeologic units. Generally, alluvial ground water contains the highest radioactivities, and both bedrock aquifer systems contain substantially lower Pu and Am activities. The mean total Pu and Am activities for each of the hydrostratigraphic units is presented in Table 4-1.

With respect to the alluvial ground water, detectable Pu and Am activities most frequently occur in the 903 Pad Area as evidenced by the data from wells 1-71, 2-71, and 15-87 (Table C1-3 [in Appendix C] and Figure 3-1). Excluding possible outlier data (32 pCi/ℓ of Pu and 4.4 pCi/ℓ of Am at well 2-71), Pu and Am activities in this area are as high as 1.9 pCi/ℓ and 0.38 pCi/ℓ, respectively. Other wells with frequent occurrences of detectable Pu and Am are 17-87 (Mound Area) and 42-86 (East Trenches Area) (Table C1-1 in Appendix C). In these areas, Pu and Am activities are as high as 0.5 pCi/ℓ and 0.04 pCi/ℓ, respectively. The above-noted radioactivities generally exceed background levels and water quality standards (Table 1-1) (with the exception of the WQCC state-wide standard for Pu [15 pCi/ℓ]). Detectable Pu and Am activities in bedrock ground water are most frequent in wells 9-87 (903 Pad Area) and 25-87 (East Trenches Area) (Table C1-2 and Figure 3-2). Pu activity is as high as 0.12 pCi/ℓ in samples collected from well 25-87, with much lower activities elsewhere. Am activity did not exceed 0.074 pCi/ℓ at any bedrock well.

TABLE 4-1

Summary of Total Plutonium 239/240 and Americium 241 Activities In Ground Water

Total Plutonium 239/240

AREA	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l
Alluvium	122	30	81	30	ND	32	.454
Unconfined Bedrock	36	7	30	7	ND	.1245	.0133
Confined Bedrock	47	3	41	3	ND	.0681	.0073

Total Americium 241

AREA	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l
Alluvium	113	23	67	23	ND	4.4	.077
Unconfined Bedrock	40	6	32	6	ND	.02631	.008
Confined Bedrock	44	5	37	5	ND	.0745	.0093

Detects = Values which are greater than the Counting Error and greater than the MDA.
ND = Not Detected (Values which are less than the Counting Error and/or less than the MDA).
* No Detections - value is equivalent to 1/2 the GRRASP (EG&G, 1990a) MDA.
**Mean Calculation:

1) A mean is calculated for each station. Non-detects which have a counting error greater than .02 or an MDA greater than .02 are eliminated from the dataset. For the remaining non-detects, a value (.005) equal to 1/2 the GRRASP MDA (.01) is used in the mean calculation.
2) The mean for the area is then calculated by summing the means for individual stations and dividing by the number of stations.

4.2.2 Anomalous Data Points

Although all data points presented in this section have passed the screening process described in Section 3.2, there is circumstantial evidence associated with several data points which suggests some uncertainty in the accuracy of the reported activities. These suspect data points are described below.

Alluvial monitoring well 0271 is located along the south central perimeter of the 903 Pad Area (Figure 3-2). A ground-water sample collected from this well in August 1986 reportedly contained total Pu and Am at 32 pCi/ℓ and 4.4 pCi/ℓ, respectively. Excluding these data points, the historical Pu and Am activities in this well average less than 1.0 pCi/ℓ. The historical activities, coupled with the lack of data validation, renders these two data points suspect.

Alluvial monitoring well 3886, located northeast of Pond B5 (Figure 3-1), reportedly contained 2.6 pCi/ℓ of total Pu. This activity is questionable because total Pu was detected only once in three sampling events at this well. Moreover, an activity of 2.6 pCi/ℓ exceeds activities in other wells and ponds located closer to the suspected source(s) of radionuclide contamination (e.g., 903 Pad Area).

Although the accuracy of the points noted above is questionable, for reason of consistency, all data points which passed the screening process in (Section 3.2) were used to generate the mean activities for ground water.

4.2.3 Total vs. Filtered Radioactivities

A comparison of total and filtered activities of a given radionuclide should provide insight regarding the distribution of adsorbed Pu and Am with respect to particle size. This comparison should be performed using samples for which both total and filtered analytical data exist. Unfortunately, such data are not available for OU2 ground water, i.e., total and filtered data exist, but never for the same sample. In addition, there were a disproportionately large number of filtered analyses performed compared with total analyses for bedrock sampling stations.

Therefore, it is difficult to draw substantial conclusions regarding the distribution of adsorbed radionuclides that exist in ground water at OU2.

Nevertheless, Table 4-2 presents mean filtered and total Pu and Am activity data for ground water collected from alluvial, unconfined bedrock, and confined bedrock wells. A review of this table reveals that the mean total Pu activity is greater than ten times the mean filtered activity for the alluvial wells, suggesting that this radionuclide has a tendency to adsorb to particles that are larger than 0.45μ. For both the unconfined and confined bedrock, the mean filtered and mean total Pu activities are roughly equal, which suggests that there is a tendency for Pu to adsorb to particles smaller than 0.45μ.

The distribution of total and filtered Am appears to be more erratic than for Pu. Total Am is greater than ten times filtered Am in Woman Creek alluvial ground water. In all other areas and hydrogeologic units, total and filtered Am are roughly equal with the exception of the South Walnut Creek confined bedrock ground water. In this case, the filtered activity is five times the total activity. This observation may be related to the lack of paired data sets and to the data screening process described in Section 3.2.

4.2.4 Suspected Sources for Ground-Water Contamination

In general, the highest Pu and Am activities occur in monitoring wells in the vicinity of the 903 Pad Area. This supports the conjecture in Section 1.2 of this document that the 903 Pad Area is a likely source for Pu and Am in ground water at OU2. For wells which are remote from the 903 Pad and have above-background activities in more than 50% of all samples analyzed, it is reasonable to consider other possible sources for radionuclides in ground water. Well 4286 is over 300 feet more distant from the 903 Pad than well B218789 in a hydraulically downgradient direction. Samples collected from monitoring well 4286 contained up to 0.5 pCi/ℓ of Pu, and consistently exceeded the activities measured in samples collected from well B218789. Several possible explanations are proposed to account for this. First, there may be another radionuclide source near well 4286, although there are no other individual hazardous substance sites (IHSSs) hydraulically upgradient of this well. Second, during the installation of well 4286, contaminated surface soils may have been introduced into the subsurface by the drilling rig. Lastly, the

TABLE 4-2

Summary of Plutonium 239/240 and Americium 241 Activities In Ground Water

AREA	Total Plutonium 239/240							Filtered Plutonium 239/240						
	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean pCi/l
Woman Creek Alluvium	66	16	42	16	ND	32	.6929	65	11	21	11	ND	.018	.007
Walnut Creek Alluvium	56	14	39	14	ND	2.6	.1345	42	8	10	8	ND	.027	.009
Woman Creek Unconfined Bedrock	21	0	15	0	ND	ND	.005*	25	2	9	2	ND	.011	.006
Walnut Creek Unconfined Bedrock	15	7	15	7	ND	.1245	.0215	18	4	5	4	ND	.013	.0097
Woman Creek Confined Bedrock	22	0	21	0	ND	ND	.005*	39	7	12	7	ND	.03	.008
Walnut Creek Confined Bedrock	25	3	20	3	ND	.0681	.0107	36	7	12	7	ND	.025	.009

AREA	Total Americium 241							Filtered Americium 241						
	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean* pCi/l
Woman Creek Alluvium	61	11	36	11	ND	4.4	.1208	59	5	15	5	ND	.037	.0081
Walnut Creek Alluvium	52	12	31	12	ND	.0366	.0102	37	4	8	4	ND	.11	.0169
Woman Creek Unconfined Bedrock	24	1	17	1	ND	.023	.006	22	1	5	1	ND	.026	.007
Walnut Creek Unconfined Bedrock	16	5	15	5	ND	.02631	.0099	15	3	4	3	ND	.037	.0217
Woman Creek Confined Bedrock	22	2	20	2	ND	.0745	.01039	36	5	11	5	ND	.17	.0172
Walnut Creek Confined Bedrock	22	3	17	3	ND	.0322	.008	32	5	11	5	ND	.11	.04

Detects = Values which are greater than the Counting Error and greater than the MDA.
ND = Not Detected (Values which are less than the Counting Error and/or less than the MDA).
* No Detections - value is equivalent to 1/2 the GRRASP (EG&G, 1990a) MDA.
**Mean Calculation:
1) A mean is calculated for each station. Non-detects which have a counting error greater than .02 or an MDA greater than .02 are eliminated from the dataset. For the remaining non-detects, a value (.005) equal to 1/2 the GRRASP MDA (.01) is used in the mean calculation.
2) The mean for the area is then calculated by summing the means for individual stations and dividing by the number of stations.

elevated Pu activities at well 4286 may represent the core of a dissolved ground-water plume originating from the 903 Pad, while well B218789 may be at the lateral margin of the plume.

4.3 SURFACE WATER

Surface water samples were collected at OU2 from in-stream, seep, and detention pond sampling stations. Pu and Am were detected in all three types of OU2 surface water. The mean total and filtered Pu and Am activities for the South Walnut Creek and Woman Creek drainage basins are summarized in Table 4-3. The mean activities of these radionuclides are higher in the Woman Creek Basin. The sampling stations with the highest reported Pu and Am activities were seeps located near the 903 Pad Area and include SW050, SW053, and SW057 (Figure 3-4). Maximum total Pu and Am activities at these stations ranged from 54 to 56 pCi/ℓ, and 0.807 to 28 pCi/ℓ, respectively. Activities of these radionuclides at in-stream stations (Table C2-1 in Appendix C) generally did not exceed 1.0 pCi/ℓ (except at SW062), and activities measured in pond water (Table C2-2 in Appendix C) were generally less than 0.05 pCi/ℓ. The only surface water stations without detectable Pu and Am activities are located in the drainage just north of South Walnut Creek (SW021, SW024 and SW025), however, only one sampling event occurred at these stations. Pu and Am activities in the seeps generally exceed background levels and water quality standards.

TABLE 4-3

Summary of Plutonium 239/240 and Americium 241 Activities In Surface Water

AREA	Total Plutonium 239/240							Filtered Plutonium 239/240						
	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean pCi/l
Woman Creek	281	160	241	160	ND	60	4.75	106	47	79	47	ND	6.15	.428
Walnut Creek	229	117	192	117	ND	4.2	.14	90	32	72	32	ND	40	1.6

AREA	Total Americium 241							Filtered Americium 241						
	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l	Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean* pCi/l
Woman Creek	235	81	191	81	ND	33	.89	87	36	77	36	ND	15	.664
Walnut Creek	216	110	186	110	ND	1.3	.05	83	37	74	37	ND	.7	.15

Detects = Values which are greater than the Counting Error and greater than the MDA.
ND = Not Detected (Values which are less than the Counting Error and/or less than the MDA).
* No Detections - value is equivalent to 1/2 the GRRASP (EG&G, 1990a) MDA.
**Mean Calculation:
1) A mean is calculated for each station. Non-detects which have a counting error greater than .02 or an MDA greater than .02 are eliminated from the dataset. For the remaining non-detects, a value (.005) equal to 1/2 the GRRASP MDA (.01) is used in the mean calculation.
2) The mean for the area is then calculated by summing the means for individual stations and dividing by the number of stations.

SECTION 5

POTENTIAL SOURCES FOR RADIONUCLIDE CONTAMINATION IN SURFACE WATER

It was stated in Section 1 of this document that identification of sources and transport mechanisms resulting in the Pu and Am contamination observed in OU2 ground and surface water was not within the scope of this project. Rather, these areas are rigorously being investigated in a number of scientific studies currently in progress at RFP. It may be useful, however, to speculate on potential contaminant sources and transport mechanisms at this time. Advancing such hypotheses herein may give the reader a better appreciation of the application of the data assessments presented in this document.

One potential source for radionuclide contamination in surface water is ground water discharging at seeps. To determine if there could be a relationship between ground water and surface water, the Pu and Am activity in ground-water wells within a specific drainage basin was compared with the radioactivity in surface water from in-stream surface water stations and seeps located downgradient and close to the wells. Data from the surface water stations and corresponding monitoring wells used in this comparison along with maximum, minimum and mean Pu and Am activities are presented in Table 5-1.

In all three of the areas presented in Table 5-1, the activity in surface water exceeds the activity in the "local" ground water. Although ground water may be influencing surface water, the substantially higher surface water radioactivities suggest at least one other source.

Surface soils are hypothesized to be another source of radioactivity in surface water. Surface soils in OU2 are known to be contaminated with Am and associated Pu (Figure 5-1) (EG&G, 1990b). Surface soils contaminated with radionuclides may be transported into surface water bodies by surface runoff associated with precipitation and snow melt. This may occur by very gradual incision of existing flow channels, by washing contaminated windblown material from pavement, or by transport of material along artificial drainage features such as roads and disturbed areas. During periods of very heavy runoff, some surficial soil may be transported downgradient by sheet flow, although this process has not been observed at RFP. Soil erosion

TABLE 5-1

Comparison of Plutonium 239/240 and Americium 241 Activities in Ground-Water Monitor Wells and Proximal Surface Water Stations

AREA	Total Plutonium 239/240 Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l
903 Pad Ground Water	25	13	19	13	ND	32	1.378
903 Pad Surface Water	48	47	47	47	ND	60	13.51
Mound Ground Water	27	1	19	1	ND	.00929	.0052
Mound Surface Water	83	48	72	48	ND	3.3	.13
Southeast of 903 Pad GW	11	0	10	0	ND	ND	.005*
Southeast of 903 Pad SW	12	4	10	4	ND	.242	.129

AREA	Total Americium 241 Total Samples	Total Detects	No. Samples Mean Calc.**	No. Detects Mean Calc.**	Minimum pCi/l	Maximum pCi/l	Mean** pCi/l
903 Pad Ground Water	25	11	16	11	ND	4.4	.268
903 Pad Surface Water	39	30	30	30	ND	33	2.61
Mound Ground Water	23	3	16	3	ND	.0366	.0099
Mound Surface Water	76	46	64	46	ND	1.3	.078
Southeast of 903 Pad GW	8	0	8	0	ND	ND	.005*
Southeast of 903 Pad SW	9	1	8	1	ND	.03462	.009

Detects = Values which are greater than the Counting Error and greater than the MDA.
ND = Not Detected (Values which are less than the Counting Error and/or less than the MDA).
* No Detections - value is equivalent to 1/2 the GRRASP (EG&G, 1990a) MDA.
**Mean Calculation:

1) A mean is calculated for each station. Non-detects which have a counting error greater than .02 or an MDA greater than .02 are eliminated from the dataset.
   For the remaining non-detects, a value (.005) equal to 1/2 the GRRASP MDA (.01) is used in the mean calculation.
2) The mean for area is then calculated by summing the means for individual stations and dividing by the number of stations.

AREA STATIONS:

903 Pad - Ground Water Monitor Wells: 171, 271, 1587, 1287, 1687, 1187
Surface Water Stations: SW055, SW052, SW077, SW050, SW057, SW058, SW051, SW053

Mound - Ground Water Monitor Wells: 2287, 3486, 2187, 3586
Surface Water Stations: SW101, SW059, SW061, SW060, SW132, SW021

Southeast of 903 Pad - Ground Water Monitor Wells: 2987, 3087
Surface Water Stations: SW064, SW063

and transport caused by surface runoff may contribute to the radioactivity present in OU2 surface water. The discussions presented below focus on the relative amounts of radioactivity associated with the filtered and particulate fractions. If a substantial portion of the total activity resides in the particulate fraction, then it is hypothesized that eroded and/or entrained soils and sediments may be a source.

The total and filtered activities in surface water were compared to determine what fraction of the total activity occured in each phase. This comparison was made on sets of paired data (filtered and unfiltered samples collected concurrently at a given station). Unlike the ground water data, the surface water data have several paired data sets. Tables 5-2, 5-3 and 5-4 present a summary of total and filtered Pu and Am activities for all surface water seep, in-stream and pond samples, respectively. These data are presented where both total and filtered results are available for the same sample (paired data). Figure 5-2 presents a histogram depicting the frequency of the occurrence of the fraction of total activity that is filtered for the paired surface water data. The tables and figure show that in more than half of the samples analyzed, filtered activity comprises less than one-half the total activity. In other words, the majority of radioactivity appears to be associated with particles larger than 0.45μ. This supports the hypothesis that a substantial portion of Pu and Am present in surface water may result from contaminated surface soils/sediments.

The comparison of total and filtered activity indicates that the majority of the radiochemical activity is associated with the particulates larger than 0.45μ in size. Based on this assessment, it is reasonable to hypothesis that a high TSS concentration would be associated with a high total activity. To evaluate this relationship, a comparison was made between TSS and total Pu and Am activity for each surface water station. Figures presented in Appendix D show detectable Pu and Am activities plotted against TSS concentrations on a station-by-station basis. Plots were prepared only for surface water stations with more than two radionuclide (Pu or Am) and TSS values. A linear least squares fit was performed for each set of data, and the associated linear regression equation and correlation coefficient (R^2) for these fits are presented on the plots. In many cases, a least squares fit is not justified due to the small number of data points in a data set. Nonetheless the curve is provided for the convenience of the reader. Based on the slopes (positive or negative) of the best fit regression lines, several observations are noted.

Table 5-2

Comparison of Total and Filtered Pu and Am Activities for Seep Samples

Station	Sample Date	Sample ID	Sample Type	Pu239/240 (pCi/ℓ)	Am241 (pCi/ℓ)
SW0290	06/23/88	SW88A019	Total Filtered	0.315 0.159	NA NA
SW050	06/27/88	SW88A021	Total Filtered	0.928 0.575	NA NA
SW052	06/23/88	SW88A017	Total Filtered	0.595 0.369	NA NA
SW053	06/23/88	SW88A018	Total Filtered	5.06 1.89	NA NA
	04/05/89	SW053001	Total Filtered	15 0.20	9.7 ND
SW054	07/05/88	SW88A057	Total Filtered	0.07 0.238	NA NA
SW058	06/23/88	SW88A016	Total Filtered	3.64 1.06	NA NA

NA - Not Analyzed
ND - Not Detected

Table 5-3

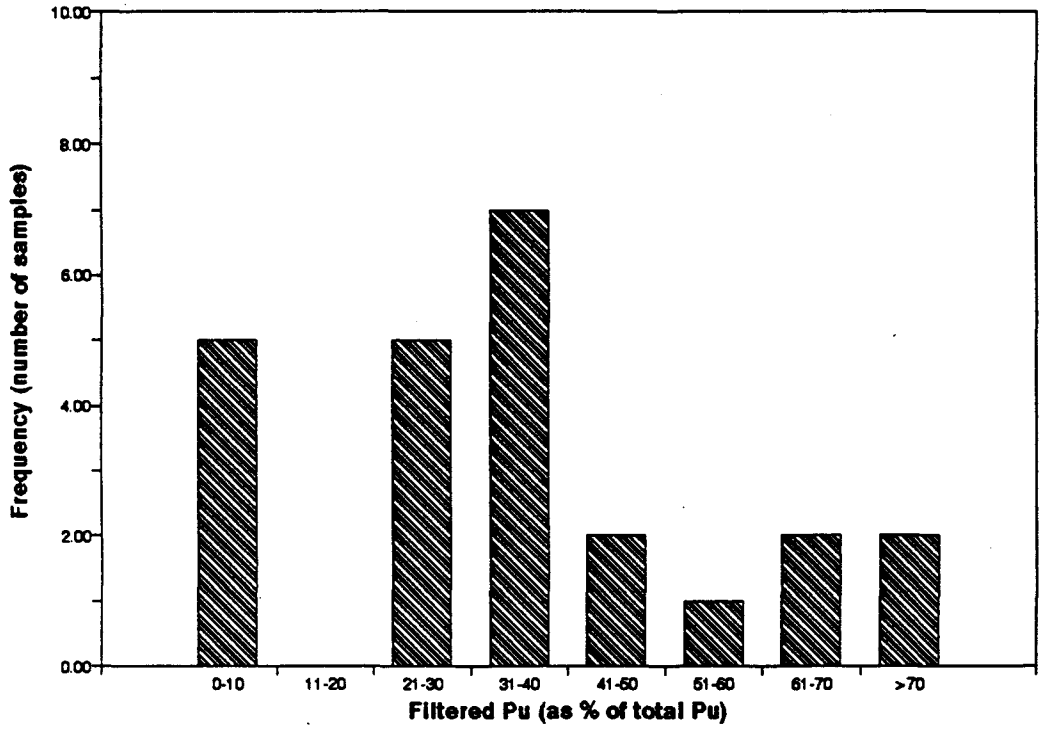
Comparison of Total and Filtered Pu and Am Activities for In-Stream Samples

Station	Sample Date	Sample ID	Sample Type	Pu 239/240 (pCi/ℓ)	Am 241 (pCi/ℓ)
SW060	3/16/89	SW060001	Total Filtered	0.02 0.02	ND ND

ND - Not Detected

Figure 5-2

Distribution of Filtered Plutonium in Surface Water



Distribution of Filtered Americium in Surface Water

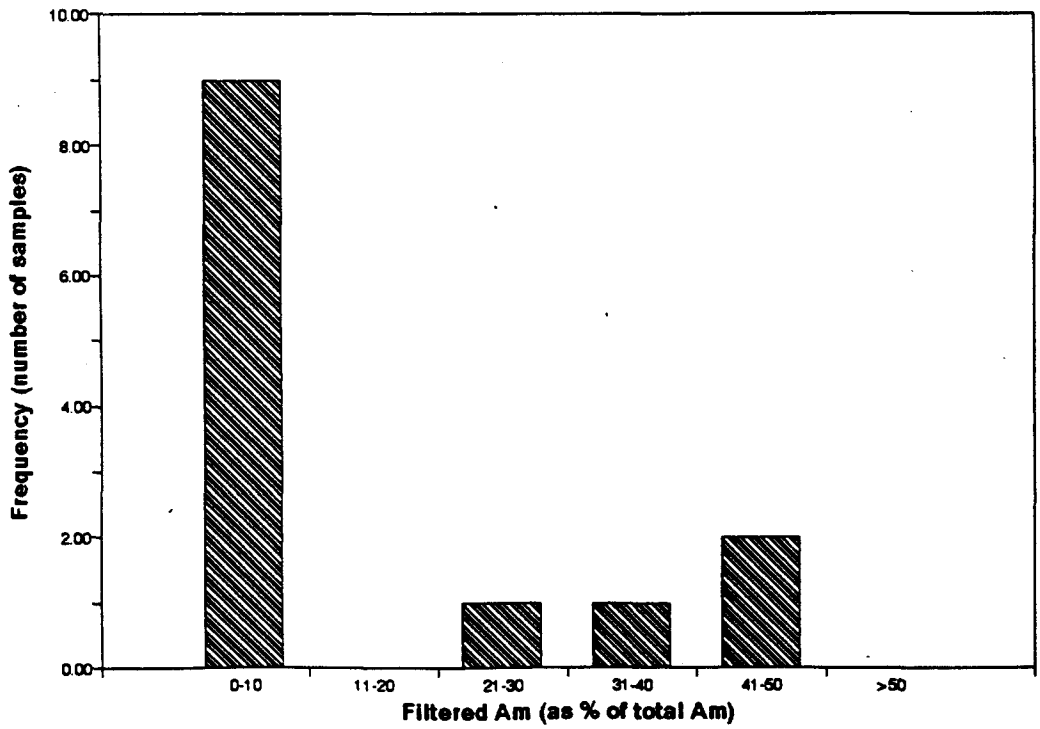


Table 5-4

Comparison of Total and Filtered Pu and Am Activities for Pond Samples

Station	Sample Date	Sample ID	Sample Type	Pu239/240 (pCi/ℓ)	Am241 (pCi/ℓ)
SWB1	04/24/91	NP50334WC	Total	0.387	ND
			Filtered	0.026	ND
	05/15/91	NP50355WC	Total	0.058	0.010
			Filtered	0.014	0.031
	06/10/91	NP50410WC	Total	0.018	ND
			Filtered	0.005	ND
SWB2	04/24/91	NP50333WC	Total	0.036	ND
			Filtered	0.014	ND
	05/15/92	NP50354WC	Total	0.05	0.007
			Filtered	0.018	0.014
	07/11/91	NP50413WC	Total	0.012	0.004
			Filtered	ND	0.045
	08/19/91	NP50439WC	Total	0.028	0.006
			Filtered	0.009	0.011
SWB3	04/23/91	NP50332WC	Total	0.039	ND
			Filtered	0.012	0.029
	05/15/91	NP50353WC	Total	0.012	ND
			Filtered	ND	0.062
	06/11/91	NP5041WC	Total	0.015	0.005
			Filtered	ND	0.023
	08/19/91	NP50440WC	Total	0.062	ND
			Filtered	0.028	0.062
SWB4	05/14/91	NP50352WC	Total	0.022	ND
			Filtered	0.008	0.021
	06/12/91	NP50390WC	Total	ND	0.004
			Filtered	ND	0.002
	08/19/91	NP50441WC	Total	0.023	ND
			Filtered	0.009	0.028

Table 5-4 (Continued)

Comparison of Total and Dissolved Pu and Am Activities for Pond Samples

Station	Sample Date	Sample ID	Sample Type	Pu239/240 (pCi/ℓ)	Am241 (pCi/ℓ)
SWB5	03/18/91	NP50307WC	Total	0.013	ND
			Filtered	0.011	0.026
SWC2	12/05/90	NP50268WC	Total	ND	0.041
			Filtered	0.073	0.082
	03/18/91	NP50306WC	Total	0.053	ND
			Filtered	0.016	0.011
	05/20/91	NP50359WC	Total	0.013	ND
			Filtered	0.007	ND

NA - Not Analyzed
ND - Not Detected

Considering all surface water stations together, 27 of 43 plots display a positive slope implying that total radioactivity increases with TSS concentration. The correlation between total activity and TSS was most obvious for seeps with 16 of 24 regression lines displaying a positive slope. For in-stream stations and ponds, 9 out of 12 regression lines displayed a positive slope. Although the correlation coefficients display a wide range of values, a visual inspection of the plots along with the above comparisons support the expected condition of increasing total activity with increasing TSS concentrations.

Little positive correlation was found between total activity and TSS in samples collected from retention ponds. TSS concentrations in ponds were generally non-detectable or detected at very low concentrations compared to seeps and in-stream stations. This is expected as solids would likely settle out in the stagnant pond water. The lack of a TSS/radionuclide concentration correlation may indicate that the particulates associated with the radionuclides are a small and variable fraction of the suspended material, e.g., the detectable TSS may largely consist of algae.

In addition to the suspended load and colloidal solids collected during surface water sampling, disturbance of soils near a sampling station by the sampler (field personnel and equipment) may add additional solids to the sample. These solids, derived from OU2 surface soils, are suspected to be responsible to an unknown degree for the higher radionuclide activities in surface water when compared with ground water. The sampling introduced solids may be greater in the seep samples judging from the high TSS concentrations (and Pu and Am activities) and considering the somewhat greater difficulty in sample collection.

SECTION 6
CONCLUSIONS

Based on the observations of the occurrence of Pu and Am in OU2 ground and surface water presented in this document, the following conclusions have been reached:

1) Pu and Am are present in ground water. These radionuclides are present in both alluvial and bedrock ground water, and in both the South Walnut Creek and Woman Creek drainage basins. The highest Pu and Am activities are in alluvial ground water near the 903 Pad. These activities generally exceed background levels and water quality standards (with the exception of the state-wide WQCC Pu standard).

2) Pu and Am are present in surface water in both the South Walnut Creek and Woman Creek drainage basins. The highest activities are found in seeps located in the vicinity of the 903 Pad Area with significantly lesser amounts present in streams and retention ponds. As with the ground water, these activities generally exceed background levels and water quality standards.

3) Pu and Am activity in ground water is generally lower than in surface water.

4) Pu and Am appear to reside largely on particles that are retained on a 0.45μ filter in either ground and surface water.

SECTION 7

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APPENDIX A

PLUTONIUM AND AMERICIUM ACTIVITIES AND TSS CONCENTRATIONS IN GROUND WATER IN SOUTH WALNUT CREEK AND WOMAN CREEK DRAINAGE BASINS OPERABLE UNIT 2

APPENDIX A-1

PLUTONIUM AND AMERICIUM ACTIVITIES AND TSS CONCENTRATIONS IN GROUND WATER IN SOUTH WALNUT CREEK DRAINAGE BASIN

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - South Walnut Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
0174	G017408860	26-AUG-86	TOT	0.03	+/-	0.10			0.04	+/-	0.50				
0174	G017408860	26-AUG-86	FILT												
0174	G017411860	25-NOV-86	TOT	-0.07	+/-	0.12			0.08	+/-	0.10				
0174	1-74-03-11-87	11-MAR-87	TOT	0.0	+/-	0.65			0.0	+/-	1.2				
0174	1-74-03-11-87	11-MAR-87	FILT												
0174	1-74-05-22-87	22-MAY-87	TOT	0.9	+/-	1.1			0.0	+/-	1.2				
0174	1-74-05-22-87	22-MAY-87	FILT												
0174	1-74-07-23-87	23-JUL-87	FILT	0.0	+/-	0.7		1.0	.16	+/-	.58		.8		
0174	1-74-10-21-87	21-OCT-87	FILT	.01	+/-	.09		.51	0.00	+/-	.58		2.0		
0174	1-74-03-03-88	03-MAR-88	FILT	0.09	+/-	0.11		.43	0.05	+/-	0.42		1.8		
0174	1-74-04-28-88	28-APR-88	FILT	0.00	+/-	0.4		.15	0.00	+/-	0.10		.37		
0174	1-74-08-11-88	11-AUG-88	FILT	0.00	+/-	0.04	V	0	0.01	+/-	0.09	V	0		
0174	1-74-11-04-88	04-NOV-88	FILT												
0174	1-74-05-03-89	03-MAY-89	FILT												
0174	1-74-08-09-89	09-AUG-89	FILT	.027	+/-	.016		.013							
0174	G01741189004	17-NOV-89	FILT	0.001	+/-	0.006		.009	-0.002	+/-	0.004		.005		
0174	G01740290001	09-FEB-90	FILT	0.006	+/-	0.005		.004							
0174	G-0174-0519-02-12	22-MAY-90	FILT												
0174	G-0174-0519-02-12	22-MAY-90	TOT											12	
0174	GW00639IT	15-NOV-90	TOT	.002715	+/-	.00315		.01	.002193	+/-	.00221		.01	4	
0174	GW00639IT	15-NOV-90	FILT												
0174	GW01263IT	10-MAY-91	TOT	.00268	+/-	.00311	V	.000	R					4	U
0174	GW01263IT	10-MAY-91	FILT												
0174	GW01666IT	15-AUG-91	TOT	.002273	+/-	.00322		.01	.002303	+/-	.00379		.01	710	
0174	GW01666IT	15-AUG-91	FILT												
0174	GW02074IT	06-DEC-91	FILT												
0174	GW02074IT	06-DEC-91	TOT											4	U
0174	GW02393IT	14-FEB-92	FILT												
0174	GW02393IT	14-FEB-92	TOT											4	
0374	G037408860	25-AUG-86	TOT	-0.16	+/-	0.31			-0.01	+/-	0.09				
0374	G037408860	25-AUG-86	FILT												
0374	3-74-03-17-87	17-MAR-87	TOT	0.0	+/-	0.67			0.0	+/-	3.2				
0374	3-74-03-17-87	17-MAR-87	FILT												
0374	3-74-06-03-87	03-JUN-87	TOT	0.0	+/-	0.79			0.0	+/-	1.2				
0374	3-74-06-03-87	03-JUN-87	FILT												
0374	3-74-07-23-87	23-JUL-87	FILT	.10	+/-	.69		.7	-.04	+/-	.28		.5		
0374	3-74-10-22-87	22-OCT-87	FILT	0.00	+/-	.10		.12	0.00	+/-	.08		.39		
0374	3-74-03-07-88	07-MAR-88	FILT	0.00	+/-	0.16		0	0.00	+/-	0.25		1		
0374	3-74-05-04-88	04-MAY-88	FILT	0.01	+/-	0.04		.14	0.00	+/-	0.10		.44		
0374	3-74-08-19-88	19-AUG-88	FILT	0.03	+/-	0.04	V	0	0.03	+/-	0.08	V	0		
0374	G03740290001	06-FEB-90	FILT												
0374	G-0374-0524-02-14	25-MAY-90	TOT	0.002	+/-	0.002		.01	0.004	+/-	0.004		.01	12	
0374	G-0374-0524-02-14	25-MAY-90	FILT												
0374	GW00141IT	01-AUG-90	TOT	0	+/-	.00173		.01	.003343	+/-	.00301		.01	33	
0374	GW00141IT	01-AUG-90	FILT												
0374	GW00574IT	16-NOV-90	TOT	.0459	+/-	.0155		.01	.005111	+/-	.00442		.01	29	
0374	GW00574IT	16-NOV-90	FILT												
0374	GW01684IT	22-AUG-91	TOT	.0005619	+/-	.00238		.01	.006583	+/-	.00593		.01	93	
0374	GW01684IT	22-AUG-91	FILT												
0374	GW02082IT	11-DEC-91	FILT												
0374	GW02082IT	11-DEC-91	TOT											97	
2274	G227409860	02-SEP-86	TOT	0.13	+/-	0.16			0.05	+/-	0.06				
2274	G227409860	02-SEP-86	FILT												
2274	22-74-03-13-87	13-MAR-87	TOT	0.0	+/-	.63									
2274	22-74-03-13-87	13-MAR-87	FILT												
2274	22-74-5-21-87	21-MAY-87	TOT	0.00	+/-	0.70			0.0	+/-	1.2				
2274	22-74-5-21-87	21-MAY-87	FILT												
2274	22-74-07-28-87	28-JUL-87	FILT	-.23	+/-	.93		1.3	1.4	+/-	5.2		.7		
2274	22-74-10-20-87	20-OCT-87	FILT	0.00	+/-	.12		.63	0.00	+/-	.44		2.8		
2274	G22741289004	01-DEC-89	FILT	0	+/-	.002		.005	-.002	+/-	.006		.009		

Notes: U=Analyzed but not detected at or above the detection limit J=Present below detection limit
R=Data rejected during validation process A=Data deemed 'acceptable' during validation process
V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - South Walnut Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
2274	G22740390001	16-MAR-90	FILT												
2274	G-2274-0620-02-11	21-JUN-90	TOT	0.001	+/-	0.004		.01	0.003	+/-	0.004		.01	5	
2274	G-2274-0620-02-11	21-JUN-90	FILT												
2274	GW00398IT	20-SEP-90	TOT											210	
2274	GW00682IT	03-NOV-90	TOT	-.00139	+/-	.00197		.01	.003436	+/-	.00487		.01	130	
2274	GW00682IT	03-NOV-90	FILT												
2274	GW01296IT	23-MAY-91	TOT	.005516	+/-	.00499	V	.005	.005362	+/-	.00511	V	.005	4	U
2274	GW01296IT	23-MAY-91	FILT												
2274	GW01689IT	09-SEP-91	TOT	.01498	+/-	.00776		.01	.02105	+/-	.0102		.01	243	
2274	GW01689IT	09-SEP-91	FILT												
2274	GW01993IT	07-NOV-91	TOT	.00461	+/-	.00463		.01	.004873	+/-	.0049		.01	57	
2274	GW01993IT	07-NOV-91	FILT												
2274	GW02376IT	04-FEB-92	FILT												
2274	GW02376IT	04-FEB-92	TOT											50	
3486	G348609860	12-SEP-86	TOT	-0.05	+/-	0.07			0.06	+/-	0.11				
3486	G348609860	12-SEP-86	FILT												
3486	34-86-03-17-87	17-MAR-87	TOT	0.0	+/-	0.92			0.0	+/-	2.2				
3486	34-86-03-17-87	17-MAR-87	FILT												
3486	34-86-04-06-87	06-APR-87	TOT	0.0	+/-	1.5									
3486	34-86-04-06-87	06-APR-87	FILT												
3486	34-86-06-02-87	02-JUN-87	TOT	0.98	+/-	0.99			0.0	+/-	1.8				
3486	34-86-06-02-87	02-JUN-87	FILT												
3486	34-86-07-28-87	28-JUL-87	FILT	-0.6	+/-	7.2		.8	-0.4	+/-	5.5		1.0		
3486	34-86-10-16-87	16-OCT-87	FILT	0.00	+/-	.07		1	0.00	+/-	.09		.26		
3486	34-86-03-02-88	02-MAR-88	FILT	0.00	+/-	0.40		3	0.00	+/-	0.47		3		
3486	34-86-05-02-88	02-MAY-88	FILT	0.00	+/-	0.04		0	0.02	+/-	0.10		0		
3486	34-86-08-10-88	10-AUG-88	FILT	.00	+/-	0.04	V	.01	.00	+/-	0.09	V	.01		
3486	34-86-11-04-88	04-NOV-88	FILT	0.0	+/-	0.03	V	.01	0.11	+/-	.08	V	.01		
3486	34-86-02-09-89	09-FEB-89	FILT	-0.03	+/-	0.10	V	0	-0.01	+/-	0.08	V	0		
3486	34-86-05-03-89	03-MAY-89	FILT												
3486	34-86-08-15-89	15-AUG-89	FILT	.007	+/-	.002		0							
3486	G34861189004	29-NOV-89	FILT												
3486	G34860190001	24-JAN-90	FILT	0.016	+/-	0.006		.00	0.009	+/-	0.006		.004		
3486	G-3486-0521-02-14	21-MAY-90	TOT	0.000	+/-	0.002		.01						39	
3486	G-3486-0521-02-14	21-MAY-90	FILT												
3486	GW00116IT	30-JUL-90	TOT	-.00287	+/-	.00576		.01	.02674	+/-	.0317		.01	44	
3486	GW00116IT	30-JUL-90	FILT												
3486	GW00540IT	18-OCT-90	TOT	0	+/-	.00495		.01	.004134	+/-	.00587		.01	58	
3486	GW00540IT	18-OCT-90	FILT												
3486	GW00975IT	14-MAR-91	TOT	0	+/-	.00684		.01	0	+/-	0		.01	390	
3486	GW00975IT	14-MAR-91	FILT												
3486	GW01181IT	22-APR-91	TOT	0	+/-	.00513		.01	.001022	+/-	.00205		.01	16	
3486	GW01181IT	22-APR-91	FILT												
3486	GW01460IT	08-JUL-91	TOT	.003078	+/-	.00437		.01	0	+/-	.0136		.01	20	
3486	GW01460IT	08-JUL-91	FILT												
3486	GW01821IT	07-OCT-91	TOT	.02756	+/-	.0219		1	.007374	+/-	.00665		.01	30	
3486	GW01821IT	07-OCT-91	FILT												
3486	GW02199IT	10-JAN-92	FILT												
3486	GW02199IT	10-JAN-92	TOT											11	
3586	G358609860	12-SEP-86	TOT	-0.03	+/-	0.07			-0.01	+/-	0.02				
3586	G358609860	12-SEP-86	FILT												
3586	35-86-03-17-87	17-MAR-87	TOT	0.24	+/-	0.89			0.0	+/-	1.3				
3586	35-86-03-17-87	17-MAR-87	FILT												
3586	35-86-06-02-87	02-JUN-87	TOT	0.0	+/-	0.72			0.0	+/-	1.2				
3586	35-86-06-02-87	02-JUN-87	FILT												
3586	35-86-07-28-87	28-JUL-87	FILT	-3.2	+/-	9.6		1.7	0.9	+/-	6.7		1.0		
3586	35-86-10-16-87	16-OCT-87	FILT	0.00	+/-	.23		1	0.00	+/-	.31		.66		
3586	35-86-03-02-88	02-MAR-88	FILT	0.00	+/-	0.50		4	0.00	+/-	0.18		0		
3586	35-86-05-02-88	02-MAY-88	FILT	0.02	+/-	0.04		0	0.00	+/-	0.10		0		
3586	35-86-08-10-88	10-AUG-88	FILT	.01	+/-	0.04	V	.01	.11	+/-	0.08	V	.01		

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Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - South Walnut Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
3586	35-86-11-04-88	04-NOV-88	FILT	<0.0	+/-	.03	V		<0.0	+/-	.08	V		
3586	35-86-02-09-89	09-FEB-89	FILT	-0.02	+/-	0.10	V	0	0.04	+/-	0.08	V	0	
3586	35-86-05-03-89	03-MAY-89	FILT											
3586	G35861289004	05-DEC-89	FILT											
3586	G-3586-0618-02-14	18-JUN-90	FILT						0.009	+/-	0.008		.01	
3586	G-3586-0618-02-14	18-JUN-90	TOT	0.004	+/-	0.004		.01						77
3586	GW00240IT	21-AUG-90	TOT	-.000287	+/-	.000575		.01	.0366	+/-	.0146		.01	36
3586	GW00240IT	21-AUG-90	FILT											
3586	GW00524IT	04-DEC-90	TOT	0	+/-	.00546		.01	.003485	+/-	.00404		.01	48
3586	GW00524IT	04-DEC-90	FILT											
3586	GW00976IT	14-MAR-91	TOT	.002993	+/-	.00347		.01	-.245	+/-	.401		.01	130
3586	GW00976IT	14-MAR-91	FILT											
3586	GW01221IT	29-APR-91	TOT	.001459	+/-	.00284	A	.005	.001317	+/-	.00264	A	0	170
3586	GW01221IT	29-APR-91	FILT											
3586	GW01461IT	08-JUL-91	TOT	.006345	+/-	.00571		.01	.007529	+/-	.00679		.01	54
3586	GW01461IT	08-JUL-91	FILT											
3586	GW01818IT	07-OCT-91	TOT	.01271	+/-	.0128		.01	.004781	+/-	.00555		.01	160
3586	GW01818IT	07-OCT-91	FILT											
3586	GW02195IT	09-JAN-92	FILT											
3586	GW02195IT	09-JAN-92	TOT											100
3686	G36860190001	24-JAN-90	FILT	R					R					
3686	GW01222IT	30-APR-91	FILT											
3786	G37860190001	25-JAN-90	FILT	R					R					
3786	GW00995IT	19-MAR-91	FILT											
3786	GW01899IT	15-OCT-91	TOT											22
3886	38-86-05-06-87	06-MAY-87	TOT						0.0	+/-	8.5			
3886	38-86-05-06-87	06-MAY-87	FILT											
3886	38-86-06-03-87	03-JUN-87	TOT	2.6	+/-	1.2			0.7	+/-	1.8			
3886	38-86-06-03-87	03-JUN-87	FILT											
3886	38-86-07-28-87	28-JUL-87	FILT	1.9	+/-	8.8		.8	R					
3886	38-86-03-31-88	31-MAR-88	FILT	0.00	+/-	0.10		0	0.00	+/-	0.15		0	
3886	38-86-06-01-88	01-JUN-88	FILT	0.00	+/-	0.04		0	0.00	+/-	0.10		0	
3886	38-86-03-27-89	27-MAR-89	FILT											
3886	G38861189004	07-NOV-89	FILT											
3886	G38860190001	29-JAN-90	FILT	0.010	+/-	0.005		.000	0.007	+/-	0.006		.005	
3886	G-3886-0515-02-12	15-MAY-90	FILT											
3886	GW00996IT	19-MAR-91	TOT	.001281	+/-	.00352	V	.000	R					24
3886	GW00996IT	19-MAR-91	FILT											
3886	GW01224IT	06-MAY-91	TOT	-.000273	+/-	.000548		.01	-.00081	+/-	.00115		.01	40
3886	GW01224IT	06-MAY-91	FILT											
4286	G428609860	26-SEP-86	TOT	0.50	+/-	0.16			0.07	+/-	0.16			
4286	G428609860	26-SEP-86	FILT											
4286	42-86-03-12-87	12-MAR-87	TOT	0.12	+/-	0.48			0.3	+/-	4.2			
4286	42-86-03-12-87	12-MAR-87	FILT											
4286	42-86-05-26-87	26-MAY-87	TOT	0.0	+/-	0.55			0.0	+/-	1.2			
4286	42-86-05-26-87	26-MAY-87	FILT											
4286	42-86-07-23-87	23-JUL-87	FILT	.36	+/-	.74			0.0	+/-	2.8		.5	
4286	42-86-10-14-87	14-OCT-87	FILT	0.00	+/-	.08		.31	0.00	+/-	.06		.21	
4286	42-86-03-03-88	03-MAR-88	FILT	0.18	+/-	0.13		.52	0.00	+/-	1.2		3.1	
4286	42-86-05-04-88	04-MAY-88	FILT	0.00	+/-	0.03		.13						
4286	42-86-08-25-88	25-AUG-88	FILT	0.00	+/-	0.04	V	0	0.01	+/-	0.08	V	0	
4286	42-86-11-17-88	17-NOV-88	FILT											
4286	42-86-02-20-89	20-FEB-89	FILT	0.01	+/-	0.03	V	0	-0.02	+/-	0.13	V	0	
4286	42-86-05-08-89	08-MAY-89	FILT											
4286	42-86-08-17-89	17-AUG-89	FILT											
4286	42-86-08-18-89	18-AUG-89	FILT	0.010	+/-	0.006		0	0.037	+/-	0.017		0	
4286	G42861289004	06-DEC-89	FILT											
4286	G42860190001	30-JAN-90	FILT	0.006	+/-	0.004		.00	0.007	+/-	0.006		.004	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - South Walnut Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
4286	G-4286-0611-02-13	11-JUN-90	TOT	R					.0224	+/-	.009954	A	.008	2780	
4286	G-4286-0611-02-13	11-JUN-90	FILT												
4286	GW00299IT	24-AUG-90	FILT												
4286	GW00299IT	24-AUG-90	TOT											1000	
4286	GW00569IT	16-NOV-90	TOT	.2152	+/-	.073		.01	.0365	+/-	.0115		.01	2200	
4286	GW00569IT	16-NOV-90	FILT												
4286	GW00935IT	08-MAR-91	TOT	.00396	+/-	.00426		.01	.005284	+/-	.0075		.01	144	
4286	GW01295IT	17-MAY-91	TOT	.1432	+/-	.028	V	.000	.01876	+/-	.0121	A	.008	830	
4286	GW01295IT	17-MAY-91	FILT												
4286	GW01706IT	11-SEP-91	TOT	.2691	+/-	.058		.01	.02528	+/-	.0326		.01	1240	
4286	GW01706IT	11-SEP-91	FILT												
4286	GW02044IT	03-DEC-91	FILT												
4286	GW02044IT	03-DEC-91	TOT											420	
4286	GW02398IT	10-FEB-92	FILT												
4286	GW02398IT	10-FEB-92	TOT											1500	
4386	43-86-03-11-87	11-MAR-87	TOT	0.23	+/-	0.59			0.0	+/-	1.4				
4386	43-86-03-11-87	11-MAR-87	FILT												
4386	43-86-06-03-87	03-JUN-87	TOT	0.0	+/-	0.65			0.0	+/-	0.12				
4386	43-86-06-03-87	03-JUN-87	FILT												
4386	43-86-07-28-87	28-JUL-87	FILT	-.20	+/-	.85		1.1	.11	+/-	.32		.3		
4386	G-4386-0604-02-11	05-JUN-90	TOT	0.001	+/-	0.002		.01						5	U
4386	G-4386-0604-02-11	05-JUN-90	FILT												
4386	GW01670IT	20-AUG-91	FILT												
4386	GW01670IT	20-AUG-91	TOT											26	
0987	9-87-10-12-87	12-OCT-87	FILT	.08	+/-	.10			0.00	+/-	.06				
0987	9-87-02-25-88	25-FEB-88	FILT	0.00	+/-	0.35		2							
0987	9-87-04-19-88	19-APR-88	FILT	0.00	+/-	0.05		0	0.04	+/-	0.24		1		
0987	9-87-08-09-88	09-AUG-88	FILT												
0987	9-87-10-26-88	26-OCT-88	FILT												
0987	9-87-01-25-89	25-JAN-89	FILT	0.03	+/-	0.03	V	0	0.01	+/-	0.08	V	0		
0987	9-87-05-01-89	01-MAY-89	FILT												
0987	9-87-08-07-89	08-AUG-89	FILT	0.010	+/-	0.006		0	0.037	+/-	0.017		0		
0987	G09871289004	08-DEC-89	FILT												
0987	G09870390001	08-MAR-90	TOT	.007449	+/-	.007317		.010	-.00252	+/-	.003295		.007		
0987	G09870390001	08-MAR-90	FILT												
0987	GW00399IT	17-SEP-90	TOT											159	
0987	GW00681IT	12-DEC-90	TOT	-.000551	+/-	.000781		.01	.004835	+/-	.00561		.01	200	
0987	GW00681IT	12-DEC-90	FILT												
0987	GW00932IT	07-MAR-91	TOT	.1245	+/-	.0315		.01	.02631	+/-	.0137		.01	434	
0987	GW01297IT	15-MAY-91	TOT	R					.001207	+/-	.00418	A	.006	590	
0987	GW01297IT	15-MAY-91	FILT												
0987	GW01667IT	16-AUG-91	TOT	.01936	+/-	.00988		.01	.02971	+/-	.0426		.01	660	
0987	GW01667IT	16-AUG-91	FILT												
0987	GW02088IT	16-DEC-91	TOT											280	
0987	GW02088IT	16-DEC-91	FILT												
1087	G10870390001	08-MAR-90	FILT												
1687	16-87-09-10-87	10-SEP-87	FILT	.21	+/-	.41		2	0.0	+/-	3.4		2		
1687	16-87-10-16-87	16-OCT-87	FILT	.05	+/-	.09			.01	+/-	.07				
1687	16-87-02-29-88	29-FEB-88	FILT	0.00	+/-	0.14		1	0.03	+/-	0.12		0		
1687	16-87-04-21-88	21-APR-88	FILT	0.02	+/-	0.04		0	0.02	+/-	0.16		0		
1687	16-87-08-09-88	09-AUG-88	FILT	0.0	+/-	0.04	V	.01	.02	+/-	0.09	V	.01		
1687	16-87-10-31-88	31-OCT-88	FILT												
1687	16-87-02-07-89	07-FEB-89	FILT	-0.08	+/-	0.09	V	0	0.03	+/-	0.08	V	0		
1687	16-87-05-01-89	01-MAY-89	FILT												
1687	16-87-08-02-89	03-AUG-89	FILT	0.010	+/-	0.006		0	0.037	+/-	0.017		0		
1687	G16871189004	06-NOV-89	FILT	-.001	+/-	.005		.01	-.003	+/-	.004		.007		
1687	G16870390001	17-MAR-90	FILT	.003607	+/-	.004245		.005	.001546	+/-	.009092		.014		
1687	GW00409IT	18-SEP-90	TOT												

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - South Walnut Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
1687	GW00733IT	28-NOV-90	TOT	.005302	+/-	.00477		.01	.005161	+/-	.00733		.01	50
1687	GW00733IT	28-NOV-90	FILT											
1687	GW00853IT	09-JAN-91	TOT	.001387	+/-	.0027		.01	.008131	+/-	.00581		.01	130
1687	GW00853IT	09-JAN-91	FILT											
1687	GW01095IT	16-APR-91	TOT	.06808	+/-	.0192		.01	-.461	+/-	1.08		.01	42
1687	GW01095IT	16-APR-91	FILT											
1687	GW01645IT	05-SEP-91	TOT	.02973	+/-	.0117		.01	.01064	+/-	.00718		.01	64
1687	GW01645IT	05-SEP-91	FILT											
1687	GW02006IT	21-NOV-91	TOT											48
1687	GW02006IT	21-NOV-91	FILT											
1787	17-87-11-06-87	06-NOV-87	FILT											
1787	17-87-03-03-88	03-MAR-88	FILT	0.00	+/-	0.12		.38	0.0	+/-	1.6		4.4	
1787	17-87-04-28-88	28-APR-88	FILT											
1787	17-87-08-15-88	15-AUG-88	FILT	0.00	+/-	0.04	V		0.01	+/-	0.07	V		
1787	17-87-11-04-88	04-NOV-88	FILT											
1787	17-87-02-07-89	07-FEB-89	FILT	-0.1	+/-	0.03	V	0	-0.04	+/-	0.08	V	0	
1787	17-87-05-03-89	03-MAY-89	FILT											
1787	17-87-08-09-89	09-AUG-89	FILT	.007	+/-	.002		0						
1787	G17871189004	01-NOV-89	FILT											
1787	G17870190001	29-JAN-90	FILT	0.012	+/-	0.006		.000	0.005	+/-	0.006		.007	
1787	G-1787-0606-02-12	06-JUN-90	TOT	R					.01829	+/-	.005760A		.005	
1787	GW00231IT	14-AUG-90	TOT	.159	+/-	.032		0						
1787	GW00648IT	06-NOV-90	TOT	.001078	+/-	.00296		.01	.01525	+/-	.0107		.01	260
1787	GW00648IT	06-NOV-90	FILT											
1787	GW00902IT	09-MAR-91	TOT	.01831	+/-	.0085		.01	.01198	+/-	.0103		.01	36
1787	GW01280IT	13-MAY-91	TOT	.1023	+/-	.0227	V	.005	R					
1787	GW01280IT	13-MAY-91	FILT											
1787	GW01687IT	19-AUG-91	TOT	.003708	+/-	.0043		.01	.005361	+/-	.00483		.01	58
1787	GW01687IT	19-AUG-91	FILT											
1787	GW02031IT	18-NOV-91	TOT											260
1787	GW02031IT	18-NOV-91	FILT											
1887	18-87-03-07-88	07-MAR-88	FILT	0.02	+/-	0.09		0	0.00	+/-	0.24		1	
1887	G18871189004	02-NOV-89	FILT	0.009	+/-	0.004		.000	R					
2087	20-87-03-03-88	03-MAR-88	FILT	0.00	+/-	0.18		0	0.00	+/-	0.24		1	
2087	G20871289004	13-DEC-89	FILT	I/V					R					
2187	G21871189004	10-NOV-89	FILT	0.011			A	.007						
2187	G-2187-0517-02-11	18-MAY-90	FILT											
2287	22-87-03-07-88	07-MAR-88	FILT	0.00	+/-	0.16		0	0.00	+/-	0.31		1	
2287	22-87-05-02-88	02-MAY-88	FILT	0.00	+/-	0.04		0	0.00	+/-	0.10		0	
2287	22-87-08-10-88	10-AUG-88	FILT	.00	+/-	0.04	V	.01	.02	+/-	0.08	V	.01	
2287	22-87-11-09-88	09-NOV-88	FILT	-.08	+/-	0.13	V	.01	-.06	+/-	0.5	V	.01	
2287	22-87-02-09-89	09-FEB-89	FILT	-0.05	+/-	0.10	V	0	0.11	+/-	0.08	V	0	
2287	22-87-05-03-89	03-MAY-89	FILT											
2287	22-87-08-15-89	15-AUG-89	FILT	.007	+/-	.002		0						
2287	G22871189004	10-NOV-89	FILT	.002	+/-	.005		.006	-.001	+/-	.003		.005	
2287	G22870290001	08-FEB-90	FILT	0.004	+/-	0.003		.003						
2287	G-2287-0524-02-14	25-MAY-90	TOT	0.002	+/-	0.002		.01	0.025	+/-	0.018		.01	260
2287	G-2287-0524-02-14	25-MAY-90	FILT											
2287	GW00143IT	14-AUG-90	TOT	.00927	+/-	.00693		0	.0322	+/-	.0244		0	290
2287	GW00756IT	12-DEC-90	TOT	.003932	+/-	.00647		.01						170
2287	GW00756IT	12-DEC-90	FILT											
2287	GW01198IT	24-APR-91	TOT	.003481	+/-	.00494		.01	.002545	+/-	.00325		.01	79
2287	GW01198IT	24-APR-91	FILT											
2287	GW01402IT	11-JUN-91	TOT	.0014	+/-	.0028		.01	.002339	+/-	.00332		.01	40
2287	GW01402IT	11-JUN-91	FILT											
2287	GW01614IT	06-AUG-91	TOT	.006973	+/-	.00628		.01	.002777	+/-	.00394		.01	26
2287	GW01614IT	06-AUG-91	FILT											

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V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - South Walnut Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
2287	GW01927IT	24-OCT-91	TOT											230
2287	GW01927IT	24-OCT-91	FILT											
2287	GW02276IT	29-JAN-92	FILT											
2287	GW02276IT	29-JAN-92	TOT											180
2387	23-87-09-10-87	10-SEP-87	FILT											
2387	23-87-10-21-87	21-OCT-87	FILT											
2387	23-87-03-02-88	02-MAR-88	FILT	0.00	+/-	0.19		0	0.00	+/-	0.17		1	
2387	23-87-04-28-88	28-APR-88	FILT	0.00	+/-	0.03		0	0.00	+/-	0.10		0	
2387	23-87-08-10-88	10-AUG-88	FILT	.00	+/-	0.05	V	.01	.100	+/-	0.08	V	.01	
2387	23-87-11-04-88	04-NOV-88	FILT											
2387	23-87-02-07-89	07-FEB-89	FILT	0.00	+/-	0.03	V	0	-0.07	+/-	0.08	V	0	
2387	23-87-05-03-89	03-MAY-89	FILT											
2387	23-87-08-07-89	07-AUG-89	FILT	.025	+/-	.011		.008	.003	+/-	.007		0	
2387	G23871289004	04-DEC-89	FILT	0	+/-	.002		.005	0	+/-	.004		.004	
2387	G23870290001	20-FEB-90	FILT	0.000	+/-	0.001		.003	-0.001	+/-	0.003		.005	
2387	GW00583IT	09-NOV-90	TOT	.0004599	+/-	.000921		.01	.002179	+/-	.00358		.01	224
2387	GW00583IT	09-NOV-90	FILT											
2387	GW00939IT	08-MAR-91	TOT	.009396	+/-	.00601		.01	.003758	+/-	.00436		.01	280
2387	GW00939IT	08-MAR-91	FILT											
2387	GW01126IT	19-APR-91	TOT	.001759	+/-	.00352		.01	.00976	+/-	.00881		.01	160
2387	GW01126IT	19-APR-91	FILT											
2387	GW01669IT	19-AUG-91	TOT	.005461	+/-	.00698		.01	0	+/-	.00327		.01	180
2387	GW01669IT	19-AUG-91	FILT											
2387	GW02032IT	23-NOV-91	TOT											810
2387	GW02032IT	23-NOV-91	FILT											
2587	25-87-09-10-87	10-SEP-87	FILT											
2587	25-87-10-21-87	21-OCT-87	FILT											
2587	25-87-03-03-88	03-MAR-88	FILT	0.00	+/-	0.19		0	0.00	+/-	0.46		1	
2587	25-87-05-12-88	12-MAY-88	FILT	0.01	+/-	0.04		0	0.00	+/-	0.09		0	
2587	25-87-08-16-88	16-AUG-88	FILT	0.01	+/-	0.04	V	0	0.07	+/-	0.08	V	0	
2587	25-87-10-11-88	10-NOV-88	FILT											
2587	25-87-02-15-89	15-FEB-89	FILT	0.01	+/-	0.03	V	0	-0.08	+/-	0.08	V	0	
2587	25-87-05-08-89	08-MAY-89	FILT											
2587	25-87-08-17-89	17-AUG-89	FILT											
2587	25-87-08-18-89	18-AUG-89	FILT	0.010	+/-	0.006		0	0.037	+/-	0.017		0	
2587	G25871189004	02-NOV-89	FILT											
2587	G25870290001	01-FEB-90	FILT	0.010	+/-	0.005		.00	0.009	+/-	0.006		.00	
2587	G-2587-0611-02-09	11-JUN-90	TOT	R					.02259	+/-	.009678A		.006	730
2587	G-2587-0611-02-09	11-JUN-90	FILT											
2587	GW00232IT	14-AUG-90	TOT	.00551	+/-	.00524		0						
2587	GW00589IT	05-NOV-90	TOT	.006421	+/-	.00528		.01	.005517	+/-	.00705		.01	920
2587	GW00936IT	09-MAR-91	TOT	.003675	+/-	.00369		.01	.001032	+/-	.00358		.01	240
2587	GW00936IT	09-MAR-91	FILT											
2587	GW01176IT	22-APR-91	TOT	.01832	+/-	.0086		.01	.01338	+/-	.0115		.01	820
2587	GW01176IT	22-APR-91	FILT											
2587	GW01685IT	10-SEP-91	TOT	.01097	+/-	.00763		.01	.01636	+/-	.00961		.01	380
2587	GW01685IT	10-SEP-91	FILT											
2587	GW02039IT	18-NOV-91	TOT											290
2587	GW02039IT	18-NOV-91	FILT											
3687	36-87-11-06-87	06-NOV-87	FILT	0.00	+/-	.21			0.00	+/-	.13			
3687	36-87-03-09-88	09-MAR-88	FILT	0.00	+/-	0.12		0	0.00	+/-	0.15		0	
3687	36-87-05-04-88	04-MAY-88	FILT	0.00	+/-	0.05		0						
3687	36-87-08-19-88	19-AUG-88	FILT	0.03	+/-	0.04	V	0	0.04	+/-	0.08	V	0	
3687	36-87-11-10-88	10-NOV-88	FILT											
3687	36-87-02-15-89	15-FEB-89	FILT	0.02	+/-	0.03	V	0	0.00	+/-	0.05	V	0	
3687	36-87-05-08-89	08-MAY-89	FILT											
3687	36-87-08-21-89	21-AUG-89	FILT	.013	+/-	.004		.002						
3687	36-87-08-22-89	22-AUG-89	FILT											
3687	G36871189004	10-NOV-89	FILT											

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Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - South Walnut Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
3687	G36870390001	05-MAR-90	FILT	0.001	+/-	0.008		.011	0.015	+/-	0.014		.017		
3687	G-3687-0605-02-09	05-JUN-90	TOT	0.006	+/-	0.006		.01	0.004	+/-	0.004		.01	230	
3687	G-3687-0605-02-09	05-JUN-90	FILT												
3687	GW00320IT	29-AUG-90	TOT	.0002162	+/-	.00189		.01	.0008876	+/-	.00244		.01	580	
3687	GW00320IT	29-AUG-90	FILT												
3687	GW00640IT	12-NOV-90	TOT	.000469	+/-	.000939		.01	.002632	+/-	.00373		.01	350	
3687	GW00640IT	12-NOV-90	FILT												
3687	GW00934IT	08-MAR-91	TOT	.05767	+/-	.0218		.01	.00373	+/-	.00614		.01	1201	
3687	GW01162IT	19-APR-91	TOT	.02522	+/-	.0104		.01	.01814	+/-	.00957		.01	720	
3687	GW01162IT	19-APR-91	FILT												
3687	GW01674IT	23-AUG-91	TOT	.009023	+/-	.00688		.01	.0019	+/-	.00313		.01	200	
3687	GW01674IT	23-AUG-91	FILT												
3687	GW02036IT	25-NOV-91	FILT												
3687	GW02036IT	25-NOV-91	TOT											87	
B21878	G-6489-0525-02-12	25-MAY-90	TOT	0.004	+/-	0.004		.01	0.010	+/-	0.008		.01	150	
B21878	GW00193IT	13-SEP-90	TOT	.02359	+/-	.01		.01	.01413	+/-	.00907		.01	390	
B21878	GW00193IT	13-SEP-90	FILT												
B21878	GW00559IT	22-OCT-90	TOT	.005345	+/-	.00439		.01	0	+/-	.00565		.01	4	U
B21878	GW00559IT	22-OCT-90	FILT												
B21878	GW00940IT	08-MAR-91	TOT	.06255	+/-	.0206		.01	.02432	+/-	.0161		.01	680	
B21878	GW00940IT	08-MAR-91	FILT												
B21878	GW01292IT	21-MAY-91	TOT	.01089	+/-	.00682	V	.000	.02538	+/-	.0104	A	.005	62	
B21878	GW01292IT	21-MAY-91	FILT												
B21878	GW01673IT	20-AUG-91	TOT	.006792	+/-	.00518		.01	.004563	+/-	.00462		.01	26	
B21878	GW01673IT	20-AUG-91	FILT												
B21878	GW02034IT	19-NOV-91	FILT												
01791	GW02173IT	19-DEC-91	TOT											6800	
01791	GW02173IT	19-DEC-91	FILT												
02091	GW02138IT	14-DEC-91	TOT											1400	
02091	GW02138IT	14-DEC-91	FILT												
02291	GW02113IT	16-DEC-91	TOT											1400	
02291	GW02113IT	16-DEC-91	FILT												
02491	GW02114IT	16-DEC-91	TOT											400	
02491	GW02114IT	16-DEC-91	FILT												
03391	GW02092IT	05-DEC-91	FILT												
03391	GW02092IT	05-DEC-91	TOT											7400	
03591	GW02161IT	18-DEC-91	TOT											560	
03591	GW02161IT	18-DEC-91	FILT												
03791	GW02093IT	06-DEC-91	TOT											4500	
03791	GW02093IT	06-DEC-91	FILT												
05391	GW02084IT	05-DEC-91	FILT												
05391	GW02084IT	05-DEC-91	TOT											630	
05691	GW02061IT	04-DEC-91	FILT												
05691	GW02061IT	04-DEC-91	TOT											9100	
11891	GW02117IT	19-DEC-91	TOT											460	
11891	GW02117IT	19-DEC-91	FILT												

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Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

APPENDIX A-2

PLUTONIUM AND AMERICIUM ACTIVITIES AND TSS CONCENTRATIONS IN GROUND WATER IN WOMAN CREEK DRAINAGE BASIN

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
0171	G017108860	27-AUG-86	TOT	-0.01	+/-	0.07			0.04	+/-	0.07				
0171	G017108860	27-AUG-86	FILT												
0171	1-71-03-09-87	09-MAR-87	TOT	0.91	+/-	0.63			0.0	+/-	1.8				
0171	1-71-03-09-87	09-MAR-87	FILT												
0171	1-71-04-30-87	30-APR-87	TOT	.05	+/-	1.5			0.0	+/-	2.6				
0171	1-71-04-30-87	30-APR-87	FILT												
0171	1-71-05-01-87	01-MAY-87	TOT	0.05	+/-	1.5			0.0	+/-	2.6				
0171	1-71-05-01-87	01-MAY-87	FILT												
0171	1-71-05-21-87	21-MAY-87	TOT	0.0	+/-	0.59			0.0	+/-	1.3				
0171	1-71-05-21-87	21-MAY-87	FILT												
0171	1-71-07-02-87	02-JUL-87	FILT						-.04	+/-	1.50		3.00		
0171	1-71-10-14-87	14-OCT-87	FILT	0.00	+/-	.07		.55	0.00	+/-	.43		1.5		
0171	1-71-02-25-88	25-FEB-88	FILT	0.00	+/-	0.18		1.	0.00	+/-	0.18				
0171	1-71-04-18-88	18-APR-88	FILT	0.01	+/-	0.03		.30	0.02	+/-	0.19		.78		
0171	1-71-07-25-88	25-JUL-88	FILT	0.00	+/-	0.08	A	0	0.10	+/-	0.17	A	1		
0171	1-71-10-31-88	31-OCT-88	FILT												
0171	1-71-02-01-89	01-FEB-89	FILT	0.00	+/-	0.03	A	0	-0.01	+/-	0.08	A	0		
0171	1-71-05-01-89	01-MAY-89	FILT												
0171	1-71-08-07-89	07-AUG-89	FILT												
0171	G01711189004	29-NOV-89	FILT	.006	+/-	.004		.003	.006	+/-	.008		.009		
0171	G01710290001	23-FEB-90	FILT												
0171	GW00759IT	20-NOV-90	TOT	.02753	+/-	.00891		.01	.009608	+/-	.0058		.01		
0171	GW01127IT	17-APR-91	TOT	.4935	+/-	.0729		.01	.1008	+/-	.0192		.01	110	
0171	GW01127IT	17-APR-91	FILT												
0171	GW01656IT	10-SEP-91	TOT	.03783	+/-	.0151		.01	.01036	+/-	.00664		.01	4	U
0171	GW01656IT	10-SEP-91	FILT												
0171	GW01998IT	21-NOV-91	TOT											4	U
0171	GW01998IT	21-NOV-91	FILT												
0271	G027108860	27-AUG-86	TOT	32	+/-	3			4.4	+/-	2.3				
0271	G027108860	27-AUG-86	FILT												
0271	2-71-03-11-87	11-MAR-87	TOT	1.9	+/-	1.0			0.4	+/-	4.0				
0271	2-71-03-11-87	11-MAR-87	FILT												
0271	2-71-04-09-87	09-APR-87	TOT	.22	+/-	.95			0.0	+/-	3.7				
0271	2-71-04-09-87	09-APR-87	FILT												
0271	2-71-05-21-87	21-MAY-87	TOT	0.02	+/-	0.76			0.0	+/-	1.2				
0271	2-71-05-21-87	21-MAY-87	FILT												
0271	2-71-07-02-87	02-JUL-87	FILT	R					R						
0271	2-71-10-08-87	08-OCT-87	FILT	0.00	+/-	0.15		.46	0.00	+/-	0.02		.31		
0271	2-71-02-25-88	25-FEB-88	FILT	0.00	+/-	0.17		1	0.00	+/-	0.33		2		
0271	2-71-04-20-88	20-APR-88	FILT	0.00	+/-	0.03		.16	0.00	+/-	0.18		.68		
0271	2-71-07-25-88	25-JUL-88	FILT	0.00	+/-	0.08	A	0	0.06	+/-	0.17	A	1		
0271	2-71-08-07-89	07-AUG-89	FILT												
0271	G02711189004	30-NOV-89	FILT												
0271	G02710290001	26-FEB-90	FILT												
0271	GW00760IT	21-NOV-90	TOT	.03263	+/-	.0128		.01	.01295	+/-	.00782		.01	130	
0271	GW00760IT	21-NOV-90	FILT												
0271	GW01128IT	19-APR-91	TOT	1.261	+/-	.168		.01	.3805	+/-	.0591		.01	3100	
0271	GW01128IT	19-APR-91	FILT												
0271	GW01654IT	10-SEP-91	TOT	.3882	+/-	.0684		.01	.06568	+/-	.021		.01	1310	
0271	GW01654IT	10-SEP-91	FILT												
0271	GW01999IT	22-NOV-91	TOT											2400	
0271	GW01999IT	22-NOV-91	FILT												
0774	G077408860	22-AUG-86	TOT	0.06	+/-	0.08			0.10	+/-	0.06				
0774	G077408860	22-AUG-86	FILT												
0774	7-74-05-07-87	07-MAY-87	TOT	.10	+/-	.61			0.0	+/-	1.2				
0774	7-74-05-07-87	07-MAY-87	FILT												
0774	7-74-05-28-87	28-MAY-87	TOT	0.03	+/-	0.76			0.0	+/-	1.2				
0774	7-74-05-28-87	28-MAY-87	FILT												
0774	7-74-07-23-87	23-JUL-87	FILT	0.0	+/-	0.6		.5	.13	+/-	.35		.4		
0774	7-74-11-04-87	04-NOV-87	FILT	0.00	+/-	.20		.64	.01	+/-	.07		.32		

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V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
0286	2-86-05-11-87	11-MAY-87	TOT	.72	+/-	.93			0.8	+/-	.96				
0286	2-86-05-11-87	11-MAY-87	FILT												
0286	2-86-06-01-87	01-JUN-87	TOT	0.9	+/-	1.1			0.0	+/-	1.7				
0286	2-86-06-01-87	01-JUN-87	FILT												
0286	2-86-07-20-87	20-JUL-87	FILT	-0.1	+/-	1.0		1.4	R						
0286	2-86-03-31-88	31-MAR-88	FILT	0.00	+/-	0.15		.96	0.00	+/-	0.34		2.6		
0286	2-86-06-02-88	02-JUN-88	FILT	0.00	+/-	0.04		.11	0.02	+/-	0.10		.55		
0286	2-86-06-26-89	26-JUN-89	FILT	.007	+/-	.002		0							
0286	G02860689001	30-JUN-89	FILT	0.00	+/-	0.02			0.00	+/-	0.03				
0286	G02860789002	11-JUL-89	FILT												
0286	G02860390001A	19-MAR-90	FILT	0.0	+/-	.006268		.010	.002705	+/-	.015907		.022		
0286	G-0286-0605-02-10	07-JUN-90	TOT	R					.01322	+/-	.012973	A	.014	6	
0286	G-0286-0605-02-10	07-JUN-90	FILT												
0286	GW01454IT	19-JUN-91	TOT	.001314	+/-	.00263		.01	.003768	+/-	.00379		.01	140	
0286	GW01454IT	19-JUN-91	FILT												
0386	G038609860	08-SEP-86	TOT	0.01	+/-	0.07			0.02	+/-	0.13				
0386	G038609860	08-SEP-86	FILT												
0386	3-86-05-12-87	12-MAY-87	TOT	0.0	+/-	.70			0.0	+/-	2.2				
0386	3-86-05-12-87	12-MAY-87	FILT												
0386	3-86-06-08-87	08-JUN-87	TOT	0.0	+/-	0.59			0.1	+/-	1.5				
0386	3-86-06-08-87	08-JUN-87	FILT												
0386	3-86-07-24-87	24-JUL-87	FILT	-.32	+/-	.68		.9	.00	+/-	.40		7.4		
0386	3-86-12-14-87	14-DEC-87	FILT	0.00	+/-	.14		1.0							
0386	3-86-03-31-88	31-MAR-88	FILT	0.00	+/-	0.15		.89	0.00	+/-	0.32		1.5		
0386	3-86-06-02-88	02-JUN-88	FILT	0.00	+/-	0.04		.12	0.00	+/-	0.10		.38		
0386	3-86-10-05-88	05-OCT-88	FILT	0.00	+/-	0.04	A	0	0.02	+/-	0.10	A	0		
0386	3-86-12-21-88	21-DEC-88	FILT												
0386	3-86-03-29-89	29-MAR-89	FILT												
0386	3-86-06-21-89	21-JUN-89	FILT												
0386	G03860689001	29-JUN-89	FILT	0.01	+/-	0.01			0.02	+/-	0.02				
0386	G03860789002	12-JUL-89	FILT	0.00	+/-	0.01		.01	0.00	+/-	0.01		.01		
0386	G03861089004	05-OCT-89	FILT	0.005	+/-	0.006		.007	0.026	+/-	0.018		0		
0386	G03861289004	18-DEC-89	FILT	.002	+/-	.003		.004	.003	+/-	.008		.011		
0386	G03860390001A	23-MAR-90	TOT	-0.004	+/-	0.006		.01	0.004	+/-	0.004		.01		
0386	G03860390001A	23-MAR-90	FILT												
0386	G-0386-0605-02-08	08-JUN-90	TOT	R					-.000553	+/-	.005417	A	.008	5	U
0386	G-0386-0605-02-08	08-JUN-90	FILT												
0386	GW00349IT	06-SEP-90	FILT												
0386	GW00349IT	06-SEP-90	TOT											33	
0386	GW00725IT	15-NOV-90	TOT	0	+/-	.00499		.01	.002031	+/-	.00237		.01	9	
0386	GW00725IT	15-NOV-90	FILT												
0386	GW00968IT	14-MAR-91	TOT	.004641	+/-	.00418		.01	.007005	+/-	.00814		.01	51	
0386	GW00968IT	14-MAR-91	FILT												
0386	GW01455IT	20-JUN-91	TOT	.000705	+/-	.00299		.01	.003762	+/-	.00436		.01	20	
0386	GW01455IT	20-JUN-91	FILT												
0386	GW01762IT	11-SEP-91	TOT	.0009117	+/-	.00316		.01	.001651	+/-	.00271		.01	48	
0386	GW01762IT	11-SEP-91	FILT												
0386	GW02026IT	13-NOV-91	FILT												
3986	G398609860	22-SEP-86	TOT	0.00	+/-	0.09			-0.01	+/-	0.03				
3986	G398609860	22-SEP-86	FILT												
3986	39-86-05-06-87	06-MAY-87	TOT	0.0	+/-	.57			0.0	+/-	2.6				
3986	39-86-05-06-87	06-MAY-87	FILT												
3986	39-86-06-03-87	03-JUN-87	FILT												
3986	39-86-06-03-87	03-JUN-87	TOT	0.21	+/-	0.73			0.0	+/-	1.2				
3986	39-86-07-24-87	24-JUL-87	FILT	-0.5	+/-	6.0		.5	3.8	+/-	5.3		.6		
3986	39-86-12-12-87	12-DEC-87	FILT	0.00	+/-	.18		1	0.00	+/-	.10		.66		
3986	39-86-03-09-88	09-MAR-88	FILT	0.00	+/-	0.1		0	0.00	+/-	0.07		2		
3986	39-86-05-04-88	04-MAY-88	FILT	0.00	+/-	0.03		0	0.03	+/-	0.10		0		
3986	39-86-08-19-88	19-AUG-88	FILT	0.02	+/-	0.04	V	0	0.07	+/-	0.08	V	0		

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Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
3986	39-86-11-10-88	10-NOV-88	FILT											
3986	39-86-02-15-89	15-FEB-89	FILT	0.01	+/-	0.03	V	0	0.00	+/-	0.04	V	0	
3986	39-86-05-08-89	08-MAY-89	FILT											
3986	39-86-08-15-89	15-AUG-89	FILT	.007	+/-	.002		0						
3986	G39861189004	10-NOV-89	FILT											
3986	G39860290001	21-FEB-90	FILT	.001	+/-	.004		.005	-.003	+/-	.008		.012	
3986	G-3986-0604-02-09	04-JUN-90	TOT	0.003	+/-	0.004		.01						200
3986	G-3986-0604-02-09	04-JUN-90	FILT											
3986	GW00215IT	09-AUG-90	TOT	.0107	+/-	.0077		0	.011	+/-	.0117		0	440
3986	GW00215IT	09-AUG-90	FILT											
3986	GW00625IT	01-NOV-90	TOT	.01284	+/-	.0149			.003735	+/-	.00477		.01	190
3986	GW00625IT	01-NOV-90	FILT											
3986	GW00997IT	19-MAR-91	TOT	-.000211	+/-	.000423	V	.000	0	+/-	.00753	V	.000	100
3986	GW00997IT	19-MAR-91	FILT											
3986	GW01285IT	14-MAY-91	TOT	.0008241	+/-	.00227	V	.000	.002006	+/-	.0033	A	.000	180
3986	GW01285IT	14-MAY-91	FILT											
3986	GW01592IT	16-AUG-91	FILT											
3986	GW01592IT	16-AUG-91	TOT											140
3986	GW02049IT	05-DEC-91	FILT											
3986	GW02049IT	05-DEC-91	TOT											89
3986	GW02241IT	21-JAN-92	FILT											
3986	GW02241IT	21-JAN-92	TOT											56
4086	40-86-05-06-87	06-MAY-87	TOT	.24	+/-	.73			1.0	+/-	4.6			
4086	40-86-05-06-87	06-MAY-87	FILT											
4086	40-86-10-26-87	26-OCT-87	FILT	0.00	+/-	.14		.84	0.00	+/-	1.6		4.4	
4086	40-86-03-10-88	10-MAR-88	FILT	0.00	+/-	0.11		0	0.00	+/-	0.53		1	
4086	40-86-05-12-88	12-MAY-88	FILT	0.00	+/-	0.03		.18	0.00	+/-	0.09		.89	
4086	40-86-05-10-89	10-MAY-89	FILT											
4086	G40861289004	12-DEC-89	FILT	0.011	+/-	0.006		.005	0.010	+/-	0.009		.000	
4086	G-4086-0626-02-09	27-JUN-90	FILT											
4086	GW00400IT	20-SEP-90	FILT											
4086	GW00736IT	28-NOV-90	FILT											
4086	GW00866IT	11-JAN-91	FILT											
4086	GW01087IT	16-APR-91	FILT											
4086	GW01087IT	16-APR-91	TOT											8
4086	GW01653IT	06-SEP-91	FILT											
4086	GW01653IT	06-SEP-91	TOT											64
4086	GW02000IT	20-NOV-91	FILT											
4086	GW02000IT	20-NOV-91	TOT											19
4186	G418609860	25-SEP-86	TOT	0.01	+/-	0.08			-0.03	+/-	0.10			
4186	G418609860	25-SEP-86	FILT											
4186	41-86-05-06-87	06-MAY-87	TOT	0.0	+/-	.85								
4186	41-86-05-06-87	06-MAY-87	FILT											
4186	41-86-06-01-87	01-JUN-87	TOT						0.0	+/-	1.2			
4186	41-86-06-01-87	01-JUN-87	FILT											
4186	41-86-07-20-87	20-JUL-87	FILT	-.04	+/-	.66		.6	.27	+/-	.57		.7	
4186	41-86-10-22-87	22-OCT-87	FILT	0.00	+/-	.11		.49	0.00	+/-	.15		1	
4186	41-86-03-10-88	10-MAR-88	FILT	0.00	+/-	0.11		0	0.00	+/-	0.26		1	
4186	41-86-05-04-88	04-MAY-88	FILT	0.00	+/-	0.03		.19						
4186	41-86-11-22-88	22-NOV-88	FILT											
4186	41-86-02-20-89	20-FEB-89	FILT	0.00	+/-	0.03	V	0	0.03	+/-	0.10	V	0	
4186	41-86-05-10-89	10-MAY-89	FILT											
4186	G41861289004	07-DEC-89	FILT											
4186	G41860290001	19-FEB-90	FILT	0.001	+/-	.004	A	.006	0	+/-	.007	A	.008	
4186	G-4186-0622-02-12	22-JUN-90	TOT	0.002	+/-	0.004		.01	0.007	+/-	0.010		.01	99
4186	GW00401IT	17-SEP-90	TOT	-.000365	+/-	.000732		.01	.003189	+/-	.00287		.01	149
4186	GW00745IT	20-NOV-90	TOT	.001349	+/-	.00191		.01	.005358	+/-	.00383		.01	290
4186	GW00745IT	20-NOV-90	FILT											
4186	GW00865IT	10-JAN-91	TOT	-.00089	+/-	.00178		.01	.02087	+/-	.0188		.01	190
4186	GW00865IT	10-JAN-91	FILT											

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
6286	G628610860	16-OCT-86	FILT												
6286	62-86-04-09-87	09-APR-87	TOT	0.0	+/-	1.1			0.0	+/-	1.3				
6286	62-86-04-09-87	09-APR-87	FILT												
6286	62-86-04-29-87	29-APR-87	TOT	0.0	+/-	1.3			0.0	+/-	1.4				
6286	62-86-04-29-87	29-APR-87	FILT												
6286	62-86-05-26-87	26-MAY-87	TOT	0.04	+/-	0.76			0.0	+/-	1.2				
6286	62-86-05-26-87	26-MAY-87	FILT												
6286	62-86-07-06-87	06-JUL-87	FILT	.06	+/-	.71		.6							
6286	62-86-10-14-87	14-OCT-87	FILT	.04	+/-	.09		.44	0.00	+/-	.03		1		
6286	62-86-02-17-88	17-FEB-88	FILT	0.00	+/-	0.18		1	0.00	+/-	0.13		0		
6286	62-86-04-13-88	13-APR-88	FILT	0.05	+/-	0.06		.48	0.00	+/-	0.16		.48		
6286	62-86-07-14-88	14-JUL-88	FILT	0.00	+/-	0.11	V		0.00	+/-	0.17	V			
6286	62-86-10-20-88	20-OCT-88	FILT												
6286	62-86-01-23-89	23-JAN-89	FILT												
6286	62-86-04-19-89	19-APR-89	FILT												
6286	G62860689001	10-JUN-89	FILT	0.00	+/-	0.01		.01	0.00	+/-	0.01		.10		
6286	62-86-07-19-89	20-JUL-89	FILT	.007	+/-	.002		0							
6286	G62860789002	27-JUL-89	FILT	0.00	+/-	0.01		.01	0.00	+/-	0.01		.01		
6286	G62861089003	19-OCT-89	FILT												
6286	G-6286-0612-02-14	13-JUN-90	TOT						0.023	+/-	0.012		.01	94	
6286	GW00402IT	18-SEP-90	TOT	.0002828	+/-	.00247		.01	.001197	+/-	.0024		.01	21	
6286	GW00402IT	18-SEP-90	FILT												
6286	GW00731IT	21-NOV-90	TOT	.004683	+/-	.00316		.01	.0007101	+/-	.00142		.01	47	
6286	GW00731IT	21-NOV-90	FILT												
6286	GW00855IT	10-JAN-91	TOT	0	+/-	.00267		.01	.005408	+/-	.00544		.01	43	
6286	GW00855IT	10-JAN-91	FILT												
6286	GW01284IT	14-MAY-91	TOT	.004081	+/-	.00473	V	.000	.001451	+/-	.00282	A	.005	17	
6286	GW01284IT	14-MAY-91	FILT												
6286	GW01708IT	23-AUG-91	TOT	.0008436	+/-	.00232		.01	.009358	+/-	.00844		.01	25	
6286	GW01708IT	23-AUG-91	FILT												
6286	GW02046IT	23-NOV-91	TOT											35	
6286	GW02046IT	23-NOV-91	FILT												
6286	GW02378IT	11-FEB-92	FILT												
6286	GW02378IT	11-FEB-92	TOT											13	
6386	G-6386-0612-02-12	13-JUN-90	TOT	0.039	+/-	0.012		.01						351	
6386	G-6386-0612-02-12	13-JUN-90	FILT												
6486	64-86-04-29-87	29-APR-87	TOT	0.2	+/-	1.1			0.0	+/-	1.4				
6486	64-86-04-29-87	29-APR-87	FILT												
6486	64-86-07-16-87	16-JUL-87	FILT												
6486	64-86-02-17-88	17-FEB-88	FILT	0.00	+/-	0.22		1	0.00	+/-	0.13		0		
6486	64-86-04-11-88	11-APR-88	FILT	0.00	+/-	0.05		.19							
6486	G64860789002	10-JUL-89	FILT												
6586	G658609860	19-SEP-86	TOT	0.02	+/-	0.10			0.01	+/-	0.03				
6586	G658609860	19-SEP-86	FILT												
6586	65-86-05-13-87	13-MAY-87	TOT	0.0	+/-	.65			0.0	+/-	1.3				
6586	65-86-05-13-87	13-MAY-87	FILT												
6586	65-86-05-28-87	28-MAY-87	TOT	0.16	+/-	0.78			0.0	+/-	1.2				
6586	65-86-05-28-87	28-MAY-87	FILT												
6586	65-86-09-09-87	09-SEP-87	FILT	-.03	+/-	.16		2.9	.02	+/-	.32		.4		
6586	65-86-02-29-88	29-FEB-88	FILT	0.00	+/-	0.25		1	0.00	+/-	0.20		1		
6586	65-86-04-18-88	18-APR-88	FILT	0.02	+/-	0.06		.15	0.00	+/-	0.16		.84		
6586	G65860689001	01-JUN-89	FILT	0.00	+/-	0.01			-0.01	+/-	0.02				
6586	G65860789002	20-JUL-89	FILT	0.00	+/-	0.01		.01	0.00	+/-	0.01		.01		
6586	G65861089003	25-OCT-89	FILT												
6586	G65860290001	07-FEB-90	FILT												
6586	G-6586-0525-02-08	25-MAY-90	TOT	0.000	+/-	0.002		.01						8	
6586	G-6586-0525-02-08	25-MAY-90	FILT												
6586	GW00162IT	02-AUG-90	TOT	0	+/-	.00239		.01	.0006205	+/-	.00124		.01	4	U

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
6586	GW00162IT	02-AUG-90	FILT												
6586	GW00492IT	17-OCT-90	TOT	-.000593	+/-	.00119		.01	.01034	+/-	.0208		.01	18	
6586	GW00492IT	17-OCT-90	FILT												
6586	GW00990IT	18-MAR-91	FILT												
6586	GW00990IT	18-MAR-91	TOT											42	
6586	GW01275IT	09-MAY-91	TOT	.01443	+/-	.00816	V	.005	R					38	
6586	GW01275IT	09-MAY-91	FILT												
6586	GW01671IT	16-AUG-91	TOT	.006185	+/-	.00589		.01	.004921	+/-	.00443		.01	30	
6586	GW01671IT	16-AUG-91	FILT												
6586	GW02050IT	06-DEC-91	TOT											36	
6586	GW02050IT	06-DEC-91	FILT												
6586	GW02326IT	23-JAN-92	FILT												
6586	GW02326IT	23-JAN-92	TOT											110	
6786	G678611860	24-NOV-86	TOT	0.22	+/-	0.24			0.00	+/-	0.08				
6786	G678611860	24-NOV-86	FILT												
6786	67-86-05-11-87	11-MAY-87	TOT	0.0	+/-	.74			0.6	+/-	1.4				
6786	67-86-05-11-87	11-MAY-87	FILT												
6786	67-86-06-01-87	01-JUN-87	TOT	0.0	+/-	0.62			0.0	+/-	1.2				
6786	67-86-06-01-87	01-JUN-87	FILT												
6786	67-86-07-20-87	20-JUL-87	FILT	.25	+/-	.80		.9	0.6	+/-	1.4		2.1		
6786	G67860290001	08-FEB-90	FILT	0.003	+/-	0.006		.000	0.007	+/-	0.006		.006		
6786	G-6786-0612-02-09	12-JUN-90	TOT	.005964	+/-	.004394		.005	.002452	+/-	.004805		.006	5	U
6786	G-6786-0612-02-09	12-JUN-90	FILT												
6786	GW00284IT	22-AUG-90	TOT	-.000528	+/-	.000749		.01	.005758	+/-	.00668		.01	140	
6786	GW00284IT	22-AUG-90	FILT												
0687	6-87-07-30-87	30-JUL-87	FILT	-.23	+/-	.59		.6	-0.4	+/-	1.6		3.3		
0687	6-87-02-17-88	17-FEB-88	FILT	0.00	+/-	0.20		1	0.00	+/-	0.11		0		
0687	G06870689001	10-JUN-89	FILT	0.00	+/-	0.01			0.00	+/-	0.02				
0687	G06870789002	26-JUL-89	FILT												
0687	G06871089003	19-OCT-89	FILT	R					R						
0687	G06871089003	19-OCT-89	TOT	0.010	+/-	0.005	A	.003						5	U
0687	G06870190001	31-JAN-90	FILT	0.014	+/-	0.007		.000	0.010	+/-	0.009		.009		
0687	GW00027IT	20-JUL-90	FILT												
0687	GW00981IT	19-MAR-91	FILT												
0687	GW00981IT	19-MAR-91	TOT											52	
0687	GW01251IT	15-MAY-91	TOT	-.000317	+/-	.000635	V	.000	.001813	+/-	.00363	A	.000	65	
0687	GW01251IT	15-MAY-91	FILT												
1187	11-87-02-17-88	17-FEB-88	FILT	0.00	+/-	0.20		1	0.00	+/-	0.12		0		
1187	G11871189004	28-NOV-89	FILT	.003	+/-	.004		.005	.002	+/-	.005		.006		
1187	G11870190001	23-JAN-90	FILT	0.005	+/-	0.004		.000	R						
1187	G-1187-0614-02-08	15-JUN-90	TOT	0.001	+/-	0.001		.01						20	
1187	G-1187-0614-02-08	15-JUN-90	FILT												
1187	GW00404IT	18-SEP-90	TOT											4	
1187	GW00730IT	28-NOV-90	FILT												
1187	GW00730IT	28-NOV-90	TOT											4	U
1187	GW01648IT	06-SEP-91	FILT												
1187	GW01648IT	06-SEP-91	TOT											5	
1187	GW02004IT	21-NOV-91	FILT												
1187	GW02004IT	21-NOV-91	TOT											6	
1287	12-87-08-31-87	31-AUG-87	FILT	0.00	+/-	1.6		3	0.0	+/-	1.1		7		
1287	12-87-02-25-88	25-FEB-88	FILT						0.00	+/-	0.09		0		
1287	12-87-04-20-88	20-APR-88	FILT	0.00	+/-	0.04		0	0.01	+/-	0.20		0		
1287	12-87-07-25-88	25-JUL-88	FILT	0.0	+/-	0.08	V	.01	.05	+/-	0.17	A	.01		
1287	G12871189004	14-NOV-89	FILT	0.004	+/-	0.004		0							
1287	G12870190001	24-JAN-90	FILT	NOLOG					R						
1287	G-1287-0613-02-13	14-JUN-90	TOT						0.006	+/-	0.006		.01	120	
1287	GW00405IT	20-SEP-90	TOT	0	+/-	.00337		.01	.001477	+/-	.00296		.01	8	
1287	GW00405IT	20-SEP-90	FILT												

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
1287	GW00734IT	28-NOV-90	FILT											
1287	GW00734IT	28-NOV-90	TOT											33
1287	GW01647IT	09-SEP-91	TOT	.003267	+/-	.00353		.01	.07449	+/-	.019		.01	22
1287	GW01647IT	09-SEP-91	FILT											
1487	14-87-08-31-87	31-AUG-87	FILT	0.00	+/-	41		2	0.0	+/-	1.1		9	
1487	14-87-10-12-87	12-OCT-87	FILT	0.00	+/-	.15			0.00	+/-	.22			
1487	14-87-02-29-88	29-FEB-88	FILT	0.00	+/-	0.19		0	0.00	+/-	0.11		0	
1487	14-87-04-21-88	21-APR-88	FILT	0.00	+/-	0.03		0	0.00	+/-	0.16		0	
1487	14-87-08-08-88	08-AUG-88	FILT	0.0	+/-	0.04	A	.01	.03	+/-	0.09	V	.01	
1487	14-87-10-26-88	26-OCT-88	FILT											
1487	14-87-01-25-89	25-JAN-89	FILT	-0.02	+/-	0.02	V	0	-0.01	+/-	0.03	V	0	
1487	14-87-04-24-89	24-APR-89	FILT											
1487	14-87-08-02-89	02-AUG-89	FILT											
1487	G14871189004	28-NOV-89	FILT	0	+/-	.003		.006	-.01	+/-	.03		.07	
1487	G14870190001	25-JAN-90	FILT	0.011	+/-	0.007		.000	0.011	+/-	0.010		.012	
1487	G-1487-0614-02-10	14-JUN-90	TOT						0.003	+/-	0.004		.01	11
1487	GW00406IT	18-SEP-90	TOT	-.00054	+/-	.000765		.01	.004025	+/-	.00458		.01	18
1487	GW00406IT	18-SEP-90	FILT											
1487	GW00732IT	20-NOV-90	TOT	.003907	+/-	.0031		.01	.001774	+/-	.00282		.01	
1487	GW00732IT	20-NOV-90	FILT											
1487	GW00870IT	11-JAN-91	TOT	0	+/-	.00322		.01	.004685	+/-	.00771		.01	19
1487	GW00870IT	11-JAN-91	FILT											
1487	GW01093IT	15-APR-91	TOT	.001846	+/-	.00262		.01	-.0432	+/-	.051		.01	8
1487	GW01093IT	15-APR-91	FILT											
1487	GW01646IT	05-SEP-91	TOT	.001366	+/-	.00266		.01	.002585	+/-	.00367		.01	16
1487	GW01646IT	05-SEP-91	FILT											
1487	GW02003IT	20-NOV-91	FILT											
1587	15-87-09-10-87	10-SEP-87	FILT											
1587	15-87-10-08-87	08-OCT-87	FILT	0.00	+/-	.16			0.00	+/-	.25			
1587	15-87-02-29-88	29-FEB-88	FILT	0.00	+/-	0.19		1	0.00	+/-	0.10		0	
1587	15-87-04-20-88	20-APR-88	FILT	0.00	+/-	0.05		.13	0.00	+/-	0.16		.75	
1587	15-87-08-02-89	03-AUG-89	FILT	0.010	+/-	0.006		0	0.037	+/-	0.017		0	
1587	G15871289004	04-DEC-89	FILT	.007	+/-	.004		.004	.001	+/-	.008		.010	
1587	G15870190001	23-JAN-90	FILT	R					R					
1587	GW00408IT	18-SEP-90	TOT	.1961	+/-	.0348		.01	.031	+/-	.00853		.01	626
1587	GW00737IT	27-NOV-90	TOT	.002149	+/-	.00205		.01	.02079	+/-	.01		.01	660
1587	GW00737IT	27-NOV-90	FILT											
1587	GW01094IT	15-APR-91	FILT											
1587	GW01094IT	15-APR-91	TOT											970
1587	GW01650IT	03-SEP-91	TOT	2.04	+/-	.236		.01	.1036	+/-	.025		.01	1100
1587	GW02005IT	18-DEC-91	TOT											1400
1587	GW02005IT	18-DEC-91	FILT											
2787	27-87-08-23-88	23-AUG-88	FILT	0.00	+/-	0.04	V	0	0.00	+/-	0.08	V	0	
2787	27-87-11-17-88	17-NOV-88	FILT											
2787	27-87-05-10-89	10-MAY-89	FILT											
2787	27-87-08-21-89	21-AUG-89	FILT											
2787	27-87-08-22-89	22-AUG-89	FILT	0.011	+/-	0.006		0	0.019	+/-	0.015		.018	
2787	G27871289004	05-DEC-89	FILT	.010	+/-	.004		.006	.001	+/-	.004		.004	
2787	G27870390001	12-MAR-90	FILT	0.005	+/-	0.004		.003						
2887	28-87-03-14-88	14-MAR-88	FILT	0.00	+/-	0.23		1	0.00	+/-	0.29		1	
2887	28-87-05-12-88	12-MAY-88	FILT	0.00	+/-	0.03		0	0.01	+/-	0.07		0	
2887	28-87-02-20-89	20-FEB-89	FILT	-0.02	+/-	0.03	V	0	0.05	+/-	0.05	V	0	
2987	29-87-10-28-87	28-OCT-87	FILT											
2987	29-87-02-29-88	29-FEB-88	FILT						0.06	+/-	0.27		1	
2987	29-87-04-21-88	21-APR-88	FILT	0.02	+/-	0.05		.16	0.00	+/-	0.16		.58	
2987	29-87-08-08-88	08-AUG-88	FILT	0.00	+/-	0.04	A	0	0.00	+/-	0.09	A	0	
2987	29-87-10-26-88	26-OCT-88	FILT											

Notes: U=Analyzed but not detected at or above the detection limit J=Present below detection limit
R=Data rejected during validation process A=Data deemed 'acceptable' during validation process
V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
2987	29-87-02-01-89	01-FEB-89	FILT	0.01	+/-	0.03	V	.09	0.06	+/-	0.08	V	.32		
2987	29-87-04-24-89	24-APR-89	FILT												
2987	29-87-08-02-89	03-AUG-89	FILT	.007	+/-	.002		0							
2987	G29871189004	29-NOV-89	FILT												
2987	G29870290001	07-FEB-90	FILT	0.018	+/-	0.007		.00	0.012	+/-	0.017		.017		
2987	GW00033IT	20-JUL-90	TOT	.02776	+/-	.0294		.01	.0004315	+/-	.00183		.01	88	
2987	GW00033IT	20-JUL-90	FILT												
2987	GW00491IT	11-OCT-90	TOT	-.00025	+/-	.000501		.01	.003056	+/-	.00434		.01	690	
2987	GW00491IT	11-OCT-90	FILT												
2987	GW00933IT	08-MAR-91	TOT	.009528	+/-	.00727		.01	-.000829	+/-	.00166		.01	1402	
2987	GW01271IT	10-MAY-91	TOT	.003394	+/-	.00481	V	.000	R					510	
2987	GW01271IT	10-MAY-91	FILT												
2987	GW01703IT	21-AUG-91	TOT	-.000565	+/-	.00113		.01	.003529	+/-	.00708		.01	540	
2987	GW01703IT	21-AUG-91	FILT												
2987	GW02080IT	07-DEC-91	TOT											220	
2987	GW02080IT	07-DEC-91	FILT												
2987	GW02412IT	12-FEB-92	FILT												
2987	GW02412IT	12-FEB-92	TOT											320	
3087	30-87-01-22-88	22-JAN-88	FILT	0.00	+/-	.15			.17	+/-	.12				
3087	30-87-03-02-88	02-MAR-88	FILT	0.00	+/-	0.25		2	0.05	+/-	0.13		0		
3087	30-87-04-21-88	21-APR-88	FILT	0.00	+/-	0.04		0	0.01	+/-	0.16		0		
3087	30-87-08-08-88	08-AUG-88	FILT	0.0	+/-	0.04	V	.01	0.00	+/-	0.09	A	0		
3087	30-87-10-26-88	26-OCT-88	FILT												
3087	30-87-02-01-89	01-FEB-89	FILT	0.01	+/-	0.10	A	0	0.06	+/-	0.08	A	0		
3087	30-87-04-24-89	24-APR-89	FILT												
3087	30-87-08-02-89	02-AUG-89	FILT												
3087	G30871289004	08-DEC-89	FILT	.009	+/-	.006		.006	-.001	+/-	.004		.007		
3087	G30870290001	09-FEB-90	FILT	0.001	+/-	0.003		.006	0.010	+/-	0.005		.00		
3087	G-3087-0530-02-09	30-MAY-90	TOT	-0.002	+/-	0.004		.01						205	
3087	GW00045IT	23-JUL-90	TOT	.003878	+/-	.00419		.01	.003262	+/-	.00507		.01	4	U
3087	GW00045IT	23-JUL-90	FILT												
3087	GW00490IT	11-OCT-90	TOT	0	+/-	.0034		.01	.00457	+/-	.0046		.01	150	
3087	GW00490IT	11-OCT-90	FILT												
3087	GW00937IT	08-MAR-91	TOT	.005539	+/-	.00458		.01	.002874	+/-	.0064		.01	42	
3087	GW00937IT	08-MAR-91	FILT												
3087	GW01272IT	10-MAY-91	TOT	-.000459	+/-	.000651	V	.004	R					19	
3087	GW01272IT	10-MAY-91	FILT												
3087	GW01704IT	21-AUG-91	TOT	.003671	+/-	.00604		.01	.00206	+/-	.00339		.01	79	
3087	GW01704IT	21-AUG-91	FILT												
3087	GW02081IT	06-DEC-91	TOT											4	U
3087	GW02081IT	06-DEC-91	FILT												
3187	31-87-10-28-87	28-OCT-87	FILT												
3187	31-87-03-10-88	10-MAR-88	FILT	0.00	+/-	0.11		0	0.00	+/-	0.17		0		
3187	31-87-05-12-88	12-MAY-88	FILT	0.00	+/-	0.04		0	0.03	+/-	0.09		1		
3187	31-87-08-25-88	25-AUG-88	FILT	0.00	+/-	0.04	V	0	0.08	+/-	0.08	V	0		
3187	31-87-11-22-88	22-NOV-88	FILT												
3187	31-87-02-22-89	22-FEB-89	FILT	0.00	+/-	0.03	V	0	-0.04	+/-	0.08	V	0		
3187	31-87-05-10-89	10-MAY-89	FILT												
3187	G31871289004	14-DEC-89	FILT	.005	+/-	.004		.002	.002	+/-	.007		.009		
3187	G31870390001	12-MAR-90	TOT	0.004	+/-	0.005	A	.004	0.024	+/-	0.018	A	.013		
3187	GW00413IT	18-SEP-90	TOT	.001079	+/-	.00297		.01	.00177	+/-	.00355		.01	630	
3187	GW00413IT	18-SEP-90	FILT												
3187	GW00739IT	21-NOV-90	TOT	.00377	+/-	.00269		.01	.001948	+/-	.00227		.01	380	
3187	GW00739IT	21-NOV-90	FILT												
3187	GW00867IT	11-JAN-91	TOT	0	+/-	.00316		.01	.0006433	+/-	.00273		.01	290	
3187	GW00867IT	11-JAN-91	FILT												
3187	GW01099IT	16-APR-91	TOT	0	+/-	.00352		.01	-.0883	+/-	.22		.01	30	
3187	GW01099IT	16-APR-91	FILT												
3187	GW01643IT	10-SEP-91	TOT	.004673	+/-	.00445		.01	.002203	+/-	.00312		.01	51	
3187	GW01643IT	10-SEP-91	FILT												

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V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
3187	GW02011IT	21-NOV-91	TOT											69
3187	GW02011IT	21-NOV-91	FILT											
3287	32-87-10-26-87	26-OCT-87	FILT											
3287	32-87-03-09-88	09-MAR-88	FILT	0.00	+/-	0.13		0						
3287	32-87-05-12-88	12-MAY-88	FILT	0.00	+/-	0.04		.20	0.10	+/-	0.09		.91	
3287	32-87-08-23-88	23-AUG-88	FILT	0.00	+/-	0.04	V		0.00	+/-	0.08	A		
3287	32-87-11-17-88	17-NOV-88	FILT											
3287	32-87-02-22-89	22-FEB-89	FILT	0.01	+/-	0.03	V	0	-0.08	+/-	0.08	V	0	
3287	G32871289004	12-DEC-89	FILT	.002	+/-	.004		.005	.003	+/-	.005		.004	
3287	G32870290001	21-FEB-90	FILT	-.002	+/-	.004		.008	.013	+/-	.010		.01	
3287	G-3287-0622-02-10	22-JUN-90	TOT	0.001	+/-	0.002		.01	-0.002	+/-	0.002		.01	720
3287	GW00414IT	19-SEP-90	TOT	.001979	+/-	.00281		.01	.009529	+/-	.00785		.01	692
3287	GW00744IT	29-NOV-90	TOT	.000529	+/-	.00224		.01	.0006988	+/-	.00297		.01	3000
3287	GW00744IT	29-NOV-90	FILT											
3287	GW00869IT	15-JAN-91	TOT	.002352	+/-	.00333		.01	.0008169	+/-	.00225		.01	1600
3287	GW00869IT	15-JAN-91	FILT											
3287	GW01157IT	16-APR-91	TOT	.005267	+/-	.00529		.01	0	+/-	.00386		.01	600
3287	GW01157IT	16-APR-91	FILT											
3287	GW01642IT	03-SEP-91	TOT	.0003501	+/-	.00149		.01	.0002651	+/-	.00305		.01	1400
3287	GW02012IT	20-NOV-91	TOT											1900
3287	GW02012IT	20-NOV-91	FILT											
3487	34-87-03-09-88	09-MAR-88	FILT	0.00	+/-	0.15		0	0.00	+/-	0.24		1	
3487	34-87-05-12-88	12-MAY-88	FILT	0.00	+/-	0.03		0	0.00	+/-	0.09		0	
3487	34-87-02-20-89	20-FEB-89	FILT	-0.02	+/-	0.03	V	0	0.01	+/-	0.05	V	0	
3487	34-87-08-23-89	23-AUG-89	FILT											
3487	34-87-08-24-89	24-AUG-89	FILT	0.011	+/-	0.006		0	0.019	+/-	0.015		.018	
3487	G34871289004	13-DEC-89	FILT	0.030	+/-	0.009		.004						
3487	G34871289004	13-DEC-89	TOT						0.007	+/-	0.008	A	.004	
3487	G34870390001	19-MAR-90	FILT	.003687	+/-	.004339		.006	.01093	+/-	.012255		.014	
3487	G-3487-0625-02-12	26-JUN-90	FILT											
3487	GW00416IT	18-SEP-90	TOT											1942
3487	GW00738IT	28-NOV-90	FILT											
3487	GW00738IT	28-NOV-90	TOT											8400
3487	GW00873IT	15-JAN-91	FILT											
3487	GW01103IT	16-APR-91	TOT	.009714	+/-	.00741		.01	.008058	+/-	.00696		.01	860
3487	GW01103IT	16-APR-91	FILT											
3487	GW01640IT	05-SEP-91	FILT											
3487	GW01640IT	05-SEP-91	TOT											1140
3487	GW02014IT	20-NOV-91	TOT											1100
3487	GW02014IT	20-NOV-91	FILT											
4587	45-87-11-23-87	23-NOV-87	FILT	.00	+/-	.12			0.0	+/-	1.4		6	
4587	45-87-02-25-88	25-FEB-88	FILT	0.00	+/-	0.18		1						
4587	45-87-04-18-88	18-APR-88	FILT	0.00	+/-	0.03		0	0.10	+/-	0.16		0	
4587	45-87-07-21-88	21-JUL-88	FILT	.00	+/-	0.04	V	.01	.00	+/-	0.12	V	.01	
4587	45-87-10-17-88	17-OCT-88	FILT											
4587	45-87-01-23-89	23-JAN-89	FILT											
4587	45-87-04-19-89	19-APR-89	FILT											
4587	G45870689001	13-JUN-89	FILT	0.00	+/-	0.01		.01	0.00	+/-	0.01		.01	
4587	45-87-07-26-89	27-JUL-89	FILT	0.011	+/-	0.006		0	0.019	+/-	0.015		.018	
4587	G45870889002	17-AUG-89	FILT	0.00	+/-	0.01		.01	0.00	+/-	0.01		.01	
4587	G45871089003	20-OCT-89	FILT											
4587	G-4587-0612-02-08	12-JUN-90	TOT	R					.003194	+/-	.005009	A	.005	320
4587	GW00364IT	10-SEP-90	TOT	.002002	+/-	.00329		.01	.002615	+/-	.0062		.01	73
4587	GW00364IT	10-SEP-90	FILT											
4587	GW00592IT	25-OCT-90	TOT	.0004414	+/-	.00187		.01	.004572	+/-	.0053		.01	9
4587	GW00592IT	25-OCT-90	FILT											
4587	GW00931IT	07-MAR-91	TOT	.005253	+/-	.00473		.01	.005898	+/-	.00586		.01	210
4587	GW00931IT	07-MAR-91	FILT											
4587	GW01269IT	14-MAY-91	TOT	.001872	+/-	.00265	V	.000	.001132	+/-	.00311	A	.000	120

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V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Ground-Water Monitoring Wells - Woman Creek Basin - Operable Unit No. 2

Well Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)	Valid. Code	MDA	Am-241 (pCi/l)	Valid. Code	MDA	TSS (mg/l)
4587	GW01269IT	14-MAY-91	FILT							
4587	GW01663IT	16-AUG-91	TOT	-.00117 +/-	.00235	.01	.0009443+/-	.0026	.01	240
4587	GW01663IT	16-AUG-91	FILT							
4587	GW02097IT	11-DEC-91	TOT							65
4587	GW02097IT	11-DEC-91	FILT							
34791	GW02157IT	17-DEC-91	TOT							290
34791	GW02157IT	17-DEC-91	FILT							
34791	GW02447IT	11-FEB-92	FILT							
34791	GW02447IT	11-FEB-92	TOT							59

Notes: U=Analyzed but not detected at or above the detection limit J=Present below detection limit
R=Data rejected during validation process A=Data deemed 'acceptable' during validation process
V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

APPENDIX B

PLUTONIUM AND AMERICIUM ACTIVITIES AND TSS CONCENTRATIONS IN SURFACE WATER IN SOUTH WALNUT CREEK AND WOMAN CREEK DRAINAGE BASINS OPERABLE UNIT 2

APPENDIX B-1

PLUTONIUM AND AMERICIUM ACTIVITIES AND TSS CONCENTRATIONS IN SURFACE WATER IN SOUTH WALNUT CREEK DRAINAGE BASIN

Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW021	SW21088600	19-AUG-86	TOT	0.03	+/-	0.05			0.01	+/-	0.03				
SW021	SW21088600	19-AUG-86	FILT												
SW022	SW70001WC	23-JUL-90	TOT											2800	
SW022	SW70013WC	07-SEP-90	TOT											300	
SW022	SW70028WC	07-NOV-90	TOT											130	
SW022	SW70027WC	08-NOV-90	TOT											920	
SW022	SW60088WC	17-MAY-91	TOT											540	
SW022	SW60098WC	23-MAY-91	TOT											670	
SW022	SW60102WC	03-JUN-91	TOT											2300	
SW022	SW60112WC	11-JUN-91	TOT											2500	
SW022	SW01391WC	23-JUL-91	TOT	.03967	+/-	.0176		.01	.008091	+/-	.00667		.01	57	
SW022	SW60125WC	23-JUL-91	TOT											36	
SW022	SW60140WC	07-AUG-91	TOT											1000	
SW022	SW60148WC	12-AUG-91	TOT											45	
SW022	SW60156WC	19-AUG-91	TOT											393	
SW023	SW23088600	19-AUG-86	TOT	0.03	+/-	0.05			0.00	+/-	0.02				
SW023	SW23088600	19-AUG-86	FILT												
SW023	SW70002WC	23-JUL-90	TOT											1600	
SW023	SW70005WC	24-JUL-90	TOT											120	
SW023	SW00443WC	16-OCT-90	TOT	.001978	+/-	.005817		.009	.04322	+/-	.017114		.009	5	
SW023	SW00443WC	16-OCT-90	FILT												
SW023	SW70029WC	08-NOV-90	TOT											115	
SW023	SW00544WC	16-NOV-90	FILT	.7700	+/-	.2700		.01	.03				.01		
SW023	SW00544WC	16-NOV-90	TOT											4	U
SW023	SW70040WC	19-NOV-90	TOT											62	
SW023	SW00648WC	04-DEC-90	FILT	R				1.0	R				3.5		
SW023	SW00648WC	04-DEC-90	TOT											5	
SW023	SW70045WC	10-DEC-90	TOT											190	
SW023	SW70047WC	19-DEC-90	FILT												
SW023	SW00750WC	14-JAN-91	FILT	.02				.01	.4				.01		
SW023	SW00750WC	14-JAN-91	TOT											4	U
SW023	SW60062WC	22-FEB-91	TOT											36	
SW023	SW00956WC	28-MAR-91	FILT	.01				.01	.03				.01		
SW023	SW00956WC	28-MAR-91	TOT											53	
SW023	SW00956WC *	28-MAR-91	FILT						.07				.01		
SW023	SW60066WC	08-APR-91	TOT												
SW023	SW60068WC	10-APR-91	TOT												
SW023	SW60069WC	15-APR-91	TOT											420	
SW023	SW01058WC	17-APR-91	FILT												
SW023	SW01058WC	17-APR-91	TOT											8	
SW023	SW60090WC	17-MAY-91	TOT											590	
SW023	SW01165WC	20-MAY-91	TOT	.01069	+/-	.00656	A		.008891	+/-	.00658	V		8	
SW023	SW01165WC	20-MAY-91	FILT												
SW023	SW60100WC	23-MAY-91	TOT											290	
SW023	SW60101WC	28-MAY-91	TOT											67	
SW023	SW01268WC	25-JUN-91	TOT	.003866	+/-	.00494		.01	.001574	+/-	.00306		.01	5	U
SW023	SW01371WC	17-JUL-91	TOT	.00367	+/-	.00427		.01	.001189	+/-	.00238		.01	4	U
SW023	SW60124WC	23-JUL-91	TOT											3	
SW023	SW01477WC	06-AUG-91	TOT	.003278	+/-	.00521		.01	.003179	+/-	.00406		.01	5	U
SW023	SW01477WC	06-AUG-91	FILT												
SW023	SW60141WC	07-AUG-91	TOT											1050	
SW023	SW60149WC	12-AUG-91	TOT											72	
SW023	SW01583WC	16-SEP-91	FILT												
SW023	SW01583WC	16-SEP-91	TOT											5	
SW023	SW01689WC	15-OCT-91	TOT											5	
SW023	SW01689WC	15-OCT-91	FILT												
SW024	SW24088600	19-AUG-86	TOT	-0.02	+/-	0.09			0.01	+/-	0.02				
SW024	SW24088600	19-AUG-86	FILT												

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW025	SW25088600	19-AUG-86	TOT	0.05	+/-	0.07			-0.01	+/-	0.05				
SW025	SW25088600	19-AUG-86	FILT												
SW025	SW025001	17-AUG-89	TOT											16	
SW025	SW025001	17-AUG-89	FILT												
SW056	SW-56-07-21-87	21-JUL-87	TOT	0.0	+/-	.89			0.0	+/-	2.0			4	
SW056	SW-56-07-21-87	21-JUL-87	FILT												
SW056	SW88A045	30-JUN-88	TOT	0.170	+/-	0.190		0.1						65	
SW056	SW88A045	30-JUN-88	FILT	0.00	+/-	0.126		0.3							
SW056	SW056001	13-APR-89	TOT	0.20	+/-	0.03			0.10	+/-	0.03			420	
SW056	SW056001	13-APR-89	FILT	0.00	+/-	0.01			-0.02	+/-	0.03				
SW056	SW056002	11-MAY-89	TOT	0.14	+/-	0.02			0.06	+/-	0.02			280	
SW056	SW056002	11-MAY-89	FILT												
SW056	SW056003	07-JUN-89	TOT	2.5	+/-	0.1			0.40	+/-	0.05			150	
SW056	SW056003	07-JUN-89	FILT												
SW056	SW056004	12-JUL-89	TOT	0.05	+/-	0.01		0.	0.05	+/-	0.01		0.01	31	
SW056	SW056005	09-AUG-89	TOT	0.01	+/-	0.01		0.	0.08	+/-	0.02		0.	420	J
SW056	SW056005	09-AUG-89	FILT												
SW056	SW056006	14-SEP-89	TOT	0.009	+/-	0.004			.01	+/-	0.006	V		20	
SW056	SW056006	14-SEP-89	FILT												
SW056	SW056007	18-OCT-89	TOT	0.018	+/-	0.009		0						5	UJ
SW056	SW056008	15-NOV-89	TOT											20	
SW056	SW056008	15-NOV-89	FILT												
SW056	SW056009	19-DEC-89	TOT	0.019	+/-	0.007			0.042	+/-	0.020			56	
SW056	SW056009	19-DEC-89	FILT												
SW056	SW05690001	25-JAN-90	TOT	0.028	+/-	0.010			0.427	+/-	0.048			640	
SW056	SW05690001	25-JAN-90	FILT												
SW056	SW05690002	22-FEB-90	FILT												
SW056	SW05690002	22-FEB-90	TOT											22	U
SW056	SW05690003	21-MAR-90	TOT	.01589	+/-	.007842			.009822	+/-	.008761			5	U
SW056	SW056W041890A	18-APR-90	TOT	0.002	+/-	0.006		0.01	0.002	+/-	0.005		0.01	5	U
SW056	SW056W041890A	18-APR-90	FILT												
SW056	SW056W041890D	18-APR-90	FILT												
SW056	SW056W041890D	18-APR-90	TOT											5	U
SW056	SW056W050890A	08-MAY-90	FILT												
SW056	SW056W050890A	08-MAY-90	TOT											5	U
SW056	SW00048WC	28-JUN-90	TOT	.001817	+/-	.005344			.01314	+/-	.009923				
SW056	SW00048WC	28-JUN-90	FILT												
SW056	SW00198WC	18-JUL-90	TOT	.001076	+/-	.00215		.01	.001216	+/-	.00244		.01		
SW056	SW00198WC	18-JUL-90	FILT												
SW056	SW00214WC	16-AUG-90	TOT	.00158	+/-	.006195			.002518	+/-	.006581			2	
SW056	SW00292WC	11-SEP-90	TOT	.002627	+/-	.005150			.009281	+/-	.007589			4	U
SW056	SW00292WC	11-SEP-90	FILT												
SW056	SW00374WC	09-OCT-90	TOT	.002549	+/-	.004998		.006	.003903	+/-	.007653		.010	4	U
SW056	SW00374WC	09-OCT-90	FILT												
SW056	SW00374WC *	09-OCT-90	FILT												
SW056	SW00579WC	17-DEC-90	FILT	.005				.01	.2				.01		
SW056	SW00579WC	17-DEC-90	TOT											7	
SW056	SW00887WC	26-MAR-91	FILT	.007				.01	.1				.01		
SW056	SW00887WC	26-MAR-91	TOT											5	U
SW056	SW00990WC	24-APR-91	FILT												
SW056	SW00990WC	24-APR-91	TOT											5	U
SW056	SW01097WC	29-MAY-91	TOT	.00389	+/-	.00391	V		.002431	+/-	.00345	V		5	U
SW056	SW01200WC	17-JUN-91	TOT	0	+/-	.00589		.01	-.000841	+/-	.00119		.01	5	U
SW056	SW01200WC	17-JUN-91	FILT												
SW056	SW01303WC	15-JUL-91	TOT	.005823	+/-	.00555		.01	.002845	+/-	.00404		.01		
SW056	SW01409WC	19-AUG-91	FILT												
SW056	SW01409WC	19-AUG-91	TOT											5	U
SW056	SW01621WC	07-OCT-91	FILT												
SW056	SW01621WC	07-OCT-91	TOT											4	U
SW059	SW-59-07-21-87	21-JUL-87	TOT	0.0	+/-	.93			0.03	+/-	1.4			8	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW059	SW-59-07-21-87	21-JUL-87	FILT												
SW059	SW88A053	01-JUL-88	TOT	0.00	+/-	0.219		0.3						178	
SW059	SW88A053	01-JUL-88	FILT	0.0117	+/-	0.0629		0.07							
SW059	SW059001	20-MAR-89	TOT	0.48	+/-	0.04			0.20	+/-	0.13			230	
SW059	SW059001	20-MAR-89	FILT	0.01	+/-	0.01			-0.01	+/-	0.02				
SW059	SW059002	11-MAY-89	TOT	0.9	+/-	0.1			1.3	+/-	0.1			1000	
SW059	SW059002	11-MAY-89	FILT												
SW059	SW059003	08-JUN-89	TOT	0.28	+/-	0.03		0.01	0.29	+/-	0.04		0.01	160	J
SW059	SW059003	08-JUN-89	FILT												
SW059	SW059004	06-JUL-89	TOT	3.1	+/-	0.1			0.00	+/-	0.01			1800	J
SW059	SW059004	06-JUL-89	FILT												
SW059	SW059005	10-AUG-89	TOT	0.01	+/-	0.01		0.01	0.00	+/-	0.01		0.01	5	
SW059	SW059006	18-SEP-89	TOT	0.021	+/-	0.007			0.0	+/-	0.004	V		10	
SW059	SW059006	18-SEP-89	FILT												
SW059	SW059007	03-OCT-89	TOT	0.027	+/-	0.013		0	0.032	+/-	0.019		0	5	U
SW059	SW059007	03-OCT-89	FILT												
SW059	SW059008	06-NOV-89	TOT	0.019	+/-	0.007		0.00	0.008	+/-	0.005			6	
SW059	SW059008	06-NOV-89	FILT												
SW059	SW059009	06-DEC-89	TOT											22	
SW059	SW059009	06-DEC-89	FILT												
SW059	SW05990002	09-FEB-90	TOT	0.088	+/-	0.026								210	
SW059	SW05990002	09-FEB-90	FILT												
SW059	SW05990002 *	09-FEB-90	FILT												
SW059	SW05990003	12-MAR-90	FILT												
SW059	SW05990003	12-MAR-90	TOT											32	
SW059	SW059W042690	26-APR-90	TOT						0.062	+/-	0.018		0.01		
SW059	SW059W052390A	23-MAY-90	TOT	0.018	+/-	0.009		0.01						78	
SW059	SW059W052390A	23-MAY-90	FILT												
SW059	SW00103WC	26-JUN-90	TOT	0.020	+/-	0.008		0.01	0.007	+/-	0.006		0.01	5	U
SW059	SW00103WC	26-JUN-90	FILT												
SW059	SW00186WC	23-JUL-90	TOT	.007456	+/-	.00413		.01	.1167	+/-	.0243		.01	42	
SW059	SW00186WC	23-JUL-90	FILT												
SW059	SW00266WC	22-AUG-90	TOT	.0402	+/-	.019992			.06474	+/-	.039454			8	
SW059	SW00266WC	22-AUG-90	FILT												
SW059	SW00344WC	25-SEP-90	TOT	.06029	+/-	.015352		.008	.051	+/-	.018		.017	4	U
SW059	SW00344WC	25-SEP-90	FILT												
SW059	SW00439WC	16-OCT-90	TOT	.03804	+/-	.013778		.008	.2718	+/-	.033045		.009	1100	
SW059	SW00439WC	16-OCT-90	FILT												
SW059	SW00540WC	26-NOV-90	FILT	2				.01	.2				.01		
SW059	SW00540WC	26-NOV-90	TOT											20	
SW059	SW00644WC	12-DEC-90	FILT	.02				.01	.2				.01		
SW059	SW00644WC	12-DEC-90	TOT											6	
SW059	SW00746WC	09-JAN-91	FILT	.4				.01	.4				.01		
SW059	SW00746WC	09-JAN-91	TOT											89	
SW059	SW00952WC	27-MAR-91	FILT	.009				.01	.1				.01		
SW059	SW00952WC	27-MAR-91	TOT											5	U
SW059	SW00952WC *	27-MAR-91	FILT	.01				.01							
SW059	SW01054WC	11-APR-91	FILT	.0160	+/-	.0100		.01	.1				.01		
SW059	SW01054WC	11-APR-91	TOT											8	
SW059	SW01161WC	08-MAY-91	FILT												
SW059	SW01161WC	08-MAY-91	TOT											12	
SW059	SW01264WC	20-JUN-91	TOT	.04943	+/-	.0181		.01	.05142	+/-	.0148		.01	44	
SW059	SW01473WC	07-AUG-91	TOT	.03842	+/-	.0189		.01	.01467	+/-	.00572		.01	29	
SW059	SW01473WC	07-AUG-91	FILT												
SW059	SW01579WC	17-SEP-91	FILT												
SW059	SW01579WC	17-SEP-91	TOT												
SW059	SW01685WC	21-OCT-91	FILT												
SW059	SW01685WC	21-OCT-91	TOT												
SW060	SW-60-07-21-87	21-JUL-87	TOT	0.0	+/-	1.1			0.0	+/-	1.2			1	
SW060	SW-60-07-21-87	21-JUL-87	FILT												
SW060	SW88A052	01-JUL-88	TOT	0.185	+/-	0.141		0.09						4	U

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Plutonium 239/240, Americjum 241, and TSS Analytical Results for Surface Water
South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW060	SW88A052	01-JUL-88	FILT	0.00	+/-	0.0851		0.2							
SW060	SW060001	16-MAR-89	TOT	0.02	+/-	0.01			0.01	+/-	0.02			6	
SW060	SW060001	16-MAR-89	FILT	0.02	+/-	0.01			0.00	+/-	0.01				
SW060	SW060002	15-MAY-89	TOT	0.04	+/-	0.02			0.00	+/-	0.01			12	J
SW060	SW060002	15-MAY-89	FILT												
SW060	SW060003	09-JUN-89	TOT	0.02	+/-	0.01			0.02	+/-	0.01			17	J
SW060	SW060003	09-JUN-89	FILT												
SW060	SW060004	06-JUL-89	TOT	0.03	+/-	0.02			0.03	+/-	0.02			32	J
SW060	SW060004	06-JUL-89	FILT												
SW060	SW060005	03-AUG-89	TOT	0.00	+/-	0.01		0.01	0.01	+/-	0.01		0.01	16	J
SW060	SW060005	03-AUG-89	FILT												
SW060	SW060006	11-SEP-89	TOT	.008	+/-	.007		.007	.019	+/-	.012	A	.010	5	UJ
SW060	SW060007	03-OCT-89	TOT	0.011	+/-	0.007		0	0.024	+/-	0.010		0	22	
SW060	SW060007	03-OCT-89	FILT												
SW060	SW060008	06-NOV-89	TOT	0.01	+/-	0.004			0.021	+/-	0.021			8	
SW060	SW060008	06-NOV-89	FILT												
SW060	SW060009	06-DEC-89	TOT											5	U
SW060	SW060009	06-DEC-89	FILT												
SW060	SW06090001	23-JAN-90	TOT	0.020	+/-	0.009			0.036	+/-	0.014			440	
SW060	SW06090003	12-MAR-90	FILT												
SW060	SW06090003	12-MAR-90	TOT											14	
SW060	SW060W052390A	23-MAY-90	TOT	0.003	+/-	0.004		0.01	0.048	+/-	0.020		0.01	38	
SW060	SW060W052390A	23-MAY-90	FILT												
SW060	SW00188WC	23-JUL-90	TOT	.002993	+/-	.00349		.01	.01302	+/-	.00599		.01	10	
SW060	SW00188WC	23-JUL-90	FILT												
SW060	SW00267WC	22-AUG-90	TOT	.006318	+/-	.007085			.001733	+/-	.006795			9	
SW060	SW00267WC	22-AUG-90	FILT												
SW060	SW00345WC	26-SEP-90	TOT	.007525	+/-	.005548		.006	.01277	+/-	.007165		.005	4	U
SW060	SW00345WC	26-SEP-90	FILT												
SW060	SW00440WC	16-OCT-90	TOT	.005481	+/-	.008065		.011	.02844	+/-	.007379		.005	16	
SW060	SW00541WC	26-NOV-90	FILT	40				.01	.2				.01		
SW060	SW00541WC	26-NOV-90	TOT											9	
SW060	SW00645WC	07-DEC-90	FILT	R				1.33	R				1.66		
SW060	SW00645WC	07-DEC-90	TOT											22	
SW060	SW00953WC	22-MAR-91	FILT	.01				.01	.005				.01		
SW060	SW00953WC	22-MAR-91	TOT											5	
SW060	SW00953WC *	22-MAR-91	FILT						.2300	+/-	.0500		.01		
SW060	SW01055WC	11-APR-91	FILT	.0100	+/-	.0090		.01	.6300	+/-	.3600		.01		
SW060	SW01055WC	11-APR-91	TOT											88	
SW060	SW01162WC	08-MAY-91	FILT												
SW060	SW01162WC	08-MAY-91	TOT											5	U
SW060	SW01265WC	20-JUN-91	TOT	.02787	+/-	.0155		.01	.04161	+/-	.0163		.01	12	
SW060	SW01368WC	12-JUL-91	TOT	.007536	+/-	.006		.01	0	+/-	.0246		.01		
SW060	SW01474WC	07-AUG-91	TOT	-.000371	+/-	.000743		.01	.003183	+/-	.00524		.01	5	U
SW060	SW01474WC	07-AUG-91	FILT												
SW060	SW01580WC	17-SEP-91	FILT												
SW060	SW01580WC	17-SEP-91	TOT											5	U
SW060	SW01686WC	17-OCT-91	FILT												
SW060	SW01686WC	17-OCT-91	TOT											78	
SW061	SW-61-07-22-87	22-JUL-87	TOT	0.0	+/-	.82			0.0	+/-	1.2			8	
SW061	SW-61-07-22-87	22-JUL-87	FILT												
SW061	SW88A051	01-JUL-88	TOT	0.0654	+/-	0.0795		0.07						5	
SW061	SW88A051	01-JUL-88	FILT	0.108	+/-	0.133		0.1							
SW061	SW061001	20-MAR-89	TOT	0.04	+/-	0.02			0.03	+/-	0.02*			54	
SW061	SW061001	20-MAR-89	FILT	0.01	+/-	0.01			0.00	+/-	0.02*				
SW061	SW061002	15-MAY-89	TOT	0.01	+/-	0.01			0.01	+/-	0.01			18	
SW061	SW061002	15-MAY-89	FILT												
SW061	SW061003	09-JUN-89	TOT	0.05	+/-	0.01			0.05	+/-	0.03			15	J
SW061	SW061003	09-JUN-89	FILT												
SW061	SW061004	06-JUL-89	TOT	0.02	+/-	0.01			0.01	+/-	0.01			11	J
SW061	SW061004	06-JUL-89	FILT												

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South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SWB2	SWB20202002	17-AUG-89	TOT	.02	+/-	.01		.01	.05	+/-	.02		.01	5	U
SWB2	SWB20202002	17-AUG-89	FILT												
SWB2	SWB20205002	17-AUG-89	TOT	.04	+/-	.02		.01	.00	+/-	.02		.01	24	
SWB2	SWB20205002	17-AUG-89	FILT												
SWB2	SWB20303002	17-AUG-89	TOT	.50	+/-	.04		.01	.23	+/-	.03		.01	34	
SWB2	SWB20303002	17-AUG-89	FILT												
SWB2	NP50333WC	24-APR-91	FILT	.01411	+/-	.007930	V	.008	.009524	+/-	.010693	A	.013		
SWB2	NP50333WC	24-APR-91	TOT	.03612	+/-	.008518	V	.005	.006235	+/-	.009788	A	.013	6	
SWB2	NP50354WC	15-MAY-91	FILT	.01836	+/-	.010897		.009	.007263	+/-	.006342		.004		
SWB2	NP50354WC	15-MAY-91	TOT	.05046	+/-	.013690		.004	.01423	+/-	.007026		.004	8	
SWB2	NP50383WC	06-JUN-91	FILT	.003	+/-	.005	V	.006	.001	+/-	.003	A	.006		
SWB2	NP50383WC	06-JUN-91	TOT	.014	+/-	.008	V	.007	.005	+/-	.005	A	.004	14	
SWB2	NP50413WC	11-JUL-91	FILT	.004	+/-	.004		.003	.004	+/-	.003		.002		
SWB2	NP50413WC	11-JUL-91	TOT	.012	+/-	.009		.005	.045	+/-	.014		.005		
SWB2	NP50439WC	19-AUG-91	FILT	.009	+/-	.006		.003	.006	+/-	.004		.005		
SWB2	NP50439WC	19-AUG-91	TOT	.028	+/-	.011		.007	.011	+/-	.008		.007	5	U
SWB2	NP50462WC	11-SEP-91	FILT												
SWB2	NP50462WC	11-SEP-91	TOT												
SWB2	NP50483WC	03-OCT-91	FILT												
SWB2	NP50483WC	03-OCT-91	TOT											18	
SWB3	SWB3088600	15-AUG-86	TOT	.08	+/-	.08			-0.01	+/-	.04				
SWB3	SWB3088600	15-AUG-86	FILT												
SWB3	SWB30101	06-JUL-89	TOT	.09	+/-	.02			.04	+/-	.02			8	
SWB3	SWB30101	06-JUL-89	FILT												
SWB3	SWB30202	06-JUL-89	TOT	.11	+/-	.03			.03	+/-	.02			9	
SWB3	SWB30202	06-JUL-89	FILT												
SWB3	SWB30301	06-JUL-89	TOT	.15	+/-	.03			.05	+/-	.01			9	
SWB3	SWB30301	06-JUL-89	FILT												
SWB3	SWB30102	07-JUL-89	TOT	.09	+/-	.02			.04	+/-	.01			10	
SWB3	SWB30102	07-JUL-89	FILT												
SWB3	SWB30102002	16-AUG-89	TOT	.07	+/-	.02		.01	.04	+/-	.01		.01	14	
SWB3	SWB30202002	16-AUG-89	TOT	.05	+/-	.02		.01	.02	+/-	.01		.01	14	
SWB3	SWB30301002	16-AUG-89	TOT	.04	+/-	.01		.01	.02	+/-	.01		.01	18	
SWB3	SWB30301002	16-AUG-89	FILT												
SWB3	NP50332WC	23-APR-91	FILT	.01258	+/-	.007279	V	.008	.01969	+/-	.022167	A	.026		
SWB3	NP50332WC	23-APR-91	TOT	.03994	+/-	.013228	V	.009	.02945	+/-	.015382	A	.010	5	U
SWB3	NP50353WC	15-MAY-91	FILT	.002038	+/-	.002001		.005	.009837	+/-	.006454		.004		
SWB3	NP50353WC	15-MAY-91	TOT	.01236	+/-	.006493		.004	.006485	+/-	.005660		.003	5	U
SWB3	NP50386WC	12-JUN-91	FILT	-0.001	+/-	.004	V	.006	.004	+/-	.005	A	.005		
SWB3	NP50386WC	12-JUN-91	TOT	.008	+/-	.007	V	.008	.014	+/-	.009	A	.006		
SWB3	NP50414WC	11-JUL-91	FILT	.002	+/-	.003		.003	.005	+/-	.004		.003		
SWB3	NP50414WC	11-JUL-91	TOT	.015	+/-	.006		.003	.023	+/-	.009		.004		
SWB3	NP50440WC	19-AUG-91	FILT	.028	+/-	.017		.010	.003	+/-	.007		.007		
SWB3	NP50440WC	19-AUG-91	TOT	.062	+/-	.015		.004	.062	+/-	.018		.009	5	
SWB3	NP50461WC	11-SEP-91	FILT												
SWB3	NP50461WC	11-SEP-91	TOT												
SWB4	SWB4088600	15-AUG-86	TOT	.01	+/-	.04			-0.02	+/-	.04				
SWB4	SWB4088600	15-AUG-86	FILT												
SWB4	SWB40102	29-JUN-89	TOT	.01	+/-	.01			.02	+/-	.01			5	U
SWB4	SWB40102	29-JUN-89	FILT												
SWB4	SWB40201	30-JUN-89	TOT	.01	+/-	.01			.01	+/-	.01			5	U
SWB4	SWB40201	30-JUN-89	FILT												
SWB4	SWB40301	30-JUN-89	TOT	.01	+/-	.01			.02	+/-	.01			6	
SWB4	SWB40301	30-JUN-89	FILT												
SWB4	SWB40101002	15-AUG-89	TOT	.01	+/-	.01		.01	.00	+/-	.01		.01	24	
SWB4	SWB40101002	15-AUG-89	FILT												
SWB4	SWB40201002	15-AUG-89	TOT	.00	+/-	.01		.01	.01	+/-	.01		.01	14	
SWB4	SWB40201002	15-AUG-89	FILT												
SWB4	SWB40301002	15-AUG-89	TOT	.00	+/-	.01		.01	.01	+/-	.01		.01	18	
SWB4	SWB40301002	15-AUG-89	FILT												

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Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SWB4	NP50331WC	23-APR-91	FILT	.01224	+/-	.009627	V	.008	.01007	+/-	.008798	A	.012		
SWB4	NP50331WC	23-APR-91	TOT	.009225	+/-	.008234	V	.010	.01075	+/-	.014076	A	.017	5	U
SWB4	NP50352WC	14-MAY-91	FILT	.008017	+/-	.005911		.005	.001189	+/-	.002330		.003		
SWB4	NP50352WC	14-MAY-91	TOT	.02153	+/-	.010127		.005	.02128	+/-	.007902		.003	19	
SWB4	NP50390WC	12-JUN-91	FILT	-0.001	+/-	.003	V	.005	.004	+/-	.003	A	.003		
SWB4	NP50390WC	12-JUN-91	TOT	.006	+/-	.006	V	.006	.022	+/-	.008	A	.002		
SWB4	NP50441WC	19-AUG-91	FILT	.009	+/-	.006		.005	.006	+/-	.006		.004		
SWB4	NP50441WC	19-AUG-91	TOT	.023	+/-	.012		.010	.028	+/-	.012		.006	11	
SWB4	NP50460WC	11-SEP-91	FILT												
SWB4	NP50460WC	11-SEP-91	TOT												
SWB4	NP50487WC	08-OCT-91	FILT												
SWB4	NP50487WC	08-OCT-91	TOT											7	
SWB5	SWB5088600	18-AUG-86	TOT	.00	+/-	.04			-0.02	+/-	.04				
SWB5	SWB5088600	18-AUG-86	FILT												
SWB5	SWB50402	22-JUN-89	TOT	.00	+/-	.14			.00	+/-	.02			10	
SWB5	SWB50402	22-JUN-89	FILT												
SWB5	SWB50407	23-JUN-89	TOT	.00	+/-	.14			.00	+/-	.02			10	
SWB5	SWB50407	23-JUN-89	FILT												
SWB5	SWB50409	26-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			18	
SWB5	SWB50409	26-JUN-89	FILT												
SWB5	SWB50502	26-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			12	
SWB5	SWB50502	26-JUN-89	FILT												
SWB5	SWB50507	26-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			12	
SWB5	SWB50507	26-JUN-89	FILT												
SWB5	SWB50512	26-JUN-89	TOT	.01	+/-	.01			.00	+/-	.02			12	
SWB5	SWB50512	26-JUN-89	FILT												
SWB5	SWB50204	27-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			5	
SWB5	SWB50204	27-JUN-89	FILT												
SWB5	SWB50207	27-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			5	U
SWB5	SWB50207	27-JUN-89	FILT												
SWB5	SWB50220	27-JUN-89	TOT	.00	+/-	.02			-0.01	+/-	.02			14	
SWB5	SWB50220	27-JUN-89	FILT												
SWB5	SWB50602	28-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			5	
SWB5	SWB50602	28-JUN-89	FILT												
SWB5	SWB50606	28-JUN-89	TOT	.01	+/-	.01			.00	+/-	.02			7	
SWB5	SWB50606	28-JUN-89	FILT												
SWB5	SWB50702	28-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			5	U
SWB5	SWB50702	28-JUN-89	FILT												
SWB5	SWB50707	28-JUN-89	TOT	.00	+/-	.01			.00	+/-	.02			5	U
SWB5	SWB50707	28-JUN-89	FILT												
SWB5	SWB50802002	31-JUL-89	TOT											16	
SWB5	SWB50802002	31-JUL-89	FILT												
SWB5	SWB50805002	31-JUL-89	TOT	.01	+/-	.01		.01	.00	+/-	.01		.01	12	
SWB5	SWB50805002	31-JUL-89	FILT												
SWB5	SWB50808002	01-AUG-89	TOT											5	U
SWB5	SWB50808002	01-AUG-89	FILT												
SWB5	SWB50208002	10-AUG-89	TOT	.00	+/-	.01		.01	.00	+/-	.01		.01	10	
SWB5	SWB50208002	10-AUG-89	FILT												
SWB5	SWB50217002	10-AUG-89	TOT	.01	+/-	.01		.01	.00	+/-	.01		.01	14	
SWB5	SWB50217002	10-AUG-89	FILT												
SWB5	SWB50504002	10-AUG-89	TOT	.00	+/-	.01		.01	.00	+/-	.01		.01	5	U
SWB5	SWB50504002	10-AUG-89	FILT												
SWB5	SWB50511002	10-AUG-89	TOT	.00	+/-	.01		.01	.00	+/-	.01		.01	5	U
SWB5	SWB50511002	10-AUG-89	FILT												
SWB5	SWB50403002	11-AUG-89	TOT	.00	+/-	.01			.00	+/-	.02			5	U
SWB5	SWB50403002	11-AUG-89	FILT												
SWB5	SWB50408002	11-AUG-89	TOT	.00	+/-	.01			.01	+/-	.02			5	U
SWB5	SWB50408002	11-AUG-89	FILT												
SWB5	SWB50606002	14-AUG-89	TOT	.00	+/-	.01		.	.00	+/-	.01		.01	12	
SWB5	SWB50606002	14-AUG-89	FILT												
SWB5	SWB50704002	14-AUG-89	TOT	.00	+/-	.01		.	.00	+/-	.01		.01	17	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
SWB5	SWB50704002	14-AUG-89	FILT											
SWB5	SWB50710002	14-AUG-89	TOT	.00	+/-	.01		.	.00	+/-	.01		.01	44
SWB5	SWB50710002	14-AUG-89	FILT											
SWB5	B50390CDH	11-MAR-90	TOT											
SWB5	FEB50321	21-MAR-90	TOT	.002	+/-	.003								
SWB5	FEB50321	21-MAR-90	FILT											
SWB5	SWB5G0323	23-MAR-90	TOT	.016	+/-	.007								
SWB5	B5033090M	30-MAR-90	FILT											
SWB5	B5033090M	30-MAR-90	TOT											40
SWB5	FEB5033090M	30-MAR-90	FILT											
SWB5	FEB5033090M	30-MAR-90	TOT											20
SWB5	FEB5051590CDHW	15-MAY-90	FILT											
SWB5	FEB5051590CDHWD	15-MAY-90	FILT											
SWB5	SW00074WC	14-JUN-90	FILT	.006092	+/-	.005129		.006	.001814	+/-	.005333		.006	
SWB5	SW00083WC	19-JUN-90	FILT	.005466	+/-	.005364		.006	.01344	+/-	.010993		.013	
SWB5	SW00501WC	06-JUL-90	FILT	-.002909	+/-	.005703		.011	.001624	+/-	.004774		.005	
SWB5	SW50014WC	18-JUL-90	TOT	-.001057	+/-	.006213		.010	.004639	+/-	.005458		.004	
SWB5	SW50023WC	25-JUL-90	TOT	.0009121	+/-	.00251		.01	0	+/-	.00577		.01	
SWB5	SW50032WC	01-AUG-90	FILT	.005434	+/-	.007107		.009	.009413	+/-	.007922		.006	
SWB5	SW50032WC	01-AUG-90	TOT	.005165	+/-	.005789		.008	.006916	+/-	.009043		.009	
SWB5	SW50060WC	07-AUG-90	FILT	.001022	+/-	.006011		.008	.0006156	+/-	.006032		.008	
SWB5	SW50083WC	14-AUG-90	FILT	.006347	+/-	.007475		.006	.0	+/-	.003637		.004	
SWB5	SW50106WC	21-AUG-90	FILT	-.001	+/-	.007		.013	.0	+/-	.009023		.012	
SWB5	NP50132WC	29-AUG-90	TOT	.007257	+/-	.007125		.009	-.0132	+/-	.0173		.004	13
SWB5	NP50132WC	29-AUG-90	FILT											
SWB5	NP50150WC	04-SEP-90	FILT	.007701	+/-	.007559		.009	-.002241	+/-	.006587		.012	
SWB5	NP50153WC	10-SEP-90	FILT	.005212	+/-	.005842		.006	.04273	+/-	.01990		.011	
SWB5	NP50161WC	18-SEP-90	FILT	.002683	+/-	.007012		.010	.001434	+/-	.004216		.003	
SWB5	NP50171WC	26-SEP-90	FILT	-.001124	+/-	.006611		.012	-.002098	+/-	.004114		.007	
SWB5	NP50171WC	26-SEP-90	TOT	.002311	+/-	.004533		.008	.001229	+/-	.004817		.006	16
SWB5	NP50183WC	01-OCT-90	FILT	.0	+/-	.003384		.007	.001632	+/-	.006397		.010	
SWB5	NP50196WC	10-OCT-90	FILT	.003756	+/-	.004421		.005	.002131	+/-	.006961		.009	
SWB5	NP50203WC	18-OCT-90	FILT	.005398	+/-	.005303		.006	.006602	+/-	.005554		.004	
SWB5	NP50206WC	23-OCT-90	FILT	.005016	+/-	.005625		.006	.01645	+/-	.013469		.017	
SWB5	NP50206WC	23-OCT-90	TOT	.003545	+/-	.008688		.013	.02395	+/-	.014735		.012	36
SWB5	NP50216WC	30-OCT-90	FILT	.01375	+/-	.010827		.013	.01004	+/-	.006070		.004	
SWB5	NP50227WC	07-NOV-90	TOT	.01545	+/-	.011064		.013	.002367	+/-	.004641		.006	16
SWB5	NP50227WC	07-NOV-90	FILT											
SWB5	NP50236WC	12-NOV-90	FILT											
SWB5	NP50236WC	12-NOV-90	TOT											13
SWB5	NP50248WC	19-NOV-90	FILT											
SWB5	NP50259WC	26-NOV-90	FILT											
SWB5	NP50267WC	04-DEC-90	FILT	.005684	+/-	.004784		.005	.02578	+/-	.013371		.006	
SWB5	NP50267WC	04-DEC-90	TOT	.001332	+/-	.003916		.005	.004287	+/-	.008406		.012	16
SWB5	NP50271WC	10-DEC-90	FILT	.007587	+/-	.003735		.003	-.002174	+/-	.010654		.019	
SWB5	NP50274WC	17-DEC-90	TOT											2
SWB5	NP50277WC	04-JAN-91	FILT											
SWB5	NP50280WC	07-JAN-91	FILT											
SWB5	NP50283WC	14-JAN-91	FILT											
SWB5	NP50283WC	14-JAN-91	TOT											7
SWB5	NP50307WC	18-MAR-91	FILT	.01111	+/-	.007283		.007	.006157	+/-	.008049		.008	
SWB5	NP50307WC	18-MAR-91	TOT	.01291	+/-	.010160		.010	.02628	+/-	.010979		.006	42
SWB5	NP50310WC	25-MAR-91	FILT	.006639	+/-	.005215		.005	.01127	+/-	.009831		.008	
SWB5	NP50319WC	08-APR-91	FILT											
SWB5	NP50323WC	16-APR-91	FILT											
SWB5	NP50323WC	16-APR-91	TOT											32
SWB5	NP50328WC	22-APR-91	FILT	.004646	+/-	.007291V		.011	-.000904	+/-	.005315A		.009	
SWB5	NP50328WC	22-APR-91	TOT											17
SWB5	NP50340WC	29-APR-91	FILT	.004973	+/-	.004880V		.007	.001368	+/-	.005360V		.009	
SWB5	NP50340WC	29-APR-91	TOT											13
SWB5	NP50344WC	06-MAY-91	TOT	.00798	+/-	.004827V		.004	.0	+/-	.006040V		.008	
SWB5	NP50349WC	13-MAY-91	FILT	.006418	+/-	.004729		.005	.001451	+/-	.002844		.003	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
South Walnut Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
SWB5	NP50360WC	21-MAY-91	FILT	.00155	+/-	.001521	V	.004	-.00302	+/-	.005925	A	.010	
SWB5	NP50360WC	21-MAY-91	TOT	.01743	+/-	.008104	V	.005	.02431	+/-	.013369	A	.006	34
SWB5	NP50366WC	28-MAY-91	FILT	.009	+/-	.007	V	.000						
SWB5	NP50375WC	03-JUN-91	FILT	.004	+/-	.004	A	.005	.019	+/-	.015	A	.017	
SWB5	NP50385WC	13-JUN-91	FILT	.003	+/-	.002	V	.002	.003	+/-	.004	A	.005	
SWB5	NP50391WC	13-JUN-91	FILT	.003	+/-	.003	V	.003	.003	+/-	.006	A	.007	
SWB5	NP50392WC	13-JUN-91	FILT	.001	+/-	.001	V	.003	-0.003	+/-	.006	A	.010	
SWB5	NP50393WC	17-JUN-91	FILT	.002	+/-	.008	V	.012	.006	+/-	.005	A	.003	
SWB5	NP50393WC	17-JUN-91	TOT	.002	+/-	.002	V	.002	.004	+/-	.004	A	.003	10
SWB5	NP50399WC	24-JUN-91	TOT	.002	+/-	.003		.003	.004	+/-	.004		.004	48
SWB5	NP50399WC	24-JUN-91	FILT											
SWB5	NP50404WC	01-JUL-91	FILT	.002	+/-	.002		.003	.002	+/-	.002		.003	
SWB5	NP50404WC	01-JUL-91	TOT											32
SWB5	NP50403WC	10-JUL-91	FILT	.003	+/-	.005		.005	.005	+/-	.004		.003	
SWB5	NP50420WC	16-JUL-91	FILT											
SWB5	NP50423WC	22-JUL-91	FILT											
SWB5	NP50426WC	30-JUL-91	FILT											
SWB5	NP50429WC	05-AUG-91	FILT											
SWB5	NP50435WC	13-AUG-91	FILT	.001	+/-	.008		.013	0	+/-	.007		.010	
SWB5	NP50443WC	20-AUG-91	FILT	.001	+/-	.002		.004	.004	+/-	.006		.008	
SWB5	NP50443WC	20-AUG-91	TOT	.001	+/-	.007		.010	.001	+/-	.007		.011	3
SWB5	NP50447WC	26-AUG-91	FILT	.003	+/-	.004		.005	.019	+/-	.015		.014	
SWB5	NP50451WC	03-SEP-91	FILT											
SWB5	NP50468WC	16-SEP-91	FILT											
SWB5	NP50474WC	30-SEP-91	FILT											
SWB5	NP50485WC	07-OCT-91	FILT											
SWB5	NP50491WC	14-OCT-91	FILT											
SWB5	NP50511WC	20-NOV-91	FILT											
SWB5	NP50511WC	20-NOV-91	TOT											
SWB5	NP50534WC	18-DEC-91	TOT											
SWB5	NP50554WC	20-FEB-92	FILT											
SWB5BG	SW50004WC	10-JUL-90	TOT	.006835	+/-	.013406		.018	.00637	+/-	.007140		.006	
SWB5BG	SW50045WC	03-AUG-90	TOT	.007943	+/-	.007798		.009	-.008	+/-	.009		.012	7
SWB5BG	SW50072WC	10-AUG-90	TOT	-.002239	+/-	.004390		.009	-.001733	+/-	.003398		.005	4
SWB5BG	SW50088WC	14-AUG-90	TOT	.007631	+/-	.011979		.014	.00324	+/-	.004764		.004	2
SWB5BG	SW50114WC	22-AUG-90	TOT	.004	+/-	.004		.005	-.006447	+/-	.004219		.009	5
SWB5BG	NP50149WC	04-SEP-90	TOT	.001291	+/-	.005061		.008	.006522	+/-	.008528		.009	
SWB5BG	NP50149WC	04-SEP-90	FILT											

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R=Data rejected during validation process A=Data deemed 'acceptable' during validation process
V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

APPENDIX B-2

PLUTONIUM AND AMERICIUM ACTIVITIES AND TSS CONCENTRATIONS IN SURFACE WATER IN WOMAN CREEK DRAINAGE BASIN

Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW026	SW026001	21-MAR-89	TOT	0.01	+/-	0.01			0.00	+/-	0.02			5	U
SW026	SW026001	21-MAR-89	FILT	0.01	+/-	0.01			0.00	+/-	0.02				
SW026	SW026002	12-MAY-89	TOT	0.00	+/-	0.01			0.01	+/-	0.01			10	
SW026	SW026002	12-MAY-89	FILT												
SW026	SW026003	15-JUN-89	TOT	0.01	+/-	0.01			0.00	+/-	0.01			5	U
SW026	SW026003	15-JUN-89	FILT												
SW026	SW026006	15-SEP-89	TOT	0.015	+/-	0.013		0.01	-0.001	+/-	0.007			44	
SW026	SW026006	15-SEP-89	FILT												
SW026	SW026007	11-OCT-89	TOT	0.010	+/-	0.007		0						5	U
SW026	SW026007	11-OCT-89	FILT												
SW026	SW026008	08-NOV-89	TOT	0.004	+/-	0.007								5	U
SW026	SW026008	08-NOV-89	FILT												
SW026	SW026009	12-DEC-89	TOT											8	
SW026	SW026009	12-DEC-89	FILT												
SW026	SW02690001	18-JAN-90	TOT	.007	+/-	0.005			0.009	+/-	0.006			5	U
SW026	SW02690001	18-JAN-90	FILT												
SW026	SW02690002	21-FEB-90	FILT												
SW026	SW02690002	21-FEB-90	TOT											8.3	
SW026	SW02690003	26-MAR-90	TOT						0.007	+/-	0.010		0.01	5	U
SW026	SW02690003	26-MAR-90	FILT												
SW026	SW026W050990A	09-MAY-90	FILT												
SW026	SW026W050990A	09-MAY-90	TOT												
SW026	SW00056WC	07-JUN-90	TOT	0.004	+/-	0.006		0.01	0.001	+/-	0.004		0.01		
SW026	SW00056WC	07-JUN-90	FILT												
SW026	SW00140WC	10-JUL-90	TOT	0	+/-	.00281		.01	.003507	+/-	.00423		.01		
SW026	SW00140WC	10-JUL-90	FILT												
SW026	SW00231WC	09-AUG-90	TOT	.007558	+/-	.005572			.01212	+/-	.011897			4	U
SW026	SW00231WC	09-AUG-90	FILT												
SW026	SW00309WC	06-SEP-90	TOT	.009736	+/-	.008504			-.006471	+/-	.005084			4	U
SW026	SW00309WC	06-SEP-90	FILT												
SW026	SW00400WC	04-OCT-90	TOT	.004591	+/-	.006754		.011	.004282	+/-	.005597		.005	4	U
SW026	SW00400WC	04-OCT-90	FILT												
SW026	SW00562WC	08-NOV-90	FILT	.3				.01	.03				.01		
SW026	SW00562WC	08-NOV-90	TOT											4	U
SW026	SW00605WC	05-DEC-90	FILT	R				.65	R				.19		
SW026	SW00605WC	05-DEC-90	TOT											1	U
SW026	SW00913WC	08-MAR-91	FILT	.0400	+/-	.0380		.01	15.00	+/-	7.000		.01		
SW026	SW00913WC	08-MAR-91	TOT											6	
SW026	SW01015WC	15-APR-91	FILT	.01				.01	.0060	+/-	.0044		.01		
SW026	SW01015WC	15-APR-91	TOT											5	U
SW026	SW01122WC	15-MAY-91	FILT												
SW026	SW01122WC	15-MAY-91	TOT											7	
SW026	SW01225WC	11-JUN-91	TOT	.007081	+/-	.00583		.01	.002676	+/-	.0044		.01	9	
SW026	SW01225WC	11-JUN-91	FILT												
SW026	SW01328WC	12-JUL-91	TOT	.007172	+/-	.00726		.01	.004001	+/-	.00464		.01		
SW026	SW01434WC	08-AUG-91	TOT	.001168	+/-	.00496		.01	.004958	+/-	.00303		.01	17	
SW026	SW01434WC	08-AUG-91	FILT												
SW026	SW01646WC	14-OCT-91	TOT											5	U
SW026	SW01646WC	14-OCT-91	FILT												
SW026	SW01719WC	12-NOV-91	TOT	-0.001	+/-	0.004		0.01	0.007	+/-	0.006		0.01		
SW026	SW01792WC	09-JAN-92	TOT	0.002	+/-	0.004									
SW027	SW27088600	21-AUG-86	TOT	0.10	+/-	0.20			0.10	+/-	0.12				
SW027	SW27088600	21-AUG-86	FILT												
SW027	SW-27-07-22-87	22-JUL-87	TOT	0.0	+/-	1.0			0.0	+/-	1.6			1	
SW027	SW-27-07-22-87	22-JUL-87	FILT												
SW027	SW88A066	07-JUL-88	TOT	0.00	+/-	0.207		0.4						61	
SW027	SW88A066	07-JUL-88	FILT	0.00	+/-	0.0390		0.09							
SW027	SW027001	21-MAR-89	TOT	0.02	+/-	0.02			0.01	+/-	0.01			10	
SW027	SW027001	21-MAR-89	FILT	0.01	+/-	0.01			0.00	+/-	0.02				
SW027	SW027002	18-MAY-89	TOT											66	
SW027	SW027002	18-MAY-89	FILT												

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V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW027	SW027003	22-JUN-89	TOT	0.82	+/-	0.05		0.	0.14	+/-	0.02		0.01	54	
SW027	SW027003	22-JUN-89	FILT												
SW027	SW027004	17-JUL-89	TOT											55.	J
SW027	SW027004	17-JUL-89	FILT												
SW027	SW027005	11-AUG-89	TOT	0.04	+/-	0.01		0.01	0.01	+/-	0.01		0.01	12	
SW027	SW027006	15-SEP-89	TOT	0.04	+/-	0.01			.4	+/-	0.02	V		5	U
SW027	SW027007	11-OCT-89	TOT											12	
SW027	SW027007	11-OCT-89	FILT												
SW027	SW027008	08-NOV-89	TOT	0.014	+/-	0.009			0.015	+/-	0.022			5	U
SW027	SW027008	08-NOV-89	FILT												
SW027	SW027009	15-DEC-89	TOT											12	
SW027	SW027009	15-DEC-89	FILT												
SW027	SW02790001	29-JAN-90	TOT						0.288	+/-	0.005				
SW027	SW02790001	29-JAN-90	FILT												
SW027	SW02790002	12-FEB-90	TOT	0.075	+/-	0.017			0.218	+/-	0.041			180	
SW027	SW02790002	12-FEB-90	FILT												
SW027	SW027W051490A	14-MAY-90	FILT												
SW027	SW027W051490A	14-MAY-90	TOT											68	
SW027	SW00009WC	11-JUN-90	TOT	0.317	+/-	0.046		0.01						82	
SW027	SW00009WC	11-JUN-90	FILT												
SW027	SW00139WC	18-JUL-90	TOT	.006982	+/-	.00463		.01	.06159	+/-	.0222		.01	79	
SW027	SW00139WC	18-JUL-90	FILT												
SW027	SW00316WC	12-SEP-90	TOT	.03049	+/-	.010386			.06256	+/-	.015131			52	
SW027	SW00316WC	12-SEP-90	FILT												
SW027	SW00508WC	13-NOV-90	FILT	.03				.01	.01				.01		
SW027	SW00508WC	13-NOV-90	TOT											12	
SW027	SW70042WC	19-NOV-90	TOT											14	
SW027	SW00612WC	06-DEC-90	FILT	.223	+/-	.438	QJA	.52	R				.11		
SW027	SW00612WC	06-DEC-90	TOT											27	
SW027	SW00920WC	12-MAR-91	FILT	.01				.01	.02				.01		
SW027	SW00920WC	12-MAR-91	TOT												
SW027	SW01022WC	15-APR-91	FILT	.008				.01	.6800	+/-	.2900		.01		
SW027	SW01022WC	15-APR-91	TOT											5	U
SW027	SW027W042390	23-APR-91	TOT	0.024	+/-	0.009		0.01	0.009	+/-	0.008		0.01		
SW027	SW60091WC	17-MAY-91	TOT											100	
SW027	SW60097WC	23-MAY-91	TOT											13	
SW027	SW60104WC	03-JUN-91	TOT											180	
SW027	SW60109WC	11-JUN-91	TOT											500	
SW027	SW01441WC	08-AUG-91	TOT	.09919	+/-	.0229		.01	.01662	+/-	.011		.01	21	
SW027	SW01441WC	08-AUG-91	FILT												
SW027	SW60151WC	12-AUG-91	TOT											97	
SW027	SW01653WC	03-OCT-91	FILT												
SW027	SW01653WC	03-OCT-91	TOT											40	
SW028	SW28088600	21-AUG-86	TOT	-0.04	+/-	0.08			0.00	+/-	0.04				
SW028	SW28088600	21-AUG-86	FILT												
SW028	SW-28-07-22-87	22-JUL-87	TOT	0.1	+/-	1.2			0.0	+/-	4.1			8	
SW028	SW-28-07-22-87	22-JUL-87	FILT												
SW028	SW88A061	06-JUL-88	TOT	0.240	+/-	0.101		0.04						22	
SW028	SW88A061	06-JUL-88	FILT	0.00	+/-	0.0553		0.07							
SW028	SW028001	28-MAR-89	TOT	0.01	+/-	0.02			0.00	+/-	0.04			8	
SW028	SW028001	28-MAR-89	FILT	0.02	+/-	0.01			0.00	+/-	0.01				
SW028	SW028002	23-MAY-89	TOT	0.00	+/-	0.01			-0.01	+/-	0.02			8	J
SW028	SW028002	23-MAY-89	FILT												
SW028	SW028003	22-JUN-89	TOT	0.01	+/-	0.01		0.	0.00	+/-	0.01		0.01	14	
SW028	SW028003	22-JUN-89	FILT												
SW028	SW028006	15-SEP-89	TOT	0.009	+/-	0.009		0.01	.03	+/-	0.02	V	0.01	5	U
SW028	SW028006	15-SEP-89	FILT												
SW028	SW028007	12-OCT-89	TOT	0.001	+/-	0.007								5	U
SW028	SW028007	12-OCT-89	FILT												
SW028	SW028008	08-NOV-89	TOT	0.012	+/-	0.006								5	U
SW028	SW028008	08-NOV-89	FILT												

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW028	SW028009	15-DEC-89	TOT											5	U
SW028	SW028009	15-DEC-89	FILT												
SW028	SW02890001	18-JAN-90	TOT	0.009	+/-	0.007			0.212	+/-	0.032			5	U
SW028	SW02890001	18-JAN-90	FILT												
SW028	SW02890002	23-FEB-90	FILT												
SW028	SW02890002	23-FEB-90	TOT											5	U
SW028	SW028W050990A	09-MAY-90	FILT												
SW028	SW028W050990A	09-MAY-90	TOT											26	
SW028	SW00135WC	17-JUL-90	TOT	0	+/-	.00285		.01	.005002	+/-	.00592		.01		
SW028	SW00232WC	09-AUG-90	TOT	-.001944	+/-	.005717			.01825	+/-	.013055			4	U
SW028	SW00232WC	09-AUG-90	FILT												
SW028	SW00310WC	12-SEP-90	TOT	.001132	+/-	.006656			-.001228	+/-	.007222			4	U
SW028	SW00310WC	12-SEP-90	FILT												
SW028	SW00401WC	04-OCT-90	TOT	.1608	+/-	.025578		.009	.037	+/-	.016207		.016	4	U
SW028	SW00401WC	04-OCT-90	FILT												
SW028	SW00502WC	14-NOV-90	FILT	.3				.01	.2				.01		
SW028	SW00502WC	14-NOV-90	TOT											2	
SW028	SW00606WC	04-DEC-90	FILT	.9				.01	.01				.01		
SW028	SW00606WC	04-DEC-90	TOT											12	
SW028	SW00914WC	08-MAR-91	FILT	.02				.01	.0160	+/-	.0130		.01		
SW028	SW00914WC	08-MAR-91	TOT											5	
SW028	SW01016WC	03-APR-91	FILT	.01				.01	.007				.01		
SW028	SW01016WC	03-APR-91	TOT											5	
SW028	SW01016WC *	03-APR-91	FILT						.0280	+/-	.0130		.01		
SW028	SW01123WC	08-MAY-91	FILT												
SW028	SW01123WC	08-MAY-91	TOT											9	
SW028	SW01226WC	12-JUN-91	TOT	.003812	+/-	.00412	V		.0005873	+/-	.00249	A		10	
SW028	SW01226WC	12-JUN-91	FILT												
SW028	SW01329WC	11-JUL-91	TOT	.002519	+/-	.00505		.01	.005668	+/-	.0057		.01	5	U
SW028	SW01435WC	06-AUG-91	TOT	.004288	+/-	.00497		.01	.001988	+/-	.00327		.01	5	U
SW028	SW01435WC	06-AUG-91	FILT												
SW028	SW01541WC	26-SEP-91	FILT												
SW028	SW01541WC	26-SEP-91	TOT											8	
SW028	SW01647WC	09-OCT-91	TOT												
SW028	SW01647WC	09-OCT-91	FILT												
SW029	SW-29-05-26-87	26-MAY-87	TOT	0.0	+/-	.74			0.0	+/-	1.3			10	
SW029	SW-29-05-26-87	26-MAY-87	FILT												
SW029	SW88A019	23-JUN-88	TOT	0.315	+/-	0.115		0.09						13	
SW029	SW88A019	23-JUN-88	FILT	0.159	+/-	0.142		0.1							
SW029	SW029001	28-MAR-89	TOT	0.00	+/-	0.02			0.00	+/-	0.01			5	
SW029	SW029001	28-MAR-89	FILT	0.01	+/-	0.01			0.00	+/-	0.01				
SW029	SW029002	24-MAY-89	TOT	0.02	+/-	0.01			0.00	+/-	0.01			62	J
SW029	SW029003	22-JUN-89	TOT	0.04	+/-	0.01		0.	0.00	+/-	0.01		0.01	150	
SW029	SW029003	22-JUN-89	FILT												
SW029	SW029006	25-SEP-89	TOT	.015	+/-	.008		0	R				.046	28	
SW029	SW029007	20-OCT-89	TOT	0.013	+/-	0.006			0.006	+/-	0.008			10	
SW029	SW029007	20-OCT-89	FILT												
SW029	SW029008	09-NOV-89	TOT											5	U
SW029	SW029008	09-NOV-89	FILT												
SW029	SW029009	08-DEC-89	TOT											6	
SW029	SW029009	08-DEC-89	FILT												
SW029	SW02990001	16-JAN-90	TOT	0.008	+/-	0.005			0.047	+/-	0.015			12	
SW029	SW02990001	16-JAN-90	FILT												
SW029	SW02990002	08-FEB-90	TOT	0.006	+/-	0.005			0.008	+/-	0.006			5	U
SW029	SW02990002	08-FEB-90	FILT												
SW029	SW029W051090A	10-MAY-90	TOT	0.010	+/-	0.006		0.01	0.010	+/-	0.010		0.01	5	U
SW029	SW029W051090A	10-MAY-90	FILT												
SW029	SW00003WC	06-JUN-90	TOT	0.011	+/-	0.008		0.01	0.000	+/-	0.006		0.01	17	
SW029	SW00003WC	06-JUN-90	FILT												
SW029	SW00130WC	17-JUL-90	TOT	0	+/-	.00229		.01	.01119	+/-	.0071		.01		
SW029	SW00233WC	09-AUG-90	TOT	.01158	+/-	.007118			0.0	+/-	.007718			18	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW029	SW00233WC	09-AUG-90	FILT												
SW029	SW00311WC	12-SEP-90	TOT	.00587	+/-	.008639			.06723	+/-	.03107			16	
SW029	SW00311WC	12-SEP-90	FILT												
SW029	SW00402WC	03-OCT-90	TOT	.01067	+/-	.009321		.011	.000	+/-	.010		.015	13	
SW029	SW00402WC	03-OCT-90	FILT												
SW029	SW00503WC	08-NOV-90	FILT	.3				.01	.4				.01		
SW029	SW00503WC	08-NOV-90	TOT											4	U
SW029	SW00607WC	05-DEC-90	FILT	6.15	+/-	2.200	JA	.84	R				.12		
SW029	SW00607WC	05-DEC-90	TOT											2	
SW029	SW00709WC	09-JAN-91	FILT	.3				.01	.1				.01		
SW029	SW00709WC	09-JAN-91	TOT											5	
SW029	SW00915WC	18-MAR-91	FILT	.02				.01	.05				.01		
SW029	SW00915WC	18-MAR-91	TOT											5	U
SW029	SW01124WC	09-MAY-91	FILT												
SW029	SW01124WC	09-MAY-91	TOT											13	
SW029	SW01227WC	13-JUN-91	TOT	0	+/-	.00514		.01	.0007503	+/-	.00206		.01		
SW029	SW01227WC	13-JUN-91	FILT												
SW029	SW01330WC	11-JUL-91	TOT	.00325	+/-	.00415		.01	.003175	+/-	.00368		.01	21	
SW029	SW01436WC	08-AUG-91	TOT	0	+/-	.00862		.01	.01583	+/-	.00863		.01	160	
SW029	SW01436WC	08-AUG-91	FILT												
SW029	SW01542WC	26-SEP-91	FILT												
SW029	SW01542WC	26-SEP-91	TOT											38	
SW029	SW01648WC	09-OCT-91	TOT												
SW029	SW01648WC	09-OCT-91	FILT												
SW029	SW01720WC	13-NOV-91	TOT	0.005	+/-	0.006		0.01	0.006	+/-	0.004		0.01		
SW029	SW01793WC	09-JAN-92	TOT	0.007	+/-	0.004									
SW030	SW-30-05-26-87	26-MAY-87	TOT	.04	+/-	.68			0.0	+/-	1.9			22	
SW030	SW-30-05-26-87	26-MAY-87	FILT												
SW030	SW30	29-JUL-87	FILT												
SW030	SW88A036	29-JUN-88	TOT	0.0882	+/-	0.148		0.1						4	U
SW030	SW88A036	29-JUN-88	FILT	0.0441	+/-	0.0585		0.07							
SW030	SW030001	28-MAR-89	TOT	0.01	+/-	0.02			0.01	+/-	0.01			39	
SW030	SW030001	28-MAR-89	FILT	0.01	+/-	0.02			0.00	+/-	0.01				
SW030	SW030002	16-MAY-89	TOT	0.01	+/-	0.01			0.01	+/-	0.02			10	
SW030	SW030002	16-MAY-89	FILT												
SW030	SW030003	22-JUN-89	TOT	0.22	+/-	0.03		0.	0.00	+/-	0.01		0.01	27	
SW030	SW030003	22-JUN-89	FILT												
SW030	SW030005	21-AUG-89	TOT	0.01	+/-	0.01		0.	0.00	+/-	0.01		0.01	6	
SW030	SW030005	21-AUG-89	FILT												
SW030	SW030006	25-SEP-89	TOT	.015	+/-	.008		0	R				.046	12	
SW030	SW030007	20-OCT-89	TOT	0.006	+/-	0.005			0.004	+/-	0.004			18	
SW030	SW030007	20-OCT-89	FILT												
SW030	SW03090003	15-MAR-90	TOT											5	U
SW030	SW03090003	15-MAR-90	FILT												
SW030	SW030W042390	23-APR-90	TOT	0.022	+/-	0.016		0.01	0.008	+/-	0.006		0.01		
SW030	SW030W051590A	15-MAY-90	FILT												
SW030	SW030W051590A	15-MAY-90	TOT											11	
SW030	SW00012WC	11-JUN-90	TOT	0.015	+/-	0.007		0.01						24	
SW030	SW00012WC	11-JUN-90	FILT												
SW030	SW00144WC	17-JUL-90	TOT	.001355	+/-	.00192		.01	.007531	+/-	.0054		.01		
SW030	SW00239WC	16-AUG-90	TOT	.01143	+/-	.008437			.007795	+/-	.006121			17	
SW030	SW80033WC	16-AUG-90	TOT	.002685	+/-	.007896			.002249	+/-	.008818			14	
SW030	SW00317WC	12-SEP-90	TOT	.01293	+/-	.007279			0.0	+/-	.006654			23	
SW030	SW00317WC	12-SEP-90	FILT												
SW030	SW00408WC	03-OCT-90	TOT	.005015	+/-	.005905		.005	-.003796	+/-	.005952		.009	9	
SW030	SW00408WC	03-OCT-90	FILT												
SW030	SW00509WC	15-NOV-90	FILT	.02				.01	.03				.01		
SW030	SW00509WC	15-NOV-90	TOT											8	
SW030	SW00613WC	06-DEC-90	FILT	1				.01	.02				.01		
SW030	SW00613WC	06-DEC-90	TOT											69	
SW030	SW01442WC	08-AUG-91	TOT	.006146	+/-	.00553		.01	.004847	+/-	.00562		.01	10	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW030	SW01442WC	08-AUG-91	FILT												
SW030	SW01654WC	03-OCT-91	FILT												
SW030	SW01654WC	03-OCT-91	TOT											88	
SW050	SW-50-07-21-87	21-JUL-87	TOT	55	+/-	7			0.0	+/-	27			7	
SW050	SW-50-07-21-87	21-JUL-87	FILT												
SW050	SW88A021	27-JUN-88	TOT	0.928	+/-	0.139		0.08						1000	
SW050	SW88A021	27-JUN-88	FILT	0.575	+/-	0.347		0.2							
SW050	SW050003	27-JUN-89	TOT	1.4	+/-	0.1		0.	0.79	+/-	0.05		0.01	380	
SW050	SW050003	27-JUN-89	FILT												
SW050	SW050004	18-JUL-89	TOT											7600	
SW050	SW050004	18-JUL-89	FILT												
SW050	SW050W051790A	17-MAY-90	TOT						0.807	+/-	0.078		0.01	36	
SW050	SW050W051790A	17-MAY-90	FILT												
SW050	SW00028WC	25-JUN-90	FILT												
SW050	SW00028WC	25-JUN-90	TOT											21	
SW050	SW00170WC	23-JUL-90	TOT	4.06	+/-	.425		.01	.4631	+/-	.0866		.01	41.5	
SW050	SW00170WC	23-JUL-90	FILT												
SW051	SW-51-07-21-87	21-JUL-87	TOT	13	+/-	3			0.0	+/-	11			3	
SW051	SW-51-07-21-87	21-JUL-87	FILT												
SW051	SW051003	27-JUN-89	TOT	0.69	+/-	0.04		0.	1.0	+/-	0.1		0.01	35	
SW051	SW051003	27-JUN-89	FILT												
SW051	SW051W042490	24-APR-90	TOT	0.525	+/-	0.060		0.01	0.561	+/-	0.058		0.01		
SW051	SW051W051790A	17-MAY-90	TOT						0.401	+/-	0.050		0.01	6	
SW051	SW051W051790A	17-MAY-90	FILT												
SW052	SW-52-07-21-87	21-JUL-87	TOT	5.4	+/-	1.5			0.2	+/-	1.5			2	
SW052	SW-52-07-21-87	21-JUL-87	FILT												
SW052	SW88A017	23-JUN-88	TOT	0.595	+/-	0.218		0.2						289	
SW052	SW88A017	23-JUN-88	FILT	0.369	+/-	0.195		0.2							
SW052	SW052W051790A	17-MAY-90	TOT	0.313	+/-	0.046		0.01	0.170	+/-	0.046		0.01	12	
SW052	SW052W051790A	17-MAY-90	FILT												
SW053	SW-53-07-21-87	21-JUL-87	TOT	25	+/-	5			0.0	+/-	1.9			2	
SW053	SW-53-07-21-87	21-JUL-87	FILT												
SW053	SW88A018	23-JUN-88	TOT	5.06	+/-	0.958		0.7						80	
SW053	SW88A018	23-JUN-88	FILT	1.89	+/-	0.851		0.7							
SW053	SW053001	05-APR-89	TOT	15	+/-	1			9.7	+/-	0.2			800	
SW053	SW053001	05-APR-89	FILT	0.20	+/-	0.03			0.03	+/-	0.03				
SW053	SW053002	23-MAY-89	TOT											97	
SW053	SW053002	23-MAY-89	FILT												
SW053	SW053003	26-JUN-89	TOT	56	+/-	3			28	+/-	1			1600	
SW053	SW053003	26-JUN-89	FILT												
SW053	SW053005	15-AUG-89	TOT											24	J
SW053	SW053005	15-AUG-89	FILT												
SW053	SW053006	20-SEP-89	TOT	.020	+/-	.012		.007	R				0	24	
SW053	SW053006	20-SEP-89	FILT												
SW053	SW053007	12-OCT-89	TOT	1.55	+/-	0.07		0						32	
SW053	SW053007	12-OCT-89	FILT												
SW053	SW053008	07-NOV-89	TOT	1.766	+/-	0.174			0.274	+/-	0.040			5	U
SW053	SW053008	07-NOV-89	FILT												
SW053	SW053009	15-DEC-89	TOT											340	
SW053	SW053009	15-DEC-89	FILT												
SW053	SW05390001	17-JAN-90	TOT	21.890	+/-	1.819								320	
SW053	SW05390001	17-JAN-90	FILT												
SW053	SW05390002	13-FEB-90	TOT	1.696	+/-	0.140			0.441	+/-	0.084			1100	
SW053	SW05390002	13-FEB-90	FILT												
SW053	SW053W042590	25-APR-90	TOT	2.636	+/-	0.241		0.01	2.702	+/-	0.400		0.01		
SW053	SW053W052190A	21-MAY-90	FILT												
SW053	SW053W052190A	21-MAY-90	TOT											5	U
SW053	SW00171WC	23-JUL-90	TOT	2.239	+/-	.258		.01	.9293	+/-	.15		.01	47	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW053	SW00171WC	23-JUL-90	FILT												
SW053	SW00528WC	15-NOV-90	FILT	4.400	+/-	.3000		.01	2				.01		
SW053	SW00528WC	15-NOV-90	TOT											930	
SW053	SW00940WC	21-MAR-91	FILT	3.800	+/-	0.200		.01	.4000	+/-	.1800		.01		
SW053	SW00940WC	21-MAR-91	TOT											44	
SW053	SW01042WC	18-APR-91	FILT												
SW053	SW01042WC	18-APR-91	TOT											63	
SW053	SW01149WC	16-MAY-91	FILT												
SW053	SW01149WC	16-MAY-91	TOT											181	
SW053	SW01355WC	24-JUL-91	TOT	42.25	+/-	4.12		.01	3.48	+/-	.421		.01	50	
SW053	SW01673WC	22-OCT-91	FILT												
SW054	SW88A057	05-JUL-88	TOT	0.0695	+/-	0.0407		0.03						29	
SW054	SW88A057	05-JUL-88	FILT	0.238	+/-	0.179		0.2							
SW054	SW054001	21-MAR-89	TOT	0.11	+/-	0.02			0.02	+/-	0.01			49	
SW054	SW054001	21-MAR-89	FILT	0.01	+/-	0.01			0.00	+/-	0.02				
SW054	SW054002	18-MAY-89	TOT											750	
SW054	SW054002	18-MAY-89	FILT												
SW054	SW054003	22-JUN-89	TOT	3.7	+/-	0.1		0.	0.13	+/-	0.02		0.01	2200	
SW054	SW054003	22-JUN-89	FILT												
SW054	SW054004	19-JUL-89	TOT	0.71	+/-	0.05		0.01	0.07	+/-	0.02		0.01	200	J
SW054	SW054004	19-JUL-89	FILT												
SW054	SW054005	15-AUG-89	TOT											22	J
SW054	SW054005	15-AUG-89	FILT												
SW054	SW054006	21-SEP-89	TOT	.014	+/-	.007		.003	R				0	26	
SW054	SW054006	21-SEP-89	FILT												
SW054	SW054007	12-OCT-89	TOT	0.029	+/-	0.010		0						5	U
SW054	SW054007	12-OCT-89	FILT												
SW054	SW054008	03-NOV-89	TOT	0.019	+/-	0.007			0.004	+/-	0.006			26	
SW054	SW054008	03-NOV-89	FILT												
SW054	SW054009	12-DEC-89	TOT											12	
SW054	SW054009	12-DEC-89	FILT												
SW054	SW05490001	18-JAN-90	TOT	0.092	+/-	.021			0.215	+/-	0.016			790	
SW054	SW05490001	18-JAN-90	FILT												
SW054	SW05490002	12-FEB-90	TOT						0.097	+/-	0.021			62	
SW054	SW05490002	12-FEB-90	FILT												
SW054	SW054W042390	23-APR-90	TOT	0.021	+/-	0.011		0.01	0.006	+/-	0.005		0.01		
SW054	SW054W051490A	14-MAY-90	FILT												
SW054	SW054W051490A	14-MAY-90	TOT											14	
SW054	SW00019WC	13-JUN-90	FILT												
SW054	SW00019WC	13-JUN-90	TOT												
SW054	SW00149WC	18-JUL-90	TOT	.0006239	+/-	.00125		.01	.001399	+/-	.00485		.01	27	
SW054	SW00149WC	18-JUL-90	FILT												
SW054	SW00243WC	16-AUG-90	TOT	.01349	+/-	.010619			.0038	+/-	.005960			14	
SW054	SW00412WC	18-OCT-90	TOT	.01924	+/-	.007924		.005	.02424	+/-	.011021		.011	62	
SW054	SW00412WC	18-OCT-90	FILT												
SW054	SW00513WC	19-NOV-90	FILT	.02				.01	.5				.01		
SW054	SW00513WC	19-NOV-90	TOT											4	
SW054	SW00925WC	13-MAR-91	FILT	.02				.01	.02				.01		
SW054	SW00925WC	13-MAR-91	TOT												
SW054	SW01027WC	03-APR-91	FILT	.03				.01	.10				.01		
SW054	SW01027WC	03-APR-91	TOT											35	
SW054	SW01134WC	08-MAY-91	FILT												
SW054	SW01134WC	08-MAY-91	TOT											5	
SW054	SW01237WC	12-JUN-91	TOT	.03514	+/-	.0138	V		.008182	+/-	.00606	V		6	
SW054	SW01237WC	12-JUN-91	FILT												
SW054	SW01340WC	11-JUL-91	TOT	.006516	+/-	.00563		.01	.003969	+/-	.0046		.01	5	U
SW054	SW01446WC	06-AUG-91	TOT	.01593	+/-	.00838		.01	.004393	+/-	.00475		.01	7	
SW054	SW01446WC	06-AUG-91	FILT												
SW054	SW01658WC	03-OCT-91	FILT												
SW054	SW01658WC	03-OCT-91	TOT											28	
SW054	SW01711WC	04-NOV-91	TOT											27	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW055	SW-55-07-21-87	21-JUL-87	TOT	3.2	+/-	1.7			0.0	+/-	3.2			2	
SW055	SW-55-07-21-87	21-JUL-87	FILT												
SW055	SW88A013	22-JUN-88	TOT	0.131	+/-	0.727		1						68	
SW055	SW88A013	22-JUN-88	FILT	0.00	+/-	0.846		1							
SW055	SW055001	17-APR-89	TOT											150	
SW055	SW055001	17-APR-89	FILT												
SW055	SW055002	25-MAY-89	TOT	60	+/-	1			7.2	+/-	0.3			520	J
SW055	SW055003	28-JUN-89	TOT	17	+/-	1		0.	33	+/-	1		0.16	920	
SW055	SW055003	28-JUN-89	FILT												
SW055	SW055004	18-JUL-89	TOT											640	
SW055	SW055004	18-JUL-89	FILT												
SW055	SW055005	16-AUG-89	TOT	0.37	+/-	0.04		0.	0.08	+/-	0.02		0.01	5	UJ
SW055	SW055005	16-AUG-89	FILT												
SW055	SW055006	20-SEP-89	TOT	.020	+/-	.012		.007	R				0	14	
SW055	SW055006	20-SEP-89	FILT												
SW055	SW055007	19-OCT-89	TOT	0.736	+/-	0.075			0.702	+/-	0.074			10	
SW055	SW055007	19-OCT-89	FILT												
SW055	SW055008	09-NOV-89	TOT											12	
SW055	SW055008	09-NOV-89	FILT												
SW055	SW055009	07-DEC-89	TOT	0.254	+/-	0.040								8	
SW055	SW055009	07-DEC-89	FILT												
SW055	SW05590001	16-JAN-90	TOT	2.477	+/-	0.214								1800	
SW055	SW05590001	16-JAN-90	FILT												
SW055	SW05590002	23-FEB-90	FILT												
SW055	SW05590002	23-FEB-90	TOT											460	
SW055	SW05590003	15-MAR-90	TOT											110	
SW055	SW05590003	15-MAR-90	FILT												
SW055	SW055W042490A	24-APR-90	TOT	0.334	+/-	0.045		0.01	0.195	+/-	0.038		0.01		
SW055	SW055W042490A	24-APR-90	FILT												
SW055	SW055W052190A	21-MAY-90	FILT												
SW055	SW055W052190A	21-MAY-90	TOT											450	
SW055	SW01150WC	16-MAY-91	FILT												
SW055	SW01150WC	16-MAY-91	TOT											41	
SW055	SW01253WC	24-JUN-91	TOT	4.537	+/-	.479		.01	.759	+/-	.0938		.01	57	
SW055	SW01356WC	24-JUL-91	TOT	.4039	+/-	.0471		.01	.1086	+/-	.0289		.01	11	
SW057	SW-57-07-21-87	21-JUL-87	TOT	54	+/-	7			0.0	+/-	2.0			5	
SW057	SW-57-07-21-87	21-JUL-87	FILT												
SW058	SW-58-07-21-87	21-JUL-87	TOT	8.9	+/-	2.1			0.3	+/-	1.4			3	
SW058	SW-58-07-21-87	21-JUL-87	FILT												
SW058	SW88A016	23-JUN-88	TOT	3.64	+/-	0.531		0.3						13	
SW058	SW88A016	23-JUN-88	FILT	1.06	+/-	0.360		0.2							
SW058	SW058003	28-JUN-89	TOT	7.1	+/-	0.1			1.1	+/-	0.6			34	J
SW058	SW058003	28-JUN-89	FILT												
SW058	SW058W042490	24-APR-90	TOT	1.260	+/-	0.130		0.01	1.376	+/-	0.143		0.01		
SW058	SW058W051790A	17-MAY-90	FILT												
SW058	SW058W051790A	17-MAY-90	TOT											82	
SW058	SW00172WC	23-JUL-90	TOT	1.918	+/-	.206		.01	.8598	+/-	.111		.01	7	
SW058	SW00172WC	23-JUL-90	FILT												
SW058	SW01255WC	24-JUN-91	TOT	11.03	+/-	1.12		.01	1.208	+/-	.138		.01	18	
SW062	SW-62-07-22-87	22-JUL-87	TOT	1.3	+/-	0.9			0.0	+/-	1.3			7	
SW062	SW-62-07-22-87	22-JUL-87	FILT												
SW062	SW88A058	05-JUL-88	TOT	0.207	+/-	0.0967		0.07						26	
SW062	SW88A058	05-JUL-88	FILT	0.0425	+/-	0.209		0.3							
SW062	SW062001	28-MAR-89	TOT	0.01	+/-	0.02			0.02	+/-	0.01			<5	
SW062	SW062001	28-MAR-89	FILT	0.00	+/-	0.02			0.00	+/-	0.01				
SW062	SW062002	23-MAY-89	TOT	0.00	+/-	0.01			-0.01	+/-	0.02			27	
SW062	SW062002	23-MAY-89	FILT												
SW062	SW062003	22-JUN-89	TOT	0.00	+/-	0.01		0.	0.00	+/-	0.01		0.01	9	

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Woman Creek Basin - Operable Unit No. 2

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SW062	SW062003	22-JUN-89	FILT												
SW062	SW062004	19-JUL-89	TOT	0.02	+/-	0.01		0.01	0.01	+/-	0.01		0.01	340	J
SW062	SW062004	19-JUL-89	FILT												
SW062	SW062005	15-AUG-89	TOT											12	J
SW062	SW062005	15-AUG-89	FILT												
SW062	SW062006	15-SEP-89	TOT	0.010	+/-	0.009		0.01	.01	+/-	0.008	V		5	U
SW062	SW062006	15-SEP-89	FILT												
SW062	SW062007	12-OCT-89	TOT	0.033	+/-	0.013								20	
SW062	SW062007	12-OCT-89	FILT												
SW062	SW062008	08-NOV-89	TOT	0.013	+/-	0.009			0.010	+/-	0.014			26	
SW062	SW062008	08-NOV-89	FILT												
SW062	SW062009	13-DEC-89	TOT											5	U
SW062	SW062009	13-DEC-89	FILT												
SW062	SW06290001	18-JAN-90	TOT	.007	+/-	0.006			0.012	+/-	0.007			5	U
SW062	SW06290001	18-JAN-90	FILT												
SW062	SW062W052290A	22-MAY-90	TOT	0.025	+/-	0.011		0.01	-0.005	+/-	0.006		0.01	5	U
SW062	SW062W052290A	22-MAY-90	FILT												
SW062	SW00022WC	18-JUN-90	TOT	0.002	+/-	0.004		0.01							
SW062	SW00022WC	18-JUN-90	FILT												
SW062	SW00178WC	24-JUL-90	TOT	.006639	+/-	.00368		.01	.009715	+/-	.00514		.01	33	
SW062	SW00178WC	24-JUL-90	FILT												
SW062	SW00259WC	22-AUG-90	TOT	.0105	+/-	.008857			.0008544	+/-	.003349			8	
SW062	SW00259WC	22-AUG-90	FILT												
SW062	SW00337WC	19-SEP-90	TOT	.01711	+/-	.009008			.003991	+/-	.004890				
SW062	SW00431WC	08-OCT-90	TOT	.007272	+/-	.006125		.007	.004114	+/-	.005378		.007	4	U
SW062	SW00431WC	08-OCT-90	FILT												
SW062	SW00532WC	14-NOV-90	FILT	.3				.01	7.700	+/-	3.000		.01		
SW062	SW00532WC	14-NOV-90	TOT											1	U
SW062	SW00636WC	06-DEC-90	FILT	0.00	+/-	0.00	QJA	.64	R				.02		
SW062	SW00636WC	06-DEC-90	TOT											4	U
SW062	SW01046WC	03-APR-91	FILT	.0120	+/-	.0100		.01	.0300				.01		
SW062	SW01046WC	03-APR-91	TOT											5	U
SW062	SW01153WC	08-MAY-91	FILT												
SW062	SW01153WC	08-MAY-91	TOT											5	U
SW062	SW01256WC	12-JUN-91	TOT	.01368	+/-	.00876	V		.005191	+/-	.00855	V		10	
SW062	SW01256WC	12-JUN-91	FILT												
SW062	SW01465WC	06-AUG-91	TOT	.00412	+/-	.00445		.01	.0007853	+/-	.00216		.01	5	U
SW062	SW01465WC	06-AUG-91	FILT												
SW062	SW01571WC	26-SEP-91	FILT												
SW062	SW01571WC	26-SEP-91	TOT											5	
SW062	SW01677WC	09-OCT-91	TOT												
SW062	SW01677WC	09-OCT-91	FILT												
SW063	SW-63-07-24-87	24-JUL-87	FILT												
SW063	SW88A060	06-JUL-88	TOT	0.242	+/-	0.212		0.2						58	
SW063	SW88A060	06-JUL-88	FILT	0.0750	+/-	0.0871		0.07							
SW064	SW-64-07-22-87	22-JUL-87	TOT	0.1	+/-	1.2			0.01	+/-	1.3			13	
SW064	SW-64-07-22-87	22-JUL-87	FILT												
SW064	SW88A069	07-JUL-88	TOT	0.123	+/-	0.229		0.2						1129	
SW064	SW88A069	07-JUL-88	FILT	0.00	+/-	0.201		0.3							
SW064	SW064002	22-MAY-89	TOT	0.07	+/-	0.02		0.	0.01	+/-	0.02		0.	55	
SW064	SW064002	22-MAY-89	FILT												
SW064	SW064003	27-JUN-89	TOT	0.00	+/-	0.01		0.	0.00	+/-	0.01		0.01	56	
SW064	SW064003	27-JUN-89	FILT												
SW064	SW064W042590	25-APR-90	TOT	0.022	+/-	0.009		0.01	0.004	+/-	0.006		0.01		
SW064	SW064W042590D	25-APR-90	FILT												
SW064	SW064W042590D	25-APR-90	TOT											14	
SW064	SW064W052290A	22-MAY-90	TOT	0.009	+/-	0.008		0.01	0.007	+/-	0.008		0.01	36	
SW064	SW064W052290A	22-MAY-90	FILT												
SW064	SW00026WC	18-JUN-90	TOT	0.020	+/-	0.015		0.01							
SW064	SW00026WC	18-JUN-90	FILT												

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW064	SW00173WC	24-JUL-90	TOT	.004242	+/-	.00404		.01	.03462	+/-	.0126		.01	13	
SW064	SW00173WC	24-JUL-90	FILT												
SW064	SW00261WC	23-AUG-90	TOT	.005689	+/-	.007440			-.000553	+/-	.004335			16	
SW064	SW00261WC	23-AUG-90	FILT												
SW064	SW00433WC	23-OCT-90	FILT	.4				.01							
SW064	SW00433WC	23-OCT-90	TOT											160	
SW064	SW00534WC	15-NOV-90	FILT	.0100				.01							
SW064	SW00534WC	15-NOV-90	TOT											4	U
SW064	SW00638WC	06-DEC-90	FILT	0.00	+/-	0.00	QJA	.39	R				.23		
SW064	SW00638WC	06-DEC-90	TOT											4	U
SW064	SW00946WC	12-MAR-91	FILT	.008				.01	.02				.01		
SW064	SW00946WC	12-MAR-91	TOT												
SW064	SW00946WC *	12-MAR-91	FILT						.4				.01		
SW064	SW01048WC	03-APR-91	FILT	.008				.01	.05				.01		
SW064	SW01048WC	03-APR-91	TOT											5	U
SW064	SW01155WC	20-MAY-91	TOT	.003047	+/-	.00593	A		.003839	+/-	.00445	V		36	
SW064	SW01155WC	20-MAY-91	FILT												
SW064	SW01258WC	20-JUN-91	TOT	.007632	+/-	.00606		.01	.007779	+/-	.00576		.01	78	
SW064	SW01258WC	20-JUN-91	FILT												
SW065	SW88A065	07-JUL-88	TOT	0.00	+/-	0.217		0.4						66	
SW065	SW88A065	07-JUL-88	FILT	0.0107	+/-	0.0468		0.01							
SW065	SW065001	05-APR-89	TOT	1.5	+/-	0.1			0.24	+/-	0.05			2000	
SW065	SW065001	05-APR-89	FILT	0.00	+/-	0.01			0.00	+/-	0.02				
SW065	SW065002	26-MAY-89	TOT	0.07	+/-	0.02			0.02	+/-	0.02			10	
SW065	SW065002	26-MAY-89	FILT												
SW065	SW065003	20-JUN-89	TOT	0.11	+/-	0.02		0.	0.04	+/-	0.02		0.01	7	
SW065	SW065003	20-JUN-89	FILT												
SW065	SW065004	17-JUL-89	TOT	0.15	+/-	0.02		0.01	0.02	+/-	0.01		0.01	470	J
SW065	SW065004	17-JUL-89	FILT												
SW065	SW065005	15-AUG-89	TOT											52	
SW065	SW065005	15-AUG-89	FILT												
SW065	SW065006	20-SEP-89	TOT	.020	+/-	.012		.007	R				0	350	
SW065	SW065006	20-SEP-89	FILT												
SW065	SW065007	12-OCT-89	TOT	0.028	+/-	0.009		0						110	
SW065	SW065007	12-OCT-89	FILT												
SW065	SW065008	07-NOV-89	TOT	0.107	+/-	0.018			0.072	+/-	0.020			16	
SW065	SW065008	07-NOV-89	FILT												
SW065	SW065009	07-DEC-89	TOT	0.028	+/-	0.012			0.047	+/-	0.033			16	
SW065	SW065009	07-DEC-89	FILT												
SW065	SW06590001	18-JAN-90	TOT	.014	+/-	0.008			0.069	+/-	0.022			20	
SW065	SW06590001	18-JAN-90	FILT												
SW065	SW06590002	23-FEB-90	FILT												
SW065	SW06590002	23-FEB-90	TOT											32	
SW069	SW88A039	29-JUN-88	TOT	0.00	+/-	0.249		0.4						28	
SW069	SW88A039	29-JUN-88	FILT	0.180	+/-	0.167		0.09							
SW069	SW069001	29-MAR-89	TOT	0.01	+/-	0.01			-0.01	+/-	0.03				
SW069	SW069001	29-MAR-89	FILT	0.00	+/-	0.01			-0.01	+/-	0.03				
SW069	SW069002	16-MAY-89	TOT	0.00	+/-	0.01			0.00	+/-	0.02			18	J
SW069	SW069002	16-MAY-89	FILT												
SW069	SW069003	23-JUN-89	TOT	0.00	+/-	0.01		0.	0.00	+/-	0.01		0.01	440	
SW069	SW069003	23-JUN-89	FILT												
SW069	SW069004	20-JUL-89	TOT	0.00	+/-	0.01		0.01	0.00	+/-	0.01		0.01	66	J
SW069	SW069004	20-JUL-89	FILT												
SW069	SW069005	21-AUG-89	TOT	0.01	+/-	0.01		0.	0.00	+/-	0.01		0.01	50	
SW069	SW069005	21-AUG-89	FILT												
SW069	SW069006	26-SEP-89	TOT	.005	+/-	.006		.008	R				.036	50	J
SW069	SW069006	26-SEP-89	FILT												
SW069	SW069007	23-OCT-89	TOT	0.016	+/-	0.006			0.006	+/-	0.004			20	
SW069	SW069007	23-OCT-89	FILT												
SW069	SW069008	16-NOV-89	TOT	0.016	+/-	0.007			0.025	+/-	0.016			26	

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW069	SW069008	16-NOV-89	FILT												
SW069	SW069009	13-DEC-89	TOT											320	
SW069	SW069009	13-DEC-89	FILT												
SW069	SW06990001	11-JAN-90	TOT	0.013	+/-	0.006			0.005	+/-	0.006			20	
SW069	SW06990001	11-JAN-90	FILT												
SW069	SW06990002	07-FEB-90	TOT	0.012	+/-	0.007			0.013	+/-	0.009			17	
SW069	SW06990002	07-FEB-90	FILT												
SW069	SW06990003	15-MAR-90	TOT											6	
SW069	SW06990003	15-MAR-90	FILT												
SW069	SW069W041990	19-APR-90	TOT	0.013	+/-	0.006		0.01	0.002	+/-	0.003		0.01		
SW069	SW069W051690A	16-MAY-90	TOT	0.010	+/-	0.007		0.01	0.008	+/-	0.013		0.01	18	
SW069	SW069W051690A	16-MAY-90	FILT												
SW069	SW00063WC	12-JUN-90	TOT	0.011	+/-	0.007		0.01						70	
SW069	SW00063WC	12-JUN-90	FILT												
SW069	SW00147WC	19-JUL-90	TOT	.001242	+/-	.00249		.01	.0031	+/-	.00515		.01	51	
SW069	SW00147WC	19-JUL-90	FILT												
SW069	SW00248WC	20-AUG-90	TOT	.002008	+/-	.005905			-.002696	+/-	.003963			18	
SW069	SW00248WC	20-AUG-90	FILT												
SW069	SW00326WC	19-SEP-90	TOT	.02703	+/-	.011648		.005	.02176	+/-	.008573		.005		
SW069	SW00417WC	16-OCT-90	TOT	.00196	+/-	.001924		.005	.009635	+/-	.006301		.007	10	
SW069	SW00518WC	19-NOV-90	FILT	.02				.01	1				.01		
SW069	SW00518WC	19-NOV-90	TOT											20	
SW069	SW00622WC	10-DEC-90	FILT	.02				.01	.3				.01		
SW069	SW00622WC	10-DEC-90	TOT											90	
SW069	SW00930WC	18-MAR-91	FILT	.01				.01	.5				.01		
SW069	SW00930WC	18-MAR-91	TOT											7.5	
SW069	SW01032WC	04-APR-91	FILT	.01				.01	.5				.01		
SW069	SW01032WC	04-APR-91	TOT											32	
SW069	SW01139WC	13-MAY-91	FILT												
SW069	SW01139WC	13-MAY-91	TOT											59	
SW069	SW01242WC	19-JUN-91	TOT	.001383	+/-	.00277		.01	.002216	+/-	.00314		.01	18	
SW069	SW01242WC	19-JUN-91	FILT												
SW069	SW01345WC	10-JUL-91	TOT	.0006158	+/-	.00261		.01	.002397	+/-	.00394		.01		
SW069	SW01451WC	08-AUG-91	TOT	.09227	+/-	.0244		.01	.01677	+/-	.00948		.01	20	
SW069	SW01451WC	08-AUG-91	FILT												
SW069	SW01557WC	17-SEP-91	FILT												
SW069	SW01557WC	17-SEP-91	TOT											212	
SW069	SW01663WC	10-OCT-91	TOT											123	
SW069	SW01663WC	10-OCT-91	FILT												
SW070	SW88A038	29-JUN-88	TOT	0.0113	+/-	0.0566		0.06						35	
SW070	SW88A038	29-JUN-88	FILT	0.110	+/-	0.0857		0.04							
SW070	SW070001	29-MAR-89	TOT	0.02	+/-	0.01			0.00	+/-	0.01			38	
SW070	SW070001	29-MAR-89	FILT	0.00	+/-	0.01			0.01	+/-	0.01				
SW070	SW070002	16-MAY-89	TOT	0.01	+/-	0.01			0.00	+/-	0.01			17	
SW070	SW070002	16-MAY-89	FILT												
SW070	SW070003	23-JUN-89	TOT	0.00	+/-	0.01		0.	0.00	+/-	0.01		0.01	29	
SW070	SW070003	23-JUN-89	FILT												
SW070	SW070004	20-JUL-89	TOT	0.01	+/-	0.01		0.01	0.00	+/-	0.01		0.01	60	J
SW070	SW070004	20-JUL-89	FILT												
SW070	SW070005	14-AUG-89	TOT	0.01	+/-	0.01		0.	0.01	+/-	0.01		0.01	80	J
SW070	SW070006	26-SEP-89	TOT	.005	+/-	.006		.008	R				.036	18	
SW070	SW070006	26-SEP-89	FILT												
SW070	SW070007	23-OCT-89	TOT	0.010	+/-	0.005			0.012	+/-	0.007			14	
SW070	SW070007	23-OCT-89	FILT												
SW070	SW070008	16-NOV-89	TOT	0.004	+/-	0.005			0.043	+/-	0.020			28	
SW070	SW070008	16-NOV-89	FILT												
SW070	SW070009	13-DEC-89	TOT											1200	
SW070	SW070009	13-DEC-89	FILT												
SW070	SW07090001	11-JAN-90	TOT	0					0.005	+/-	0.007			32	
SW070	SW07090001	11-JAN-90	FILT												
SW070	SW07090002	07-FEB-90	TOT	0.018	+/-	0.007			0.013	+/-	0.011			5	U

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Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SW070	SW07090002	07-FEB-90	FILT												
SW070	SW07090003	15-MAR-90	TOT											5	U
SW070	SW07090003	15-MAR-90	FILT												
SW070	SW070W041990A	19-APR-90	TOT	0.016	+/-	0.012		0.01	0.009	+/-	0.007		0.01	38	
SW070	SW070W041990A	19-APR-90	FILT												
SW070	SW070W051590A	15-MAY-90	FILT												
SW070	SW070W051590A	15-MAY-90	TOT											8	
SW070	SW00065WC	12-JUN-90	TOT	0.001	+/-	0.003		0.01						26	
SW070	SW00065WC	12-JUN-90	FILT												
SW070	SW00142WC	18-JUL-90	TOT	.000643	+/-	.00288		.01	0	+/-	.00484		.01	28	
SW070	SW00142WC	18-JUL-90	FILT												
SW070	SW00244WC	16-AUG-90	TOT	.003846	+/-	.004527			.002571	+/-	.005039			40	
SW070	SW00418WC	16-OCT-90	TOT	.004254	+/-	.006260		.010	.001422	+/-	.002787		.003	17	
SW070	SW00519WC	15-NOV-90	FILT	.2000	+/-	.0500		.01	.9				.01		
SW070	SW00519WC	15-NOV-90	TOT											4	U
SW070	SW00623WC	10-DEC-90	FILT	.01				.01	.1				.01		
SW070	SW00623WC	10-DEC-90	TOT											31	
SW070	SW00931WC	18-MAR-91	FILT	.01				.01	.1				.01		
SW070	SW00931WC	18-MAR-91	TOT											9.5	
SW070	SW01033WC	04-APR-91	FILT	.009				.01	.5				.01		
SW070	SW01033WC	04-APR-91	TOT											25	
SW070	SW01140WC	13-MAY-91	TOT	.00112	+/-	.00308		.01	.002113	+/-	.003		.01	15	
SW070	SW01140WC	13-MAY-91	FILT												
SW070	SW01243WC	19-JUN-91	TOT	.001737	+/-	.00522		.01	.006226	+/-	.00512		.01	8	
SW070	SW01243WC	19-JUN-91	FILT												
SW070	SW01346WC	10-JUL-91	TOT	.001506	+/-	.00293		.01	.002355	+/-	.00334		.01		
SW070	SW01452WC	08-AUG-91	TOT	.003697	+/-	.00472		.01	.002487	+/-	.00409		.01	10	
SW070	SW01452WC	08-AUG-91	FILT												
SW070	SW01558WC	17-SEP-91	FILT												
SW070	SW01558WC	17-SEP-91	TOT											134	
SW070	SW01664WC	10-OCT-91	TOT											66	
SW070	SW01664WC	10-OCT-91	FILT												
SW070	SW01712WC	05-NOV-91	TOT												
SW077	SW88A014	22-JUN-88	TOT	1.92	+/-	0.723		0.6							
SW077	SW88A014	22-JUN-88	FILT	0.0275	+/-	0.735		1							
SW077	SW077003	27-JUN-89	TOT	3.3	+/-	0.1		0.	2.7	+/-	0.1		0.01	340	
SW077	SW077003	27-JUN-89	FILT												
SW077	SW077005	16-AUG-89	TOT	4.1	+/-	0.1		0.	1.5	+/-	0.1		0.01	60	J
SW077	SW077005	16-AUG-89	FILT												
SW077	SW07790003	16-MAR-90	TOT	4.26	+/-	0.359			4.737	+/-	0.398			160	
SW077	SW07790003	16-MAR-90	FILT												
SW077	SW077W042490	24-APR-90	TOT	1.343	+/-	0.133		0.01	4.862	+/-	0.521		0.01		
SW077	SW077W052190A	21-MAY-90	FILT												
SW077	SW077W052190A	21-MAY-90	TOT											30	
SW077	SW00032WC	25-JUN-90	TOT	7.433	+/-	1.074		0.01						94	
SW077	SW00032WC	25-JUN-90	FILT												
SW077	SW00180WC	23-JUL-90	TOT	2.286	+/-	.251		.01	1.941	+/-	.234		.01	41	
SW077	SW00180WC	23-JUL-90	FILT												
SWC1	SWC1088600	18-AUG-86	TOT	0.08	+/-	0.06			0.03	+/-	0.05				
SWC1	SWC1088600	18-AUG-86	FILT												
SWC1	SWC10301	21-JUL-89	TOT	0.00	+/-	0.01		0.	0.00	+/-	0.01		0.01	58	
SWC1	SWC10301	21-JUL-89	FILT												
SWC1	SWC10101	22-JUL-89	TOT	0.02	+/-	0.01		0.	0.01	+/-	0.01		0.01	50	
SWC1	SWC10101	22-JUL-89	FILT												
SWC1	SWC10201	22-JUL-89	TOT	0.02	+/-	0.01		0.	0.00	+/-	0.01		0.01	48	
SWC1	SWC10201	22-JUL-89	FILT												
SWC1	SWC10401001	21-AUG-89	FILT												
SWC1	SWC10101002	25-AUG-89	TOT	0.01	+/-	0.01		0.	0.00	+/-	0.01		0.01	38	
SWC1	SWC10101002	25-AUG-89	FILT												
SWC1	SWC10201002	25-AUG-89	TOT	0.00	+/-	0.01		0.	0.00	+/-	0.01		0.01	36	

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Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)	
SWC1	SWC10201002	25-AUG-89	FILT												
SWC1	SWC10301002	28-AUG-89	TOT	0.01	+/-	0.01		0.	0.00	+/-	0.01		0.01	82	
SWC1	SWC10301002	28-AUG-89	FILT												
SWC1	NP50327WC	22-APR-91	FILT	.0009465	+/-	.005566	V	.009	.0288	+/-	.021324	A	.022		
SWC1	NP50327WC	22-APR-91	TOT	.001849	+/-	.005437	V	.010	.005388	+/-	.010566	V	.015	10	
SWC1	NP50348WC	13-MAY-91	FILT	0.0	+/-	.004640			.002024	+/-	.003969				
SWC1	NP50348WC	13-MAY-91	TOT	.0142	+/-	.008000			.02332	+/-	.014409			14	
SWC1	NP50374WC	12-JUN-91	FILT	0.003	+/-	0.003	V		0	+/-	0.002	A			
SWC1	NP50374WC	12-JUN-91	TOT	0.004	+/-	0.005	V		0.001	+/-	0.002	A			
SWC1	NP50437WC	14-AUG-91	FILT	0.002	+/-	0.007			0.001	+/-	0.005				
SWC1	NP50437WC	14-AUG-91	TOT	0.004	+/-	0.008			0.001	+/-	0.008			28	
SWC1	NP50454WC	04-SEP-91	FILT	0.002	+/-	0.002									
SWC1	NP50454WC	04-SEP-91	TOT	0.006	+/-	0.006								18	
SWC2	SWC2088600	18-AUG-86	TOT	0.01	+/-	0.04			0.01	+/-	0.04				
SWC2	SWC2088600	18-AUG-86	FILT												
SWC2	SWC20403	19-JUL-89	TOT	0.02	+/-	0.01		0.01	0.00	+/-	0.01		0.		
SWC2	SWC20403	19-JUL-89	FILT												
SWC2	SWC20603	19-JUL-89	TOT											53	
SWC2	SWC20603	19-JUL-89	FILT												
SWC2	SWC20607	19-JUL-89	TOT											42	
SWC2	SWC20607	19-JUL-89	FILT												
SWC2	SWC20609	20-JUL-89	TOT	0.06	+/-	0.02		0.	0.01	+/-	0.01		0.01		
SWC2	SWC20609	20-JUL-89	FILT												
SWC2	SWC20407	21-JUL-89	TOT	0.03	+/-	0.01		0.	0.00	+/-	0.01		0.01		
SWC2	SWC20407	21-JUL-89	FILT												
SWC2	SWC20411	21-JUL-89	TOT	0.03	+/-	0.01		0.	0.01	+/-	0.01		0.01		
SWC2	SWC20411	21-JUL-89	FILT												
SWC2	SWC20503	21-JUL-89	TOT	0.02	+/-	0.01		0.	0.01	+/-	0.01		0.01		
SWC2	SWC20503	21-JUL-89	FILT												
SWC2	SWC20506	21-JUL-89	TOT	0.03	+/-	0.02		0.	0.01	+/-	0.01		0.01		
SWC2	SWC20506	21-JUL-89	FILT												
SWC2	SWC20706002	02-AUG-89	TOT	0.01	+/-	0.01		0.01	0.00	+/-	0.01		0.01	8	
SWC2	SWC20706002	02-AUG-89	FILT												
SWC2	SWC20702002	03-AUG-89	TOT	0.01	+/-	0.01		0.	0.01	+/-	0.01		0.01	5	U
SWC2	SWC20702002	03-AUG-89	FILT												
SWC2	SWC20710002	03-AUG-89	TOT	0.02	+/-	0.01		0.01	0.00	+/-	0.01		0.01	8	
SWC2	SWC20710002	03-AUG-89	FILT												
SWC2	SWC20505002	24-AUG-89	TOT	0.01	+/-	0.01		0.	0.01	+/-	0.02		0.01	12	
SWC2	SWC20505002	24-AUG-89	FILT												
SWC2	SWC20606002	24-AUG-89	TOT	0.01	+/-	0.01		0.	0.01	+/-	0.01		0.01	15	
SWC2	SWC20606002	24-AUG-89	FILT												
SWC2	SWC20408002	25-AUG-89	TOT	0.01	+/-	0.01		0.	0.00	+/-	0.01		0.01	38	
SWC2	SWC20408002	25-AUG-89	FILT												
SWC2	SWC2G0323	23-MAR-90	TOT	0.030	+/-	0.012									
SWC2	C2033090M	30-MAR-90	FILT												
SWC2	C2033090M	30-MAR-90	TOT											20	
SWC2	C2033090M *	30-MAR-90	FILT												
SWC2	FEC2033090M	30-MAR-90	FILT												
SWC2	FEC2033090M	30-MAR-90	TOT											20	
SWC2	FEC2033090M *	30-MAR-90	FILT												
SWC2	C2040690M	06-APR-90	FILT												
SWC2	C2040690M	06-APR-90	TOT											9	
SWC2	FEC2050190	01-MAY-90	TOT	0.000	+/-	.008312			-.001013	+/-	.005958			5	U
SWC2	C2051090W	10-MAY-90	TOT	.009513	+/-	.007019								33	
SWC2	DC2051090W	10-MAY-90	TOT	.005121	+/-	.006031								10	U
SWC2	C2051590W	15-MAY-90	TOT	.030050	+/-	.015980								22	
SWC2	DC2051590W	15-MAY-90	TOT	.0007642	+/-	.002995								5	U
SWC2	FEC2051590CDHW	15-MAY-90	FILT												
SWC2	C2052290W	22-MAY-90	TOT	.019320	+/-	.011740								10	U
SWC2	DC2052290W	22-MAY-90	TOT	.010700	+/-	.007015								12	
SWC2	FEC2052290WCDH	22-MAY-90	FILT												

Notes: U=Analyzed but not detected at or above the detection limit J=Present below detection limit
R=Data rejected during validation process A=Data deemed 'acceptable' during validation process
V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)	Valid. Code	MDA	Am-241 (pCi/l)	Valid. Code	MDA	TSS (mg/l)
SWC2	C2052990W	29-MAY-90	TOT	.012590 +/- .008263						7.5
SWC2	SW00076WC	14-JUN-90	FILT	0.0 +/- .002844			.004283 +/- .008396			
SWC2	SW00076WC	14-JUN-90	TOT	0.012 +/- 0.007		0.01				
SWC2	SW00087WC	20-JUN-90	FILT	.0007323+/- .005740			.0008202+/- .004823			
SWC2	SW00099WC	25-JUN-90	FILT	.01036 +/- .007404			0.0 +/- .010341			
SWC2	SW05000WC	27-JUN-90	FILT							
SWC2	SW05000WC	27-JUN-90	TOT							
SWC2	SW50002WC	05-JUL-90	FILT	.004483 +/- .006595			.001951 +/- .005736			
SWC2	SW50006WC	11-JUL-90	TOT	.05292 +/- .018077			.003988 +/- .007818			
SWC2	SW50015WC	19-JUL-90	TOT	.04216 +/- .013384			.008601 +/- .008439			
SWC2	SW50024WC	26-JUL-90	TOT	-.000486+/- .000972		.01				
SWC2	SW50031WC	31-JUL-90	FILT	.003677 +/- .004807			.002393 +/- .007036			
SWC2	SW50066WC	08-AUG-90	FILT	.002438 +/- .007167			0.0 +/- .004704			
SWC2	SW50089WC	15-AUG-90	FILT	.003 +/- .003			.00166 +/- .004880			
SWC2	SW50112WC	22-AUG-90	FILT	.001686 +/- .004956			.0008224+/- .004835			
SWC2	NP50138WC	31-AUG-90	TOT	0.000 +/- .003987			.001534 +/- .009022			27
SWC2	NP50138WC	31-AUG-90	FILT							
SWC2	NP50151WC	05-SEP-90	FILT	.00822 +/- .007175			.00578 +/- .008502			
SWC2	NP50154WC	11-SEP-90	FILT	.005534 +/- .008684			.0088 +/- .008633			
SWC2	NP50159WC	17-SEP-90	FILT	.01056 +/- .007979			.01154 +/- .012939			
SWC2	NP50173WC	27-SEP-90	FILT	.0008485+/- .006652		.010	.003465 +/- .004076		.003	
SWC2	NP50173WC	27-SEP-90	TOT	.01759 +/- .011560		.007	-.001058+/- .006219		.009	
SWC2	NP50173WC *	27-SEP-90	FILT							
SWC2	NP50184WC	02-OCT-90	FILT	.002817 +/- .003684		.004	0.0 +/- .006899		.009	
SWC2	NP50193WC	11-OCT-90	FILT	.006165 +/- .004543		.005	.008019 +/- .007867		.009	
SWC2	NP50205WC	16-OCT-90	FILT	.00502 +/- .005911		.007	-.006427+/- .006307		.012	
SWC2	NP50207WC	24-OCT-90	FILT	.01353 +/- .006683		.005	.02589 +/- .009016		.005	
SWC2	NP50207WC	24-OCT-90	TOT	.01561 +/- .010244		.010	.01068 +/- .007491		.005	28
SWC2	NP50219WC	31-OCT-90	FILT	.004787 +/- .009386		.014	.005476 +/- .007159		.009	
SWC2	NP50230WC	08-NOV-90	FILT	.007759 +/- .005542		.007	.01807 +/- .025323		.032	
SWC2	NP50238WC	13-NOV-90	FILT							
SWC2	NP50238WC	13-NOV-90	TOT							7
SWC2	NP50238WC *	13-NOV-90	FILT							
SWC2	NP50250WC	20-NOV-90	FILT							
SWC2	NP50261WC	27-NOV-90	TOT	.005817 +/- .009508		.015	.006741 +/- .006613		.006	5
SWC2	NP50261WC	27-NOV-90	FILT							
SWC2	NP50268WC	05-DEC-90	FILT	.006418 +/- .006299		.007	.04063 +/- .015570		.009	
SWC2	NP50268WC	05-DEC-90	TOT	.07297 +/- .023951		.011	.08175 +/- .019639		.007	3
SWC2	NP50268WC *	05-DEC-90	FILT							
SWC2	NP50272WC	11-DEC-90	FILT	.009934 +/- .008375		.009	.00968 +/- .007916		.009	
SWC2	NP50275WC	18-DEC-90	TOT							7
SWC2	NP50278WC	02-JAN-91	FILT							
SWC2	NP50281WC	08-JAN-91	FILT							
SWC2	NP50284WC	15-JAN-91	FILT							
SWC2	NP50284WC	15-JAN-91	TOT							8
SWC2	NP50306WC	18-MAR-91	FILT	.01647 +/- .007234		.004	.001458 +/- .007144		.010	
SWC2	NP50306WC	18-MAR-91	TOT	.05362 +/- .015795		.012	.01076 +/- .008447		.008	12
SWC2	NP50313WC	26-MAR-91	FILT	.009261 +/- .006066		.007	.002386 +/- .004678		.006	
SWC2	NP50318WC	08-APR-91	FILT							
SWC2	NP50322WC	15-APR-91	FILT							
SWC2	NP50322WC	15-APR-91	TOT							9
SWC2	NP50326WC	22-APR-91	FILT	.006969 +/- .007816V		.009	.006258 +/- .012281A		.014	
SWC2	NP50326WC	22-APR-91	TOT							8
SWC2	NP50339WC	29-APR-91	FILT	.003432 +/- .006728V			.006471 +/- .009068V			
SWC2	NP50339WC	29-APR-91	TOT							28
SWC2	NP50343WC	06-MAY-91	TOT	.00733 +/- .006540V			.01667 +/- .006975A			
SWC2	NP50347WC	13-MAY-91	FILT	.01217 +/- .008706			.002309 +/- .003020			
SWC2	NP50359WC	20-MAY-91	FILT	.007067 +/- .005209V			-.001819+/- .003569A			
SWC2	NP50359WC	20-MAY-91	TOT	.01386 +/- .006834V			0.003 +/- .014264A			8
SWC2	NP50367WC	29-MAY-91	TOT	0.003 +/- 0.003 V						6
SWC2	NP50367WC	29-MAY-91	FILT							
SWC2	NP50370WC	29-MAY-91	TOT	0.010 +/- 0.006 V						8

Notes: U=Analyzed but not detected at or above the detection limit J=Present below detection limit
R=Data rejected during validation process A=Data deemed 'acceptable' during validation process
V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

Plutonium 239/240, Americium 241, and TSS Analytical Results for Surface Water
Woman Creek Basin - Operable Unit No. 2

Station Number	Sample I.D.	Date Sampled	Sample Type	Pu-239/240 (pCi/l)			Valid. Code	MDA	Am-241 (pCi/l)			Valid. Code	MDA	TSS (mg/l)
SWC2	NP50370WC	29-MAY-91	FILT											
SWC2	NP50371WC	29-MAY-91	TOT	0.008	+/-	0.006	V							10
SWC2	NP50371WC	29-MAY-91	FILT											
SWC2	NP50372WC	29-MAY-91	FILT											
SWC2	NP50372WC	29-MAY-91	TOT											11
SWC2	NP50373WC	03-JUN-91	FILT	0.008	+/-	0.006	A		0.008	+/-	0.004	V		
SWC2	NP50384WC	10-JUN-91	FILT	0.004	+/-	0.003	A		0.003	+/-	0.004	V		
SWC2	NP50394WC	17-JUN-91	FILT	0.001	+/-	0.005	V		0.002	+/-	0.004	A		
SWC2	NP50394WC	17-JUN-91	TOT	0.014	+/-	0.006	V		0.002	+/-	0.003	A		15
SWC2	NP50398WC	24-JUN-91	TOT	0.002	+/-	0.002			-0.002	+/-	0.002			23
SWC2	NP50398WC	24-JUN-91	FILT											
SWC2	NP50402WC	01-JUL-91	FILT	0.003	+/-	0.004			0.002	+/-	0.003			
SWC2	NP50402WC	01-JUL-91	TOT											25
SWC2	NP50408WC	08-JUL-91	FILT	0.004	+/-	0.002			0.002	+/-	0.005			
SWC2	NP50421WC	17-JUL-91	FILT											
SWC2	NP50422WC	22-JUL-91	FILT											
SWC2	NP50427WC	31-JUL-91	FILT											
SWC2	NP50428WC	05-AUG-91	FILT											
SWC2	NP50436WC	14-AUG-91	FILT	0.004	+/-	0.004			0.001	+/-	0.005			
SWC2	NP50445WC	21-AUG-91	FILT	0.002	+/-	0.005			0.002	+/-	0.002			
SWC2	NP50445WC	21-AUG-91	TOT	0.015	+/-	0.011			0.004	+/-	0.009			15
SWC2	NP50448WC	28-AUG-91	FILT											
SWC2	NP50453WC	04-SEP-91	FILT											
SWC2	NP50463WC	09-SEP-91	FILT	0.019	+/-	0.008								
SWC2	NP50467WC	16-SEP-91	FILT											
SWC2	NP50470WC	25-SEP-91	FILT											
SWC2	NP50476WC	01-OCT-91	FILT											
SWC2	NP50490WC	14-OCT-91	FILT											
SWC2	NP50508WC	19-NOV-91	FILT											
SWC2	NP50508WC	19-NOV-91	TOT											
SWC2	NP50528WC	12-DEC-91	FILT											
SWC2	NP50528WC	12-DEC-91	TOT											
SWC2BG	SW00001WC	05-JUN-90	TOT	.01138	+/-	.008136		.008	.005921	+/-	.004980		.004	14
SWC2BG	SW00001WC	05-JUN-90	FILT											

Notes: U=Analyzed but not detected at or above the detection limit J=Present below detection limit
R=Data rejected during validation process A=Data deemed 'acceptable' during validation process
V=Data deemed 'valid' during validation process MDA=Minimum Detectable Activity (from RFEDS Detection Limit Field)
Type: 'Total' - unfiltered sample; 'Filtered' - filtered sample

APPENDIX C

SUMMARY OF PLUTONIUM AND AMERICIUM DETECTIONS IN GROUND AND SURFACE WATER OPERABLE UNIT 2 ("RELIABLE DATA SET")

APPENDIX C-1

SUMMARY OF PLUTONIUM AND AMERICIUM DETECTIONS AND ASSOCIATED TOTAL SUSPENDED SOLIDS CONCENTRATIONS IN GROUND WATER

Summary of Pu-239/240 and Am-241 Detections in Ground Water
Woman Creek Basin Alluvial Monitor Wells

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
0171	Filtered	29-NOV-89	G01711189004	.006	+/-	.004		.003	1/6	ND					0/7		
0171	Total	09-MAR-87	1-71-03-09-87	0.91	+/-	0.63			4/8	ND					2/8		
		20-NOV-90	GW00759IT	.02753	+/-	.00891		.01	4/8	ND					2/8		
		17-APR-91	GW01127IT	.4935	+/-	.0729		.01	4/8	.1008	+/-	.0192		.01	2/8	110	
		10-SEP-91	GW01656IT	.03783	+/-	.0151		.01	4/8	.01036	+/-	.00664		.01	2/8	4	U
0271	Filtered								0/4						0/4		
0271	Total	27-AUG-86	G027108860	32	+/-	3			5/7	4.4	+/-	2.3			4/7		
		11-MAR-87	2-71-03-11-87	1.9	+/-	1.0			5/7	ND					4/7		
		21-NOV-90	GW00760IT	.03263	+/-	.0128		.01	5/7	.01295	+/-	.00782		.01	4/7	130	
		19-APR-91	GW01128IT	1.261	+/-	.168		.01	5/7	.3805	+/-	.0591		.01	4/7	3100	
		10-SEP-91	GW01654IT	.3882	+/-	.0684		.01	5/7	.06568	+/-	.021		.01	4/7	1310	
0774	Filtered								0/2						0/2		
0774	Total	22-AUG-86	G077408860	ND					0/3	0.10	+/-	0.06			1/3		
0286	Filtered	26-JUN-89	2-86-06-26-89	.007	+/-	.002		0	1/6						0/4		
0286	Total								0/3						0/4		
3986	Filtered	15-AUG-89	39-86-08-15-89	.007	+/-	.002		0	1/8						0/7		
3986	Total	09-AUG-90	GW00215IT	.0107	+/-	.0077		0	1/8	ND					0/7	440	
4186	Filtered								0/6						0/5		
4186	Total	10-JAN-91	GW00865IT	ND					0/6	.02087	+/-	.0188		.01	1/6	190	
6386	Filtered								0/0						0/0		
6386	Total	13-JUN-90	G-6386-0612-02-1210	0.039	+/-	0.012		.01	1/1						0/0	351	
6486	Filtered								0/2						0/1		
6486	Total								0/1						0/1		
6586	Filtered								0/5						0/5		
6586	Total	09-MAY-91	GW01275IT	.01443	+/-	.00816	V	.005	1/8	R					0/6	38	
6786	Filtered	08-FEB-90	G67860290001	ND					0/2	0.007	+/-	0.006		.006	1/2		
6786	Total	12-JUN-90	G-6786-0612-02-0900	.005964	+/-	.004394		.005	1/5	ND					0/5	5	U
0687	Filtered	31-JAN-90	G06870190001	0.014	+/-	0.007		.000	1/4	0.010	+/-	0.009		.009	1/4		
0687	Total	19-OCT-89	G06871089003	0.010	+/-	0.005	A	.003	1/2						0/1	5	U
1587	Filtered	03-AUG-89	15-87-08-02-89	0.010	+/-	0.006		0	2/5	0.037	+/-	0.017		0	1/5		
		04-DEC-89	G15871289004	.007	+/-	.004		.004	2/5	ND					1/5		
1587	Total	18-SEP-90	GW00408IT	.1961	+/-	.0348		.01	2/3	.031	+/-	.00853		.01	3/3	626	
		27-NOV-90	GW00737IT	ND					2/3	.02079	+/-	.01		.01	3/3	660	
		03-SEP-91	GW01650IT	2.04	+/-	.236		.01	2/3	.1036	+/-	.025		.01	3/3	1100	
2787	Filtered	22-AUG-89	27-87-08-22-89	0.011	+/-	0.006		0	3/4	0.019	+/-	0.015		.018	1/3		
		05-DEC-89	G27871289004	.010	+/-	.004		.006	3/4	ND					1/3		
		12-MAR-90	G27870390001	0.005	+/-	0.004		.003	3/4						1/3		
2987	Filtered	03-AUG-89	29-87-08-02-89	.007	+/-	.002		0	2/5						0/5		
		07-FEB-90	G29870290001	0.018	+/-	0.007		.00	2/5	ND					0/5		
2987	Total								0/5						0/4		
3287	Filtered	21-FEB-90	G32870290001	ND					0/6	.013	+/-	.010		.01	1/5		
3287	Total								0/6						0/6		

Notes:
- ND = Not detected R = Data rejected during validation process
- MDA = Minimum Detectable Activity (from the RFEDS Detection Limit Field).
- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered sample; "Dissolved" - Filtered sample.

Summary of Pu-239/240 and Am-241 Detections in Ground Water
South Walnut Creek Basin Bedrock Monitor Wells

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)
3486	Filtered	04-NOV-88	34-86-11-04-88	ND					2/9	0.11	+/-	.08	V	.01	2/8	
		15-AUG-89	34-86-08-15-89	.007	+/-	.002		0	2/9						2/8	
		24-JAN-90	G34860190001	0.016	+/-	0.006		.00	2/9	0.009	+/-	0.006		.004	2/8	
3486	Total								0/11						0/9	
0987	Filtered	08-AUG-89	9-87-08-07-89	0.010	+/-	0.006		0	1/5	0.037	+/-	0.017		0	1/4	
0987	Total	07-MAR-91	GW00932IT	.1245	+/-	.0315		.01	2/4	.02631	+/-	.0137		.01	1/5	434
		16-AUG-91	GW01667IT	.01936	+/-	.00988		.01	2/4	ND					1/5	660
1687	Filtered	03-AUG-89	16-87-08-02-89	0.010	+/-	0.006		0	1/9	0.037	+/-	0.017		0	1/9	
1687	Total	16-APR-91	GW01095IT	.06808	+/-	.0192		.01	2/4	ND					1/4	42
		05-SEP-91	GW01645IT	.02973	+/-	.0117		.01	2/4	.01064	+/-	.00718		.01	1/4	64
1887	Filtered	02-NOV-89	G18871189004	0.009	+/-	0.004		.000	1/2						0/1	
1887	Total								0/0						0/0	
2087	Filtered								0/1						0/1	
2287	Filtered	09-FEB-89	22-87-02-09-89	ND					2/8	0.11	+/-	0.08	V	0	1/6	
		15-AUG-89	22-87-08-15-89	.007	+/-	.002		0	2/8						1/6	
		08-FEB-90	G22870290001	0.004	+/-	0.003		.003	2/8						1/6	
2287	Total	25-MAY-90	G-2287-0524-02-1410	ND					1/6	0.025	+/-	0.018		.01	2/5	260
		14-AUG-90	GW00143IT	.00927	+/-	.00693		0	1/6	.0322	+/-	.0244		0	2/5	290
2387	Filtered	10-AUG-88	23-87-08-10-88	ND					1/7	.100	+/-	0.08	V	.01	1/7	
		07-AUG-89	23-87-08-07-89	.025	+/-	.011		.008	1/7	ND					1/7	
2387	Total								0/4						0/4	
2587	Filtered	18-AUG-89	25-87-08-18-89	0.010	+/-	0.006		0	2/6	0.037	+/-	0.017		0	2/6	
		01-FEB-90	G25870290001	0.010	+/-	0.005		.00	2/6	0.009	+/-	0.006		.00	2/6	
2587	Total	11-JUN-90	G-2587-0611-02-0950	R					3/5	.02259	+/-	.009678	A	.006	3/5	730
		14-AUG-90	GW00232IT	.00551	+/-	.00524		0	3/5						3/5	
		22-APR-91	GW01176IT	.01832	+/-	.0086		.01	3/5	.01338	+/-	.0115		.01	3/5	820
		10-SEP-91	GW01685IT	.01097	+/-	.00763		.01	3/5	.01636	+/-	.00961		.01	3/5	380
3687	Filtered	21-AUG-89	36-87-08-21-89	.013	+/-	.004		.002	1/7						0/5	
3687	Total	08-MAR-91	GW00934IT	.05767	+/-	.0218		.01	2/6	ND					1/6	1201
		19-APR-91	GW01162IT	.02522	+/-	.0104		.01	2/6	.01814	+/-	.00957		.01	1/6	720

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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered sample; "Dissolved" - Filtered sample.

APPENDIX C-2

SUMMARY OF PLUTONIUM AND AMERICIUM DETECTIONS AND ASSOCIATED TOTAL SUSPENDED SOLIDS CONCENTRATION IN SURFACE WATER

Summary of Pu-239/240 and Am-241 Detections In Surface Seeps

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
SW028	Filtered	28 MAR 89	SW028001	0.02	+/-	0.01				ND							
		14 NOV 90	SW00502WC	.3				.01		.2				.01			
		04 DEC 90	SW00606WC	.9				.01		ND							
		08 MAR 91	SW00914WC	.02				.01		.0160	+/-	.0130		.01			
		03 APR 91	SW01016WC *							.0280	+/-	.0130		.01			
SW028	Total	06 JUL 88	SW88A061	0.240	+/-	0.101		0.04								22	
		15 SEP 89	SW028006	ND						.03	+/-	0.02	V	0.01		5	U
		08 NOV 89	SW028008	0.012	+/-	0.006										5	U
		18 JAN 90	SW02890001	0.009	+/-	0.007				0.212	+/-	0.032		0.009		5	U
		09 AUG 90	SW00232WC	ND						.01825	+/-	.013055		0.011		4	U
		04 OCT 90	SW00401WC	.1608	+/-	.025578		.009		.037	+/-	.016207		.016		4	U
SW029	Filtered	23 JUN 88	SW88A019	0.159	+/-	0.142		0.1									
		08 NOV 90	SW00503WC	.3				.01		.4				.01			
		05 DEC 90	SW00607WC	6.15	+/-	2.200	JA	.84		ND							
		09 JAN 91	SW00709WC	.3				.01		.1				.01			
		18 MAR 91	SW00915WC	.02				.01		.05				.01			
SW029	Total	23 JUN 88	SW88A019	0.315	+/-	0.115		0.09								13	
		24 MAY 89	SW029002	0.02	+/-	0.01				ND						62	J
		22 JUN 89	SW029003	0.04	+/-	0.01		0.		ND						150	
		25 SEP 89	SW029006	.015	+/-	.008		0		ND						28	
		20 OCT 89	SW029007	0.013	+/-	0.006				ND						10	
		16 JAN 90	SW02990001	0.008	+/-	0.005				0.047	+/-	0.015		0.000		12	
		08 FEB 90	SW02990002	ND						0.008	+/-	0.006		0.006		5	U
		06 JUN 90	SW00003WC	0.011	+/-	0.008		0.01		ND						17	
		17 JUL 90	SW00130WC	ND						.01119	+/-	.0071		.01			
		09 AUG 90	SW00233WC	.01158	+/-	.007118				ND						18	
		12 SEP 90	SW00311WC	ND						.06723	+/-	.03107		0.020		16	
		08 AUG 91	SW01436WC	ND						.01583	+/-	.00863		.01		160	
		09 JAN 92	SW01793WC	0.007	+/-	0.004											
SW050	Filtered	27 JUN 88	SW88A021	0.575	+/-	0.347		0.2									
SW050	Total	21 JUL 87	SW-50-07-21-87	55	+/-	7				ND						7	
		27 JUN 88	SW88A021	0.928	+/-	0.139		0.08								1000	
		27 JUN 89	SW050003	1.4	+/-	0.1		0.		0.79	+/-	0.05		0.01		380	
		17 MAY 90	SW050W051790A							0.807	+/-	0.078		0.01		36	

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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered Sample; "Filtered" - Filtered Sample

Summary of Pu-239/240 and Am-241 Detections In Surface Seeps

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
		23 JUL 90	SW00170WC	4.06	+/-	.425		.01		.4631	+/-	.0866		.01		41.5	
SW051	Total	21 JUL 87	SW-51-07-21-87	13	+/-	3				ND						3	
		27 JUN 89	SW051003	0.69	+/-	0.04		0.		1.0	+/-	0.1		0.01		35	
		24 APR 90	SW051W042490	0.525	+/-	0.060		0.01		0.561	+/-	0.058		0.01			
		17 MAY 90	SW051W051790A							0.401	+/-	0.050		0.01		6	
SW052	Filtered	23 JUN 88	SW88A017	0.369	+/-	0.195		0.2									
SW052	Total	21 JUL 87	SW-52-07-21-87	5.4	+/-	1.5				ND						2	
		23 JUN 88	SW88A017	0.595	+/-	0.218		0.2								289	
		17 MAY 90	SW052W051790A	0.313	+/-	0.046		0.01		0.170	+/-	0.046		0.01		12	
SW053	Filtered	23 JUN 88	SW88A018	1.89	+/-	0.851		0.7									
		05 APR 89	SW053001	0.20	+/-	0.03				ND							
		15 NOV 90	SW00528WC	4.400	+/-	.3000		.01		2				.01			
		21 MAR 91	SW00940WC	3.800	+/-	0.200		.01		.4000	+/-	.1800		.01			
SW053	Total	21 JUL 87	SW-53-07-21-87	25	+/-	5				ND						2	
		23 JUN 88	SW88A018	5.06	+/-	0.958		0.7								80	
		05 APR 89	SW053001	15	+/-	1				9.7	+/-	0.2				800	
		26 JUN 89	SW053003	56	+/-	3				28	+/-	1				1600	
		20 SEP 89	SW053006	.020	+/-	.012		.007		ND						24	
		12 OCT 89	SW053007	1.55	+/-	0.07		0								32	
		07 NOV 89	SW053008	1.766	+/-	0.174				0.274	+/-	0.040		0.000		5	U
		17 JAN 90	SW05390001	21.890	+/-	1.819										320	
		13 FEB 90	SW05390002	1.696	+/-	0.140				0.441	+/-	0.084		0.023		1100	
		25 APR 90	SW053W042590	2.636	+/-	0.241		0.01		2.702	+/-	0.400		0.01			
		23 JUL 90	SW00171WC	2.239	+/-	.258		.01		.9293	+/-	.15		.01		47	
		24 JUL 91	SW01355WC	42.25	+/-	4.12		.01		3.48	+/-	.421		.01		50	
SW054	Filtered	05 JUL 88	SW88A057	0.238	+/-	0.179		0.2									
		19 NOV 90	SW00513WC	.02				.01		.5				.01			
		13 MAR 91	SW00925WC	.02				.01		.02				.01			
		03 APR 91	SW01027WC	.03				.01		.10				.01			
SW054	Total	05 JUL 88	SW88A057	0.0695	+/-	0.0407		0.03								29	
		21 MAR 89	SW054001	0.11	+/-	0.02				0.02	+/-	0.01				49	
		22 JUN 89	SW054003	3.7	+/-	0.1		0.		0.13	+/-	0.02		0.01		2200	
		19 JUL 89	SW054004	0.71	+/-	0.05		0.01		0.07	+/-	0.02		0.01		200	J
		21 SEP 89	SW054006	.014	+/-	.007		.003		ND						26	

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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered Sample; "Filtered" - Filtered Sample

Summary of Pu-239/240 and Am-241 Detections In Surface Seeps

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
		12 OCT 89	SW054007	0.029	+/-	0.010		0								5	U
		03 NOV 89	SW054008	0.019	+/-	0.007				ND						26	
		18 JAN 90	SW05490001	0.092	+/-	.021				0.215	+/-	0.016		0.006		790	
		12 FEB 90	SW05490002							0.097	+/-	0.021		0.007		62	
		23 APR 90	SW054W042390	0.021	+/-	0.011		0.01		ND							
		16 AUG 90	SW00243WC	.01349	+/-	.010619				ND						14	
		18 OCT 90	SW00412WC	.01924	+/-	.007924		.005		.02424	+/-	.011021		.011		62	
		12 JUN 91	SW01237WC	.03514	+/-	.0138	V			.008182	+/-	.00606	V	0.000		6	
		06 AUG 91	SW01446WC	.01593	+/-	.00838		.01		ND						7	
SW055	Total	21 JUL 87	SW-55-07-21-87	3.2	+/-	1.7				ND						2	
		25 MAY 89	SW055002	60	+/-	1				7.2	+/-	0.3				520	J
		28 JUN 89	SW055003	17	+/-	1		0.		33	+/-	1		0.16		920	
		16 AUG 89	SW055005	0.37	+/-	0.04		0.		0.08	+/-	0.02		0.01		5	UJ
		20 SEP 89	SW055006	.020	+/-	.012		.007		ND						14	
		19 OCT 89	SW055007	0.736	+/-	0.075				0.702	+/-	0.074		0.005		10	
		07 DEC 89	SW055009	0.254	+/-	0.040										8	
		16 JAN 90	SW05590001	2.477	+/-	0.214										1800	
		24 APR 90	SW055W042490A	0.334	+/-	0.045		0.01		0.195	+/-	0.038		0.01			
		24 JUN 91	SW01253WC	4.537	+/-	.479		.01		.759	+/-	.0938		.01		57	
		24 JUL 91	SW01356WC	.4039	+/-	.0471		.01		.1086	+/-	.0289		.01		11	
SW056	Filtered	17 DEC 90	SW00579WC	ND						.2				.01			
		26 MAR 91	SW00887WC	ND						.1				.01			
SW056	Total	13 APR 89	SW056001	0.20	+/-	0.03				0.10	+/-	0.03				420	
		11 MAY 89	SW056002	0.14	+/-	0.02				0.06	+/-	0.02				280	
		07 JUN 89	SW056003	2.5	+/-	0.1				0.40	+/-	0.05				150	
		12 JUL 89	SW056004	0.05	+/-	0.01		0.		0.05	+/-	0.01		0.01		31	
		09 AUG 89	SW056005	ND						0.08	+/-	0.02		0.		420	J
		14 SEP 89	SW056006	0.009	+/-	0.004				.01	+/-	0.006	V	0.003		20	
		18 OCT 89	SW056007	0.018	+/-	0.009		0								5	UJ
		19 DEC 89	SW056009	0.019	+/-	0.007				0.042	+/-	0.020		0.013		56	
		25 JAN 90	SW05690001	0.028	+/-	0.010				0.427	+/-	0.048		0.005		640	
		21 MAR 90	SW05690003	.01589	+/-	.007842				.009822	+/-	.008761		0.008		5	U
		28 JUN 90	SW00048WC	ND						.01314	+/-	.009923		0.009			
		11 SEP 90	SW00292WC	ND						.009281	+/-	.007589		0.007		4	U

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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered Sample; "Filtered" - Filtered Sample

Summary of Pu-239/240 and Am-241 Detections In Surface Seeps

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
SW057	Total	21 JUL 87	SW-57-07-21-87	54	+/-	7				ND						5	
SW058	Filtered	23 JUN 88	SW88A016	1.06	+/-	0.360		0.2									
SW058	Total	21 JUL 87	SW-58-07-21-87	8.9	+/-	2.1				ND						3	
		23 JUN 88	SW88A016	3.64	+/-	0.531		0.3								13	
		28 JUN 89	SW058003	7.1	+/-	0.1				1.1	+/-	0.6				34	J
		24 APR 90	SW058W042490	1.260	+/-	0.130		0.01		1.376	+/-	0.143		0.01			
		23 JUL 90	SW00172WC	1.918	+/-	.206		.01		.8598	+/-	.111		.01		7	
		24 JUN 91	SW01255WC	11.03	+/-	1.12		.01		1.208	+/-	.138		.01		18	
SW059	Filtered	26 NOV 90	SW00540WC	2				.01		.2				.01			
		12 DEC 90	SW00644WC	.02				.01		.2				.01			
		09 JAN 91	SW00746WC	.4				.01		.4				.01			
		27 MAR 91	SW00952WC	ND						.1				.01			
		11 APR 91	SW01054WC	.0160	+/-	.0100		.01		.1				.01			
SW059	Total	20 MAR 89	SW059001	0.48	+/-	0.04				0.20	+/-	0.13				230	
		11 MAY 89	SW059002	0.9	+/-	0.1				1.3	+/-	0.1				1000	
		08 JUN 89	SW059003	0.28	+/-	0.03		0.01		0.29	+/-	0.04		0.01		160	J
		06 JUL 89	SW059004	3.1	+/-	0.1				ND						1800	J
		18 SEP 89	SW059006	0.021	+/-	0.007				ND						10	
		03 OCT 89	SW059007	0.027	+/-	0.013		0		0.032	+/-	0.019		0		5	U
		06 NOV 89	SW059008	0.019	+/-	0.007		0.00		0.008	+/-	0.005		0.003		6	
		09 FEB 90	SW05990002	0.088	+/-	0.026										210	
		26 APR 90	SW059W042690							0.062	+/-	0.018		0.01			
		23 MAY 90	SW059W052390A	0.018	+/-	0.009		0.01								78	
		26 JUN 90	SW00103WC	0.020	+/-	0.008		0.01		ND						5	U
		23 JUL 90	SW00186WC	ND						.1167	+/-	.0243		.01		42	
		22 AUG 90	SW00266WC	.0402	+/-	.019992				.06474	+/-	.039454		0.004		8	
		25 SEP 90	SW00344WC	.06029	+/-	.015352		.008		.051	+/-	.018		.017		4	U
		16 OCT 90	SW00439WC	.03804	+/-	.013778		.008		.2718	+/-	.033045		.009		1100	
		20 JUN 91	SW01264WC	.04943	+/-	.0181		.01		.05142	+/-	.0148		.01		44	
		07 AUG 91	SW01473WC	.03842	+/-	.0189		.01		.01467	+/-	.00572		.01		29	
SW062	Filtered	14 NOV 90	SW00532WC	.3				.01		7.700	+/-	3.000		.01			
		03 APR 91	SW01046WC	.0120	+/-	.0100		.01		.0300				.01			
SW062	Total	22 JUL 87	SW-62-07-22-87	1.3	+/-	0.9				ND						7	
		05 JUL 88	SW88A058	0.207	+/-	0.0967		0.07								26	

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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
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- Type: "Total" - Unfiltered Sample; "Filtered" - Filtered Sample

Summary of Pu-239/240 and Am-241 Detections In Surface Seeps

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
		28 MAR 89	SW062001	ND						0.02	+/-	0.01				<5	
		19 JUL 89	SW062004	0.02	+/-	0.01		0.01		ND						340	J
		15 SEP 89	SW062006	ND						.01	+/-	0.008	V	0.009		5	U
		12 OCT 89	SW062007	0.033	+/-	0.013										20	
		08 NOV 89	SW062008	0.013	+/-	0.009				ND						26	
		18 JAN 90	SW06290001	.007	+/-	0.006				0.012	+/-	0.007		0.005		5	U
		22 MAY 90	SW062W052290A	0.025	+/-	0.011		0.01		ND						5	U
		22 AUG 90	SW00259WC	.0105	+/-	.008857				ND						8	
		19 SEP 90	SW00337WC	.01711	+/-	.009008				ND							
		08 OCT 90	SW00431WC	.007272	+/-	.006125		.007		ND						4	U
		12 JUN 91	SW01256WC	.01368	+/-	.00876	V			ND						10	
SW063	Total	06 JUL 88	SW88A060	0.242	+/-	0.212		0.2								58	
SW064	Filtered	23 OCT 90	SW00433WC	.4				.01									
		12 MAR 91	SW00946WC	ND						.02				.01			
		12 MAR 91	SW00946WC *							.4				.01			
		03 APR 91	SW01048WC	ND						.05				.01			
SW064	Total	22 MAY 89	SW064002	0.07	+/-	0.02		0.		ND						55	
		25 APR 90	SW064W042590	0.022	+/-	0.009		0.01		ND							
		18 JUN 90	SW00026WC	0.020	+/-	0.015		0.01									
		24 JUL 90	SW00173WC	ND						.03462	+/-	.0126		.01		13	
SW065	Total	05 APR 89	SW065001	1.5	+/-	0.1				0.24	+/-	0.05				2000	
		26 MAY 89	SW065002	0.07	+/-	0.02				ND						10	
		20 JUN 89	SW065003	0.11	+/-	0.02		0.		0.04	+/-	0.02		0.01		7	
		17 JUL 89	SW065004	0.15	+/-	0.02		0.01		0.02	+/-	0.01		0.01		470	J
		20 SEP 89	SW065006	.020	+/-	.012		.007		ND						350	
		12 OCT 89	SW065007	0.028	+/-	0.009		0								110	
		07 NOV 89	SW065008	0.107	+/-	0.018				0.072	+/-	0.020		0.006		16	
		07 DEC 89	SW065009	0.028	+/-	0.012				0.047	+/-	0.033		0.038		16	
		18 JAN 90	SW06590001	.014	+/-	0.008				0.069	+/-	0.022		0.010		20	
SW077	Total	22 JUN 88	SW88A014	1.92	+/-	0.723		0.6									
		27 JUN 89	SW077003	3.3	+/-	0.1		0.		2.7	+/-	0.1		0.01		340	
		16 AUG 89	SW077005	4.1	+/-	0.1		0.		1.5	+/-	0.1		0.01		60	J
		16 MAR 90	SW07790003	4.26	+/-	0.359				4.737	+/-	0.398		0.009		160	
		24 APR 90	SW077W042490	1.343	+/-	0.133		0.01		4.862	+/-	0.521		0.01			

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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
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- Type: "Total" - Unfiltered Sample; "Filtered" - Filtered Sample

Summary of Pu-239/240 and Am-241 Detections In Surface Seeps

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
		25 JUN 90	SW00032WC	7.433	+/-	1.074		0.01								94	
		23 JUL 90	SW00180WC	2.286	+/-	.251		.01		1.941	+/-	.234		.01		41	
SW101	Filtered	17 DEC 90	SW00587WC	.06				.01		.3				.01			
		26 MAR 91	SW00895WC	ND						.0170	+/-	.0140		.01			
SW101	Total	13 APR 89	SW101001	0.57	+/-	0.04				0.36	+/-	0.10				1200	J
		11 MAY 89	SW101002	3.3	+/-	0.1				0.44	+/-	0.08				7500	
		07 JUN 89	SW101003	0.71	+/-	0.04				0.17	+/-	0.04				1400	J
		12 JUL 89	SW101004	0.37	+/-	0.03		0.		ND						240	
		09 AUG 89	SW101005	ND						0.15	+/-	0.03		0.		290	J
		19 DEC 89	SW101009	0.036	+/-	0.011				0.411	+/-	0.048	A	0.007		310	
		25 JAN 90	SW10190001	0.021	+/-	0.010				0.591	+/-	0.063		0.005		1700	
		21 MAR 90	SW10190003	.03263	+/-	.012947				.7571	+/-	.089376		0.018		660	
		18 APR 90	SW101W041890A	0.011	+/-	0.008		0.01		0.370	+/-	0.044		0.01		610	
		28 JUN 90	SW00047WC	ND						.0198	+/-	.011125		0.010			
		18 JUL 90	SW00126WC	ND						.04349	+/-	.0166		.01			
		16 AUG 90	SW00222WC	ND						.07674	+/-	.017710		0.005		130	
		11 SEP 90	SW00300WC	.008302	+/-	.006524				.01662	+/-	.009615		0.008		21	
		09 OCT 90	SW00382WC	.009093	+/-	.005956		.006		.01866	+/-	.006383		.005		31	
		18 JUN 91	SW01208WC	.02588	+/-	.0101		.01		.0554	+/-	.0211		.01		118	
SW103	Total	23 MAR 89	SW103001	0.74	+/-	0.05				0.10	+/-	0.04				26000	J
		25 MAY 89	SW103002	1.4	+/-	0.1				0.12	+/-	0.02				1800	
		13 JUL 89	SW103004	2.8	+/-	0.1		0.		0.28	+/-	0.04		0.01		1400	
		07 SEP 89	SW103006	.035	+/-	.023		0		ND						860	J
		03 OCT 89	SW103007	1.26	+/-	0.10		0		0.533	+/-	0.094		0.026		790	
		03 NOV 89	SW103008	0.338	+/-	0.069				0.031	+/-	0.012		0.000		230	
		18 JAN 90	SW10390001	0.014	+/-	0.007				0.436	+/-	0.057		0.008		10,000	
		12 FEB 90	SW10390002							0.298	+/-	0.044		0.005		380	
		22 MAR 90	SW10390003	.021450	+/-	.010090				.034860	+/-	.011500		0.005		5	U
		23 MAY 90	SW103W052390A	ND						0.011	+/-	0.009		0.01		15	
		18 JUN 90	SW00080WC	0.029	+/-	0.013		0.01									
		24 JUL 90	SW00187WC	.3203	+/-	.0482		.01		.2573	+/-	.0516		.01		51	

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Summary of Pu-239/240 and Am-241 Detections In Stream Samples

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
SW022	Total	23 JUL 91	SW01391WC	.03967	+/-	.0176		.01		ND						57	
SW023	Filtered	16 NOV 90	SW00544WC	.7700	+/-	.2700		.01		.03				.01			
		14 JAN 91	SW00750WC	.02				.01		.4				.01			
		28 MAR 91	SW00956WC	ND						.03				.01			
		28 MAR 91	SW00956WC *							.07				.01			
SW023	Total	16 OCT 90	SW00443WC	ND						.04322	+/-	.017114		.009		5	
		20 MAY 91	SW01165WC	.01069	+/-	.00656	A			.008891	+/-	.00658	V	0.000		8	
SW026	Filtered	08 NOV 90	SW00562WC	.3				.01		.03				.01			
		08 MAR 91	SW00913WC	.0400	+/-	.0380		.01		15.00	+/-	7.000		.01			
SW026	Total	15 SEP 89	SW026006	0.015	+/-	0.013		0.01		ND						44	
		11 OCT 89	SW026007	0.010	+/-	0.007		0								5	U
		18 JAN 90	SW02690001	.007	+/-	0.005				0.009	+/-	0.006		0.006		5	U
		09 AUG 90	SW00231WC	.007558	+/-	.005572				ND						4	U
		06 SEP 90	SW00309WC	.009736	+/-	.008504				ND						4	U
SW027	Filtered	13 NOV 90	SW00508WC	.03				.01		ND							
		12 MAR 91	SW00920WC	ND						.02				.01			
		15 APR 91	SW01022WC	ND						.6800	+/-	.2900		.01			
SW027	Total	22 JUN 89	SW027003	0.82	+/-	0.05		0.		0.14	+/-	0.02		0.01		54	
		11 AUG 89	SW027005	0.04	+/-	0.01		0.01		ND						12	
		15 SEP 89	SW027006	0.04	+/-	0.01				.4	+/-	0.02	V	0.009		5	U
		08 NOV 89	SW027008	0.014	+/-	0.009				ND						5	U
		29 JAN 90	SW02790001							0.288	+/-	0.005		0.013			
		12 FEB 90	SW02790002	0.075	+/-	0.017				0.218	+/-	0.041		0.007		180	
		11 JUN 90	SW00009WC	0.317	+/-	0.046		0.01								82	
		18 JUL 90	SW00139WC	ND						.06159	+/-	.0222		.01		79	
		12 SEP 90	SW00316WC	.03049	+/-	.010386				.06256	+/-	.015131		0.004		52	
		23 APR 91	SW027W042390	0.024	+/-	0.009		0.01		ND							
		08 AUG 91	SW01441WC	.09919	+/-	.0229		.01		.01662	+/-	.011		.01		21	
SW030	Filtered	15 NOV 90	SW00509WC	.02				.01		.03				.01			
		06 DEC 90	SW00613WC	1				.01		.02				.01			
SW030	Total	22 JUN 89	SW030003	0.22	+/-	0.03		0.		ND						27	
		25 SEP 89	SW030006	.015	+/-	.008		0		ND						12	
		20 OCT 89	SW030007	0.006	+/-	0.005				ND						18	
		23 APR 90	SW030W042390	0.022	+/-	0.016		0.01		ND							

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Summary of Pu-239/240 and Am-241 Detections In Stream Samples

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
		11 JUN 90	SW00012WC	0.015	+/-	0.007		0.01								24	
		16 AUG 90	SW00239WC	.01143	+/-	.008437				.007795	+/-	.006121		0.004		17	
		12 SEP 90	SW00317WC	.01293	+/-	.007279				ND						23	
SW060	Filtered	16 MAR 89	SW060001	0.02	+/-	0.01				ND							
		26 NOV 90	SW00541WC	40				.01		.2				.01			
		22 MAR 91	SW00953WC *							.2300	+/-	.0500		.01			
		11 APR 91	SW01055WC	ND						.6300	+/-	.3600		.01			
SW060	Total	01 JUL 88	SW88A052	0.185	+/-	0.141		0.09								4	U
		16 MAR 89	SW060001	0.02	+/-	0.01				ND						6	
		15 MAY 89	SW060002	0.04	+/-	0.02				ND						12	J
		09 JUN 89	SW060003	0.02	+/-	0.01				0.02	+/-	0.01				17	J
		06 JUL 89	SW060004	0.03	+/-	0.02				0.03	+/-	0.02				32	J
		11 SEP 89	SW060006	.008	+/-	.007		.007		.019	+/-	.012	A	.010		5	UJ
		03 OCT 89	SW060007	0.011	+/-	0.007		0		0.024	+/-	0.010		0		22	
		06 NOV 89	SW060008	0.01	+/-	0.004				ND						8	
		23 JAN 90	SW06090001	0.020	+/-	0.009				0.036	+/-	0.014		0.006		440	
		23 MAY 90	SW060W052390A	ND						0.048	+/-	0.020		0.01		38	
		23 JUL 90	SW00188WC	ND						.01302	+/-	.00599		.01		10	
		26 SEP 90	SW00345WC	.007525	+/-	.005548		.006		.01277	+/-	.007165		.005		4	U
		16 OCT 90	SW00440WC	ND						.02844	+/-	.007379		.005		16	
		20 JUN 91	SW01265WC	.02787	+/-	.0155		.01		.04161	+/-	.0163		.01		12	
SW061	Filtered	26 NOV 90	SW00542WC	.6				.01		.6				.01			
		11 APR 91	SW01056WC	.0630	+/-	.0200		.01		.7				.01			
SW061	Total	20 MAR 89	SW061001	0.04	+/-	0.02				0.03	+/-	0.02*				54	
		09 JUN 89	SW061003	0.05	+/-	0.01				0.05	+/-	0.03				15	J
		06 JUL 89	SW061004	0.02	+/-	0.01				ND						11	J
		11 SEP 89	SW061006	.008	+/-	.007		.007		.019	+/-	.012	A	.010		5	UJ
		03 OCT 89	SW061007	0.016	+/-	0.010				0.033	+/-	0.016		0		5	U
		06 NOV 89	SW061008	0.007	+/-	0.005		0.00		0.013	+/-	0.011		0.009		14	
		23 JAN 90	SW06190001	0.017	+/-	0.009				0.067	+/-	0.015		0.005		5	U
		12 MAR 90	SW06190003	0.017	+/-	0.007										10	
		23 MAY 90	SW061W052390A	0.015	+/-	0.009		0.01		ND						5	U
		22 AUG 90	SW00268WC	.008445	+/-	.007116				.0148	+/-	.008722		0.007		8	
		19 SEP 90	SW00339WC	ND						.01676	+/-	.010991		0.007			

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Summary of Pu-239/240 and Am-241 Detections In Stream Samples

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
		20 JUN 91	SW01266WC	.01503	+/-	.00884		.01		.02204	+/-	.0125		.01		11	
		12 JUL 91	SW01369WC	ND						.04166	+/-	.0318		.01			
SW069	Filtered	29 JUN 88	SW88A039	0.180	+/-	0.167		0.09									
		19 NOV 90	SW00518WC	.02				.01		1				.01			
		10 DEC 90	SW00622WC	.02				.01		.3				.01			
		18 MAR 91	SW00930WC	ND						.5				.01			
		04 APR 91	SW01032WC	ND						.5				.01			
SW069	Total	23 OCT 89	SW069007	0.016	+/-	0.006				0.006	+/-	0.004		0.003		20	
		16 NOV 89	SW069008	0.016	+/-	0.007				0.025	+/-	0.016		0.000		26	
		11 JAN 90	SW06990001	0.013	+/-	0.006				ND						20	
		07 FEB 90	SW06990002	0.012	+/-	0.007				0.013	+/-	0.009		0.005		17	
		19 APR 90	SW069W041990	0.013	+/-	0.006		0.01		ND							
		12 JUN 90	SW00063WC	0.011	+/-	0.007		0.01								70	
		19 SEP 90	SW00326WC	.02703	+/-	.011648		.005		.02176	+/-	.008573		.005			
		16 OCT 90	SW00417WC	ND						.009635	+/-	.006301		.007		10	
		08 AUG 91	SW01451WC	.09227	+/-	.0244		.01		.01677	+/-	.00948		.01		20	
SW070.	Filtered	29 JUN 88	SW88A038	0.110	+/-	0.0857		0.04									
		15 NOV 90	SW00519WC	.2000	+/-	.0500		.01		.9				.01			
		10 DEC 90	SW00623WC	ND						.1				.01			
		18 MAR 91	SW00931WC	ND						.1				.01			
		04 APR 91	SW01033WC	ND						.5				.01			
SW070	Total	29 MAR 89	SW070001	0.02	+/-	0.01				ND						38	
		23 OCT 89	SW070007	0.010	+/-	0.005				0.012	+/-	0.007		0.004		14	
		16 NOV 89	SW070008	ND						0.043	+/-	0.020		0.015		28	
		07 FEB 90	SW07090002	0.018	+/-	0.007				0.013	+/-	0.011		0.000		5	U
		19 APR 90	SW070W041990A	0.016	+/-	0.012		0.01		ND						38	
SW132	Filtered	27 MAR 91	SW00973WC	.0140	+/-	.0100		.01		.6600	+/-	.2700		.01			

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Summary of Pu-239/240 and Am-241 Detections In Ponds

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SWB1	Filtered	24 APR 91	NP50334WC	.02558	+/-	.009319	V	.008		ND							
		15 MAY 91	NP50355WC	.01472	+/-	.009664		.006		.009875	+/-	.005115		.002			
		10 JUL 91	NP50410WC	.005	+/-	.004		.003		ND							
SWB1	Total	16 AUG 86	SWB1088600	4.2	+/-	.6				ND							
		07 JUL 89	SWB10301	.03	+/-	.02				ND						5	U
		10 JUL 89	SWB10102	.15	+/-	.02				.04	+/-	.01				5	U
		10 JUL 89	SWB10104	.08	+/-	.02				.05	+/-	.01				5	U
		10 JUL 89	SWB10202	.85	+/-	.05				.06	+/-	.02				5	U
		10 JUL 89	SWB10303	.06	+/-	.02				.04	+/-	.01				9	
		21 AUG 89	SWB10103002	.06	+/-	.02		.		.04	+/-	.02		.01		5	U
		21 AUG 89	SWB10203002	.09	+/-	.02		.		.08	+/-	.02		.01		5	U
		22 AUG 89	SWB10302002	.13	+/-	.02		.		.05	+/-	.02		.01		5	U
		24 APR 91	NP50334WC	.03869	+/-	.010985	V	.006		ND						5	U
		15 MAY 91	NP50355WC	.05828	+/-	.014233		.004		.03088	+/-	.010554		.004		5	U
		06 JUN 91	NP50382WC	.019	+/-	.007	V	.005		.020	+/-	.008	A	.004		13	
		10 JUL 91	NP50410WC	.018	+/-	.007		.003		ND							
		21 AUG 91	NP50444WC	.022	+/-	.009		.006		.054	+/-	.018		.006		5	U
		12 SEP 91	NP50466WC	.041	+/-	.012		.004									
SWB2	Filtered	24 APR 91	NP50333WC	.01411	+/-	.007930	V	.008		ND							
		15 MAY 91	NP50354WC	.01836	+/-	.010897		.009		.007263	+/-	.006342		.004			
		11 JUL 91	NP50413WC	ND						.004	+/-	.003		.002			
		19 AUG 91	NP50439WC	.009	+/-	.006		.003		.006	+/-	.004		.005			
SWB2	Total	15 AUG 86	SWB2088600	.37	+/-	.19				.15	+/-	.08					
		03 JUL 89	SWB20102	.02	+/-	.01				ND						5	U
		03 JUL 89	SWB20104	.19	+/-	.03				.07	+/-	.02				5	U
		03 JUL 89	SWB20106	.16	+/-	.02				.04	+/-	.02				5	U
		05 JUL 89	SWB20205	.02	+/-	.01				ND						5	U
		05 JUL 89	SWB20206	.11	+/-	.02				.03	+/-	.01				5	U
		05 JUL 89	SWB20301	ND						.02	+/-	.01				5	U
		05 JUL 89	SWB20304	.07	+/-	.02				.02	+/-	.01				5	U
		17 AUG 89	SWB20202002	.02	+/-	.01		.01		.05	+/-	.02		.01		5	U
		17 AUG 89	SWB20205002	.04	+/-	.02		.01		ND						24	
		17 AUG 89	SWB20303002	.50	+/-	.04		.01		.23	+/-	.03		.01		34	
		24 APR 91	NP50333WC	.03612	+/-	.008518	V	.005		ND						6	

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Summary of Pu-239/240 and Am-241 Detections In Ponds

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		15 MAY 91	NP50354WC	.05046	+/-	.013690		.004		.01423	+/-	.007026		.004		8	
		06 JUN 91	NP50383WC	.014	+/-	.008	V	.007		ND						14	
		11 JUL 91	NP50413WC	.012	+/-	.009		.005		.045	+/-	.014		.005			
		19 AUG 91	NP50439WC	.028	+/-	.011		.007		.011	+/-	.008		.007		5	U
SWB3	Filtered	23 APR 91	NP50332WC	.01258	+/-	.007279	V	.008		ND							
		15 MAY 91	NP50353WC	ND						.009837	+/-	.006454		.004			
		11 JUL 91	NP50414WC	ND						.005	+/-	.004		.003			
		19 AUG 91	NP50440WC	.028	+/-	.017		.010		ND							
SWB3	Total	06 JUL 89	SWB30101	.09	+/-	.02				.04	+/-	.02				8	
		06 JUL 89	SWB30202	.11	+/-	.03				.03	+/-	.02				9	
		06 JUL 89	SWB30301	.15	+/-	.03				.05	+/-	.01				9	
		07 JUL 89	SWB30102	.09	+/-	.02				.04	+/-	.01				10	
		16 AUG 89	SWB30102002	.07	+/-	.02		.01		.04	+/-	.01		.01		14	
		16 AUG 89	SWB30202002	.05	+/-	.02		.01		.02	+/-	.01		.01		14	
		16 AUG 89	SWB30301002	.04	+/-	.01		.01		.02	+/-	.01		.01		18	
		23 APR 91	NP50332WC	.03994	+/-	.013228	V	.009		.02945	+/-	.015382	A	.010		5	U
		15 MAY 91	NP50353WC	.01236	+/-	.006493		.004		.006485	+/-	.005660		.003		5	U
		12 JUN 91	NP50386WC	ND						.014	+/-	.009	A	.006			
		11 JUL 91	NP50414WC	.015	+/-	.006		.003		.023	+/-	.009		.004			
		19 AUG 91	NP50440WC	.062	+/-	.015		.004		.062	+/-	.018		.009		5	
SWB4	Filtered	23 APR 91	NP50331WC	.01224	+/-	.009627	V	.008		ND							
		14 MAY 91	NP50352WC	.008017	+/-	.005911		.005		ND							
		12 JUN 91	NP50390WC	ND						.004	+/-	.003	A	.003			
		19 AUG 91	NP50441WC	.009	+/-	.006		.005		ND							
SWB4	Total	29 JUN 89	SWB40102	ND						.02	+/-	.01				5	U
		30 JUN 89	SWB40301	ND						.02	+/-	.01				6	
		14 MAY 91	NP50352WC	.02153	+/-	.010127		.005		.02128	+/-	.007902		.003		19	
		12 JUN 91	NP50390WC	ND						.022	+/-	.008	A	.002			
		19 AUG 91	NP50441WC	.023	+/-	.012		.010		.028	+/-	.012		.006		11	
SWB5	Filtered	14 JUN 90	SW00074WC	.006092	+/-	.005129		.006		ND							
		19 JUN 90	SW00083WC	ND						.01344	+/-	.010993		.013			
		01 AUG 90	SW50032WC	ND						.009413	+/-	.007922		.006			
		10 SEP 90	NP50153WC	ND						.04273	+/-	.01990		.011			
		18 OCT 90	NP50203WC	ND						.006602	+/-	.005554		.004			

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Summary of Pu-239/240 and Am-241 Detections in Ground Water
Woman Creek Basin Bedrock Monitor Wells

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)
0386	Filtered	05-OCT-89	G03861089004	ND					0/9	0.026	+/-	0.018		0	1/8	
0386	Total								0/8						0/9	
4086	Filtered	12-DEC-89	G40861289004	0.011	+/-	0.006		.005	1/4	0.010	+/-	0.009		.000	1/4	
4086	Total								0/1						0/1	
6286	Filtered	20-JUL-89	62-86-07-19-89	.007	+/-	.002		0	1/8						0/6	
6286	Total	13-JUN-90	G-6286-0612-02-1415						0/8	0.023	+/-	0.012		.01	1/9	94
1187	Filtered	23-JAN-90	G11870190001	0.005	+/-	0.004		.000	1/3						0/2	
1187	Total								0/1						0/0	
1287	Filtered								0/4						0/4	
1287	Total	09-SEP-91	GW01647IT	ND					0/2	.07449	+/-	.019		.01	1/3	22
1487	Filtered	25-JAN-90	G14870190001	0.011	+/-	0.007		.000	1/8	ND					0/8	
1487	Total								0/5						0/6	
2887	Filtered								0/3						0/3	
2887	Total								0/0						0/0	
3087	Filtered	22-JAN-88	30-87-01-22-88	ND					1/7	.17	+/-	.12			2/7	
		08-DEC-89	G30871289004	.009	+/-	.006		.006	1/7	ND					2/7	
		09-FEB-90	G30870290001	ND					1/7	0.010	+/-	0.005		.00	2/7	
3087	Total								0/6						0/4	
3187	Filtered	14-DEC-89	G31871289004	.005	+/-	.004		.002	1/5	ND					0/5	
3187	Total	12-MAR-90	G31870390001	ND					0/6	0.024	+/-	0.018	A	.013	1/6	
3487	Filtered	24-AUG-89	34-87-08-24-89	0.011	+/-	0.006		0	2/6	0.019	+/-	0.015		.018	1/5	
		13-DEC-89	G34871289004	0.030	+/-	0.009		.004	2/6						1/5	
3487	Total								0/1						0/2	
4587	Filtered	27-JUL-89	45-87-07-26-89	0.011	+/-	0.006		0	1/7	0.019	+/-	0.015		.018	1/6	
4587	Total								0/5						0/6	

Notes:
- ND = Not detected R = Data rejected during validation process
- MDA = Minimum Detectable Activity (from the RFEDS Detection Limit Field).
- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered sample; "Dissolved" - Filtered sample.

Summary of Pu-239/240 and Am-241 Detections in Ground Water
South Walnut Creek Basin Alluvial Monitor Wells

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)
0174	Filtered	09-AUG-89	1-74-08-09-89	.027	+/-	.016		.013	2/8						0/6	
		09-FEB-90	G01740290001	0.006	+/-	0.005		.004	2/8						0/6	
0174	Total								0/7						0/6	
0374	Filtered								0/5						0/5	
0374	Total	16-NOV-90	GW005741T	.0459	+/-	.0155		.01	1/7	ND					0/7	29
2274	Filtered								0/3						0/3	
2274	Total	23-MAY-91	GW01296IT	.005516	+/-	.00499	V	.005	2/8	.005362	+/-	.00511	V	.005	2/7	4 U
		09-SEP-91	GW01689IT	.01498	+/-	.00776		.01	2/8	.02105	+/-	.0102		.01	2/7	243
3586	Filtered	10-AUG-88	35-86-08-10-88	ND					0/7	.11	+/-	0.08	V	.01	1/8	
3586	Total	21-AUG-90	GW00240IT	ND					0/10	.0366	+/-	.0146		.01	1/9	36
3686	Filtered								0/0						0/0	
3686	Total								0/0						0/0	
3786	Filtered								0/0						0/0	
3786	Total								0/0						0/0	
3886	Filtered	29-JAN-90	G38860190001	0.010	+/-	0.005		.000	1/4	0.007	+/-	0.006		.005	1/3	
3886	Total	03-JUN-87	38-86-06-03-87	2.6	+/-	1.2			1/3	ND					0/3	
4286	Filtered	18-AUG-89	42-86-08-18-89	0.010	+/-	0.006		0	2/8	0.037	+/-	0.017		0	2/7	
		30-JAN-90	G42860190001	0.006	+/-	0.004		.00	2/8	0.007	+/-	0.006		.004	2/7	
4286	Total	26-SEP-86	G428609860	0.50	+/-	0.16			4/7	ND					3/8	
		11-JUN-90	G-4286-0611-02-1340	R					4/7	.0224	+/-	.009954	A	.008	3/8	2780
		16-NOV-90	GW00569IT	.2152	+/-	.073		.01	4/7	.0365	+/-	.0115		.01	3/8	2200
		17-MAY-91	GW01295IT	.1432	+/-	.028	V	.000	4/7	.01876	+/-	.0121	A	.008	3/8	830
		11-SEP-91	GW01706IT	.2691	+/-	.058		.01	4/7	ND					3/8	1240
4386	Filtered								0/1						0/1	
4386	Total								0/3						0/2	
1087	Filtered								0/0						0/0	
1087	Total								0/0						0/0	
1787	Filtered	09-AUG-89	17-87-08-09-89	.007	+/-	.002		0	2/5						0/4	
		29-JAN-90	G17870190001	0.012	+/-	0.006		.000	2/5	ND					0/4	
1787	Total	06-JUN-90	G-1787-0606-02-1200	R					3/5	.01829	+/-	.005760	A	.005	3/4	
		14-AUG-90	GW00231IT	.159	+/-	.032		0	3/5						3/4	
		06-NOV-90	GW00648IT	ND					3/5	.01525	+/-	.0107		.01	3/4	260
		09-MAR-91	GW00902IT	.01831	+/-	.0085		.01	3/5	.01198	+/-	.0103		.01	3/4	36
		13-MAY-91	GW01280IT	.1023	+/-	.0227	V	.005	3/5	R					3/4	
2187	Filtered	10-NOV-89	G21871189004	0.011			A	.007	1/1						0/0	
2187	Total								0/0						0/0	
B218789	Filtered								0/0						0/0	
B218789	Total	13-SEP-90	GW00193IT	.02359	+/-	.01		.01	3/6	.01413	+/-	.00907		.01	3/6	390
		08-MAR-91	GW00940IT	.06255	+/-	.0206		.01	3/6	.02432	+/-	.0161		.01	3/6	680
		21-MAY-91	GW01292IT	.01089	+/-	.00682	V	.000	3/6	.02538	+/-	.0104	A	.005	3/6	62

Notes:
- ND = Not detected R = Data rejected during validation process V=Data deemed 'valid' during validation process.
- MDA = Minimum Detectable Activity (from the RFEDS Detection Limit Field). A=Data deemed 'acceptable' during validation process.
- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "TOT" - Unfiltered sample; "FILT" - Filtered sample.

Summary of Pu-239/240 and Am-241 Detections In Ponds

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)
		30 OCT 90	NP50216WC	.01375	+/-	.010827		.013		.01004	+/-	.006070		.004		
		04 DEC 90	NP50267WC	.005684	+/-	.004784		.005		.02578	+/-	.013371		.006		
		10 DEC 90	NP50271WC	.007587	+/-	.003735		.003		ND						
		18 MAR 91	NP50307WC	.01111	+/-	.007283		.007		ND						
		25 MAR 91	NP50310WC	.006639	+/-	.005215		.005		.01127	+/-	.009831		.008		
		13 MAY 91	NP50349WC	.006418	+/-	.004729		.005		ND						
		28 MAY 91	NP50366WC	.009	+/-	.007	V	.000								
		03 JUN 91	NP50375WC	ND						.019	+/-	.015	A	.017		
		13 JUN 91	NP50385WC	.003	+/-	.002	V	.002		ND						
		17 JUN 91	NP50393WC	ND						.006	+/-	.005	A	.003		
		10 JUL 91	NP50403WC	ND						.005	+/-	.004		.003		
		26 AUG 91	NP50447WC	ND						.019	+/-	.015		.014		
SWB5	Total	23 MAR 90	SWB5G0323	.016	+/-	.007										
		23 OCT 90	NP50206WC	ND						.02395	+/-	.014735		.012		36
		07 NOV 90	NP50227WC	.01545	+/-	.011064		.013		ND						16
		18 MAR 91	NP50307WC	.01291	+/-	.010160		.010		.02628	+/-	.010979		.006		42
		06 MAY 91	NP50344WC	.00798	+/-	.004827	V	.004		ND						
		21 MAY 91	NP50360WC	.01743	+/-	.008104	V	.005		.02431	+/-	.013369	A	.006		34
SWC1	Filtered	22 APR 91	NP50327WC	ND						.0288	+/-	.021324	A	.022		
SWC1	Total	18 AUG 86	SWC1088600	0.08	+/-	0.06				ND						
		22 JUL 89	SWC10101	0.02	+/-	0.01		0.		ND						50
		22 JUL 89	SWC10201	0.02	+/-	0.01		0.		ND						48
		13 MAY 91	NP50348WC	.0142	+/-	.008000				.02332	+/-	.014409		0.014		14
SWC2	Filtered	25 JUN 90	SW00099WC	.01036	+/-	.007404				ND						
		11 SEP 90	NP50154WC	ND						.0088	+/-	.008633		0.005		
		17 SEP 90	NP50159WC	.01056	+/-	.007979				ND						
		11 OCT 90	NP50193WC	.006165	+/-	.004543		.005		ND						
		24 OCT 90	NP50207WC	.01353	+/-	.006683		.005		.02589	+/-	.009016		.005		
		08 NOV 90	NP50230WC	.007759	+/-	.005542		.007		ND						
		05 DEC 90	NP50268WC	ND						.04063	+/-	.015570		.009		
		11 DEC 90	NP50272WC	.009934	+/-	.008375		.009		.00968	+/-	.007916		.009		
		18 MAR 91	NP50306WC	.01647	+/-	.007234		.004		ND						
		26 MAR 91	NP50313WC	.009261	+/-	.006066		.007		ND						
		13 MAY 91	NP50347WC	.01217	+/-	.008706				ND						

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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered Sample; "Filtered" - Filtered Sample

Summary of Pu-239/240 and Am-241 Detections In Ponds

Well Number	Sample Type	Date Sampled	Sample I.D.	Pu-239/240 (pCi/l)			Valid. Code	MDA	Plutonium 239/240 Detections/Total	Am-241 (pCi/l)			Valid. Code	MDA	Americium 241 Detections/Total	TSS (mg/l)	
		20 MAY 91	NP50359WC	.007067	+/-	.005209	V			ND							
		03 JUN 91	NP50373WC	0.008	+/-	0.006	A			0.008	+/-	0.004	V	0.003			
		10 JUN 91	NP50384WC	0.004	+/-	0.003	A			ND							
		08 JUL 91	NP50408WC	0.004	+/-	0.002				ND							
		09 SEP 91	NP50463WC	0.019	+/-	0.008											
SWC2	Total	19 JUL 89	SWC20403	0.02	+/-	0.01		0.01		ND							
		20 JUL 89	SWC20609	0.06	+/-	0.02		0.		ND							
		21 JUL 89	SWC20407	0.03	+/-	0.01		0.		ND							
		21 JUL 89	SWC20411	0.03	+/-	0.01		0.		ND							
		21 JUL 89	SWC20503	0.02	+/-	0.01		0.		ND							
		21 JUL 89	SWC20506	0.03	+/-	0.02		0.		ND							
		03 AUG 89	SWC20710002	0.02	+/-	0.01		0.01		ND						8	
		23 MAR 90	SWC2G0323	0.030	+/-	0.012											
		10 MAY 90	C2051090W	.009513	+/-	.007019										33	
		15 MAY 90	C2051590W	.030050	+/-	.015980										22	
		22 MAY 90	C2052290W	.019320	+/-	.011740										10	U
		22 MAY 90	DC2052290W	.010700	+/-	.007015										12	
		29 MAY 90	C2052990W	.012590	+/-	.008263										7.5	
		14 JUN 90	SW00076WC	0.012	+/-	0.007		0.01									
		11 JUL 90	SW50006WC	.05292	+/-	.018077				ND							
		19 JUL 90	SW50015WC	.04216	+/-	.013384				ND							
		27 SEP 90	NP50173WC	.01759	+/-	.011560		.007		ND							
		24 OCT 90	NP50207WC	.01561	+/-	.010244		.010		.01068	+/-	.007491		.005		28	
		27 NOV 90	NP50261WC	ND						.006741	+/-	.006613		.006		5	
		05 DEC 90	NP50268WC	.07297	+/-	.023951		.011		.08175	+/-	.019639		.007		3	
		18 MAR 91	NP50306WC	.05362	+/-	.015795		.012		.01076	+/-	.008447		.008		12	
		06 MAY 91	NP50343WC	ND						.01667	+/-	.006975	A	0.007			
		20 MAY 91	NP50359WC	.01386	+/-	.006834	V			ND						8	
		29 MAY 91	NP50370WC	0.010	+/-	0.006	V									8	
		29 MAY 91	NP50371WC	0.008	+/-	0.006	V									10	
		17 JUN 91	NP50394WC	0.014	+/-	0.006	V			ND						15	
		21 AUG 91	NP50445WC	0.015	+/-	0.011				ND						15	
SWC2BG	Total	05 JUN 90	SW00001WC	.01138	+/-	.008136		.008		.005921	+/-	.004980		.004		14	

Notes:
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- Detections are defined as results where the value is greater than the counting error and greater than the MDA.
- "Detections/Total" does not include samples for which results have been rejected.
- Type: "Total" - Unfiltered Sample; "Filtered" - Filtered Sample

APPENDIX D

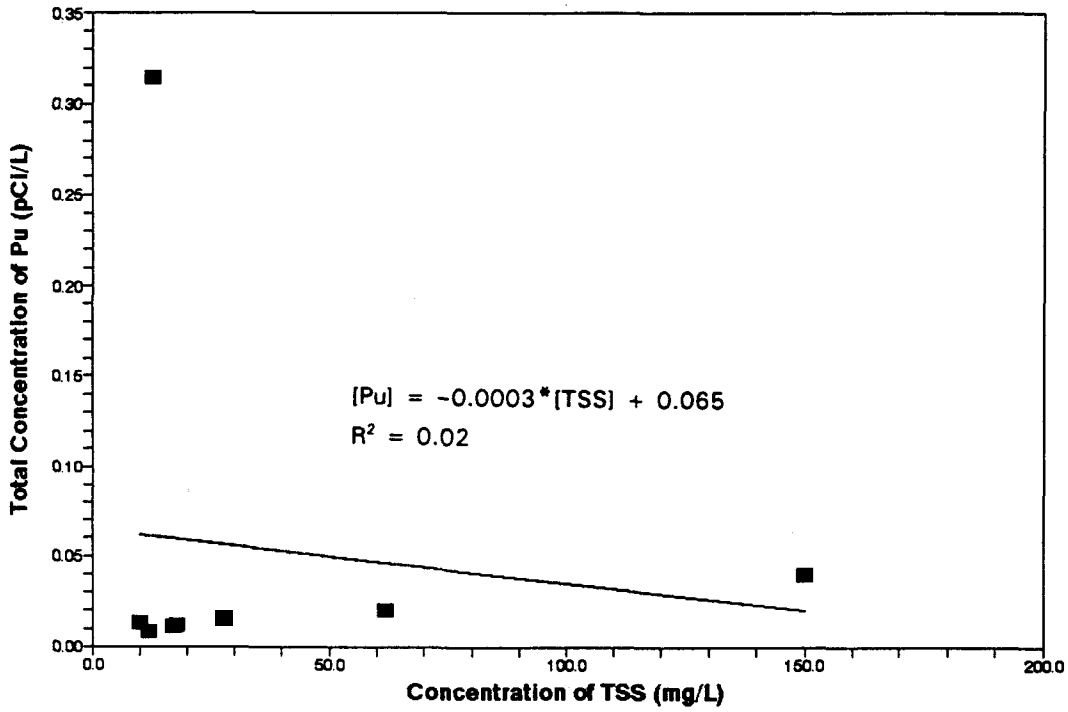
TOTAL PLUTONIUM AND AMERICIUM ACTIVITIES PLOTTED AGAINST TOTAL SUSPENDED SOLIDS CONCENTRATIONS FOR SEEPS, IN-STREAM SURFACE WATER STATIONS, AND PONDS

OPERABLE UNIT 2

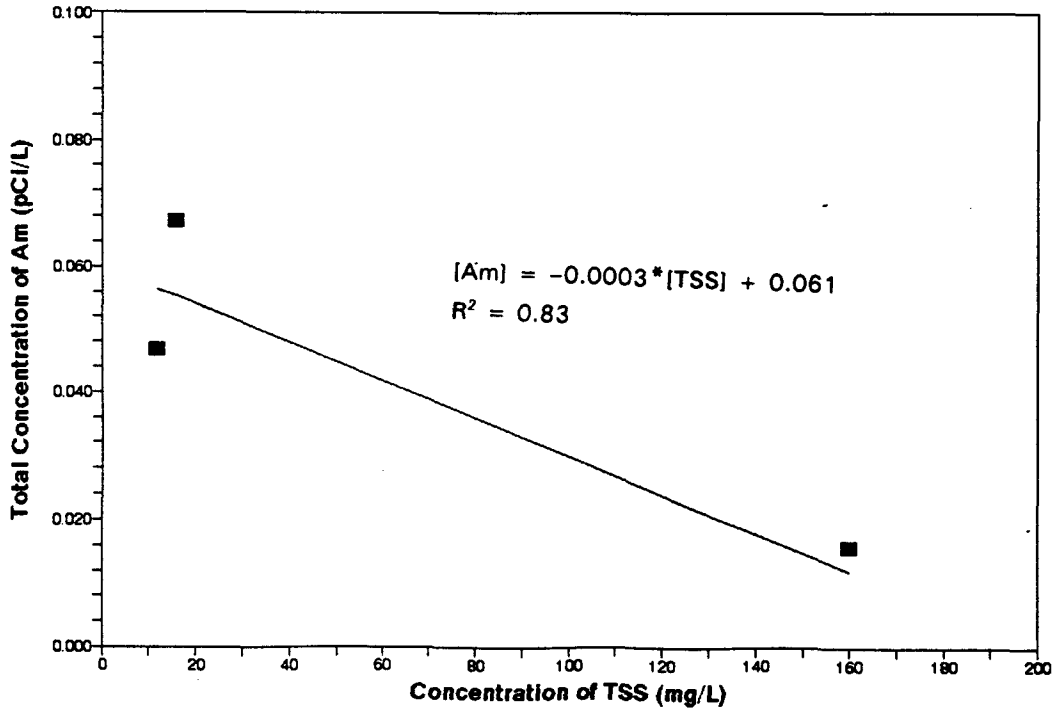
APPENDIX D-1

TOTAL PLUTONIUM AND AMERICIUM ACTIVITIES PLOTTED AGAINST TOTAL SUSPENDED SOLIDS CONCENTRATIONS FOR SURFACE WATER SEEPS OPERABLE UNIT 2

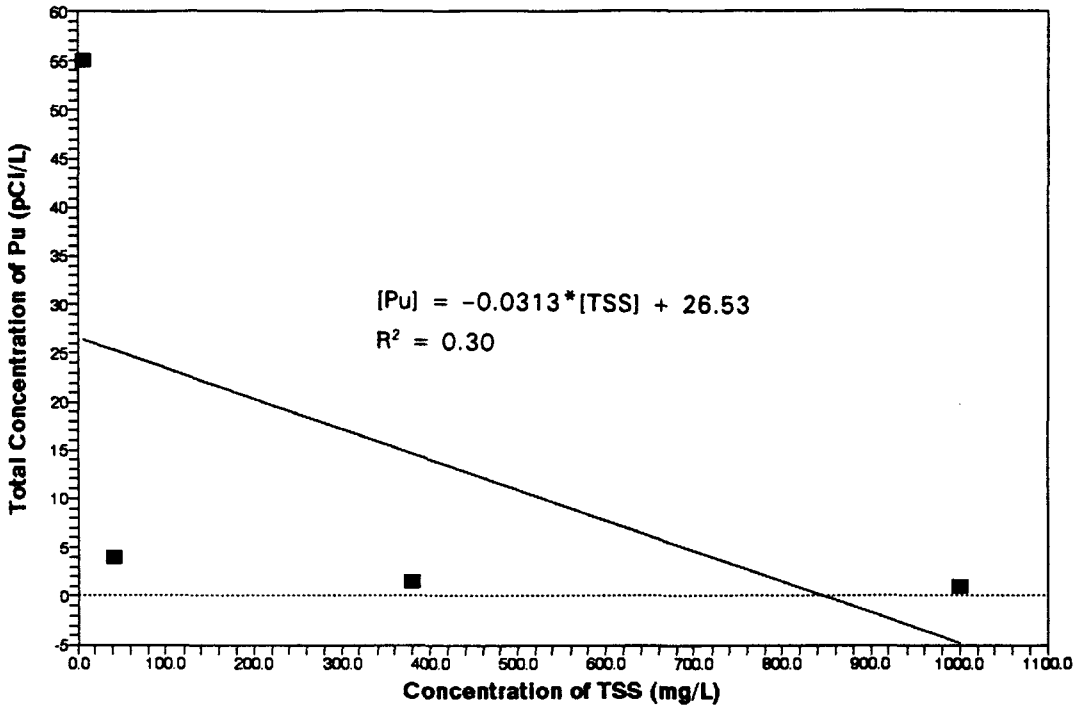
Total Concentration of Plutonium Versus TSS at SW029



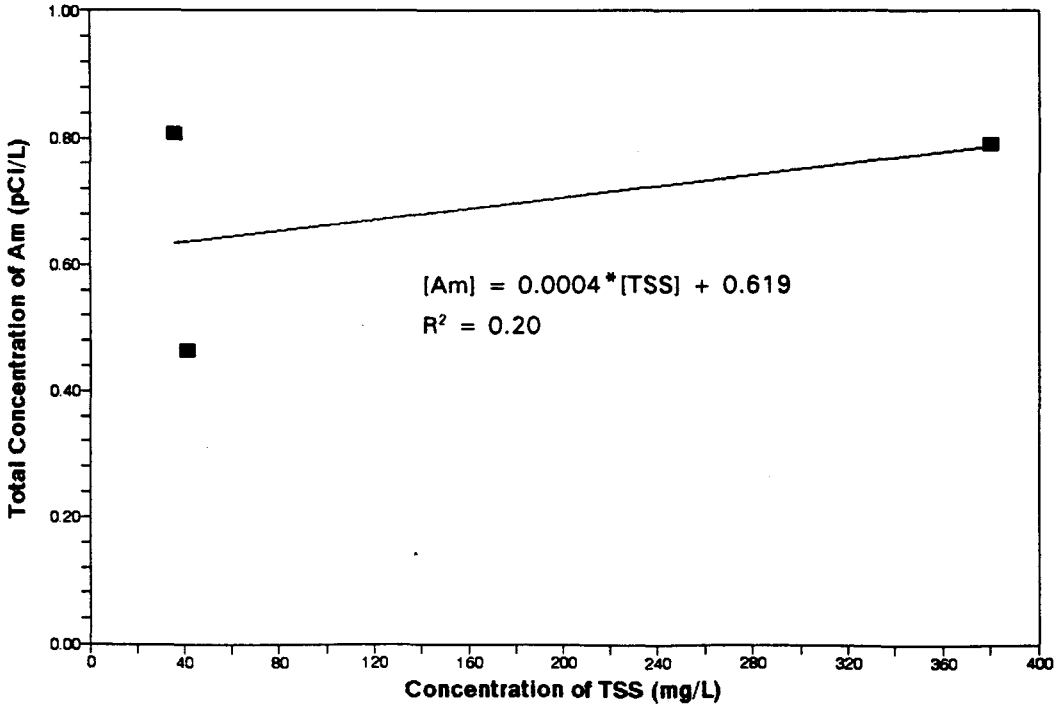
Total Concentration of Americium Versus TSS at SW029



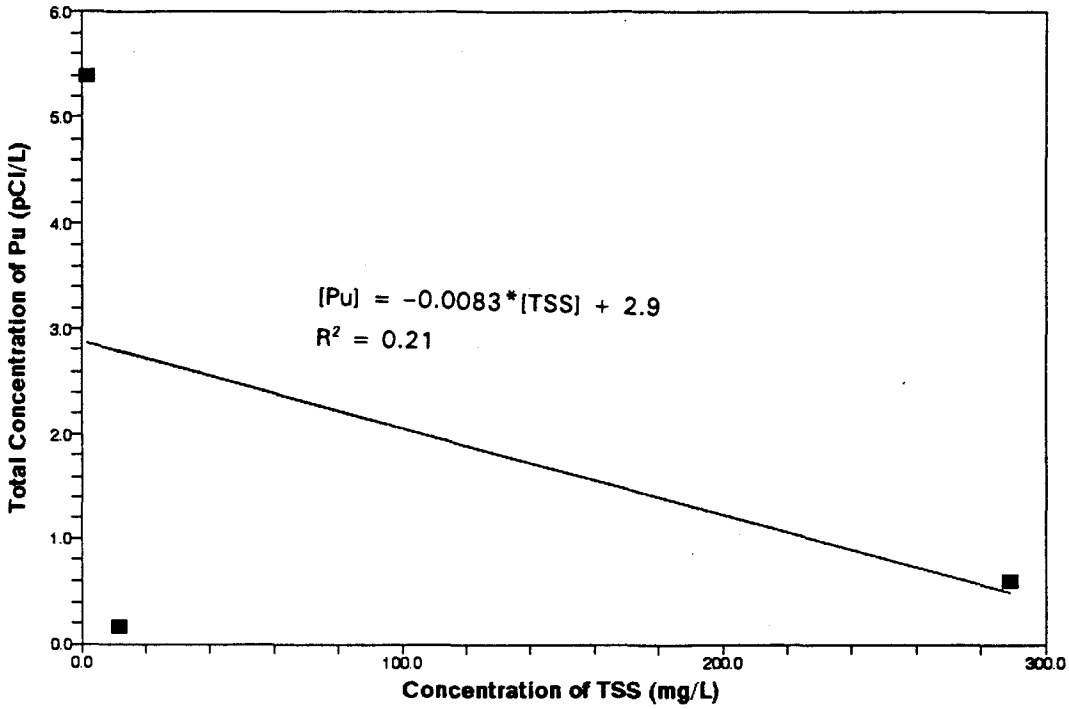
Total Concentration of Plutonium Versus TSS at SW050



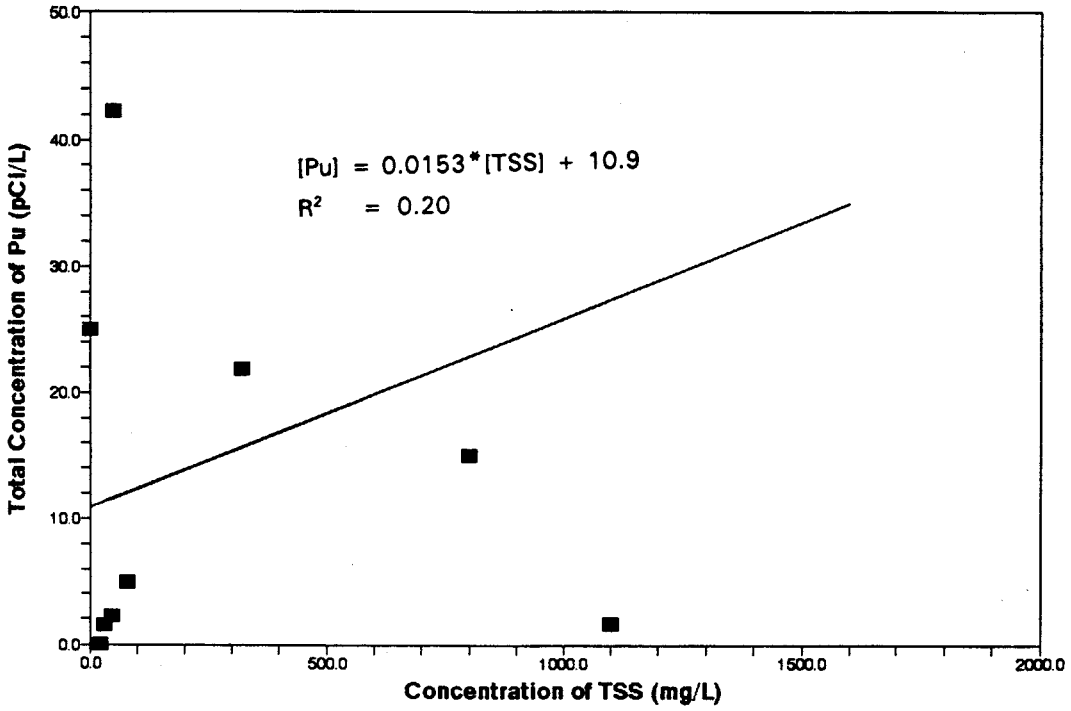
Total Concentration of Americium Versus TSS at SW050



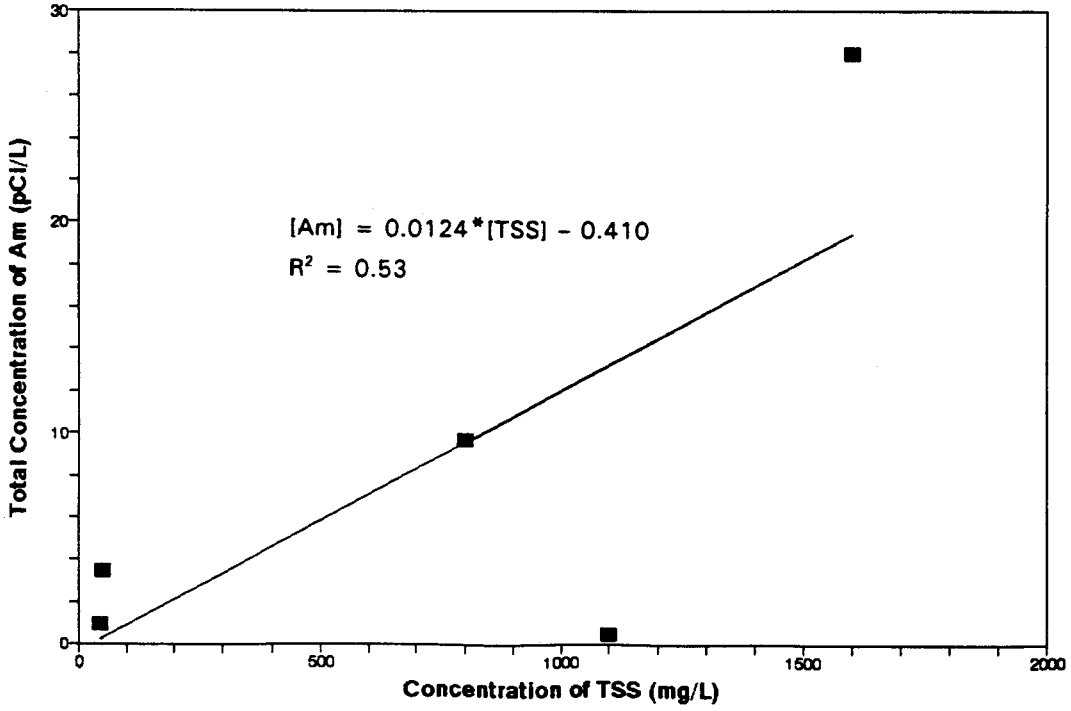
Total Concentration of Plutonium Versus TSS at SW052



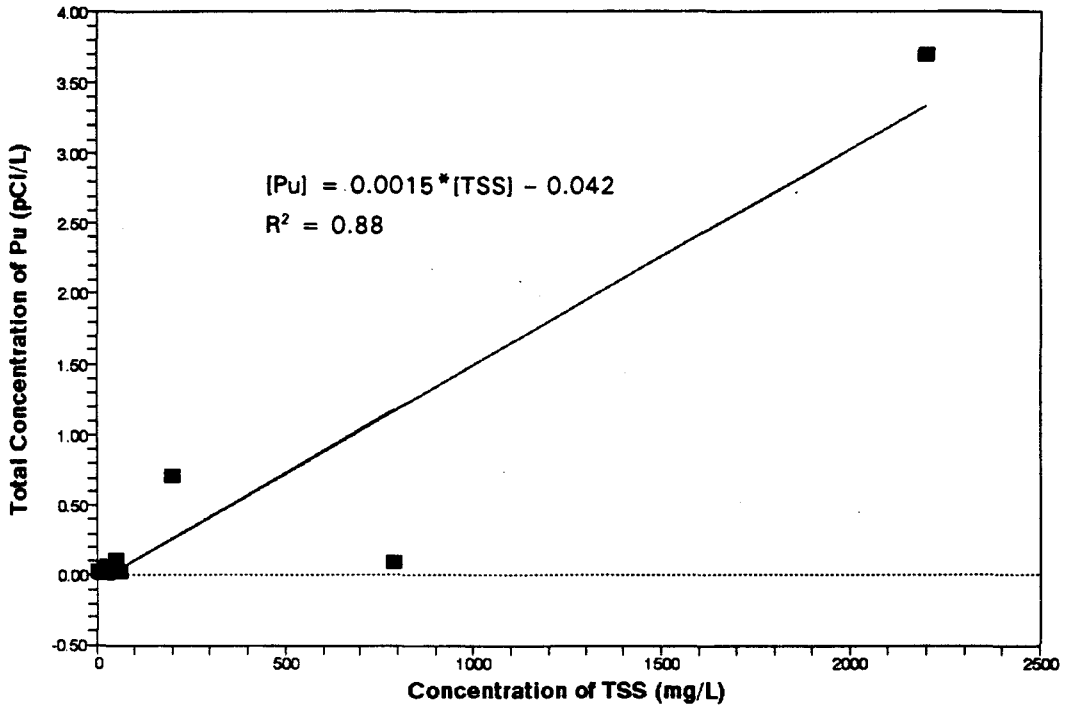
Total Concentration of Plutonium Versus TSS at SW053



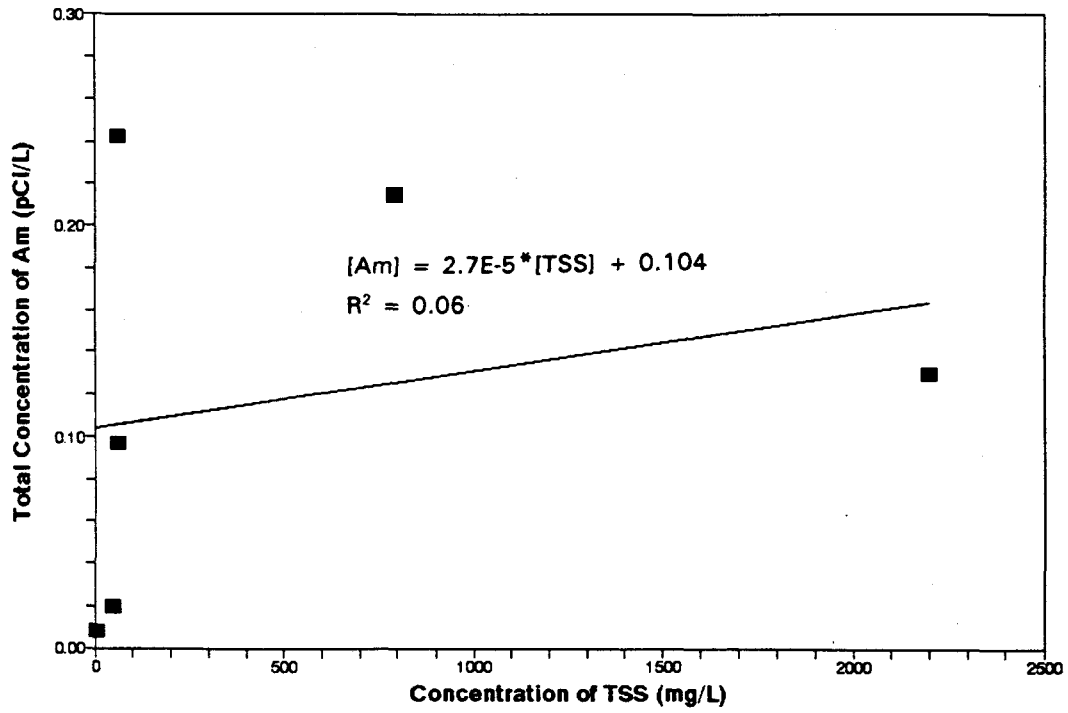
Total Concentration of Americium Versus TSS at SW053



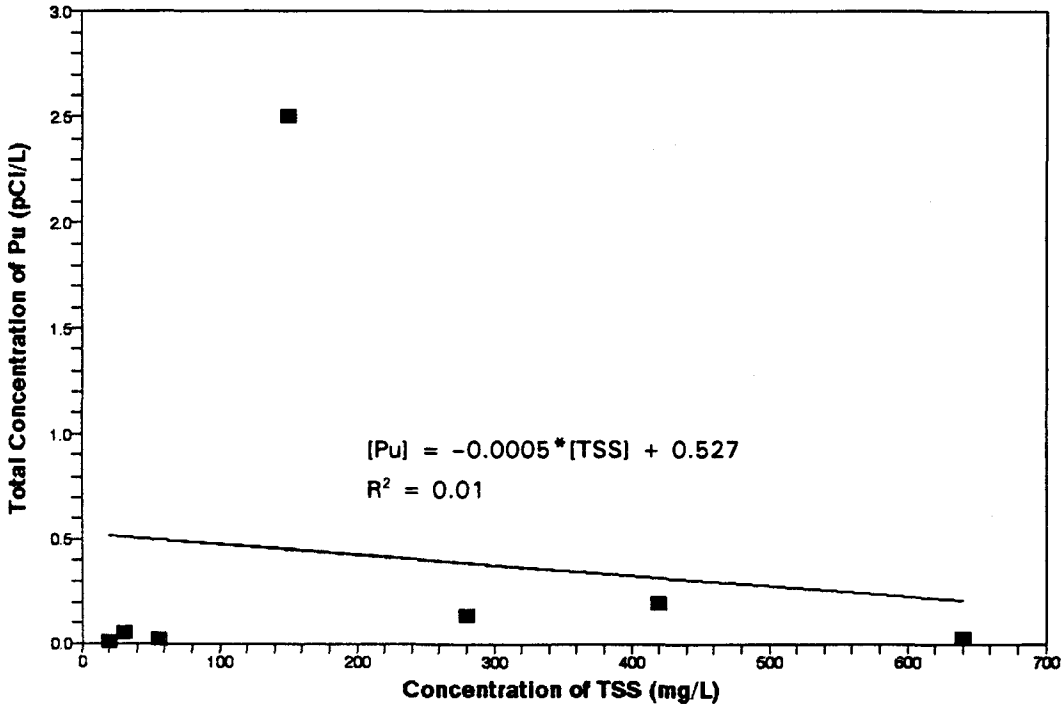
Total Concentration of Plutonium Versus TSS at SW054



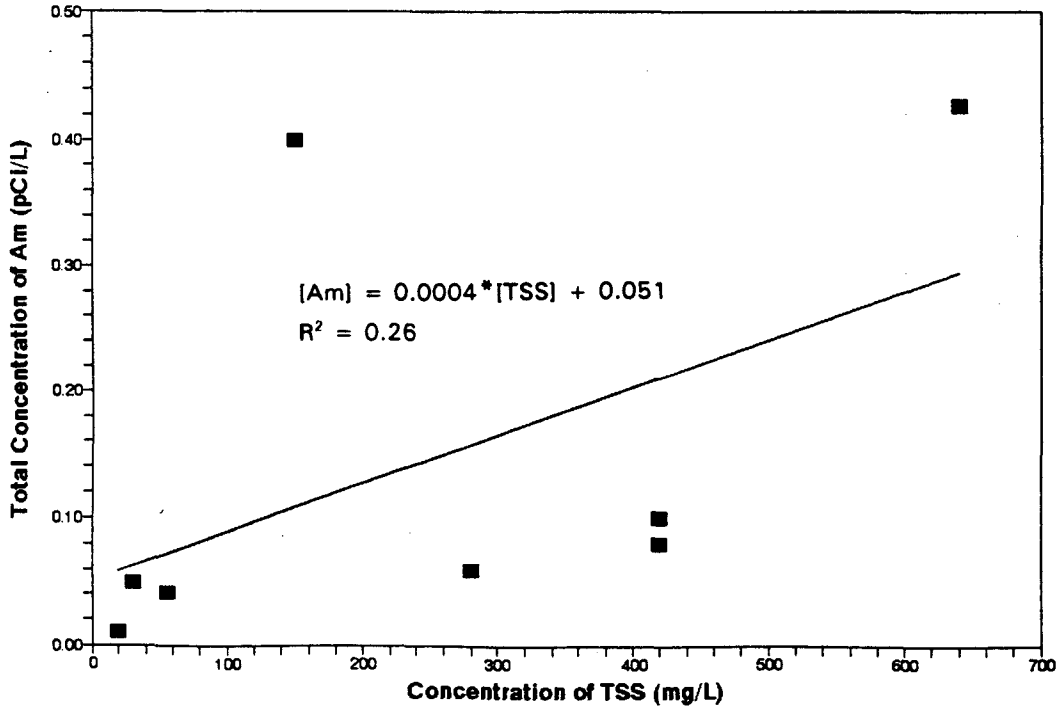
Total Concentration of Americium Versus TSS at SW054



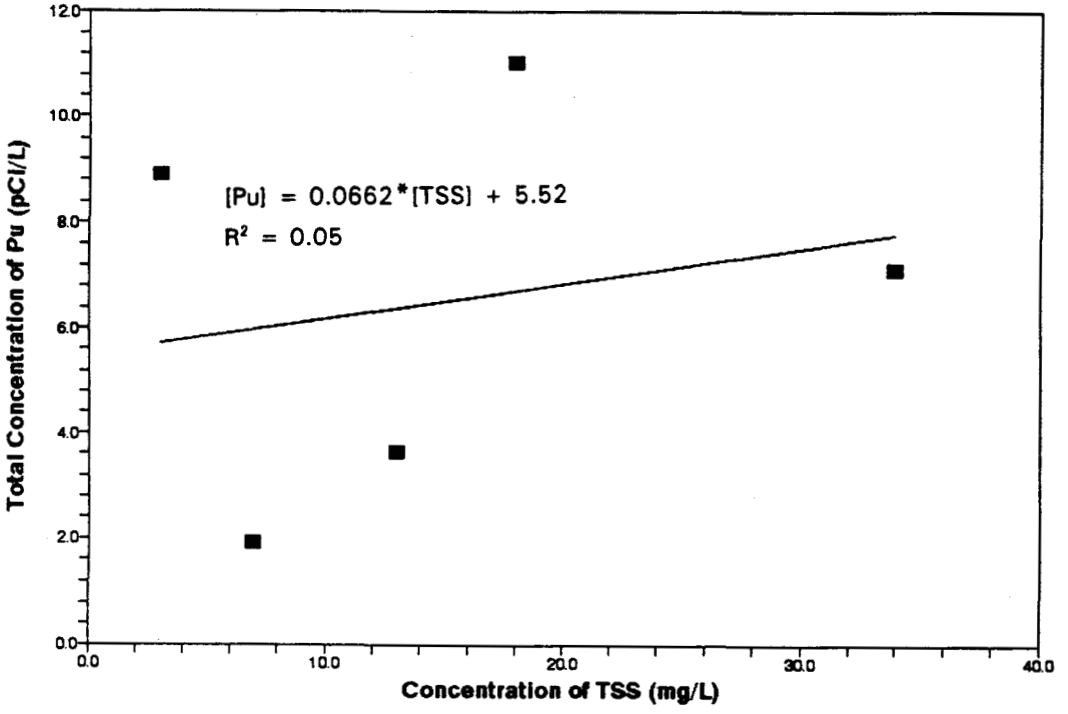
Total Concentration of Plutonium Versus TSS at SW056



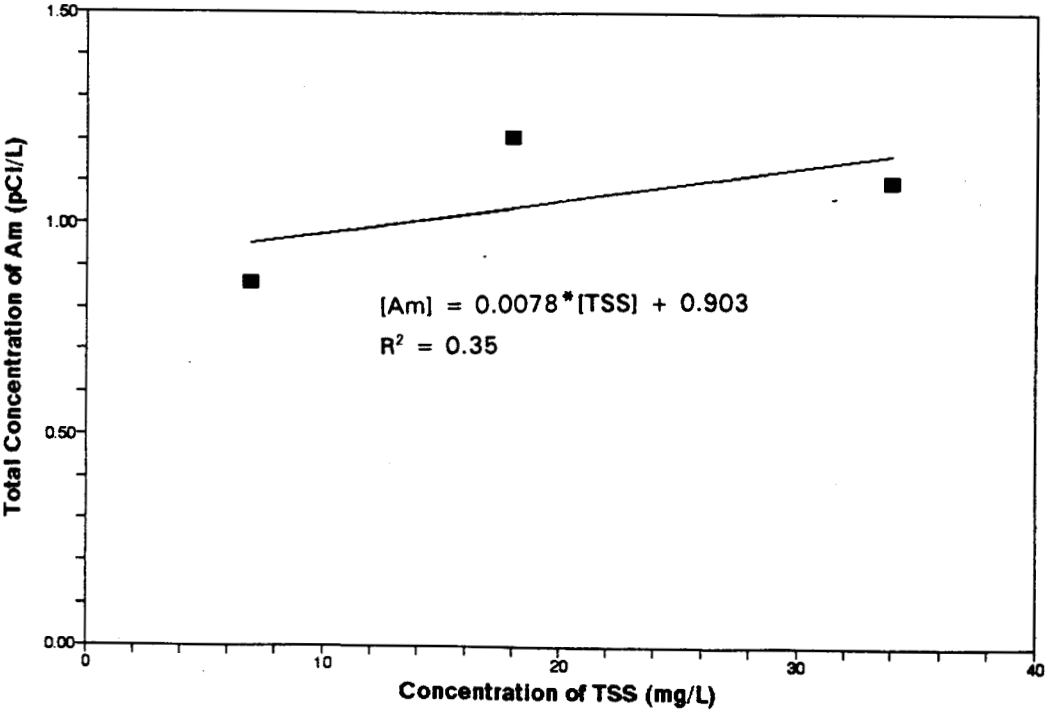
Total Concentration of Americium Versus TSS at SW056



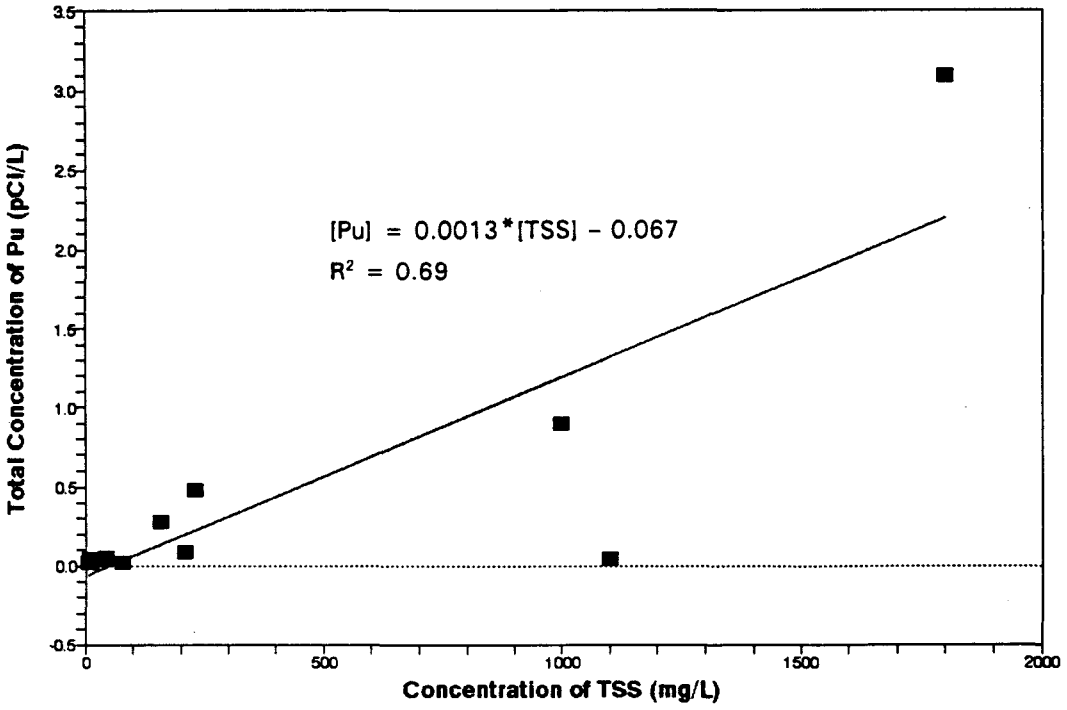
Total Concentration of Plutonium Versus TSS at SW058



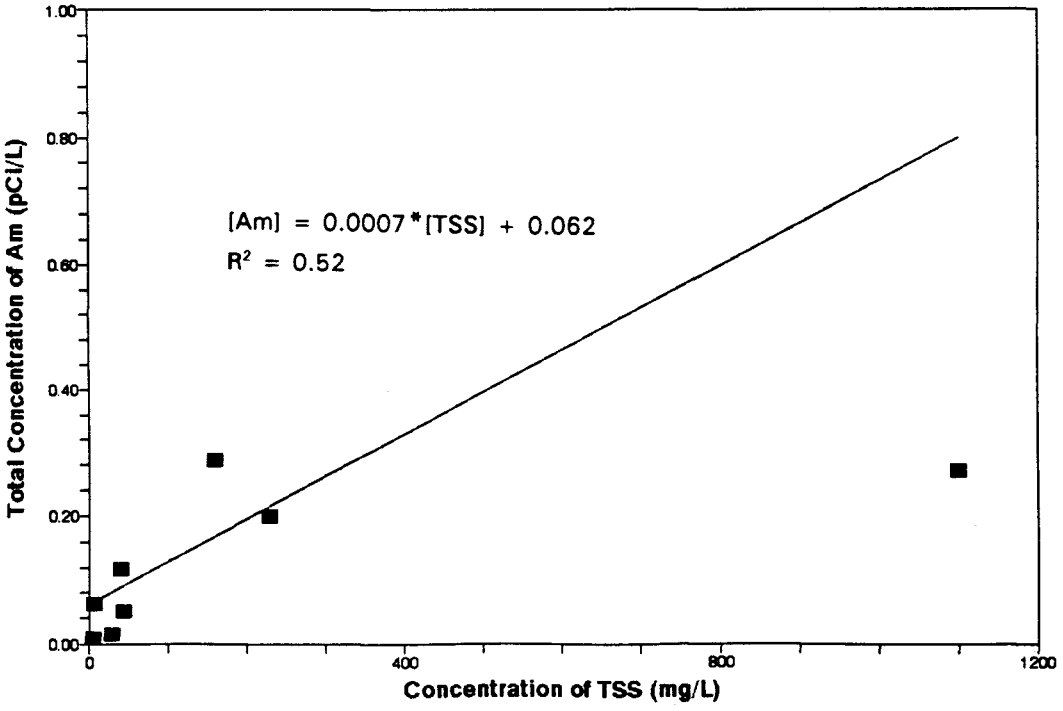
Total Concentration of Americium Versus TSS at SW058



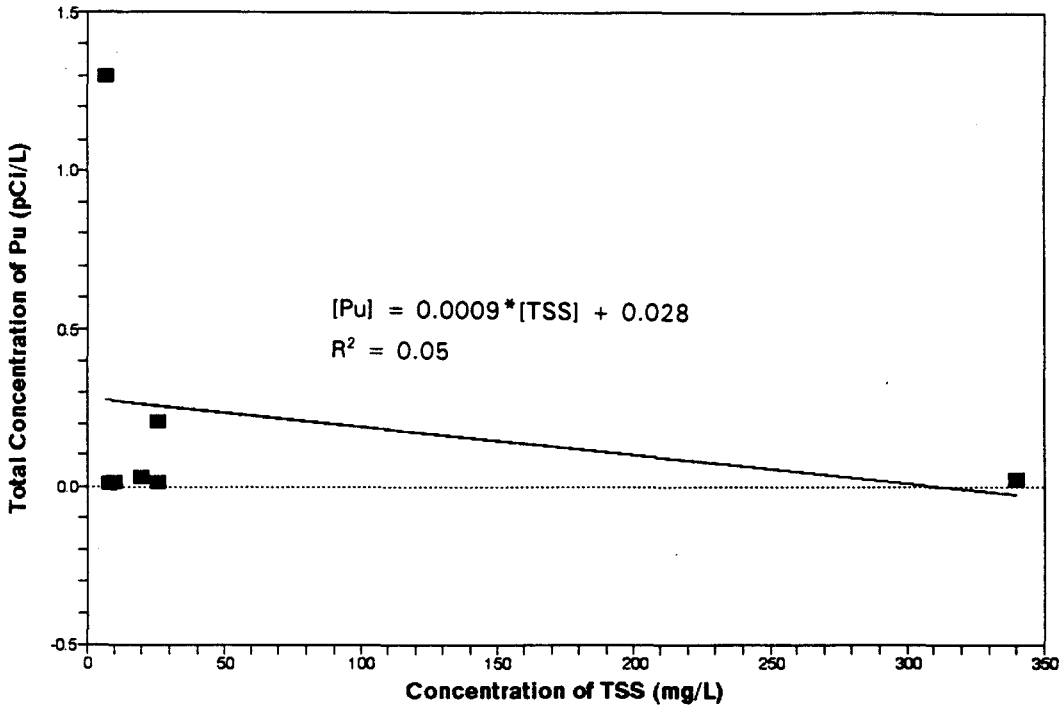
Total Concentration of Plutonium Versus TSS at SW059



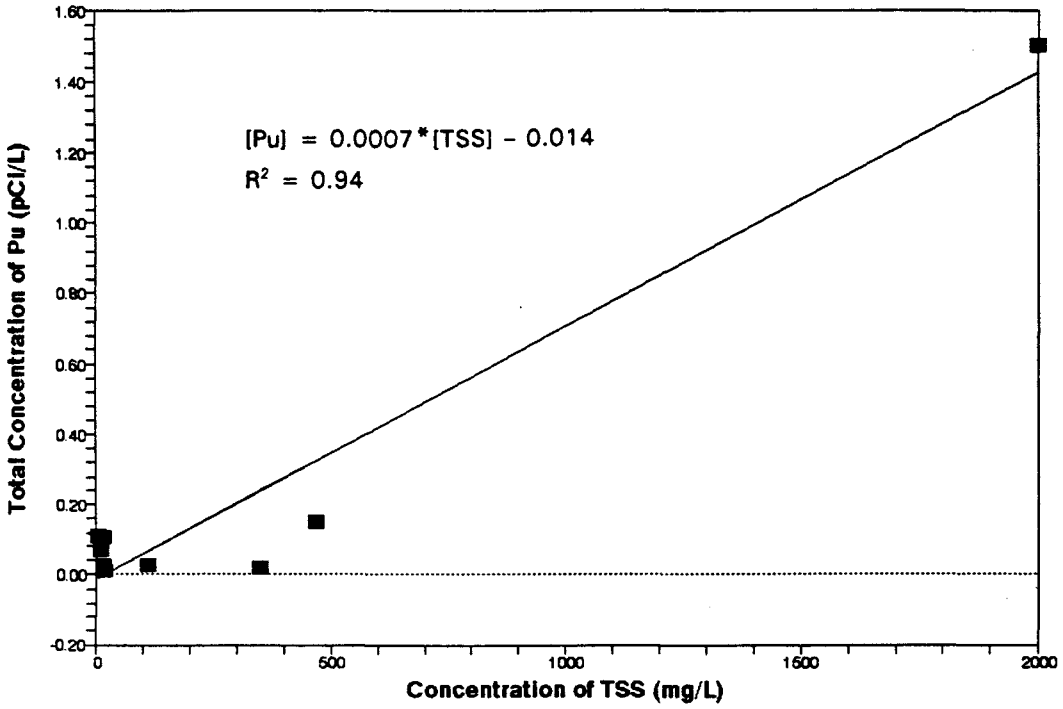
Total Concentration of Americium Versus TSS at SW059



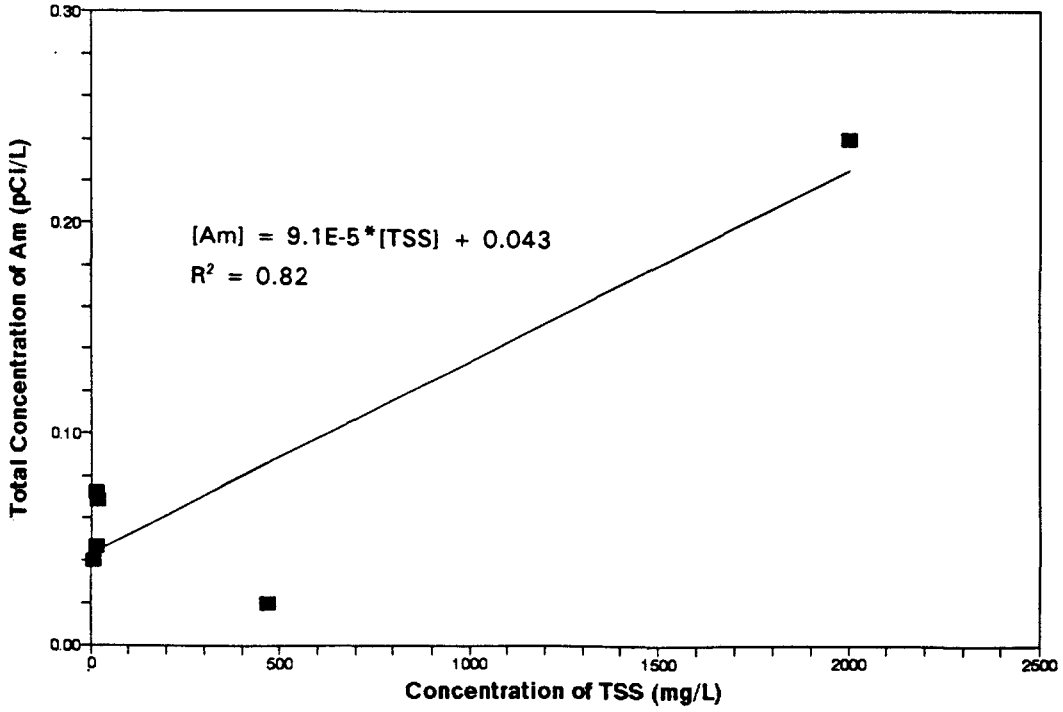
Total Concentration of Plutonium Versus TSS at SW062



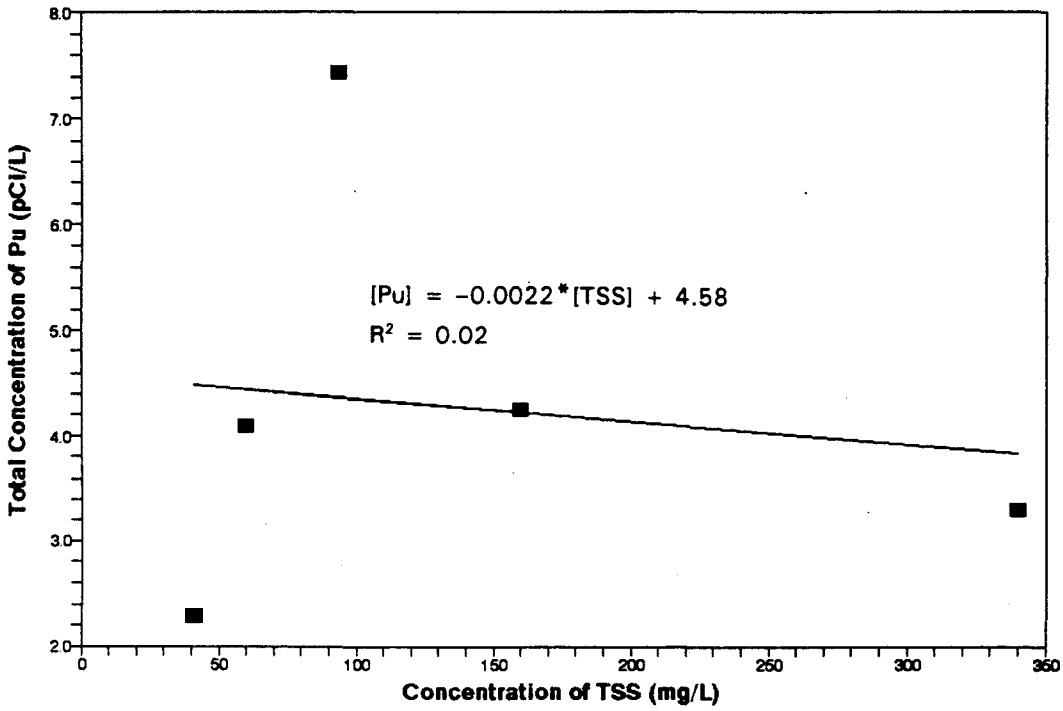
Total Concentration of Plutonium Versus TSS at SW065



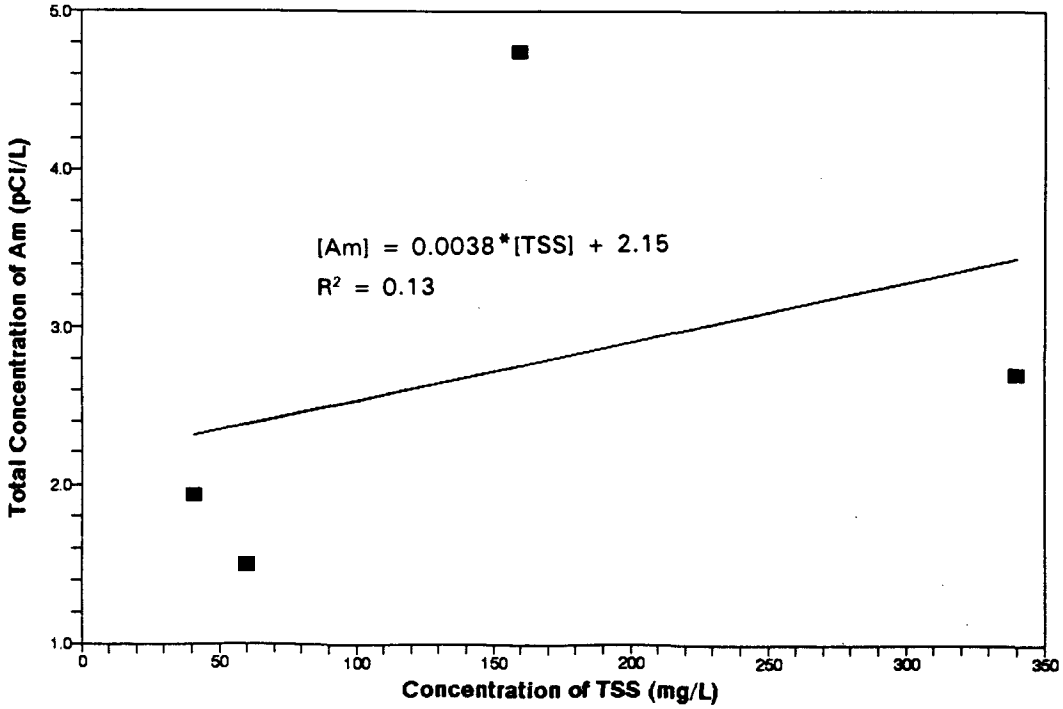
Total Concentration of Americium Versus TSS at SW065



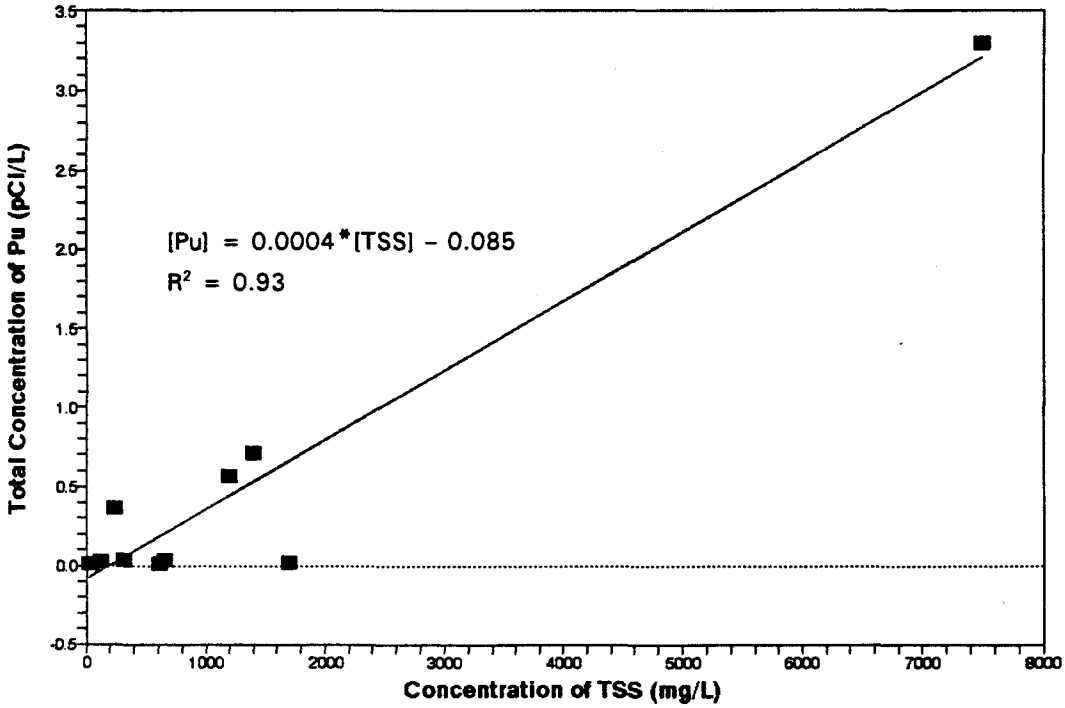
Total Concentration of Plutonium Versus TSS at SW077



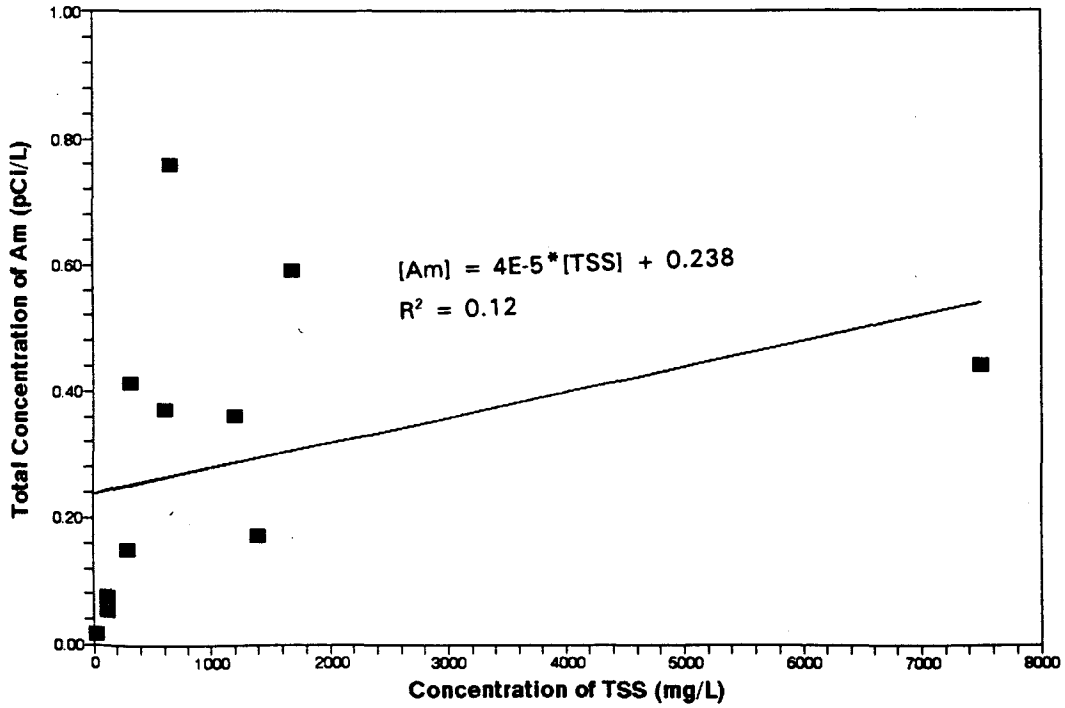
Total Concentration of Americium Versus TSS at SW077



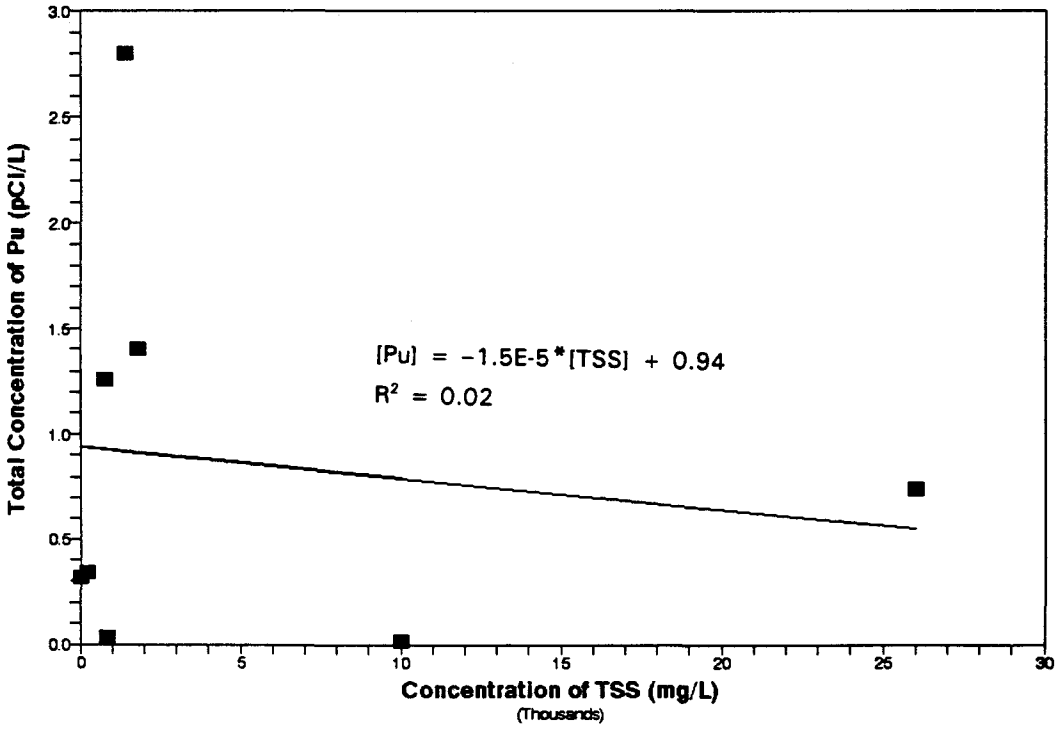
Total Concentration of Plutonium Versus TSS at SW101



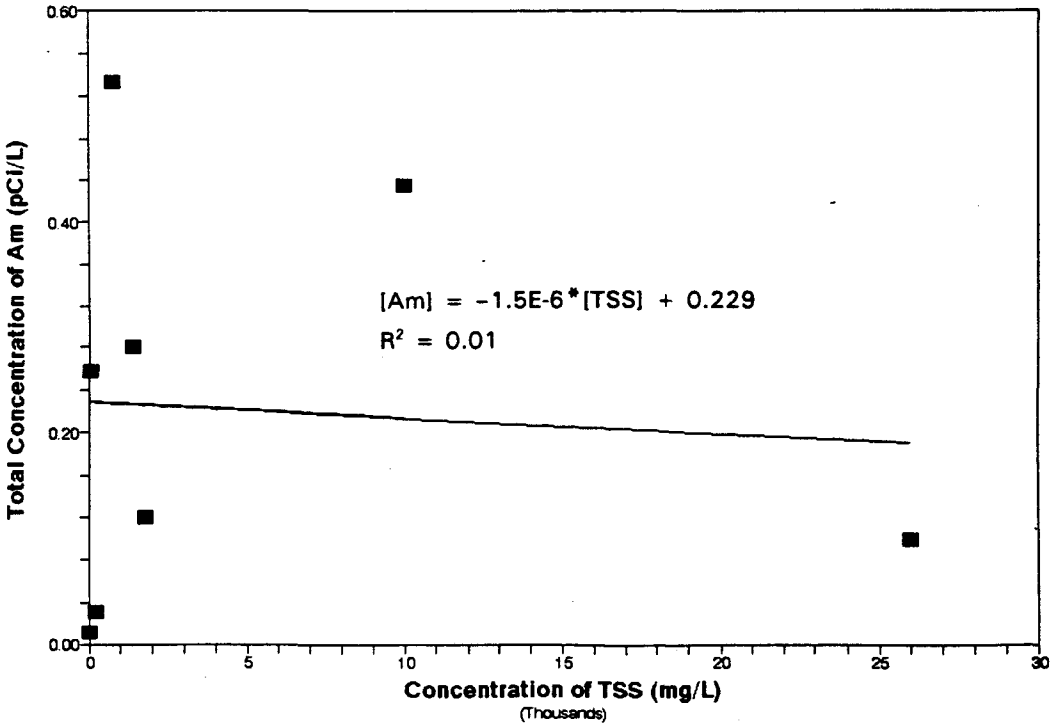
Total Concentration of Americium Versus TSS at SW101



Total Concentration of Plutonium Versus TSS at SW103



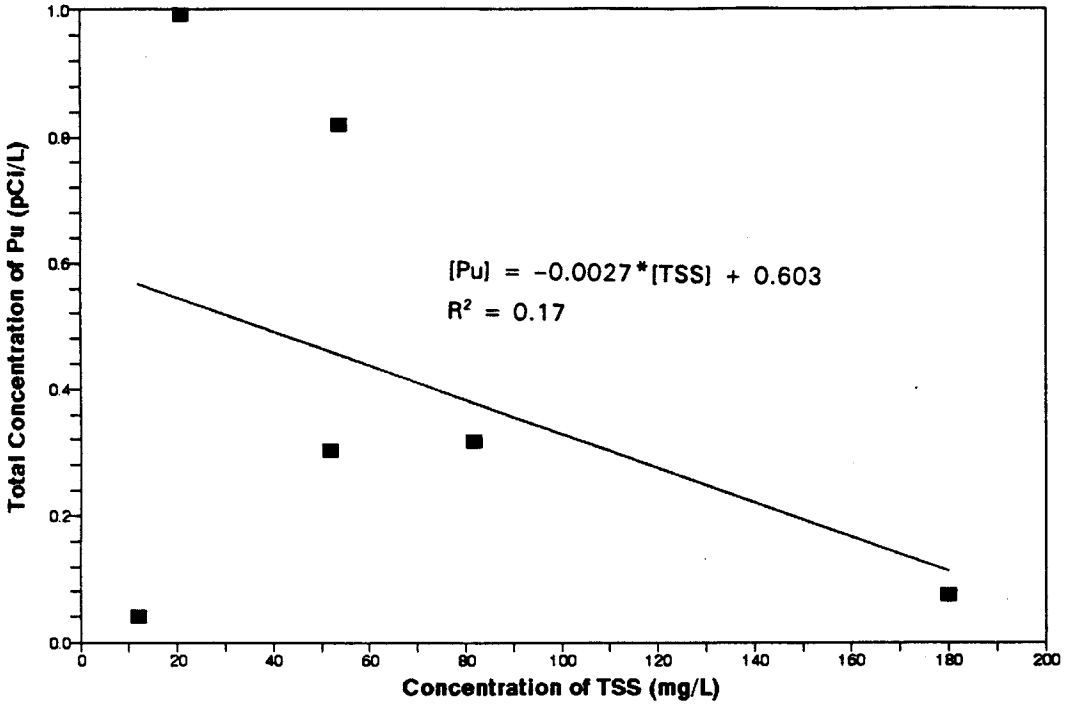
Total Concentration of Americium Versus TSS at SW103



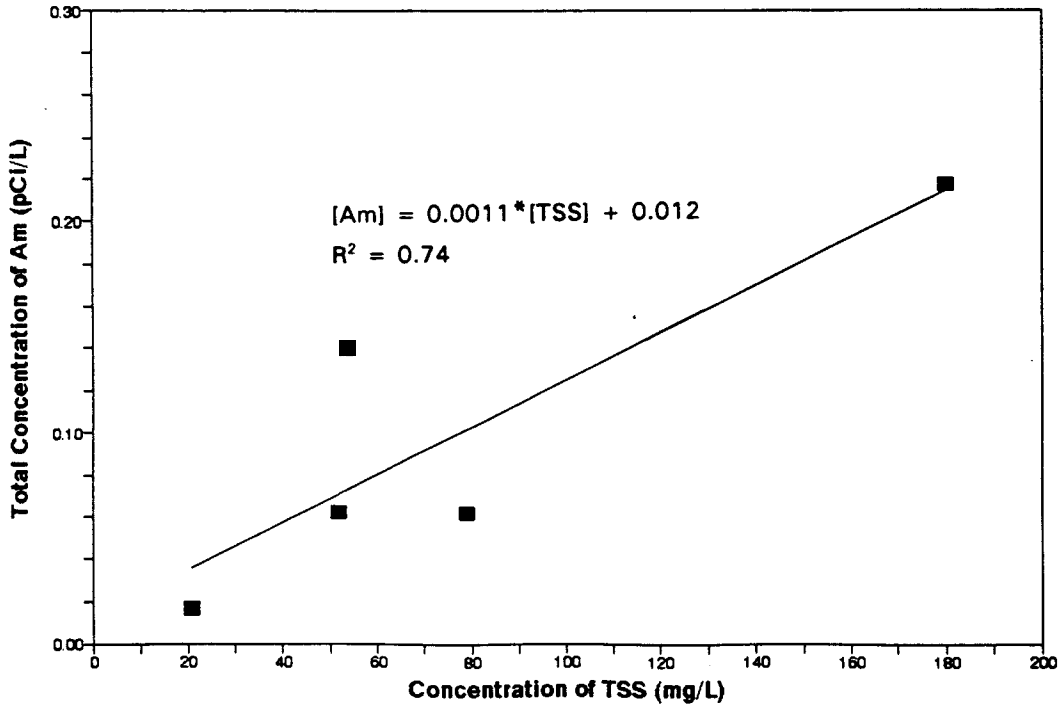
APPENDIX D-2

TOTAL PLUTONIUM AND AMERICIUM ACTIVITIES PLOTTED AGAINST TOTAL SUSPENDED SOLIDS CONCENTRATIONS FOR IN-STREAM STATIONS, OPERABLE UNIT 2

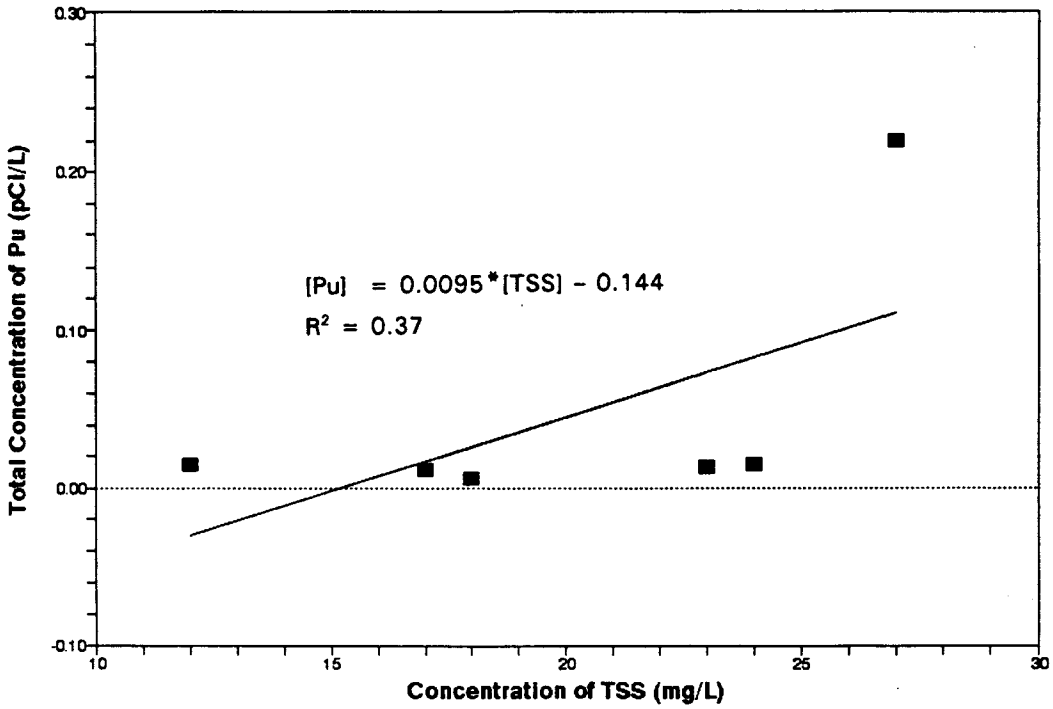
Total Concentration of Plutonium Versus TSS at SW027



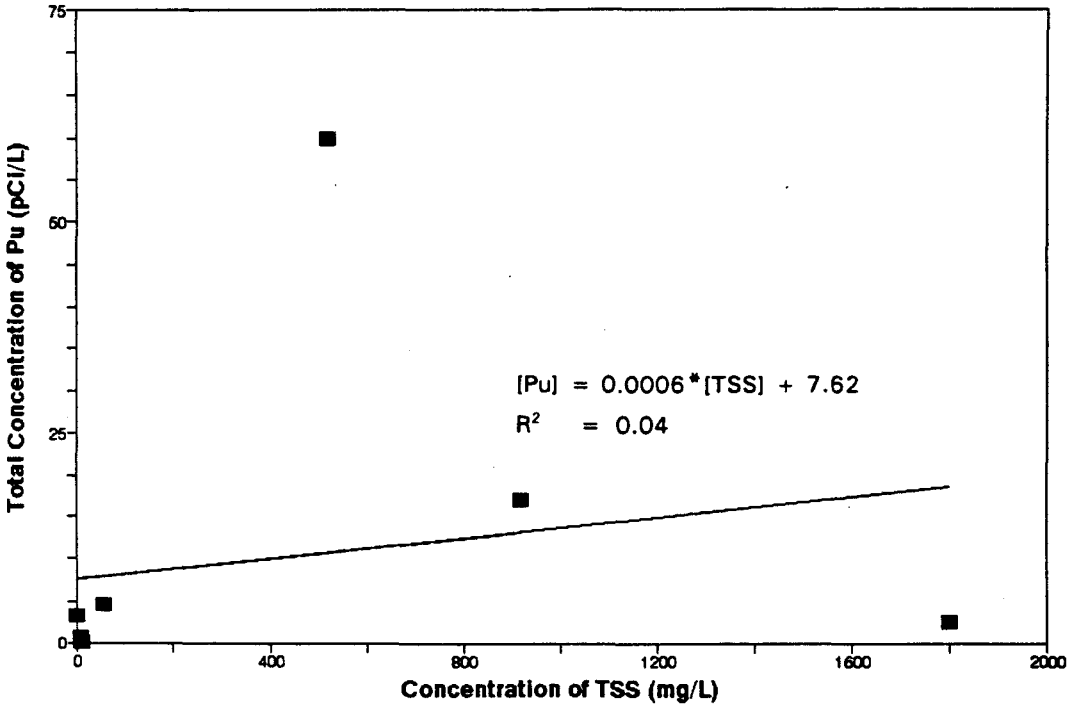
Total Concentration of Americium Versus TSS at SW027



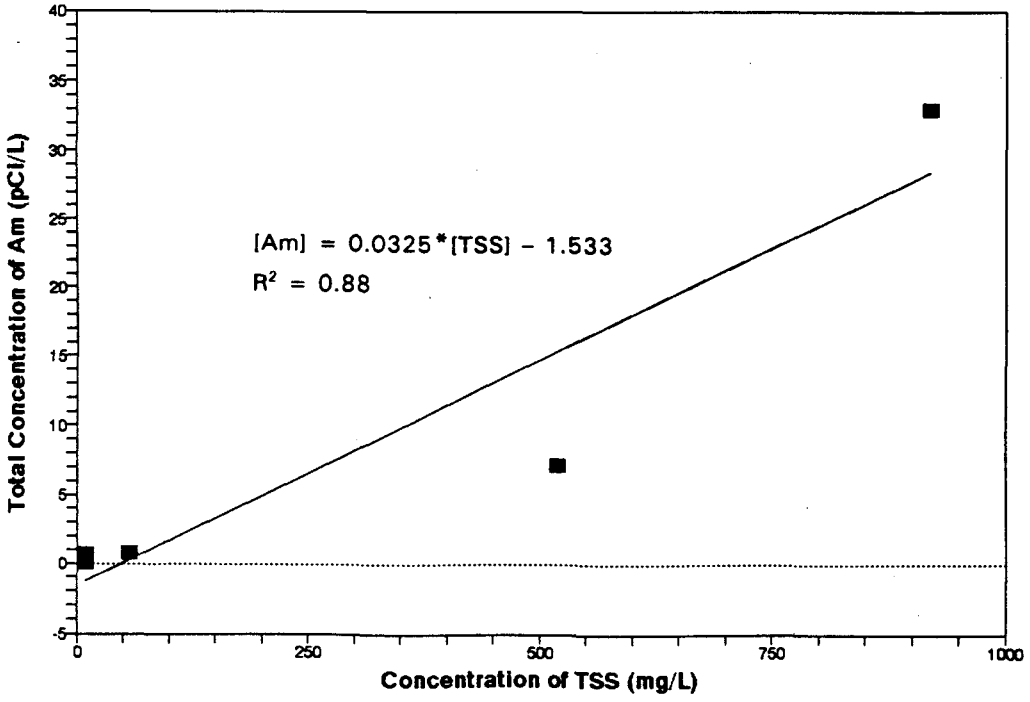
Total Concentration of Plutonium Versus TSS at SW030



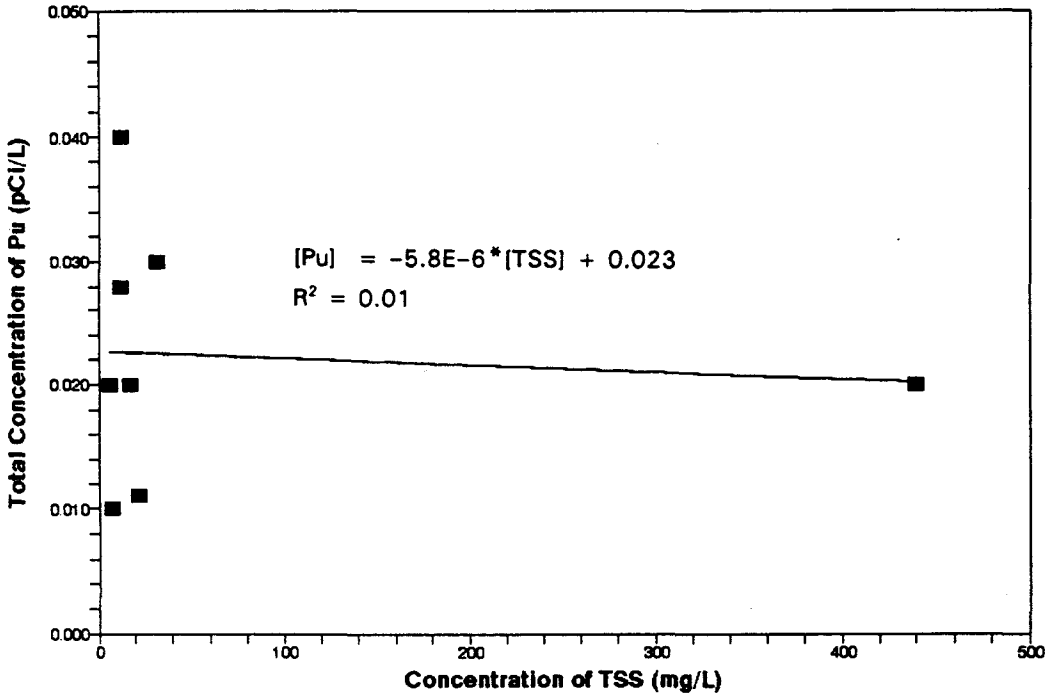
Total Concentration of Plutonium Versus TSS at SW055



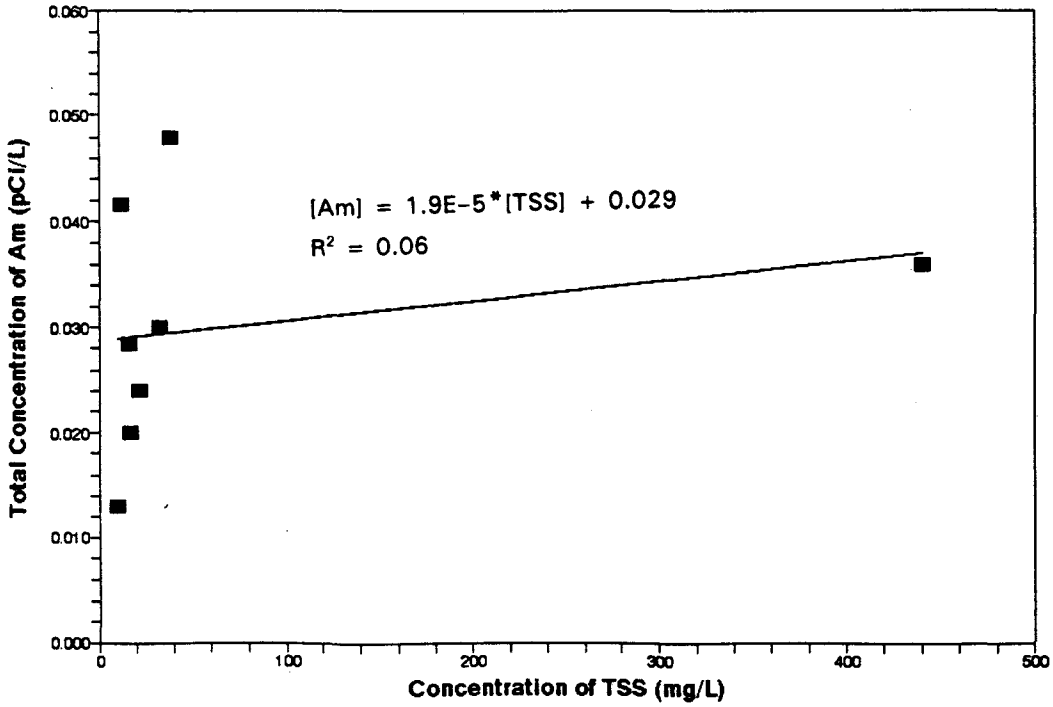
Total Concentration of Americium Versus TSS at SW055



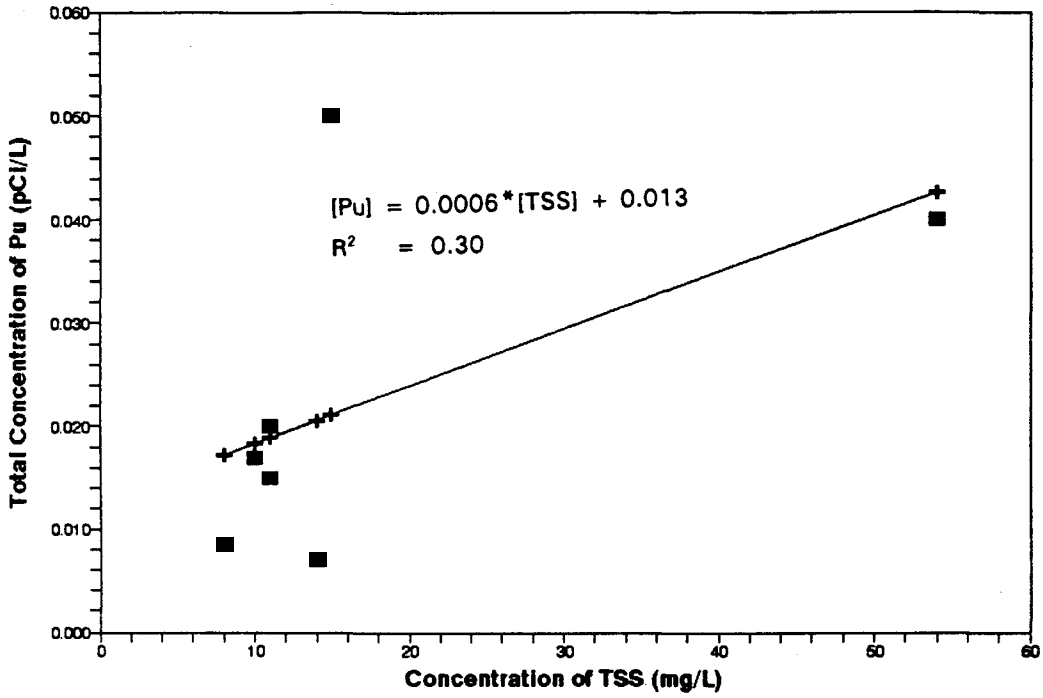
Total Concentration of Plutonium Versus TSS at SW060



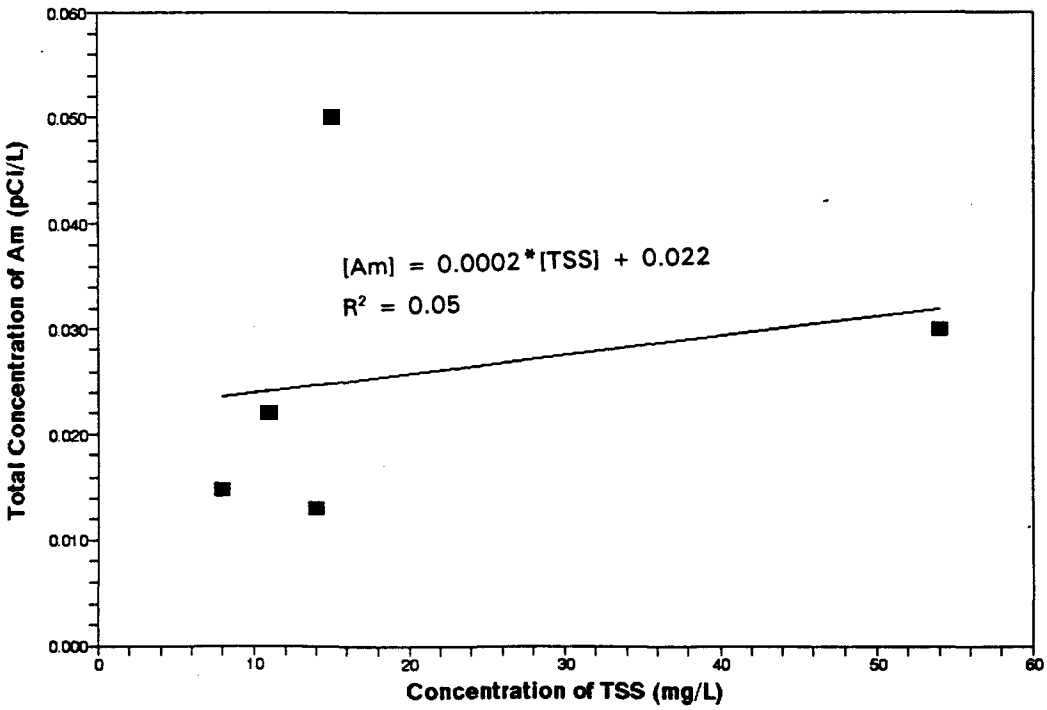
Total Concentration of Americium Versus TSS at SW060



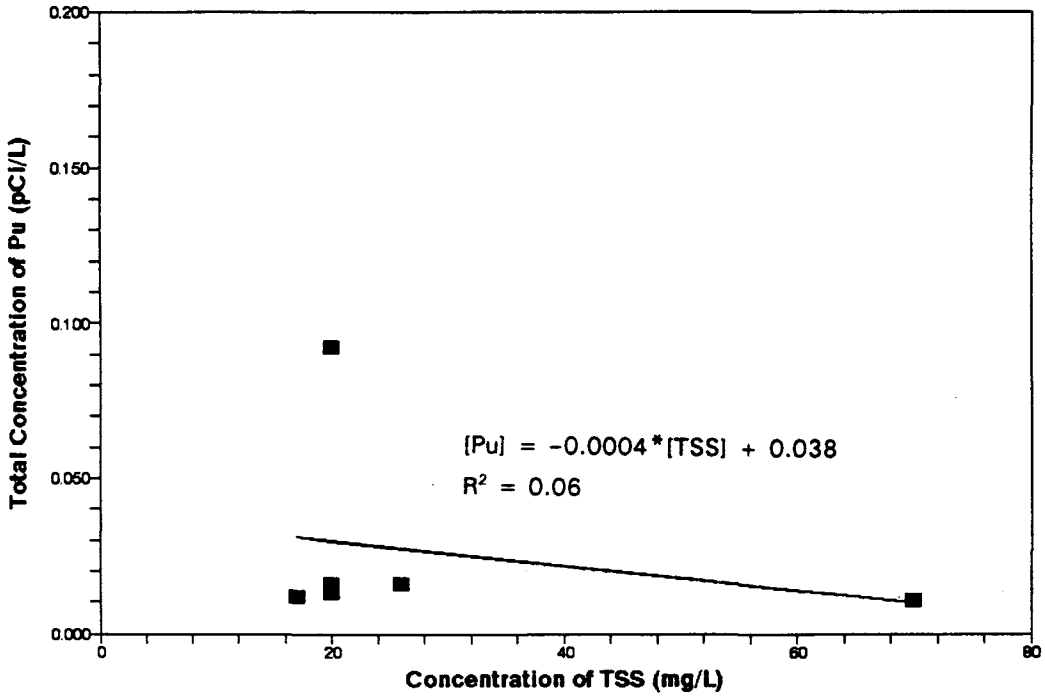
Total Concentration of Plutonium Versus TSS at SW061



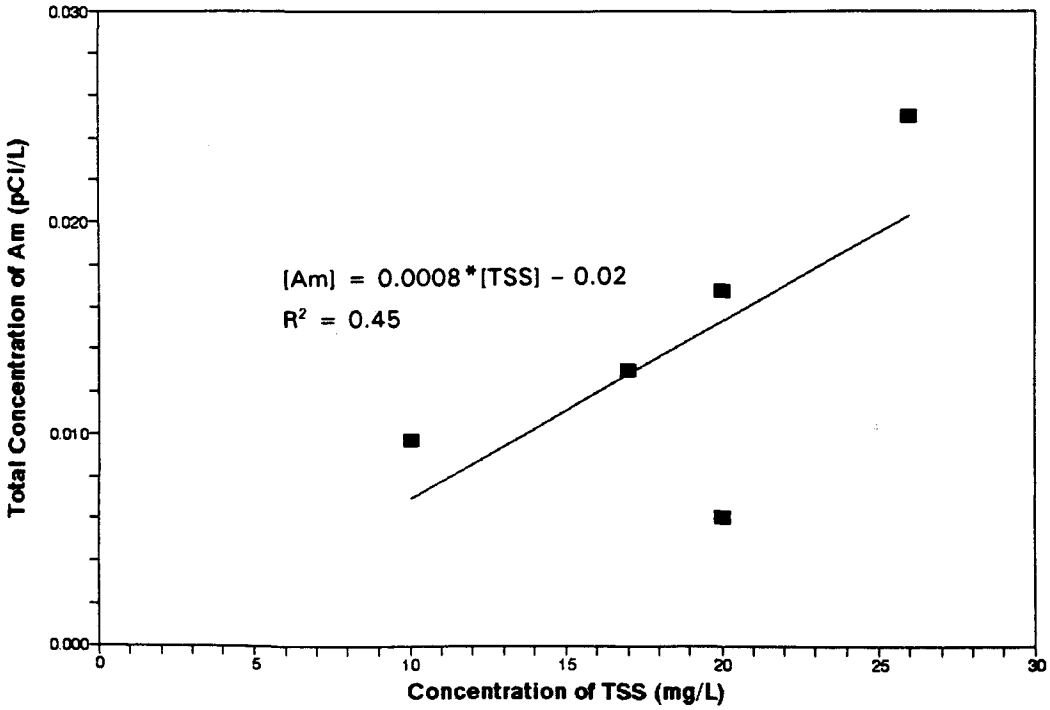
Total Concentration of Americium Versus TSS at SW061



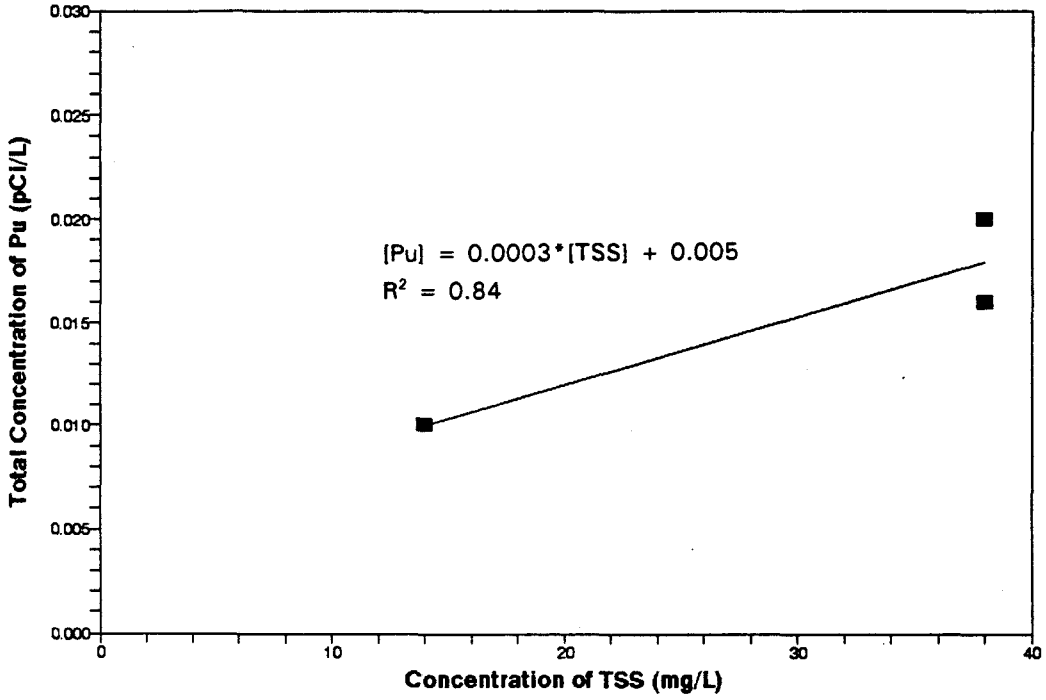
Total Concentration of Plutonium Versus TSS at SW069



Total Concentration of Americium Versus TSS at SW069



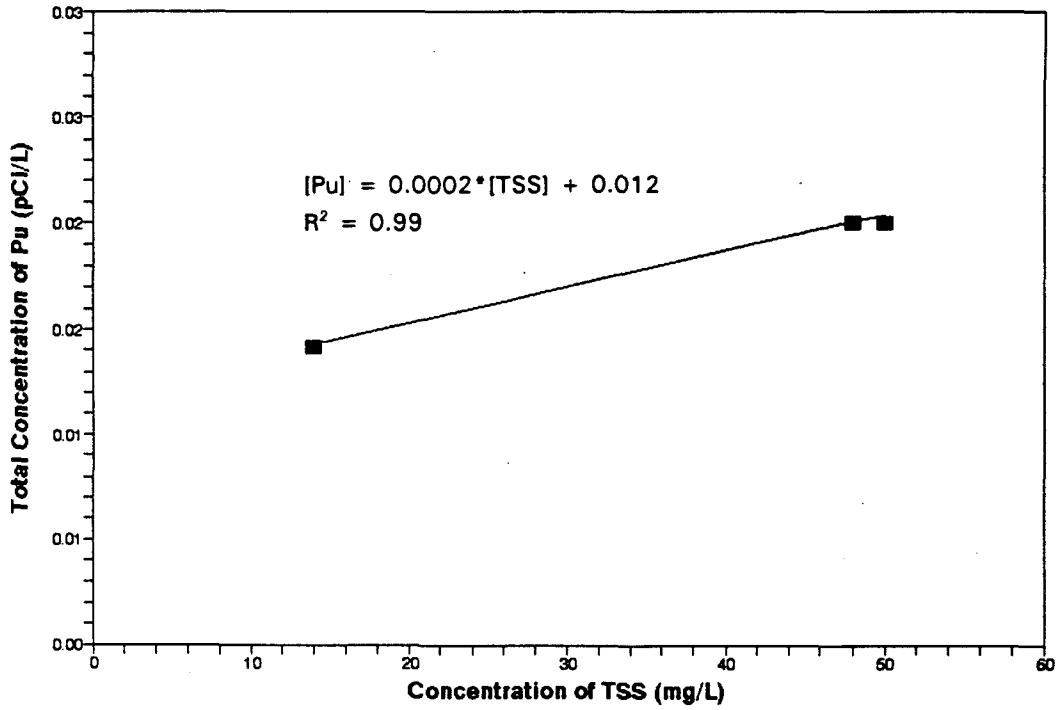
Total Concentration of Plutonium Versus TSS at SW070



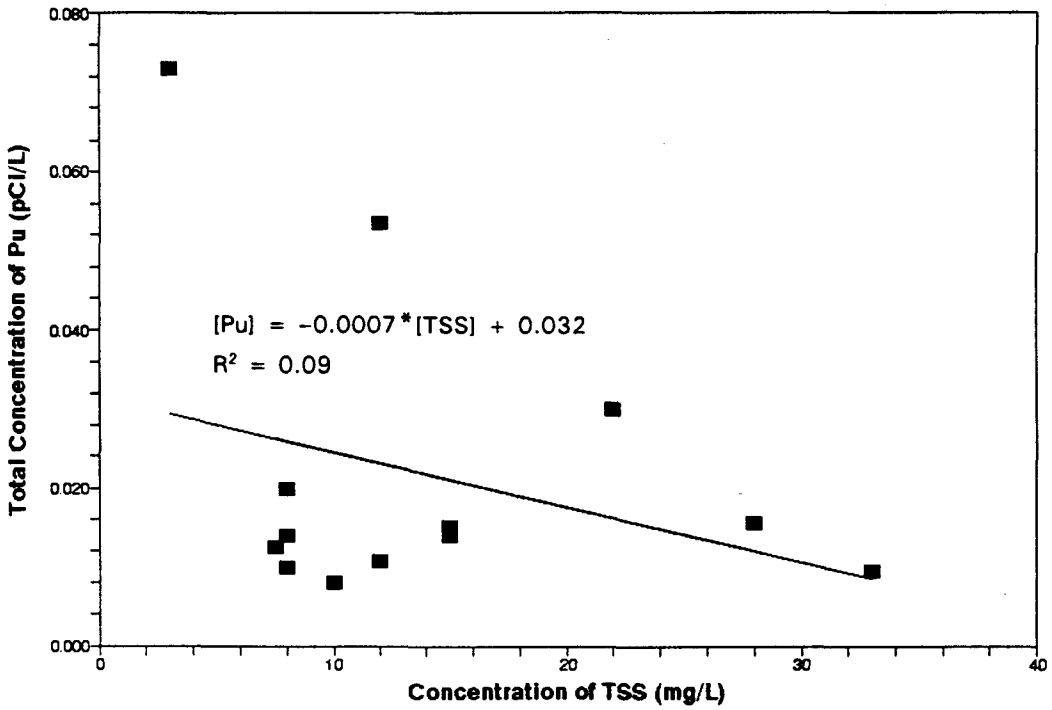
APPENDIX D-3

TOTAL PLUTONIUM AND AMERICIUM ACTIVITIES PLOTTED AGAINST TOTAL SUSPENDED SOLIDS CONCENTRATIONS FOR PONDS OPERABLE UNIT 2

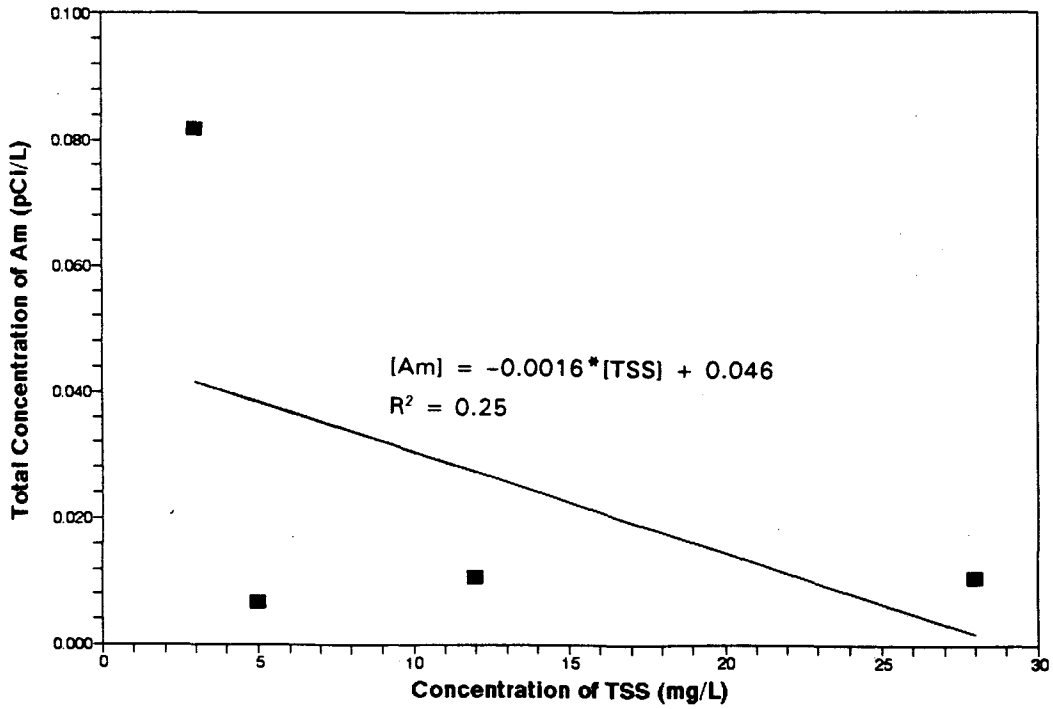
Total Concentration of Plutonium Versus TSS at SW-C1



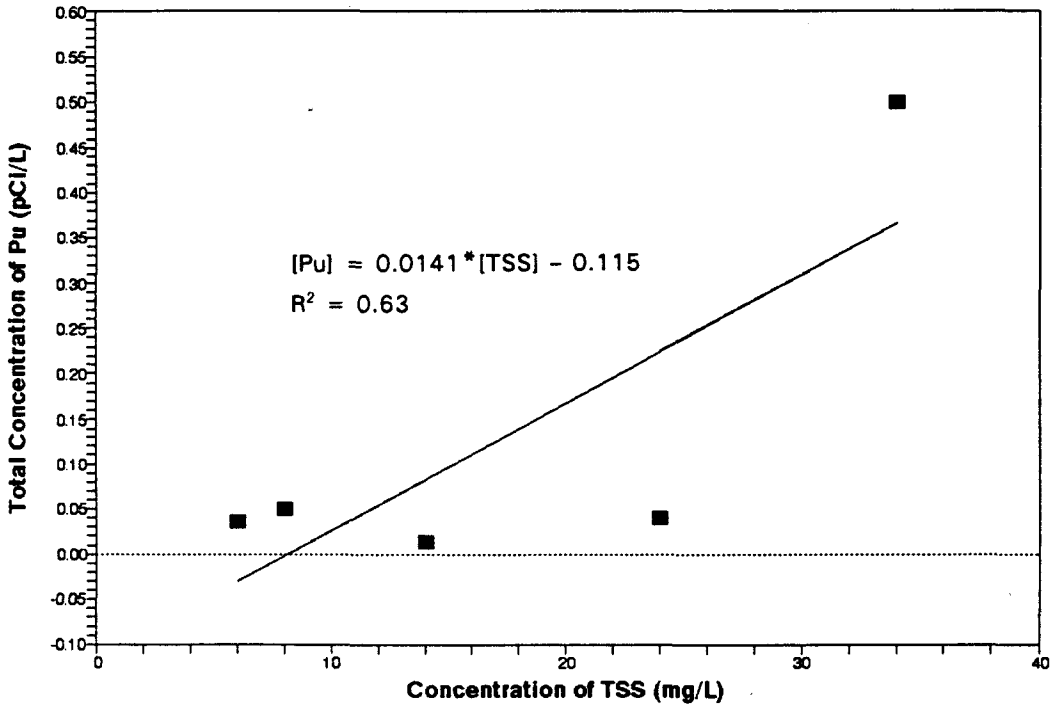
Total Concentration of Plutonium Versus TSS at SW-C2



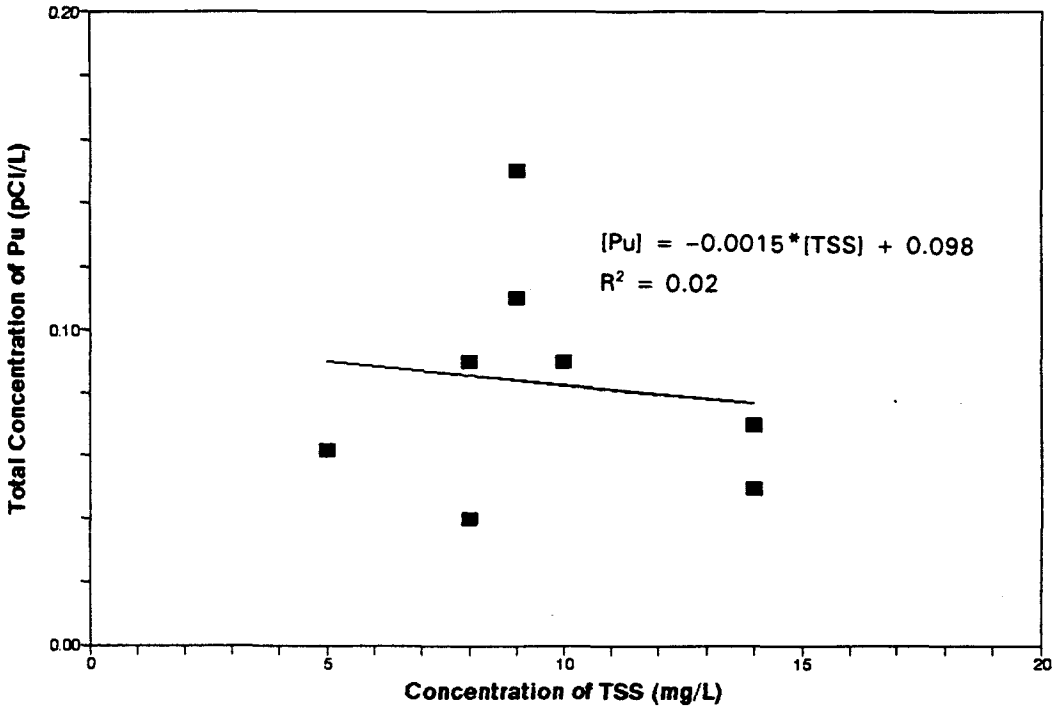
Total Concentration of Americium Versus TSS at SW-C2



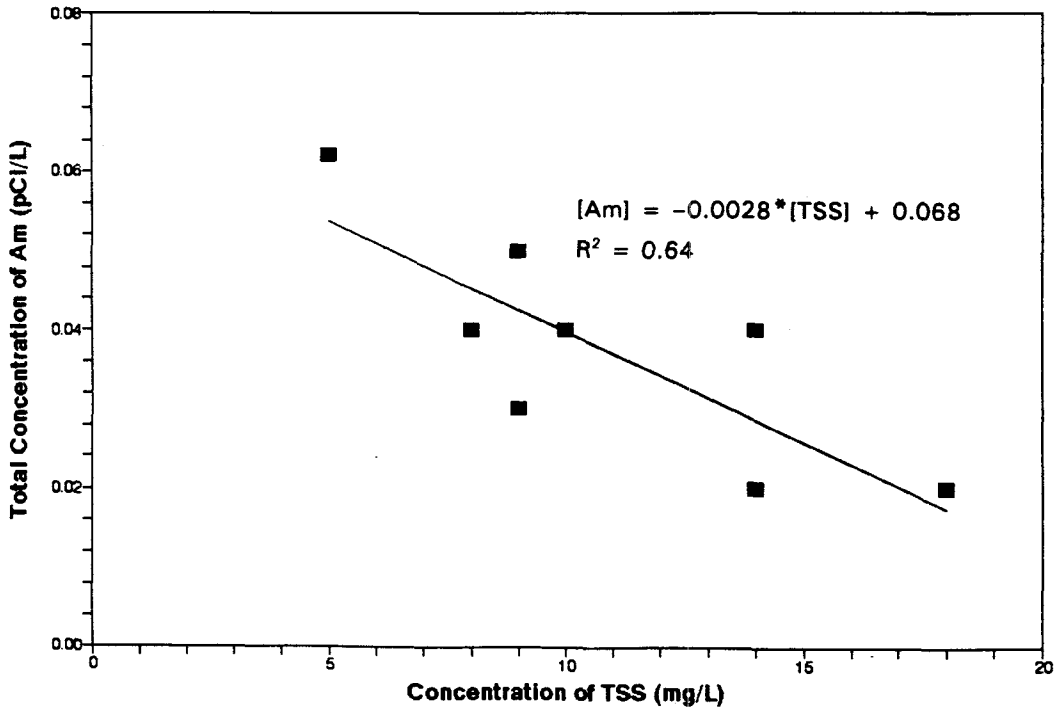
Total Concentration of Plutonium Versus TSS at SW-B2

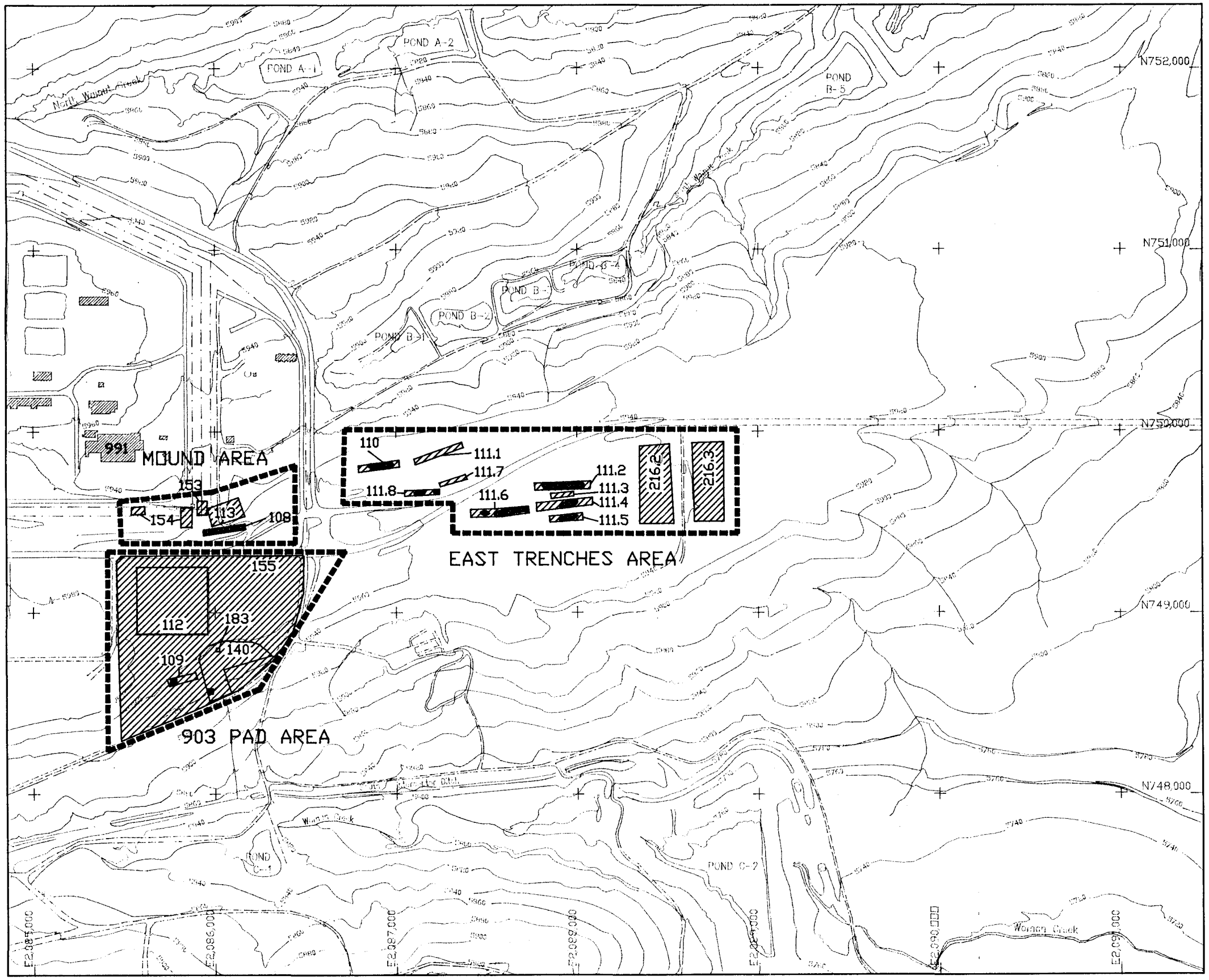


Total Concentration of Plutonium Versus TSS at SW-B3



Total Concentration of Americium Versus TSS at SW-B3





EXPLANATION

216.2 — INDIVIDUAL HAZARDOUS SUBSTANCE SITE (IHSS) AND IHSS DESIGNATION

LOCATION OF BARRELS DETERMINED BY VISUAL INSPECTION OR MAGNETOMETER SURVEY

REMEDIAL INVESTIGATION AREAS

N

Scale: 1" = 600'

0' 300' 600'

CONTOUR INTERVAL = 20'

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

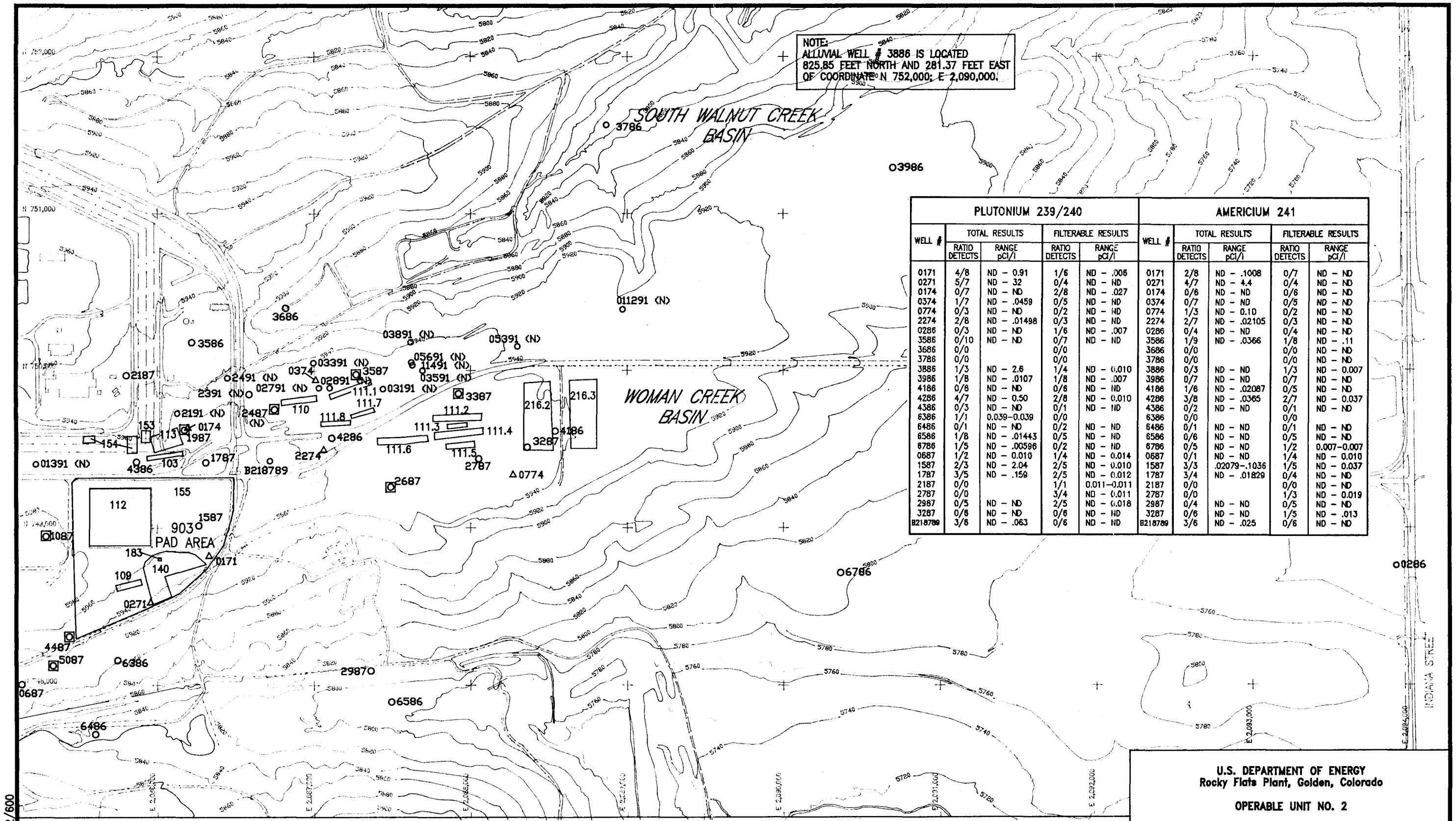
OPERABLE UNIT NO. 2
SUBSURFACE IM/IRA

REMEDIAL INVESTIGATION AREAS AND INDIVIDUAL HAZARDOUS SUBSTANCE SITES

FIGURE 1-1

January 1992

R37M019.PJ-012292/600



PLUTONIUM 239/240					AMERICIUM 241				
WELL #	TOTAL RESULTS		FILTERABLE RESULTS		WELL #	TOTAL RESULTS		FILTERABLE RESULTS	
	RATIO DETECTS	RANGE pCi/l	RATIO DETECTS	RANGE pCi/l		RATIO DETECTS	RANGE pCi/l	RATIO DETECTS	RANGE pCi/l
0171	4/8	ND – 0.91	1/6	ND – .006	0171	2/8	ND – .1008	0/7	ND – ND
0271	5/7	ND – 32	0/4	ND – ND	0271	4/7	ND – 4.4	0/4	ND – ND
0174	0/7	ND – ND	2/8	ND – .027	0174	0/6	ND – ND	0/6	ND – ND
0374	1/7	ND – .0459	0/5	ND – ND	0374	0/7	ND – ND	0/5	ND – ND
0774	0/3	ND – ND	0/2	ND – ND	0774	1/3	ND – 0.10	0/2	ND – ND
2274	2/8	ND – .01498	0/3	ND – ND	2274	2/7	ND – .02105	0/3	ND – ND
0286	0/3	ND – ND	1/6	ND – .007	0286	0/4	ND – ND	0/4	ND – ND
3586	0/10	ND – ND	0/7	ND – ND	3586	1/9	ND – .0366	1/8	ND – .11
3686	0/0		0/0		3686	0/0		0/0	ND – ND
3786	0/0		0/0		3786	0/0		0/0	ND – ND
3886	1/3	ND – 2.6	1/4	ND – 0.010	3886	0/3	ND – ND	1/3	ND – 0.007
3986	1/8	ND – .0107	1/8	ND – .007	3986	0/7	ND – ND	0/7	ND – ND
4186	0/8	ND – ND	0/8	ND – ND	4186	1/6	ND – .02087	0/5	ND – ND
4286	4/7	ND – 0.50	2/8	ND – 0.010	4286	3/8	ND – .0365	2/7	ND – 0.037
4386	0/3	ND – ND	0/1	ND – ND	4386	0/2	ND – ND	0/1	ND – ND
6386	1/1	0.039–0.039	0/0		6386	0/0		0/0	
6486	0/1	ND – ND	0/2	ND – ND	6486	0/1	ND – ND	0/1	ND – ND
6586	1/8	ND – .01443	0/5	ND – ND	6586	0/6	ND – ND	0/5	ND – ND
6786	1/5	ND – .00596	0/2	ND – ND	6786	0/5	ND – ND	1/2	0.007–0.007
0687	1/2	ND – 0.010	1/4	ND – 0.014	0687	0/1	ND – ND	1/4	ND – 0.010
1587	2/3	ND – 2.04	2/5	ND – 0.010	1587	3/3	.02079–.1036	1/5	ND – 0.037
1787	3/5	ND – .159	2/5	ND – 0.012	1787	3/4	ND – .01829	0/4	ND – ND
2187	0/0		1/1	0.011–0.011	2187	0/0		0/0	ND – ND
2787	0/0		3/4	ND – 0.011	2787	0/0		1/3	ND – 0.019
2987	0/5	ND – ND	2/5	ND – 0.018	2987	0/4	ND – ND	0/5	ND – ND
3287	0/6	ND – ND	0/6	ND – ND	3287	0/6	ND – ND	1/5	ND – .013
B218789	3/6	ND – .063	0/6	ND – ND	B218789	3/6	ND – .025	0/6	ND – ND

EXPLANATION

140	INDIVIDUAL HAZARDOUS SUBSTANCE SITES (IHSS) AND IHSS DESIGNATION
2587o	ALLUVIAL MONITOR WELL
0171 △	PRE-1986 WELL (SCREENED INTERVAL UNKNOWN)
(N)	NO DATA
□	DRY

Scale: 1" = 600'

0' 300' 600'

CONTOUR INTERVAL = 20'

N

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT NO. 2

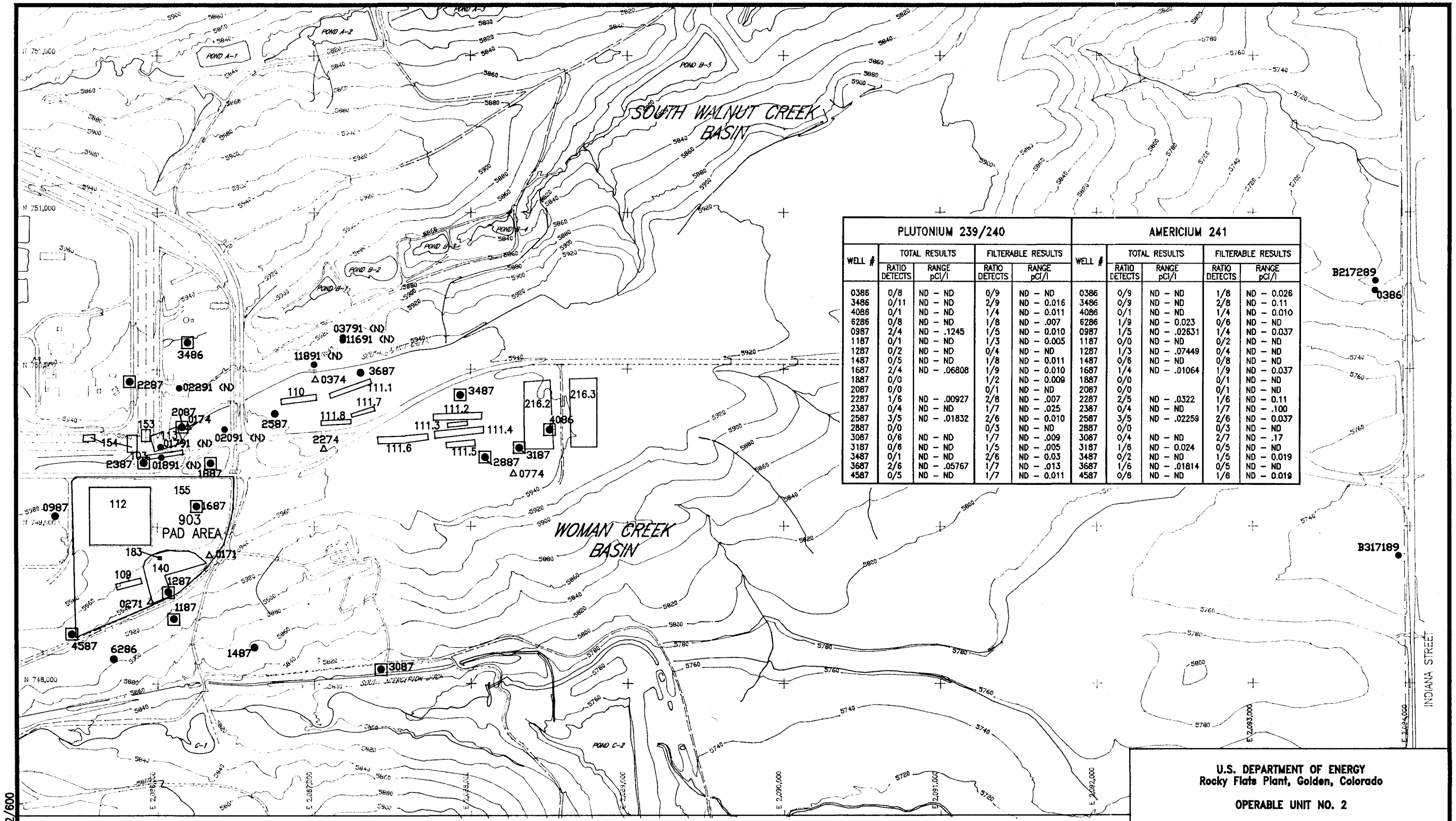
OBSERVATIONS ON THE OCCURRENCE OF PLUTONIUM AND AMERICIUM IN GROUND AND SURFACE WATER

ALLUVIAL MONITOR WELLS

FIGURE 3-1

Rev. December, 1992
July, 1992

R37M074.PJCW–120392/600



PLUTONIUM 239/240					AMERICIUM 241				
WELL #	TOTAL RESULTS		FILTERABLE RESULTS		WELL #	TOTAL RESULTS		FILTERABLE RESULTS	
	RATIO DETECTS	RANGE pCi/l	RATIO DETECTS	RANGE pCi/l		RATIO DETECTS	RANGE pCi/l	RATIO DETECTS	RANGE pCi/l
0386	0/8	ND – ND	0/9	ND – ND	0386	0/9	ND – ND	1/8	ND – 0.026
3486	0/11	ND – ND	2/9	ND – 0.016	3486	0/9	ND – ND	2/8	ND – 0.11
4086	0/1	ND – ND	1/4	ND – 0.011	4086	0/1	ND – ND	1/4	ND – 0.010
6286	0/8	ND – ND	1/8	ND – .007	6286	1/9	ND – 0.023	0/6	ND – ND
0987	2/4	ND – .1245	1/5	ND – 0.010	0987	1/5	ND – .02631	1/4	ND – 0.037
1187	0/1	ND – ND	1/3	ND – 0.005	1187	0/0	ND – ND	0/2	ND – ND
1287	0/2	ND – ND	0/4	ND – ND	1287	1/3	ND – .07449	0/4	ND – ND
1487	0/5	ND – ND	1/8	ND – 0.011	1487	0/6	ND – ND	0/8	ND – ND
1687	2/4	ND – .06808	1/9	ND – 0.010	1687	1/4	ND – .01064	1/9	ND – 0.037
1887	0/0		1/2	ND – 0.009	1887	0/0		0/1	ND – ND
2087	0/0		0/1	ND – ND	2087	0/0		0/1	ND – ND
2287	1/6	ND – .00927	2/8	ND – .007	2287	2/5	ND – .0322	1/6	ND – 0.11
2387	0/4	ND – ND	1/7	ND – .025	2387	0/4	ND – ND	1/7	ND – .100
2587	3/5	ND – .01832	2/6	ND – 0.010	2587	3/5	ND – .02259	2/6	ND – 0.037
2887	0/0		0/3	ND – ND	2887	0/0		0/3	ND – ND
3087	0/6	ND – ND	1/7	ND – .009	3087	0/4	ND – ND	2/7	ND – .17
3187	0/6	ND – ND	1/5	ND – .005	3187	1/6	ND – 0.024	0/5	ND – ND
3487	0/1	ND – ND	2/6	ND – 0.03	3487	0/2	ND – ND	1/5	ND – 0.019
3687	2/6	ND – .05767	1/7	ND – .013	3687	1/6	ND – .01814	0/5	ND – ND
4587	0/5	ND – ND	1/7	ND – 0.011	4587	0/6	ND – ND	1/6	ND – 0.019

EXPLANATION

Scale: 1" = 600'

0' 300' 600'

CONTOUR INTERVAL = 20'

N

140 — INDIVIDUAL HAZARDOUS SUBSTANCE SITES (IHSS) & IHSS DESIGNATION

3789 ● — BEDROCK MONITOR WELL IN UNCONFINED GROUND-WATER FLOW SYSTEM

3789 ▣ — BEDROCK MONITOR WELL IN CONFINED GROUND-WATER FLOW SYSTEM

0171 △ — PRE-1986 MONITOR WELL – TYPICALLY SCREENED IN BOTH ALLUVIUM AND BEDROCK

(N) — NO DATA

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT NO. 2

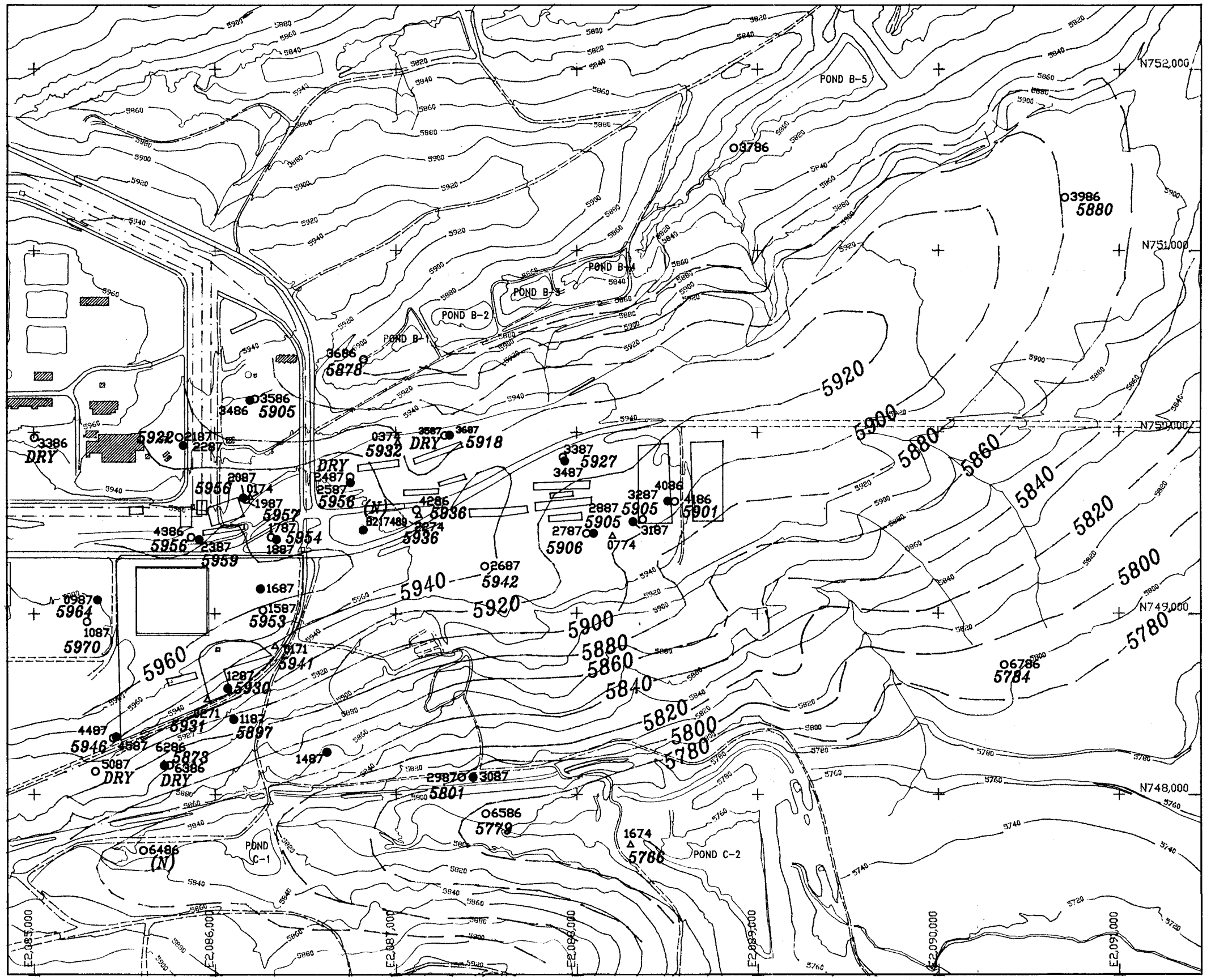
OBSERVATIONS ON THE OCCURRENCE OF PLUTONIUM AND AMERICIUM IN GROUND AND SURFACE WATER

BEDROCK MONITOR WELLS

FIGURE 3-2

Rev. December, 1992
July, 1992

R37M073.PJCW-120392/600



EXPLANATION

INDIVIDUAL HAZARDOUS SUBSTANCE SITE (IHSS)

5798 — POTENTIOMETRIC SURFACE ELEVATION (feet above mean sea level)

ALL DATA BASED ON MEASUREMENTS MADE APRIL 4–8, 1988 INCLUSIVE

5860 — LINE OF EQUAL POTENTIOMETRIC SURFACE ELEVATION (feet above mean sea level)—DASHED WHERE APPROXIMATELY LOCATED

(N) — NO DATA

2587 ● BEDROCK MONITOR WELL

3789 ○ ALLUVIAL MONITOR WELL

0382 △ PRE-1986 MONITOR WELL

N

Scale: 1" = 600'

0' 300' 600'

CONTOUR INTERVAL = 20'

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT NO. 2

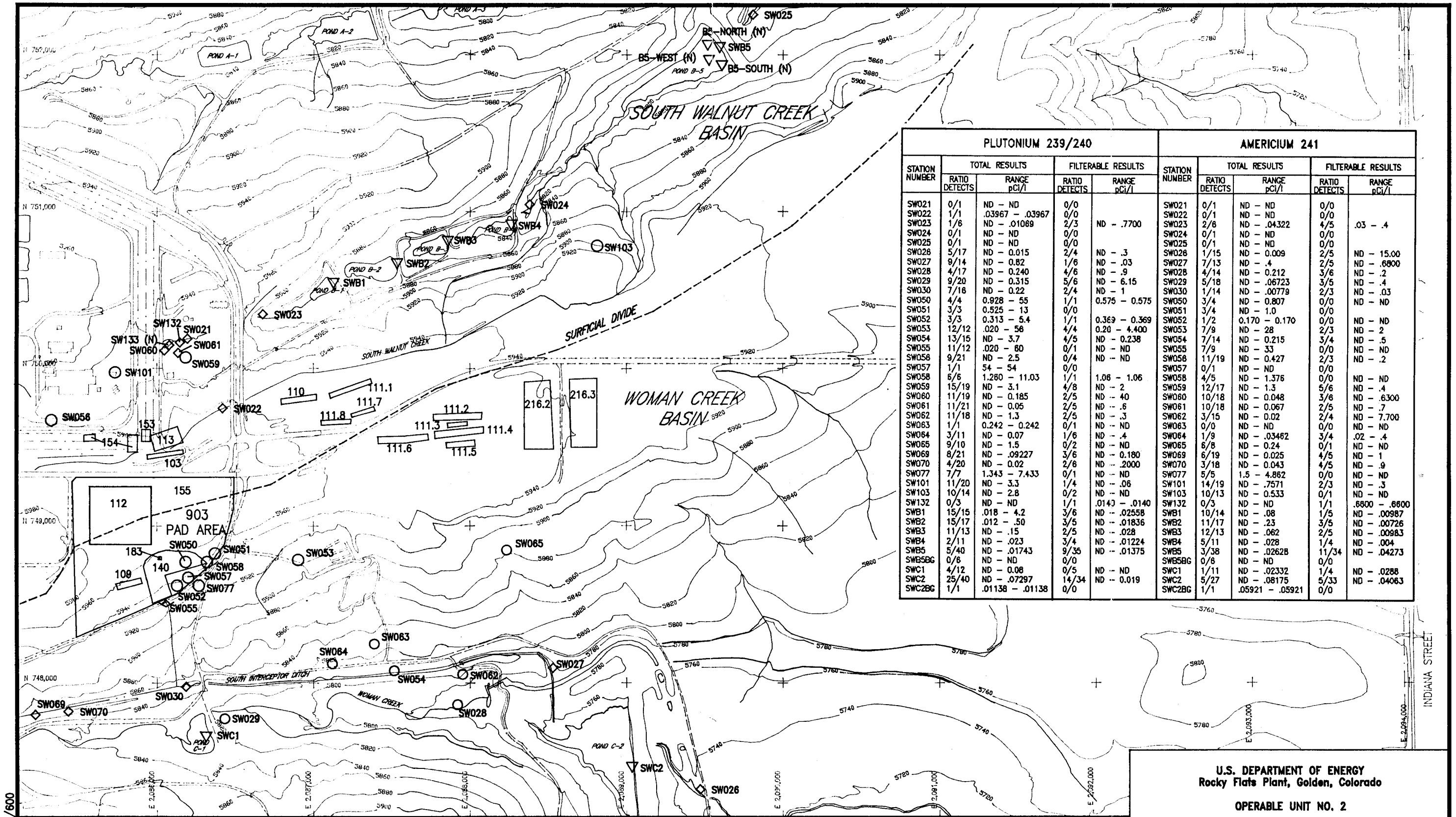
POTENTIOMETRIC SURFACE OF THE UNCONFINED GROUND-WATER FLOW SYSTEM

FIGURE 3-3

January 1992

Rev. December, 1992
July, 1992

R37M076.PJCW-120392/600



PLUTONIUM 239/240				
STATION NUMBER	TOTAL RESULTS		FILTERABLE RESULTS	
	RATIO DETECTS	RANGE pCi/l	RATIO DETECTS	RANGE pCi/l
SW021	0/1	ND – ND	0/0	
SW022	1/1	.03967 – .03967	0/0	
SW023	1/6	ND – .01069	2/3	ND – .7700
SW024	0/1	ND – ND	0/0	
SW025	0/1	ND – ND	0/0	
SW026	5/17	ND – 0.015	2/4	ND – .3
SW027	9/14	ND – 0.82	1/6	ND – .03
SW028	4/17	ND – 0.240	4/6	ND – .9
SW029	9/20	ND – 0.315	5/6	ND – 6.15
SW030	7/16	ND – 0.22	2/4	ND – 1
SW050	4/4	0.928 – 55	1/1	0.575 – 0.575
SW051	3/3	0.525 – 13	0/0	
SW052	3/3	0.313 – 5.4	1/1	0.369 – 0.369
SW053	12/12	.020 – 56	4/4	0.20 – 4.400
SW054	13/15	ND – 3.7	4/5	ND – 0.238
SW055	11/12	.020 – 60	0/1	ND – ND
SW056	9/21	ND – 2.5	0/4	ND – ND
SW057	1/1	54 – 54	0/0	
SW058	6/6	1.260 – 11.03	1/1	1.06 – 1.06
SW059	15/19	ND – 3.1	4/8	ND – 2
SW060	11/19	ND – 0.185	2/5	ND – 40
SW061	11/21	ND – 0.05	2/5	ND – .6
SW062	11/18	ND – 1.3	2/5	ND – .3
SW063	1/1	0.242 – 0.242	0/1	ND – ND
SW064	3/11	ND – 0.07	1/6	ND – .4
SW065	9/10	ND – 1.5	0/2	ND – ND
SW069	8/21	ND – .09227	3/6	ND – 0.180
SW070	4/20	ND – 0.02	2/6	ND – .2000
SW077	7/7	1.343 – 7.433	0/1	ND – ND
SW101	11/20	ND – 3.3	1/4	ND – .06
SW103	10/14	ND – 2.8	0/2	ND – ND
SW132	0/3	ND – ND	1/1	.0140 – .0140
SWB1	15/15	.018 – 4.2	3/6	ND – .02558
SWB2	15/17	.012 – .50	3/5	ND – .01836
SWB3	11/13	ND – .15	2/5	ND – .028
SWB4	2/11	ND – .023	3/4	ND – .01224
SWB5	5/40	ND – .01743	9/35	ND – .01375
SWB5BG	0/6	ND – ND	0/0	
SWC1	4/12	ND – 0.08	0/5	ND – ND
SWC2	25/40	ND – .07297	14/34	ND – 0.019
SWC2BG	1/1	.01138 – .01138	0/0	

AMERICIUM 241				
STATION NUMBER	TOTAL RESULTS		FILTERABLE RESULTS	
	RATIO DETECTS	RANGE pCi/l	RATIO DETECTS	RANGE pCi/l
SW021	0/1	ND – ND	0/0	
SW022	0/1	ND – ND	0/0	
SW023	2/6	ND – .04322	4/5	.03 – .4
SW024	0/1	ND – ND	0/0	
SW025	0/1	ND – ND	0/0	
SW026	1/15	ND – 0.009	2/5	ND – 15.00
SW027	7/13	ND – .4	2/5	ND – .6800
SW028	4/14	ND – 0.212	3/6	ND – .2
SW029	5/18	ND – .06723	3/5	ND – .4
SW030	1/14	ND – .00779	2/3	ND – .03
SW050	3/4	ND – 0.807	0/0	ND – ND
SW051	3/4	ND – 1.0	0/0	
SW052	1/2	0.170 – 0.170	0/0	ND – ND
SW053	7/9	ND – 28	2/3	ND – 2
SW054	7/14	ND – 0.215	3/4	ND – .5
SW055	7/9	ND – 33	0/0	ND – ND
SW056	11/19	ND – 0.427	2/3	ND – .2
SW057	0/1	ND – ND	0/0	
SW058	4/5	ND – 1.376	0/0	ND – ND
SW059	12/17	ND – 1.3	5/6	ND – .4
SW060	10/18	ND – 0.048	3/6	ND – .6300
SW061	10/18	ND – 0.067	2/5	ND – .7
SW062	3/15	ND – 0.02	2/4	ND – 7.700
SW063	0/0	ND – ND	0/0	ND – ND
SW064	1/9	ND – .03462	3/4	.02 – .4
SW065	6/8	ND – 0.24	0/1	ND – ND
SW069	6/19	ND – 0.025	4/5	ND – 1
SW070	3/18	ND – 0.043	4/5	ND – .9
SW077	5/5	1.5 – 4.862	0/0	ND – ND
SW101	14/19	ND – .7571	2/3	ND – .3
SW103	10/13	ND – 0.533	0/1	ND – ND
SW132	0/3	ND – ND	1/1	.6600 – .6600
SWB1	10/14	ND – .08	1/5	ND – .00987
SWB2	11/17	ND – .23	3/5	ND – .00726
SWB3	12/13	ND – .062	2/5	ND – .00983
SWB4	5/11	ND – .028	1/4	ND – .004
SWB5	3/38	ND – .02628	11/34	ND – .04273
SWB5BG	0/6	ND – ND	0/0	
SWC1	1/11	ND – .02332	1/4	ND – .0288
SWC2	5/27	ND – .08175	5/33	ND – .04063
SWC2BG	1/1	.05921 – .05921	0/0	

EXPLANATION

Scale: 1" = 600'

0' 300' 600'

CONTOUR INTERVAL = 20'

N

140 — INDIVIDUAL HAZARDOUS SUBSTANCE SITES (IHSS) AND IHSS DESIGNATION

SW053 — SURFACE WATER SAMPLING STATIONS:

◇ IN-STREAM

○ SEEPS

▽ PONDS

CULVERT

(N) NO DATA

APPROXIMATE LOCATION OF SURFICIAL DIVIDE

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT NO. 2

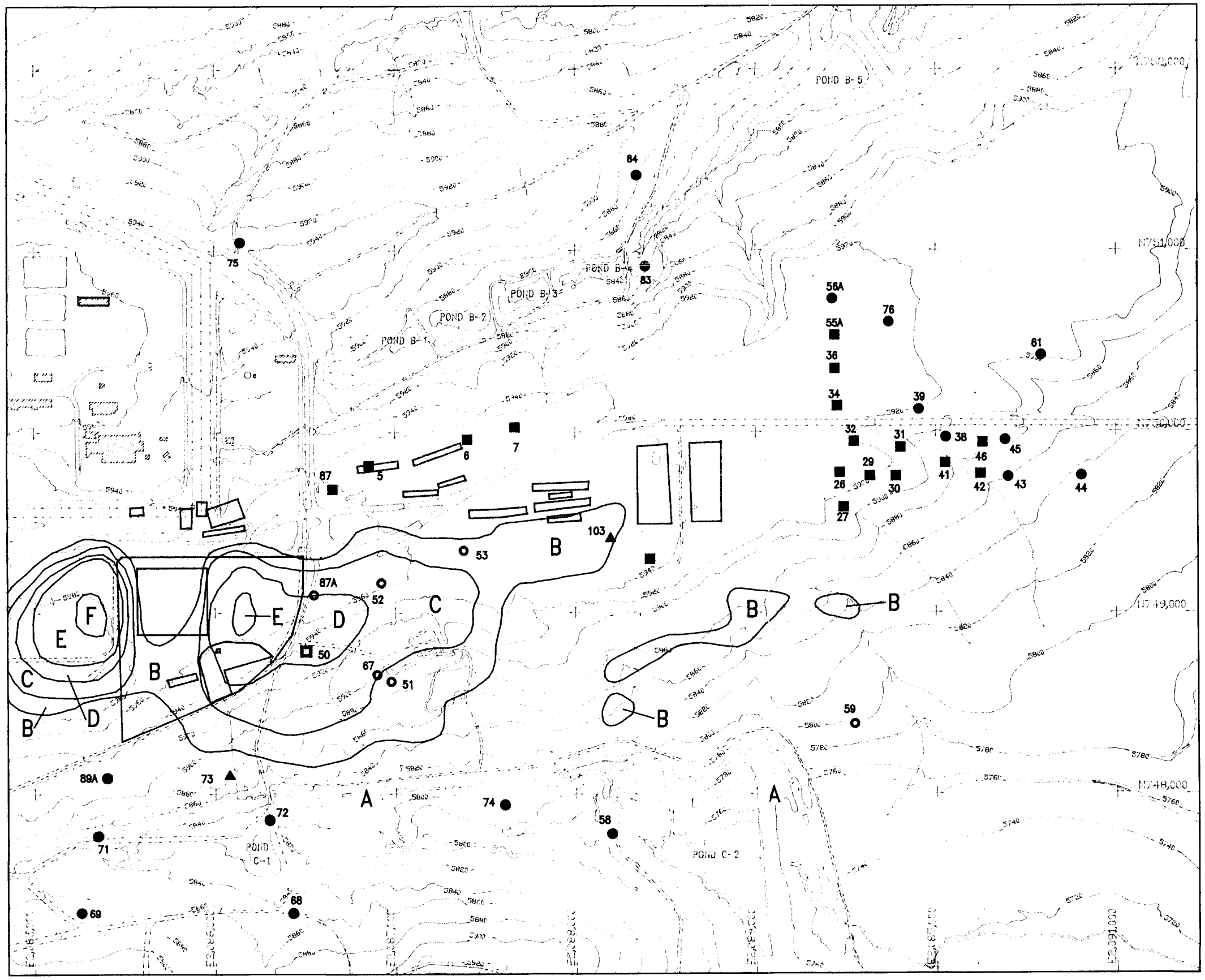
OBSERVATIONS ON THE OCCURRENCE OF PLUTONIUM AND AMERICIUM IN GROUND AND SURFACE WATER

SURFACE WATER STATIONS

FIGURE 3-4

Rev. November, 1992
July, 1992

R37M075.PJCW-111992/600



EXPLANATION

INDIVIDUAL HAZARDOUS SUBSTANCE SITE (IHSS)

87A — SOIL SAMPLING AND IN SITU MEASUREMENT LOCATION *

* SYMBOL AND COLOR CODE FOR IN SITU SURFACE CONCENTRATION MEASUREMENTS	
	SURFACE ** CONCENTRATION ($\mu Ci/m^2$)
●	<0.006
■	0.006 – 0.050
▲	0.050 – 0.100
○	0.100 – 0.350
□	0.350 – 0.840

** Surface concentration levels of Am–241 were measured using a high purity germanium detector (HPGe) at 100 centimeters AGL.

AERIAL DATA PHOTO PEAK AMERICIUM–241 CONVERSION SCALE	
LETTER LABEL	COUNTS PER SECOND
A	< 50
B	50 – 120
C	120 – 240
D	240 – 600
E	600 – 2,400
F	2,400 – 9,600

N

Scale: 1" = 600'

0' 300' 600'

CONTOUR INTERVAL = 20'

Source: An Aerial Radiological Survey of the U.S. DOE's Rocky Flats Plant and Surrounding Area, EGG–10617–1044, May 1990.

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

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SURFACE AND AERIAL AMERICIUM–241 CONCENTRATION DATA FOR THE RFP

FIGURE 5-1

January 1992

R37M029.CW–012492/600