

# **Annual Groundwater Monitoring Status Report for Waste Area Group 2 for Fiscal Year 2006**

August 2006

**Idaho  
Cleanup  
Project**

The Idaho Cleanup Project is operated for the  
U.S. Department of Energy by CH2M ♦ WG Idaho, LLC

**RPT-237  
Revision 0  
Project No. 23361**

# **Annual Groundwater Monitoring Status Report for Waste Area Group 2 for Fiscal Year 2006**

**August 2006**

**Idaho Cleanup Project  
Idaho Falls, Idaho 83415**

**Prepared for the  
U.S. Department of Energy  
Assistant Secretary for Environmental Management  
Under DOE Idaho Operations Office  
Contract DE-AC07-05ID14516**

## ABSTRACT

This report presents the results of groundwater monitoring activities conducted within Waste Area Group 2 at the Idaho National Laboratory during Fiscal Year 2006.

Groundwater samples were collected from eight perched water wells and seven Snake River Plain Aquifer wells. Groundwater sampling events took place in October 2005 and March 2006. Groundwater samples were analyzed for chromium (filtered and unfiltered), tritium, Sr-90, and gamma-emitting isotopes. In addition, groundwater samples were analyzed for gross alpha and gross beta in the March 2006 sampling event. Using an interface probe, the thickness of a floating organic layer at the water table was monitored at three perched water wells.

In perched water well samples, tritium and Sr-90 were detected above their respective maximum contaminant levels. Tritium was detected above its maximum contaminant level of 20,000 pCi/L in Wells PW-11 and PW-9. Sr-90 occurred above its maximum contaminant level of 8 pCi/L in perched wells PW-12, TRA-1933, TRA-1934, USGS-054, USGS-055, and USGS-056. Although previously above its maximum contaminant level, the Co-60 concentration in Well PW-12 has declined to 17.8 pCi/L, which is well below the maximum contaminant level of 200 pCi/L.

In the filtered aquifer well samples, chromium was detected above its maximum contaminant level, 100 µg/L, in Well TRA-07 at a concentration of 133 µg/L. In the past, USGS-065 had filtered chromium concentrations greater than the maximum contaminant level. Except for the Highway-3 well, however, chromium concentrations in aquifer wells sampled were above background levels. Sr-90 was above its maximum contaminant level of 8 pCi/L in the Highway-3 well and TRA-07 in October 2005. However, these occurrences are suspect, because Sr-90 was not detected in the Highway-3 well in subsequent sampling events and there were quality control concerns with the Sr-90 data for October 2005. All other constituents were below maximum contaminant levels, although tritium concentrations were above background concentrations in all aquifer wells except Highway-3.



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## ACRONYMS

bls	below land surface
DRO	diesel range organic
EPA	U.S. Environmental Protection Agency
FY	fiscal year
GRO	gasoline range organic
INL	Idaho National Laboratory
L&V	limitations and validation
MCL	maximum contaminant level
MDA	minimum detectable activity
RPD	relative percent difference
RTC	Reactor Technology Complex
SAM	Sample and Analysis Management
SRPA	Snake River Plain Aquifer
WAG	waste area group





# Annual Groundwater Monitoring Status Report for Waste Area Group 2 for Fiscal Year 2006

## 1. INTRODUCTION

Samples from the Snake River Plain Aquifer (SRPA) and perched water beneath Waste Area Group (WAG) 2 at the Idaho National Laboratory (INL) (Figure 1-1) were collected and analyzed during Fiscal Year (FY) 2006 in accordance with the *Groundwater Monitoring Plan for the Test Reactor Area Operable Unit 2-13* (DOE-ID 2004a). Groundwater monitoring being conducted satisfies some of the requirements in the *Final Record of Decision for Test Reactor Area for Operable Unit 2-13 at the Idaho National Engineering and Environmental Laboratory* (DOE-ID 1997) and the *Record of Decision for the Test Reactor Area Perched Water System, Operable Unit 2-12* (DOE-ID 1992).

### 1.1 Purpose

This document presents and summarizes groundwater sample data collected during FY 2006 for the wells covered under the groundwater monitoring plan (DOE-ID 2004a). Samples were collected from seven wells completed in the SRPA and eight wells completed in perched water bodies above the SRPA. Sampling was conducted to (a) evaluate contaminant concentrations in the deep perched water system and the SRPA after discharge to the former warm waste ponds was eliminated, (b) verify the accuracy of SRPA contaminant concentration trends predicted by computer modeling, and (c) verify that groundwater concentrations have not increased to unacceptable levels.

The data presented here supplement groundwater monitoring data presented in the five-year review reports (DOE-ID 2003; DOE-ID 2006) and previous annual monitoring reports (INEEL 2003; DOE-ID 2004b; ICP 2005). Information regarding water quality and contaminant concentrations and trends is presented in Section 2. Recommendations are presented in Section 3.

Groundwater monitoring at WAG 2 will continue until the U.S. Department of Energy Idaho Operations Office, the U.S. Environmental Protection Agency (EPA), and the Idaho Department of Environmental Quality determine that monitoring is no longer necessary based on results from a five-year review.

### 1.2 Groundwater Monitoring Activities

The groundwater monitoring plan (DOE-ID 2004a) calls for collecting groundwater samples twice a year in October and March. In FY 2006, the October 2005 sampling event carried over into November and the March 2006 sampling event ran into April. According to the monitoring plan, groundwater samples are to be collected from perched water wells PW-11, PW-12, PW-14, USGS-053, USGS-054, USGS-055, TRA-1933, TRA-1934, and USGS-056 in October and March of each year. Table 1-1 summarizes the construction details for each of the WAG 2 groundwater monitoring wells. However, no samples were collected from perched water well PW-14, because it was dry in October 2005 and March 2006. Well USGS-056 was only sampled in October 2005, because it was dry during the March 2006 sampling event. The amount of water in USGS-053 was too low to be sampled in October 2005 and March 2006. In accordance with the groundwater monitoring plan (DOE-ID 2004a), Well PW-9 was sampled instead of USGS-053 in March 2006. Well PW-13 could not be sampled in October 2005 due to a plugged pump and was not sampled in March 2006 due to low water level. Well TRA-1933 was not sampled in October 2005 because the pump was not functioning. The pump in TRA-1933 has been replaced with a new pump and will be sampled in the next round.

Wells PW-13, TRA-1933, and TRA-1934 were monitored with an interface probe to ascertain the presence and thickness of a floating organic layer. In addition, petro (petroleum) traps placed in PW-13, TRA-1933, and TRA-1934 were monitored on a monthly basis for free-phase product.

Groundwater samples are also required from aquifer wells TRA-06, TRA-07, TRA-08, USGS-058, USGS-065, MIDDLE-1823, and Highway-3. Well TRA-08 was not sampled in March 2006, because the water level was too low.

Water levels were measured prior to sampling each well. It is anticipated that data gathered from the WAG 10 automated network will be used to construct a water table map for the Reactor Technology Complex (RTC) area in FY 2007.

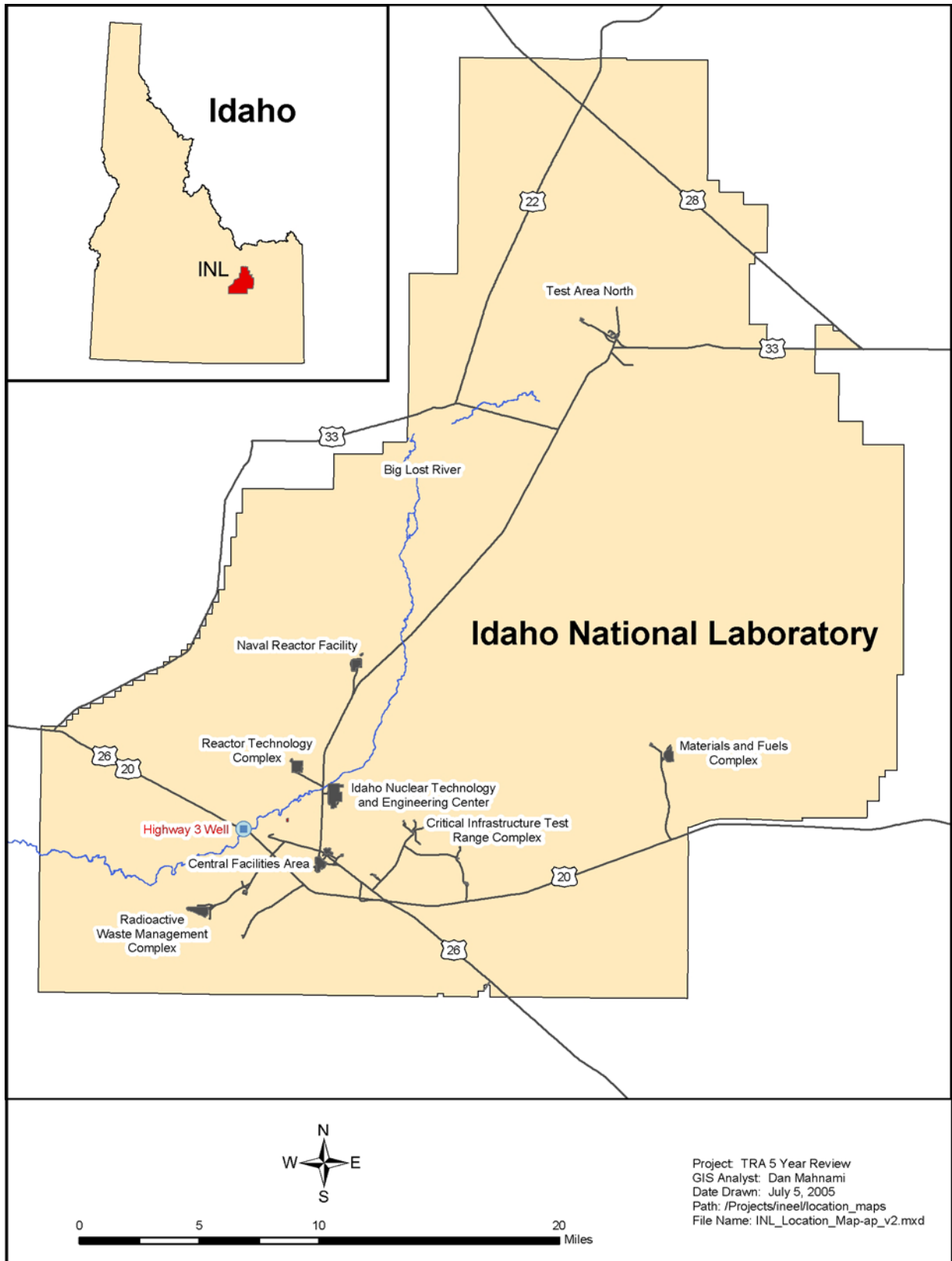


Figure 1-1. Map showing the location of the Idaho National Laboratory and its facilities.

Table 1-1. Summary of well information for Waste Area Group 2 groundwater monitoring wells.

Well Name	Brass Cap Elevation (ft)	Screened Interval(s) (ft bgs)	Well Use
PW-11 <sup>a</sup>	4,916.5	109–129	Monitoring
PW-12 <sup>a</sup>	4,923.7	108–128	Monitoring
PW-13 <sup>a</sup>	4,923.8	57–87	Monitoring
PW-14 <sup>a</sup>	4,918.7	93–123	Monitoring
USGS-053 <sup>a</sup>	4,922.1	50–67 75–80	Monitoring
USGS-054 <sup>a</sup>	4,920.9	60–91	Monitoring
USGS-055 <sup>a</sup>	4,919.1	44–81	Monitoring
USGS-056 <sup>a</sup>	4,921.4	59–80	Monitoring
TRA-06	4,925.6	528–558	Monitoring/water level
TRA-07	4,931.6	463–493	Monitoring/water level
TRA-08	4,934.9	471–501	Monitoring/water level
MTR Test	4,719.18	447–588	Water level
SITE 19	4,926.32	472–512 532–572 596–616 780–862	Water level
USGS-058	4,918.37	218–503	Monitoring/water level
USGS-065	4,925.0	456–498	Monitoring/water level
USGS-076	4,929.69	457–718	Water level
USGS-079	4,931.08	281–702	Water level
USGS-099	4,872.36	340–450	Water level
USGS-121	4,909.65	449–475	Water level
MIDDLE-1823		680–720	Monitoring/water level
Highway-3	4,981.6	680–750	Monitoring/water level

a. Perched water well  
bgs = below ground surface

## 2. MONITORING RESULTS

This section presents the analytical results for the perched water and SRPA wells. With the exception of analyses for radionuclides, samples were analyzed in accordance with established INL and EPA methods; radionuclide analyses were performed in accordance with the “Idaho National Engineering and Environmental Laboratory Sample and Analysis Management Statement of Work for Analytical Services” (ER-SOW-394). That statement of work establishes the minimum required detection limits and quality assurance requirements for the analytical methods to be employed. All analytical results were validated to resident procedures established by INL Sample and Analysis Management (SAM). Table 2-1 summarizes the sample data from FY 2006. Complete sampling results are presented in Appendix A. The quality assurance and control sample results are discussed in Appendix B.

### 2.1 Perched Water Well Sampling Results

Perched water samples were analyzed for chromium (filtered and unfiltered), Sr-90, tritium, and gamma-emitting isotopes. In addition, samples were analyzed for gross alpha and gross beta in the March 2006 sampling event. When radiological results are reported in the text of this document, only the concentrations are given; the associated uncertainties are listed in Table 2-1 and Appendix A. In addition, two wells, TRA-1933 and TRA-1934, were analyzed for gasoline range organics (GROs) and diesel range organics (DROs). Results for the above constituents are summarized in the following subsections. In the subsections below, sample concentrations in perched wells are compared with maximum contaminant levels (MCLs); however, these comparisons are not intended to imply that the perched water bodies represent an aquifer that is conducive to long-term use.

#### 2.1.1 Chromium

Filtered chromium analytical results from the perched water wells were below the EPA-defined MCL of 100 µg/L, although the result for one sample from Well USGS-056 was very close at 99.7 µg/L. In addition to USGS-056, filtered chromium concentrations exceeded background concentrations in Wells PW-9, PW-11, USGS-055, and TRA-1934. Figure 2-1 shows filtered chromium concentrations in the individual wells (perched and aquifer) from October 2005 and March 2006. Unfiltered chromium concentrations in the perched wells exceeded 100 µg/L in Well USGS-056.

#### 2.1.2 Gamma-emitting Isotopes

Two gamma-emitting isotopes (Co-60 and Ra-226) were present at detectable concentrations during the FY 2006 sampling. Co-60 was detected in one sample from Well PW-12. Ra-226 was detected in the sample from Well TRA-1934 in the October 2005 sampling event, but it was not detected in any perched wells in the March 2006 sampling event.

Although the reported concentration of Ra-226 exceeded the EPA-defined MCL of 5 pCi/L for Ra-226/Ra-228, Ra-226 results were obtained by direct gamma spectrometry and are flagged with “J” validation flags as estimated values. General Engineering Laboratories quantifies Ra-226 using Bi-214 daughter photopeak at 609 keV. It is not possible to quantify Ra-226 by spectrometry without a separate analysis to allow time for the ingrowth and equilibration of radon daughter products. Therefore, sample results are not considered representative of radium concentrations in the groundwater. In addition, Ra-226 was detected in the field blank and equipment rinsate at concentrations near that detected in TRA-1934. The spurious nature of the Ra-226 results also was confirmed by the gross alpha results from the March 2006 sampling event presented below. The gross alpha results cast doubt on the Radium-226 results since they are not elevated, as they are expected to be if radium-226 was indeed in the samples.

Table 2-1. Select analytes for Waste Area Group 2 perched and aquifer wells.<sup>a,b</sup>

Location	Sample Date	Sr-90		Tritium		Chromium (filtered)		Chromium (unfiltered)		Co-60				
		pCi/L	+/-	MCL = 8 pCi/L	VF	MCL = 20,000 pCi/L	+/-	VF	MCL = 100 µg/L	LF	VF	MCL = 200 pCi/L	+/-	VF
<i>Aquifer Wells</i>														
HIGHWAY-3	10/18/05	<b>18.6</b>	1.37			-74.3	91	1.2	B	1.1	B	-2.89	3.38	U
HIGHWAY-3	01/16/06	-0.16	0.23	U		NA		NA		NA		NA		
HIGHWAY-3	01/18/06	0.16	0.165	U		NA		NA		NA		NA		
HIGHWAY-3	01/18/06	0.0228	0.0615	U		NA		NA		NA		NA		
HIGHWAY-3	03/13/06	0.0614	0.288	U		60.7	84.9	1	U	1	U	-0.336	4.2	U
MIDDLE-1823	10/24/05	0.47	0.248	U		1870	196	12.3		12.6		3.84	2.91	U
MIDDLE-1823	04/03/06	0.532	0.747	U		1550	102	8	B	6.8	B	-3.88	4.2	U
TRA-06	10/18/05	0.261	0.198	U		1950	121	8.1	B	8.4	B	10.5	3.92	UJ
TRA-06	03/16/06	0.693	0.248	UJ		1940	150	7.7	B	8.1	B	-7.26	4.01	U
TRA-07	10/27/05	0.0129	0.21	U		17100	438	<b>120</b>		<b>127</b>		1.96	2.53	U
TRA-07	04/03/06	0.426	0.702	U		14800	753	<b>133</b>		<b>143</b>		0.458	3.99	U
TRA-08	11/03/05	<b>5650</b>	73.9			2700	170	3.9	B	23		1.36	2.2	U
TRA-08	11/03/05	<b>7280</b>	94.8			NA		NA		NA		1.21	3.16	U
USGS-058	10/17/05	0.872	0.218	UJ		1360	113	18.7		27.8		1.57	3.08	U
USGS-058	04/04/06	-0.388	0.742	U		1380	94.8	15.5		15		0.3	4.32	U
USGS-065	10/18/05	-0.084	0.143	U		6220	176	89.7	J	<b>103</b>	J	0.607	2.85	U
USGS-065	04/10/06	0.0432	0.199	U		6080	355	91		<b>112</b>		-7.25	5.15	U
<i>Perched Water Wells</i>														
PW-09	03/23/06	1.08	0.315	J		<b>36800</b>	1890	21.8		73.3		-4.57	4.51	U
PW-11	10/17/05	0.0502	0.129	U		<b>28100</b>	393	28.5		29.5	B	3.69	3.07	U
PW-11	04/04/06	0.406	0.634	U		<b>29500</b>	1490	26		30.7		-1.74	4.03	U
PW-12	10/25/05	<b>46.1</b>	2.58			1520	161	1.2	B	5	B	17.8	4.37	UJ

Table 2-1. (continued).

Location	Sample Date	Sr-90 MCL = 8 pCi/L pCi/L +/- VF	Tritium MCL = 20,000 pCi/L pCi/L +/- VF	Chromium (filtered) MCL = 100 µg/L µg/L LF VF	Chromium (unfiltered) MCL = 100 µg/L µg/L LF VF	Co-60 MCL = 200 pCi/L pCi/L +/- VF
PW-12	04/05/06	<b>73.6</b> 3.82	1410 95.4	3.8 B U	5.9 B U	19.5 7.57 UJ
TRA-1933	03/22/06	<b>72</b> 3.75	11.1 21.4 U	1.2 B U	25.1	1.68 4.04 U
TRA-1934	10/25/05	<b>91.7</b> 2.1	81.3 112 U	27.8	43.4	0.929 3.38 U
TRA-1934	03/22/06	<b>100</b> 5.12 J	-4.74 45 U	77.4	81.2	-3.95 3.02 U
USGS-054	10/17/05	<b>28.9</b> 1.09	6.99 82.6 U	6.5 B	6.5 B	-1.18 2.73 U
USGS-054 (dup)	10/17/05	0.521 0.193 UJ	199 93 UJ	6.3 B	6.5 B	3.9 2.87 U
USGS-054	04/04/06	<b>60.9</b> 3.22	-92.2 55.7 U	5.1 B U	5.1 B U	-3.71 4.91 U
USGS-054 (dup)	04/04/06	<b>59.6</b> 3.16	-192 51.9 U	4.8 B U	5.2 B U	7.92 5.41 U
USGS-055	10/27/05	<b>81.9</b> 2.15	14700 407	79.1	79.6	-2.68 2.67 U
USGS-055	04/03/06	<b>71.2</b> 7.5 J	5410 286	24.7	25.5	0.309 4.34 U
USGS-056	10/20/05	<b>97.5</b> 3.77	11700 435	99.7	<b>101</b>	5.47 4.44 U

a. See Appendix A for an explanation of validation and laboratory data flags.

b. Bold numbers are greater than the MCL.

Dup = duplicate

LF = laboratory flag

MCL = maximum contaminant level

VF = validation flag

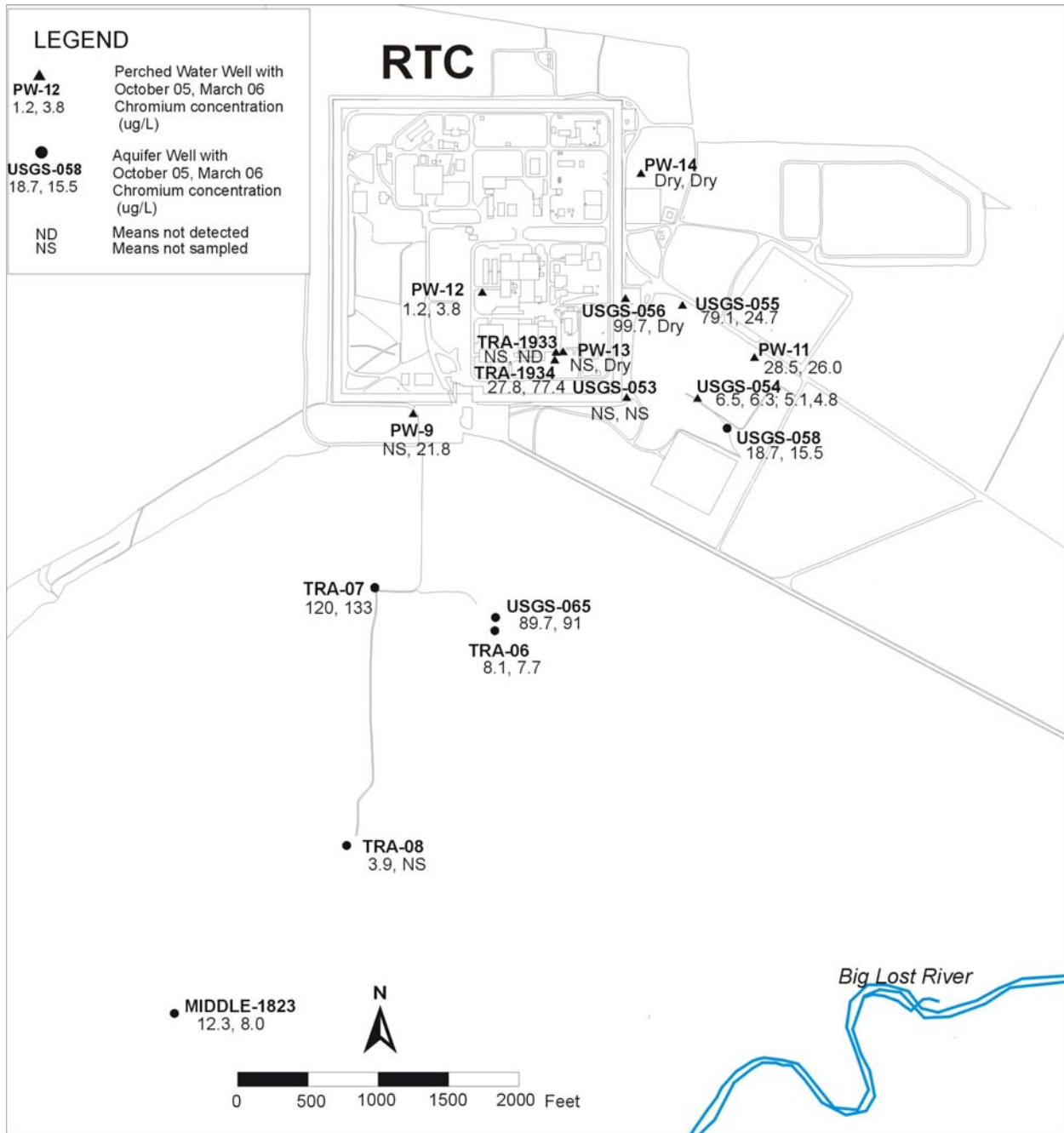


Figure 2-1. Chromium concentrations ( $\mu\text{g/L}$ ) for October 2005 and March 2006.

Co-60 was detected in one sample from Well PW-12 at concentrations of 17.8 pCi/L in October 2005. Co-60 was not present at detectable concentrations in any of the other wells. The Co-60 detection is well below its EPA-defined MCL of 200 pCi/L. The Co-60 concentration in PW-12 continues to decline from the previous years' results, as shown in Figure 2-2. In addition, other gamma constituents that would generally be expected to accompany Co-60 (for example, Cm-144 and Cs-137) were not present in PW-12. The minimum detectable activity for Co-60 during the FY 2006 sampling was generally between 9 and 16 pCi/L with the minimum detectable activity (MDA) for each sample included in Appendix A.



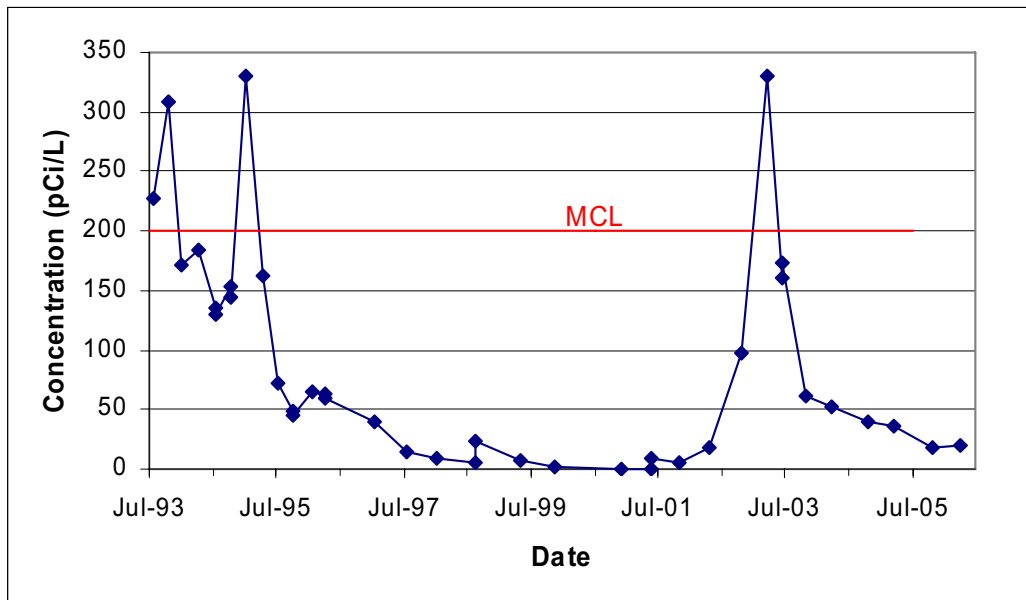


Figure 2-2. Co-60 concentration (pCi/L) in PW-12.

### 2.1.3 Strontium-90

Sr-90 results ranged from nondetect to 100 pCi/L in the perched water wells sampled (Table 2-1). Wells PW-12, TRA-1933, TRA-1934, USGS-054, USGS-055, and USGS-056 exceeded the EPA-defined MCL of 8 pCi/L. The highest Sr-90 concentration, 100 pCi/L, occurred in the March 2006 sample from TRA-1934. The minimum detectable activity for Sr-90 generally was between 0.6 and 3 pCi/L. Figure 2-3 shows Sr-90 concentrations in the perched wells.

The Sr-90 concentration trends indicate that concentrations are decreasing in USGS-054 and USGS-056 (Figure 2-4). In contrast, the concentration data for PW-12 and USGS-055 indicate an overall positive trend. The cyclic nature of the increase in Sr-90 concentration in PW-12 seems to reflect pulses of contamination moving through the well. Wells TRA-1933, and TRA-1934 have not been sampled for Sr-90 a sufficient number of times to allow examination of data trends.

### 2.1.4 Tritium

Tritium is present at detectable concentrations in five of the eight perched wells sampled; however, it only exceeds the 20,000 pCi/L MCL in Wells PW-11 and PW-9 (Table 2-1 and Figure 2-5). The highest tritium concentration was in PW-9 at 36,800 pCi/L. Tritium concentrations in PW-11 were 28,100 pCi/L in October 2005 and 29,500 pCi/L in March 2006. The tritium concentrations for Well PW-11 show a statistically significant trend of decreasing concentrations, with a correlation coefficient of 0.948 (Figure 2-6). The minimum detectable activity for tritium ranged from 172 to 424 pCi/L for the FY 2006 sampling. The minimum detectable activity for each sample is included in Appendix A.

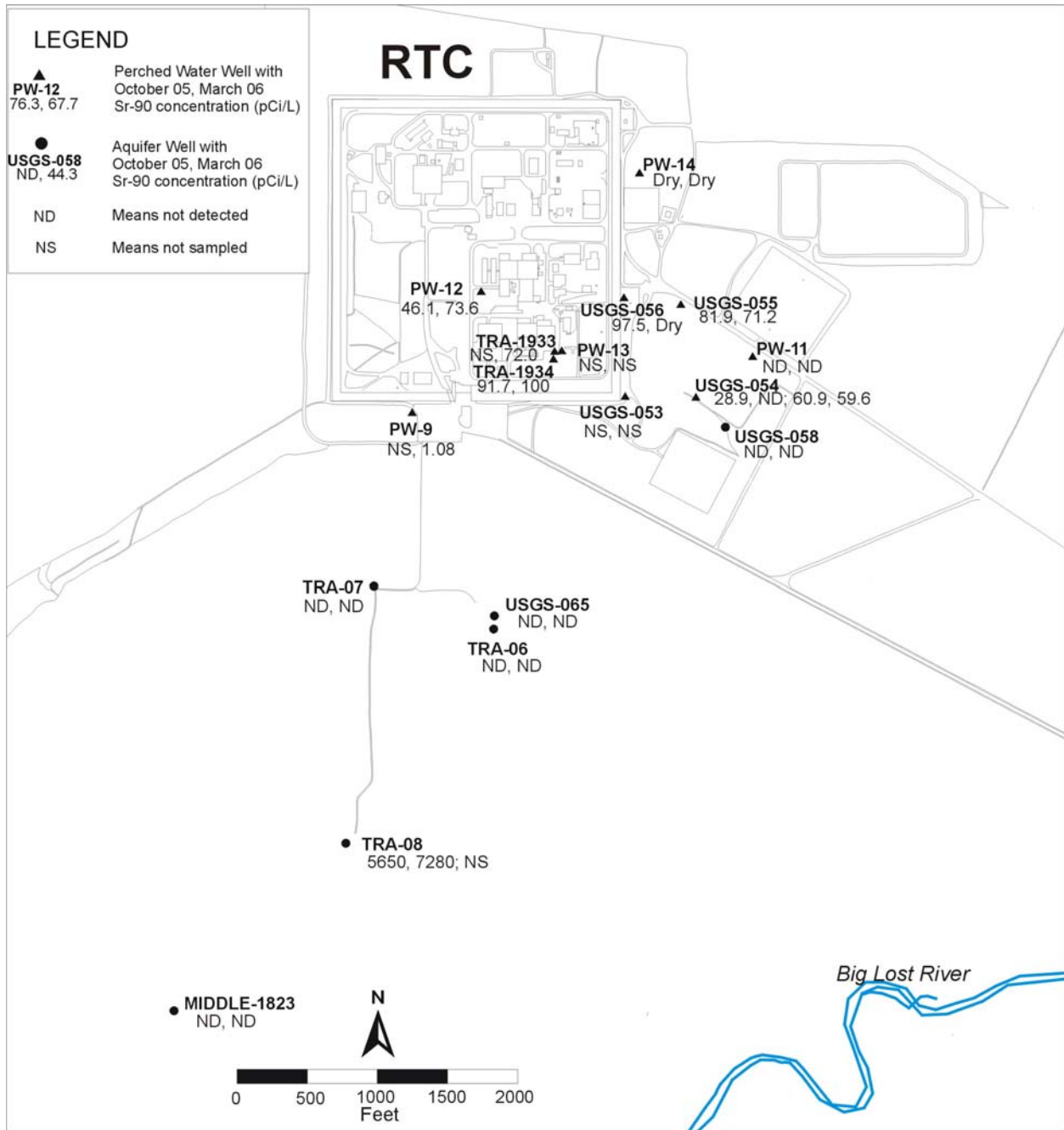


Figure 2-3. Sr-90 concentrations (pCi/L) for October 2005 and March 2006.

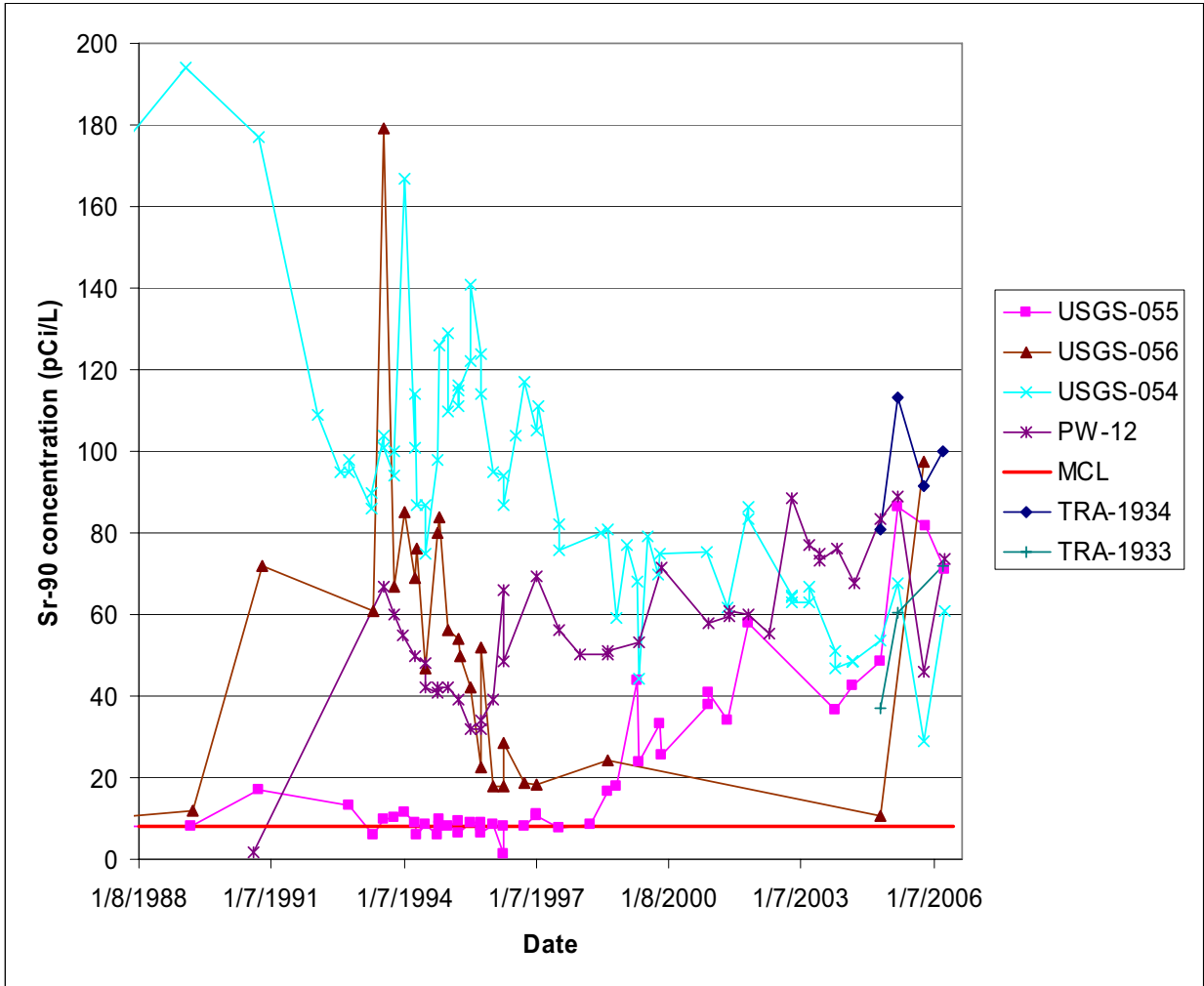


Figure 2-4. Sr-90 concentration trends (pCi/L) in PW-12, USGS-054, USGS-055, and USGS-056.

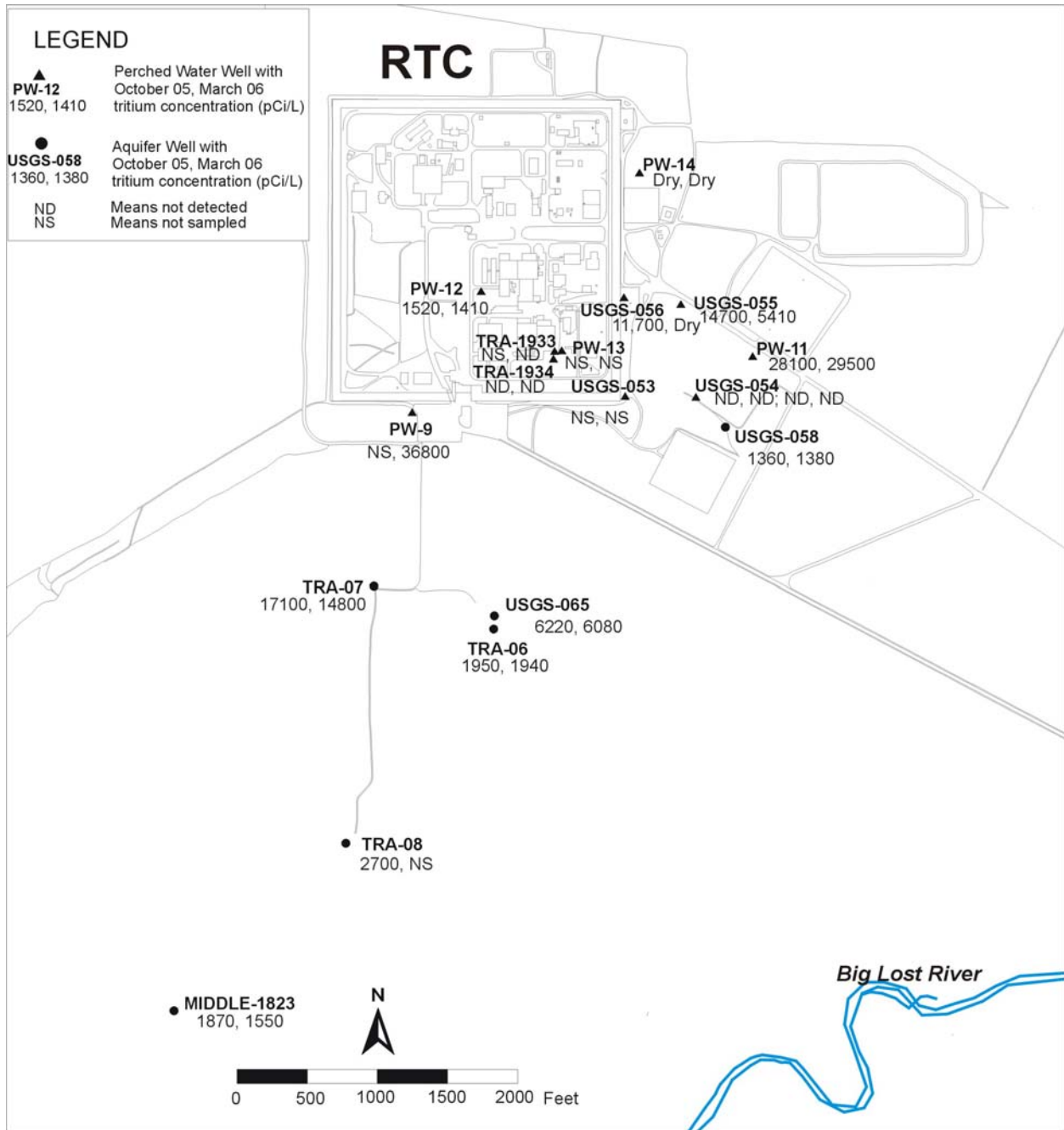


Figure 2-5. Tritium concentrations (pCi/L) for October 2005 and March 2006.

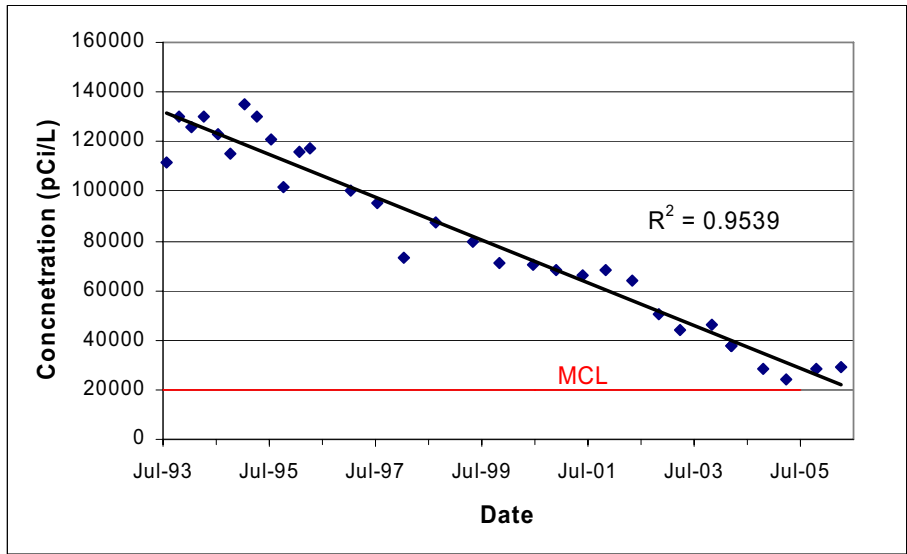


Figure 2-6. Tritium concentrations (pCi/L) in PW-11.

### 2.1.5 Gross Alpha and Gross Beta

Gross alpha and gross beta analysis were added for the March 2006 sampling event because of the reported elevated strontium-90 and radium-226 detections. Gross beta results correlated with Sr-90 results, with the highest Sr-90 and gross beta concentrations occurring in TRA-1934. Gross alpha results were all below the MCL of 15 pCi/L with the maximum detected concentration of 7.46 pCi/L occurring in PW-9 (Table 2-2).

Table 2-2. Gross alpha and gross beta results for Waste Area Group 2 wells.

Well	Date Sampled	Gross Alpha			Gross Beta		
		pCi/L	+/-	VF	pCi/L	+/-	VF
<i>Aquifer Wells</i>							
Highway 3	03/13/2006	2.98	1.26	J	2.77	1.3	J
MIDDLE-1823	04/03/2006	6.64	1.17		8.96	1.1	
TRA-06	03/16/2006	1.99	1.54	U	2.78	1.74	U
TRA-07	04/03/2006	3.08	0.82		5.58	0.951	
USGS-058	04/04/2006	1.83	0.609		2.87	0.773	
USGS-065	04/10/2006	4.06	0.895		7.58	1.1	
<i>Perched Water Wells</i>							
PW-09	03/23/2006	7.46	2.7	J	18.7	3.54	
PW-11	04/04/2006	4.27	1.97	J	9.21	2.3	
PW-12	04/05/2006	5.86	2.17	J	137	14.5	
USGS-054	04/04/2006	4.67	2.01	J	94.4	10.3	
USGS-054 (dup)	04/04/2006	3.15	1.7	U	101	10.9	
USGS-055	04/03/2006	6.05	1.15		140	7.48	
TRA-1933	03/22/2006	2.05	1.56	U	102	11.3	
TRA-1934	03/22/2006	0.752	1.28	U	176	18.7	

Dup = duplicate  
VF = validation flag

## 2.1.6 Diesel Range Organic and Gasoline Range Organic Results

Samples for DROs and GROs were collected from Wells PW-12, TRA-1933, and TRA-1934 (Table 2-3). Samples could not be collected from PW-13 because of pump problems and lower water level. The highest DRO (1.5 mg/L) and GRO (127 µg/L) concentrations were in TRA-1933. The DRO and GRO concentrations were the lowest in PW-12.

Table 2-3. Organic analyte results for Waste Area Group 2 perched wells.

Location	Depth (ft)	Date	Diesel Range Organics			Gasoline Range Organics		
			mg/L	LF	VF	ug/L	LF	VF
PW-12	133	10/25/05	0.04	J	J	50	U	
PW-12	133	04/05/06	0.028	JB	U	50	U	
TRA-1933	103	03/22/06	1.5		J	127		
TRA-1934	100	10/25/05	0.98			103		
TRA-1934 (dup)	100	10/25/05	0.89			115		
TRA-1934	100	03/22/06	0.2		J	80.2		
TRA-1934 (dup)	100	03/22/06	0.57		J	84.7		

Dup = duplicate  
 LF = laboratory flag  
 VF = validation flag

## 2.2 Aquifer Well Sampling Results

Groundwater samples were collected from aquifer wells TRA-06, TRA-07, USGS-058, USGS-065, MIDDLE-1823, and Highway-3. Well TRA-08 was not sampled in either October 2005 or March 2006 because of pump problems. Aquifer wells were analyzed for chromium (filtered and unfiltered), Sr-90, gamma isotopes, and tritium. In March 2006, samples were also collected for gross alpha and gross beta analyses. The results for the analytes are summarized in the following subsections. The results for tritium, Sr-90, and chromium are summarized in Table 2-1. Comparison to background concentrations at the INL and comparison to MCLs for detected analytes are summarized in Table 2-4.

Table 2-4. Waste Area Group 2 groundwater quality summary.

Analyte	Background <sup>a</sup>	Maximum	Minimum	Wells above MCL	MCL
<i>Perched Water Wells</i>					
Chromium Filtered	2 to 3	99.7	ND	0	100 µg/L
Chromium Unfiltered	NA	101	ND	1	100 µg/L
Co-60	0	17.8	ND	0	200 pCi/L
Ra-226	0	154	ND	1	5 pCi/L <sup>b</sup>
Sr-90	0	100	ND	6	8 pCi/L

Table 2-4. (continued).

Analyte	Background <sup>a</sup>	Maximum	Minimum	Wells above MCL	MCL
Tritium	75 to 150	36,800	ND	2	20,000 pCi/L
Gross alpha	0 to 3	7.46	ND	0	15 pCi/L
Gross beta	0 to 7	176	9.21	NA	4 mrem/yr
<i>Aquifer Wells</i>					
Chromium Filtered	2 to 3	133	ND	2	100 µg/L
Chromium Unfiltered	NA	143	ND	2	100 µg/L
Sr-90	0	7280	ND	2	8 pCi/L
Ra-226	0	116	ND	1	5 pCi/L <sup>b</sup>
Tritium	75 to 150	17,100	ND	0	20,000 pCi/L
Gross alpha	0 to 3	6.64	ND	0	15 pCi/L
Gross beta	0 to 7	8.96	ND	NA	4 mrem/yr

a. Background concentrations are from Knobel, Orr, and Cecil (1992).

b. Represents MCL for Ra-226 and Ra-228 combined.

MCL = maximum contaminant level

ND = not detected

NA = not applicable

### 2.2.1 Chromium

Chromium was detected in all but three filtered samples and one unfiltered sample. Filtered chromium concentrations were above the EPA-defined MCL of 100 µg/L only in Well TRA-07 (Table 2-1 and Figure 2-1). Analytical results for TRA-07 indicated a filtered chromium concentration of 120 µg/L in October 2005 and 133 µg/L in March 2006. Although previously above the MCL, the FY 2006 results for Well USGS-065 showed filtered chromium concentrations of 89.7 µg/L in October 2005 and 91 µg/L in March 2006. Wells TRA-07 and USGS-065 appear to show decreasing trends in chromium concentrations since 1999 (Figure 2-7).

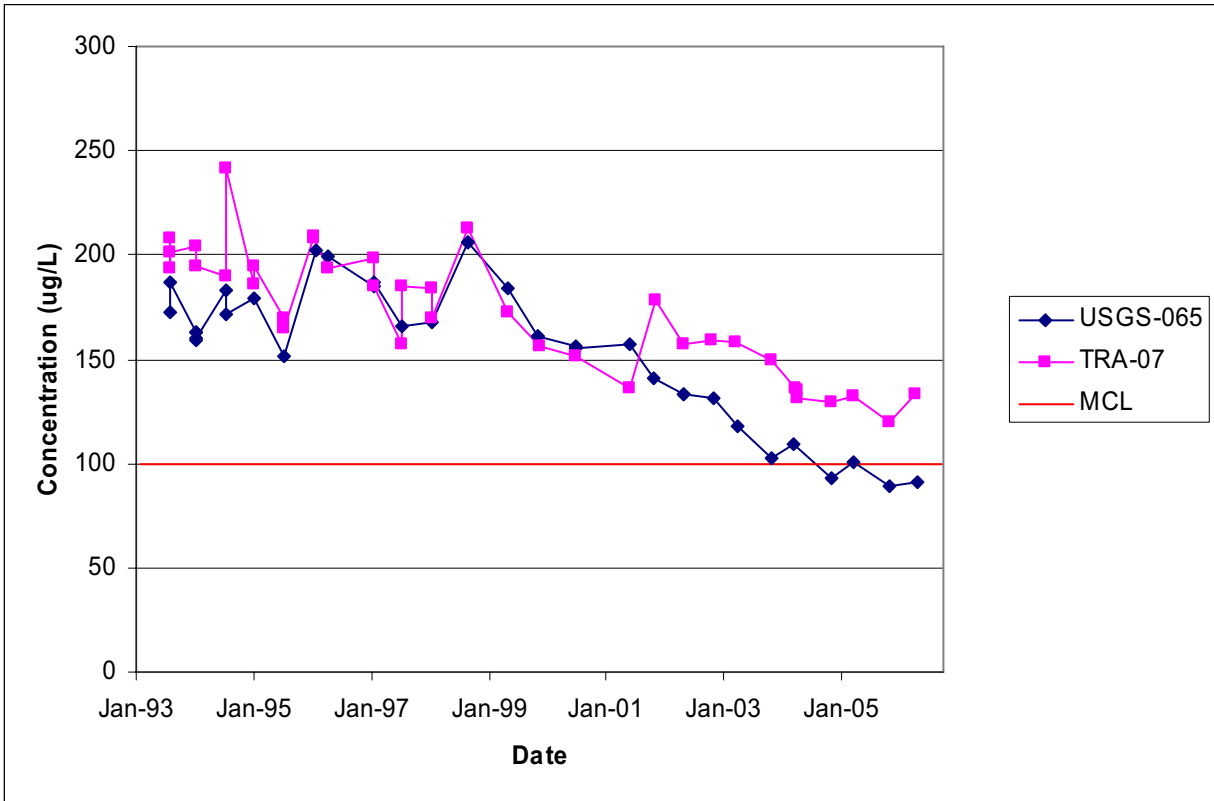


Figure 2-7. Filtered chromium concentration ( $\mu\text{g/L}$ ) in TRA-07 and USGS-065.

### 2.2.2 Tritium

Tritium was present in all of the aquifer wells sampled, except for the Highway-3 well (Figure 2-5). Tritium concentrations were below the 20,000-pCi/L MCL in every well (Table 2-1). The highest concentration, 17,100 pCi/L, occurred in TRA-07 in the October 2005 sample. In contrast to USGS-065, the tritium concentration in TRA-07 appears to have leveled out, rather than showing a consistent declining pattern as is present in USGS-065, as reflected in the lower R-squared value for the best fit line through the TRA-07 data points (Figure 2-8).

### 2.2.3 Strontium-90

Two anomalous Sr-90 occurrences were reported for the Highway-3 well and TRA-08 in the October 2005 sampling event (Table 2-1). Both detections were above the MCL, but both are suspect, because Sr-90 does not have a history of occurrence in either well and the concentrations are much greater than what would be expected for a first arrival. In addition, Sr-90 was below detection limits in the Highway-3 well in a special re-sampling event in January 2006 and in the March 2006 sampling event. Sr-90 was not detected in any other aquifer wells sampled. Figure 2-3 shows Sr-90 concentrations in the perched and aquifer wells for October 2005 and March 2006.



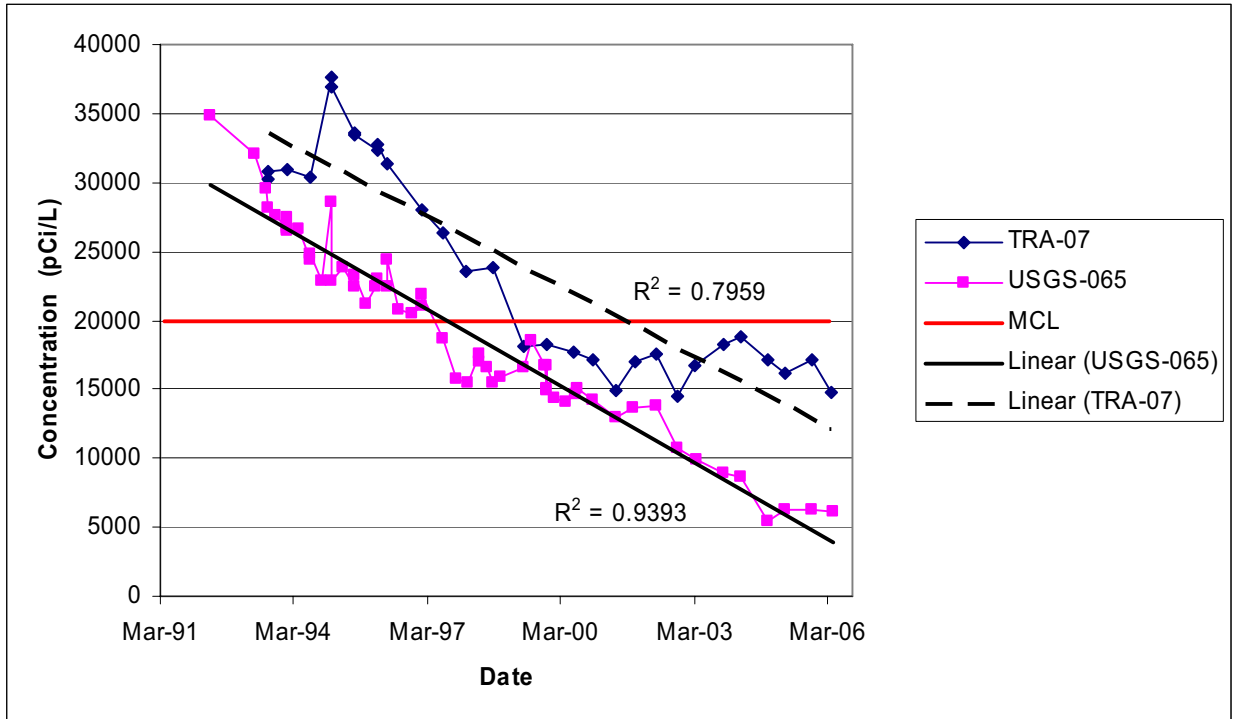


Figure 2-8. Tritium concentration trends in TRA-07 and USGS-065.

### 2.2.4 Gamma Spectrometry

Two gamma-emitting isotopes (Ra-226 and Cs-134) were detected by gamma spectrometry during the FY 2005 sampling events. In October 2005, Ra-226 was detected in Well USGS-065 at 116 pCi/L. However, this Ra-226 detection is suspect since it was not detected in the March 2006 sampling event and for the reasons given in Subsection 2.1.2.

Cs-134 was detected in only one sample at a concentration of 10.5 pCi/L. Cs-134 was reported in the October 2005 sampling event from TRA-08. The detection is suspect since Cs-137 was below detection limits in TRA-08. This Cs-134 occurrence is probably a statistical anomaly associated with the analytical method.

### 2.2.5 Gross Alpha and Gross Beta

Gross beta analysis was added for the March 2006 sampling event because of the sporadic recent strontium-90 detections in the SRPA. If the Sr-90 is actually in the samples, then it is expected that gross beta results would be elevated, confirming the Sr-90 data. Gross beta results were similar to background. The anomalous detections of Sr-90 that occurred in TRA-08 could not be verified with gross beta since there was not enough water to sample in March 2006.

Gross alpha analysis was added for the March 2006 sampling event because of the sporadic recent radium-226 detections from the gamma spectrometry analysis. If Radium-226 was actually present in the sample, then it is expected that gross alpha results would be elevated, confirming the presence of Radium-226. Gross alpha results were all below the MCL of 15 pCi/L, with the maximum detected concentration of 6.64 pCi/L occurring in MIDDLE-1823. Except for MIDDLE-1823, all wells had gross alpha concentrations that were similar to background. The anomalous detections of Ra-226 that occurred

in the October sampling event could not be verified with gross alpha since Ra-226 was not detected in any samples from the March 2006 sampling event.

## 2.2.6 Field Measured Parameters

Temperature, pH, specific conductance, and dissolved oxygen were measured in the field at the time of sampling. These parameters are summarized in Table 2-5 for the FY 2006 sampling events.

Table 2-5. Field measured parameters for FY 2006 sampling events.

Well Name	Date Sampled	Temperature (°C)	pH	Specific Conductivity	Dissolved Oxygen
<i>Aquifer Wells</i>					
Highway-3	10/18/2005	11.47	7.91	0.341	9.78
Highway-3	3/13/2006	13.02	8.04	0.332	9.31
MIDDLE-1823	10/24/2005	12.4	7.80	0.497	3.72
MIDDLE-1823	4/3/2006	13.53	7.93	0.445	4.58
TRA-06	10/18/2005	13.1	7.80	0.442	8.19
TRA-06	3/16/2005	13.5	7.89	0.434	7.48
TRA-07	10/27/2005	12.77	7.76	0.633	6.91
TRA-07	4/3/2006	12.59	7.89	0.612	7.53
TRA-08	10/27/2005	NR	NR	NR	NR
TRA-08	4/3/2006	NS	NS	NS	NS
USGS-058	10/17/2005	12.46	7.88	0.444	7.66
USGS-058	4/4/2006	12.45	7.97	0.435	7.42
USGS-065	10/18/2005	12.32	7.60	0.620	7.49
USGS-065	4/10/2006	11.21	7.85	0.587	15.07
<i>Perched Water Wells</i>					
PW-11	10/17/2005	16.65	7.79	0.643	7.03
PW-11	4/4/2006	16.34	7.99	0.643	7.15
PW-12	10/25/2005	15.72	7.49	0.541	6.78
PW-12	4/5/2006	14.62	7.58	0.477	5.51
PW-13	10/25/2005	NS	NS	NS	NS
PW-13	3/22/2006	NS	NS	NS	NS
TRA-1933	10/25/2005	NS	NS	NS	NS
TRA-1933	3/22/2006	NR	NR	NR	NR
TRA-1934	3/22/2006	NR	NR	NR	NR
TRA-1934	3/16/2005	15.27	7.82	0.424	0
USGS-053	10/19/2005	NS	NS	NS	NS
USGS-054	10/17/2005	17.56	7.57	0.904	7.66
USGS-054	4/4/2006	16.27	7.74	0.602	6.2
USGS-055	10/27/2005	14.18	7.48	0.647	6.72

Table 5. (continued).

Well Name	Date Sampled	Temperature (°C)	pH	Specific Conductivity	Dissolved Oxygen
USGS-055	4/3/2006	13.99	7.6	0.620	6.65
USGS-056	10/20/2005	16.82	7.27	0.621	8.1
PW-9	3/23/2006	15.5	8.16	0.507	3.41

NR= no reading  
NS= not sampled

The dissolved oxygen readings indicate that oxidizing conditions exist in most of the perched wells. However, dissolved oxygen readings were not taken from TRA-1933 and TRA-1934 because these wells have hydrocarbon contamination that could negatively impact the sensor. Specific conductance measurements ranged from 0.424 to 0.904 mmhos/cm, with the highest value in Well USGS-054. The pH values were relatively consistent at 7.27 to 8.16.

The dissolved oxygen readings indicate that oxidizing conditions exist in the SRPA. Specific conductance measurements ranged from 0.332 to 0.633 mmhos/cm, with the highest value in Well TRA-07. The pH values were relatively consistent at 7.6 to 8.0. The dissolved oxygen, specific conductance, and pH values are consistent with previous measurements.

### 2.3 Petro Trap and Interface Probe Monitoring

Petro traps (Figure 2-9) were installed in perched water wells PW-13, TRA-1933, and TRA-1934 to collect free-phase product floating on the water, as recommended in the response to the first five-year review report (DOE-ID 2005). The floating product is probably the result of a diesel No. 2 spill that occurred in the late 1970s/early 1980s (INEL 1994). Petro traps were checked monthly as part of maintenance activities that included the measurement of the water level and free-phase product level using an interface probe, removal of collected free-phase product, and adjustment of the petro trap depth (Table 2-6).

The petro traps use a hydrophobic filter, allowing the diesel to pass through the filter and into a collection canister. The filter is mounted on a guide arm, allowing the filter to change position with changes in water level. The filter is attached to a float, keeping the filter above the perched water level. The guide arm allows the filter/float to travel up to 2 ft to accommodate changes in the water level. Petro traps are emptied by removing the trap from the well and emptying the collection canister through the drain valve. The trap can then be reinstalled, and any adjustments to the required depth due to changes in the water level can be completed. If measurable free-phase product thicknesses were noted in the well, then the trap was reinstalled and removal of the trap was repeated until the measurable thickness was reduced to zero or as often as time permitted.

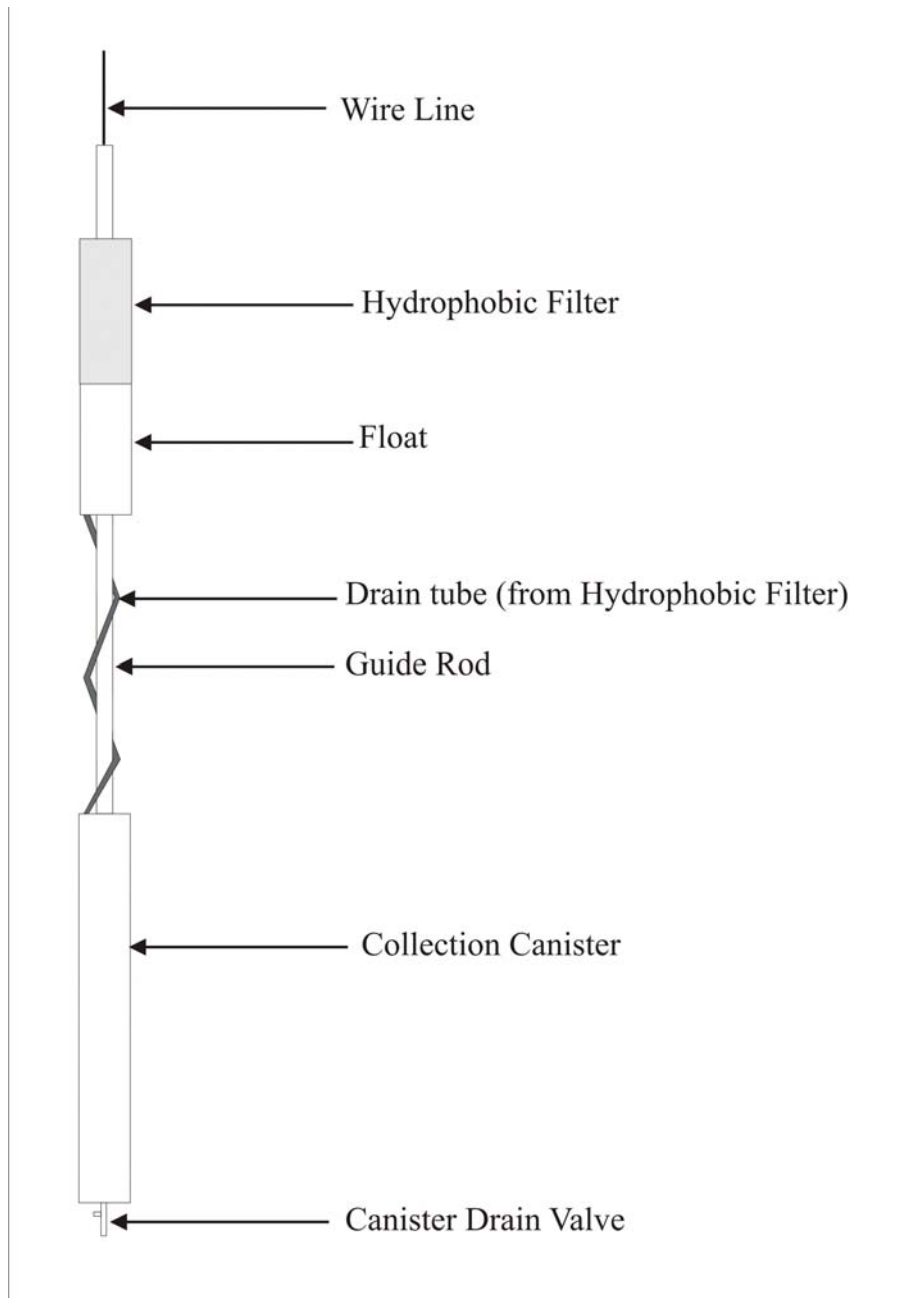


Figure 2-9. Simple illustration of a petro trap.

Table 2-6. Interface probe measurements and volumes removed during petro trap maintenance.

Date	Initial Depth to Water Level (ft) <sup>a</sup>	Final Depth to Water Level (ft) <sup>a</sup>	Free-phase Product Thickness Initial (ft)	Free-phase Product Thickness Final (ft)	Volume Removed (L)
Well PW-13					
11/11/04	73.68	73.68	1.45	1.45	NA
12/16/04	73.58	73.36	1.32	1.08	2.4
01/05/05	72.75	72.38	0.95	0.5	5.3
02/17/05	71.44	71.32	0.45	0.35	2.21
03/09/05	71.24	71.14	0.43	0.35	1.77
04/06/05 <sup>b</sup>	70.79	70.8	0.23	0.27	0.65
04/14/05 <sup>b</sup>	70.4	70.4	0.18	NA	NA
05/18/05	71.41	71.41	0	0	0.45
06/02/05 <sup>c</sup>	71.63	NA	NA	NA	NA
07/01/2005	71.81	71.67	0.2	0	0.87
07/22/05	71.6	71.57	0.09	0.01	0.11
09/02/05	72.12	72.12	0.06	0.06	0.02
10/07/05	72.54	72.5	0.05	0	0.65
12/09/05	74.59	74.42	0.3	0.09	9.675
01/27/06	72.74	72.65	0.22	0.1	8.7
03/10/06	72.54	72.45	0.16	0.08	8.75
04/07/06	72.79	72.72	0.16	0.16	10.6
05/05/06	71.96	71.95	0.03	0.03	0.69
06/09/06	72.45	72.48	0.09	0.08	0.61
Well TRA-1933					
11/11/04	72.51	72.51	0.15	0	500 mL
12/16/04	72.43	72.43	0	0	Trace, ~5 mL
01/05/05	72.21	72.21	0	0	Trace, <5 mL
02/17/05	71.38	71.38	0	0	Trace, <5 mL
03/09/05	71.18	71.18	0	0	20 mL
04/06/05	70.95	70.95	0	0	Trace
05/18/05	71.46	71.46	0	0	Trace
06/02/05 <sup>c</sup>	71.58	NA	NA	NA	NA
07/01/05	71.91	71.91	0	0	Trace
07/22/05	71.76	71.76	0	0	NA
09/02/05	72.21	72.21	0	0	0.25
10/07/05	72.69	72.69	0	0	0.05
12/09/05	74.63	74.62	0.04	0.02	0.02
01/27/06	72.59	72.59	0	0	0.1

Table 2-6. (continued).

Date	Initial Depth to Water Level (ft) <sup>a</sup>	Final Depth to Water Level (ft) <sup>a</sup>	Free-phase Product Thickness Initial (ft)	Free-phase Product Thickness Final (ft)	Volume Removed (L)
03/10/06	73.39	73.39	0	0	0.45
04/07/06	72.58	72.58	0	0	0.25
05/05/06	71.68	71.68	0	0	0.2
06/09/06	72.37	72.37	0	0	0.1
Well TRA-1934					
11/11/04	75.52	75.52	0	0	-
12/16/04	76.94	76.94	0	0	-
01/05/05	75.14	75.14	0	0	-
02/17/05	74.14	74.14	0	0	0
03/09/05	73.99	73.99	0	0	0
04/06/05	73.32	73.32	0	0	0
05/18/05	74.69	74.69	0	0	0
06/02/05 <sup>c</sup>	75.07	NA	NA	NA	NA
07/01/05	73.99	73.99	0	0	0
07/22/05	74.97	74.97	0	0	0
09/02/05	75.65	75.65	0	0	0
10/07/05	76.42	76.42	0	0	0
12/09/05	79.06	79.06	0	0	0
01/27/06	79.82	79.82	0	0	0
03/10/06	79.09	79.09	0	0	0
04/07/06	78.27	78.27	0	0	0
05/05/06	76.92	76.92	0	0	0
06/09/06	77.9	77.9	0	0	0

a. Measurements are from the measuring point.

b. The petro trap in PW-13 was removed on 04/06/05 and reinstalled on 04/14/05.

c. The water level was only recorded during quarterly measurements.

### 2.3.1 PW-13

The petro trap in Well PW-13 was installed on November 11, 2004, per the manufacturer's guidelines. The free-phase product thickness and free-phase product recovery since the installation of the petro trap in Well PW-13 is displayed in Figure 2-10. Table 2-6 presents the recorded water levels, free-phase product thicknesses, and volume of free-phase product removed from PW-13. Figure 2-11 is a graphical representation of free-phase product thickness over time and volume removed. A total volume of approximately 53.45 L of free-phase product has been removed from the petro trap in PW-13 during routine maintenance. The volume of free-phase product has oscillated during the period in which the petro traps have been in the well.

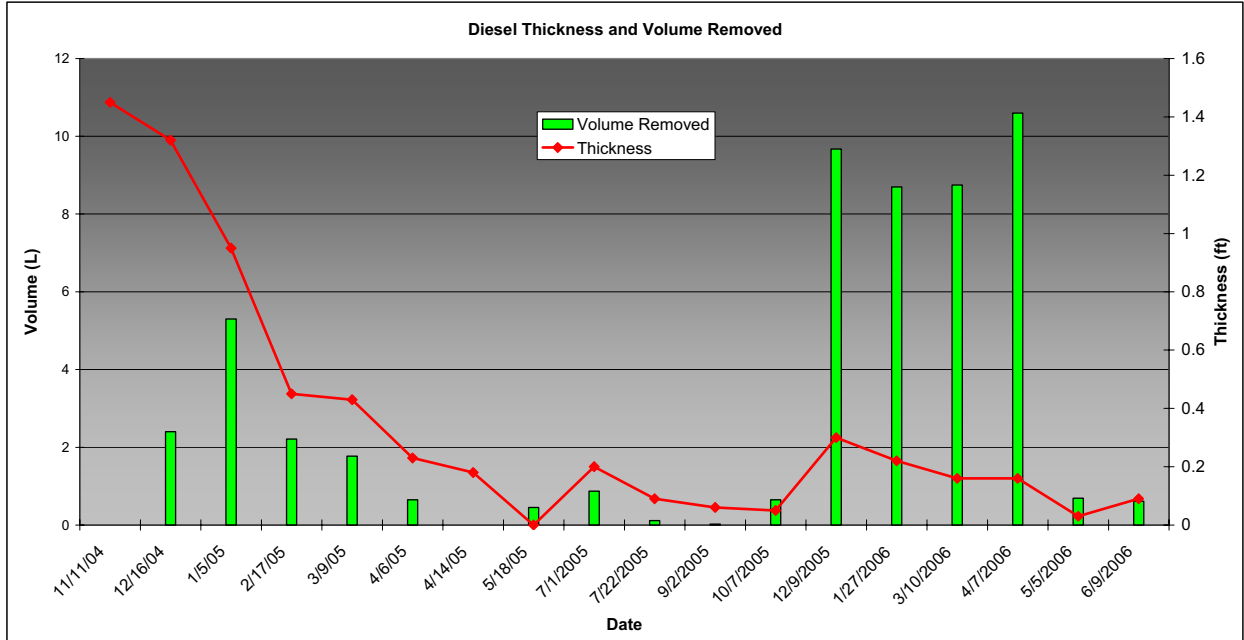


Figure 2-10. Free-phase product thickness and volume removed from PW-13.

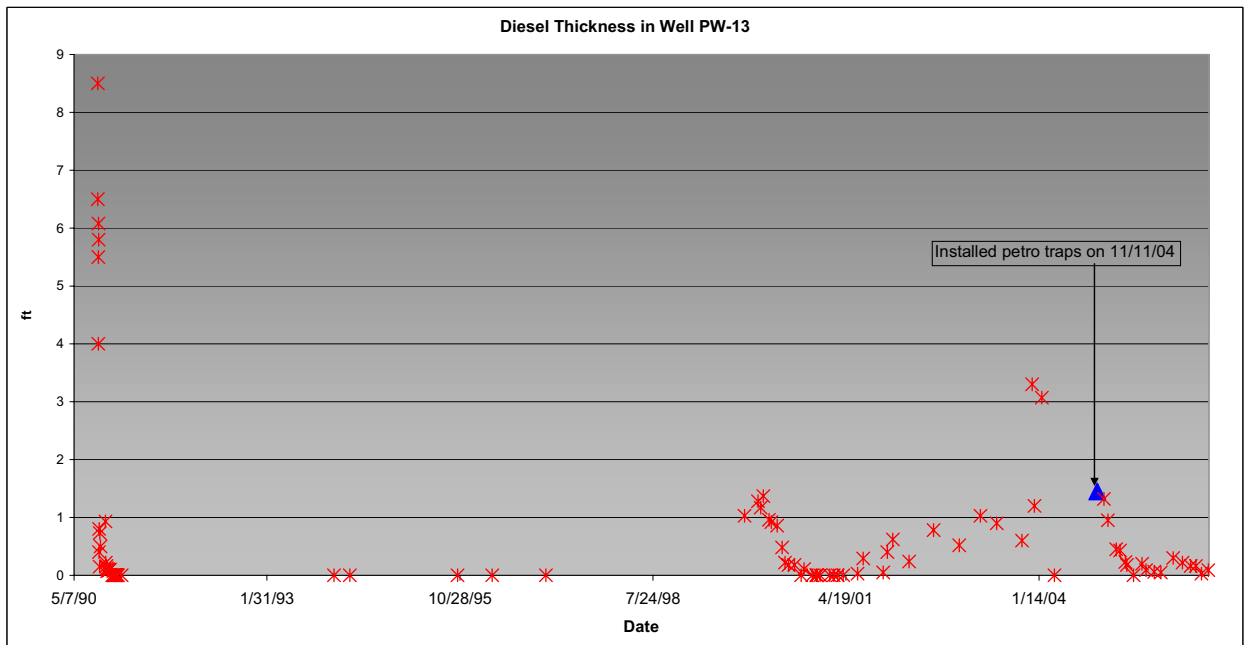


Figure 2-11. Free-phase product thicknesses over time in PW-13.

### **2.3.2 TRA-1933**

The petro trap in Well TRA-1933 was installed on November 11, 2004, per the manufacturer's guidelines. Since the initial measurement taken during the November installation of the petro trap, only once (December 2005) has a measurable thickness of diesel been recorded in TRA-1933. The volume of free product removed during maintenance has been less than the first maintenance period in November 2004 (Table 2-6). A total volume of approximately 1.42 L of free-phase product was removed from TRA-1933 between July 2005 and July 2006.

### **2.3.3 TRA-1934**

The petro trap in Well TRA-1934 was installed on January 5, 2005, per the manufacturer's guidelines. No measurable thickness of free-phase product has been noted in this well, nor has any volume of free-phase product been collected by the petro trap (Table 2-6).

### **2.3.4 Discussion of Petro Trap and Interface Probe Monitoring**

The limited data indicate that the petro trap in PW-13 is impacting the thickness of free-phase product noted in the well. Free-phase product thickness has shown an overall decrease since the trap was installed in November 2004 (Figure 2-10). The period that the petro trap has been installed and maintained is limited in relation to the (approximate) 15-year history of this well. Historically, the free-phase product thicknesses (Figure 2-11) in PW-13 have varied substantially over time, with thickness decreasing to 0 with no remediation. The natural cycling of free-phase product in the subsurface could also be affecting the free-phase product thickness noted during maintenance. In contrast to free-product thickness, the volume of free product removed appears to be cyclic and not directly related to product thickness.

Well TRA-1933 has shown only limited free-phase product accumulation and only one instance of measurable thickness. The lower free-phase product volumes and thicknesses are probably due to the greater distance from the original release location, attenuation of the free-phase product, or decreased connectivity to pockets of free-phase product.

Well TRA-1934 has not shown a measurable thickness of diesel, nor has the petro trap collected any free-phase diesel. This location is farthest from the diesel source, located approximately 60 ft northeast of PW-13 (Figure 2-12).



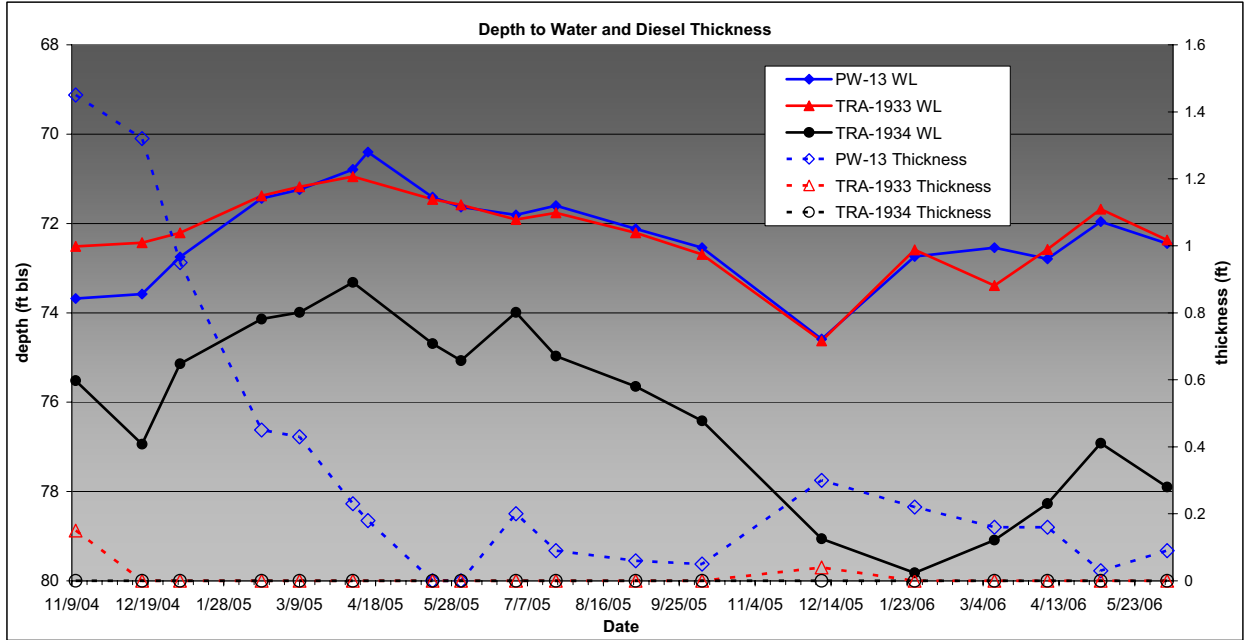


Figure 2-12. Water levels and free-phase product thicknesses in PW-13, TRA-1933, and TRA-1934.



### **3. RECOMMENDATIONS**

Continued groundwater monitoring is recommended to be completed annually, rather than at the current twice-a-year sampling frequency identified in the WAG 2 groundwater monitoring plan (DOE-ID 2004a).

It is recommended that interface probe monitoring and the free-phase product recovery with the petro traps should continue for one more year at a monitoring frequency of 3 months instead of the current monthly rate. If current recovery trends continue, then the petro traps should be removed from TRA-1933 and TRA-1934.



## 4. REFERENCES

- DOE-ID, 1992, *Record of Decision for the Test Reactor Area Perched Water System, Operable Unit 2-12*, Document ID: 5230, U.S. Department of Energy Idaho Operations Office, U.S. Environmental Protection Agency, Idaho Department of Health and Welfare, December 1992.
- DOE-ID, 1997, *Final Record of Decision for Test Reactor Area for Operable Unit 2-13 at Idaho National Engineering and Environmental Laboratory*, DOE/ID-10586, U.S. Department of Energy Idaho Operations Office, December 1997.
- DOE-ID, 2003, *First Five-Year Review Report for the Test Reactor Area, Operable Unit 2-13, at the Idaho National Engineering and Environmental Laboratory*, DOE/ID-11099, Rev. 0, U.S. Department of Energy Idaho Operations Office, September 2003.
- DOE-ID, 2004a, *Groundwater Monitoring Plan for the Test Reactor Area Operable Unit 2-13*, DOE/ID-10626, Rev. 5, U.S. Department of Energy Idaho Operations Office, September 2004.
- DOE-ID, 2004b, *Annual Groundwater Monitoring Status Report for Waste Area Group 2 for Fiscal Year 2004*, ICP/EXT-04-00484, Rev. 0, Idaho Completion Project, August 2004.
- DOE-ID, 2005, *Response to the First Five-Year Review Report for the Test Reactor Area, Operable Unit 2-13, at the Idaho National Engineering and Environmental Laboratory*, DOE/NE-ID-11189, Rev. 0, U.S. Department of Energy Idaho Operations Office, May 2005.
- DOE-ID, 2006, *Five-Year Review of CERCLA Response Actions at the Idaho National Laboratory*, DOE/NE-ID-11201, Rev. 1, U.S. Department of Energy Idaho Operations Office, June 2006.
- ER-SOW-394, 2004, "Idaho National Engineering and Environmental Laboratory Sample and Analysis Management Statement of Work for Analytical Services," ER-SOW-394, Rev. 2, Idaho National Engineering and Environmental Laboratory, May 2004.
- ICP, 2005, *Annual Groundwater Monitoring Status Report for Waste Area Group 2 for Fiscal Year 2005*, ICP/EXT-05-00967, Rev. 0, Idaho Cleanup Project, Idaho National Engineering and Environmental Laboratory, August 2005.
- INEL, 1994, *Preliminary Scoping Track 2 Summary Report for the Test Reactor Area Operable Unit 2-04: Fuel Spills*, EGG-ER-11110, Rev. 2, Idaho National Engineering Laboratory, January 1994.
- INEEL, 2003, *Annual Groundwater Monitoring Status Report for Waste Area Group 2 for Fiscal Year 2003*, INEEL/EXT-03-01082, Rev. 0, Idaho National Engineering and Environmental Laboratory, October 2003.
- Knobel, L. L., B. R. Orr, and L. D. Cecil, 1992, "Summary of Background Concentrations of Selected Radiochemical and Chemical Constituents in Groundwater from the Snake River Plain Aquifer Idaho: Estimated from an Analysis of Previously Published Data," *Journal of Idaho Academy of Science*, Vol. 28, No. 1, June 1992.



**Appendix A**  
**Analytical Results**





# Appendix A

## Analytical Results

This appendix presents the analytical data collected as a result of groundwater sampling at Waste Area Group (WAG) 2 during October 2005 and March 2006. Also included is data for a special sampling event for the Highway-3 well, conducted in January 2006. The analytes and analytical methods are summarized in Table A-1. Complete data are presented in Tables A-2, A-3, and A-4 as well as on the compact disc located in the back cover of this report. In the data tables, sample and duplicate samples are denoted by the number in front of the two-letter analytical code at the end of the field sample number with a “1” referring to the sample and “2” referring to a duplicate. For example, TRA43401RB and TRA43402RB refer to the sample and duplicate, respectively, for Strontium-90 at USGS-054.

Table A-1. Analytes and method codes.

Analyte	Method Code	Method Description
Gamma Spec	HAS	Radiochemistry by DOE EML HASL 300
Diesel Range Organics	SW8015	Non-Halogenated Volatile Organics
Gasoline Range Organics	SW8015B	Non-Halogenated Volatile Organics
Tritium	LSC	Liquid scintillation
Chromium	E200.7	U.S. EPA Method 200.7: Inductively Coupled Plasma Emission
Sr-90 <sup>a</sup>	GFP	Gas Flow Proportional Counter
Sr-90	HAS	Radiochemistry by DOE EML HASL 300
Gross Alpha	931	Gross Alpha and Gross Beta
Gross Beta	931	Gross Alpha and Gross Beta

a. GFP was used in the October sampling event. HAS was used in the March sampling event.

Data qualifier flags used in this appendix are a consolidation of laboratory- and validation-assigned flags and are defined as follows:

### Inorganics

- B—the result is less than the contract-required reporting limit but greater than or equal to the instrument detection limit.
- E—the post-digestion spike was outside the control limits.
- N—the matrix spike recovery was outside control limits.
- U—the analyte was not detected.

- UJ—the analyte was analyzed for, but it was not detected. The associated value is an estimate and might be inaccurate or imprecise.
- R—the accuracy of the data is so questionable that it is recommended that the data not be used. The “R” flag overrides all other applicable flags.

### **Radiological Qualifier Flags**

- J—the associated value is estimated. The result might not be an accurate representation of the amount of activity actually present in the sample.
- R—the accuracy of the data is so questionable that it is recommended that the data not be used. The “R” flag overrides all other applicable flags.
- U—the radionuclide is not considered present in the sample (i.e., nondetect).
- UJ—the radionuclide might or might not be present, and the result is considered highly questionable. The associated value is an estimate and might be inaccurate or imprecise. The result is considered a nondetect for project data interpretation purposes.

Table A-2. Data for October 2005 Waste Area Group 2 groundwater sampling.

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Sample Collected	Method Code	MDA	Metal Sample	L&V Report Number	Filtered
TRA39401R4	EQUIP RINSATE	NA	Americium-241	-9.62E+00	2.10E+01		U	PC/L	10/27/2005	GMS	7.24E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Antimony-125	1.31E+01	8.92E+00		U	PC/L	10/27/2005	GMS	3.46E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Cerium-144	2.05E+01	1.97E+01		U	PC/L	10/27/2005	GMS	7.04E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Cesium-134	4.19E+00	3.71E+00		U	PC/L	10/27/2005	GMS	1.50E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Cesium-137	3.44E+00	3.93E+00		U	PC/L	10/27/2005	GMS	1.33E+01	F	SOS-TL344-05	
TRA394015C	EQUIP RINSATE	NA	Chromium	1			U	UG/L	10/27/2005	E200.7		F	DNT-022-06	
TRA39401CU	EQUIP RINSATE	NA	Chromium	1			U	UG/L	10/27/2005	E200.7		T	DNT-022-06	
TRA39401R4	EQUIP RINSATE	NA	Cobalt-58	-5.93E+00	3.42E+00		U	PC/L	10/27/2005	GMS	1.13E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Cobalt-60	8.74E-01	3.57E+00		U	PC/L	10/27/2005	GMS	1.41E+01	F	SOS-TL344-05	
TRA39401TL	EQUIP RINSATE	NA	Diesel Range Organics	0.047			U	MG/L	10/27/2005	SW8015M		F	DMG-211-05	
TRA39401R4	EQUIP RINSATE	NA	Europium-152	1.12E+01	7.68E+00		U	PC/L	10/27/2005	GMS	3.80E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Europium-154	5.94E+00	1.22E+01		U	PC/L	10/27/2005	GMS	4.23E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Europium-155	6.17E+00	1.00E+01		U	PC/L	10/27/2005	GMS	3.57E+01	F	SOS-TL344-05	
TRA39401TG	EQUIP RINSATE	NA	Gasoline Range Organics	50			U	UG/L	10/27/2005	SW8015		F	DMG-210-05	
TRA39401R4	EQUIP RINSATE	NA	Manganese-54	-2.77E+00	3.57E+00		U	PC/L	10/27/2005	GMS	1.27E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Niobium-95	1.82E+00	4.31E+00		U	PC/L	10/27/2005	GMS	1.66E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Radium-226	8.36E+01	1.47E+01		J	PC/L	10/27/2005	GMS	2.21E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Ruthenium-103	-1.62E+00	4.35E+00		U	PC/L	10/27/2005	GMS	1.53E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Ruthenium-106	2.74E+01	2.94E+01		U	PC/L	10/27/2005	GMS	1.13E+02	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Silver-108m	3.31E+00	3.54E+00		U	PC/L	10/27/2005	GMS	1.33E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Silver-110m	-6.48E+00	3.80E+00		U	PC/L	10/27/2005	GMS	9.60E+00	F	SOS-TL344-05	
TRA39401RB	EQUIP RINSATE	NA	Strontium-90	-3.52E-01	1.23E-01		U	PC/L	10/27/2005	GFF	7.87E-01	F	SOS-TL344-05	
TRA39401R8	EQUIP RINSATE	NA	Tritium	4.21E+01	1.14E+02		U	PC/L	10/27/2005	LSC	3.95E+02	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Uranium-235	-7.95E+00	2.10E+01		U	PC/L	10/27/2005	GMS	7.12E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Zinc-65	-1.53E+00	9.83E+00		U	PC/L	10/27/2005	GMS	3.10E+01	F	SOS-TL344-05	
TRA39401R4	EQUIP RINSATE	NA	Zirconium-95	6.87E+00	6.02E+00		U	PC/L	10/27/2005	GMS	2.47E+01	F	SOS-TL344-05	
TRA39301R4	FIELD BLANK	NA	Americium-241	-9.16E+00	1.95E+01		U	PC/L	10/25/2005	GMS	6.91E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Antimony-125	-2.86E-01	8.41E+00		U	PC/L	10/25/2005	GMS	2.98E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Cerium-144	-3.61E+00	2.08E+01		U	PC/L	10/25/2005	GMS	7.30E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Cesium-134	1.61E+00	3.08E+00		U	PC/L	10/25/2005	GMS	1.23E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Cesium-137	2.82E+00	3.28E+00		U	PC/L	10/25/2005	GMS	1.30E+01	F	SOS-TL343-05	
TRA393015C	FIELD BLANK	NA	Chromium	1			U	UG/L	10/25/2005	E200.7		F	DNT-021-06	
TRA39301CU	FIELD BLANK	NA	Chromium	1			U	UG/L	10/25/2005	E200.7		T	DNT-021-06	
TRA39301R4	FIELD BLANK	NA	Cobalt-58	3.60E+00	3.84E+00		U	PC/L	10/25/2005	GMS	9.54E+00	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Cobalt-60	-1.26E+00	3.56E+00		U	PC/L	10/25/2005	GMS	1.32E+01	F	SOS-TL343-05	
TRA39301TL	FIELD BLANK	NA	Diesel Range Organics	0.047			U	MG/L	10/25/2005	SW8015M		F	DMG-211-05	
TRA39301R4	FIELD BLANK	NA	Europium-152	-4.79E+00	9.04E+00		U	PC/L	10/25/2005	GMS	3.11E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Europium-154	-1.07E+00	9.82E+00		U	PC/L	10/25/2005	GMS	3.73E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Europium-155	1.48E+01	1.14E+01		U	PC/L	10/25/2005	GMS	4.20E+01	F	SOS-TL343-05	
TRA39301TG	FIELD BLANK	NA	Gasoline Range Organics	50			U	UG/L	10/25/2005	SW8015		F	DMG-210-05	
TRA39301R4	FIELD BLANK	NA	Manganese-54	-3.42E+00	3.92E+00		U	PC/L	10/25/2005	GMS	1.16E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Niobium-95	4.38E+00	4.86E+00		U	PC/L	10/25/2005	GMS	1.72E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Radium-226	9.96E+01	1.31E+01		J	PC/L	10/25/2005	GMS	2.13E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Ruthenium-103	-2.01E+00	3.79E+00		U	PC/L	10/25/2005	GMS	1.30E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Ruthenium-106	-7.26E+00	2.53E+01		U	PC/L	10/25/2005	GMS	9.43E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Silver-108m	-2.66E-02	3.42E+00		U	PC/L	10/25/2005	GMS	1.20E+01	F	SOS-TL343-05	

Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Collected	Method Code	MDA	Metal Sample	L&V Report Number	Filtered
TRA39301R4	FIELD BLANK	NA	Silver-110m	-2.91E+00	2.91E+00		U	PC/L	10/25/2005	GMS	1.03E+01	F	SOS-TL343-05	
TRA39301RB	FIELD BLANK	NA	Strontium-90	1.74E-01	1.66E-01		U	PC/L	10/25/2005	GFP	7.38E-01	F	SOS-TL343-05	
TRA39301R8	FIELD BLANK	NA	Tritium	8.20E+01	1.13E+02		U	PC/L	10/25/2005	LSC	3.85E+02	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Uranium-235	4.20E+01	2.16E+01		U	PC/L	10/25/2005	GMS	7.96E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Zinc-65	3.00E+00	7.61E+00		U	PC/L	10/25/2005	GMS	2.66E+01	F	SOS-TL343-05	
TRA39301R4	FIELD BLANK	NA	Zirconium-95	-7.49E+00	5.49E+00		U	PC/L	10/25/2005	GMS	1.86E+01	F	SOS-TL343-05	
TRA38201R4	HIGHWAY 3	750	Americium-241	1.18E+01	1.73E+01		U	PC/L	10/18/2005	GMS	5.90E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Antimony-125	-9.89E+00	5.53E+00		U	PC/L	10/18/2005	GMS	1.82E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Cerium-144	1.11E+01	1.68E+01		U	PC/L	10/18/2005	GMS	5.48E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Cesium-134	7.09E-01	2.73E+00		U	PC/L	10/18/2005	GMS	1.04E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Cesium-137	3.15E+00	2.40E+00		U	PC/L	10/18/2005	GMS	9.14E+00	F	SOS-TL014-06	
TRA382015C	HIGHWAY 3	750	Chromium	1.1		B		UG/L	10/18/2005	E200.7		F	DNT-018-06	
TRA382015C	HIGHWAY 3	750	Chromium	1.2		B		UG/L	10/18/2005	E200.7		T	DNT-018-06	
TRA38201R4	HIGHWAY 3	750	Cobalt-58	-3.10E+00	3.16E+00		U	PC/L	10/18/2005	GMS	1.07E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Cobalt-60	-2.89E+00	3.38E+00		U	PC/L	10/18/2005	GMS	9.96E+00	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Europium-152	2.58E-01	6.76E+00		U	PC/L	10/18/2005	GMS	2.51E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Europium-154	-9.99E+00	8.03E+00		U	PC/L	10/18/2005	GMS	2.17E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Europium-155	-1.75E+01	9.41E+00		U	PC/L	10/18/2005	GMS	2.70E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Manganese-54	-2.05E+00	2.67E+00		U	PC/L	10/18/2005	GMS	9.15E+00	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Niobium-95	2.71E+00	3.31E+00		U	PC/L	10/18/2005	GMS	1.33E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Radium-226	1.32E+00	1.15E+01		U	PC/L	10/18/2005	GMS	2.42E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Ruthenium-103	2.57E+00	2.99E+00		U	PC/L	10/18/2005	GMS	1.18E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Ruthenium-106	-1.06E+00	2.37E+01		U	PC/L	10/18/2005	GMS	8.71E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Silver-108m	1.52E+00	2.80E+00		U	PC/L	10/18/2005	GMS	8.02E+00	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Silver-110m	5.60E+00	2.81E+00		U	PC/L	10/18/2005	GMS	8.29E+00	F	SOS-TL014-06	
TRA38201RB	HIGHWAY 3	750	Strontium-90	1.86E+01	1.37E+00		U	PC/L	10/18/2005	GFP	3.07E+00	F	SOS-TL014-06	
TRA38201R8	HIGHWAY 3	750	Tritium	-7.43E+01	9.10E+01		U	PC/L	10/18/2005	LSC	3.13E+02	F	SOS-TL330-05	
TRA38201R4	HIGHWAY 3	750	Uranium-235	1.01E+01	1.88E+01		U	PC/L	10/18/2005	GMS	4.94E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Zinc-65	2.62E-01	4.83E+00		U	PC/L	10/18/2005	GMS	1.94E+01	F	SOS-TL014-06	
TRA38201R4	HIGHWAY 3	750	Zirconium-95	8.23E+00	5.34E+00		U	PC/L	10/18/2005	GMS	2.21E+01	F	SOS-TL014-06	
TRA38801R4	MIDDLE-1823	729.7	Americium-241	-9.14E+00	1.98E+01		U	PC/L	10/24/2005	GMS	6.29E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Antimony-125	-7.05E+00	6.64E+00		U	PC/L	10/24/2005	GMS	2.31E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Cerium-144	3.33E+01	1.45E+01		U	PC/L	10/24/2005	GMS	5.51E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Cesium-134	-2.36E+00	2.64E+00		U	PC/L	10/24/2005	GMS	9.02E+00	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Cesium-137	5.63E+00	2.77E+00		U	PC/L	10/24/2005	GMS	1.15E+01	F	SOS-TL345-05	
TRA388015C	MIDDLE-1823	729.7	Chromium	12.6				UG/L	10/24/2005	E200.7		F	DNT-020.06	
TRA388015C	MIDDLE-1823	729.7	Chromium	12.3				UG/L	10/24/2005	E200.7		T	DNT-020.06	
TRA38801R4	MIDDLE-1823	729.7	Cobalt-58	1.99E+00	2.60E+00		U	PC/L	10/24/2005	GMS	1.04E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Cobalt-60	3.84E+00	2.91E+00		U	PC/L	10/24/2005	GMS	1.27E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Europium-152	4.65E+00	6.39E+00		U	PC/L	10/24/2005	GMS	2.46E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Europium-154	2.38E+00	6.87E+00		U	PC/L	10/24/2005	GMS	2.84E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Europium-155	6.94E+00	7.35E+00		U	PC/L	10/24/2005	GMS	2.74E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Manganese-54	3.44E+00	2.29E+00		U	PC/L	10/24/2005	GMS	7.38E+00	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Niobium-95	3.76E+00	2.83E+00		U	PC/L	10/24/2005	GMS	1.19E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Radium-226	2.23E+01	1.28E+01		U	PC/L	10/24/2005	GMS	2.19E+01	F	SOS-TL345-05	
TRA38801R4	MIDDLE-1823	729.7	Ruthenium-103	4.46E+00	2.87E+00		U	PC/L	10/24/2005	GMS	1.16E+01	F	SOS-TL345-05	

Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date		Method Code	MDA	Metal Sample	L&V Report Number
									Collected	Sampled				
TRA38801R4	MIDDLE-1823	729.7	Ruthenium-106	-7.24E+00	2.19E+01		U	PC/L	10/24/2005	10/24/2005	GMS	7.92E+01	F	SOS-TL345-05
TRA38801R4	MIDDLE-1823	729.7	Silver-108m	-4.12E-01	2.52E+00		U	PC/L	10/24/2005	10/24/2005	GMS	9.19E+00	F	SOS-TL345-05
TRA38801R4	MIDDLE-1823	729.7	Silver-110m	-2.42E+00	2.58E+00		U	PC/L	10/24/2005	10/24/2005	GMS	8.81E+00	F	SOS-TL345-05
TRA38801RB	MIDDLE-1823	729.7	Strontium-90	4.70E-01	2.48E-01		U	PC/L	10/24/2005	10/24/2005	GFP	1.02E+00	F	SOS-TL345-05
TRA38801R8	MIDDLE-1823	729.7	Tritium	1.87E+03	1.96E+02		U	PC/L	10/24/2005	10/24/2005	LSC	4.10E+02	F	SOS-TL345-05
TRA38801R4	MIDDLE-1823	729.7	Uranium-235	3.84E+00	1.53E+01		U	PC/L	10/24/2005	10/24/2005	GMS	5.43E+01	F	SOS-TL345-05
TRA38801R4	MIDDLE-1823	729.7	Zinc-65	-1.64E+01	5.99E+00		U	PC/L	10/24/2005	10/24/2005	GMS	1.71E+01	F	SOS-TL345-05
TRA38801R4	MIDDLE-1823	729.7	Zirconium-95	-4.24E+00	5.59E+00		U	PC/L	10/24/2005	10/24/2005	GMS	1.92E+01	F	SOS-TL345-05
TRA37501R4	PW-11	134.5	Americium-241	2.42E+01	1.05E+01		U	PC/L	10/17/2005	10/17/2005	GMS	3.99E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Antimony-125	-3.68E+00	5.84E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.07E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Cerium-144	-1.21E+01	1.51E+01		U	PC/L	10/17/2005	10/17/2005	GMS	5.05E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Cesium-134	6.54E-01	2.55E+00		U	PC/L	10/17/2005	10/17/2005	GMS	9.60E+00	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Cesium-137	2.07E+00	2.36E+00		U	PC/L	10/17/2005	10/17/2005	GMS	9.20E+00	F	SOS-TL330-05
TRA375015C	PW-11	134.5	Chromium	29.5		B		UG/L	10/17/2005	10/17/2005	E200.7		F	DNT-019-06
TRA37501CU	PW-11	134.5	Chromium	28.5				UG/L	10/17/2005	10/17/2005	E200.7		T	DNT-019-06
TRA37501R4	PW-11	134.5	Cobalt-58	2.44E-01	2.90E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.06E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Cobalt-60	3.69E+00	3.07E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.28E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Europium-152	-4.25E+00	6.73E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.38E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Europium-154	-3.75E-01	5.53E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.24E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Europium-155	4.19E+00	7.40E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.65E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Manganese-54	-1.76E+00	2.58E+00		U	PC/L	10/17/2005	10/17/2005	GMS	8.84E+00	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Niobium-95	8.47E+00	3.66E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.54E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Radium-226	1.62E+01	7.07E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.79E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Ruthenium-103	-5.00E+00	3.53E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.17E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Ruthenium-106	3.78E+01	2.38E+01		U	PC/L	10/17/2005	10/17/2005	GMS	9.42E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Silver-108m	3.70E-01	2.21E+00		U	PC/L	10/17/2005	10/17/2005	GMS	8.15E+00	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Silver-110m	-2.43E+00	2.15E+00		U	PC/L	10/17/2005	10/17/2005	GMS	7.18E+00	F	SOS-TL330-05
TRA37501RB	PW-11	134.5	Strontium-90	-5.02E-02	1.29E-01		U	PC/L	10/17/2005	10/17/2005	GFP	6.77E-01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Tritium	2.81E+04	3.93E+02		U	PC/L	10/17/2005	10/17/2005	LSC	2.98E+02	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Uranium-235	-3.03E+00	1.56E+01		U	PC/L	10/17/2005	10/17/2005	GMS	5.30E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Zinc-65	-3.26E+00	4.97E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.82E+01	F	SOS-TL330-05
TRA37501R4	PW-11	134.5	Zirconium-95	-2.18E+00	5.38E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.89E+01	F	SOS-TL330-05
TRA37601R4	PW-12	133	Americium-241	1.68E+01	1.84E+01		U	PC/L	10/25/2005	10/25/2005	GMS	6.16E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Antimony-125	-4.95E-01	6.71E+00		U	PC/L	10/25/2005	10/25/2005	GMS	2.51E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Cerium-144	-1.03E+01	1.59E+01		U	PC/L	10/25/2005	10/25/2005	GMS	5.60E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Cesium-134	-4.88E+00	3.06E+00		U	PC/L	10/25/2005	10/25/2005	GMS	9.69E+00	F	SOS-TL343-05
TRA37601R4	PW-12	133	Cesium-137	2.42E-01	2.78E+00		U	PC/L	10/25/2005	10/25/2005	GMS	9.29E+00	F	SOS-TL343-05
TRA376015C	PW-12	133	Chromium	5		B	U	UG/L	10/25/2005	10/25/2005	E200.7		F	DNT-021-06
TRA37601CU	PW-12	133	Chromium	1.2		B	U	UG/L	10/25/2005	10/25/2005	E200.7		T	DNT-021-06
TRA37601R4	PW-12	133	Cobalt-58	3.84E+00	2.89E+00		U	PC/L	10/25/2005	10/25/2005	GMS	1.20E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Cobalt-60	1.78E+01	4.37E+00		U	PC/L	10/25/2005	10/25/2005	GMS	1.05E+01	F	SOS-TL343-05
TRA37601TL	PW-12	133	Diesel Range Organics	0.04		J	J	UG/L	10/25/2005	10/25/2005	SW8015M		F	DMG-211-05
TRA37601R4	PW-12	133	Europium-152	-2.09E+00	7.85E+00		U	PC/L	10/25/2005	10/25/2005	GMS	2.70E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Europium-154	9.03E+00	8.76E+00		U	PC/L	10/25/2005	10/25/2005	GMS	3.71E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Europium-155	5.79E+00	8.31E+00		U	PC/L	10/25/2005	10/25/2005	GMS	3.12E+01	F	SOS-TL343-05
TRA37601TG	PW-12	133	Gasoline Range Organics	50		U	U	UG/L	10/25/2005	10/25/2005	SW8015		F	DMG-210-05

Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample		Result Qualifier	Validation Flag	Sample Units	Date		Method Code	MDA	Metal Sample	L&V Report Number
				Result	Error				Collected	Sample				
TRA37601R4	PW-12	133	Manganese-54	-6.28E-01	2.00E+00		U	PC/L	10/25/2005	2005	GMS	7.48E+00	F	SOS-TL343-05
TRA37601R4	PW-12	133	Niobium-95	-3.90E+00	3.57E+00		U	PC/L	10/25/2005	2005	GMS	1.20E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Radium-226	1.94E+01	8.09E+00		UJ	PC/L	10/25/2005	2005	GMS	1.53E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Ruthenium-103	6.29E-01	3.47E+00		U	PC/L	10/25/2005	2005	GMS	1.31E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Ruthenium-106	2.31E+01	2.29E+01		U	PC/L	10/25/2005	2005	GMS	9.18E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Silver-108m	-2.04E+00	2.44E+00		U	PC/L	10/25/2005	2005	GMS	8.72E+00	F	SOS-TL343-05
TRA37601R4	PW-12	133	Silver-110m	-2.98E+00	2.45E+00		U	PC/L	10/25/2005	2005	GMS	8.29E+00	F	SOS-TL343-05
TRA37601RB	PW-12	133	Strontium-90	4.61E+01	2.58E+00			PC/L	10/25/2005	2005	GFP	1.96E+00	F	SOS-TL343-05
TRA37601R8	PW-12	133	Tritium	1.52E+03	1.61E+02			PC/L	10/25/2005	2005	LSC	3.85E+02	F	SOS-TL343-05
TRA37601R4	PW-12	133	Uranium-235	1.29E+01	1.69E+01		U	PC/L	10/25/2005	2005	GMS	6.20E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Zinc-65	-4.27E+00	4.62E+00		U	PC/L	10/25/2005	2005	GMS	1.68E+01	F	SOS-TL343-05
TRA37601R4	PW-12	133	Zirconium-95	4.02E+00	4.87E+00		U	PC/L	10/25/2005	2005	GMS	1.97E+01	F	SOS-TL343-05
TRA38301R4	TRA-06	562	Americium-241	-3.69E+01	3.53E+01		U	PC/L	10/18/2005	2005	GMS	7.41E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Antimony-125	-7.37E+00	8.16E+00		U	PC/L	10/18/2005	2005	GMS	2.74E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Cerium-144	8.98E+00	2.06E+01		U	PC/L	10/18/2005	2005	GMS	7.38E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Cesium-134	3.01E+00	2.91E+00		U	PC/L	10/18/2005	2005	GMS	1.22E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Cesium-137	-1.69E-02	2.98E+00		U	PC/L	10/18/2005	2005	GMS	1.13E+01	F	SOS-TL014-06
TRA38301CU	TRA-06	562	Chromium	8.1		B	UJ	UG/L	10/18/2005	2005	E200.7		T	DNT-021-06
TRA383015C	TRA-06	562	Chromium	8.4		B	UJ	UG/L	10/18/2005	2005	E200.7		F	DNT-018-06
TRA38301R4	TRA-06	562	Cobalt-58	5.10E-01	3.69E+00		U	PC/L	10/18/2005	2005	GMS	1.41E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Cobalt-60	1.05E+01	3.92E+00		UJ	PC/L	10/18/2005	2005	GMS	1.81E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Europium-152	1.14E+01	8.47E+00		U	PC/L	10/18/2005	2005	GMS	2.96E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Europium-154	-8.84E-01	6.14E+00		U	PC/L	10/18/2005	2005	GMS	2.52E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Europium-155	3.62E-01	9.68E+00		U	PC/L	10/18/2005	2005	GMS	3.46E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Manganese-54	-6.58E-01	3.15E+00		U	PC/L	10/18/2005	2005	GMS	1.17E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Niobium-95	3.84E+00	3.78E+00		U	PC/L	10/18/2005	2005	GMS	1.59E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Radium-226	2.81E+01	1.05E+01		UJ	PC/L	10/18/2005	2005	GMS	1.71E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Ruthenium-103	1.67E-01	4.28E+00		U	PC/L	10/18/2005	2005	GMS	1.53E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Ruthenium-106	1.87E+01	2.59E+01		U	PC/L	10/18/2005	2005	GMS	1.03E+02	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Silver-108m	3.43E+00	3.43E+00		U	PC/L	10/18/2005	2005	GMS	1.27E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Silver-110m	1.86E+00	2.94E+00		U	PC/L	10/18/2005	2005	GMS	1.16E+01	F	SOS-TL014-06
TRA38301RB	TRA-06	562	Strontium-90	2.61E-01	1.98E-01		U	PC/L	10/18/2005	2005	GFP	8.55E-01	F	SOS-TL343-05
TRA38301R8	TRA-06	562	Tritium	1.95E+03	1.21E+02			PC/L	10/18/2005	2005	LSC	3.06E+02	F	SOS-TL330-05
TRA38301R4	TRA-06	562	Uranium-235	1.08E+01	2.06E+01		U	PC/L	10/18/2005	2005	GMS	7.36E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Zinc-65	-3.19E-01	7.45E+00		U	PC/L	10/18/2005	2005	GMS	2.48E+01	F	SOS-TL014-06
TRA38301R4	TRA-06	562	Zirconium-95	-3.63E-01	7.81E+00		U	PC/L	10/18/2005	2005	GMS	2.55E+01	F	SOS-TL014-06
TRA38401R4	TRA-07	501	Americium-241	-3.22E+01	1.69E+01		U	PC/L	10/27/2005	2005	GMS	5.65E+01	F	SOS-TL344-05
TRA38401R4	TRA-07	501	Antimony-125	-2.71E+00	6.01E+00		U	PC/L	10/27/2005	2005	GMS	2.18E+01	F	SOS-TL344-05
TRA38401R4	TRA-07	501	Cerium-144	-7.74E+00	1.41E+01		U	PC/L	10/27/2005	2005	GMS	4.89E+01	F	SOS-TL344-05
TRA38401R4	TRA-07	501	Cesium-134	-2.98E+00	3.05E+00		U	PC/L	10/27/2005	2005	GMS	1.03E+01	F	SOS-TL344-05
TRA38401R4	TRA-07	501	Cesium-137	-6.45E-01	2.68E+00		U	PC/L	10/27/2005	2005	GMS	9.69E+00	F	SOS-TL344-05
TRA384015C	TRA-07	501	Chromium	127				UG/L	10/27/2005	2005	E200.7		F	DNT-022-06
TRA38401CU	TRA-07	501	Chromium	120				UG/L	10/27/2005	2005	E200.7		T	DNT-022-06
TRA38401R4	TRA-07	501	Cobalt-58	-6.19E+00	3.10E+00		U	PC/L	10/27/2005	2005	GMS	7.12E+00	F	SOS-TL344-05
TRA38401R4	TRA-07	501	Cobalt-60	1.96E+00	2.53E+00		U	PC/L	10/27/2005	2005	GMS	1.09E+01	F	SOS-TL344-05
TRA38401R4	TRA-07	501	Europium-152	-5.79E+00	5.89E+00		U	PC/L	10/27/2005	2005	GMS	2.09E+01	F	SOS-TL344-05

Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Collected	Method Code	MDA	Metal Sample	L&V Report Number	Filtered
TRA38401R4	TRA-07	501	Europium-154	5.94E-01	6.15E+00		U	PC/L	10/27/2005	GMS	2.53E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Europium-155	-4.72E+00	9.28E+00		U	PC/L	10/27/2005	GMS	2.88E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Manganese-54	1.41E+00	2.28E+00		U	PC/L	10/27/2005	GMS	8.98E+00	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Niobium-95	6.16E+00	6.45E+00		U	PC/L	10/27/2005	GMS	1.05E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Radium-226	3.05E+01	1.23E+01		UJ	PC/L	10/27/2005	GMS	1.77E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Ruthenium-103	4.81E+00	3.04E+00		U	PC/L	10/27/2005	GMS	1.21E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Ruthenium-106	-8.90E+00	2.22E+01		U	PC/L	10/27/2005	GMS	7.98E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Silver-108m	-9.57E-01	2.24E+00		U	PC/L	10/27/2005	GMS	8.12E+00	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Silver-110m	-2.40E+00	2.23E+00		U	PC/L	10/27/2005	GMS	7.58E+00	F	SOS-TL344-05	
TRA38401RB	TRA-07	501	Strontium-90	1.29E-02	2.10E-01		U	PC/L	10/27/2005	GFP	1.02E+00	F	SOS-TL344-05	
TRA38401R8	TRA-07	501	Tritium	1.71E+04	4.38E+02		U	PC/L	10/27/2005	LSC	3.86E+02	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Uranium-235	6.53E-01	1.37E+01		U	PC/L	10/27/2005	GMS	4.85E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Zinc-65	1.70E+00	7.10E+00		U	PC/L	10/27/2005	GMS	2.43E+01	F	SOS-TL344-05	
TRA38401R4	TRA-07	501	Zirconium-95	2.35E+00	4.89E+00		U	PC/L	10/27/2005	GMS	1.88E+01	F	SOS-TL344-05	
TRA38501R4	TRA-08	501.5	Americium-241	-1.02E+01	1.41E+01		U	PC/L	11/03/2005	GMS	4.98E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Americium-241	7.99E+00	1.56E+01		U	PC/L	11/03/2005	GMS	5.30E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Antimony-125	-1.44E+01	7.48E+00		U	PC/L	11/03/2005	GMS	2.37E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Antimony-125	4.76E+00	6.82E+00		U	PC/L	11/03/2005	GMS	2.64E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Cerium-144	6.41E+00	1.93E+01		U	PC/L	11/03/2005	GMS	6.76E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Cerium-144	3.72E+01	2.08E+01		U	PC/L	11/03/2005	GMS	7.76E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Cesium-134	1.05E+01	3.49E+00		J	PC/L	11/03/2005	GMS	1.53E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Cesium-134	3.19E+00	2.65E+00		U	PC/L	11/03/2005	GMS	1.11E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Cesium-137	4.57E-01	3.13E+00		U	PC/L	11/03/2005	GMS	1.17E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Cesium-137	-3.40E+00	2.74E+00		U	PC/L	11/03/2005	GMS	9.17E+00	F	SOS-TL015-06	
TRA385015C	TRA-08	501.5	Chromium	23				UG/L	11/03/2005	E200.7		F	DNT-030-06	
TRA38501CU	TRA-08	501.5	Chromium	3.9		B		UG/L	11/03/2005	E200.7		T	DNT-030-06	
TRA38501R4	TRA-08	501.5	Cobalt-58	1.10E-01	3.37E+00		U	PC/L	11/03/2005	GMS	1.26E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Cobalt-58	-7.34E+00	4.87E+00		U	PC/L	11/03/2005	GMS	1.54E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Cobalt-60	1.36E+00	2.20E+00		U	PC/L	11/03/2005	GMS	9.84E+00	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Cobalt-60	1.21E+00	3.16E+00		U	PC/L	11/03/2005	GMS	1.26E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Europium-152	-1.74E+01	7.88E+00		U	PC/L	11/03/2005	GMS	2.53E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Europium-152	4.99E+00	7.01E+00		U	PC/L	11/03/2005	GMS	2.56E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Europium-154	1.13E+01	9.27E+00		U	PC/L	11/03/2005	GMS	3.65E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Europium-154	-9.30E+00	7.35E+00		U	PC/L	11/03/2005	GMS	2.48E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Europium-155	-3.57E+00	1.05E+01		U	PC/L	11/03/2005	GMS	3.64E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Europium-155	6.25E+00	1.01E+01		U	PC/L	11/03/2005	GMS	3.66E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Manganese-54	3.77E+00	3.52E+00		U	PC/L	11/03/2005	GMS	1.25E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Manganese-54	2.41E+00	2.81E+00		U	PC/L	11/03/2005	GMS	1.12E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Niobium-95	1.37E+00	3.70E+00		U	PC/L	11/03/2005	GMS	1.44E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Niobium-95	-2.88E+00	1.14E+01		U	PC/L	11/03/2005	GMS	4.12E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Radium-226	1.31E+00	6.17E+00		U	PC/L	11/03/2005	GMS	2.30E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Radium-226	2.88E+00	7.36E+00		U	PC/L	11/03/2005	GMS	2.20E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Ruthenium-103	-7.48E+00	3.68E+00		U	PC/L	11/03/2005	GMS	1.13E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Ruthenium-103	1.13E+01	8.17E+00		U	PC/L	11/03/2005	GMS	3.34E+01	F	SOS-TL015-06	
TRA38501R4	TRA-08	501.5	Ruthenium-106	2.69E+01	2.47E+01		U	PC/L	11/03/2005	GMS	9.93E+01	F	SOS-TL015-06	
TRA38501RB(RE)	TRA-08	501.5	Ruthenium-106	3.47E+01	2.63E+01		U	PC/L	11/03/2005	GMS	1.06E+02	F	SOS-TL015-06	

Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample			Result Qualifier	Validation Flag	Sample Units	Date		Method Code	MDA	Metal Sample	L&V Report Number
				Result	Sample Error	Sample Error				Collected	Sample				
TRA38501R4	TRA-08	501.5	Silver-108m	1.05E+01	3.29E+00		UJ	PC/L	11/03/2005	GMS	1.03E+01	F	SOS-TL015-06		
TRA38501RB(RE)	TRA-08	501.5	Silver-108m	-3.52E+00	2.31E+00		U	PC/L	11/03/2005	GMS	7.85E+00	F	SOS-TL056-06		
TRA38501R4	TRA-08	501.5	Silver-110m	-2.60E+00	2.75E+00		U	PC/L	11/03/2005	GMS	9.69E+00	F	SOS-TL015-06		
TRA38501RB(RE)	TRA-08	501.5	Silver-110m	1.98E+00	2.68E+00		U	PC/L	11/03/2005	GMS	1.06E+01	F	SOS-TL056-06		
TRA38501RB	TRA-08	501.5	Strontium-90	5.65E+03	7.39E+01			PC/L	11/03/2005	GFP	7.99E-01	F	SOS-TL015-06		
TRA38501RB(RE)	TRA-08	501.5	Strontium-90	7.28E+03	9.48E+01			PC/L	11/03/2005	GFP	6.56E-01	F	SOS-TL056-06		
TRA38501R8	TRA-08	501.5	Tritium	2.70E+03	1.70E+02			PC/L	11/03/2005	LSC	3.64E+02	F	SOS-TL015-06		
TRA38501R4	TRA-08	501.5	Uranium-235	2.24E+01	2.00E+01		U	PC/L	11/03/2005	GMS	7.12E+01	F	SOS-TL015-06		
TRA38501RB(RE)	TRA-08	501.5	Uranium-235	1.77E+00	1.71E+01		U	PC/L	11/03/2005	GMS	6.07E+01	F	SOS-TL056-06		
TRA38501R4	TRA-08	501.5	Zinc-65	-5.51E+00	3.16E+00		U	PC/L	11/03/2005	GMS	9.72E+00	F	SOS-TL015-06		
TRA38501RB(RE)	TRA-08	501.5	Zinc-65	-2.31E+00	7.56E+00		U	PC/L	11/03/2005	GMS	2.46E+01	F	SOS-TL056-06		
TRA38501R4	TRA-08	501.5	Zirconium-95	5.83E+00	5.58E+00		U	PC/L	11/03/2005	GMS	2.26E+01	F	SOS-TL015-06		
TRA38501RB(RE)	TRA-08	501.5	Zirconium-95	9.88E+00	9.32E+00		U	PC/L	11/03/2005	GMS	3.51E+01	F	SOS-TL056-06		
TRA39101R4	TRA-1934	100	Americium-241	-8.59E+00	2.19E+01		U	PC/L	10/25/2005	GMS	7.55E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Antimony-125	2.99E+00	1.05E+01		U	PC/L	10/25/2005	GMS	3.78E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Cerium-144	-1.65E+01	2.06E+01		U	PC/L	10/25/2005	GMS	6.89E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Cesium-134	4.57E-02	3.37E+00		U	PC/L	10/25/2005	GMS	1.29E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Cesium-137	-6.26E+00	3.83E+00		U	PC/L	10/25/2005	GMS	1.22E+01	F	SOS-TL343-05		
TRA391015C	TRA-1934	100	Chromium	43.4				UG/L	10/25/2005	E200.7		F	DNT-022-06		
TRA39101CU	TRA-1934	100	Chromium	27.8				UG/L	10/25/2005	E200.7		T	DNT-022-06		
TRA39101R4	TRA-1934	100	Cobalt-58	1.05E+00	3.96E+00		U	PC/L	10/25/2005	GMS	1.34E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Cobalt-60	9.29E-01	3.38E+00		U	PC/L	10/25/2005	GMS	1.35E+01	F	SOS-TL343-05		
TRA39101TL	TRA-1934	100	Diesel Range Organics	0.98				MG/L	10/25/2005	SW8015M		F	DMG-211-05		
TRA39102TL	TRA-1934	100	Diesel Range Organics	0.89				MG/L	10/25/2005	SW8015M		F	DMG-211-05		
TRA39101R4	TRA-1934	100	Europium-152	7.11E+00	1.54E+01		U	PC/L	10/25/2005	GMS	3.43E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Europium-154	5.42E+00	1.09E+01		U	PC/L	10/25/2005	GMS	4.30E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Europium-155	1.83E+01	1.20E+01		U	PC/L	10/25/2005	GMS	4.33E+01	F	SOS-TL343-05		
TRA39101TG	TRA-1934	100	Gasoline Range Organics	103				UG/L	10/25/2005	SW8015		F	DMG-210-05		
TRA39101R4	TRA-1934	100	Manganese-54	-1.36E+00	3.39E+00		U	PC/L	10/25/2005	GMS	1.24E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Niobium-95	5.49E+00	7.29E+00		U	PC/L	10/25/2005	GMS	1.75E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Radium-226	1.54E+02	2.01E+01		J	PC/L	10/25/2005	GMS	2.69E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Ruthenium-103	7.18E+00	3.44E+00		UJ	PC/L	10/25/2005	GMS	1.69E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Ruthenium-106	-1.82E+01	3.02E+01		U	PC/L	10/25/2005	GMS	1.05E+02	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Silver-108m	7.91E-01	3.41E+00		U	PC/L	10/25/2005	GMS	1.24E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Silver-110m	-3.94E-01	2.94E+00		U	PC/L	10/25/2005	GMS	1.07E+01	F	SOS-TL343-05		
TRA39101RB	TRA-1934	100	Strontium-90	9.17E+01	2.10E+00		U	PC/L	10/25/2005	GFP	7.88E-01	F	SOS-TL344-05		
TRA39101R8	TRA-1934	100	Tritium	8.13E+01	1.12E+02		U	PC/L	10/25/2005	LSC	3.81E+02	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Uranium-235	-1.24E+01	2.33E+01		U	PC/L	10/25/2005	GMS	7.83E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Zinc-65	5.19E+00	7.86E+00		U	PC/L	10/25/2005	GMS	2.81E+01	F	SOS-TL343-05		
TRA39101R4	TRA-1934	100	Zirconium-95	-8.84E+00	7.82E+00		U	PC/L	10/25/2005	GMS	2.71E+01	F	SOS-TL343-05		
TRA37901R4	USGS-054	91	Americium-241	-7.04E+00	1.85E+01		U	PC/L	10/17/2005	GMS	6.19E+01	F	SOS-TL330-05		
TRA37902R4	USGS-054	91	Americium-241	1.25E+01	1.33E+01		U	PC/L	10/17/2005	GMS	4.36E+01	F	SOS-TL330-05		
TRA37901R4	USGS-054	91	Antimony-125	5.44E+00	6.48E+00		U	PC/L	10/17/2005	GMS	2.56E+01	F	SOS-TL330-05		
TRA37902R4	USGS-054	91	Antimony-125	7.94E+00	5.13E+00		U	PC/L	10/17/2005	GMS	2.46E+01	F	SOS-TL330-05		
TRA37901R4	USGS-054	91	Cerium-144	2.70E+00	1.62E+01		U	PC/L	10/17/2005	GMS	5.91E+01	F	SOS-TL330-05		



Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Collected	Method Code	MDA	Metal Sample	L&V Report Number	Filtered
TRA37902R4	USGS-054	91	Cerium-144	4.43E+00	1.40E+01		U	PC/L	10/17/2005	GMS	5.09E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Cesium-134	1.80E+00	2.92E+00		U	PC/L	10/17/2005	GMS	1.14E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Cesium-134	-4.10E-01	2.24E+00		U	PC/L	10/17/2005	GMS	8.40E+00	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Cesium-137	1.80E+00	2.78E+00		U	PC/L	10/17/2005	GMS	1.08E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Cesium-137	9.63E-01	2.60E+00		U	PC/L	10/17/2005	GMS	9.90E+00	F	SOS-TL330-05	
TRA379015C	USGS-054	91	Chromium	6.5		B		UG/L	10/17/2005	E200.7		F	DNT-019-06	
TRA379025C	USGS-054	91	Chromium	6.5		B		UG/L	10/17/2005	E200.7		F	DNT-019-06	
TRA37901CU	USGS-054	91	Chromium	6.5		B		UG/L	10/17/2005	E200.7		T	DNT-019-06	
TRA37902CU	USGS-054	91	Chromium	6.3		B		UG/L	10/17/2005	E200.7		T	DNT-019-06	
TRA37901R4	USGS-054	91	Cobalt-58	1.37E+00	2.42E+00		U	PC/L	10/17/2005	GMS	9.90E+00	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Cobalt-58	-3.32E+00	3.08E+00		U	PC/L	10/17/2005	GMS	8.51E+00	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Cobalt-60	-1.18E+00	2.73E+00		U	PC/L	10/17/2005	GMS	1.03E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Cobalt-60	3.90E+00	2.87E+00		U	PC/L	10/17/2005	GMS	1.26E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Europium-152	-2.08E+00	6.60E+00		U	PC/L	10/17/2005	GMS	2.29E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Europium-152	8.10E+00	5.89E+00		U	PC/L	10/17/2005	GMS	2.14E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Europium-154	-1.35E+01	7.95E+00		U	PC/L	10/17/2005	GMS	2.52E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Europium-154	3.34E+00	7.73E+00		U	PC/L	10/17/2005	GMS	3.15E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Europium-155	2.26E-01	8.46E+00		U	PC/L	10/17/2005	GMS	3.10E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Europium-155	-7.57E+00	7.48E+00		U	PC/L	10/17/2005	GMS	2.61E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Manganese-54	-1.47E+00	2.83E+00		U	PC/L	10/17/2005	GMS	9.97E+00	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Manganese-54	2.87E+00	2.73E+00		U	PC/L	10/17/2005	GMS	6.99E+00	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Niobium-95	-4.78E+00	3.59E+00		U	PC/L	10/17/2005	GMS	1.18E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Niobium-95	-1.19E+00	3.07E+00		U	PC/L	10/17/2005	GMS	1.12E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Radium-226	1.13E+01	8.04E+00		U	PC/L	10/17/2005	GMS	1.94E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Radium-226	1.16E+01	5.15E+00		U	PC/L	10/17/2005	GMS	2.14E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Ruthenium-103	-1.56E+00	3.22E+00		U	PC/L	10/17/2005	GMS	1.18E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Ruthenium-103	1.41E+00	3.10E+00		U	PC/L	10/17/2005	GMS	1.20E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Ruthenium-106	3.76E+00	2.39E+01		U	PC/L	10/17/2005	GMS	9.01E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Ruthenium-106	1.31E+00	2.02E+01		U	PC/L	10/17/2005	GMS	7.66E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Silver-108m	-1.36E+00	2.07E+00		U	PC/L	10/17/2005	GMS	7.57E+00	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Silver-108m	-1.63E-01	2.03E+00		U	PC/L	10/17/2005	GMS	7.62E+00	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Silver-110m	-7.70E-01	2.28E+00		U	PC/L	10/17/2005	GMS	8.41E+00	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Silver-110m	-1.03E+00	2.32E+00		U	PC/L	10/17/2005	GMS	8.36E+00	F	SOS-TL330-05	
TRA37901RB	USGS-054	91	Strontium-90	2.89E+01	1.09E+00		U	PC/L	10/17/2005	GFP	7.76E-01	F	SOS-TL330-05	
TRA37902RB	USGS-054	91	Strontium-90	5.21E-01	1.93E-01		UU	PC/L	10/17/2005	GPC	7.19E-01	F	SOS-TL330-05	
TRA37901R8	USGS-054	91	Tritium	6.99E+00	8.26E+01		U	PC/L	10/17/2005	LSC	2.79E+02	F	SOS-TL330-05	
TRA37902R8	USGS-054	91	Tritium	1.99E+02	9.30E+01		U	PC/L	10/17/2005	LSC	3.03E+02	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Uranium-235	1.74E+01	2.27E+01		U	PC/L	10/17/2005	GMS	5.79E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Uranium-235	3.84E+00	1.53E+01		U	PC/L	10/17/2005	GMS	5.50E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Zinc-65	-7.40E+00	5.74E+00		U	PC/L	10/17/2005	GMS	1.97E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Zinc-65	-4.31E+00	5.78E+00		U	PC/L	10/17/2005	GMS	2.09E+01	F	SOS-TL330-05	
TRA37901R4	USGS-054	91	Zirconium-95	9.09E-01	4.46E+00		U	PC/L	10/17/2005	GMS	1.75E+01	F	SOS-TL330-05	
TRA37902R4	USGS-054	91	Zirconium-95	-1.15E-01	3.93E+00		U	PC/L	10/17/2005	GMS	1.52E+01	F	SOS-TL330-05	
TRA38001R4	USGS-055	81	Americium-241	2.11E+01	1.60E+01		U	PC/L	10/27/2005	GMS	5.37E+01	F	SOS-TL344-05	
TRA38001R4	USGS-055	81	Antimony-125	2.21E+01	1.48E+01		U	PC/L	10/27/2005	GMS	3.24E+01	F	SOS-TL344-05	
TRA38001R4	USGS-055	81	Cerium-144	-7.73E+00	2.00E+01		U	PC/L	10/27/2005	GMS	6.35E+01	F	SOS-TL344-05	

Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date		Method Code	MDA	Metal Sample	L&V Report Number
									Sample Collected	Sample Collected				
TRA38001R4	USGS-055	81	Cesium-134	-5.23E-01	3.27E+00		U	PC/L	10/27/2005	10/27/2005	GMS	1.20E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Cesium-137	-2.38E-01	2.71E+00		U	PC/L	10/27/2005	10/27/2005	GMS	9.02E+00	F	SOS-TL344-05
TRA380015C	USGS-055	81	Chromium	79.6				UG/L	10/27/2005	E200.7	E200.7		F	DNT-022-06
TRA38001CU	USGS-055	81	Chromium	79.1				UG/L	10/27/2005	E200.7	E200.7		T	DNT-022-06
TRA38001R4	USGS-055	81	Cobalt-58	-2.39E+00	2.79E+00		U	PC/L	10/27/2005	10/27/2005	GMS	9.76E+00	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Cobalt-60	-2.68E+00	2.67E+00		U	PC/L	10/27/2005	10/27/2005	GMS	9.60E+00	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Europium-152	-3.77E+00	7.97E+00		U	PC/L	10/27/2005	10/27/2005	GMS	2.73E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Europium-154	-3.92E+00	8.04E+00		U	PC/L	10/27/2005	10/27/2005	GMS	3.06E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Europium-155	2.60E+00	1.03E+01		U	PC/L	10/27/2005	10/27/2005	GMS	3.39E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Manganese-54	-6.26E-01	2.33E+00		U	PC/L	10/27/2005	10/27/2005	GMS	8.71E+00	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Niobium-95	-6.39E+00	3.84E+00		U	PC/L	10/27/2005	10/27/2005	GMS	1.24E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Radium-226	4.96E+00	9.42E+00		U	PC/L	10/27/2005	10/27/2005	GMS	2.00E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Ruthenium-103	1.17E+01	4.76E+00		U	PC/L	10/27/2005	10/27/2005	GMS	1.25E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Ruthenium-106	3.03E+01	2.61E+01		U	PC/L	10/27/2005	10/27/2005	GMS	1.04E+02	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Silver-108m	-5.07E-01	2.75E+00		U	PC/L	10/27/2005	10/27/2005	GMS	9.50E+00	F	SOS-TL344-05
TRA38001RB	USGS-055	81	Silver-110m	6.79E+00	2.50E+00		U	PC/L	10/27/2005	10/27/2005	GMS	1.20E+01	F	SOS-TL344-05
TRA38001R8	USGS-055	81	Strontium-90	8.19E+01	2.15E+00		U	PC/L	10/27/2005	10/27/2005	GFP	1.11E+00	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Tritium	1.47E+04	4.07E+02			PC/L	10/27/2005	10/27/2005	LSC	3.91E+02	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Uranium-235	-3.45E+00	2.09E+01		U	PC/L	10/27/2005	10/27/2005	GMS	6.66E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Zinc-65	1.43E+00	6.27E+00		U	PC/L	10/27/2005	10/27/2005	GMS	2.50E+01	F	SOS-TL344-05
TRA38001R4	USGS-055	81	Zirconium-95	6.83E+00	5.72E+00		U	PC/L	10/27/2005	10/27/2005	GMS	2.32E+01	F	SOS-TL344-05
TRA38101R4	USGS-056	80	Americium-241	-1.99E+01	2.16E+01		U	PC/L	10/20/2005	10/20/2005	GMS	6.56E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Antimony-125	-2.94E+00	7.49E+00		U	PC/L	10/20/2005	10/20/2005	GMS	2.62E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Cerium-144	-1.80E+01	2.06E+01		U	PC/L	10/20/2005	10/20/2005	GMS	7.04E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Cesium-134	5.25E+00	2.91E+00		U	PC/L	10/20/2005	10/20/2005	GMS	1.28E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Cesium-137	4.03E+00	1.81E+00		U	PC/L	10/20/2005	10/20/2005	GMS	1.35E+00	F	SOS-TL014-06
TRA381015C	USGS-056	80	Chromium	101				UG/L	10/20/2005	E200.7	E200.7		F	DNT-018-06
TRA38101CU	USGS-056	80	Chromium	99.7				UG/L	10/20/2005	E200.7	E200.7		T	DNT-018-06
TRA38101R4	USGS-056	80	Cobalt-58	6.68E-01	3.19E+00		U	PC/L	10/20/2005	10/20/2005	GMS	1.25E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Cobalt-60	5.47E+00	4.44E+00		U	PC/L	10/20/2005	10/20/2005	GMS	1.68E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Europium-152	2.24E-01	8.13E+00		U	PC/L	10/20/2005	10/20/2005	GMS	2.91E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Europium-154	4.72E+00	8.34E+00		U	PC/L	10/20/2005	10/20/2005	GMS	3.49E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Europium-155	2.07E+00	1.07E+01		U	PC/L	10/20/2005	10/20/2005	GMS	3.81E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Manganese-54	2.24E-01	2.52E+00		U	PC/L	10/20/2005	10/20/2005	GMS	9.90E+00	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Niobium-95	-1.76E+00	3.76E+00		U	PC/L	10/20/2005	10/20/2005	GMS	1.40E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Radium-226	1.33E+01	6.96E+00		U	PC/L	10/20/2005	10/20/2005	GMS	2.60E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Ruthenium-103	1.36E+00	4.11E+00		U	PC/L	10/20/2005	10/20/2005	GMS	1.50E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Ruthenium-106	1.18E+00	2.56E+01		U	PC/L	10/20/2005	10/20/2005	GMS	9.77E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Silver-108m	2.98E+00	2.79E+00		U	PC/L	10/20/2005	10/20/2005	GMS	1.07E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Silver-110m	-3.93E+00	3.39E+00		U	PC/L	10/20/2005	10/20/2005	GMS	9.82E+00	F	SOS-TL014-06
TRA38101R8	USGS-056	80	Strontium-90	9.75E+01	4.37E+00			PC/L	10/20/2005	10/20/2005	GFP	3.57E+00	F	SOS-TL014-06
TRA38101R8	USGS-056	80	Tritium	1.17E+04	4.35E+02			PC/L	10/20/2005	10/20/2005	LSC	4.24E+02	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Uranium-235	6.01E+01	2.76E+01		U	PC/L	10/20/2005	10/20/2005	GMS	7.57E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Zinc-65	1.67E+00	6.26E+00		U	PC/L	10/20/2005	10/20/2005	GMS	2.24E+01	F	SOS-TL014-06
TRA38101R4	USGS-056	80	Zirconium-95	6.00E+00	4.25E+00		U	PC/L	10/20/2005	10/20/2005	GMS	2.00E+01	F	SOS-TL014-06
TRA38601R4	USGS-058	503	Americium-241	3.29E+00	4.15E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.49E+01	F	SOS-TL330-05

Table A-2. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date		Method Code	MDA	Metal Sample	L&V Report Number
									Collected	Sampled				
TRA38601R4	USGS-058	503	Antimony-125	1.22E+00	7.52E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.74E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Cerium-144	-6.78E+00	1.47E+01		U	PC/L	10/17/2005	10/17/2005	GMS	4.84E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Cesium-134	3.98E-01	3.77E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.44E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Cesium-137	-2.76E+00	3.41E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.22E+01	F	SOS-TL330-05
TRA38601CU	USGS-058	503	Chromium	18.7				UG/L	10/17/2005	10/17/2005	E200.7		T	DNT-019-06
TRA386015C	USGS-058	503	Chromium	27.8				UG/L	10/17/2005	10/17/2005	E200.7		F	DNT-019-06
TRA38601R4	USGS-058	503	Cobalt-58	3.39E+00	4.05E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.49E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Cobalt-60	1.57E+00	3.08E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.33E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Europium-152	1.55E+00	6.68E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.47E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Europium-154	1.47E+01	8.95E+00		U	PC/L	10/17/2005	10/17/2005	GMS	4.06E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Europium-155	7.84E+00	6.67E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.39E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Manganese-54	-1.97E-01	3.18E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.21E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Niobium-95	5.55E-01	4.65E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.78E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Radium-226	2.42E+01	1.32E+01		U	PC/L	10/17/2005	10/17/2005	GMS	2.42E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Ruthenium-103	1.65E+01	9.03E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.26E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Ruthenium-106	-3.40E+01	2.73E+01		U	PC/L	10/17/2005	10/17/2005	GMS	9.56E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Silver-108m	-9.46E-01	3.11E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.09E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Silver-110m	-1.43E+00	3.86E+00		U	PC/L	10/17/2005	10/17/2005	GMS	1.25E+01	F	SOS-TL330-05
TRA38601RB	USGS-058	503	Strontium-90	8.72E-01	2.18E-01		UU	PC/L	10/17/2005	10/17/2005	GFP	7.11E-01	F	SOS-TL330-05
TRA38601R8	USGS-058	503	Tritium	1.36E+03	1.13E+02			PC/L	10/17/2005	10/17/2005	LSC	3.07E+02	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Uranium-235	3.67E+01	2.43E+01		U	PC/L	10/17/2005	10/17/2005	GMS	5.57E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Zinc-65	8.08E+00	7.46E+00		U	PC/L	10/17/2005	10/17/2005	GMS	3.08E+01	F	SOS-TL330-05
TRA38601R4	USGS-058	503	Zirconium-95	-1.69E+00	7.40E+00		U	PC/L	10/17/2005	10/17/2005	GMS	2.75E+01	F	SOS-TL330-05
TRA38701R4	USGS-065	498	Americium-241	-2.41E+01	2.13E+01		U	PC/L	10/18/2005	10/18/2005	GMS	6.55E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Antimony-125	2.51E+01	9.11E+00		UU	PC/L	10/18/2005	10/18/2005	GMS	2.94E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Cerium-144	-3.58E+00	1.66E+01		U	PC/L	10/18/2005	10/18/2005	GMS	5.79E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Cesium-134	2.18E+00	2.45E+00		U	PC/L	10/18/2005	10/18/2005	GMS	9.95E+00	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Cesium-137	4.76E+00	2.57E+00		U	PC/L	10/18/2005	10/18/2005	GMS	1.07E+01	F	SOS-TL343-05
TRA387015C	USGS-065	498	Chromium	103			J	UG/L	10/18/2005	10/18/2005	E200.7		F	DNT-021-06
TRA38701CU	USGS-065	498	Chromium	89.7			J	UG/L	10/18/2005	10/18/2005	E200.7		T	DNT-021-06
TRA38701R4	USGS-065	498	Cobalt-58	1.28E+00	3.59E+00		U	PC/L	10/18/2005	10/18/2005	GMS	1.20E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Cobalt-60	6.07E-01	2.85E+00		U	PC/L	10/18/2005	10/18/2005	GMS	1.14E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Europium-152	-1.18E+01	8.58E+00		U	PC/L	10/18/2005	10/18/2005	GMS	2.53E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Europium-154	7.61E+00	7.10E+00		U	PC/L	10/18/2005	10/18/2005	GMS	3.11E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Europium-155	-2.71E+01	8.73E+00		U	PC/L	10/18/2005	10/18/2005	GMS	2.70E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Manganese-54	-1.28E+00	2.90E+00		U	PC/L	10/18/2005	10/18/2005	GMS	1.02E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Niobium-95	8.57E+00	4.59E+00		U	PC/L	10/18/2005	10/18/2005	GMS	1.73E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Radium-226	1.66E+02	1.86E+01		J	PC/L	10/18/2005	10/18/2005	GMS	1.87E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Ruthenium-103	-8.93E+00	3.57E+00		U	PC/L	10/18/2005	10/18/2005	GMS	1.09E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Ruthenium-106	-2.51E+01	2.07E+01		U	PC/L	10/18/2005	10/18/2005	GMS	6.97E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Silver-110m	4.72E+00	2.30E+00		UU	PC/L	10/18/2005	10/18/2005	GMS	9.42E+00	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Silver-108m	7.53E-01	2.55E+00		U	PC/L	10/18/2005	10/18/2005	GMS	5.57E+00	F	SOS-TL343-05
TRA38701RB	USGS-065	498	Strontium-90	-8.40E-02	1.43E-01		U	PC/L	10/18/2005	10/18/2005	GFP	7.64E-01	F	SOS-TL343-05
TRA38701R8	USGS-065	498	Tritium	6.22E+03	1.76E+02			PC/L	10/18/2005	10/18/2005	LSC	3.07E+02	F	SOS-TL330-05
TRA38701R4	USGS-065	498	Uranium-235	2.27E+01	1.60E+01		U	PC/L	10/18/2005	10/18/2005	GMS	5.85E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Zinc-65	3.98E+00	6.65E+00		U	PC/L	10/18/2005	10/18/2005	GMS	2.40E+01	F	SOS-TL343-05
TRA38701R4	USGS-065	498	Zirconium-95	6.89E+00	6.66E+00		U	PC/L	10/18/2005	10/18/2005	GMS	2.56E+01	F	SOS-TL343-05

Table A-3. Data for the Waste Area Group 2 March 2006 groundwater sampling event.

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA47901R4	EQUIP RINSATE	NA	Americium-241	-2.46E+00	4.22E+00		U	PC/L	03/22/2006	HAS	1.58E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Antimony-125	3.02E+00	8.68E+00		U	PC/L	03/22/2006	HAS	3.30E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Cerium-144	-1.99E+01	1.46E+01		U	PC/L	03/22/2006	HAS	4.69E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Cesium-134	-6.76E+00	3.42E+00		U	PC/L	03/22/2006	HAS	1.04E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Cesium-137	-7.85E+00	4.16E+00		U	PC/L	03/22/2006	HAS	1.60E+01	F	SOS-TL159-06
TRA479015C	EQUIP RINSATE	NA	Chromium	1		U		UG/L	03/22/2006	E200.7		F	DNT-144-06
TRA47901CU	EQUIP RINSATE	NA	Chromium	1		U		UG/L	03/22/2006	E200.7		T	DNT-144-06
TRA47901R4	EQUIP RINSATE	NA	Cobalt-58	-4.26E+00	3.72E+00		U	PC/L	03/22/2006	HAS	1.27E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Cobalt-60	1.66E+00	4.38E+00		U	PC/L	03/22/2006	HAS	2.05E+01	F	SOS-TL159-06
TRA47901TL	EQUIP RINSATE	NA	Diesel Range Organics	0.048		U	UU	MG/L	03/22/2006	SW8015		F	HCJ-040-06
TRA47901R4	EQUIP RINSATE	NA	Europium-152	-9.88E+00	3.11E+01		U	PC/L	03/22/2006	HAS	1.18E+02	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Europium-154	-4.88E+01	3.26E+01		U	PC/L	03/22/2006	HAS	1.04E+02	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Europium-155	5.67E+00	5.83E+00		U	PC/L	03/22/2006	HAS	2.25E+01	F	SOS-TL159-06
TRA47901TG	EQUIP RINSATE	NA	Gasoline Range Organics	50		U		UG/L	03/22/2006	SW8015B		F	HCJ-042-06
TRA47901AB	EQUIP RINSATE	NA	Gross Alpha	-1.67E-01	3.36E-01		U	PC/L	03/22/2006	931	7.88E-01	F	SOS-TL159-06
TRA47901AB	EQUIP RINSATE	NA	Gross Beta	1.21E+00	1.15E+00		U	PC/L	03/22/2006	931	1.86E+00	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Manganese-54	-1.09E+00	3.42E+00		U	PC/L	03/22/2006	HAS	1.29E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Niobium-95	-6.85E+00	3.15E+00		U	PC/L	03/22/2006	HAS	9.06E+00	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Radium-226	3.99E+00	1.14E+01		U	PC/L	03/22/2006	HAS	4.34E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Ruthenium-103	-3.23E+00	2.97E+00		U	PC/L	03/22/2006	HAS	1.03E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Ruthenium-106	-3.83E+01	3.29E+01		U	PC/L	03/22/2006	HAS	1.10E+02	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Silver-108m	-1.90E+00	2.84E+00		U	PC/L	03/22/2006	HAS	1.03E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Silver-110m	-9.57E-01	3.46E+00		U	PC/L	03/22/2006	HAS	1.31E+01	F	SOS-TL159-06
TRA47901RB	EQUIP RINSATE	NA	Strontium-90	-2.92E-01	1.64E-01		U	PC/L	03/22/2006	HAS	6.00E-01	F	SOS-TL12-06
TRA47901R8	EQUIP RINSATE	NA	Tritium	-1.48E+02	1.14E+02		U	PC/L	03/22/2006	LSC	3.43E+02	F	SOS-TL112-06
TRA47901R4	EQUIP RINSATE	NA	Uranium-235	1.93E+01	4.26E+01		U	PC/L	03/22/2006	HAS	1.56E+02	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Zinc-65	1.54E+00	8.69E+00		U	PC/L	03/22/2006	HAS	3.46E+01	F	SOS-TL159-06
TRA47901R4	EQUIP RINSATE	NA	Zirconium-95	-6.18E+00	5.96E+00		U	PC/L	03/22/2006	HAS	2.07E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Americium-241	-3.53E+00	5.58E+00		U	PC/L	03/22/2006	HAS	1.97E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Antimony-125	-7.73E+00	1.07E+01		U	PC/L	03/22/2006	HAS	3.79E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Cerium-144	4.59E+00	1.74E+01		U	PC/L	03/22/2006	HAS	6.28E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Cesium-134	-1.02E+00	3.74E+00		U	PC/L	03/22/2006	HAS	1.37E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Cesium-137	-3.15E+00	4.22E+00		U	PC/L	03/22/2006	HAS	1.48E+01	F	SOS-TL159-06
TRA478015C	FIELD BLANK	NA	Chromium	1		U		UG/L	03/22/2006	E200.7		F	DNT-144-06
TRA47801CU	FIELD BLANK	NA	Chromium	1		U		UG/L	03/22/2006	E200.7		T	DNT-144-06
TRA47801R4	FIELD BLANK	NA	Cobalt-58	4.76E-04	3.73E+00		U	PC/L	03/22/2006	HAS	1.47E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Cobalt-60	-5.91E+00	4.66E+00		U	PC/L	03/22/2006	HAS	1.65E+01	F	SOS-TL159-06
TRA47801TL	FIELD BLANK	NA	Diesel Range Organics	0.048		U	UU	MG/L	03/22/2006	SW8015		F	HCJ-040-06
TRA47801R4	FIELD BLANK	NA	Europium-152	-1.62E+01	2.74E+01		U	PC/L	03/22/2006	HAS	1.06E+02	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Europium-154	-1.68E+01	2.61E+01		U	PC/L	03/22/2006	HAS	9.84E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Europium-155	-5.67E+00	8.23E+00		U	PC/L	03/22/2006	HAS	2.84E+01	F	SOS-TL159-06
TRA47801TG	FIELD BLANK	NA	Gasoline Range Organics	50		U		UG/L	03/22/2006	SW8015B		F	HCJ-042-06
TRA47801AB	FIELD BLANK	NA	Gross Alpha	4.42E-02	3.70E-01		U	PC/L	03/22/2006	931	7.36E-01	F	SOS-TL159-06
TRA47801AB	FIELD BLANK	NA	Gross Beta	-8.80E-01	1.12E+00		U	PC/L	03/22/2006	931	1.96E+00	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Manganese-54	6.67E+00	4.00E+00		U	PC/L	03/22/2006	HAS	1.78E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Niobium-95	2.46E+00	3.19E+00		U	PC/L	03/22/2006	HAS	1.38E+01	F	SOS-TL159-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA47801R4	FIELD BLANK	NA	Radium-226	-1.17E+01	1.47E+01		U	PC/L	03/22/2006	HAS	5.07E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Ruthenium-103	4.50E-01	3.51E+00		U	PC/L	03/22/2006	HAS	1.34E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Ruthenium-106	2.48E+00	3.24E+01		U	PC/L	03/22/2006	HAS	1.25E+02	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Silver-108m	1.23E+00	3.24E+00		U	PC/L	03/22/2006	HAS	1.25E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Silver-110m	2.39E+00	2.86E+00		U	PC/L	03/22/2006	HAS	1.24E+01	F	SOS-TL159-06
TRA47801RB	FIELD BLANK	NA	Strontium-90	1.39E-01	1.78E-01		U	PC/L	03/22/2006	HAS	5.99E-01	F	SOS-TL159-06
TRA47801R8	FIELD BLANK	NA	Tritium	-1.38E+02	1.06E+02		U	PC/L	03/22/2006	LSC	3.48E+02	F	SOS-TL112-06
TRA47801R4	FIELD BLANK	NA	Uranium-235	6.39E+01	4.41E+01		U	PC/L	03/22/2006	HAS	1.71E+02	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Zinc-65	2.01E+00	8.16E+00		U	PC/L	03/22/2006	HAS	3.42E+01	F	SOS-TL159-06
TRA47801R4	FIELD BLANK	NA	Zirconium-95	6.01E+00	3.66E+00		U	PC/L	03/22/2006	HAS	1.96E+01	F	SOS-TL159-06
TRA43701R4	HIGHWAY 3	750	Americium-241	-5.73E-01	5.43E+00		U	PC/L	03/13/2006	HAS	1.97E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Antimony-125	-3.23E+00	8.98E+00		U	PC/L	03/13/2006	HAS	3.33E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Cerium-144	-4.48E+00	1.73E+01		U	PC/L	03/13/2006	HAS	6.09E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Cesium-134	-1.50E+01	4.35E+00		U	PC/L	03/13/2006	HAS	1.08E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Cesium-137	-2.23E+00	4.12E+00		U	PC/L	03/13/2006	HAS	1.49E+01	F	SOS-TL101-06
TRA437015C	HIGHWAY 3	750	Chromium	1		U		UG/L	03/13/2006	E200.7		F	DNT-143-06
TRA43701CU	HIGHWAY 3	750	Chromium	1		U		UG/L	03/13/2006	E200.7		T	DNT-143-06
TRA43701R4	HIGHWAY 3	750	Cobalt-58	-9.82E-01	3.16E+00		U	PC/L	03/13/2006	HAS	1.23E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Cobalt-60	-3.36E-01	4.20E+00		U	PC/L	03/13/2006	HAS	1.80E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Europium-152	-2.50E+01	2.60E+01		U	PC/L	03/13/2006	HAS	9.49E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Europium-154	-3.66E-01	2.85E+01		U	PC/L	03/13/2006	HAS	1.16E+02	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Europium-155	2.97E+00	7.73E+00		U	PC/L	03/13/2006	HAS	2.84E+01	F	SOS-TL101-06
TRA43701AB	HIGHWAY 3	750	Gross Alpha	2.98E+00	1.26E+00		U	PC/L	03/13/2006	931	1.23E+00	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Gross Beta	2.77E+00	1.30E+00		J	PC/L	03/13/2006	931	1.96E+00	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Manganese-54	4.86E+00	3.78E+00		U	PC/L	03/13/2006	HAS	1.66E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Niobium-95	1.36E+00	3.46E+00		U	PC/L	03/13/2006	HAS	1.42E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Radium-226	1.80E+01	1.32E+01		U	PC/L	03/13/2006	HAS	5.18E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Ruthenium-103	-3.72E+00	3.25E+00		U	PC/L	03/13/2006	HAS	1.11E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Ruthenium-106	8.81E+01	3.44E+01		UJ	PC/L	03/13/2006	HAS	1.56E+02	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Silver-108m	-4.79E+00	3.00E+00		U	PC/L	03/13/2006	HAS	9.88E+00	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Silver-110m	-4.88E+00	3.91E+00		U	PC/L	03/13/2006	HAS	1.30E+01	F	SOS-TL101-06
TRA43701RB	HIGHWAY 3	750	Strontium-90	6.14E-02	2.88E-01		U	PC/L	03/13/2006	HAS	9.78E-01	F	SOS-TL101-06
TRA43701R8	HIGHWAY 3	750	Tritium	6.07E+01	8.49E+01		U	PC/L	03/13/2006	LSC	2.70E+02	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Uranium-235	1.62E+01	4.37E+01		U	PC/L	03/13/2006	HAS	1.62E+02	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Zinc-65	-2.02E+01	8.25E+00		U	PC/L	03/13/2006	HAS	2.15E+01	F	SOS-TL101-06
TRA43701R4	HIGHWAY 3	750	Zirconium-95	7.58E+00	4.94E+00		U	PC/L	03/13/2006	HAS	2.37E+01	F	SOS-TL101-06
TRA44301R4	MIDDLE-1823	729.7	Americium-241	-1.94E+01	7.11E+00		U	PC/L	04/03/2006	HAS	2.22E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Antimony-125	1.53E+00	1.05E+01		U	PC/L	04/03/2006	HAS	3.92E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Cerium-144	1.51E+01	1.82E+01		U	PC/L	04/03/2006	HAS	6.62E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Cesium-134	2.75E+00	4.28E+00		U	PC/L	04/03/2006	HAS	1.63E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Cesium-137	-1.94E-01	4.04E+00		U	PC/L	04/03/2006	HAS	1.54E+01	F	SOS-TL119-06
TRA443015C	MIDDLE-1823	729.7	Chromium	6.8		B		UG/L	04/03/2006	E200.7		F	DNT-195-06
TRA44301CU	MIDDLE-1823	729.7	Chromium	8		B		UG/L	04/03/2006	E200.7		T	DNT-195-06
TRA44301R4	MIDDLE-1823	729.7	Cobalt-58	-9.42E+00	4.46E+00		U	PC/L	04/03/2006	HAS	1.34E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Cobalt-60	-3.88E+00	4.20E+00		U	PC/L	04/03/2006	HAS	1.50E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Europium-152	-2.63E+01	2.96E+01		U	PC/L	04/03/2006	HAS	1.05E+02	F	SOS-TL119-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA44301R4	MIDDLE-1823	729.7	Europium-154	3.88E+01	3.24E+01		U	PC/L	04/03/2006	HAS	1.40E+02	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Europium-155	-1.45E+01	8.68E+00		U	PC/L	04/03/2006	HAS	2.79E+01	F	SOS-TL119-06
TRA44301AB	MIDDLE-1823	729.7	Gross Alpha	6.64E+00	1.17E+00		U	PC/L	04/03/2006	931	2.09E+00	F	SOS-TL119-06
TRA44301AB	MIDDLE-1823	729.7	Gross Beta	8.96E+00	1.10E+00		U	PC/L	04/03/2006	931	2.78E+00	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Manganese-54	-8.31E-01	4.56E+00		U	PC/L	04/03/2006	HAS	1.68E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Niobium-95	-3.97E+00	3.85E+00		U	PC/L	04/03/2006	HAS	1.33E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Radium-226	-5.48E+00	1.24E+01		U	PC/L	04/03/2006	HAS	4.44E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Ruthenium-103	-1.47E+00	3.17E+00		U	PC/L	04/03/2006	HAS	1.15E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Ruthenium-106	-9.96E+00	3.65E+01		U	PC/L	04/03/2006	HAS	1.36E+02	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Silver-108m	9.09E-01	3.48E+00		U	PC/L	04/03/2006	HAS	1.31E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Silver-110m	-1.57E+00	3.62E+00		U	PC/L	04/03/2006	HAS	1.34E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Strontium-90	5.32E-01	7.47E-01		U	PC/L	04/03/2006	HAS	1.23E+00	F	SOS-TL119-06
TRA44301R8	MIDDLE-1823	729.7	Tritium	1.55E+03	1.02E+02		U	PC/L	04/03/2006	LSC	1.72E+02	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Uranium-235	-4.11E+01	4.81E+01		U	PC/L	04/03/2006	HAS	1.63E+02	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Zinc-65	5.46E-01	6.94E+00		U	PC/L	04/03/2006	HAS	2.86E+01	F	SOS-TL119-06
TRA44301R4	MIDDLE-1823	729.7	Zirconium-95	5.13E+00	7.49E+00		U	PC/L	04/03/2006	HAS	2.97E+01	F	SOS-TL119-06
TRA47701AB(PE	PE SAMPLE	NA		73.3			U	UG/L	03/27/2006	931	1.99E+00	F	SOS-TL159-06
TRA43301R4	PW-09	90	Gross Beta	3.44E+01	4.11E+00		U	PC/L	03/23/2006	HAS	2.14E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Americium-241	-7.71E-01	5.94E+00		U	PC/L	03/23/2006	HAS	3.37E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Antimony-125	2.99E+00	8.52E+00		U	PC/L	03/23/2006	HAS	6.64E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Cerium-144	2.23E+01	1.76E+01		U	PC/L	03/23/2006	HAS	1.50E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Cesium-134	2.21E+00	3.82E+00		U	PC/L	03/23/2006	HAS	1.51E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Cesium-137	4.11E+00	3.42E+00		U	PC/L	03/23/2006	HAS	1.51E+01	F	SOS-TL159-06
TRA433015C	PW-09	90	Chromium					UG/L	03/22/2006	E200.7		F	DNT-144-06
TRA43301CU	PW-09	90	Chromium					UG/L	03/22/2006	E200.7		T	DNT-144-06
TRA43301R4	PW-09	90	Cobalt-58	-5.29E+00	3.58E+00		U	PC/L	03/23/2006	HAS	1.18E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Cobalt-60	-4.57E+00	4.51E+00		U	PC/L	03/23/2006	HAS	1.67E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Europium-152	9.97E+00	2.65E+01		U	PC/L	03/23/2006	HAS	1.17E+02	F	SOS-TL159-06
TRA43301R4	PW-09	90	Europium-154	-4.26E+01	3.84E+01		U	PC/L	03/23/2006	HAS	1.32E+02	F	SOS-TL159-06
TRA43301R4	PW-09	90	Europium-155	2.16E+00	8.09E+00		U	PC/L	03/23/2006	HAS	2.94E+01	F	SOS-TL159-06
TRA43301AB	PW-09	90	Gross Alpha	7.46E+00	2.70E+00		J	PC/L	03/23/2006	931	2.46E+00	F	SOS-TL159-06
TRA43301AB	PW-09	90	Gross Beta	1.87E+01	3.54E+00		U	PC/L	03/23/2006	931	3.86E+00	F	SOS-TL159-06
TRA43301R4	PW-09	90	Manganese-54	4.55E+00	3.78E+00		U	PC/L	03/23/2006	HAS	1.66E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Niobium-95	-3.20E+00	3.35E+00		U	PC/L	03/23/2006	HAS	1.20E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Radium-226	-3.79E+00	1.31E+01		U	PC/L	03/23/2006	HAS	4.70E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Ruthenium-103	-1.30E+00	3.17E+00		U	PC/L	03/23/2006	HAS	1.17E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Ruthenium-106	8.21E+00	3.65E+01		U	PC/L	03/23/2006	HAS	1.41E+02	F	SOS-TL159-06
TRA43301R4	PW-09	90	Silver-108m	1.98E+00	2.70E+00		U	PC/L	03/23/2006	HAS	1.10E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Silver-110m	-1.04E+00	2.88E+00		U	PC/L	03/23/2006	HAS	1.10E+01	F	SOS-TL159-06
TRA43301RB	PW-09	90	Strontium-90	1.08E+00	3.15E-01		J	PC/L	03/23/2006	HAS	9.78E-01	F	SOS-TL159-06
TRA43301R8	PW-09	90	Tritium	3.68E+04	1.89E+03		U	PC/L	03/23/2006	LSC	3.37E+02	F	SOS-TL112-06
TRA43301R4	PW-09	90	Uranium-235	-5.78E+01	4.43E+01		U	PC/L	03/23/2006	HAS	1.49E+02	F	SOS-TL159-06
TRA43301R4	PW-09	90	Zinc-65	-1.96E+00	7.69E+00		U	PC/L	03/23/2006	HAS	3.08E+01	F	SOS-TL159-06
TRA43301R4	PW-09	90	Zirconium-95	4.38E+00	6.48E+00		U	PC/L	03/23/2006	HAS	2.71E+01	F	SOS-TL159-06
TRA43001R4	PW-11	134.5	Americium-241	4.50E+00	5.80E+00		U	PC/L	04/04/2006	HAS	2.18E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Antimony-125	-2.38E+00	8.90E+00		U	PC/L	04/04/2006	HAS	3.33E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Cerium-144	-6.75E+00	1.87E+01		U	PC/L	04/04/2006	HAS	6.52E+01	F	SOS-TL129-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA43001R4	PW-11	134.5	Cesium-134	-3.92E+00	3.93E+00		U	PC/L	04/04/2006	HAS	1.35E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Cesium-137	4.28E-01	4.07E+00		U	PC/L	04/04/2006	HAS	1.57E+01	F	SOS-TL129-06
TRA430015C	PW-11	134.5	Chromium	30.7				UG/L	04/04/2006	E200.7		F	DNT-184-06
TRA43001CU	PW-11	134.5	Chromium	26				UG/L	04/04/2006	E200.7		T	DNT-184-06
TRA43001R4	PW-11	134.5	Cobalt-58	-8.86E+00	3.82E+00		U	PC/L	04/04/2006	HAS	1.08E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Cobalt-60	-1.74E+00	4.03E+00		U	PC/L	04/04/2006	HAS	1.67E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Europium-152	6.94E+01	3.08E+01		U	PC/L	04/04/2006	HAS	1.54E+02	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Europium-154	1.04E+01	4.03E+01		U	PC/L	04/04/2006	HAS	1.58E+02	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Europium-155	6.50E+00	8.25E+00		U	PC/L	04/04/2006	HAS	1.58E+02	F	SOS-TL129-06
TRA43001AB	PW-11	134.5	Gross Alpha	4.27E+00	1.97E+00		U	PC/L	04/04/2006	HAS	3.07E+01	F	SOS-TL129-06
TRA43001AB	PW-11	134.5	Gross Beta	9.21E+00	2.30E+00		J	PC/L	04/04/2006	931	2.15E+00	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Manganese-54	-3.02E+00	3.96E+00		U	PC/L	04/04/2006	931	2.95E+00	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Niobium-95	-7.13E-01	3.02E+00		U	PC/L	04/04/2006	HAS	1.43E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Radium-226	3.47E-01	1.26E+01		U	PC/L	04/04/2006	HAS	1.20E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Ruthenium-103	-6.88E+00	3.38E+00		U	PC/L	04/04/2006	HAS	4.64E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Ruthenium-106	1.91E+01	3.47E+01		U	PC/L	04/04/2006	HAS	1.04E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Silver-108m	-2.31E+00	2.35E+00		U	PC/L	04/04/2006	HAS	1.38E+02	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Silver-110m	-1.40E+00	3.63E+00		U	PC/L	04/04/2006	HAS	8.36E+00	F	SOS-TL129-06
TRA43001R8	PW-11	134.5	Strontium-90	4.06E-01	6.34E-01		U	PC/L	04/04/2006	HAS	1.34E+01	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Tritium	2.95E+04	1.49E+03		U	PC/L	04/04/2006	HAS	1.05E+00	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Uranium-235	-7.56E+01	4.23E+01		U	PC/L	04/04/2006	HAS	1.74E+02	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Zinc-65	-2.74E+00	6.84E+00		U	PC/L	04/04/2006	HAS	1.37E+02	F	SOS-TL129-06
TRA43001R4	PW-11	134.5	Zirconium-95	7.15E+00	6.16E+00		U	PC/L	04/04/2006	HAS	2.74E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Americium-241	7.13E+00	4.87E+00		U	PC/L	04/05/2006	HAS	2.14E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Antimony-125	3.35E+00	8.37E+00		U	PC/L	04/05/2006	HAS	3.23E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Cerium-144	-8.07E+00	1.28E+01		U	PC/L	04/05/2006	HAS	4.39E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Cesium-134	-4.81E+00	3.83E+00		U	PC/L	04/05/2006	HAS	1.27E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Cesium-137	9.54E-03	4.73E+00		U	PC/L	04/05/2006	HAS	2.01E+01	F	SOS-TL129-06
TRA431015C	PW-12	133	Chromium	5.9		B	U	UG/L	04/04/2006	E200.7		F	DNT-184-06
TRA43101CU	PW-12	133	Chromium	3.8		B	U	UG/L	04/04/2006	E200.7		T	DNT-184-06
TRA43101R4	PW-12	133	Cobalt-58	2.27E+00	4.00E+00		U	PC/L	04/05/2006	HAS	1.61E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Cobalt-60	1.95E+01	7.57E+00		U	PC/L	04/05/2006	HAS	3.41E+01	F	SOS-TL129-06
TRA43101TL	PW-12	133	Diesel Range Organics	0.028		JB	U	MGL	04/05/2006	SW8015B		F	HCU-059-06
TRA43101R4	PW-12	133	Europium-152	-1.89E+01	3.53E+01		U	PC/L	04/05/2006	HAS	1.30E+02	F	SOS-TL129-06
TRA43101R4	PW-12	133	Europium-154	-2.94E+01	3.22E+01		U	PC/L	04/05/2006	HAS	1.12E+02	F	SOS-TL129-06
TRA43101R4	PW-12	133	Europium-155	-2.79E+00	7.43E+00		U	PC/L	04/05/2006	HAS	2.60E+01	F	SOS-TL129-06
TRA43101TG	PW-12	133	Gasoline Range Organics	50		U	U	UG/L	04/05/2006	SW8015B		F	HCU-072-06
TRA43101AB	PW-12	133	Gross Alpha	5.86E+00	2.17E+00		J	PC/L	04/05/2006	931	2.08E+00	F	SOS-TL129-06
TRA43101AB	PW-12	133	Gross Beta	1.37E+02	1.45E+01		U	PC/L	04/05/2006	931	2.81E+00	F	SOS-TL129-06
TRA43101R4	PW-12	133	Manganese-54	-1.47E+00	3.90E+00		U	PC/L	04/05/2006	HAS	1.44E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Niobium-95	-4.75E+00	3.85E+00		U	PC/L	04/05/2006	HAS	1.30E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Radium-226	3.10E+01	1.27E+01		U	PC/L	04/05/2006	HAS	5.27E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Ruthenium-103	-3.58E+00	3.16E+00		U	PC/L	04/05/2006	HAS	1.08E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Ruthenium-106	2.92E+01	3.37E+01		U	PC/L	04/05/2006	HAS	1.36E+02	F	SOS-TL129-06
TRA43101R4	PW-12	133	Silver-108m	3.27E+00	2.90E+00		U	PC/L	04/05/2006	HAS	1.19E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Silver-110m	-3.11E+00	3.50E+00		U	PC/L	04/05/2006	HAS	1.25E+01	F	SOS-TL129-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA43101RB	PW-12	133	Strontium-90	7.36E+01	3.82E+00			PC/L	04/05/2006	HAS	9.56E-01	F	SOS-TL129-06
TRA43101R8	PW-12	133	Tritium	1.41E+03	9.54E+01			PC/L	04/05/2006	LSC	1.73E+02	F	SOS-TL129-06
TRA43101R4	PW-12	133	Uranium-235	2.23E+01	4.19E+01		U	PC/L	04/05/2006	HAS	1.55E+02	F	SOS-TL129-06
TRA43101R4	PW-12	133	Zinc-65	-7.07E+00	8.49E+00		U	PC/L	04/05/2006	HAS	3.02E+01	F	SOS-TL129-06
TRA43101R4	PW-12	133	Zirconium-95	-5.60E+00	5.59E+00		U	PC/L	04/05/2006	HAS	1.96E+01	F	SOS-TL129-06
TRA43801R4	TRA-06	562	Americium-241	-4.88E+00	5.88E+00		U	PC/L	03/16/2006	HAS	2.05E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Antimony-125	7.11E+00	8.51E+00		U	PC/L	03/16/2006	HAS	3.48E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Cerium-144	1.06E+00	1.54E+01		U	PC/L	03/16/2006	HAS	5.57E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Cesium-134	-4.68E+00	3.25E+00		U	PC/L	03/16/2006	HAS	1.06E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Cesium-137	-4.00E+00	3.94E+00		U	PC/L	03/16/2006	HAS	1.35E+01	F	SOS-TL101-06
TRA438015C	TRA-06	562	Chromium	8.1		B		UG/L	03/16/2006	E200.7		F	DNT-195-06
TRA43801CU	TRA-06	562	Chromium	7.7		B		UG/L	03/16/2006	E200.7		T	DNT-143-06
TRA43801R4	TRA-06	562	Cobalt-58	9.48E-01	3.42E+00		U	PC/L	03/16/2006	HAS	1.40E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Cobalt-60	-7.26E+00	4.01E+00		U	PC/L	03/16/2006	HAS	1.28E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Europium-152	1.92E+01	3.26E+01		U	PC/L	03/16/2006	HAS	1.40E+02	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Europium-154	-5.80E+01	3.00E+01		U	PC/L	03/16/2006	HAS	8.82E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Europium-155	9.00E+00	8.38E+00		U	PC/L	03/16/2006	HAS	3.14E+01	F	SOS-TL101-06
TRA43801AB	TRA-06	562	Gross Alpha	1.99E+00	1.54E+00		U	PC/L	03/16/2006	931	2.21E+00	F	SOS-TL101-06
TRA43801AB	TRA-06	562	Gross Beta	2.78E+00	1.74E+00		U	PC/L	03/16/2006	931	2.73E+00	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Manganese-54	8.70E-01	3.72E+00		U	PC/L	03/16/2006	HAS	1.50E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Niobium-95	1.53E-01	3.31E+00		U	PC/L	03/16/2006	HAS	1.33E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Radium-226	1.96E+01	1.55E+01		U	PC/L	03/16/2006	HAS	5.92E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Ruthenium-103	1.34E+00	3.14E+00		U	PC/L	03/16/2006	HAS	1.24E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Ruthenium-106	-8.42E+00	2.95E+01		U	PC/L	03/16/2006	HAS	1.12E+02	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Silver-108m	-1.01E+00	3.23E+00		U	PC/L	03/16/2006	HAS	1.19E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Silver-110m	1.22E+00	3.50E+00		U	PC/L	03/16/2006	HAS	1.39E+01	F	SOS-TL101-06
TRA43801RB	TRA-06	562	Strontium-90	6.93E-01	2.48E-01		UU	PC/L	03/16/2006	HAS	7.85E-01	F	SOS-TL101-06
TRA43801R8	TRA-06	562	Tritium	1.94E+03	1.50E+02			PC/L	03/16/2006	LSC	2.68E+02	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Uranium-235	-5.63E+00	3.87E+01		U	PC/L	03/16/2006	HAS	1.42E+02	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Zinc-65	-8.64E+00	9.13E+00		U	PC/L	03/16/2006	HAS	3.27E+01	F	SOS-TL101-06
TRA43801R4	TRA-06	562	Zirconium-95	-5.63E+00	5.50E+00		U	PC/L	03/16/2006	HAS	1.96E+01	F	SOS-TL101-06
TRA43901R4	TRA-07	501	Americium-241	1.59E+00	5.14E+00		U	PC/L	04/03/2006	HAS	1.96E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Antimony-125	-1.34E+00	7.99E+00		U	PC/L	04/03/2006	HAS	2.96E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Cerium-144	-7.77E+00	1.57E+01		U	PC/L	04/03/2006	HAS	5.37E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Cesium-134	-2.08E+00	2.93E+00		U	PC/L	04/03/2006	HAS	1.04E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Cesium-137	-5.78E+00	5.30E+00		U	PC/L	04/03/2006	HAS	2.05E+01	F	SOS-TL119-06
TRA439015C	TRA-07	501	Chromium	143				UG/L	04/03/2006	E200.7		F	DNT-195-06
TRA43901CU	TRA-07	501	Chromium	133				UG/L	04/03/2006	E200.7		T	DNT-195-06
TRA43901R4	TRA-07	501	Cobalt-58	-1.38E+00	3.64E+00		U	PC/L	04/03/2006	HAS	1.36E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Cobalt-60	4.58E-01	3.99E+00		U	PC/L	04/03/2006	HAS	1.92E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Europium-152	6.44E+00	3.24E+01		U	PC/L	04/03/2006	HAS	1.31E+02	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Europium-154	-3.48E+01	3.19E+01		U	PC/L	04/03/2006	HAS	1.08E+02	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Europium-155	-3.38E-01	7.21E+00		U	PC/L	04/03/2006	HAS	2.58E+01	F	SOS-TL119-06
TRA43901AB	TRA-07	501	Gross Alpha	3.08E+00	8.20E-01			PC/L	04/03/2006	931	1.93E+00	F	SOS-TL119-06
TRA43901AB	TRA-07	501	Gross Beta	5.58E+00	9.51E-01			PC/L	04/03/2006	931	2.69E+00	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Manganese-54	-1.08E+00	3.12E+00		U	PC/L	04/03/2006	HAS	1.20E+01	F	SOS-TL119-06



Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA43901R4	TRA-07	501	Niobium-95	-6.72E+00	3.15E+00		U	PC/L	04/03/2006	HAS	9.02E+00	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Radium-226	4.16E+00	1.19E+01		U	PC/L	04/03/2006	HAS	4.53E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Ruthenium-103	1.29E-01	2.87E+00		U	PC/L	04/03/2006	HAS	1.11E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Ruthenium-106	-1.20E+01	3.55E+01		U	PC/L	04/03/2006	HAS	1.29E+02	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Silver-108m	-1.67E-01	3.03E+00		U	PC/L	04/03/2006	HAS	1.15E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Silver-110m	1.90E+00	3.89E+00		U	PC/L	04/03/2006	HAS	1.54E+01	F	SOS-TL119-06
TRA43901RB	TRA-07	501	Strontium-90	4.26E-01	7.02E-01		U	PC/L	04/03/2006	HAS	1.16E+00	F	SOS-TL119-06
TRA43901R8	TRA-07	501	Tritium	1.48E+04	7.53E+02		U	PC/L	04/03/2006	LSC	1.72E+02	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Uranium-235	1.25E+01	3.48E+01		U	PC/L	04/03/2006	HAS	1.31E+02	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Zinc-65	-1.82E+01	9.47E+00		U	PC/L	04/03/2006	HAS	2.84E+01	F	SOS-TL119-06
TRA43901R4	TRA-07	501	Zirconium-95	5.62E+00	5.28E+00		U	PC/L	04/03/2006	HAS	2.34E+01	F	SOS-TL119-06
TRA44501R4	TRA-1933	103	Americium-241	9.53E+00	4.79E+00		U	PC/L	03/22/2006	HAS	1.97E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Antimony-125	5.13E+00	8.92E+00		U	PC/L	03/22/2006	HAS	3.44E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Cerium-144	1.72E+00	1.42E+01		U	PC/L	03/22/2006	HAS	5.08E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Cesium-134	-2.93E+00	3.28E+00		U	PC/L	03/22/2006	HAS	1.14E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Cesium-137	-5.58E+00	5.11E+00		U	PC/L	03/22/2006	HAS	1.98E+01	F	SOS-TL159-06
TRA445015C	TRA-1933	103	Chromium	25.1		B	U	UG/L	03/22/2006	E200.7		F	DNT-144-06
TRA44501CU	TRA-1933	103	Chromium	1.2			U	UG/L	03/22/2006	E200.7		T	DNT-144-06
TRA44501R4	TRA-1933	103	Cobalt-58	6.60E-01	3.15E+00		U	PC/L	03/22/2006	HAS	1.27E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Cobalt-60	1.68E+00	4.04E+00		U	PC/L	03/22/2006	HAS	1.96E+01	F	SOS-TL159-06
TRA44501TL	TRA-1933	103	Diesel Range Organics	1.5			J	MGL	03/22/2006	SW8015		F	HCU-040-06
TRA44501R4	TRA-1933	103	Europium-152	4.70E+01	2.79E+01		U	PC/L	03/22/2006	HAS	1.32E+02	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Europium-154	3.40E+01	3.48E+01		U	PC/L	03/22/2006	HAS	1.45E+02	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Europium-155	1.47E+01	7.03E+00		UJ	PC/L	03/22/2006	HAS	2.76E+01	F	SOS-TL159-06
TRA44501TG	TRA-1933	103	Gasoline Range Organics	127				UG/L	03/22/2006	SW8015B		F	HCU-042-06
TRA44501AB	TRA-1933	103	Gross Alpha	2.05E+00	1.56E+00		U	PC/L	03/22/2006	931	2.16E+00	F	SOS-TL112-06
TRA44501AB	TRA-1933	103	Gross Beta	1.02E+02	1.13E+01		U	PC/L	03/22/2006	931	3.46E+00	F	SOS-TL112-06
TRA44501R4	TRA-1933	103	Manganese-54	-2.07E+00	4.10E+00		U	PC/L	03/22/2006	HAS	1.48E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Niobium-95	-3.45E+00	3.55E+00		U	PC/L	03/22/2006	HAS	1.24E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Radium-226	3.31E+00	1.23E+01		U	PC/L	03/22/2006	HAS	4.62E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Ruthenium-103	-2.43E+00	3.17E+00		U	PC/L	03/22/2006	HAS	1.13E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Ruthenium-106	-1.69E+01	2.46E+01		U	PC/L	03/22/2006	HAS	8.90E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Silver-108m	-2.83E+00	2.23E+00		U	PC/L	03/22/2006	HAS	7.71E+00	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Silver-110m	-3.65E+00	3.74E+00		U	PC/L	03/22/2006	HAS	1.32E+01	F	SOS-TL159-06
TRA44501RB	TRA-1933	103	Strontium-90	7.20E+01	3.75E+00		U	PC/L	03/22/2006	HAS	8.00E-01	F	SOS-TL112-06
TRA44501R8	TRA-1933	103	Tritium	1.11E+01	2.14E+01		U	PC/L	03/22/2006	LSC	3.37E+02	F	SOS-TL112-06
TRA44501R4	TRA-1933	103	Uranium-235	6.75E+00	3.66E+01		U	PC/L	03/22/2006	HAS	1.35E+02	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Zinc-65	-4.72E+00	7.97E+00		U	PC/L	03/22/2006	HAS	2.95E+01	F	SOS-TL159-06
TRA44501R4	TRA-1933	103	Zirconium-95	-1.30E-02	4.70E+00		U	PC/L	03/22/2006	HAS	1.91E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Americium-241	-2.31E+00	5.55E+00		U	PC/L	03/22/2006	HAS	1.92E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Antimony-125	-2.36E+00	7.03E+00		U	PC/L	03/22/2006	HAS	2.70E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Cerium-144	1.62E+01	1.48E+01		U	PC/L	03/22/2006	HAS	5.70E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Cesium-134	-2.18E+00	3.50E+00		U	PC/L	03/22/2006	HAS	1.25E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Cesium-137	3.01E+00	3.95E+00		U	PC/L	03/22/2006	HAS	1.65E+01	F	SOS-TL159-06
TRA446015C	TRA-1934	100	Chromium	81.2				UG/L	03/22/2006	E200.7		F	DNT-144-06
TRA44601CU	TRA-1934	100	Chromium	77.4				UG/L	03/22/2006	E200.7		T	DNT-144-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA44601R4	TRA-1934	100	Cobalt-58	-2.78E+00	3.04E+00		U	PC/L	03/22/2006	HAS	1.09E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Cobalt-60	-3.95E+00	3.02E+00		U	PC/L	03/22/2006	HAS	1.03E+01	F	SOS-TL159-06
TRA44601TL	TRA-1934	100	Diesel Range Organics	0.2			J	MGL	03/22/2006	SW8015		F	HCJ-040-06
TRA44602TL	TRA-1934	100	Diesel Range Organics	0.57			J	MGL	03/22/2006	SW8015		F	HCJ-040-06
TRA44601R4	TRA-1934	100	Europium-152	-1.77E+01	3.36E+01		U	PC/L	03/22/2006	HAS	1.27E+02	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Europium-154	-1.13E+01	3.30E+01		U	PC/L	03/22/2006	HAS	1.25E+02	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Europium-155	-6.06E-01	7.07E+00		U	PC/L	03/22/2006	HAS	2.58E+01	F	SOS-TL159-06
TRA44601TG	TRA-1934	100	Gasoline Range Organics	80.2				UG/L	03/22/2006	SW8015B		F	HCJ-042-06
TRA44602TG	TRA-1934	100	Gasoline Range Organics	84.7				UG/L	03/22/2006	SW8015B		F	HCJ-042-06
TRA44601AB	TRA-1934	100	Gross Alpha	7.52E-01	1.28E+00		U	PC/L	03/22/2006	931	2.21E+00	F	SOS-TL159-06
TRA44601AB	TRA-1934	100	Gross Beta	1.76E+02	1.87E+01		U	PC/L	03/22/2006	931	3.91E+00	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Manganese-54	-2.35E+00	3.46E+00		U	PC/L	03/22/2006	HAS	1.27E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Niobium-95	3.34E+00	2.96E+00		U	PC/L	03/22/2006	HAS	1.35E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Radium-226	2.38E+01	1.21E+01		U	PC/L	03/22/2006	HAS	5.00E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Ruthenium-103	-2.96E+00	3.44E+00		U	PC/L	03/22/2006	HAS	1.21E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Ruthenium-106	-3.49E+00	3.14E+01		U	PC/L	03/22/2006	HAS	1.20E+02	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Silver-108m	1.00E+00	2.74E+00		U	PC/L	03/22/2006	HAS	1.09E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Silver-110m	1.31E+00	3.70E+00		U	PC/L	03/22/2006	HAS	1.49E+01	F	SOS-TL159-06
TRA44601RB	TRA-1934	100	Strontium-90	1.00E+02	5.12E+01		U	PC/L	03/22/2006	HAS	7.57E-01	F	SOS-TL159-06
TRA44601R8	TRA-1934	100	Tritium	-4.74E+00	4.50E+01		J	PC/L	03/22/2006	LSC	3.53E+02	F	SOS-TL12-06
TRA44601R4	TRA-1934	100	Uranium-235	-1.14E+01	4.23E+01		U	PC/L	03/22/2006	HAS	1.54E+02	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Zinc-65	4.22E-02	7.48E+00		U	PC/L	03/22/2006	HAS	3.10E+01	F	SOS-TL159-06
TRA44601R4	TRA-1934	100	Zirconium-95	6.21E+00	5.31E+00		U	PC/L	03/22/2006	HAS	2.43E+01	F	SOS-TL159-06
TRA44601R4	USGS-054	91	Americium-241	5.64E+00	6.14E+00		U	PC/L	04/04/2006	HAS	2.26E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Americium-241	-4.43E+00	5.91E+00		U	PC/L	04/04/2006	HAS	2.07E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Antimony-125	9.98E+00	9.59E+00		U	PC/L	04/04/2006	HAS	3.90E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Antimony-125	2.25E+00	7.71E+00		U	PC/L	04/04/2006	HAS	3.08E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Cerium-144	3.90E+01	1.72E+01		UJ	PC/L	04/04/2006	HAS	6.80E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Cerium-144	2.00E-01	1.76E+01		U	PC/L	04/04/2006	HAS	6.27E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Cesium-134	-5.62E+00	4.29E+00		U	PC/L	04/04/2006	HAS	1.41E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Cesium-134	-8.27E-01	3.35E+00		U	PC/L	04/04/2006	HAS	1.25E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Cesium-137	6.53E+00	3.81E+00		U	PC/L	04/04/2006	HAS	1.72E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Cesium-137	-2.12E+00	3.29E+00		U	PC/L	04/04/2006	HAS	1.20E+01	F	SOS-TL129-06
TRA434015C	USGS-054	91	Chromium	5.1		B	U	UG/L	04/04/2006	E200.7		F	DNT-184-06
TRA434025C	USGS-054	91	Chromium	5.2		B	U	UG/L	04/04/2006	E200.7		F	DNT-184-06
TRA43401CU	USGS-054	91	Chromium	5.1		B	U	UG/L	04/04/2006	E200.7		T	DNT-184-06
TRA43402CU	USGS-054	91	Chromium	4.8		B	U	UG/L	04/04/2006	E200.7		T	DNT-184-06
TRA43401R4	USGS-054	91	Cobalt-58	5.47E+00	3.43E+00		U	PC/L	04/04/2006	HAS	1.59E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Cobalt-58	-2.56E+00	3.85E+00		U	PC/L	04/04/2006	HAS	1.41E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Cobalt-60	-3.71E+00	4.91E+00		U	PC/L	04/04/2006	HAS	1.83E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Cobalt-60	7.92E+00	5.41E+00		U	PC/L	04/04/2006	HAS	2.50E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Europium-152	-8.77E+00	2.98E+01		U	PC/L	04/04/2006	HAS	1.18E+02	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Europium-152	-1.69E+01	1.73E+01		U	PC/L	04/04/2006	HAS	6.50E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Europium-154	1.93E+00	2.15E+01		U	PC/L	04/04/2006	HAS	1.04E+02	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Europium-154	-7.20E+01	3.28E+01		U	PC/L	04/04/2006	HAS	9.19E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Europium-155	2.67E+00	7.49E+00		U	PC/L	04/04/2006	HAS	2.78E+01	F	SOS-TL129-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA43402R4	USGS-054	91	Europium-155	6.78E+00	8.54E+00		U	PC/L	04/04/2006	HAS	3.16E+01	F	SOS-TL129-06
TRA43401AB	USGS-054	91	Gross Alpha	4.67E+00	2.01E+00		J	PC/L	04/04/2006	931	1.93E+00	F	SOS-TL129-06
TRA43402AB	USGS-054	91	Gross Alpha	3.15E+00	1.70E+00		U	PC/L	04/04/2006	931	1.87E+00	F	SOS-TL129-06
TRA43401AB	USGS-054	91	Gross Beta	9.44E+01	1.03E+01			PC/L	04/04/2006	931	2.75E+00	F	SOS-TL129-06
TRA43402AB	USGS-054	91	Gross Beta	1.01E+02	1.09E+01			PC/L	04/04/2006	931	2.40E+00	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Manganese-54	-1.05E+00	3.63E+00		U	PC/L	04/04/2006	HAS	1.39E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Manganese-54	2.01E-02	3.39E+00		U	PC/L	04/04/2006	HAS	1.36E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Niobium-95	5.21E+00	4.03E+00		U	PC/L	04/04/2006	HAS	1.73E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Niobium-95	-6.56E+00	4.05E+00		U	PC/L	04/04/2006	HAS	1.32E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Radium-226	4.28E+01	1.63E+01		U	PC/L	04/04/2006	HAS	6.53E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Radium-226	1.70E+01	1.34E+01		U	PC/L	04/04/2006	HAS	5.23E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Ruthenium-103	-4.70E+00	3.16E+00		U	PC/L	04/04/2006	HAS	1.04E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Ruthenium-103	-2.93E+00	3.44E+00		U	PC/L	04/04/2006	HAS	1.21E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Ruthenium-106	-3.35E+01	3.34E+01		U	PC/L	04/04/2006	HAS	1.14E+02	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Ruthenium-106	-2.02E+01	3.76E+01		U	PC/L	04/04/2006	HAS	1.35E+02	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Silver-108m	-1.18E+00	2.62E+00		U	PC/L	04/04/2006	HAS	9.81E+00	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Silver-108m	-1.80E+00	2.99E+00		U	PC/L	04/04/2006	HAS	1.08E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Silver-110m	3.20E+00	4.05E+00		U	PC/L	04/04/2006	HAS	1.65E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Silver-110m	4.01E+00	3.28E+00		U	PC/L	04/04/2006	HAS	1.42E+01	F	SOS-TL129-06
TRA43401RB	USGS-054	91	Strontium-90	6.09E+01	3.22E+00			PC/L	04/04/2006	HAS	1.25E+00	F	SOS-TL129-06
TRA43402RB	USGS-054	91	Strontium-90	5.96E+01	3.16E+00			PC/L	04/04/2006	HAS	1.25E+00	F	SOS-TL129-06
TRA43401R8	USGS-054	91	Tritium	-9.22E+01	5.57E+01		U	PC/L	04/04/2006	LSC	1.73E+02	F	SOS-TL129-06
TRA43402R8	USGS-054	91	Tritium	6.14E+02	5.19E+01		U	PC/L	04/04/2006	LSC	1.73E+02	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Uranium-235	1.92E+00	4.10E+01		U	PC/L	04/04/2006	HAS	1.53E+02	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Uranium-235	-4.68E+01	4.80E+01		U	PC/L	04/04/2006	HAS	1.65E+02	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Zinc-65	-9.41E+00	7.49E+00		U	PC/L	04/04/2006	HAS	2.55E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Zinc-65	-8.91E+00	6.46E+00		U	PC/L	04/04/2006	HAS	2.16E+01	F	SOS-TL129-06
TRA43401R4	USGS-054	91	Zirconium-95	-1.53E+00	6.63E+00		U	PC/L	04/04/2006	HAS	2.54E+01	F	SOS-TL129-06
TRA43402R4	USGS-054	91	Zirconium-95	7.20E-02	5.09E+00		U	PC/L	04/04/2006	HAS	2.09E+01	F	SOS-TL129-06
TRA43501R4	USGS-055	81	Americium-241	-1.42E+00	5.75E+00		U	PC/L	04/03/2006	HAS	2.07E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Antimony-125	2.59E+00	9.31E+00		U	PC/L	04/03/2006	HAS	3.61E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Cerium-144	3.74E+01	1.86E+01		U	PC/L	04/03/2006	HAS	7.16E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Cesium-134	1.13E+00	3.57E+00		U	PC/L	04/03/2006	HAS	1.39E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Cesium-137	3.04E+00	4.13E+00		U	PC/L	04/03/2006	HAS	1.68E+01	F	SOS-TL119-06
TRA435015C	USGS-055	81	Chromium	25.5				UG/L	04/03/2006	E200.7		F	DNT-195-06
TRA43501CU	USGS-055	81	Chromium	24.7				UG/L	04/03/2006	E200.7		T	DNT-195-06
TRA43501R4	USGS-055	81	Cobalt-58	-5.29E+00	3.09E+00		U	PC/L	04/03/2006	HAS	9.62E+00	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Cobalt-60	3.09E-01	4.34E+00		U	PC/L	04/03/2006	HAS	1.88E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Europium-152	9.92E+00	2.64E+01		U	PC/L	04/03/2006	HAS	1.17E+02	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Europium-154	-1.70E+01	2.88E+01		U	PC/L	04/03/2006	HAS	1.08E+02	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Europium-155	-9.26E+00	7.64E+00		U	PC/L	04/03/2006	HAS	2.56E+01	F	SOS-TL119-06
TRA43501AB	USGS-055	81	Gross Alpha	6.05E+00	1.15E+00			PC/L	04/03/2006	931	2.10E+00	F	SOS-TL119-06
TRA43501AB	USGS-055	81	Gross Beta	1.40E+02	7.48E+00			PC/L	04/03/2006	931	3.19E+00	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Manganese-54	3.00E+00	3.80E+00		U	PC/L	04/03/2006	HAS	1.61E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Niobium-95	-1.82E+00	3.30E+00		U	PC/L	04/03/2006	HAS	1.24E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Radium-226	-1.26E+01	1.44E+01		U	PC/L	04/03/2006	HAS	4.93E+01	F	SOS-TL119-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered Metal Sample	L&V Report Number
TRA43501R4	USGS-055	81	Ruthenium-103	1.69E+00	3.44E+00		U	PC/L	04/03/2006	HAS	1.35E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Ruthenium-106	-1.61E+01	3.23E+01		U	PC/L	04/03/2006	HAS	1.18E+02	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Silver-108m	-2.13E+00	3.17E+00		U	PC/L	04/03/2006	HAS	1.14E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Silver-110m	1.99E-02	3.00E+00		U	PC/L	04/03/2006	HAS	1.18E+01	F	SOS-TL119-06
TRA43501RB	USGS-055	81	Strontium-90	7.12E+01	7.50E+00		J	PC/L	04/03/2006	HAS	1.28E+00	F	SOS-TL119-06
TRA43501R8	USGS-055	81	Tritium	5.41E+03	2.86E+02			PC/L	04/03/2006	LSC	1.73E+02	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Uranium-235	-4.32E+01	4.00E+01		U	PC/L	04/03/2006	HAS	1.37E+02	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Zinc-65	-5.00E+00	7.18E+00		U	PC/L	04/03/2006	HAS	2.73E+01	F	SOS-TL119-06
TRA43501R4	USGS-055	81	Zirconium-95	8.66E+00	6.29E+00		U	PC/L	04/03/2006	HAS	2.79E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Americium-241	1.12E+01	5.14E+00		UJ	PC/L	04/04/2006	HAS	2.05E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Antimony-125	-5.06E+00	8.77E+00		U	PC/L	04/04/2006	HAS	3.21E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Cerium-144	3.43E-02	1.52E+01		U	PC/L	04/04/2006	HAS	5.51E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Cesium-134	-1.44E+00	3.42E+00		U	PC/L	04/04/2006	HAS	1.25E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Cesium-137	7.36E-01	4.23E+00		U	PC/L	04/04/2006	HAS	1.67E+01	F	SOS-TL119-06
TRA441015C	USGS-058	503	Chromium	15				UG/L	04/04/2006	E200.7		F	DNT-184-06
TRA44101CU	USGS-058	503	Chromium	15.5				UG/L	04/04/2006	E200.7		T	DNT-184-06
TRA44101R4	USGS-058	503	Cobalt-58	-1.04E+00	2.73E+00		U	PC/L	04/04/2006	HAS	1.08E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Cobalt-60	3.00E-01	4.32E+00		U	PC/L	04/04/2006	HAS	1.83E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Europium-152	-8.81E+00	2.70E+01		U	PC/L	04/04/2006	HAS	1.08E+02	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Europium-154	1.53E+01	3.19E+01		U	PC/L	04/04/2006	HAS	1.33E+02	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Europium-155	3.98E-01	7.45E+00		U	PC/L	04/04/2006	HAS	2.72E+01	F	SOS-TL119-06
TRA44101AB	USGS-058	503	Gross Alpha	1.83E+00	6.09E-01			PC/L	04/04/2006	931	1.59E+00	F	SOS-TL119-06
TRA44101AB	USGS-058	503	Gross Beta	2.87E+00	7.73E-01			PC/L	04/04/2006	931	2.38E+00	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Manganese-54	-3.91E-01	3.47E+00		U	PC/L	04/04/2006	HAS	1.37E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Niobium-95	9.09E-01	3.32E+00		U	PC/L	04/04/2006	HAS	1.36E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Radium-226	2.30E+01	1.41E+01		U	PC/L	04/04/2006	HAS	5.57E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Ruthenium-103	1.31E+00	2.98E+00		U	PC/L	04/04/2006	HAS	1.20E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Ruthenium-106	-4.32E+01	3.87E+01		U	PC/L	04/04/2006	HAS	1.30E+02	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Silver-108m	1.94E+00	2.51E+00		U	PC/L	04/04/2006	HAS	1.05E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Silver-110m	2.36E+00	3.16E+00		U	PC/L	04/04/2006	HAS	1.35E+01	F	SOS-TL119-06
TRA44101RB	USGS-058	503	Strontium-90	-3.88E-01	9.48E+01		U	PC/L	04/04/2006	HAS	1.29E+00	F	SOS-TL119-06
TRA44101R8	USGS-058	503	Tritium	1.38E+03	9.48E+01		U	PC/L	04/04/2006	LSC	1.74E+02	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Uranium-235	-1.56E+01	3.83E+01		U	PC/L	04/04/2006	HAS	1.39E+02	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Zinc-65	-4.58E-01	7.40E+00		U	PC/L	04/04/2006	HAS	3.05E+01	F	SOS-TL119-06
TRA44101R4	USGS-058	503	Zirconium-95	1.07E+01	7.02E+00		U	PC/L	04/04/2006	HAS	3.08E+01	F	SOS-TL119-06
TRA44201R4	USGS-065	498	Americium-241	-2.95E+00	4.84E+00		U	PC/L	04/10/2006	HAS	1.77E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Antimony-125	7.77E+00	8.52E+00		U	PC/L	04/10/2006	HAS	3.38E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Cerium-144	-1.01E+01	1.36E+01		U	PC/L	04/10/2006	HAS	4.60E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Cesium-134	-3.26E+00	3.23E+00		U	PC/L	04/10/2006	HAS	1.10E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Cesium-137	2.96E+00	4.94E+00		U	PC/L	04/10/2006	HAS	2.12E+01	F	SOS-TL118-06
TRA442015C	USGS-065	498	Chromium	112				UG/L	04/10/2006	E200.7		F	DNT-185-06
TRA44201CU	USGS-065	498	Chromium	91				UG/L	04/10/2006	E200.7		T	DNT-185-06
TRA44201R4	USGS-065	498	Cobalt-58	-8.13E-02	2.29E+00		U	PC/L	04/10/2006	HAS	9.58E+00	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Cobalt-60	-7.25E+00	5.15E+00		U	PC/L	04/10/2006	HAS	1.92E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Europium-152	-1.78E+01	3.01E+01		U	PC/L	04/10/2006	HAS	1.11E+02	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Europium-154	-2.67E+01	3.49E+01		U	PC/L	04/10/2006	HAS	1.23E+02	F	SOS-TL118-06

Table A-3. (continued).

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Filtered	
												Metal Sample	L&V Report Number
TRA44201R4	USGS-065	498	Europium-155	8.75E+00	6.65E+00		U	PC/L	04/10/2006	HAS	2.56E+01	F	SOS-TL118-06
TRA44201AB	USGS-065	498	Gross Alpha	4.06E+00	8.95E-01			PC/L	04/10/2006	931	1.93E+00	F	SOS-TL118-06
TRA44201AB	USGS-065	498	Gross Beta	7.58E+00	1.10E+00			PC/L	04/10/2006	931	3.00E+00	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Manganese-54	-1.99E+00	3.90E+00		U	PC/L	04/10/2006	HAS	1.42E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Niobium-95	-7.94E-01	3.12E+00		U	PC/L	04/10/2006	HAS	1.20E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Radium-226	-2.00E+00	1.50E+01		U	PC/L	04/10/2006	HAS	5.39E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Ruthenium-103	3.74E+00	2.79E+00		U	PC/L	04/10/2006	HAS	1.19E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Ruthenium-106	-5.14E+01	3.68E+01		U	PC/L	04/10/2006	HAS	1.19E+02	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Silver-108m	7.43E-01	2.66E+00		U	PC/L	04/10/2006	HAS	1.04E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Silver-110m	-4.99E+00	3.95E+00		U	PC/L	04/10/2006	HAS	1.35E+01	F	SOS-TL118-06
TRA44201RB	USGS-065	498	Strontium-90	4.32E-02	1.99E-01		U	PC/L	04/10/2006	HAS	6.79E-01	F	SOS-TL118-06
TRA44201R8	USGS-065	498	Tritium	6.08E+03	3.55E+02			PC/L	04/10/2006	LSC	2.74E+02	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Uranium-235	1.34E+01	3.87E+01		U	PC/L	04/10/2006	HAS	1.43E+02	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Zinc-65	-6.77E+00	7.65E+00		U	PC/L	04/10/2006	HAS	2.72E+01	F	SOS-TL118-06
TRA44201R4	USGS-065	498	Zirconium-95	-1.61E+00	4.44E+00		U	PC/L	04/10/2006	HAS	1.74E+01	F	SOS-TL118-06

Table A-4. Data for the Highway-3 well January 2006 special sampling event.

Field Sample Number	Location	Depth	Analyte	Sample Result	Sample Error	Result Qualifier	Validation Flag	Sample Units	Date Sample Collected	Method Code	MDA	Metal Sample	L&V Report Number	Filtered
TRA19601GB	FIELD BLANK	NA	Gross Alpha	2.55	1.47		U	PC/L	01/18/2006	E90	5.4	F	BAM-012-06	
TRA19601GB	FIELD BLANK	NA	Gross Beta	-2.03	2.59		U	PC/L	01/18/2006	E90	1.1	F	BAM-012-06	
TRA64101GB	FIELD BLANK	NA	Gross Beta	-1.33	0.814		U	PC/L	01/18/2006	GAB	3.82	F	BAM-009-06	
TRA19601RB	FIELD BLANK	NA	Strontium-90	-0.123	0.164		U	PC/L	01/18/2006	GFP	0.648	F	BAM-012-06	
TRA64101RB	FIELD BLANK	NA	Strontium-90	0.0276	0.0651		U	PC/L	01/18/2006	GFP	0.31	F	BAM-009-06	
HW33011606A	HIGHWAY 3		Gross Alpha	1.72	1.75		U	PC/L	01/16/2006	E90	6.76	F	BAM-012-06	
TRA19501GB	HIGHWAY 3	750	Gross Alpha	1.22	1.57		U	PC/L	01/18/2006	E90	5.97	F	BAM-012-06	
HW33011606A	HIGHWAY 3		Gross Beta	4.31	2.45		U	PC/L	01/16/2006	E90	10.2	F	BAM-012-06	
TRA19501GB	HIGHWAY 3	750	Gross Beta	2.24	2.74		U	PC/L	01/18/2006	E90	11.5	F	BAM-012-06	
TRA64001GB	HIGHWAY 3	750	Gross Beta	2.18	0.91		UJ	PC/L	01/18/2006	GAB	3.61	F	BAM-009-06	
HW33011606C	HIGHWAY 3		Strontium-90	-0.16	0.23		U	PC/L	01/16/2006	GFP	0.86	F	BAM-012-06	
TRA19501RB	HIGHWAY 3	750	Strontium-90	0.16	0.165		U	PC/L	01/18/2006	GFP	0.635	F	BAM-012-06	
TRA64001RB	HIGHWAY 3	750	Strontium-90	0.0228	0.0615		U	PC/L	01/18/2006	GFP	0.293	F	BAM-009-06	

**Appendix B**

**Quality Assurance/Quality Control  
Sample Results**





## Appendix B

### Quality Assurance/Quality Control Sample Results

#### B-1. QUALITY ASSURANCE/QUALITY CONTROL SAMPLING

The purpose of collecting and analyzing quality assurance/quality control samples is to confirm the achievement of project objectives and data quality objectives. The overall objectives associated with Waste Area Group 2 annual groundwater monitoring are discussed in the groundwater monitoring plan (DOE-ID 2004). The overall objectives and quality assurance or quality control sample results for the Fiscal Year (FY) 2006 sampling effort are discussed in the following subsections.

##### B-1.1 Precision and Accuracy

The spatial variations in the concentrations of contaminants at individual sites create sampling variability. Additional variability, called measurement error, occurs during sample collection, handling, processing, analysis, quality evaluation, and reporting. Concentrations of contaminants reported represent the true concentrations in the media sampled plus the measurement error, which can be minimized but not eliminated. Although it might not be significant in many cases, it is important to assess the contribution of measurement error to the total error in individual investigations. The analytical results of quality control samples are used to estimate the accuracy and precision, the quantitative descriptions of measurement error, and the bias.

###### B-1.1.1 Overall Precision

Precision is a measure of the reproducibility of measurements under a given set of conditions. In the field, precision is affected by sample collection procedures and the natural heterogeneity of the matrix. Overall precision (field and laboratory) can be evaluated via duplicate samples collected in the field. Typically, greater precision is required for analytes with very low action levels that are close to background concentrations. Allowable laboratory precision for water samples is defined as having a relative percent difference (RPD) of less than or equal to 20%. Field precision is the difference between overall precision and laboratory precision. Table B-1 summarizes the precision for the FY 2006 round of groundwater monitoring. Using the following formula, the RPD was calculated only for those samples that had true positive values for both the initial sample and the field duplicate:

$$RPD = \frac{|S - D|}{S + D} \times 200 \quad (B-1)$$

where

S = sample  
D = duplicate.

Table B-1. Overall precision for Fiscal Year 2006 analytical data.

Analyte	Units	Date	Sample	Duplicate	RPD
Chromium	ug/L	10/17/05	6.5	6.3	3.13
Chromium (unfiltered)	ug/L	10/17/05	6.5	6.5	0.00
Strontium-90	pCi/L	04/04/06	60.9	59.6	2.16
Strontium-90	pCi/L	10/17/05	28.9	ND	---
Gross Beta	pCi/L	04/04/06	94.4	101	6.76
Gasoline Range Organics	ug/L	03/22/06	80.2	84.7	5.46
Gasoline Range Organics	ug/L	10/25/05	103	115	11.01
Diesel Range Organics	mg/L	03/22/06	0.2	0.57	96.10
Diesel Range Organics	mg/L	10/25/05	0.98	0.89	9.63

RPD = relative percent difference

Samples in which the analyte is detected in both the sample and the duplicate are shown in Table B-1. The precision for the data in Table B-1 is generally acceptable, but there are a couple of notable exceptions. The data in Table B-1 show that the RPD exceeds 20% for one of the two diesel range organics analyses. This could reflect sample variability since the concentrations are relatively low. The Sr-90 results from October 2005 show a large inconsistency, but the March 2006 data had an acceptable RPD. The large difference in the results for Sr-90 for the October 2005 data indicates a laboratory QA/QC problem. Laboratory problems could explain the unusual Sr-90 results for TRA-08 and the Highway-3 well. This is also indicated by the results for re-sampling of the Highway-3 well in January 2006.

### B-1.1.2 Overall Accuracy

Accuracy is a measure of bias in a measurement system. Accuracy is affected by the methods used for sample preservation, sample handling, field contamination, and sample matrix. The effects of the first three are evaluated using the field blank, trip blank, and equipment rinsate results. The presence of a contaminant in the field blank, trip blank, or rinsate reveals that cross-contamination has occurred.

Laboratory accuracy is ensured through the use of standard methods and calibration standards from the National Institute of Standards and Technology. All instrumentation is calibrated before use per the procedures outlined in the analytical methods required by the Idaho National Laboratory (INL) Sample and Analysis Management (SAM) statements of work. Laboratory accuracy is assessed through the use of matrix spikes and laboratory control samples. The number of laboratory quality control samples is specified in the analytical methods employed in the INL SAM statements of work. Evaluation criteria for the quality control samples are specified in data-validation technical procedures administered by INL SAM. For samples analyzed in accordance with Environmental Protection Agency (EPA) Contract Laboratory Program protocol, validation is also performed in accordance with that protocol. For the FY 2006 data set, the overall accuracy of the analyses is acceptable.

### B-1.1.3 Representativeness

Representativeness is a qualitative parameter that expresses the degree to which the sampling and analysis data accurately and precisely represent the characteristic of a population parameter being measured at a given sampling point or for a process or environmental condition. Representativeness is

evaluated by determining whether measurements were accurate and the samples represent actual concentrations in the aquifer.

For the FY 2006 sampling activity, all measurements were made according to established EPA and INL SAM protocol. Trained personnel followed established INL procedures to collect the physical samples.

#### **B-1.1.4 Comparability**

Comparability is a qualitative characteristic that refers to the confidence with which one data set can be compared to another. At a minimum, comparable data must be obtained using unbiased sampling designs. If sampling designs are biased, the reasons for selecting another design should be well documented. Data comparability for this sampling activity was ensured through the following efforts:

- All data sets contained the same variables of interest
- All measurements have been performed and results reported using common units
- Similar analytical procedures and quality assurance measures have been used
- All field and laboratory instrumentation had detection limits that were similar to or better than those historically employed
- Established INL procedures were followed to collect samples
- Wells selected for sampling are identical to those chosen historically.

Sampling rounds are conducted at approximately the same time of year in an effort to negate any effect that changes in groundwater levels (due to snowmelt and runoff) may have on the data.

### **B-1.2 Data Validation**

Method data validation is the process whereby analytical data are reviewed against set criteria to ensure that the results conform to the requirements of the analytical method and any other specified requirements. Laboratory data for the October 2005 sampling event were validated to level A and the March 2006 laboratory data were validated to level B according to established INL SAM and EPA protocols. The limitations and validation reports were transmitted to the regulatory agencies in December 2005, January 2006, and June 2006. No major problems were identified during this method validation process.

## **B-2. REFERENCES**

DOE-ID, 2004, *Groundwater Monitoring Plan for the Test Reactor Area Operable Unit 2-13*, DOE/ID-10626, Rev. 5, U.S. Department of Energy Idaho Operations Office, September 2004.

