ANNUAL GROUNDWATER MONITORING REPORT

HAZARDOUS WASTE MANAGEMENT UNITS 4, 5, 10, 13, 16 AND 39
CALENDAR YEAR 2000

RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

Submitted to:

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LIST OF APPENDICES

INTRODUCTION

This document represents a compilation of the annual groundwater monitoring reports for the permitted hazardous waste management facilities at the Radford Army Ammunition Plant (RFAAP) in Radford, Virginia. The units are designated as HWMU-4, HWMU-5, HWMU-10, HWMU-13, HWMU-16 and HWMU-39. The annual groundwater monitoring report for an additional unit, HWMU-7, is being submitted under separate cover. These reports have been compiled in accordance with 9 VAC 20-60-265 and 40 CFR 265.90-94 (Subpart F).

The reports present the following set of information for each unit: basic information and unit identification, a description of the groundwater monitoring plan, a discussion of groundwater movement, an updated potentiometric map, a table of groundwater elevations and detailed statistical evaluations of the analytical data. In general, the reports evaluate the analytical data from the four 2000 quarterly sampling events; these data were submitted previously to the VDEQ in quarterly monitoring reports for the units.

SIGNATURE/CERTIFICATION

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I certify that I have prepared or supervised preparation of the attached reports, that they have been prepared in accordance with industry standards and practices, and that the information contained herein is truthful and accurate to the best of my knowledge.

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HWMU-4 ANNUAL GROUNDWATER MONITORING REPORT

CALENDAR YEAR: 2000
REPORT DATE: March 1, 2001

Prepared for the Virginia Department of Environmental Quality - Waste Division (VDEQ-WD) in accordance with 9 VAC 20-60-265 and 40 CFR 265.90-94 (Subpart F).

A. WASTE MANAGEMENT UNIT INFORMATION

UNIT NAME: Hazardous Waste Management Unit 4 (HWMU-4)
OWNER/OPERATOR: United States Army / Alliant Ammunition and Powder Company, LLC

UNIT LOCATION: Radford AAP Main Plant Area, Radford, Virginia

CLASS: Hazardous Waste Management Unit
TYPE: Former Acid and Wastewater Equalization Basin

B. GROUNDWATER MONITORING PLAN

MONITORING NETWORK
UPGRADIENT WELL: 4P3
DOWNGRADIENT WELLS: 4W2B, 4W4B, 4MW7, 4WC9B, 4WC21, 4WC22, 4WC23, 4WC32, 4WC41, 4WC42, 4WC43, 4W5A, 4W6A, 4W7A
OBSERVATION WELL: 4WC8B
(static water level measurements only)

MONITORING STATUS: Groundwater Quality Assessment Program

DATA COLLECTION STATUS:

Quarterly Event	March 1, 2000
Quarterly Event	April 25-26, 2000
Quarterly Event	July 17-18, 2000
Quarterly Event	October 18-19, 2000

C. GROUNDWATER MOVEMENT

The monitoring wells at HWMU-4 are screened entirely within either carbonate bedrock, weathered carbonate bedrock residuum or alluvium, or across the interfaces between two of the listed strata. The static water level measurements gathered during the 2000 quarterly monitoring events are summarized in **Table 1 (Appendix A)**. Groundwater fluctuations ranged from 0.5 to 4 feet annually. As shown on the HWMU-4 Potentiometric Surface Map for Fourth Quarter 2000 **(Appendix B)**, groundwater movement beneath the site is generally to the northeast.

For the purposes of this report, Darcian flow conditions were assumed for the alluvium, residuum, and karst carbonate bedrock beneath HWMU-4. As a result, the groundwater velocities were calculated by multiplying the hydraulic conductivity (determined from previously conducted slug tests) by the average hydraulic gradient across the site, and dividing by an assumed effective porosity for the aquifer materials. The average hydraulic gradient was determined by superimposing three evenly spaced flow line vectors over the Potentiometric Surface Map, measuring their lengths, calculating the head differential over the distances measured, and dividing the head differential by the length of the flow line vectors. The three calculated gradients were then averaged to a single value. Using this method, the average groundwater hydraulic gradient across the site based on Fourth Quarter 2000 groundwater elevations was calculated to be 0.054 ft/ft. Historical slug test data for the site yielded an average hydraulic conductivity of 1.18×10^{-5} ft/second. This value is consistent with literature values for karst carbonate rock and for clayey, silty sand and gravel alluvium and residuum (Domenico and Schwartz, 1990).

The estimated groundwater velocity across the site was calculated to be approximately 0.14 ft/day or 51 ft/year, based on the following:

- an average hydraulic conductivity of 1.18×10^{-5} ft/second;
- an average hydraulic gradient of 0.054 ft/ft; and
- an assumed effective porosity of 0.40, based on a representative range of porosities for karst carbonate rock, weathered residuum, and clayey, silty sand and gravel alluvium (Domenico and Schwartz, 1990).

The actual groundwater flow velocities in the carbonate bedrock may vary as much as one to two orders of magnitude from the velocity presented above, depending on water level conditions and the distribution of karst conduits.

D. STATISTICAL EVALUATIONS

D.1 HWMU-4 GROUNDWATER BACKGROUND CONCENTRATIONS

Background concentrations were calculated for each constituent in the groundwater monitoring program using the 1996-2000 quarterly analytical data from upgradient well 4P3. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was well below 1%. A 99% confidence level (0.01 false positive rate) was used for all individual comparisons. These coverage limits were only achieved for constituent data on which parametric prediction intervals were performed. In cases where non-parametric prediction intervals were computed to determine the background levels, the confidence level and error rate were calculated based on the number of background data points available and number of future comparisons. Because the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and an inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. No confidence levels were defined in cases where

the background data were 100% non-detected; the detection limits of such constituents were used to define their respective background levels.

D.2 HWMU-4 STATISTICAL ANALYSIS

Statistical evaluations were performed for HWMU-4 as specified in VHWMR 9 VAC 20-60-570. The statistical evaluations were performed in accordance with the procedures and guidance provided in the following documents:

- Virginia Hazardous Waste Management Regulations, 9 VAC 20-60-790 H and I;
- VDEQ Guidance for statistical analysis titled "Data Analysis Plan," undated;
- Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, April 1989;
- Addendum to Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, July 1992; and
- Statistical Methods for Groundwater Monitoring, Gibbons, R.D., 1994.

Statistical threshold values were computed for the 32 constituents for which HWMU-4 is currently monitored based on the concentrations of those constituents in upgradient (background) well 4P3. The 1996-2000 quarterly monitoring data for well 4P3 were used for this purpose. Comparison statistical analyses were performed for all constituents which were detected in any downgradient well during Fourth Quarter 2000. It should be noted that no groundwater samples were collected from downgradient well 4WC21 during the year 2000 monitoring events due to lack of groundwater within the well.

D.2.1 Background Data and Statistical Comparisons

Statistical analyses were performed using the 1996-2000 quarterly analytical results from upgradient well 4P3 as background data. Based on the percentage of non-detects and the distribution of the background data, methods of statistical comparisons varied. Background average, standard deviation and other descriptive statistical data were computed for all constituents and are presented in **Appendix C**.

The constituents listed below were 100% non-detected in the background data. The background threshold levels (BTLs) for these constituents were established as equal to their detection limits (DLs). Detections of these constituents in the downgradient wells during Fourth Quarter 2000 were compared to these BTLs.

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Antimony	19	100	3	3
Mercury	19	100	0.2	0.2
Bis(2-ethylhexyl)phthalate	19	100	10	10

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Chloromethane	19	100	0.3	0.3
Di-n-butylphthalate	19	100	5	5
trans 1,2-Dichloroethene	19	100	0.1	0.1
Diethyl phthalate	19	100	5	5
2,4-Dinitrophenol	19	100	50	50
Diphenylamine	19	100	10	10
Methylethyl ketone	19	100	1.1	1.1
Toluene	19	100	0.1	0.1
Trichloroethene	19	100	0.1	0.1
Xylene	19	100	0.1	0.1

Non-parametric prediction intervals were computed for all of the constituents for which the data from background well 4P3 satisfied one of the following two criteria, per VDEQ regulations and guidance as well as USEPA guidance:

- Percentage of non-detects was greater than or equal to 50 and less than 100; or
- Percentage of non-detects was less than 50, but data was not normally distributed.

Non-parametric upper prediction limits (UPL) were computed for 19 constituents which met one of the above two criteria. The background threshold levels for these constituents were set as equal to their UPLs, with one exception. For pH, a two-sided nonparametric prediction interval was computed; therefore, the BTL for pH consisted of a range between the lower prediction limit (LPL) and the upper prediction limit. The confidence level and false positive rate were calculated based on the number of background data points available and number of future comparisons. For all constituents except specific conductivity and pH, the confidence level was determined to be equal to 0.946, and the false positive rate was equal to 0.054. For specific conductivity and pH, the confidence level was determined to be equal to 0.920, and the false positive rate was equal to 0.080. Since the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. The number of confirmation resamples required for all constituents is 2. The background and relevant statistical data for these constituents are summarized below. Associated statistical computations are presented in **Appendix C**.

BTL = Upper Prediction Limit (exception pH) of Non-parametric Prediction Interval w/false positive rate=0.054 (false positive rate=0.150 for specific conductivity and pH); BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Arsenic	19	79	1	5
Barium	19	0	2	348

BTL = Upper Prediction Limit (exception pH) of Non-parametric Prediction Interval w/false positive rate=0.054 (false positive rate=0.180 for specific conductivity and pH) BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Beryllium	19	74	0.2	3.5
Cadmium	19	68	0.1	0.8
Chromium	19	42	1	22
Cobalt	19	26	1	16
Copper	19	32	1	27
Lead	19	21	1	38
Nickel	19	89	15	22
Silver	19	84	0.2	0.7
Vanadium	19	74	4	31
Zinc	19	32	05	139
Chloroform	19	89	0.1	1.6
Dichloromethane	19	95	0.2	1.3
Vinyl chloride	19	95	0.1	0.1
TOC	19	74	1000	6125
TOX	19	32	5	28.5
Specific conductivity	15	0	1 µS/cm	3393 µS/cm
pH	15	0	0.1 pH units	6.2 to 8.8 pH units

D.2.2 Results of Statistical Comparisons

The following table lists the constituents which were detected during the Fourth Quarter 2000 event at concentrations exceeding their respective background threshold levels (BTLs), and the downgradient wells in which they were detected. The table also compares the detected concentrations with the regulatory concentration limits for those constituents.

Parameter (BTL)	**Monitoring Well**	**Concentration (µg/l)**	**Regulatory Limit (µg/l)**
Chromium (22 µg/l)	4WC23	39.0	50[a]
Nickel (22 µg/l)	4WC23	65.0	313[b]
Chloroform (1.6 µg/l)	4W5A	3.03	100[c]

Notes:

[a] 40 CFR 264.94 Table 1 - Maximum Concentration of Constituents for Ground-water Protection.

[b] VDEQ Alternate Concentration Limit (ACL), October 11, 2000.

[c] Maximum Contaminant Level (MCL), USEPA Drinking Water Regulations and Health Advisories, October 1996.

As shown on the table above, the detected constituent concentrations which exceeded their respective site-specific BTLs were all well below their respective regulatory concentration limits. Furthermore, chromium and nickel are commonly observed naturally occurring minor elements in groundwater. Therefore, statistically significant increases in chromium and nickel concentrations in downgradient wells relative to background may be the result of natural variations in trace element distribution in groundwater. Any HWMU-4 target constituents not listed above were not detected in the downgradient monitoring wells at concentrations exceeding their respective BTLs.

In February 2000, Alliant submitted a Closure Evaluation for HWMU-4 to the VDEQ. As agreed upon by the VDEQ during a May 19, 1999 meeting with Alliant, the Closure Evaluation for HWMU-4 was conducted to determine whether hazardous constituents had been released to the groundwater in concentrations greater than specific fixed-standard concentration limits (MCLs, VDEQ ACLs, or 40 CFR 264.94 Table 1 concentrations). The results of the Closure Evaluation showed that there had been no releases of hazardous constituents from the unit when the concentrations detected in groundwater were compared to the fixed standard concentration limits. As shown on the table above, the Fourth Quarter 2000 concentrations which exceeded the site-specific background threshold limits (BTLs) also have been compared to the regulatory concentration limits (the fixed-standard concentration limits). This comparison shows that the Fourth Quarter 2000 concentrations that exceeded the BTLs are still well below the fixed-standard concentration limits. Therefore, the results of this Annual Report support the conclusions of the Closure Evaluation.

HWMU-5 ANNUAL GROUNDWATER MONITORING REPORT

CALENDAR YEAR: 2000
REPORT DATE: March 1, 2001

Prepared for the Virginia Department of Environmental Quality - Waste Division (VDEQ-WD) in accordance with 9 VAC 20-60-265 and 40 CFR 265.90-94 (Subpart F).

A. WASTE MANAGEMENT UNIT INFORMATION

UNIT NAME: Hazardous Waste Management Unit 5 (HWMU-5)
OWNER/OPERATOR: United States Army / Alliant Ammunition and Powder Company, LLC

UNIT LOCATION: Radford AAP Main Plant Area, Radford, Virginia

CLASS: Hazardous Waste Management Unit
TYPE: Former Neutralization Pond

B. GROUNDWATER MONITORING PLAN

MONITORING NETWORK

UPGRADIENT WELL: 5W8B
DOWNGRADIENT WELLS: 5W5B, 5W7B, 5WC21, 5WC22, 5WC23, S5W5, S5W7, 5W9A, 5W10A, 5W11A
OBSERVATION WELL: S5W6
(static water level measurements only)

MONITORING STATUS: Groundwater Quality Assessment Program

DATA COLLECTION STATUS:

Quarterly Event	March 2, 2000
Quarterly Event	April 27, 2000
Quarterly Event	July 19, 2000
Quarterly Event	October 23, 2000

C. GROUNDWATER MOVEMENT

The monitoring wells at HWMU-5 are screened entirely within either weathered carbonate bedrock residuum or alluvium, or across the weathered residuum/carbonate bedrock interface. The static water level measurements gathered during the 2000 quarterly monitoring events are summarized in **Table 2 (Appendix A)**. Groundwater fluctuations ranged from 1.4 to 5.5 feet annually. As shown on the HWMU-5 Potentiometric Surface Map for Fourth Quarter 2000 (**Appendix B**), groundwater movement beneath the site is generally to the northeast.

For the purposes of this report, Darcian flow conditions were assumed for the alluvium, residuum, and karst carbonate bedrock beneath HWMU-5. As a result, the groundwater velocities were calculated by multiplying the hydraulic conductivity (determined from previously conducted slug tests) by the average hydraulic gradient across the site, and dividing by an assumed effective porosity for the aquifer materials. The average hydraulic gradient was determined by superimposing three evenly spaced flow line vectors over the Potentiometric Surface Map, measuring their lengths, calculating the head differential over the distances measured, and dividing the head differential by the length of the flow line vectors. The three calculated gradients were then averaged to a single value. Using this method, the average groundwater hydraulic gradient across the site based on Fourth Quarter 2000 groundwater elevations was calculated to be 0.028 ft/ft. Historical slug test data for the site yielded an average hydraulic conductivity of 5.25×10^{-5} ft/second. This value is consistent with literature values for karst carbonate rock and for clayey, silty sand and gravel alluvium and residuum (Domenico and Schwartz, 1990).

The estimated groundwater velocity across the site was calculated to be approximately 0.32 ft/day or 116 ft/year, based on the following:

- an average hydraulic conductivity of 5.25×10^{-5} ft/second;
- an average hydraulic gradient of 0.028 ft/ft; and
- an assumed effective porosity of 0.40, based on a representative range of porosities for karst carbonate rock, weathered residuum, and clayey, silty sand and gravel alluvium (Domenico and Schwartz, 1990).

The actual groundwater flow velocities in the carbonate bedrock may vary as much as one to two orders of magnitude from the velocity presented above, depending on water level conditions and the distribution of karst conduits.

D. STATISTICAL EVALUATIONS

D.1 HWMU-5 GROUNDWATER BACKGROUND CONCENTRATIONS

Background concentrations were calculated for each constituent in the groundwater monitoring program using the 1996-2000 quarterly analytical data from upgradient well 5W8B. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was well below 1%. A 99% confidence level (0.01 false positive rate) was used for all individual comparisons. These coverage limits were only achieved for constituent data on which parametric prediction intervals were performed. In cases where non-parametric prediction intervals were computed to determine the background levels, the confidence level and error rate were calculated based on the number of background data points available and number of future comparisons. Because the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and an inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. No confidence levels were defined in cases where

the background data were 100% non-detected; the detection limits of such constituents were used to define their respective background levels.

D.2 HWMU-5 STATISTICAL ANALYSIS

Statistical evaluations were performed for HWMU-5 as specified in VHWMR 9 VAC 20-60-570. The statistical evaluations were performed in accordance with the procedures and guidance provided in the following documents:

- Virginia Hazardous Waste Management Regulations, 9 VAC 20-60-790 H and I;
- VDEQ Guidance for statistical analysis titled "Data Analysis Plan," undated;
- Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, April 1989;
- Addendum to Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, July 1992; and
- Statistical Methods for Groundwater Monitoring, Gibbons, R.D., 1994.

Statistical threshold values were computed for the 40 constituents for which HWMU-5 is currently monitored based on the concentrations of those constituents in upgradient (background) well 5W8B. The 1996-2000 quarterly monitoring data for well 5W8B were used for this purpose. Comparison statistical analyses were performed for all constituents which were detected in any downgradient well during Fourth Quarter 2000.

D.2.1 Background Data and Statistical Comparisons

Statistical analyses were performed using the 1996-2000 quarterly analytical results from upgradient well 5W8B as background data. Based on the percentage of non-detects and the distribution of the background data, methods of statistical comparisons varied. Background average, standard deviation and other descriptive statistical data were computed for all constituents and are presented in **Appendix D**.

The constituents listed below were 100% non-detected in the background data. The background threshold levels (BTLs) for these constituents were established as equal to their detection limits (DLs). Detections of these constituents in the downgradient wells during Fourth Quarter 2000 were compared to these BTLs.

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Antimony	20	100	3	3
2,6-Dinitrotoluene	20	100	0.08	0.08
Benzene	20	100	0.1	0.1
Bis(2-ethylhexyl)phthalate	20	100	10	10
Chloromethane	20	100	0.3	0.3

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Di-n-butylphthalate	16	100	5	5
1,2-Dichloroethane	20	100	0.1	0.1
trans-1,2-Dichloroethene	20	100	0.1	0.1
Dichloromethane	20	95	0.7	0.4
Diethylphthalate	20	100	5	5
Diphenylamine	20	100	10	10
Tetrachloroethene	20	100	0.1	0.1
Toluene	20	100	0.1	0.1
1,1,2-Trichloroethane	20	100	0.5	0.5
Trichlorofluoromethane	20	100	0.5	0.5
Vinyl chloride	20	100	0.1	0.1
Xylene	20	100	0.1	0.1

Non-parametric prediction intervals were computed for all of the constituents for which the data from background well 5W8B satisfied one of the following two criteria, per VDEQ regulations and guidance as well as USEPA guidance:

- Percentage of non-detects was greater than or equal to 50 and less than 100; or
- Percentage of non-detects was less than 50, but data was not normally distributed.

Non-parametric upper prediction limits (UPL) were computed for 21 constituents which met one of the above two criteria. The background threshold levels for these constituents were set as equal to their UPLs. The confidence level and false positive rate were calculated based on the number of background data points available and number of future comparisons. For all constituents except specific conductivity, the confidence level was determined to be equal to 0.960, and the false positive rate was equal to 0.040. For specific conductivity, the confidence level was determined to be equal to 0.936, and the false positive rate was equal to 0.064. Since the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. The number of confirmation resamples required for all constituents is 1, with the exception of specific conductivity. The number of confirmation resamples required for specific conductivity is 2. The background and relevant statistical data for these constituents are summarized below. Associated statistical computations are presented in **Appendix D**.

BTL = Upper Prediction Limit of Non-parametric Prediction Interval w/false positive rate=0.040 (false positive rate=0.064 for specific conductivity)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Arsenic	20	90	1	5
Beryllium	20	60	0.2	0.7

BTL = Upper Prediction Limit of Non-parametric Prediction Interval w/false positive rate=0.040 (false positive rate=0.064 for specific conductivity)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Cadmium	20	50	0.1	0.4
Cobalt	20	35	1	7
Copper	20	55	1	18
Lead	20	75	1	10
Mercury	20	90	0.2	0.9
Nickel	20	80	15	106
Selenium	20	95	1	8
Silver	20	90	0.2	2.3
Thallium	20	90	1	2
Vanadium	20	75	4	17
Zinc	20	45	5	75
2,4-Dinitrotoluene	20	95	0.08	0.18
Acetone	20	95	10	89
Chloroform	20	85	0.3	0.5
Methylethyl ketone	20	95	1.1	21.3
Trichloroethene	20	90	0.1	0.8
TOC	20	80	1000	253000
TOX	20	60	5	13.4
Specific Conductivity	15	0	1 µS/cm	580 µS/cm

The following constituents exhibited normally distributed background data with less than 25% non-detects. One sided parametric prediction intervals were computed on the background data for all of these constituents. The UPLs for these constituents were set as their respective BTLs, with one exception. For pH, a two-sided parametric prediction interval was computed; therefore, the BTL for pH consisted of a range between the lower prediction limit (LPL) and the upper prediction limit. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was well below 1% (0.01). A 99% confidence level (0.01 false positive rate) was used for all individual comparisons, which with the most conservative assumptions provided a site-wide false positive rate of 0.05 for all constituents. The background and relevant statistical data for these constituents are summarized below. The prediction interval computations for these constituents are presented in **Appendix D**.

BTL = UPL of one-sided Prediction Interval (exception pH) w/site-wide false positive rate=0.05 (individual comparisons false positive rate=0.01) BTL for pH = LPL - UPL of two-sided Prediction Interval				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Barium	20	0	2	139.08

BTL = UPL of two-sided Prediction Interval (exception pH) w/site-wide false positive rate=0.05 (individual comparisons false positive rate=0.01) BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	Sample Size	% Non-Detects	SD (µg/l)	BTL (µg/l)
pH	15	0	0.1 pH units	3.9 to 6.5 pH units

D.2.2 Results of Statistical Comparisons

The following table lists the constituents which were detected during the Fourth Quarter 2000 event at concentrations exceeding their respective background threshold levels (BTLs), and the downgradient wells in which they were detected. The table also compares the detected concentrations with the regulatory concentration limits for those constituents.

Parameter (BTL)	Monitoring Well	Concentration (µg/l)	Regulatory Limit (µg/l)
Arsenic (5 µg/l)	5W10A	6.0	50[a]
Arsenic (5 µg/l)	5W5B	7.0	50[a]
Arsenic (5 µg/l)	5WC22	7.0	50[a]
Arsenic (5 µg/l)	S5W5	6.0	50[a]
Arsenic (5 µg/l)	S5W7	6.0	50[a]
Beryllium (0.7 µg/l)	5W7B	1.6	4[c]
Beryllium (0.7 µg/l)	5WC21	4.0	4[c]
Cadmium (0.4 µg/l)	5WC21	0.6	10[a]
Cobalt (7 µg/l)	5W11A	28	939[b]
Cobalt (7 µg/l)	5W7B	50	939[b]
Cobalt (7 µg/l)	5WC21	96	939[b]
Cobalt (7 µg/l)	5WC22	8.0	939[b]
Copper (18 µg/l)	5W7B	27	626[b]
Copper (18 µg/l)	5WC21	47	626[b]
Copper (18 µg/l)	S5W5	38	626[b]
Lead (10 µg/l)	5W11A	11	50[a]
Nickel (106 µg/l)	5WC21	148	313[b]
Selenium (8 µg/l)	5WC21	10	10[a]
Zinc (75 µg/l)	5W7B	94	4,695[b]
2,4-Dinitrotoluene (0.18 µg/l)	5W5B	0.37	31.3[b]
2,4-Dinitrotoluene (0.18 µg/l)	5W7B	5.93	31.3[b]
2,4-Dinitrotoluene (0.18 µg/l)	5WC21	11.8	31.3[b]
2,4-Dinitrotoluene (0.18 µg/l)	5WC22	3.86	31.3[b]
2,4-Dinitrotoluene (0.18 µg/l)	5WC23	4.48	31.3[b]

Parameter (BTL)	Monitoring Well	Concentration (µg/l)	Regulatory Limit (µg/l)
2,6-Dinitrotoluene (0.08 µg/l)	5W7B	9.09	15.65[b]
2,6-Dinitrotoluene (0.08 µg/l)	5WC21	3.36	15.65[b]
Trichloroethene (0.8 µg/l)	5W5B	14.9	5[c]
Trichloroethene (0.8 µg/l)	5WC21	6.55	5[c]
Trichloroethene (0.8 µg/l)	5WC22	5.33	5[c]
Trichloroethene (0.8 µg/l)	5WC23	5.41	5[c]
TOX (13.4 µg/l)	5WC21	15	na
TOX (13.4 µg/l)	5WC22	22	na
Spec. Cond. (580 µS/cm)	5W11A	672	na
Spec. Cond. (580 µS/cm)	5W7B	664	na
Spec. Cond. (580 µS/cm)	5W9A	654	na
Spec. Cond. (580 µS/cm)	5WC21	951	na
Spec. Cond. (580 µS/cm)	5WC22	961	na
Spec. Cond. (580 µS/cm)	5WC23	973	na
pH (3.9 to 6.5 pH units)	5W10A	8.19	na
pH (3.9 to 6.5 pH units)	5W7B	3.61	na
pH (3.9 to 6.5 pH units)	5W9A	6.73	na
pH (3.9 to 6.5 pH units)	5WC22	6.81	na
pH (3.9 to 6.5 pH units)	5WC23	6.74	na
pH (3.9 to 6.5 pH units)	S5W5	6.76	na
pH (3.9 to 6.5 pH units)	S5W7	7.7	na

Notes:

[a] 40 CFR 264.94 Table 1 - Maximum Concentration of Constituents for Ground-water Protection.
[b] VDEQ Alternate Concentration Limit (ACL), October 11, 2000.
[c] Maximum Contaminant Level (MCL), USEPA Drinking Water Regulations and Health Advisories, October 1996.
na – not applicable.

Statistically significant increases in arsenic, beryllium, cadmium, cobalt, copper, lead, nickel, selenium, and zinc concentrations in downgradient wells relative to background may be the result of natural variations in trace element distribution in groundwater. Furthermore, as shown on the table above, the detected inorganic constituent concentrations which exceeded their respective site-specific BTLs were all well below their respective regulatory concentration limits. The concentrations of 2,4-dinitrotoluene and 2,6-dinitrotoluene which exceeded their respective BTLs were also well below their respective regulatory concentration limits.

The trichloroethene concentrations detected in wells 5W5B, 5WC21, 5WC22, and 5WC23 exceeded the regulatory concentration limit (USEPA MCL) of 5 µg/l. However, in February 2001, Alliant completed an Alternate Source Demonstration for TCE at the Unit. The results of the Alternate Source Demonstration indicated that the TCE detected in wells 5W5B,

5WC21, 5WC22, and 5WC23 was derived from a source other than HWMU-5. As a result, remediation of TCE in groundwater in this area falls under the jurisdiction of Radford AAP's USEPA Region III Corrective Action Program.

Field measurements of specific conductivity and pH in several wells exceeded their respective BTLs. However, field measurements of specific conductivity and pH are subject to wide variations, and are influenced by changes in ambient groundwater geochemistry. Therefore, statistical results for specific conductivity and pH are inconclusive and do not warrant further action.

Any HWMU-5 target constituents not listed above were not detected in the downgradient monitoring wells at concentrations exceeding their respective BTLs.

HWMU-10 ANNUAL GROUNDWATER MONITORING REPORT

CALENDAR YEAR: 2000
REPORT DATE: March 1, 2001

Prepared for the Virginia Department of Environmental Quality – Waste Division (VDEQ-WD) in accordance with 9 VAC 20-60-265 and 40 CFR 265.90-94 (Subpart F).

A. WASTE MANAGEMENT UNIT INFORMATION

UNIT NAME: Hazardous Waste Management Unit 10 (HWMU-10)
OWNER/OPERATOR: United States Army / Alliant Ammunition and Powder Company, LLC

UNIT LOCATION: Radford AAP Main Plant Area, Radford, Virginia

CLASS: Hazardous Waste Management Unit
TYPE: Closed Equalization Basin for the Biological Treatment System

B. GROUNDWATER MONITORING PLAN

MONITORING NETWORK
UPGRADIENT WELL: 10D4
DOWNGRADIENT WELLS: 10MW1, 10DDH2, 10D3, 10D3D
OBSERVATION WELLS: 10DG-1
(static water level measurements only)

MONITORING STATUS: Groundwater Quality Assessment Program

DATA COLLECTION STATUS:

Quarterly Event	March 7, 2000
Quarterly Event	May 2, 2000
Quarterly Event	July 21, 2000
Quarterly Event	November 28, 2000

C. GROUNDWATER MOVEMENT

The monitoring wells at HWMU-10 are screened either across the alluvium/limestone bedrock interface or entirely within bedrock. The static water level measurements gathered during the 2000 quarterly monitoring events are summarized in **Table 3** (**Appendix A**). Groundwater fluctuations did not appear to exceed 2 to 3 feet annually, although individual wells tapping karst conduits could have experienced dramatic fluctuations following storm events. As shown on the HWMU-10 Potentiometric Surface Map for Fourth Quarter 2000 (**Appendix B**), groundwater movement beneath the site is generally to the north towards the New River.

For the purposes of this report, Darcian flow conditions were assumed for the alluvium and karst limestone bedrock beneath HWMU-10. As a result, the groundwater velocities were calculated by multiplying the hydraulic conductivity (determined from previously conducted slug tests) by the average hydraulic gradient across the site, and dividing by an assumed effective porosity for the aquifer materials. The average hydraulic gradient was determined by superimposing three evenly spaced flow line vectors over the Potentiometric Surface Map, measuring their lengths, calculating the head differential over the distances measured, and dividing the head differential by the length of the flow line vectors. The three calculated gradients were then averaged to a single value. Using this method, the average groundwater hydraulic gradient across the site based on Fourth Quarter 2000groundwater elevations was calculated to be 0.016 ft/ft. Historical slug test data for the site yielded an average hydraulic conductivity of 4.9×10^{-4} ft/second. This value is consistent with literature values for karst limestone and for clayey, silty sand and gravel alluvium (Domenico and Schwartz, 1990).

The estimated groundwater velocity across the site was calculated to be approximately 1.69 ft/day or 617 ft/year, based on the following:

- an average hydraulic conductivity of 4.9×10^{-4} ft/second;
- an average hydraulic gradient of 0.016 ft/ft; and
- an assumed effective porosity of 0.40, based on a representative range of porosities for karst limestone and for clayey, silty sand and gravel alluvium (Domenico and Schwartz, 1990).

The actual groundwater flow velocities in the limestone bedrock may vary as much as one to two orders of magnitude from the velocity presented above, depending on water level conditions and the distribution of karst conduits.

D. STATISTICAL EVALUATIONS

D.1 HWMU-10 GROUNDWATER BACKGROUND CONCENTRATIONS

Background concentrations were calculated for each constituent in the groundwater monitoring program using the 1996-2000 quarterly analytical data from upgradient well 10D4. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was approximately 1%. Therefore, a 99% confidence level (0.01 false positive rate) was used for all individual comparisons. These coverage limits were only achieved for constituent data on which parametric prediction intervals were performed. In cases where non-parametric prediction intervals were computed to determine the background levels, the confidence level and error rate were calculated based on the number of background data points available and number of future comparisons. Because the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and an inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. No confidence levels were defined in cases

where the background data were 100% non-detected; the detection limits of such constituents were used to define their respective background levels.

D.2 HWMU-10 STATISTICAL ANALYSIS

Statistical evaluations were performed for HWMU-10 as specified in VHWMR 9 VAC 20-60-570. The statistical evaluations were performed in accordance with the procedures and guidance provided in the following documents:

- Virginia Hazardous Waste Management Regulations, 9 VAC 20-60-790 H and I;
- VDEQ Guidance for statistical analysis titled "Data Analysis Plan," undated;
- Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, April 1989;
- Addendum to Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, July 1992; and
- Statistical Methods for Groundwater Monitoring, Gibbons, R.D., 1994.

Statistical threshold values were computed for the 27 constituents for which HWMU-10 is currently monitored based on the concentrations of those constituents in upgradient (background) well 10D4. The 1996-2000 quarterly monitoring data for well 10D4 were used for this purpose. Comparison statistical analyses were performed for all constituents which were detected in any downgradient well during Fourth Quarter 2000.

D.2.1 Background Data and Statistical Comparisons

Statistical analyses were performed using the 1996-2000 quarterly analytical results from upgradient well 10D4 as background data. Based on the percentage of non-detects and the distribution of the background data, methods of statistical comparisons varied. Background average, standard deviation and other descriptive statistical data were computed for all constituents and are presented in **Appendix E**.

The constituents listed below were 100% non-detected in the background data. The background threshold levels (BTLs) for these constituents were established as equal to their detection limits (DLs). Detections of these constituents in the downgradient wells during Fourth Quarter 2000 were compared to these BTLs.

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Silver	20	100	0.2	0.2
Cyanide	20	100	10	10
2,6-Dintrotoluene	20	100	0.08	0.08
Bromodichloromethane	20	100	0.2	0.2
Chloromethane	20	100	0.3	0.3

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	Sample Size	% Non-Detects	DL (µg/l)	BTL (µg/l)
Di-n-butylphthalate	20	100	5	5
trans 1,2-Dichloroethene	20	100	0.1	0.1
Trichloroethene	20	100	0.1	0.1
Trichlorofluoromethane	20	100	0.5	0.5

Non-parametric prediction intervals were computed for all of the constituents for which the data from background well 10D4 satisfied one of the following two criteria, per VDEQ regulations and guidance as well as USEPA guidance:

- Percentage of non-detects was greater than or equal to 50 and less than 100; or
- Percentage of non-detects was less than 50, but data was not normally distributed.

Non-parametric upper prediction limits (UPL) were computed for 16 constituents which met one of the above two criteria. The background threshold levels for these constituents were set as equal to their UPLs. The confidence level and false positive rate were calculated based on the number of background data points available and number of future comparisons. For all constituents, the confidence level was determined to be equal to 0.983, and the false positive rate was equal to 0.017. Since the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. The number of confirmation resamples required for all constituents is 1. The background and relevant statistical data for these constituents are summarized below. Associated statistical computations are presented in **Appendix E**.

BTL = Upper Prediction Limit of Non-parametric Prediction Interval w/false positive rate=0.017				
Parameter	Sample Size	% Non-Detects	DL (µg/l)	BTL (µg/l)
Arsenic	20	85	1	2
Barium	20	5	2	226
Chromium	20	0	1	24
Copper	20	15	1	12
Lead	20	20	1	16
Mercury	20	95	0.2	0.2
Nickel	20	95	15	26
Selenium	20	95	1	2
Thallium	20	80	1	3
Zinc	20	30	5	69
2,4-Dinitrotoluene	20	95	0.08	0.13
Chloroform	20	20	3.5	21.5
Methylethyl ketone	20	95	1.1	8.2

BTL = Upper Prediction Limit of Non-parametric Prediction Interval w/false positive rate=0.017				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Xylene	20	95	0.1	3.0
TOC	20	95	1000	84275
TOX	20	55	5	77.5

The following constituents exhibited normally distributed background data with less than 25% non-detects. One sided parametric prediction intervals were computed on the background data for all of these constituents. The UPLs for these constituents were set as their respective BTLs, with one exception. For pH, a two-sided parametric prediction interval was computed; therefore, the BTL for pH consisted of a range between the lower prediction limit (LPL) and the upper prediction limit. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was approximately 1% (0.01). Therefore, a 99% confidence level (0.01 false positive rate) was used for all individual comparisons, which with the most conservative assumptions provided a site-wide false positive rate of 0.05 for all constituents. The background and relevant statistical data for these constituents are summarized below. The prediction interval computations for these constituents are presented in **Appendix E**.

BTL = UPL of one-sided Prediction Interval (exception pH) w/site-wide false positive rate=0.05 (individual comparisons false positive rate=0.01) BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Specific conductivity	16	0	1 µS/cm	527 µS/cm
pH	16	0	0.1 pH units	5.6 to 8.2 pH units

D.2.2 Results of Statistical Comparisons

The following table lists the constituents which were detected during the Fourth Quarter 2000 event at concentrations exceeding their respective background threshold levels (BTLs), and the downgradient wells in which they were detected. The table also compares the detected concentrations with the regulatory concentration limits for those constituents.

Parameter (BTL)	Monitoring Well	Concentration (µg/l)	Regulatory Limit (µg/l)
Arsenic (2 µg/l)	10DDH2	5	50[a]
Chromium (24 µg/l)	10DDH2	26	50[a]
Copper (12 µg/l)	10DDH2	28	626[b]
Spec. Cond. (527 µS/cm)	10DDH2	1,284 µS/cm	na

Parameter (BTL)	Monitoring Well	Concentration (µg/l)	Regulatory Limit (µg/l)
Spec. Cond. (527 µS/cm)	10D3	1,216 µS/cm	na
Spec. Cond. (527 µS/cm)	10D3D	1,036 µS/cm	na

Notes:

[a] 40 CFR 264.94 Table 1 - Maximum Concentration of Constituents for Ground-water Protection.

[b] VDEQ Alternate Concentration Limit (ACL), October 11, 2000.

na – not applicable.

Statistically significant increase in arsenic, chromium, and copper concentration in downgradient wells relative to background may be the result of natural variations in trace element distribution in groundwater. Furthermore, as shown on the table above, the detected constituent concentrations which exceeded their respective site-specific BTLs were all well below their respective regulatory concentration limits.

Field measurements of specific conductivity for wells 10DDH2, 10D3, and 10D3D exceeded the BTL of 527 µS/cm. However, field measurements of specific conductivity are subject to wide variations, and are influenced by changes in ambient groundwater geochemistry. Therefore, statistical results for specific conductivity are inconclusive and do not warrant further action.

Any HWMU-10 target constituents not listed above were not detected in the downgradient monitoring wells at concentrations exceeding their respective BTLs.

HWMU-13 ANNUAL GROUNDWATER MONITORING REPORT

CALENDAR YEAR: 2000
REPORT DATE: March 1, 2001

Prepared for the Virginia Department of Environmental Quality - Waste Division (VDEQ-WD) in accordance with 9 VAC 20-60-265 and 40 CFR 265.90-94 (Subpart F).

A. WASTE MANAGEMENT UNIT INFORMATION

UNIT NAME: Hazardous Waste Management Unit 13 (HWMU-13)
OWNER/OPERATOR: United States Army / Alliant Ammunition and Powder Company, LLC

UNIT LOCATION: Radford AAP Main Plant Area, Radford, Virginia

CLASS: Hazardous Waste Management Unit
TYPE: Waste Propellant Burning Ground

B. GROUNDWATER MONITORING PLAN

MONITORING NETWORK
UPGRADIENT WELLS: 13MW1, 13MW2
DOWNGRADIENT WELLS: 13MW3, 13MW4, 13MW5, 13MW6, 13MW7

MONITORING STATUS: Groundwater Quality Assessment Program

DATA COLLECTION STATUS:	Quarterly Event	March 9-10, 2000
	Quarterly Event	May 3, 2000
	Quarterly Event	July 27, 2000
	Quarterly Event	November 1, 2000

C. GROUNDWATER MOVEMENT

The static water level measurements gathered at HWMU-13 during the 2000 quarterly monitoring events are summarized in **Table 4 (Appendix A)**. Groundwater fluctuations ranged from 1.5 to 5 feet annually. As shown on the HWMU-13 Potentiometric Surface Map for Fourth Quarter 2000 (**Appendix B**), groundwater movement beneath the site is generally to the south toward the New River.

For the purposes of this report, Darcian flow conditions were assumed for the alluvium and karst carbonate bedrock beneath HWMU-13. As a result, the groundwater velocities were calculated by multiplying the hydraulic conductivity (determined from previously conducted slug tests) by the average hydraulic gradient across the site, and dividing by an assumed effective porosity for the aquifer materials. The average hydraulic gradient was determined by

superimposing three evenly spaced flow line vectors over the Potentiometric Surface Map, measuring their lengths, calculating the head differential over the distances measured, and dividing the head differential by the length of the flow line vectors. The three calculated gradients were then averaged to a single value. Using this method, the average groundwater hydraulic gradient across the site based on Fourth Quarter 2000 groundwater elevations was calculated to be 0.005 ft/ft. Historical slug test data for the site yielded an average hydraulic conductivity of 6.56×10^{-5} ft/second. This value is consistent with literature values for karst carbonate rock and for clayey, silty sand and gravel alluvium (Domenico and Schwartz, 1990).

The estimated groundwater velocity across the site was calculated to be approximately 7.08×10^{-2} ft/day or 26 ft/year, based on the following:

- an average hydraulic conductivity of 6.56×10^{-5} ft/second;
- an average hydraulic gradient of 0.005 ft/ft; and
- an assumed effective porosity of 0.40, based on a representative range of porosities for karst carbonate rock and clayey, silty sand and gravel alluvium (Domenico and Schwartz, 1990).

The actual groundwater flow velocities in the carbonate bedrock may vary as much as one to two orders of magnitude from the velocity presented above, depending on water level conditions and the distribution of karst conduits.

D. STATISTICAL EVALUATIONS

D.1 HWMU-13 GROUNDWATER BACKGROUND CONCENTRATIONS

Background concentrations were calculated for each constituent in the groundwater monitoring program using the 1997-2000 quarterly analytical data from upgradient wells 13MW1 and 13MW2. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was approximately 1%. Therefore, a 99% confidence level (0.01 false positive rate) was used for all individual comparisons. These coverage limits were only achieved for constituent data on which parametric prediction intervals were performed. In cases where non-parametric prediction intervals were computed to determine the background levels, the confidence level and error rate were calculated based on the number of background data points available and number of future comparisons. Because the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and an inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. No confidence levels were defined in cases where the background data were 100% non-detected; the detection limits of such constituents were used to define their respective background levels.

D.2 HWMU-13 STATISTICAL ANALYSIS

Statistical evaluations were performed for HWMU-13 as specified in VHWMR 9 VAC 20-60-570. The statistical evaluations were performed in accordance with the procedures and guidance provided in the following documents:

- Virginia Hazardous Waste Management Regulations, 9 VAC 20-60-790 H and I;
- VDEQ Guidance for statistical analysis titled "Data Analysis Plan," undated;
- Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, April 1989;
- Addendum to Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, July 1992; and
- Statistical Methods for Groundwater Monitoring, Gibbons, R.D., 1994.

Statistical threshold values were computed for the 65 constituents for which HWMU-13 is currently monitored based on the concentrations of those constituents in upgradient (background) wells 13MW1 and 13MW2. The 1997-2000 quarterly monitoring data for the background wells were used for this purpose. Comparison statistical analyses were performed for all constituents which were detected in any downgradient well during Fourth Quarter 2000. Downgradient well 13MW5 was not sampled during the Year 2000; therefore, comparison statistical analyses were not performed for well 13MW5.

D.2.1 Background Data and Statistical Comparisons

Statistical analyses were performed using the 1997-2000 quarterly analytical results from upgradient wells 13MW1 and 13MW2 as background data. Based on the percentage of non-detects and the distribution of the background data, methods of statistical comparisons varied. Background average, standard deviation and other descriptive statistical data were computed for all constituents and are presented in **Appendix F**.

The constituents listed below were 100% non-detected in the background data. The background threshold levels (BTLs) for these constituents were established as equal to their detection limits (DLs). Detections of these constituents in the downgradient wells during Fourth Quarter 2000 were compared to these BTLs.

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Antimony	32	100	3	3
Mercury	32	100	0.2	0.2
2,4-Dinitrotoluene	32	100	0.08	0.08
2,6-Dinitrotoluene	32	100	0.08	0.08
1,1,1-Trichloroethane	32	100	0.3	0.3

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
1,1-Dichloroethene	32	100	0.3	0.3
2,4,6-Trinitrotoluene	32	100	10	10
2,4-Dinitrophenol	32	100	50	50
2-Nitrodiphenylamine	32	100	10	10
Acetone	32	100	10	10
Benzene	32	100	0.1	0.1
Butyl benzyl phthalate	32	100	5	5
Cyanide	32	100	10	10
Cyclonite	32	100	10	10
Diethylene glycol dinitrate	32	100	10	10
Diethyl ether	32	100	10	10
Diethyl phthalate	32	100	5	5
Dimethyl ether	32	100	10	10
Di-n-butylphthalate	32	100	5	5
Di-n-propyladipate	32	100	10	10
Diphenylamine	32	100	10	10
Ethanol	32	100	10	10
Ethyleneglycol monoethylether	32	100	10	10
Homocyclonite	32	100	10	10
Nitrite	32	100	10	10
Nitrocellulose	32	100	10	10
Nitroglycerin	32	100	10	10
Nitroguanidine	32	100	10	10
N-Nitrosodiphenylamine	32	100	5	5
o-Nitroaniline	32	100	50	50
Resorcinol	32	100	10	10
Tetryl	32	100	10	10
Toluene	32	100	0.1	0.1
Triethylene glycol dinitrate	32	100	10	10
Trimethyloethane trinitrate	32	100	10	10
Vinyl chloride	32	100	0.1	0.1

Non-parametric prediction intervals were computed for all of the constituents for which the data from the background wells satisfied one of the following two criteria, per VDEQ regulations and guidance as well as USEPA guidance:

- Percentage of non-detects was greater than or equal to 50 and less than 100; or
- Percentage of non-detects was less than 50, but data was not normally distributed.

Non-parametric upper prediction limits (UPL) were computed for 24 constituents which met one of the above two criteria. The background threshold levels for these constituents were set as equal to their UPLs. The confidence level and false positive rate were calculated based on the number of background data points available and number of future comparisons. For all constituents except specific conductivity, the confidence level was determined to be equal to 0.991, and the false positive rate was equal to 0.009. For specific conductivity, the confidence level was determined to be equal to 0.989, and the false positive rate was equal to 0.011. Since the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. The number of confirmation resamples required for all constituents is 1. The background and relevant statistical data for these constituents are summarized below. Associated statistical computations are presented in **Appendix F**.

BTL = Upper Prediction Limit of Non-parametric Prediction Interval w/false positive rate=0.009 (false positive rate=0.011 for specific conductivity)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Aluminum	32	9	2	6090
Arsenic	32	84	1	3
Barium	32	0	2	255
Boron	32	41	50	180
Cadmium	32	78	0.1	0.3
Chromium	32	0	1	112
Copper	32	19	1	36
Lead	32	56	1	14
Magnesium	32	0	200	55,200
Nickel	32	84	15	48
Selenium	32	56	1	4
Silver	32	97	0.2	1
Sodium	32	0	100	19,000
Zinc	32	34	5	118
Ammonia	32	81	100	600
Chloride	32	0	1000	31,700
Fluoride	32	0	100	330
Phenols	32	97	10	14
Sulfate	32	0	1000	79,000
Bis (2-ethylhexyl)phthalate	32	94	10	27
Xylene	32	94	0.1	2.1
TOC	32	78	1000	8,625
TOX	32	75	5	25.5
Specific conductivity	28	0	1 µS/cm	6,870 µS/cm

The following constituents exhibited normally distributed background data with less than 25% non-detects. One sided parametric prediction intervals were computed on the background data for all of these constituents. The UPLs for these constituents were set as their respective BTLs, with one exception. For pH, a two-sided parametric prediction interval was computed; therefore, the BTL for pH consisted of a range between the lower prediction limit (LPL) and the upper prediction limit. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was approximately 1% (0.01). A 99% confidence level (0.01 false positive rate) was used for all individual comparisons, which with the most conservative assumptions provided a site-wide false positive rate of 0.05 for all constituents. The background and relevant statistical data for these constituents are summarized below. The prediction interval computations for these constituents are presented in **Appendix F**.

BTL = UPL of one-sided Prediction Interval (exception pH) w/site-wide false positive rate=0.05 (individual comparisons false positive rate=0.01) BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Calcium	32	0	400	107,515
Iron	32	6	30	9,238
Manganese	32	0	0.2	238
Nitrate	32	3	100	1,119
pH	28	0	0.1 pH units	5.9 to 7.8 pH units

D.2.2 Results of Statistical Comparisons

The following table lists the constituents which were detected during the Fourth Quarter 2000 event at concentrations exceeding their respective background threshold levels (BTLs), and the downgradient wells in which they were detected. The table also compares the detected concentrations with the regulatory concentration limits for those constituents.

Parameter (BTL)	**Monitoring Well**	**Concentration (µg/l)**	**Regulatory Limit (µg/l)**
Fluoride (330 µg/l)	13MW3	550	na
Fluoride (330 µg/l)	13MW6	580	na
Fluoride (330 µg/l)	13MW7	390	na
Nitrate (1,119 µg/l)	13MW3	6,630	10,000[a]
Nitrate (1,119 µg/l)	13MW4	1,760	10,000[a]
Sulfate (79,000 µg/l)	13MW3	209,000	na
TOX. (25.5 µg/l)	13MW3	31.75	na

Notes:

[a] Maximum Contaminant Level (MCL), USEPA Drinking Water Regulations and Health Advisories, June 2000.

na – not applicable.

Fluoride, nitrate and sulfate are not hazardous by definition or characteristic. They are not listed as indicator parameters in 40 CFR 265.92(b)(3). Therefore, while noted, there is no requirement or intention to perform additional sampling or reporting associated with these parameters.

The analysis for total organic halides (TOX) is an indicator parameter, not a robust analysis of groundwater quality. The intent of analyzing for TOX is to provide a gross screen for the presence or absence of organic halides, or halogenated organic compounds. Year 2000 TOX results at HWMU-13 are not supported by concomitant detections of specific halogenated organic compounds. In other words, no halogenated organic compounds are present in groundwater at the site; therefore, the TOX results are not relevant to the evaluation of groundwater quality at HWMU-13.

Any HWMU-13 target constituents not listed above were not detected in the downgradient monitoring wells at concentrations exceeding their respective BTLs.

HWMU-16 ANNUAL GROUNDWATER MONITORING REPORT

CALENDAR YEAR: 2000
REPORT DATE: March 1, 2001

Prepared for the Virginia Department of Environmental Quality - Waste Division (VDEQ-WD) in accordance with 9 VAC 20-60-265 and 40 CFR 265.90-94 (Subpart F).

A. WASTE MANAGEMENT UNIT INFORMATION

UNIT NAME: Hazardous Waste Management Unit 16 (HWMU-16)
OWNER/OPERATOR: United States Army / Alliant Ammunition and Powder Company, LLC

UNIT LOCATION: Radford AAP Main Plant Area, Radford, Virginia

CLASS: Hazardous Waste Management Unit
TYPE: Former Hazardous Waste Landfill

B. GROUNDWATER MONITORING PLAN

MONITORING NETWORK

UPGRADIENT WELL:	I6C1
DOWNGRADIENT WELLS:	16-1, 16-2, 16-3, 16-5, 16WC1A, 16WC1B, 16WC2B, 16MW8, 16MW9, 16SPRING
OBSERVATION WELLS: (static water level measurements only)	16WC2A, 16C3, 16CDH3

MONITORING STATUS: Groundwater Quality Assessment Program

DATA COLLECTION STATUS:	Quarterly Event	March 13 and 15, 2000
	Quarterly Event	May 4, 2000
	Quarterly Event	July 28, 2000
	Quarterly Event	October 27 and 30, 2000

C. GROUNDWATER MOVEMENT

The monitoring wells at HWMU-16 are screened entirely within either carbonate bedrock or weathered carbonate bedrock residuum, or across the residuum/bedrock interface. The static water level measurements gathered at HWMU-16 during the 2000 quarterly monitoring events are summarized in **Table 5 (Appendix A)**. Groundwater fluctuations ranged from 0.5 to 3 feet annually. As shown on the HWMU-16 Potentiometric Surface Map for Fourth Quarter 2000 **(Appendix B)**, groundwater movement beneath the site is generally to the northeast.

For the purposes of this report, Darcian flow conditions were assumed for the weathered residuum and karst carbonate bedrock beneath HWMU-16. As a result, the groundwater velocities were calculated by multiplying the hydraulic conductivity (determined from previously conducted slug tests) by the average hydraulic gradient across the site, and dividing by an assumed effective porosity for the aquifer materials. The average hydraulic gradient was determined by superimposing three evenly spaced flow line vectors over the Potentiometric Surface Map, measuring their lengths, calculating the head differential over the distances measured, and dividing the head differential by the length of the flow line vectors. The three calculated gradients were then averaged to a single value. Using this method, the average groundwater hydraulic gradient across the site based on Fourth Quarter 2000 groundwater elevations was calculated to be 0.086 ft/ft. Historical slug test data for the site yielded an average hydraulic conductivity of 7.87×10^{-5} ft/second. This value is consistent with literature values for karst carbonate rock and for clay and silt residuum (Domenico and Schwartz, 1990).

The estimated groundwater velocity across the site was calculated to be approximately 1.67 ft/day or 610 ft/year, based on the following:

- an average hydraulic conductivity of 7.87×10^{-5} ft/second;
- an average hydraulic gradient of 0.086 ft/ft; and
- an assumed effective porosity of 0.35, based on a representative range of porosities for karst carbonate rock and clay and silt residuum (Domenico and Schwartz, 1990).

The actual groundwater flow velocities in the carbonate bedrock may vary as much as one to two orders of magnitude from the velocity presented above, depending on water level conditions and the distribution of karst conduits.

D. STATISTICAL EVALUATIONS

D.1 HWMU-16 GROUNDWATER BACKGROUND CONCENTRATIONS

Background concentrations were calculated for each constituent in the groundwater monitoring program using the 1996-2000 quarterly analytical data from upgradient well 16C1. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was well below 1%. A 99% confidence level (0.01 false positive rate) was used for all individual comparisons. These coverage limits were only achieved for constituent data on which parametric prediction intervals were performed. In cases where non-parametric prediction intervals were computed to determine the background levels, the confidence level and error rate were calculated based on the number of background data points available and number of future comparisons. Because the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and an inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. No confidence levels were defined in cases where

the background data were 100% non-detected; the detection limits of such constituents were used to define their respective background levels.

D.2 HWMU-16 STATISTICAL ANALYSIS

Statistical evaluations were performed for HWMU-16 as specified in VHWMR 9 VAC 20-60-570. The statistical evaluations were performed in accordance with the procedures and guidance provided in the following documents:

- Virginia Hazardous Waste Management Regulations, 9 VAC 20-60-790 H and I;
- VDEQ Guidance for statistical analysis titled "Data Analysis Plan," undated;
- Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, April 1989;
- Addendum to Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, July 1992; and
- Statistical Methods for Groundwater Monitoring, Gibbons, R.D., 1994.

Statistical threshold values were computed for the 54 constituents for which HWMU-16 is currently monitored based on the concentrations of those constituents in upgradient (background) well 16C1. The 1996-2000 quarterly monitoring data for well 16C1 were used for this purpose. Comparison statistical analyses were performed for all constituents which were detected in any downgradient well during Fourth Quarter 2000. Downgradient wells 16MW8 and 16WC1B were not sampled during the Year 2000; therefore, comparison statistical analyses were not performed for wells 16MW8 and 16WC1B.

D.2.1 Background Data and Statistical Comparisons

Statistical analyses were performed using the 1996-2000 quarterly analytical results from upgradient well 16C1 as background data. Based on the percentage of non-detects and the distribution of the background data, methods of statistical comparisons varied. Background average, standard deviation and other descriptive statistical data were computed for all constituents and are presented in **Appendix G**.

The constituents listed below were 100% non-detected in the background data. The background threshold levels (BTLs) for these constituents were established as equal to their detection limits (DLs). Detections of these constituents in the downgradient wells during Fourth Quarter 2000 were compared to these BTLs.

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Antimony	17	100	3	3
Arsenic	17	100	1	1
Mercury	17	100	0.2	0.2

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	Sample Size	% Non-Detects	DL (µg/l)	BTL (µg/l)
Selenium	17	100	1	1
Bromoform	17	100	0.3	0.3
Carbon tetrachloride	17	100	0.2	0.2
Chlorobenzene	17	100	0.1	0.1
Chloromethane	17	100	0.3	0.3
Cyanide	17	100	10	10
Di-n-butyl phthalate	17	100	5	5
1,4-Dichlorobenzene	17	100	0.1	0.1
1,2-Dichloroethane	17	100	0.1	0.1
trans-1,2-Dichloroethene	17	100	0.1	0.1
1,1,2,2,-Tetrachloroethane	17	100	0.1	0.1
1,1,2-Trichloroethane	17	100	0.5	0.5
Trichloroethene	17	100	0.1	0.1
1234678-HPCDF	17	100	0.0615	0.0615
1234789-HPCDF	17	100	0.0709	0.0709
123478-HXCDF	17	100	0.0390	0.039
123678-HXCDF	17	100	0.0377	0.0377
123789-HXCDF	17	100	0.0415	0.0415
234678-HXCDF	17	100	0.0428	0.0428
12378-PECDF	17	100	0.0439	0.0439
23478-PECDF	17	100	0.0417	0.0417
2378-TCDF	17	100	0.0485	0.0485
OCDF	17	100	0.1307	0.1307

Non-parametric prediction intervals were computed for all of the constituents for which the data from the background wells satisfied one of the following two criteria, per VDEQ regulations and guidance as well as USEPA guidance:

- Percentage of non-detects was greater than or equal to 50 and less than 100; or
- Percentage of non-detects was less than 50, but data was not normally distributed.

Non-parametric upper prediction limits (UPL) were computed for 22 constituents which met one of the above two criteria. The background threshold levels for these constituents were set as equal to their UPLs, with one exception. For pH, a two-sided nonparametric prediction interval was computed; therefore, the BTL for pH consisted of a range between the lower prediction limit (LPL) and the upper prediction limit. The confidence level and false positive rate were calculated based on the number of background data points available and number of future comparisons. For all constituents except specific conductivity and pH, the confidence level was determined to be equal to 0.957, and the false positive rate was equal to 0.043. For specific conductivity and pH, the confidence level was determined to be equal to 0.934, and the

false positive rate was equal to 0.066. Since the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. The number of confirmation resamples required for all constituents except specific conductivity and pH is 1. The number of confirmation resamples required for specific conductivity and pH is 2. The background and relevant statistical data for these constituents are summarized below. Associated statistical computations are presented in **Appendix G**.

BTL = Upper Prediction Limit of Non-parametric Prediction Interval w/false positive rate=0.043 (false positive rate=0.090 for specific conductivity and pH) BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Beryllium	17	82	0.2	0.7
Cadmium	17	76	0.1	6.1
Chromium	17	41	1	13
Cobalt	17	71	1	5
Copper	17	53	1	48
Lead	17	53	1	11
Nickel	17	94	15	16
Silver	17	76	0.2	2.2
Thallium	17	76	1	6
Vanadium	17	88	4	151
Zinc	17	59	5	296
2,4-Dinitrotoluene	17	94	0.08	0.1
2,6-Dinitrotoluene	17	76	0.08	1.67
Ethylbenzene	17	94	0.1	0.7
Methylethyl ketone	17	94	1.1	11.2
Tetrachloroethene	17	29	0.1	0.6
Toluene	17	94	0.1	0.2
Vinyl chloride	17	94	0.1	0.1
Xylene	17	88	0.1	1.4
TOC	17	76	1000	478,750
Specific conductivity	13	0	1 µS/cm	6,610 µS/cm
pH	13	0	0.1 pH units	6.2 to 8.3 pH units

The following constituents exhibited normally distributed background data with less than 25% non-detects. One sided parametric prediction intervals were computed on the background data for all of these constituents. The UPLs for these constituents were set as their respective BTLs, with one exception. The background concentration calculations were based on a site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was well below 1% (0.01). A 99% confidence level (0.01 false positive rate) was used for all individual

comparisons, which with the most conservative assumptions provided a site-wide false positive rate of >0.05 for all constituents. The background and relevant statistical data for these constituents are summarized below. The prediction interval computations for these constituents are presented in **Appendix G**.

BTL = UPL of one-sided Prediction Interval (exception pH) w/site-wide false positive rate>0.05 (individual comparisons false positive rate=0.01)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Barium	17	0	2	174
1,1-Dichloroethane	17	0	0.2	8.9
Dichlorodifluoromethane	17	12	0.3	31.6
1,1,1-Trichloroethane	17	12	0.3	9.6
Trichlorofluoromethane	17	6	0.5	8.4
TOX	17	24	5	30.2

D.2.2 Results of Statistical Comparisons

The following table lists the constituents which were detected during the Fourth Quarter 2000 event at concentrations exceeding their respective background threshold levels (BTLs), and the downgradient wells in which they were detected. The table also compares the detected concentrations with the regulatory concentration limits for those constituents.

Parameter (BTL)	**Monitoring Well**	**Concentration (µg/l)**	**Regulatory Limit (µg/l)**
Arsenic (1 µg/l)	16WC23	2.0	50[a]
Barium (174 µg/l)	16-1	258	1,000[a]
Barium (174 µg/l)	16-2	212	1,000[a]
Barium (174 µg/l)	16-3	680	1,000[a]
Barium (174 µg/l)	16MW9	315	1,000[a]
Barium (174 µg/l)	16WC1A	225	1,000[a]
Beryllium (0.7 µg/l)	16MW9	1.6	4[b]
Chromium (13 µg/l)	16MW9	31	50[a]
Cobalt (5 µg/l)	16MW9	8	939[c]
Cobalt (5 µg/l)	16WC1A	9	939[c]
Mercury (0.2 µg/l)	16MW9	0.8	2[a]
Selenium (1 µg/l)	16-1	2	10[a]
Selenium (1 µg/l)	16MW9	2	10[a]
pH (6.2 to 8.3 pH units)	16SPRING	5.56	na

Notes:

[a] 40 CFR 264.94 Table 1 - Maximum Concentration of Constituents for Ground-water Protection.

[b] Maximum Contaminant Level (MCL), USEPA Drinking Water Regulations and Health Advisories, October 1996.
[c] VDEQ Alternate Concentration Limit (ACL), October 11, 2000.
na – not applicable.

Statistically significant increases in arsenic, barium, beryllium, chromium, cobalt, mercury, and selenium concentrations in downgradient wells relative to background may be the result of natural variations in trace element distribution in groundwater. Furthermore, as shown on the table above, the detected inorganic constituent concentrations which exceeded their respective site-specific BTLs were all well below their respective regulatory concentration limits.

The field measurement of pH at 16SPRING was below the BTL range for pH. However, field measurements of pH are subject to wide variations, and are influenced by changes in ambient groundwater geochemistry. Therefore, statistical results for pH are inconclusive and do not warrant further action.

Any HWMU-16 target constituents not listed above were not detected in the downgradient monitoring wells at concentrations exceeding their respective BTLs.

HWMU-39 ANNUAL GROUNDWATER MONITORING REPORT

CALENDAR YEAR: 2000
REPORT DATE: March 1, 2001

Prepared for the Virginia Department of Environmental Quality - Waste Division (VDEQ-WD) in accordance with 9 VAC 20-60-265 and 40 CFR 265.90-94 (Subpart F).

A. WASTE MANAGEMENT UNIT INFORMATION

UNIT NAME: Hazardous Waste Management Unit 39 (HWMU-39)
OWNER/OPERATOR: United States Army / Alliant Ammunition and Powder Company, LLC

UNIT LOCATION: Radford AAP Main Plant Area, Radford, Virginia

CLASS: Hazardous Waste Management Unit
TYPE: Closed Incinerator Spray Pond

B. GROUNDWATER MONITORING PLAN

MONITORING NETWORK
UPGRADIENT WELLS: 39MW1, 39MW4
DOWNGRADIENT WELLS: 39MW3, 39MW5, 39MW6

MONITORING STATUS: Groundwater Quality Assessment Program

DATA COLLECTION STATUS:

Quarterly Event	March 15, 2000
Quarterly Event	May 8, 2000
Quarterly Event	August 1, 2000
Quarterly Event	November 29, 2000

C. GROUNDWATER MOVEMENT

The monitoring wells at HWMU-39 are screened within carbonate bedrock. The static water level measurements gathered at HWMU-39 during the 2000 quarterly monitoring events are summarized in **Table 6 (Appendix A)**. Groundwater fluctuations ranged from 1 to 1.5 feet annually. As shown on the HWMU-39 Potentiometric Surface Map for Second Quarter 2000 (**Appendix B**), groundwater movement beneath the site is generally to the northeast.

For the purposes of this report, Darcian flow conditions were assumed for the karst carbonate bedrock beneath HWMU-39. As a result, the groundwater velocities were calculated by multiplying an assumed hydraulic conductivity by the average hydraulic gradient across the site, and dividing by an assumed effective porosity for the aquifer materials. The average hydraulic gradient was determined by superimposing three evenly spaced flow line vectors over

the Potentiometric Surface Map, measuring their lengths, calculating the head differential over the distances measured, and dividing the head differential by the length of the flow line vectors. The three calculated gradients were then averaged to a single value. Using this method, the average groundwater hydraulic gradient across the site based on Second Quarter 2000 groundwater elevations was calculated to be 0.016 ft/ft. A representative range of hydraulic conductivities for karst limestone yielded an assumed hydraulic conductivity of 3.28×10^{-4} ft/second (Domenico and Schwartz, 1990).

The estimated groundwater velocity across the site was calculated to be approximately 1.51 ft/day or 551 ft/year, based on the following:

- an assumed hydraulic conductivity of 3.28×10^{-4} ft/second;
- an average hydraulic gradient of 0.016 ft/ft; and
- an assumed effective porosity of 0.30, based on a representative range of porosities for karst carbonate rock (Domenico and Schwartz, 1990).

The actual groundwater flow velocities in the carbonate bedrock may vary as much as one to two orders of magnitude from the velocity presented above, depending on water level conditions and the distribution of karst conduits.

D. STATISTICAL EVALUATIONS

D.1 HWMU-39 GROUNDWATER BACKGROUND CONCENTRATIONS

Background concentrations were calculated for each constituent in the groundwater monitoring program using the 1998-2000 quarterly analytical data from upgradient wells 39MW1 and 39MW4. The background concentration calculations were based on site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was approximately 1%. A 99% confidence level (0.01 false positive rate) was used for all individual comparisons. These coverage limits were only achieved for constituent data on which parametric prediction intervals were performed. In cases where non-parametric prediction intervals were computed to determine the background levels, the confidence level and error rate were calculated based on the number of background data points available and number of future comparisons. Because the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and an inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. No confidence levels were defined in cases where the background data were 100% non-detected; the detection limits of such constituents were used to define their respective background levels.

D.2 HWMU-39 STATISTICAL ANALYSIS

Statistical evaluations were performed for HWMU-39 as specified in VHWMR 9 VAC 20-60-570. The statistical evaluations were performed in accordance with the procedures and guidance provided in the following documents:

- Virginia Hazardous Waste Management Regulations, 9 VAC 20-60-790 H and I;
- VDEQ Guidance for statistical analysis titled "Data Analysis Plan," undated;
- Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, April 1989;
- Addendum to Interim Final Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, July 1992; and
- Statistical Methods for Groundwater Monitoring, Gibbons, R.D., 1994.

Statistical threshold values were computed for the 39 constituents for which HWMU-39 is currently monitored based on the concentrations of those constituents in upgradient (background) wells 39MW1 and 39MW4. The 1998-2000 quarterly monitoring data for wells 39MW1 and 39MW4 were used for this purpose. Downgradient wells 39MW5 and 39MW6 were dry during the Year 2000; therefore, comparison statistical analyses were not performed for wells 39MW5 and 39MW6. Comparison statistical analyses were performed for all constituents which were detected in downgradient well 39MW3 during Fourth Quarter 2000.

D.2.1 Background Data and Statistical Comparisons

Statistical analyses were performed using the 1998-2000 quarterly analytical results from upgradient wells 39MW1 and 39MW4 as background data. Based on the percentage of non-detects and the distribution of the background data, methods of statistical comparisons varied. Background average, standard deviation and other descriptive statistical data were computed for all constituents and are presented in **Appendix H**.

The constituents listed below were 100% non-detected in the background data. The background threshold levels (BTLs) for these constituents were established as equal to their detection limits (DLs). Detections of these constituents in the downgradient wells during Third or Fourth Quarter 2000 were compared to these BTLs.

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Antimony	21	100	60	60
Mercury	21	100	0.2	0.2
Thallium	21	100	1	1
gamma-BHC	21	100	2	2
2,4-D	21	100	1	1
2,4,5-TP silvex	21	100	1	1
Di-n-butylphthalate	21	100	5	5
Diethylphthalate	21	100	5	5
Endrin	21	100	2	2
Methoxychlor	21	100	2	2

Background Threshold Level (BTL) = Detection Limit (DL)				
Parameter	Sample Size	% Non-Detects	DL (µg/l)	BTL (µg/l)
Phenols	21	100	10	10
Resorcinol	21	100	10	10
Toxaphene	21	100	2	2

Non-parametric prediction intervals were computed for all of the constituents for which the data from the background wells satisfied one of the following two criteria, per VDEQ regulations and guidance as well as USEPA guidance:

- Percentage of non-detects was greater than or equal to 50 and less than 100; or
- Percentage of non-detects was less than 50, but data was not normally distributed.

The background threshold levels for these constituents were set as equal to their UPLs, with one exception. For pH, a two-sided nonparametric prediction interval was computed; therefore, the BTL for pH consisted of a range between the lower prediction limit (LPL) and the upper prediction limit. The confidence level and false positive rate were calculated based on the number of background data points available and number of future comparisons. For all constituents except specific conductivity, the confidence level was determined to be equal to 0.988, and the false positive rate was equal to 0.012. For specific conductivity and pH, the confidence level was determined to be equal to 0.987, and the false positive rate was equal to 0.013. Since the upper control limit of a non-parametric interval cannot be adjusted for multiple comparisons and inadequate number of background data, the number of resampling events required was adjusted to account for the high error rates inherent in those situations. The minimum number of confirmation resamples required for all constituents is 1. The background and relevant statistical data for these constituents are summarized below. Associated statistical computations are presented in **Appendix H**.

BTL = Upper Prediction Limit (exception pH) of Non-parametric Prediction Interval w/false positive rate=0.012 (false positive rate=0.013 for specific conductivity and pH) BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	Sample Size	% Non-Detects	DL (µg/l)	BTL (µg/l)
Arsenic	21	71	1	7
Barium	21	0	2	249
Beryllium	21	76	0.2	2.4
Cadmium	21	81	0.1	0.4
Chromium	21	10	1	71
Iron	21	0	1	83,300
Lead	21	62	1	65
Manganese	21	5	0.2	1,660
Nickel	21	81	15	63
Selenium	21	48	1	4

BTL = Upper Prediction Limit (exception pH) of Non-parametric Prediction Interval w/false positive rate=0.012 (false positive rate=0.013 for specific conductivity and pH) BTL for pH = LPL – UPL of two-sided Prediction Interval				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Silver	21	95	0.2	0.7
2,4-DNT	21	95	0.08	0.14
2,6-DNT	21	95	0.08	0.11
Alpha emission	21	73	1 pCi/l	53 pCi/l
Beta emission	21	14	1 pCi/l	115 pCi/l
Radium	21	86	1 pCi/l	5 pCi/l
Fluoride	21	38	100	410
Sulfate	21	5	1000	100,000
Coliform	21	52	2 MPN/ml	130 MPN /l
TOC	21	62	1000	1,775
TOX	21	57	5	23
Specific conductivity	20	0	1 µS/cm	3,900 µS/cm
pH	20	0	0.1 pH units	6.3 to 8.5 pH units

The following constituents exhibited normally distributed background data with less than 25% non-detects. One sided parametric prediction intervals were computed on the background data for all of these constituents. The UPLs for these constituents were set as their respective BTLs. The background concentration calculations were based on a site wide 95% confidence, 95% coverage upper prediction intervals. When adjusted for multiple comparisons of the background data, the minimum required false positive rate was approximately 1% (0.01). A 99% confidence level (0.01 false positive rate) was used for all individual comparisons, which with the most conservative assumptions provided a site-wide false positive rate of 0.05 for all constituents. The background and relevant statistical data for these constituents are summarized below. The prediction interval computations for these constituents are presented in **Appendix H**.

BTL = UPL of one-sided Prediction Interval w/site-wide false positive rate=0.05 (individual comparisons false positive rate=0.01)				
Parameter	**Sample Size**	**% Non-Detects**	**DL (µg/l)**	**BTL (µg/l)**
Sodium	21	19	100	16,560
Chloride	21	5	1000	10,698
Nitrate	21	5	100	1,990

D.2.2 Results of Statistical Comparisons

The following table lists the constituents which were detected during the Fourth Quarter 2000 event at concentrations exceeding their respective background threshold levels (BTLs), and

the downgradient wells in which they were detected. The table also compares the detected concentrations with the regulatory concentration limits for those constituents.

Parameter (BTL)	Monitoring Well	Concentration (µg/l)	Regulatory Limit (µg/l)
Chloride (10,698 µg/l)	39MW3	11,500	na
Nitrate (1,990 µg/l)	39MW3	5,690	10,000[a]
Sulfate (100,000 µg/l)	39MW3	151,000	na

Notes:

[a] Maximum Contaminant Level (MCL), USEPA Drinking Water Regulations and Health Advisories, June 2000.

na – not applicable.

The detected constituents listed above are not hazardous by definition or characteristic. They are not listed as indicator parameters in 40 CFR 265.92(b)(3). Therefore, while noted, there is no requirement or intention to perform additional sampling or reporting associated with these parameters.

Any HWMU-39 target constituents not listed above were not detected in the downgradient monitoring wells at concentrations exceeding their respective BTLs.

APPENDIX A

TABLES

TABLE 1
HWMU-4
GROUNDWATER ELEVATIONS - 2000
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

MONITORING WELL ID	ELEVATION TOP OF WELL	FIRST QUARTER 2000		SECOND QUARTER 2000		THIRD QUARTER 2000		FOURTH QUARTER 2000	
		DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV
4P-3	1754.57	5.26	1749.31	5.08	1749.49	5.40	1749.17	6.35	1748.22
4WC9B	1729.40	17.69	1711.71	17.12	1712.28	17.50	1711.90	17.55	1711.85
4WC8B	1740.28	NM	NM	NM	NM	NM	NM	NM	NM
4W4B	1729.50	20.44	1709.06	19.50	1710.00	20.80	1708.70	21.65	1707.85
4MW7	1725.00	14.48	1710.52	14.25	1710.75	14.45	1710.55	14.69	1710.31
4W2B	1735.50	20.13	1715.37	18.01	1717.49	20.10	1715.40	21.74	1713.76
4WC2-1	1740.56	24.51	1716.05	24.20	1716.36	24.40	1716.16	24.85	1715.71
4WC2-2	1739.98	19.79	1720.19	18.05	1721.93	19.69	1720.29	20.75	1719.23
4WC2-3	1740.77	18.61	1722.16	17.59	1723.18	18.49	1722.28	19.58	1721.19
4WC3-2	1725.80	21.33	1704.47	19.52	1706.28	21.41	1704.39	22.86	1702.94
4WC4-1	1711.69	11.29	1700.40	11.13	1700.56	11.30	1700.39	11.24	1700.45
4WC4-2	1711.77	14.79	1696.98	14.32	1697.45	14.85	1696.92	15.17	1696.60
4WC4-3	1711.64	11.22	1700.42	11.10	1700.54	11.30	1700.34	11.20	1700.44
4W5A	1716.42	15.54	1700.88	13.90	1702.52	15.50	1700.92	16.66	1699.76
4W6A	1715.55	15.41	1700.14	14.12	1701.43	15.40	1700.15	16.20	1699.35
4W7A	1706.97	11.24	1695.73	11.40	1695.57	11.77	1695.20	12.25	1694.72

NOTES:
DTW - Depth to water from ground surface.
GW ELEV - Groundwater elevation.
All elevations in feet above mean sea level.
NM - Not measured.

TABLE 2
HWMU-5
GROUNDWATER ELEVATIONS - 2000
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

MONITORING WELL ID	ELEVATION TOP OF WELL	FIRST QUARTER 2000		SECOND QUARTER 2000		THIRD QUARTER 2000		FOURTH QUARTER 2000	
		DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV
5W8B	1789.55	14.74	1774.81	14.18	1775.37	14.60	1774.95	17.06	1772.49
5W5B	1775.08	10.42	1764.66	9.25	1765.83	10.28	1764.80	11.90	1763.18
5W7B	1774.90	10.48	1764.42	9.30	1765.60	10.26	1764.64	11.70	1763.20
5WC2-1	1774.43	10.49	1763.94	6.40	1768.03	10.32	1764.11	11.79	1762.64
5WC2-2	1774.45	10.44	1764.01	9.39	1765.06	10.30	1764.15	11.80	1762.65
5WC2-3	1773.84	9.98	1763.86	8.80	1765.04	9.75	1764.09	11.22	1762.62
S5W5	1771.74	9.16	1762.58	7.69	1764.05	9.15	1762.59	10.45	1761.29
S5W6	1771.43	NM	NM	NM	NM	NM	NM	NM	NM
S5W7	1775.06	12.12	1762.94	11.52	1763.54	12.11	1762.95	12.94	1762.12
5W9A	1761.82	3.02	1758.80	1.85	1759.97	2.80	1759.02	3.80	1758.02
5W10A	1770.79	15.24	1755.55	14.10	1756.69	14.85	1755.94	15.56	1755.23
5W11A	1765.90	12.71	1753.19	10.71	1755.19	12.20	1753.70	11.83	1754.07

NOTES:
DTW - Depth to water from ground surface.
GW ELEV - Groundwater elevation.
All elevations in feet above mean sea level.
NM - Not measured.

TABLE 3
HWMU-10
GROUNDWATER ELEVATIONS - 2000
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

MONITORING WELL ID	ELEVATION TOP OF WELL	FIRST QUARTER 2000		SECOND QUARTER 2000		THIRD QUARTER 2000		FOURTH QUARTER 2000	
		DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV
10D4	1715.72	23.36	1692.36	23.30	1692.42	23.31	1692.41	23.49	1692.23
10DDH2	1702.38	17.82	1684.56	16.95	1685.43	18.05	1684.33	18.60	1683.78
10D3	1702.91	19.22	1683.69	18.06	1684.85	19.43	1683.48	19.45	1683.46
10D3D	1703.00	19.09	1683.91	18.40	1684.60	19.50	1683.50	19.62	1683.38
10MW1	1703.28	19.29	1683.99	18.54	1684.74	19.60	1683.68	19.85	1683.43

NOTES:
DTW - Depth to water from ground surface.
GW ELEV - Groundwater elevation.
All elevations in feet above mean sea level.

TABLE 4
HWMU-13
GROUNDWATER ELEVATIONS - 2000
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

MONITORING WELL ID	ELEVATION TOP OF WELL	FIRST QUARTER 2000		SECOND QUARTER 2000		THIRD QUARTER 2000		FOURTH QUARTER 2000	
		DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV
13MW1	1701.46	22.16	1679.30	21.05	1680.41	21.70	1679.76	22.75	1678.71
13MW2	1702.71	22.08	1680.63	21.63	1681.08	22.15	1680.56	23.57	1679.14
13MW3	1695.01	14.61	1680.40	13.75	1681.26	14.11	1680.90	14.66	1680.35
13MW4	1696.58	17.61	1678.97	16.85	1679.73	17.40	1679.18	18.10	1678.48
13MW5	1696.76	18.22	1678.54	16.90	1679.86	17.54	1679.22	18.50	1678.26
13MW6	1696.11	17.60	1678.51	16.50	1679.61	18.20	1677.91	18.05	1678.06
13MW7	1695.51	17.31	1678.20	15.90	1679.61	18.65	1676.86	17.65	1677.86

NOTES:
DTW - Depth to water from ground surface.
GW ELEV - Groundwater elevation.
All elevations in feet above mean sea level.

TABLE 5
HWMU-16
GROUNDWATER ELEVATIONS - 2000
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

MONITORING WELL ID	ELEVATION TOP OF WELL	FIRST QUARTER 2000		SECOND QUARTER 2000		THIRD QUARTER 2000		FOURTH QUARTER 2000	
		DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV
16C1	1839.78	51.07	1788.71	51.56	1788.22	50.20	1789.58	49.10	1790.68
16MW8	1818.32	72.44	1745.88	DRY	DRY	DRY	DRY	DRY	DRY
16MW9	1811.38	66.78	1744.60	65.62	1745.76	64.88	1746.50	66.36	1745.02
16WC1A	1814.41	70.35	1744.06	69.30	1745.11	68.80	1745.61	69.60	1744.81
16WC1B	1815.05	68.98	1746.07	DRY	DRY	DRY	DRY	DRY	DRY
16-1	1815.38	52.42	1762.96	DRY	DRY	51.48	1763.90	51.42	1763.96
16-2	1810.28	55.82	1754.46	55.80	1754.48	55.84	1754.44	55.85	1754.43
16-3	1825.83	58.94	1766.89	58.54	1767.29	58.04	1767.79	57.40	1768.43
16-5	1742.60	5.48	1737.12	4.95	1737.65	4.75	1737.85	5.10	1737.50
16WC2A	1820.05	64.62	1755.43	64.45	1755.60	64.34	1755.71	DRY	DRY
16WC2B	1820.61	55.99	1764.62	54.90	1765.71	54.04	1766.57	54.10	1766.51
16C3	1822.22	NM	NM	NM	NM	NM	NM	NM	NM
16CDH3(2)	1825.60	NM	NM	NM	NM	NM	NM	NM	NM
SPRING	na	na	na	na	na	na	na	na	na

NOTES:
DTW - Depth to water from ground surface.
GW ELEV - Groundwater elevation.
All elevations in feet above mean sea level.
NM - Not measured.
na - Not applicable.

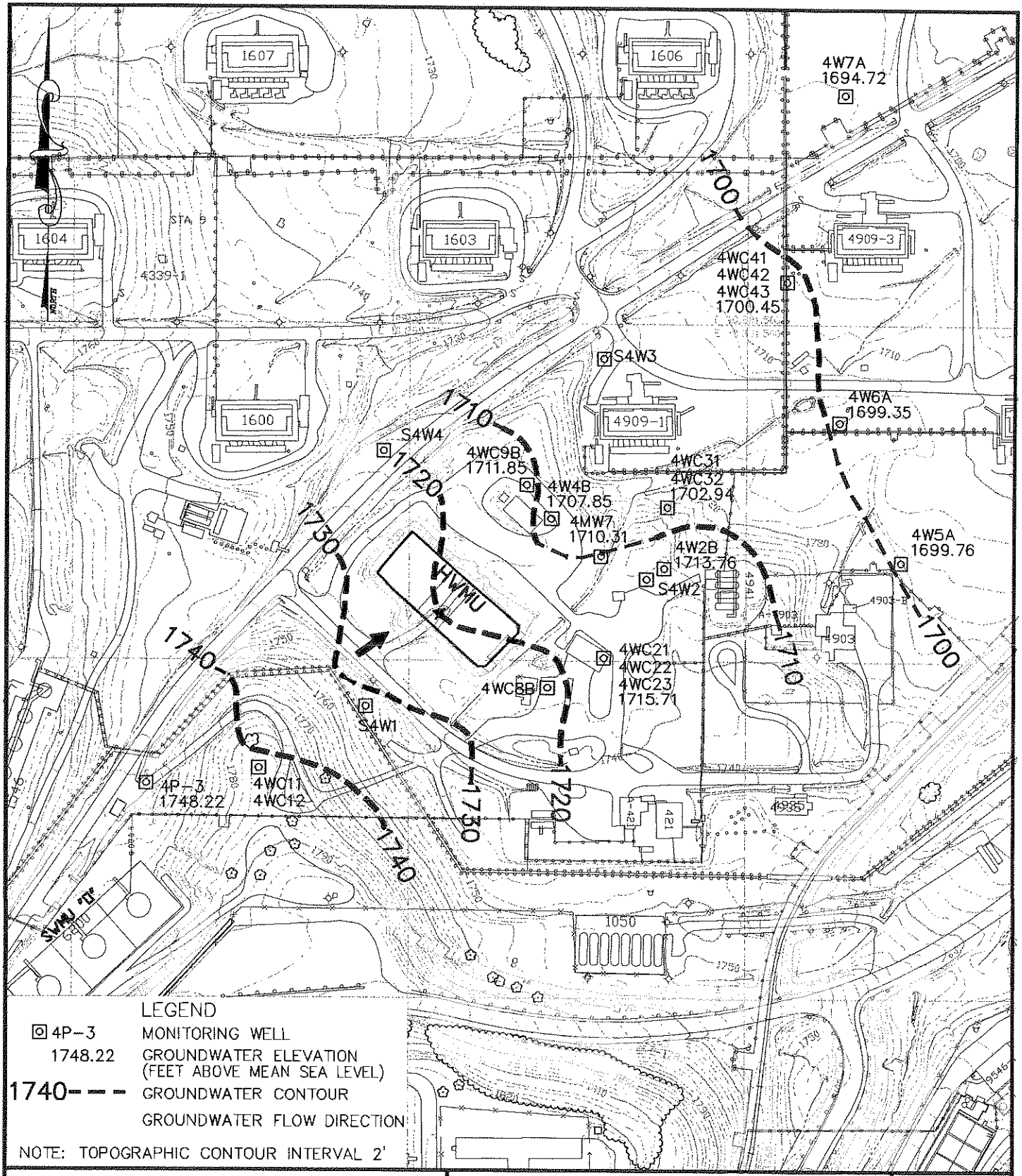
TABLE 6
HWMU-39
GROUNDWATER ELEVATIONS - 2000
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

MONITORING WELL ID	ELEVATION TOP OF WELL	FIRST QUARTER 2000		SECOND QUARTER 2000		THIRD QUARTER 2000		FOURTH QUARTER 2000	
		DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV	DTW	GW ELEV
39MW1	1702.97	25.62	1677.35	25.38	1677.59	25.75	1677.22	25.71	1677.26
39MW3	1701.55	24.03	1677.52	23.70	1677.85	24.05	1677.50	24.14	1677.41
39MW4	1703.79	25.30	1678.49	24.17	1679.62	DRY	DRY	DRY	DRY
39MW5	1701.98	DRY	DRY	23.88	1678.10	DRY	DRY	DRY	DRY
39MW6	1701.17	DRY	DRY	23.38	1677.79	DRY	DRY	DRY	DRY

NOTES:
DTW - Depth to water from ground surface.
GW ELEV - Groundwater elevation.
All elevations in feet above mean sea level.

APPENDIX B

FIGURES

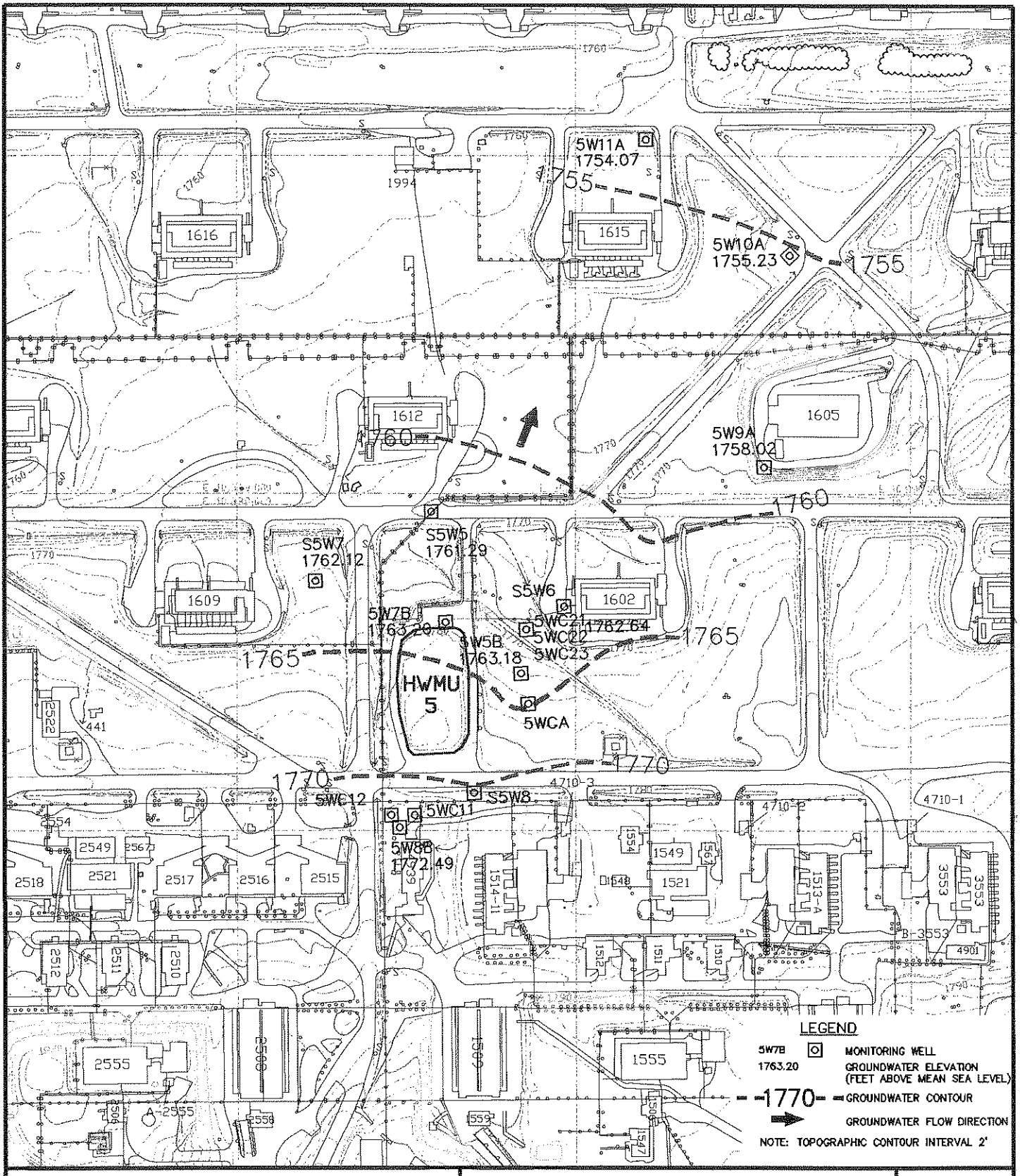


HWMU-4
POTENTIOMETRIC SURFACE MAP
(FOURTH QUARTER 2000)

RADFORD ARMY
AMMUNITION PLANT
RADFORD, VIRGINIA

Draper Aden Associates
CONSULTING ENGINEERS
Blacksburg, VA — Richmond, VA

JOB No.	DATE:	SCALE:	FIGURE
7774-22	21 FEB. 2001	1" = 200'	

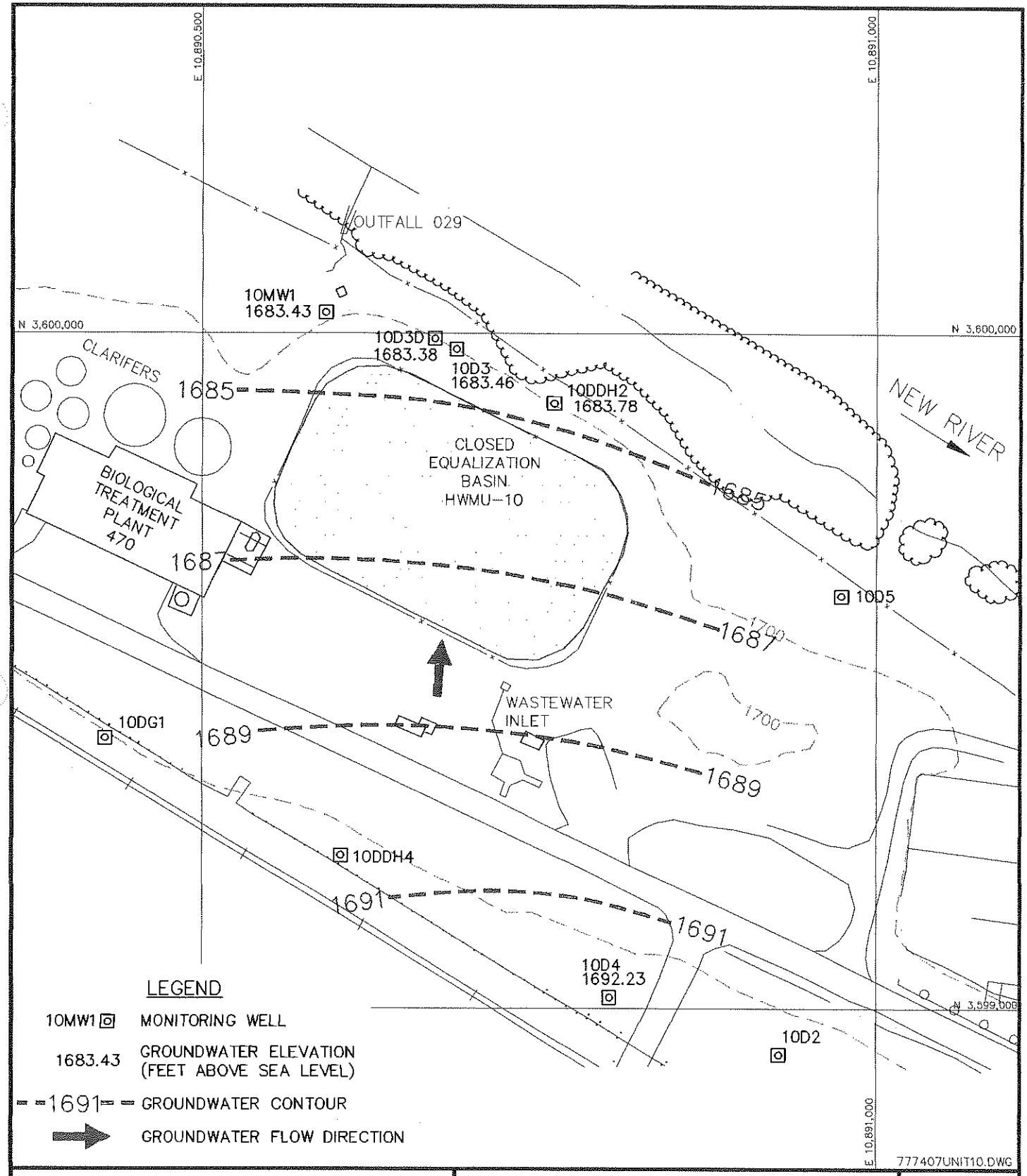


HWMU–5
POTENTIOMETRIC SURFACE MAP
(FOURTH QUARTER 2000)

RADFORD ARMY
AMMUNITION PLANT
RADFORD, VIRGINIA

Draper Aden Associates
CONSULTING ENGINEERS
Blacksburg, VA – Richmond, VA

JOB No.	DATE:	SCALE:	FIGURE
7774–22	21 FEB. 2001	1" = 200'	



HWMU-10 POTENTIOMETRIC SURFACE MAP (FOURTH QTR. 2000)

RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

Draper Aden Associates
CONSULTING ENGINEERS
Blacksburg, VA – Richmond, VA

JOB No.	DATE:	SCALE:	FIGURE
7774-22	21 FEB. 2001	1" = 100'	

13MW1
1678.71

13MW2
1679.14

13MW3
1680.35

13MW4
1678.48

13MW5
1678.26

13MW6
1678.06

13MW7
1677.86

1680

1679

1678

NEW RIVER

LEGEND

13MW1 ◎ MONITORING WELL

1678.71 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

1680 GROUNDWATER CONTOUR

GROUNDWATER FLOW DIRECTION

NOTE: TOPOGRAPHIC CONTOUR INTERVAL 2'

7774-22_HWMU-13.DWG

Draper Aden Associates
CONSULTING ENGINEERS
Blacksburg, Virginia – Richmond, Virginia

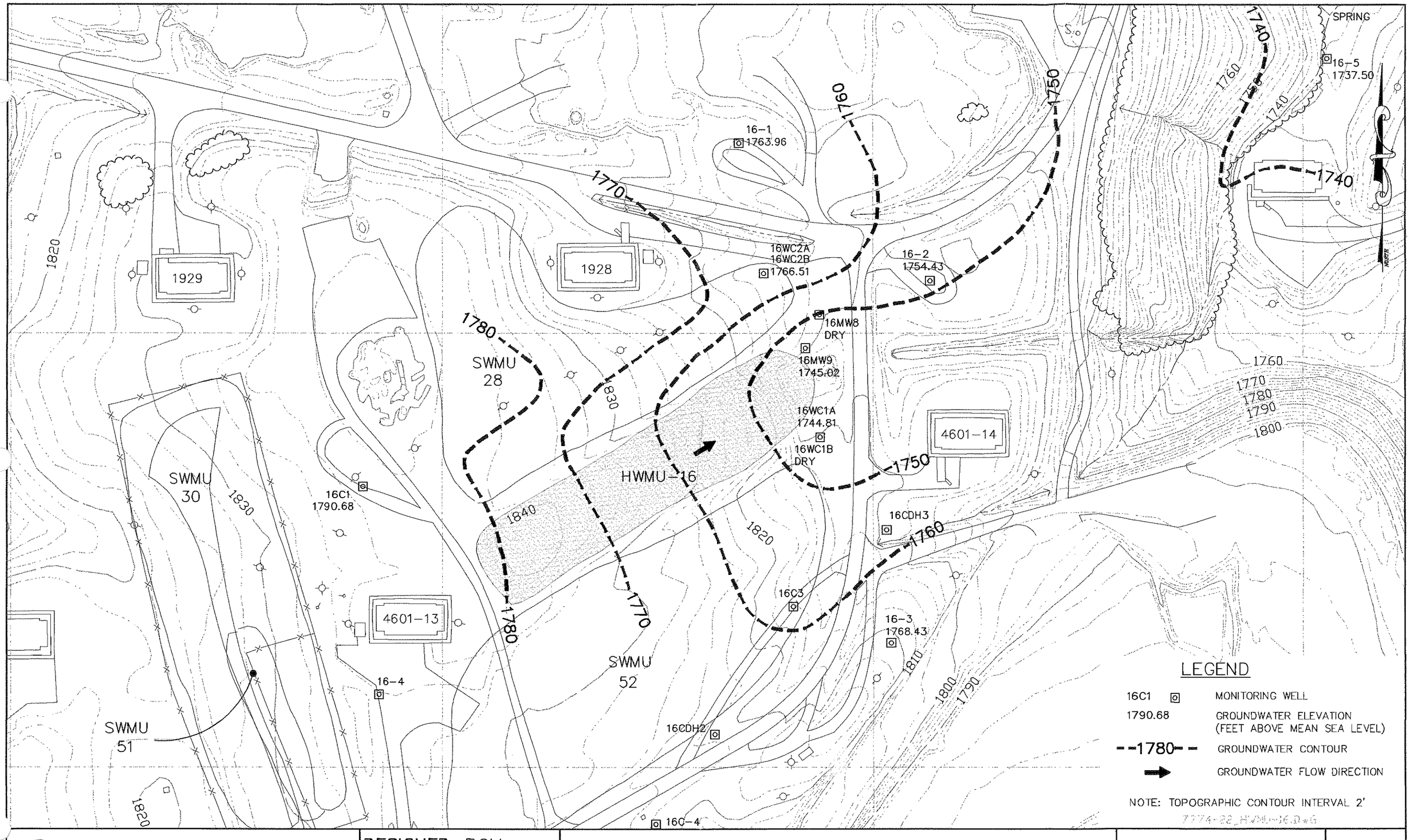
DESIGNED	RGM
DRAWN	JFF
CHECKED	AEK
DATE	21 FEB. 2001

HWMU–13 POTENTIOMETRIC SURFACE MAP (FOURTH QUARTER 2000)
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

SCALE: 1" = 200'

PLAN NO. 7774–22

FIGURE



Draper Aden Associates
CONSULTING ENGINEERS
Blacksburg, Virginia – Richmond, Virginia

DESIGNED	RGM
DRAWN	JFF
CHECKED	AEK
DATE	21 FEB. 2001

HWMU-16 POTENTIOMETRIC SURFACE MAP (FOURTH QUARTER 2000)
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

SCALE: 1" = 100'

PLAN NO. 7774-22

FIGURE

LEGEND

39MW1 ◎	MONITORING WELL
1677.59	GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
--1678--	GROUNDWATER CONTOUR
→	GROUNDWATER FLOW DIRECTION

NOTE: TOPOGRAPHIC CONTOUR INTERVAL 2'

1700
1700
1710
1700
1720
1710
1700
1700
1710
39MW6
1677.79
39MW2
39MW3
1677.85
1700
1710
39MW5
1678.10
1678
HWMU-39
1679
39MW4
1679.62
1700
39MW1
1677.59
1679
1678
1700
1710
1700
7774-22_HWMU-39.DWG

Draper Aden Associates CONSULTING ENGINEERS Blacksburg, Virginia – Richmond, Virginia	DESIGNED RGM DRAWN JFF CHECKED AEK DATE 21 FEB. 2001	HWMU-39 POTENTIOMETRIC SURFACE MAP (SECOND QUARTER 2000) RADFORD ARMY AMMUNITION PLANT RAFORD, VIRGINIA	SCALE: 1" = 100' PLAN NO. 7774-22	FIGURE

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:14

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:MeEthKe Methylethylketone (MEK) (2-Butanone)

CAS Number: 78-93-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.550 ppb	-0.598	(* Nondetect *)
Jun 30 1996	0.550 ppb	-0.598	(* Nondetect *)
Sep 30 1996	0.550 ppb	-0.598	(* Nondetect *)
Dec 31 1996	0.550 ppb	-0.598	(* Nondetect *)
Jun 30 1997	0.550 ppb	-0.598	(* Nondetect *)
Sep 30 1997	0.550 ppb	-0.598	(* Nondetect *)
Dec 31 1997	0.550 ppb	-0.598	(* Nondetect *)
Jan 21 1998	0.550 ppb	-0.598	(* Nondetect *)
Apr 08 1998	0.550 ppb	-0.598	(* Nondetect *)
Jul 07 1998	0.550 ppb	-0.598	(* Nondetect *)
Oct 13 1998	0.550 ppb	-0.598	(* Nondetect *)
Mar 05 1999	0.550 ppb	-0.598	(* Nondetect *)
May 26 1999	0.550 ppb	-0.598	(* Nondetect *)
Jul 23 1999	0.550 ppb	-0.598	(* Nondetect *)
Nov 05 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 28 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 29 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 30 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 31 1999	0.550 ppb	-0.598	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598

Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:25

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Toluen Toluene

CAS Number: 108-88-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jan 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 08 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 07 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 13 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 05 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 23 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 05 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996

Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:23

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:TCE Trichloroethene (-ethylene)

CAS Number: 79-01-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jan 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 08 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 07 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 13 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 05 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 23 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 05 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996

Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:30

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Xylene Xylene

CAS Number: 1330-20-7
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jan 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 08 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 07 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 13 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 05 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 23 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 05 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996

Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 20:57

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:As Arsenic, total

CAS Number: 7440-38-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Jan 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 08 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 07 1998	0.500 ppb	-0.693	(* Nondetect *)
Oct 13 1998	1.000 ppb	0.000	
Mar 05 1999	5.000 ppb	1.609	
May 26 1999	0.500 ppb	-0.693	(* Nondetect *)
Jul 23 1999	0.500 ppb	-0.693	(* Nondetect *)
Nov 05 1999	3.000 ppb	1.099	
Dec 28 1999	2.000 ppb	0.693	
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	0.500 ppb	-0.693	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 79

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	0.974 ppb	Ln Mean:	-0.368
Std. Dev.:	1.172 ppb	Ln Std. Dev.:	0.704

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693

Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	3.000 ppb	1.099

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.000 ppb	Ln Minimum:	1.099
Maximum:	3.000 ppb	Ln Maximum:	1.099
Mean:	3.000 ppb	Ln Mean:	1.099
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

:ility:Haz. Waste Unit 4 - RAAP
Parameter:Arsenic, total(CAS Number:7440-38-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 5.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	1.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	2.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	1.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	1.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	3.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<1.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Arsenic, total(CAS Number:7440-38-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 5.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	1.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Data Set Summary

Report Printed: 02-23-2001 20:58

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Ba Barium, total

CAS Number: 7440-39-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 2.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln
Mar 31 1996	69.000 ppb	4.234
Jun 30 1996	57.000 ppb	4.043
Sep 30 1996	79.000 ppb	4.369
Dec 31 1996	78.000 ppb	4.357
Jun 30 1997	56.000 ppb	4.025
Sep 30 1997	87.000 ppb	4.466
Dec 31 1997	83.000 ppb	4.419
Jan 21 1998	99.000 ppb	4.595
Apr 08 1998	85.000 ppb	4.443
Jul 07 1998	96.000 ppb	4.564
Oct 13 1998	98.000 ppb	4.585
Mar 05 1999	348.000 ppb	5.852
May 26 1999	74.000 ppb	4.304
Jul 23 1999	80.000 ppb	4.382
Nov 05 1999	87.000 ppb	4.466
Dec 28 1999	62.000 ppb	4.127
Dec 29 1999	44.000 ppb	3.784
Dec 30 1999	54.000 ppb	3.989
Dec 31 1999	64.000 ppb	4.159

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 0

Minimum:	44.000 ppb	Ln Minimum:	3.784
Maximum:	348.000 ppb	Ln Maximum:	5.852
Mean:	89.474 ppb	Ln Mean:	4.377
Std. Dev.:	64.554 ppb	Ln Std. Dev.:	0.421

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	127.000 ppb	4.844

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	127.000 ppb	Ln Minimum:	4.844
Maximum:	127.000 ppb	Ln Maximum:	4.844
Mean:	127.000 ppb	Ln Mean:	4.844
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	193.000 ppb	5.263

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	193.000 ppb	Ln Minimum:	5.263
Maximum:	193.000 ppb	Ln Maximum:	5.263
Mean:	193.000 ppb	Ln Mean:	5.263
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	41.000 ppb	3.714

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	41.000 ppb	Ln Minimum:	3.714

Maximum:	41.000 ppb	Ln Maximum:	3.714
Mean:	41.000 ppb	Ln Mean:	3.714
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	147.000 ppb	4.990

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	147.000 ppb	Ln Minimum:	4.990
Maximum:	147.000 ppb	Ln Maximum:	4.990
Mean:	147.000 ppb	Ln Mean:	4.990
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	206.000 ppb	5.328

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	206.000 ppb	Ln Minimum:	5.328
Maximum:	206.000 ppb	Ln Maximum:	5.328
Mean:	206.000 ppb	Ln Mean:	5.328
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	107.000 ppb	4.673

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	107.000 ppb	Ln Minimum:	4.673
Maximum:	107.000 ppb	Ln Maximum:	4.673
Mean:	107.000 ppb	Ln Mean:	4.673
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	41.000 ppb	3.714

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	41.000 ppb	Ln Minimum:	3.714
Maximum:	41.000 ppb	Ln Maximum:	3.714
Mean:	41.000 ppb	Ln Mean:	3.714
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	43.000 ppb	3.761

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	43.000 ppb	Ln Minimum:	3.761
Maximum:	43.000 ppb	Ln Maximum:	3.761
Mean:	43.000 ppb	Ln Mean:	3.761
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	174.000 ppb	5.159

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	174.000 ppb	Ln Minimum:	5.159
Maximum:	174.000 ppb	Ln Maximum:	5.159
Mean:	174.000 ppb	Ln Mean:	5.159
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	90.000 ppb	4.500

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	90.000 ppb	Ln Minimum:	4.500
Maximum:	90.000 ppb	Ln Maximum:	4.500
Mean:	90.000 ppb	Ln Mean:	4.500
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	99.000 ppb	4.595

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	99.000 ppb	Ln Minimum:	4.595
Maximum:	99.000 ppb	Ln Maximum:	4.595
Mean:	99.000 ppb	Ln Mean:	4.595
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	37.000 ppb	3.611

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	37.000 ppb	Ln Minimum:	3.611
Maximum:	37.000 ppb	Ln Maximum:	3.611
Mean:	37.000 ppb	Ln Mean:	3.611
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	130.000 ppb	4.868

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	130.000 ppb	Ln Minimum:	4.868
Maximum:	130.000 ppb	Ln Maximum:	4.868
Mean:	130.000 ppb	Ln Mean:	4.868
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 20:58

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Ba Barium, total

CAS Number: 7440-39-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 2.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:19

Scale	Minimum	Maximum	Mean	Std Dev
Original:	44.000	348.000	89.474	64.554
Log:	3.784	5.852	4.377	0.421

Pooled Statistics
Observations: 19

Statistic	Original Scale	Log Scale
Mean:	89.474	4.377
Std Dev:	64.554	0.421
Skewness:	3.610*	2.181*
Kurtosis:	12.116	6.146
Minimum:	44.000	3.784
Maximum:	348.000	5.852
CV:	0.721	0.096

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.4743*	0.9010	0.8630

Log:	0.7638*	0.9010	0.8630

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

ility:Haz. Waste Unit 4 - RAAP
Parameter:Barium, total(CAS Number:7440-39-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 348.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	127.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	193.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	41.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	147.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	206.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	107.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	41.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Barium, total(CAS Number:7440-39-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 348.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	43.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	174.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	90.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	99.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	37.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	130.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:00

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Be Beryllium, total

CAS Number: 7440-41-7
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.200 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.900 ppb	-0.105	
Jun 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1996	1.000 ppb	0.000	
Dec 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1997	1.000 ppb	0.000	
Sep 30 1997	3.500 ppb	1.253	
Dec 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Jan 21 1998	0.100 ppb	-2.303	(* Nondetect *)
Apr 08 1998	0.100 ppb	-2.303	(* Nondetect *)
Jul 07 1998	0.100 ppb	-2.303	(* Nondetect *)
Oct 13 1998	0.100 ppb	-2.303	(* Nondetect *)
Mar 05 1999	1.000 ppb	0.000	
May 26 1999	0.100 ppb	-2.303	(* Nondetect *)
Jul 23 1999	0.100 ppb	-2.303	(* Nondetect *)
Nov 05 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 28 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 29 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 30 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1999	0.100 ppb	-2.303	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 74

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	3.500 ppb	Ln Maximum:	1.253
Mean:	0.463 ppb	Ln Mean:	-1.636
Std. Dev.:	0.821 ppb	Ln Std. Dev.:	1.177

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303

Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Beryllium, total(CAS Number:7440-41-7)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 3.500 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<0.200 ppb

Report Produced by GRITS/STAT 5.01

APPENDIX C

HWMU-4 STATISTICAL ANALYSIS RESULTS

The GRITS/STAT v5.0 software package does not recognize the year 2000. Therefore, in order to conduct the statistical analyses for this report, the sample dates for the four quarters of laboratory analytical results for the year 2000 were entered into the statistical package as follows:

- **First Quarter 2000** entered as **December 28, 1999**
- **Second Quarter 2000** entered as **December 29, 1999**
- **Third Quarter 2000** entered as **December 30, 1999**
- **Fourth Quarter 2000** entered as **December 31, 1999**

Data Set Summary

Report Printed: 02-23-2001 21:20

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Sb Antimony, total

CAS Number: 7440-36-0
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 3.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln
Mar 31 1996	1.500 ppb	0.405 (* Nondetect *)
Jun 30 1996	1.500 ppb	0.405 (* Nondetect *)
Sep 30 1996	1.500 ppb	0.405 (* Nondetect *)
Dec 31 1996	1.500 ppb	0.405 (* Nondetect *)
Jun 30 1997	1.500 ppb	0.405 (* Nondetect *)
Sep 30 1997	1.500 ppb	0.405 (* Nondetect *)
Dec 31 1997	1.500 ppb	0.405 (* Nondetect *)
Jan 21 1998	1.500 ppb	0.405 (* Nondetect *)
Apr 08 1998	1.500 ppb	0.405 (* Nondetect *)
Jul 07 1998	1.500 ppb	0.405 (* Nondetect *)
Oct 13 1998	1.500 ppb	0.405 (* Nondetect *)
Mar 05 1999	1.500 ppb	0.405 (* Nondetect *)
May 26 1999	1.500 ppb	0.405 (* Nondetect *)
Jul 23 1999	1.500 ppb	0.405 (* Nondetect *)
Nov 05 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 28 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 29 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 30 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405

Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:14

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Hg Mercury

CAS Number: 7439-97-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.200 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Jan 21 1998	0.100 ppb	-2.303	(* Nondetect *)
Apr 08 1998	0.100 ppb	-2.303	(* Nondetect *)
Jul 07 1998	0.100 ppb	-2.303	(* Nondetect *)
Oct 13 1998	0.100 ppb	-2.303	(* Nondetect *)
Mar 05 1999	0.100 ppb	-2.303	(* Nondetect *)
May 26 1999	0.100 ppb	-2.303	(* Nondetect *)
Jul 23 1999	0.100 ppb	-2.303	(* Nondetect *)
Nov 05 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 28 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 29 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 30 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1999	0.100 ppb	-2.303	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303

Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.200 ppb	-1.609

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.200 ppb	Ln Minimum:	-1.609
Maximum:	0.200 ppb	Ln Maximum:	-1.609
Mean:	0.200 ppb	Ln Mean:	-1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:02

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:BiEHPhth bis (2-Ethylhexyl) Phthalate

CAS Number: 117-81-7
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 10.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	5.000 ppb	1.609	(* Nondetect *)
Jun 30 1996	5.000 ppb	1.609	(* Nondetect *)
Sep 30 1996	5.000 ppb	1.609	(* Nondetect *)
Dec 31 1996	5.000 ppb	1.609	(* Nondetect *)
Jun 30 1997	5.000 ppb	1.609	(* Nondetect *)
Sep 30 1997	5.000 ppb	1.609	(* Nondetect *)
Dec 31 1997	5.000 ppb	1.609	(* Nondetect *)
Jan 21 1998	5.000 ppb	1.609	(* Nondetect *)
Apr 08 1998	5.000 ppb	1.609	(* Nondetect *)
Jul 07 1998	5.000 ppb	1.609	(* Nondetect *)
Oct 13 1998	5.000 ppb	1.609	(* Nondetect *)
Mar 05 1999	5.000 ppb	1.609	(* Nondetect *)
May 26 1999	5.000 ppb	1.609	(* Nondetect *)
Jul 23 1999	5.000 ppb	1.609	(* Nondetect *)
Nov 05 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 28 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 29 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 30 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 31 1999	5.000 ppb	1.609	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609

Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:05

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:ChlMeth Chloromethane

CAS Number: 74-87-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.300 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.150 ppb	-1.897	(* Nondetect *)
Jun 30 1996	0.150 ppb	-1.897	(* Nondetect *)
Sep 30 1996	0.150 ppb	-1.897	(* Nondetect *)
Dec 31 1996	0.150 ppb	-1.897	(* Nondetect *)
Jun 30 1997	0.150 ppb	-1.897	(* Nondetect *)
Sep 30 1997	0.150 ppb	-1.897	(* Nondetect *)
Dec 31 1997	0.150 ppb	-1.897	(* Nondetect *)
Jan 21 1998	0.150 ppb	-1.897	(* Nondetect *)
Apr 08 1998	0.150 ppb	-1.897	(* Nondetect *)
Jul 07 1998	0.150 ppb	-1.897	(* Nondetect *)
Oct 13 1998	0.150 ppb	-1.897	(* Nondetect *)
Mar 05 1999	0.150 ppb	-1.897	(* Nondetect *)
May 26 1999	0.150 ppb	-1.897	(* Nondetect *)
Jul 23 1999	0.150 ppb	-1.897	(* Nondetect *)
Nov 05 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 28 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 29 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 30 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 31 1999	0.150 ppb	-1.897	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897

Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:12

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Di-N-Bu Di-n-Butylphthalate

CAS Number: 84-74-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	2.500 ppb	0.916	(* Nondetect *)
Jun 30 1996	2.500 ppb	0.916	(* Nondetect *)
Sep 30 1996	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1996	2.500 ppb	0.916	(* Nondetect *)
Jun 30 1997	2.500 ppb	0.916	(* Nondetect *)
Sep 30 1997	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1997	2.500 ppb	0.916	(* Nondetect *)
Jan 21 1998	2.500 ppb	0.916	(* Nondetect *)
Apr 08 1998	2.500 ppb	0.916	(* Nondetect *)
Jul 07 1998	2.500 ppb	0.916	(* Nondetect *)
Oct 13 1998	2.500 ppb	0.916	(* Nondetect *)
Mar 05 1999	2.500 ppb	0.916	(* Nondetect *)
May 26 1999	2.500 ppb	0.916	(* Nondetect *)
Jul 23 1999	2.500 ppb	0.916	(* Nondetect *)
Nov 05 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 28 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 29 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 30 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1999	2.500 ppb	0.916	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916

Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:26

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:TranDCEE trans-1,2-Dichloroethene

CAS Number: 156-60-5
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jan 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 08 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 07 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 13 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 05 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 23 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 05 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996

Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:11

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:DEthPhth Diethylphthalate

CAS Number: 84-66-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln
Mar 31 1996	2.500 ppb	0.916 (* Nondetect *)
Jun 30 1996	2.500 ppb	0.916 (* Nondetect *)
Sep 30 1996	2.500 ppb	0.916 (* Nondetect *)
Dec 31 1996	2.500 ppb	0.916 (* Nondetect *)
Jun 30 1997	2.500 ppb	0.916 (* Nondetect *)
Sep 30 1997	2.500 ppb	0.916 (* Nondetect *)
Dec 31 1997	2.500 ppb	0.916 (* Nondetect *)
Jan 21 1998	2.500 ppb	0.916 (* Nondetect *)
Apr 08 1998	2.500 ppb	0.916 (* Nondetect *)
Jul 07 1998	2.500 ppb	0.916 (* Nondetect *)
Oct 13 1998	2.500 ppb	0.916 (* Nondetect *)
Mar 05 1999	2.500 ppb	0.916 (* Nondetect *)
May 26 1999	2.500 ppb	0.916 (* Nondetect *)
Jul 23 1999	2.500 ppb	0.916 (* Nondetect *)
Nov 05 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 28 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 29 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 30 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916

Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 20:56

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:2,4-DNP 2,4-Dinitrophenol

CAS Number: 51-28-5
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 50.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln
Mar 31 1996	25.000 ppb	3.219 (* Nondetect *)
Jun 30 1996	25.000 ppb	3.219 (* Nondetect *)
Sep 30 1996	25.000 ppb	3.219 (* Nondetect *)
Dec 31 1996	25.000 ppb	3.219 (* Nondetect *)
Jun 30 1997	25.000 ppb	3.219 (* Nondetect *)
Sep 30 1997	25.000 ppb	3.219 (* Nondetect *)
Dec 31 1997	25.000 ppb	3.219 (* Nondetect *)
Jan 21 1998	25.000 ppb	3.219 (* Nondetect *)
Apr 08 1998	25.000 ppb	3.219 (* Nondetect *)
Jul 07 1998	25.000 ppb	3.219 (* Nondetect *)
Oct 13 1998	25.000 ppb	3.219 (* Nondetect *)
Mar 05 1999	25.000 ppb	3.219 (* Nondetect *)
May 26 1999	25.000 ppb	3.219 (* Nondetect *)
Jul 23 1999	25.000 ppb	3.219 (* Nondetect *)
Nov 05 1999	25.000 ppb	3.219 (* Nondetect *)
Dec 28 1999	25.000 ppb	3.219 (* Nondetect *)
Dec 29 1999	25.000 ppb	3.219 (* Nondetect *)
Dec 30 1999	25.000 ppb	3.219 (* Nondetect *)
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219

Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	25.000 ppb	3.219 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	25.000 ppb	Ln Minimum:	3.219
Maximum:	25.000 ppb	Ln Maximum:	3.219
Mean:	25.000 ppb	Ln Mean:	3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-23-2001 21:12

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:DPA Diphenylamine

CAS Number: 122-39-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 10.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln
Mar 31 1996	5.000 ppb	1.609 (* Nondetect *)
Jun 30 1996	5.000 ppb	1.609 (* Nondetect *)
Sep 30 1996	5.000 ppb	1.609 (* Nondetect *)
Dec 31 1996	5.000 ppb	1.609 (* Nondetect *)
Jun 30 1997	5.000 ppb	1.609 (* Nondetect *)
Sep 30 1997	5.000 ppb	1.609 (* Nondetect *)
Dec 31 1997	5.000 ppb	1.609 (* Nondetect *)
Jan 21 1998	5.000 ppb	1.609 (* Nondetect *)
Apr 08 1998	5.000 ppb	1.609 (* Nondetect *)
Jul 07 1998	5.000 ppb	1.609 (* Nondetect *)
Oct 13 1998	5.000 ppb	1.609 (* Nondetect *)
Mar 05 1999	5.000 ppb	1.609 (* Nondetect *)
May 26 1999	5.000 ppb	1.609 (* Nondetect *)
Jul 23 1999	5.000 ppb	1.609 (* Nondetect *)
Nov 05 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 28 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 29 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 30 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609

Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

ility:Haz. Waste Unit 4 - RAAP
Parameter:Beryllium, total(CAS Number:7440-41-7)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 3.500 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Data Set Summary

Report Printed: 02-23-2001 21:03

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Cd Cadmium, total

CAS Number: 7440-43-9
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.200 ppb	-1.609	
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.100 ppb	-2.303	
Sep 30 1997	0.300 ppb	-1.204	
Dec 31 1997	0.300 ppb	-1.204	
Jan 21 1998	0.200 ppb	-1.609	
Apr 08 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 07 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 13 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 05 1999	0.800 ppb	-0.223	
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 23 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 05 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 68

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.800 ppb	Ln Maximum:	-0.223
Mean:	0.134 ppb	Ln Mean:	-2.479
Std. Dev.:	0.183 ppb	Ln Std. Dev.:	0.861

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996

Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Cadmium, total(CAS Number:7440-43-9)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 0.800 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<0.100 ppb

Report Produced by GRITS/STAT 5.01

ility:Haz. Waste Unit 4 - RAAP
Parameter:Cadmium, total(CAS Number:7440-43-9)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 0.800 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<0.100 ppb

1:4WC41

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Data Set Summary

Report Printed: 02-23-2001 21:09

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Cr Chromium, total

CAS Number: 7440-47-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	9.000 ppb	2.197	
Jun 30 1996	3.000 ppb	1.099	
Sep 30 1996	2.000 ppb	0.693	
Dec 31 1996	3.000 ppb	1.099	
Jun 30 1997	4.000 ppb	1.386	
Sep 30 1997	3.000 ppb	1.099	
Dec 31 1997	3.000 ppb	1.099	
Jan 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 08 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 07 1998	5.000 ppb	1.609	
Oct 13 1998	9.000 ppb	2.197	
Mar 05 1999	22.000 ppb	3.091	
May 26 1999	2.000 ppb	0.693	
Jul 23 1999	0.500 ppb	-0.693	(* Nondetect *)
Nov 05 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 28 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	0.500 ppb	-0.693	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 42

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	22.000 ppb	Ln Maximum:	3.091
Mean:	3.632 ppb	Ln Mean:	0.564
Std. Dev.:	5.177 ppb	Ln Std. Dev.:	1.232

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693

Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	39.000 ppb	3.664

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	39.000 ppb	Ln Minimum:	3.664
Maximum:	39.000 ppb	Ln Maximum:	3.664
Mean:	39.000 ppb	Ln Mean:	3.664
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	4.000 ppb	1.386

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	4.000 ppb	Ln Minimum:	1.386
Maximum:	4.000 ppb	Ln Maximum:	1.386
Mean:	4.000 ppb	Ln Mean:	1.386
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:09

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Cr Chromium, total

CAS Number: 7440-47-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:19

Scale	Minimum	Maximum	Mean	Std Dev
Original:	0.500	22.000	3.632	5.177
Log:	-0.693	3.091	0.564	1.232

Pooled Statistics
Observations: 19

Statistic	Original Scale	Log Scale
Mean:	3.632	0.564
Std Dev:	5.177	1.232
Skewness:	2.573*	0.344
Kurtosis:	6.494	-1.039
Minimum:	0.500	-0.693
Maximum:	22.000	3.091
CV:	1.426	2.184

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.6345*	0.9010	0.8630

Log:	0.8528*	0.9010	0.8630

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

ility:Haz. Waste Unit 4 - RAAP
Parameter:Chromium, total(CAS Number:7440-47-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 22.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	1.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	8.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	2.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	8.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	2.000 ppb

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Chromium, total(CAS Number:7440-47-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 22.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	39.000 ppb *

Well:4WC32

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	4.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:06

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Co Cobalt, total

CAS Number: 7440-48-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	1.000 ppb	0.000	
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	13.000 ppb	2.565	
Jun 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1997	2.000 ppb	0.693	
Dec 31 1997	2.000 ppb	0.693	
Jan 21 1998	2.000 ppb	0.693	
Apr 08 1998	3.000 ppb	1.099	
Jul 07 1998	3.000 ppb	1.099	
Oct 13 1998	2.000 ppb	0.693	
Mar 05 1999	26.000 ppb	3.258	
May 26 1999	4.000 ppb	1.386	
Jul 23 1999	2.000 ppb	0.693	
Nov 05 1999	2.000 ppb	0.693	
Dec 28 1999	2.000 ppb	0.693	
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	2.000 ppb	0.693	

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 26

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	26.000 ppb	Ln Maximum:	3.258
Mean:	3.605 ppb	Ln Mean:	0.605
Std. Dev.:	6.084 ppb	Ln Std. Dev.:	1.076

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	3.000 ppb	1.099

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.000 ppb	Ln Minimum:	1.099

Maximum:	3.000 ppb	Ln Maximum:	1.099
Mean:	3.000 ppb	Ln Mean:	1.099
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:07

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Co Cobalt, total

CAS Number: 7440-48-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:19

Scale	Minimum	Maximum	Mean	Std Dev
Original:	0.500	26.000	3.605	6.084
Log:	-0.693	3.258	0.605	1.076

Pooled Statistics
Observations: 19

Statistic	Original Scale	Log Scale
Mean:	3.605	0.605
Std Dev:	6.084	1.076
Skewness:	3.006*	0.724
Kurtosis:	8.122	0.466
Minimum:	0.500	-0.693
Maximum:	26.000	3.258
CV:	1.688	1.780

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.4998*	0.9010	0.8630

Log:	0.8615*	0.9010	0.8630

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

ility:Haz. Waste Unit 4 - RAAP
Parameter:Cobalt, total(CAS Number:7440-48-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 26.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	2.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	3.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<1.000 ppb

ility:Haz. Waste Unit 4 - RAAP
Parameter:Cobalt, total(CAS Number:7440-48-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 26.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	2.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	2.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	2.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	2.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:10

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Cu Copper, total

CAS Number: 7440-50-8
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	3.000 ppb	1.099	
Jun 30 1996	2.000 ppb	0.693	
Sep 30 1996	4.000 ppb	1.386	
Dec 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1997	3.000 ppb	1.099	
Dec 31 1997	4.000 ppb	1.386	
Jan 21 1998	1.000 ppb	0.000	
Apr 08 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 07 1998	2.000 ppb	0.693	
Oct 13 1998	3.000 ppb	1.099	
Mar 05 1999	27.000 ppb	3.296	
May 26 1999	4.000 ppb	1.386	
Jul 23 1999	9.000 ppb	2.197	
Nov 05 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 28 1999	5.000 ppb	1.609	
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	1.000 ppb	0.000	
Dec 31 1999	0.500 ppb	-0.693	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 32

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	27.000 ppb	Ln Maximum:	3.296
Mean:	3.737 ppb	Ln Mean:	0.620
Std. Dev.:	6.038 ppb	Ln Std. Dev.:	1.160

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693

Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	3.000 ppb	1.099

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.000 ppb	Ln Minimum:	1.099
Maximum:	3.000 ppb	Ln Maximum:	1.099
Mean:	3.000 ppb	Ln Mean:	1.099
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	22.000 ppb	3.091

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	22.000 ppb	Ln Minimum:	3.091
Maximum:	22.000 ppb	Ln Maximum:	3.091
Mean:	22.000 ppb	Ln Mean:	3.091
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:10

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Cu Copper, total

CAS Number: 7440-50-8
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:19

Scale	Minimum	Maximum	Mean	Std Dev
Original:	0.500	27.000	3.737	6.038
Log:	-0.693	3.296	0.620	1.160

Pooled Statistics
Observations: 19

Statistic	Original Scale	Log Scale
Mean:	3.737	0.620
Std Dev:	6.038	1.160
Skewness:	3.237*	0.427
Kurtosis:	9.992	-0.478
Minimum:	0.500	-0.693
Maximum:	27.000	3.296
CV:	1.616	1.869

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.5340*	0.9010	0.8630

Log:	0.8963*	0.9010	0.8630

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

ility:Haz. Waste Unit 4 - RAAP
Parameter:Copper, total(CAS Number:7440-50-8)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 27.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<1.000 ppb

l:4W4B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	2.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	2.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	2.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	3.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Copper, total(CAS Number:7440-50-8)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 27.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	22.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	5.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	1.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	1.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:17

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Pb Lead, total

CAS Number: 7439-92-1
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	1.000 ppb	0.000	
Jun 30 1996	2.000 ppb	0.693	
Sep 30 1996	5.000 ppb	1.609	
Dec 31 1996	3.000 ppb	1.099	
Jun 30 1997	2.000 ppb	0.693	
Sep 30 1997	11.000 ppb	2.398	
Dec 31 1997	9.000 ppb	2.197	
Jan 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 08 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 07 1998	1.000 ppb	0.000	
Oct 13 1998	0.500 ppb	-0.693	(* Nondetect *)
Mar 05 1999	38.000 ppb	3.638	
May 26 1999	5.000 ppb	1.609	
Jul 23 1999	1.000 ppb	0.000	
Nov 05 1999	4.000 ppb	1.386	
Dec 28 1999	1.000 ppb	0.000	
Dec 29 1999	1.000 ppb	0.000	
Dec 30 1999	2.000 ppb	0.693	
Dec 31 1999	0.500 ppb	-0.693	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 21

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	38.000 ppb	Ln Maximum:	3.638
Mean:	4.632 ppb	Ln Mean:	0.697
Std. Dev.:	8.600 ppb	Ln Std. Dev.:	1.208

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693

Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	9.000 ppb	2.197

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	9.000 ppb	Ln Minimum:	2.197
Maximum:	9.000 ppb	Ln Maximum:	2.197
Mean:	9.000 ppb	Ln Mean:	2.197
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	4.000 ppb	1.386

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	4.000 ppb	Ln Minimum:	1.386
Maximum:	4.000 ppb	Ln Maximum:	1.386
Mean:	4.000 ppb	Ln Mean:	1.386
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	3.000 ppb	1.099

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.000 ppb	Ln Minimum:	1.099
Maximum:	3.000 ppb	Ln Maximum:	1.099
Mean:	3.000 ppb	Ln Mean:	1.099
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:17

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Pb Lead, total

CAS Number: 7439-92-1
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:19

Scale	Minimum	Maximum	Mean	Std Dev
Original:	0.500	38.000	4.632	8.600
Log:	-0.693	3.638	0.697	1.208

Pooled Statistics
Observations: 19

Statistic	Original Scale	Log Scale
Mean:	4.632	0.697
Std Dev:	8.600	1.208
Skewness:	3.312*	0.752
Kurtosis:	10.333	-0.079
Minimum:	0.500	-0.693
Maximum:	38.000	3.638
CV:	1.857	1.733

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.5016*	0.9010	0.8630

Log:	0.9152	0.9010	0.8630

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Lead, total(CAS Number:7439-92-1)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 38.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	9.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	4.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<1.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Lead, total(CAS Number:7439-92-1)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 38.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	3.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:14

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Ni Nickel, total

CAS Number: 7440-02-0
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 15.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	22.000 ppb	3.091	
Jun 30 1996	7.500 ppb	2.015	(* Nondetect *)
Sep 30 1996	7.500 ppb	2.015	(* Nondetect *)
Dec 31 1996	7.500 ppb	2.015	(* Nondetect *)
Jun 30 1997	7.500 ppb	2.015	(* Nondetect *)
Sep 30 1997	7.500 ppb	2.015	(* Nondetect *)
Dec 31 1997	7.500 ppb	2.015	(* Nondetect *)
Jan 21 1998	7.500 ppb	2.015	(* Nondetect *)
Apr 08 1998	7.500 ppb	2.015	(* Nondetect *)
Jul 07 1998	7.500 ppb	2.015	(* Nondetect *)
Oct 13 1998	7.500 ppb	2.015	(* Nondetect *)
Mar 05 1999	19.000 ppb	2.944	
May 26 1999	7.500 ppb	2.015	(* Nondetect *)
Jul 23 1999	7.500 ppb	2.015	(* Nondetect *)
Nov 05 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 28 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 29 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 30 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 31 1999	7.500 ppb	2.015	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 89

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	22.000 ppb	Ln Maximum:	3.091
Mean:	8.868 ppb	Ln Mean:	2.120
Std. Dev.:	4.129 ppb	Ln Std. Dev.:	0.317

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015

Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	65.000 ppb	4.174

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	65.000 ppb	Ln Minimum:	4.174
Maximum:	65.000 ppb	Ln Maximum:	4.174
Mean:	65.000 ppb	Ln Mean:	4.174
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

W ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Nickel, total(CAS Number:7440-02-0)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 22.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<15.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Nickel, total(CAS Number:7440-02-0)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 22.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	65.000 ppb *

Well:4WC32

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<15.000 ppb

Data Set Summary

Report Printed: 02-23-2001 20:56

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Ag Silver, total

CAS Number: 7440-22-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.200 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1996	0.700 ppb	-0.357	
Dec 31 1996	0.500 ppb	-0.693	
Jun 30 1997	0.700 ppb	-0.357	
Sep 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Jan 21 1998	0.100 ppb	-2.303	(* Nondetect *)
Apr 08 1998	0.100 ppb	-2.303	(* Nondetect *)
Jul 07 1998	0.100 ppb	-2.303	(* Nondetect *)
Oct 13 1998	0.100 ppb	-2.303	(* Nondetect *)
Mar 05 1999	0.100 ppb	-2.303	(* Nondetect *)
May 26 1999	0.100 ppb	-2.303	(* Nondetect *)
Jul 23 1999	0.100 ppb	-2.303	(* Nondetect *)
Nov 05 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 28 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 29 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 30 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1999	0.100 ppb	-2.303	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 84

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.700 ppb	Ln Maximum:	-0.357
Mean:	0.184 ppb	Ln Mean:	-2.013
Std. Dev.:	0.203 ppb	Ln Std. Dev.:	0.690

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303

Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

We . ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

F ility:Haz. Waste Unit 4 - RAAP
Pa_ ameter:Silver, total(CAS Number:7440-22-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 0.700 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<0.200 ppb

l:4W4B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<0.200 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Silver, total(CAS Number:7440-22-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 0.700 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Data Set Summary

Report Printed: 02-23-2001 21:29

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Va Vanadium

CAS Number: 7440-62-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 4.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	18.000 ppb	2.890	
Jun 30 1996	2.000 ppb	0.693	(* Nondetect *)
Sep 30 1996	13.000 ppb	2.565	
Dec 31 1996	2.000 ppb	0.693	(* Nondetect *)
Jun 30 1997	2.000 ppb	0.693	(* Nondetect *)
Sep 30 1997	2.000 ppb	0.693	(* Nondetect *)
Dec 31 1997	5.000 ppb	1.609	
Jan 21 1998	2.000 ppb	0.693	(* Nondetect *)
Apr 08 1998	2.000 ppb	0.693	(* Nondetect *)
Jul 07 1998	2.000 ppb	0.693	(* Nondetect *)
Oct 13 1998	2.000 ppb	0.693	(* Nondetect *)
Mar 05 1999	31.000 ppb	3.434	
May 26 1999	4.000 ppb	1.386	
Jul 23 1999	2.000 ppb	0.693	(* Nondetect *)
Nov 05 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 28 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 29 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 30 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 31 1999	2.000 ppb	0.693	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 74

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	31.000 ppb	Ln Maximum:	3.434
Mean:	5.211 ppb	Ln Mean:	1.136
Std. Dev.:	7.583 ppb	Ln Std. Dev.:	0.864

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693

Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

We ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Vanadium(CAS Number:7440-62-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 31.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<4.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Vanadium(CAS Number:7440-62-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 31.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<4.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:30

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Zn Zinc, total

CAS Number: 7440-66-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	42.000 ppb	3.738	
Jun 30 1996	2.500 ppb	0.916	(* Nondetect *)
Sep 30 1996	139.000 ppb	4.934	
Dec 31 1996	20.000 ppb	2.996	
Jun 30 1997	36.000 ppb	3.584	
Sep 30 1997	29.000 ppb	3.367	
Dec 31 1997	25.000 ppb	3.219	
Jan 21 1998	2.500 ppb	0.916	(* Nondetect *)
Apr 08 1998	2.500 ppb	0.916	(* Nondetect *)
Jul 07 1998	2.500 ppb	0.916	(* Nondetect *)
Oct 13 1998	20.000 ppb	2.996	
Mar 05 1999	83.000 ppb	4.419	
May 26 1999	17.000 ppb	2.833	
Jul 23 1999	2.500 ppb	0.916	(* Nondetect *)
Nov 05 1999	42.000 ppb	3.738	
Dec 28 1999	6.000 ppb	1.792	
Dec 29 1999	6.000 ppb	1.792	
Dec 30 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1999	5.000 ppb	1.609	

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 32

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	139.000 ppb	Ln Maximum:	4.934
Mean:	25.526 ppb	Ln Mean:	2.448
Std. Dev.:	34.435 ppb	Ln Std. Dev.:	1.344

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916

Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	39.000 ppb	3.664

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	39.000 ppb	Ln Minimum:	3.664
Maximum:	39.000 ppb	Ln Maximum:	3.664
Mean:	39.000 ppb	Ln Mean:	3.664
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	19.000 ppb	2.944

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	19.000 ppb	Ln Minimum:	2.944
Maximum:	19.000 ppb	Ln Maximum:	2.944
Mean:	19.000 ppb	Ln Mean:	2.944
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	64.000 ppb	4.159

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	64.000 ppb	Ln Minimum:	4.159
Maximum:	64.000 ppb	Ln Maximum:	4.159
Mean:	64.000 ppb	Ln Mean:	4.159
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	16.000 ppb	2.773

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	16.000 ppb	Ln Minimum:	2.773
Maximum:	16.000 ppb	Ln Maximum:	2.773
Mean:	16.000 ppb	Ln Mean:	2.773
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:30

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Zn Zinc, total

CAS Number: 7440-66-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:19

Scale	Minimum	Maximum	Mean	Std Dev
Original:	2.500	139.000	25.526	34.435
Log:	0.916	4.934	2.448	1.344

Pooled Statistics
Observations: 19

Statistic	Original Scale	Log Scale
Mean:	25.526	2.448
Std Dev:	34.435	1.344
Skewness:	2.185*	0.181
Kurtosis:	4.467	-1.280
Minimum:	2.500	0.916
Maximum:	139.000	4.934
CV:	1.349	0.549

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.6963*	0.9010	0.8630

Log:	0.8892*	0.9010	0.8630

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Zinc, total(CAS Number:7440-66-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 139.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	39.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	19.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	64.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<5.000 ppb

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Zinc, total(CAS Number:7440-66-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 139.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	8.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	16.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:05

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Chlorofm Chloroform

CAS Number: 67-66-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jan 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 08 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 07 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 13 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 05 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 23 1999	1.600 ppb	0.470	
Nov 05 1999	1.600 ppb	0.470	
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 89

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	1.600 ppb	Ln Maximum:	0.470
Mean:	0.213 ppb	Ln Mean:	-2.631
Std. Dev.:	0.489 ppb	Ln Std. Dev.:	1.093

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996

Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	3.030 ppb	1.109

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.030 ppb	Ln Minimum:	1.109
Maximum:	3.030 ppb	Ln Maximum:	1.109
Mean:	3.030 ppb	Ln Mean:	1.109
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.900 ppb	-0.105

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.900 ppb	Ln Minimum:	-0.105
Maximum:	0.900 ppb	Ln Maximum:	-0.105
Mean:	0.900 ppb	Ln Mean:	-0.105
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.680 ppb	-0.386

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.680 ppb	Ln Minimum:	-0.386
Maximum:	0.680 ppb	Ln Maximum:	-0.386
Mean:	0.680 ppb	Ln Mean:	-0.386
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.480 ppb	-0.734

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.480 ppb	Ln Minimum:	-0.734
Maximum:	0.480 ppb	Ln Maximum:	-0.734
Mean:	0.480 ppb	Ln Mean:	-0.734
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.780 ppb	-0.248

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.780 ppb	Ln Minimum:	-0.248
Maximum:	0.780 ppb	Ln Maximum:	-0.248
Mean:	0.780 ppb	Ln Mean:	-0.248
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Chloroform(CAS Number:67-66-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 1.600 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W5A

Sample Date	Observation
12/31/99	3.030 ppb *

Well:4W6A

Sample Date	Observation
12/31/99	0.900 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<0.100 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Chloroform(CAS Number:67-66-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 1.600 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	0.680 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC41

Sample Date	Observation
12/31/99	0.480 ppb

Well:4WC42

Sample Date	Observation
12/31/99	0.780 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Data Set Summary

Report Printed: 02-23-2001 21:12

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:DiClMe Dichloromethane

CAS Number: 75-09-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.200 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Jan 21 1998	0.100 ppb	-2.303	(* Nondetect *)
Apr 08 1998	0.100 ppb	-2.303	(* Nondetect *)
Jul 07 1998	0.100 ppb	-2.303	(* Nondetect *)
Oct 13 1998	0.100 ppb	-2.303	(* Nondetect *)
Mar 05 1999	1.300 ppb	0.262	
May 26 1999	0.100 ppb	-2.303	(* Nondetect *)
Jul 23 1999	0.100 ppb	-2.303	(* Nondetect *)
Nov 05 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 28 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 29 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 30 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1999	0.100 ppb	-2.303	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 95

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	1.300 ppb	Ln Maximum:	0.262
Mean:	0.163 ppb	Ln Mean:	-2.168
Std. Dev.:	0.275 ppb	Ln Std. Dev.:	0.588

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303

Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	1.240 ppb	0.215

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.240 ppb	Ln Minimum:	0.215
Maximum:	1.240 ppb	Ln Maximum:	0.215
Mean:	1.240 ppb	Ln Mean:	0.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.600 ppb	-0.511

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.600 ppb	Ln Minimum:	-0.511
Maximum:	0.600 ppb	Ln Maximum:	-0.511
Mean:	0.600 ppb	Ln Mean:	-0.511
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	1.210 ppb	0.191

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.210 ppb	Ln Minimum:	0.191
Maximum:	1.210 ppb	Ln Maximum:	0.191
Mean:	1.210 ppb	Ln Mean:	0.191
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	1.020 ppb	0.020

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.020 ppb	Ln Minimum:	0.020
Maximum:	1.020 ppb	Ln Maximum:	0.020
Mean:	1.020 ppb	Ln Mean:	0.020
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Dichloromethane(CAS Number:75-09-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 1.300 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W2B

Sample Date	Observation
12/31/99	0.500 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC22

Sample Date	Observation
12/31/99	1.240 ppb

Report Produced by GRITS/STAT 5.01

ility:Haz. Waste Unit 4 - RAAP
Parameter:Dichloromethane(CAS Number:75-09-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 1.300 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	0.600 ppb

Well:4WC32

Sample Date	Observation
12/31/99	1.210 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC42

Sample Date	Observation
12/31/99	1.020 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Data Set Summary

Report Printed: 02-23-2001 21:28

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:VC Vinyl chloride

CAS Number: 75-01-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.100 ppb	-2.303	
Jan 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 08 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 07 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 13 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 05 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 23 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 05 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 95

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.053 ppb	Ln Mean:	-2.959
Std. Dev.:	0.011 ppb	Ln Std. Dev.:	0.159

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996

Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Vinyl chloride(CAS Number:75-01-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 0.100 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<0.100 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Vinyl chloride(CAS Number:75-01-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 0.100 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Report Produced by GRITS/STAT 5.01

Data Set Summary

Report Printed: 02-23-2001 21:23

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:TOC Total Organic Carbon

CAS Number: - -
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1000.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	500.000 ppb	6.215	(* Nondetect *)
Jun 30 1996	2000.000 ppb	7.601	
Sep 30 1996	2000.000 ppb	7.601	
Dec 31 1996	500.000 ppb	6.215	(* Nondetect *)
Jun 30 1997	2000.000 ppb	7.601	
Sep 30 1997	500.000 ppb	6.215	(* Nondetect *)
Dec 31 1997	500.000 ppb	6.215	(* Nondetect *)
Jan 21 1998	1425.000 ppb	7.262	
Apr 08 1998	500.000 ppb	6.215	(* Nondetect *)
Jul 07 1998	500.000 ppb	6.215	(* Nondetect *)
Oct 13 1998	500.000 ppb	6.215	(* Nondetect *)
Mar 05 1999	6125.000 ppb	8.720	
May 26 1999	500.000 ppb	6.215	(* Nondetect *)
Jul 23 1999	500.000 ppb	6.215	(* Nondetect *)
Nov 05 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 28 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 29 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 30 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 31 1999	500.000 ppb	6.215	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 74

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	6125.000 ppb	Ln Maximum:	8.720
Mean:	1081.579 ppb	Ln Mean:	6.620
Std. Dev.:	1350.305 ppb	Ln Std. Dev.:	0.746

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215

Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

W ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Total Organic Carbon(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 6125.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Total Organic Carbon(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 6125.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:24

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:TOX Total Organic Halogens, Halides

CAS Number: - -
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln	
Mar 31 1996	9.125 ppb	2.211	
Jun 30 1996	8.750 ppb	2.169	
Sep 30 1996	12.750 ppb	2.546	
Dec 31 1996	12.000 ppb	2.485	
Jun 30 1997	13.250 ppb	2.584	
Sep 30 1997	7.125 ppb	1.964	
Dec 31 1997	2.500 ppb	0.916	(* Nondetect *)
Jan 21 1998	18.000 ppb	2.890	
Apr 08 1998	5.000 ppb	1.609	
Jul 07 1998	15.500 ppb	2.741	
Oct 13 1998	2.500 ppb	0.916	(* Nondetect *)
Mar 05 1999	8.000 ppb	2.079	
May 26 1999	2.500 ppb	0.916	(* Nondetect *)
Jul 23 1999	9.500 ppb	2.251	
Nov 05 1999	11.500 ppb	2.442	
Dec 28 1999	28.500 ppb	3.350	
Dec 29 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 30 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1999	2.500 ppb	0.916	(* Nondetect *)

Well ID:4P3 Summary Statistics

Observations (N): 19

Nondetects (%ND): 32

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	28.500 ppb	Ln Maximum:	3.350
Mean:	9.158 ppb	Ln Mean:	1.938
Std. Dev.:	6.769 ppb	Ln Std. Dev.:	0.799

Well ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916

Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 ppb	Ln Minimum:	0.000
Maximum:	0.000 ppb	Ln Maximum:	0.000
Mean:	0.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

W ID:4WC32 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC41 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC42 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:24

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:TOX Total Organic Halogens, Halides

CAS Number: - -
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:19

Scale	Minimum	Maximum	Mean	Std Dev
Original:	2.500	28.500	9.158	6.769
Log:	0.916	3.350	1.938	0.799

Pooled Statistics
Observations: 19

Statistic	Original Scale	Log Scale
Mean:	9.158	1.938
Std Dev:	6.769	0.799
Skewness:	1.193*	-0.154
Kurtosis:	1.479	-1.242
Minimum:	2.500	0.916
Maximum:	28.500	3.350
CV:	0.739	0.413

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.8662*	0.9010	0.8630

Log:	0.8817*	0.9010	0.8630

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Total Organic Halogens, Halides(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 28.500 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	8.000 ppb

Well:4W2B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4W4B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4W5A

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4W6A

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4W7A

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC22

Sample Date	Observation
12/31/99	ND<5.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Total Organic Halogens, Halides(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 19
Conf. Level (1-α): 95.000%

UL: 28.500 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC32

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC41

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC42

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC43

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:4WC9B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Data Set Summary

Report Printed: 02-23-2001 21:07

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Cond F Specific Conductivity, Field

CAS Number: - -
MCL: 0.000 umhos/cm
ACL: 0.000 umhos/cm
Detect Limit: 1.000 umhos/cm

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation		Ln
Jun 30 1997	598.000	umhos/cm	6.394
Sep 30 1997	598.000	umhos/cm	6.394
Dec 31 1997	550.000	umhos/cm	6.310
Jan 21 1998	523.000	umhos/cm	6.260
Apr 08 1998	533.000	umhos/cm	6.279
Jul 07 1998	540.000	umhos/cm	6.292
Oct 13 1998	488.000	umhos/cm	6.190
Mar 05 1999	3393.000	umhos/cm	8.129
May 26 1999	538.000	umhos/cm	6.288
Jul 23 1999	557.000	umhos/cm	6.323
Nov 05 1999	654.000	umhos/cm	6.483
Dec 28 1999	380.250	umhos/cm	5.941
Dec 29 1999	271.250	umhos/cm	5.603
Dec 30 1999	435.250	umhos/cm	6.076
Dec 31 1999	492.000	umhos/cm	6.198

Well ID:4P3 Summary Statistics

Observations (N): 15
Nondetects (%ND): 0

Minimum: 271.250 umhos/cm Ln Minimum: 5.603
Maximum: 3393.000 umhos/cm Ln Maximum: 8.129

Mean:	703.383 umhos/cm	Ln Mean:	6.344
Std. Dev.:	749.923 umhos/cm	Ln Std. Dev.:	0.538

W ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	743.750 umhos/cm	6.612

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	743.750 umhos/cm	Ln Minimum:	6.612
Maximum:	743.750 umhos/cm	Ln Maximum:	6.612
Mean:	743.750 umhos/cm	Ln Mean:	6.612
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	581.250 umhos/cm	6.365

We ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	581.250 umhos/cm	Ln Minimum:	6.365
Maximum:	581.250 umhos/cm	Ln Maximum:	6.365
Mean:	581.250 umhos/cm	Ln Mean:	6.365
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	794.000 umhos/cm	6.677

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	794.000 umhos/cm	Ln Minimum:	6.677
Maximum:	794.000 umhos/cm	Ln Maximum:	6.677
Mean:	794.000 umhos/cm	Ln Mean:	6.677
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	419.000 umhos/cm	6.038

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	419.000 umhos/cm	Ln Minimum:	6.038
Maximum:	419.000 umhos/cm	Ln Maximum:	6.038
Mean:	419.000 umhos/cm	Ln Mean:	6.038
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	613.250 umhos/cm	6.419

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	613.250 umhos/cm	Ln Minimum:	6.419
Maximum:	613.250 umhos/cm	Ln Maximum:	6.419
Mean:	613.250 umhos/cm	Ln Mean:	6.419
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	830.250 umhos/cm	6.722

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	830.250 umhos/cm	Ln Minimum:	6.722
Maximum:	830.250 umhos/cm	Ln Maximum:	6.722
Mean:	830.250 umhos/cm	Ln Mean:	6.722
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 umhos/cm	Ln Minimum:	0.000
Maximum:	0.000 umhos/cm	Ln Maximum:	0.000
Mean:	0.000 umhos/cm	Ln Mean:	0.000
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	641.750 umhos/cm	6.464

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	641.750 umhos/cm	Ln Minimum:	6.464
Maximum:	641.750 umhos/cm	Ln Maximum:	6.464
Mean:	641.750 umhos/cm	Ln Mean:	6.464
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	645.250 umhos/cm	6.470

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	645.250 umhos/cm	Ln Minimum:	6.470
Maximum:	645.250 umhos/cm	Ln Maximum:	6.470
Mean:	645.250 umhos/cm	Ln Mean:	6.470
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	570.500 umhos/cm	6.347

Well ID:4WC32 Summary Statistics

Observations (N):	1		
Nondetects (%ND):	0		
Minimum:	570.500 umhos/cm	Ln Minimum:	6.347
Maximum:	570.500 umhos/cm	Ln Maximum:	6.347
Mean:	570.500 umhos/cm	Ln Mean:	6.347
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	753.000 umhos/cm	6.624

Well ID:4WC41 Summary Statistics

Observations (N):	1		
Nondetects (%ND):	0		
Minimum:	753.000 umhos/cm	Ln Minimum:	6.624
Maximum:	753.000 umhos/cm	Ln Maximum:	6.624
Mean:	753.000 umhos/cm	Ln Mean:	6.624
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	690.500 umhos/cm	6.537

Well ID:4WC42 Summary Statistics

Observations (N):	1		
Nondetects (%ND):	0		
Minimum:	690.500 umhos/cm	Ln Minimum:	6.537
Maximum:	690.500 umhos/cm	Ln Maximum:	6.537
Mean:	690.500 umhos/cm	Ln Mean:	6.537
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	739.250 umhos/cm	6.606

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	739.250 umhos/cm	Ln Minimum:	6.606
Maximum:	739.250 umhos/cm	Ln Maximum:	6.606
Mean:	739.250 umhos/cm	Ln Mean:	6.606
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	632.250 umhos/cm	6.449

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	632.250 umhos/cm	Ln Minimum:	6.449
Maximum:	632.250 umhos/cm	Ln Maximum:	6.449
Mean:	632.250 umhos/cm	Ln Mean:	6.449
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:08

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:Cond F Specific Conductivity, Field

CAS Number: - -
MCL: 0.000 umhos/cm
ACL: 0.000 umhos/cm
Detect Limit: 1.000 umhos/cm

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:15

Scale	Minimum	Maximum	Mean	Std Dev
Original:	271.250	3393.000	703.383	749.923
Log:	5.603	8.129	6.344	0.538

Pooled Statistics
Observations: 15

Statistic	Original Scale	Log Scale
Mean:	703.383	6.344
Std Dev:	749.923	0.538
Skewness:	3.379*	2.461*
Kurtosis:	9.677	6.558
Minimum:	271.250	5.603
Maximum:	3393.000	8.129
CV:	1.066	0.085

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.3983*	0.8810	0.8350

Log:	0.6462*	0.8810	0.8350

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Specific Conductivity, Field(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 15
Conf. Level (1-α): 93.750%

UL: 3393.000 umhos/cm
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	743.750 umhos/cm

Well:4W2B

Sample Date	Observation
12/31/99	581.250 umhos/cm

Well:4W4B

Sample Date	Observation
12/31/99	794.000 umhos/cm

Well:4W5A

Sample Date	Observation
12/31/99	419.000 umhos/cm

Well:4W6A

Sample Date	Observation
12/31/99	613.250 umhos/cm

Well:4W7A

Sample Date	Observation
12/31/99	830.250 umhos/cm

Well:4WC22

Sample Date	Observation
12/31/99	641.750 umhos/cm

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:Specific Conductivity, Field(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 15
Conf. Level (1-α): 93.750%

UL: 3393.000 umhos/cm
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	645.250 umhos/cm

Well:4WC32

Sample Date	Observation
12/31/99	570.500 umhos/cm

Well:4WC41

Sample Date	Observation
12/31/99	753.000 umhos/cm

Well:4WC42

Sample Date	Observation
12/31/99	690.500 umhos/cm

Well:4WC43

Sample Date	Observation
12/31/99	739.250 umhos/cm

Well:4WC9B

Sample Date	Observation
12/31/99	632.250 umhos/cm

Data Set Summary

Report Printed: 02-23-2001 21:32

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:pH F pH, Field

CAS Number: - -
MCL: 0.000 SU
ACL: 0.000 SU
Detect Limit: 0.100 SU

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:4P3

Sample Date	Observation	Ln
Jun 30 1997	6.500 SU	1.872
Sep 30 1997	7.000 SU	1.946
Dec 31 1997	7.100 SU	1.960
Jan 21 1998	7.100 SU	1.960
Apr 08 1998	6.700 SU	1.902
Jul 07 1998	6.200 SU	1.825
Oct 13 1998	6.500 SU	1.872
Mar 05 1999	8.800 SU	2.175
May 26 1999	7.200 SU	1.974
Jul 23 1999	6.740 SU	1.908
Nov 05 1999	7.260 SU	1.982
Dec 28 1999	6.870 SU	1.927
Dec 29 1999	6.890 SU	1.930
Dec 30 1999	6.890 SU	1.930
Dec 31 1999	6.850 SU	1.924

Well ID:4P3 Summary Statistics

Observations (N): 15
Nondetects (%ND): 0

Minimum:	6.200 SU	Ln Minimum:	1.825
Maximum:	8.800 SU	Ln Maximum:	2.175

Mean:	6.973 SU	Ln Mean:	1.939
Std. Dev.:	0.581 SU	Ln Std. Dev.:	0.078

We ID:4MW7

Sample Date	Observation	Ln
Dec 31 1999	7.190 SU	1.973

Well ID:4MW7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.190 SU	Ln Minimum:	1.973
Maximum:	7.190 SU	Ln Maximum:	1.973
Mean:	7.190 SU	Ln Mean:	1.973
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4W2B

Sample Date	Observation	Ln
Dec 31 1999	7.430 SU	2.006

We ID:4W2B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.430 SU	Ln Minimum:	2.006
Maximum:	7.430 SU	Ln Maximum:	2.006
Mean:	7.430 SU	Ln Mean:	2.006
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4W4B

Sample Date	Observation	Ln
Dec 31 1999	7.170 SU	1.970

Well ID:4W4B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.170 SU	Ln Minimum:	1.970
Maximum:	7.170 SU	Ln Maximum:	1.970
Mean:	7.170 SU	Ln Mean:	1.970
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4W5A

Sample Date	Observation	Ln
Dec 31 1999	7.150 SU	1.967

Well ID:4W5A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.150 SU	Ln Minimum:	1.967
Maximum:	7.150 SU	Ln Maximum:	1.967
Mean:	7.150 SU	Ln Mean:	1.967
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4W6A

Sample Date	Observation	Ln
Dec 31 1999	7.040 SU	1.952

Well ID:4W6A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.040 SU	Ln Minimum:	1.952
Maximum:	7.040 SU	Ln Maximum:	1.952
Mean:	7.040 SU	Ln Mean:	1.952
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4W7A

Sample Date	Observation	Ln
Dec 31 1999	6.740 SU	1.908

Well ID:4W7A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.740 SU	Ln Minimum:	1.908
Maximum:	6.740 SU	Ln Maximum:	1.908
Mean:	6.740 SU	Ln Mean:	1.908
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC21

*** NO OBSERVATIONS FOR THIS WELL ***

Well ID:4WC21 Summary Statistics

Observations (N): 0
Nondetects (%ND): 0

Minimum:	0.000 SU	Ln Minimum:	0.000
Maximum:	0.000 SU	Ln Maximum:	0.000
Mean:	0.000 SU	Ln Mean:	0.000
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC22

Sample Date	Observation	Ln
Dec 31 1999	7.240 SU	1.980

Well ID:4WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.240 SU	Ln Minimum:	1.980
Maximum:	7.240 SU	Ln Maximum:	1.980
Mean:	7.240 SU	Ln Mean:	1.980
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC23

Sample Date	Observation	Ln
Dec 31 1999	7.330 SU	1.992

Well ID:4WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.330 SU	Ln Minimum:	1.992
Maximum:	7.330 SU	Ln Maximum:	1.992
Mean:	7.330 SU	Ln Mean:	1.992
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC32

Sample Date	Observation	Ln
Dec 31 1999	7.520 SU	2.018

Well ID:4WC32 Summary Statistics

Observations (N):	1		
Nondetects (%ND):	0		
Minimum:	7.520 SU	Ln Minimum:	2.018
Maximum:	7.520 SU	Ln Maximum:	2.018
Mean:	7.520 SU	Ln Mean:	2.018
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC41

Sample Date	Observation	Ln
Dec 31 1999	7.510 SU	2.016

Well ID:4WC41 Summary Statistics

Observations (N):	1		
Nondetects (%ND):	0		
Minimum:	7.510 SU	Ln Minimum:	2.016
Maximum:	7.510 SU	Ln Maximum:	2.016
Mean:	7.510 SU	Ln Mean:	2.016
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC42

Sample Date	Observation	Ln
Dec 31 1999	7.400 SU	2.001

Well ID:4WC42 Summary Statistics

Observations (N):	1		
Nondetects (%ND):	0		
Minimum:	7.400 SU	Ln Minimum:	2.001
Maximum:	7.400 SU	Ln Maximum:	2.001
Mean:	7.400 SU	Ln Mean:	2.001
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC43

Sample Date	Observation	Ln
Dec 31 1999	7.430 SU	2.006

Well ID:4WC43 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.430 SU	Ln Minimum:	2.006
Maximum:	7.430 SU	Ln Maximum:	2.006
Mean:	7.430 SU	Ln Mean:	2.006
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:4WC9B

Sample Date	Observation	Ln
Dec 31 1999	7.290 SU	1.987

Well ID:4WC9B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.290 SU	Ln Minimum:	1.987
Maximum:	7.290 SU	Ln Maximum:	1.987
Mean:	7.290 SU	Ln Mean:	1.987
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-23-2001 21:32

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:pH F pH, Field

CAS Number: - -
MCL: 0.000 SU
ACL: 0.000 SU
Detect Limit: 0.100 SU

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:15

Scale	Minimum	Maximum	Mean	Std Dev
Original:	6.200	8.800	6.973	0.581
Log:	1.825	2.175	1.939	0.078

Pooled Statistics
Observations: 15

Statistic	Original Scale	Log Scale
Mean:	6.973	1.939
Std Dev:	0.581	0.078
Skewness:	2.049*	1.734*
Kurtosis:	4.824	3.924
Minimum:	6.200	1.825
Maximum:	8.800	2.175
CV:	0.083	0.040

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.7674*	0.8810	0.8350

Log:	0.8139*	0.8810	0.8350

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Normality Tests

Report Printed: 02-23-2001 21:32

Facility:RAAPHWMU4 Haz. Waste Unit 4 - RAAP

Address:

City:Radford ST:VA Zip:24141
County:

Contact:
Phone:( ) -

Permit Type:Detection

Constituent:pH F pH, Field

CAS Number: - -
MCL: 0.000 SU
ACL: 0.000 SU
Detect Limit: 0.100 SU

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:4P3 Position:Upgradient Observations:15

Scale	Minimum	Maximum	Mean	Std Dev
Original:	6.200	8.800	6.973	0.581
Log:	1.825	2.175	1.939	0.078

Pooled Statistics
Observations: 15

Statistic	Original Scale	Log Scale
Mean:	6.973	1.939
Std Dev:	0.581	0.078
Skewness:	2.049*	1.734*
Kurtosis:	4.824	3.924
Minimum:	6.200	1.825
Maximum:	8.800	2.175
CV:	0.083	0.040

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.7674*	0.8810	0.8350

Log:	0.8139*	0.8810	0.8350

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 23,2001

Facility:Haz. Waste Unit 4 - RAAP
Parameter:pH, Field(CAS Number:- -)

TWO-TAILED PARAMETRIC PREDICTION INTERVAL

Observations (n): 15
Conf. Level (1-α): 87.500%

UL: 8.800 SU
LL: 6.200 SU

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4MW7

Sample Date	Observation
12/31/99	7.190 SU

Well:4W2B

Sample Date	Observation
12/31/99	7.430 SU

Well:4W4B

Sample Date	Observation
12/31/99	7.170 SU

Well:4W5A

Sample Date	Observation
12/31/99	7.150 SU

Well:4W6A

Sample Date	Observation
12/31/99	7.040 SU

Well:4W7A

Sample Date	Observation
12/31/99	6.740 SU

Well:4WC22

Sample Date	Observation
12/31/99	7.240 SU

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 4 - RAAP
Parameter:pH, Field(CAS Number:- -)

TWO-TAILED PARAMETRIC PREDICTION INTERVAL

Observations (n): 15
Conf. Level (1-α): 87.500%

UL: 8.800 SU
LL: 6.200 SU

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:4WC23

Sample Date	Observation
12/31/99	7.330 SU

Well:4WC32

Sample Date	Observation
12/31/99	7.520 SU

Well:4WC41

Sample Date	Observation
12/31/99	7.510 SU

Well:4WC42

Sample Date	Observation
12/31/99	7.400 SU

Well:4WC43

Sample Date	Observation
12/31/99	7.430 SU

Well:4WC9B

Sample Date	Observation
12/31/99	7.290 SU

APPENDIX D

HWMU-5 STATISTICAL ANALYSIS RESULTS

The GRITS/STAT v5.0 software package does not recognize the year 2000. Therefore, in order to conduct the statistical analyses for this report, the sample dates for the four quarters of laboratory analytical results for the year 2000 were entered into the statistical package as follows:

- **First Quarter 2000** entered as **December 28, 1999**
- **Second Quarter 2000** entered as **December 29, 1999**
- **Third Quarter 2000** entered as **December 30, 1999**
- **Fourth Quarter 2000** entered as **December 31, 1999**

Data Set Summary

Report Printed: 02-25-2001 16:51

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Ba Barium, total

CAS Number: 7440-39-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 2.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln
Mar 31 1996	110.000 ppb	4.700
Jun 30 1996	83.000 ppb	4.419
Sep 30 1996	100.000 ppb	4.605
Dec 31 1996	106.000 ppb	4.663
Mar 31 1997	94.000 ppb	4.543
Jun 30 1997	135.000 ppb	4.905
Sep 30 1997	108.000 ppb	4.682
Dec 31 1997	102.000 ppb	4.625
Feb 11 1998	122.000 ppb	4.804
Apr 23 1998	125.000 ppb	4.828
Jul 21 1998	96.000 ppb	4.564
Oct 26 1998	126.000 ppb	4.836
Mar 11 1999	147.000 ppb	4.990
May 26 1999	119.000 ppb	4.779
Jul 20 1999	114.000 ppb	4.736
Nov 04 1999	118.000 ppb	4.771
Dec 28 1999	90.000 ppb	4.500
Dec 29 1999	87.000 ppb	4.466
Dec 30 1999	87.000 ppb	4.466
Dec 31 1999	94.000 ppb	4.543

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 0

Minimum:	83.000 ppb	Ln Minimum:	4.419
Maximum:	147.000 ppb	Ln Maximum:	4.990
Mean:	108.150 ppb	Ln Mean:	4.671
Std. Dev.:	17.458 ppb	Ln Std. Dev.:	0.159

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	40.000 ppb	3.689

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	40.000 ppb	Ln Minimum:	3.689
Maximum:	40.000 ppb	Ln Maximum:	3.689
Mean:	40.000 ppb	Ln Mean:	3.689
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	119.000 ppb	4.779

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	119.000 ppb	Ln Minimum:	4.779
Maximum:	119.000 ppb	Ln Maximum:	4.779
Mean:	119.000 ppb	Ln Mean:	4.779
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	73.000 ppb	4.290

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	73.000 ppb	Ln Minimum:	4.290
Maximum:	73.000 ppb	Ln Maximum:	4.290
Mean:	73.000 ppb	Ln Mean:	4.290
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	23.000 ppb	3.135

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	23.000 ppb	Ln Minimum:	3.135
Maximum:	23.000 ppb	Ln Maximum:	3.135
Mean:	23.000 ppb	Ln Mean:	3.135
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	40.000 ppb	3.689

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	40.000 ppb	Ln Minimum:	3.689
Maximum:	40.000 ppb	Ln Maximum:	3.689
Mean:	40.000 ppb	Ln Mean:	3.689
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	12.000 ppb	2.485

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	12.000 ppb	Ln Minimum:	2.485
Maximum:	12.000 ppb	Ln Maximum:	2.485
Mean:	12.000 ppb	Ln Mean:	2.485

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	24.000 ppb	3.178

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	24.000 ppb	Ln Minimum:	3.178
Maximum:	24.000 ppb	Ln Maximum:	3.178
Mean:	24.000 ppb	Ln Mean:	3.178
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	21.000 ppb	3.045

W ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	21.000 ppb	Ln Minimum:	3.045
Maximum:	21.000 ppb	Ln Maximum:	3.045
Mean:	21.000 ppb	Ln Mean:	3.045
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	35.000 ppb	3.555

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	35.000 ppb	Ln Minimum:	3.555
Maximum:	35.000 ppb	Ln Maximum:	3.555
Mean:	35.000 ppb	Ln Mean:	3.555
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	77.000 ppb	4.344

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	77.000 ppb	Ln Minimum:	4.344
Maximum:	77.000 ppb	Ln Maximum:	4.344
Mean:	77.000 ppb	Ln Mean:	4.344
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-25-2001 16:51

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Ba Barium, total

CAS Number: 7440-39-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 2.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:5W8B Position:Upgradient Observations:20

Scale	Minimum	Maximum	Mean	Std Dev
Original:	83.000	147.000	108.150	17.458
Log:	4.419	4.990	4.671	0.159

Pooled Statistics
Observations: 20

Statistic	Original Scale	Log Scale
Mean:	108.150	4.671
Std Dev:	17.458	0.159
Skewness:	0.452	0.189
Kurtosis:	-0.580	-0.887
Minimum:	83.000	4.419
Maximum:	147.000	4.990
CV:	0.161	0.034

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.9625	0.9050	0.8680

Log:	0.9732	0.9050	0.8680

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Parametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Barium, total(CAS Number:7440-39-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n):	20
Shapiro-Wilk (W):	0.9625
Critical W,α=0.01:	0.8680
Mean:	108.150 ppb
Std Dev:	17.458 ppb
DF:	19
Conf. Level (1-α):	0.9500
Future Samples (k):	1
$t_{\left[1-\frac{\alpha}{k}\right]}$:	1.7291
Kappa:	1.7718
UL:	139.082 ppb
LL:	-∞

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	40.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	119.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	73.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	23.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	40.000 ppb

Report Produced by GRITS/STAT 5.01

ility:Haz. Waste Unit 5 - RAAP
Parameter:Barium, total(CAS Number:7440-39-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n):	20
Shapiro-Wilk (W):	0.9625
Critical W,α=0.01:	0.8680
Mean:	108.150 ppb
Std Dev:	17.458 ppb
DF:	19
Conf. Level (1-α):	0.9500
Future Samples (k):	1
$t_{\left[1-\frac{\alpha}{k}\right]}$:	1.7291
Kappa:	1.7718
UL:	139.082 ppb
LL:	-∞

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC21

Sample Date	Observation
12/31/99	12.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	24.000 ppb

Well:5WC23

Sample Date	Observation
12/31/99	21.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	35.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	77.000 ppb

Data Set Summary

Report Printed: 02-25-2001 18:02

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:pH F pH, Field

CAS Number: - -
MCL: 0.000 SU
ACL: 0.000 SU
Detect Limit: 0.100 SU

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln
Jun 30 1997	5.700 SU	1.740
Sep 30 1997	5.000 SU	1.609
Dec 31 1997	5.000 SU	1.609
Feb 11 1998	5.000 SU	1.609
Apr 23 1998	4.500 SU	1.504
Jul 21 1998	4.700 SU	1.548
Oct 26 1998	4.700 SU	1.548
Mar 11 1999	6.410 SU	1.858
May 26 1999	4.840 SU	1.577
Jul 20 1999	5.080 SU	1.625
Nov 04 1999	6.260 SU	1.834
Dec 28 1999	4.860 SU	1.581
Dec 29 1999	4.550 SU	1.515
Dec 30 1999	4.390 SU	1.479
Dec 31 1999	5.510 SU	1.707

Well ID:5W8B Summary Statistics

Observations (N): 15
Nondetects (%ND): 0

Minimum:	4.390 SU	Ln Minimum:	1.479
Maximum:	6.410 SU	Ln Maximum:	1.858

Mean:	5.100 SU	Ln Mean:	1.623
Std. Dev.:	0.611 SU	Ln Std. Dev.:	0.114

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	8.190 SU	2.103

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.190 SU	Ln Minimum:	2.103
Maximum:	8.190 SU	Ln Maximum:	2.103
Mean:	8.190 SU	Ln Mean:	2.103
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	6.270 SU	1.836

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.270 SU	Ln Minimum:	1.836
Maximum:	6.270 SU	Ln Maximum:	1.836
Mean:	6.270 SU	Ln Mean:	1.836
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	5.410 SU	1.688

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	5.410 SU	Ln Minimum:	1.688
Maximum:	5.410 SU	Ln Maximum:	1.688
Mean:	5.410 SU	Ln Mean:	1.688
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	3.610 SU	1.284

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.610 SU	Ln Minimum:	1.284
Maximum:	3.610 SU	Ln Maximum:	1.284
Mean:	3.610 SU	Ln Mean:	1.284
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	6.730 SU	1.907

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.730 SU	Ln Minimum:	1.907
Maximum:	6.730 SU	Ln Maximum:	1.907
Mean:	6.730 SU	Ln Mean:	1.907
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	4.240 SU	1.445

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	4.240 SU	Ln Minimum:	1.445
Maximum:	4.240 SU	Ln Maximum:	1.445
Mean:	4.240 SU	Ln Mean:	1.445
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	6.810 SU	1.918

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.810 SU	Ln Minimum:	1.918
Maximum:	6.810 SU	Ln Maximum:	1.918
Mean:	6.810 SU	Ln Mean:	1.918
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	6.740 SU	1.908

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.740 SU	Ln Minimum:	1.908
Maximum:	6.740 SU	Ln Maximum:	1.908
Mean:	6.740 SU	Ln Mean:	1.908
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	6.760 SU	1.911

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.760 SU	Ln Minimum:	1.911
Maximum:	6.760 SU	Ln Maximum:	1.911
Mean:	6.760 SU	Ln Mean:	1.911
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

We ID:S5W7

Sample Date	Observation	Ln

Dec 31 1999 7.700 SU 2.041

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.700 SU	Ln Minimum:	2.041
Maximum:	7.700 SU	Ln Maximum:	2.041
Mean:	7.700 SU	Ln Mean:	2.041
Std. Dev.:	0.000 SU	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-25-2001 18:02

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:pH F pH, Field

CAS Number: - -
MCL: 0.000 SU
ACL: 0.000 SU
Detect Limit: 0.100 SU

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:5W8B Position:Upgradient Observations:15

Scale	Minimum	Maximum	Mean	Std Dev
Original:	4.390	6.410	5.100	0.611
Log:	1.479	1.858	1.623	0.114

Pooled Statistics
Observations: 15

Statistic	Original Scale	Log Scale
Mean:	5.100	1.623
Std Dev:	0.611	0.114
Skewness:	1.033*	0.875
Kurtosis:	-0.015	-0.258
Minimum:	4.390	1.479
Maximum:	6.410	1.858
CV:	0.120	0.070

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.8694*	0.8810	0.8350

Log:	0.8964	0.8810	0.8350

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

ility:Haz. Waste Unit 5 - RAAP
Parameter:pH, Field(CAS Number:- -)

TWO-TAILED PARAMETRIC PREDICTION INTERVAL

Observations (n):	15
Shapiro-Wilk (W):	0.8964
Critical W,α=0.01:	0.8350
Mean:	1.623 ln(SU)
Std Dev:	0.114 ln(SU)
DF:	14
Conf. Level (1-α):	0.9500
Future Samples (k):	1
$t\left[\frac{1-\alpha}{2 \cdot k}\right]$:	2.1448
Kappa:	2.2151
UL:	6.528 SU
LL:	3.935 SU

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	8.190 SU *

Well:5W11A

Sample Date	Observation
12/31/99	6.270 SU

Well:5W5B

Sample Date	Observation
12/31/99	5.410 SU

Well:5W7B

Sample Date	Observation
12/31/99	3.610 SU *

Well:5W9A

Sample Date	Observation
12/31/99	6.730 SU *

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:pH, Field(CAS Number:- -)

TWO-TAILED PARAMETRIC PREDICTION INTERVAL

Observations (n):	15
Shapiro-Wilk (W):	0.8964
Critical W,α=0.01:	0.8350
Mean:	1.623 ln(SU)
Std Dev:	0.114 ln(SU)
DF:	14
Conf. Level (1-α):	0.9500
Future Samples (k):	1
$t\left[\frac{1-\alpha}{2 \cdot k}\right]$:	2.1448
Kappa:	2.2151
UL:	6.528 SU
LL:	3.935 SU

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC21

Sample Date	Observation
12/31/99	4.240 SU

Well:5WC22

Sample Date	Observation
12/31/99	6.810 SU *

Well:5WC23

Sample Date	Observation
12/31/99	6.740 SU *

Well:S5W5

Sample Date	Observation
12/31/99	6.760 SU *

Well:S5W7

Sample Date	Observation
12/31/99	7.700 SU *

Report Produced by GRITS/STAT 5.01

Data Set Summary

Report Printed: 02-25-2001 16:48

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:As Arsenic, total

CAS Number: 7440-38-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Mar 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Feb 11 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 23 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Oct 26 1998	0.500 ppb	-0.693	(* Nondetect *)
Mar 11 1999	0.500 ppb	-0.693	(* Nondetect *)
May 26 1999	0.500 ppb	-0.693	(* Nondetect *)
Jul 20 1999	0.500 ppb	-0.693	(* Nondetect *)
Nov 04 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 28 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 29 1999	5.000 ppb	1.609	
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	4.000 ppb	1.386	

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 90

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	0.900 ppb	Ln Mean:	-0.474
Std. Dev.:	1.242 ppb	Ln Std. Dev.:	0.675

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	4.000 ppb	1.386

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	4.000 ppb	Ln Minimum:	1.386
Maximum:	4.000 ppb	Ln Maximum:	1.386
Mean:	4.000 ppb	Ln Mean:	1.386
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	7.000 ppb	1.946

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.000 ppb	Ln Minimum:	1.946
Maximum:	7.000 ppb	Ln Maximum:	1.946
Mean:	7.000 ppb	Ln Mean:	1.946
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	3.000 ppb	1.099

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.000 ppb	Ln Minimum:	1.099
Maximum:	3.000 ppb	Ln Maximum:	1.099
Mean:	3.000 ppb	Ln Mean:	1.099
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	4.000 ppb	1.386

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	4.000 ppb	Ln Minimum:	1.386
Maximum:	4.000 ppb	Ln Maximum:	1.386
Mean:	4.000 ppb	Ln Mean:	1.386

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	7.000 ppb	1.946

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.000 ppb	Ln Minimum:	1.946
Maximum:	7.000 ppb	Ln Maximum:	1.946
Mean:	7.000 ppb	Ln Mean:	1.946
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

ility:Haz. Waste Unit 5 - RAAP
Parameter:Arsenic, total(CAS Number:7440-38-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 5.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	6.000 ppb *

Well:5W11A

Sample Date	Observation
12/31/99	4.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	7.000 ppb *

Well:5W7B

Sample Date	Observation
12/31/99	3.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	5.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	4.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	7.000 ppb *

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Arsenic, total(CAS Number:7440-38-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 5.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	5.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	6.000 ppb *

Well:S5W7

Sample Date	Observation
12/31/99	6.000 ppb *

Data Set Summary

Report Printed: 02-25-2001 17:34

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Be Beryllium, total

CAS Number: 7440-41-7
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.200 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1996	0.700 ppb	-0.357	
Mar 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Feb 11 1998	0.400 ppb	-0.916	
Apr 23 1998	0.400 ppb	-0.916	
Jul 21 1998	0.200 ppb	-1.609	
Oct 26 1998	0.500 ppb	-0.693	
Mar 11 1999	0.400 ppb	-0.916	
May 26 1999	0.100 ppb	-2.303	(* Nondetect *)
Jul 20 1999	0.200 ppb	-1.609	
Nov 04 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 28 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 29 1999	0.300 ppb	-1.204	
Dec 30 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1999	0.100 ppb	-2.303	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 60

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.700 ppb	Ln Maximum:	-0.357
Mean:	0.215 ppb	Ln Mean:	-1.793
Std. Dev.:	0.176 ppb	Ln Std. Dev.:	0.692

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.600 ppb	-0.511

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.600 ppb	Ln Minimum:	-0.511
Maximum:	0.600 ppb	Ln Maximum:	-0.511
Mean:	0.600 ppb	Ln Mean:	-0.511
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	1.600 ppb	0.470

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.600 ppb	Ln Minimum:	0.470
Maximum:	1.600 ppb	Ln Maximum:	0.470
Mean:	1.600 ppb	Ln Mean:	0.470
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	4.000 ppb	1.386

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	4.000 ppb	Ln Minimum:	1.386
Maximum:	4.000 ppb	Ln Maximum:	1.386
Mean:	4.000 ppb	Ln Mean:	1.386

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Beryllium, total(CAS Number:7440-41-7)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.700 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W11A

Sample Date	Observation
12/31/99	0.600 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W7B

Sample Date	Observation
12/31/99	1.600 ppb *

Well:5W9A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5WC21

Sample Date	Observation
12/31/99	4.000 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	ND<0.200 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Beryllium, total(CAS Number:7440-41-7)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.700 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<0.200 ppb

Data Set Summary

Report Printed: 02-25-2001 17:36

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Cd Cadmium, total

CAS Number: 7440-43-9
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.300 ppb	-1.204	
Jun 30 1996	0.200 ppb	-1.609	
Sep 30 1996	0.200 ppb	-1.609	
Dec 31 1996	0.100 ppb	-2.303	
Mar 31 1997	0.400 ppb	-0.916	
Jun 30 1997	0.400 ppb	-0.916	
Sep 30 1997	0.400 ppb	-0.916	
Dec 31 1997	0.200 ppb	-1.609	
Feb 11 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 23 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 26 1998	0.100 ppb	-2.303	
Mar 11 1999	0.200 ppb	-1.609	
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 20 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 04 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 50

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.400 ppb	Ln Maximum:	-0.916
Mean:	0.150 ppb	Ln Mean:	-2.248
Std. Dev.:	0.131 ppb	Ln Std. Dev.:	0.847

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.600 ppb	-0.511

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.600 ppb	Ln Minimum:	-0.511
Maximum:	0.600 ppb	Ln Maximum:	-0.511
Mean:	0.600 ppb	Ln Mean:	-0.511

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.300 ppb	-1.204

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.300 ppb	Ln Minimum:	-1.204
Maximum:	0.300 ppb	Ln Maximum:	-1.204
Mean:	0.300 ppb	Ln Mean:	-1.204
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.200 ppb	-1.609

We ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.200 ppb	Ln Minimum:	-1.609
Maximum:	0.200 ppb	Ln Maximum:	-1.609
Mean:	0.200 ppb	Ln Mean:	-1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.200 ppb	-1.609

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.200 ppb	Ln Minimum:	-1.609
Maximum:	0.200 ppb	Ln Maximum:	-1.609
Mean:	0.200 ppb	Ln Mean:	-1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

ility:Haz. Waste Unit 5 - RAAP
Parameter:Cadmium, total(CAS Number:7440-43-9)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.400 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5WC21

Sample Date	Observation
12/31/99	0.600 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	0.300 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Cadmium, total(CAS Number:7440-43-9)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.400 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	0.200 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:S5W7

Sample Date	Observation
12/31/99	0.200 ppb

Data Set Summary

Report Printed: 02-25-2001 17:40

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Co Cobalt, total

CAS Number: 7440-48-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	2.000 ppb	0.693	
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	1.000 ppb	0.000	
Mar 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1997	7.000 ppb	1.946	
Sep 30 1997	3.000 ppb	1.099	
Dec 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Feb 11 1998	1.000 ppb	0.000	
Apr 23 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Oct 26 1998	2.000 ppb	0.693	
Mar 11 1999	7.000 ppb	1.946	
May 26 1999	1.000 ppb	0.000	
Jul 20 1999	1.000 ppb	0.000	
Nov 04 1999	2.000 ppb	0.693	
Dec 28 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 29 1999	1.000 ppb	0.000	
Dec 30 1999	1.000 ppb	0.000	
Dec 31 1999	1.000 ppb	0.000	

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 35

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	7.000 ppb	Ln Maximum:	1.946
Mean:	1.675 ppb	Ln Mean:	0.111
Std. Dev.:	1.942 ppb	Ln Std. Dev.:	0.838

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	28.000 ppb	3.332

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	28.000 ppb	Ln Minimum:	3.332
Maximum:	28.000 ppb	Ln Maximum:	3.332
Mean:	28.000 ppb	Ln Mean:	3.332
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	1.000 ppb	0.000

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	1.000 ppb	Ln Minimum:	0.000
Maximum:	1.000 ppb	Ln Maximum:	0.000
Mean:	1.000 ppb	Ln Mean:	0.000
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	50.000 ppb	3.912

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	50.000 ppb	Ln Minimum:	3.912
Maximum:	50.000 ppb	Ln Maximum:	3.912
Mean:	50.000 ppb	Ln Mean:	3.912
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	96.000 ppb	4.564

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	96.000 ppb	Ln Minimum:	4.564
Maximum:	96.000 ppb	Ln Maximum:	4.564
Mean:	96.000 ppb	Ln Mean:	4.564

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	3.000 ppb	1.099

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.000 ppb	Ln Minimum:	1.099
Maximum:	3.000 ppb	Ln Maximum:	1.099
Mean:	3.000 ppb	Ln Mean:	1.099
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-25-2001 17:40

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Co Cobalt, total

CAS Number: 7440-48-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:5W8B Position:Upgradient Observations:20

Scale	Minimum	Maximum	Mean	Std Dev
Original:	0.500	7.000	1.675	1.942
Log:	-0.693	1.946	0.111	0.838

Pooled Statistics
Observations: 20

Statistic	Original Scale	Log Scale
Mean:	1.675	0.111
Std Dev:	1.942	0.838
Skewness:	2.146*	0.942
Kurtosis:	3.337	0.024
Minimum:	0.500	-0.693
Maximum:	7.000	1.946
CV:	1.159	7.556

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.6121*	0.9050	0.8680

Log:	0.8335*	0.9050	0.8680

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Cobalt, total(CAS Number:7440-48-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 7.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	1.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	28.000 ppb *

Well:5W5B

Sample Date	Observation
12/31/99	1.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	50.000 ppb *

Well:5W9A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	96.000 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	8.000 ppb *

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Cobalt, total(CAS Number:7440-48-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 7.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	6.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	2.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	3.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:42

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Cu Copper, total

CAS Number: 7440-50-8
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Mar 31 1997	2.000 ppb	0.693	
Jun 30 1997	7.000 ppb	1.946	
Sep 30 1997	1.000 ppb	0.000	
Dec 31 1997	4.000 ppb	1.386	
Feb 11 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 23 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Oct 26 1998	2.000 ppb	0.693	
Mar 11 1999	18.000 ppb	2.890	
May 26 1999	1.000 ppb	0.000	
Jul 20 1999	0.500 ppb	-0.693	(* Nondetect *)
Nov 04 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 28 1999	5.000 ppb	1.609	
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	2.000 ppb	0.693	

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 55

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	18.000 ppb	Ln Maximum:	2.890
Mean:	2.375 ppb	Ln Mean:	0.114
Std. Dev.:	4.091 ppb	Ln Std. Dev.:	1.103

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	7.000 ppb	1.946

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.000 ppb	Ln Minimum:	1.946
Maximum:	7.000 ppb	Ln Maximum:	1.946
Mean:	7.000 ppb	Ln Mean:	1.946
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	13.000 ppb	2.565

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	13.000 ppb	Ln Minimum:	2.565
Maximum:	13.000 ppb	Ln Maximum:	2.565
Mean:	13.000 ppb	Ln Mean:	2.565
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	27.000 ppb	3.296

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	27.000 ppb	Ln Minimum:	3.296
Maximum:	27.000 ppb	Ln Maximum:	3.296
Mean:	27.000 ppb	Ln Mean:	3.296
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	47.000 ppb	3.850

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	47.000 ppb	Ln Minimum:	3.850
Maximum:	47.000 ppb	Ln Maximum:	3.850
Mean:	47.000 ppb	Ln Mean:	3.850

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	38.000 ppb	3.638

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	38.000 ppb	Ln Minimum:	3.638
Maximum:	38.000 ppb	Ln Maximum:	3.638
Mean:	38.000 ppb	Ln Mean:	3.638
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	6.000 ppb	1.792

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.000 ppb	Ln Minimum:	1.792
Maximum:	6.000 ppb	Ln Maximum:	1.792
Mean:	6.000 ppb	Ln Mean:	1.792
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Copper, total(CAS Number:7440-50-8)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 18.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	7.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	13.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	6.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	27.000 ppb *

Well:5W9A

Sample Date	Observation
12/31/99	6.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	47.000 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	6.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Copper, total(CAS Number:7440-50-8)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 18.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	6.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	38.000 ppb *

Well:S5W7

Sample Date	Observation
12/31/99	6.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:50

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Pb Lead, total

CAS Number: 7439-92-1
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Mar 31 1997	1.000 ppb	0.000	
Jun 30 1997	5.000 ppb	1.609	
Sep 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1997	1.000 ppb	0.000	
Feb 11 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 23 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Oct 26 1998	0.500 ppb	-0.693	(* Nondetect *)
Mar 11 1999	10.000 ppb	2.303	
May 26 1999	0.500 ppb	-0.693	(* Nondetect *)
Jul 20 1999	0.500 ppb	-0.693	(* Nondetect *)
Nov 04 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 28 1999	2.000 ppb	0.693	
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	0.500 ppb	-0.693	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 75

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	10.000 ppb	Ln Maximum:	2.303
Mean:	1.325 ppb	Ln Mean:	-0.290
Std. Dev.:	2.290 ppb	Ln Std. Dev.:	0.855

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	11.000 ppb	2.398

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	11.000 ppb	Ln Minimum:	2.398
Maximum:	11.000 ppb	Ln Maximum:	2.398
Mean:	11.000 ppb	Ln Mean:	2.398
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	3.000 ppb	1.099

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.000 ppb	Ln Minimum:	1.099
Maximum:	3.000 ppb	Ln Maximum:	1.099
Mean:	3.000 ppb	Ln Mean:	1.099
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Lead, total(CAS Number:7439-92-1)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 10.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	11.000 ppb *

Well:5W5B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	3.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<1.000 ppb

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Lead, total(CAS Number:7439-92-1)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 10.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	2.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<1.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:47

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Hg Mercury

CAS Number: 7439-97-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.200 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Mar 31 1997	0.900 ppb	-0.105	
Jun 30 1997	0.200 ppb	-1.609	
Sep 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Feb 11 1998	0.100 ppb	-2.303	(* Nondetect *)
Apr 23 1998	0.100 ppb	-2.303	(* Nondetect *)
Jul 21 1998	0.100 ppb	-2.303	(* Nondetect *)
Oct 26 1998	0.100 ppb	-2.303	(* Nondetect *)
Mar 11 1999	0.100 ppb	-2.303	(* Nondetect *)
May 26 1999	0.100 ppb	-2.303	(* Nondetect *)
Jul 20 1999	0.100 ppb	-2.303	(* Nondetect *)
Nov 04 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 28 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 29 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 30 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1999	0.100 ppb	-2.303	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 90

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.900 ppb	Ln Maximum:	-0.105
Mean:	0.145 ppb	Ln Mean:	-2.158
Std. Dev.:	0.179 ppb	Ln Std. Dev.:	0.507

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Mercury(CAS Number:7439-97-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.900 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<0.200 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Mercury(CAS Number:7439-97-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.900 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<0.200 ppb

Data Set Summary

Report Printed: 02-25-2001 17:49

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Ni Nickel, total

CAS Number: 7440-02-0
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 15.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	7.500 ppb	2.015	(* Nondetect *)
Jun 30 1996	16.000 ppb	2.773	
Sep 30 1996	21.000 ppb	3.045	
Dec 31 1996	7.500 ppb	2.015	(* Nondetect *)
Mar 31 1997	17.000 ppb	2.833	
Jun 30 1997	7.500 ppb	2.015	(* Nondetect *)
Sep 30 1997	7.500 ppb	2.015	(* Nondetect *)
Dec 31 1997	7.500 ppb	2.015	(* Nondetect *)
Feb 11 1998	7.500 ppb	2.015	(* Nondetect *)
Apr 23 1998	7.500 ppb	2.015	(* Nondetect *)
Jul 21 1998	7.500 ppb	2.015	(* Nondetect *)
Oct 26 1998	7.500 ppb	2.015	(* Nondetect *)
Mar 11 1999	106.000 ppb	4.663	
May 26 1999	7.500 ppb	2.015	(* Nondetect *)
Jul 20 1999	7.500 ppb	2.015	(* Nondetect *)
Nov 04 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 28 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 29 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 30 1999	7.500 ppb	2.015	(* Nondetect *)
Dec 31 1999	7.500 ppb	2.015	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 80

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	106.000 ppb	Ln Maximum:	4.663
Mean:	14.000 ppb	Ln Mean:	2.278
Std. Dev.:	22.007 ppb	Ln Std. Dev.:	0.646

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	13.000 ppb	2.565

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	13.000 ppb	Ln Minimum:	2.565
Maximum:	13.000 ppb	Ln Maximum:	2.565
Mean:	13.000 ppb	Ln Mean:	2.565
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	57.000 ppb	4.043

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	57.000 ppb	Ln Minimum:	4.043
Maximum:	57.000 ppb	Ln Maximum:	4.043
Mean:	57.000 ppb	Ln Mean:	4.043
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	148.000 ppb	4.997

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	148.000 ppb	Ln Minimum:	4.997
Maximum:	148.000 ppb	Ln Maximum:	4.997
Mean:	148.000 ppb	Ln Mean:	4.997

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	23.000 ppb	3.135

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	23.000 ppb	Ln Minimum:	3.135
Maximum:	23.000 ppb	Ln Maximum:	3.135
Mean:	23.000 ppb	Ln Mean:	3.135
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	23.000 ppb	3.135

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	23.000 ppb	Ln Minimum:	3.135
Maximum:	23.000 ppb	Ln Maximum:	3.135
Mean:	23.000 ppb	Ln Mean:	3.135
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	68.000 ppb	4.220

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	68.000 ppb	Ln Minimum:	4.220
Maximum:	68.000 ppb	Ln Maximum:	4.220
Mean:	68.000 ppb	Ln Mean:	4.220
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	7.500 ppb	2.015 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	7.500 ppb	Ln Minimum:	2.015
Maximum:	7.500 ppb	Ln Maximum:	2.015
Mean:	7.500 ppb	Ln Mean:	2.015
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Nickel, total(CAS Number:7440-02-0)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 106.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	13.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	57.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<15.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	148.000 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	23.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Nickel, total(CAS Number:7440-02-0)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 106.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	23.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	68.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<15.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:51

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Se Selenium, total

CAS Number: 7782-49-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Mar 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Feb 11 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 23 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Oct 26 1998	0.500 ppb	-0.693	(* Nondetect *)
Mar 11 1999	0.500 ppb	-0.693	(* Nondetect *)
May 26 1999	0.500 ppb	-0.693	(* Nondetect *)
Jul 20 1999	0.500 ppb	-0.693	(* Nondetect *)
Nov 04 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 28 1999	8.000 ppb	2.079	
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	0.500 ppb	-0.693	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 95

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	0.875 ppb	Ln Mean:	-0.555
Std. Dev.:	1.677 ppb	Ln Std. Dev.:	0.620

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	10.000 ppb	2.303

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	10.000 ppb	Ln Minimum:	2.303
Maximum:	10.000 ppb	Ln Maximum:	2.303
Mean:	10.000 ppb	Ln Mean:	2.303

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Selenium, total(CAS Number:7782-49-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 8.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	8.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	10.000 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	2.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Selenium, total(CAS Number:7782-49-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 8.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	2.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<1.000 ppb

Data Set Summary

Report Printed: 02-25-2001 16:47

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Ag Silver, total

CAS Number: 7440-22-4
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.200 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1996	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1996	1.300 ppb	0.262	
Mar 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Jun 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Sep 30 1997	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1997	0.100 ppb	-2.303	(* Nondetect *)
Feb 11 1998	0.100 ppb	-2.303	(* Nondetect *)
Apr 23 1998	0.100 ppb	-2.303	(* Nondetect *)
Jul 21 1998	0.100 ppb	-2.303	(* Nondetect *)
Oct 26 1998	0.100 ppb	-2.303	(* Nondetect *)
Mar 11 1999	2.300 ppb	0.833	
May 26 1999	0.100 ppb	-2.303	(* Nondetect *)
Jul 20 1999	0.100 ppb	-2.303	(* Nondetect *)
Nov 04 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 28 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 29 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 30 1999	0.100 ppb	-2.303	(* Nondetect *)
Dec 31 1999	0.100 ppb	-2.303	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 90

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	2.300 ppb	Ln Maximum:	0.833
Mean:	0.270 ppb	Ln Mean:	-2.018
Std. Dev.:	0.548 ppb	Ln Std. Dev.:	0.882

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

We ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.100 ppb	-2.303 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.100 ppb	Ln Minimum:	-2.303
Maximum:	0.100 ppb	Ln Maximum:	-2.303
Mean:	0.100 ppb	Ln Mean:	-2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Silver, total(CAS Number:7440-22-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 2.300 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<0.200 ppb

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Silver, total(CAS Number:7440-22-4)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 2.300 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<0.200 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<0.200 ppb

Data Set Summary

Report Printed: 02-25-2001 17:57

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Tl Thallium, total

CAS Number: 7440-28-0
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Jun 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Sep 30 1996	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1996	0.500 ppb	-0.693	(* Nondetect *)
Mar 31 1997	2.000 ppb	0.693	
Jun 30 1997	1.000 ppb	0.000	
Sep 30 1997	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1997	0.500 ppb	-0.693	(* Nondetect *)
Feb 11 1998	0.500 ppb	-0.693	(* Nondetect *)
Apr 23 1998	0.500 ppb	-0.693	(* Nondetect *)
Jul 21 1998	0.500 ppb	-0.693	(* Nondetect *)
Oct 26 1998	0.500 ppb	-0.693	(* Nondetect *)
Mar 11 1999	0.500 ppb	-0.693	(* Nondetect *)
May 26 1999	0.500 ppb	-0.693	(* Nondetect *)
Jul 20 1999	0.500 ppb	-0.693	(* Nondetect *)
Nov 04 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 28 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 29 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 30 1999	0.500 ppb	-0.693	(* Nondetect *)
Dec 31 1999	0.500 ppb	-0.693	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 90

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	0.600 ppb	Ln Mean:	-0.589
Std. Dev.:	0.348 ppb	Ln Std. Dev.:	0.339

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

W ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.500 ppb	-0.693 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.500 ppb	Ln Minimum:	-0.693
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.500 ppb	Ln Mean:	-0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Thallium, total(CAS Number:7440-28-0)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 2.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<1.000 ppb

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Thallium, total(CAS Number:7440-28-0)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 2.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<1.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<1.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:59

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Va Vanadium

CAS Number: 7440-62-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 4.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	2.000 ppb	0.693	(* Nondetect *)
Jun 30 1996	2.000 ppb	0.693	(* Nondetect *)
Sep 30 1996	7.000 ppb	1.946	
Dec 31 1996	2.000 ppb	0.693	(* Nondetect *)
Mar 31 1997	17.000 ppb	2.833	
Jun 30 1997	10.000 ppb	2.303	
Sep 30 1997	8.000 ppb	2.079	
Dec 31 1997	2.000 ppb	0.693	(* Nondetect *)
Feb 11 1998	2.000 ppb	0.693	(* Nondetect *)
Apr 23 1998	2.000 ppb	0.693	(* Nondetect *)
Jul 21 1998	2.000 ppb	0.693	(* Nondetect *)
Oct 26 1998	2.000 ppb	0.693	(* Nondetect *)
Mar 11 1999	8.000 ppb	2.079	
May 26 1999	2.000 ppb	0.693	(* Nondetect *)
Jul 20 1999	2.000 ppb	0.693	(* Nondetect *)
Nov 04 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 28 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 29 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 30 1999	2.000 ppb	0.693	(* Nondetect *)
Dec 31 1999	2.000 ppb	0.693	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 75

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	17.000 ppb	Ln Maximum:	2.833
Mean:	4.000 ppb	Ln Mean:	1.082
Std. Dev.:	4.013 ppb	Ln Std. Dev.:	0.709

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	10.000 ppb	2.303

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	10.000 ppb	Ln Minimum:	2.303
Maximum:	10.000 ppb	Ln Maximum:	2.303
Mean:	10.000 ppb	Ln Mean:	2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

W ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	2.000 ppb	0.693 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.000 ppb	Ln Minimum:	0.693
Maximum:	2.000 ppb	Ln Maximum:	0.693
Mean:	2.000 ppb	Ln Mean:	0.693
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Vanadium(CAS Number:7440-62-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 17.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	10.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<4.000 ppb

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Vanadium(CAS Number:7440-62-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 17.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<4.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<4.000 ppb

Data Set Summary

Report Printed: 02-25-2001 18:00

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Zn Zinc, total

CAS Number: 7440-66-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	2.500 ppb	0.916	(* Nondetect *)
Jun 30 1996	2.500 ppb	0.916	(* Nondetect *)
Sep 30 1996	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1996	2.500 ppb	0.916	(* Nondetect *)
Mar 31 1997	26.000 ppb	3.258	
Jun 30 1997	75.000 ppb	4.317	
Sep 30 1997	18.000 ppb	2.890	
Dec 31 1997	41.000 ppb	3.714	
Feb 11 1998	2.500 ppb	0.916	(* Nondetect *)
Apr 23 1998	6.000 ppb	1.792	
Jul 21 1998	10.000 ppb	2.303	
Oct 26 1998	20.000 ppb	2.996	
Mar 11 1999	58.000 ppb	4.060	
May 26 1999	6.000 ppb	1.792	
Jul 20 1999	2.500 ppb	0.916	(* Nondetect *)
Nov 04 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 28 1999	54.000 ppb	3.989	
Dec 29 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 30 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1999	8.000 ppb	2.079	

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 45

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	75.000 ppb	Ln Maximum:	4.317
Mean:	17.225 ppb	Ln Mean:	2.072
Std. Dev.:	22.177 ppb	Ln Std. Dev.:	1.268

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	7.000 ppb	1.946

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.000 ppb	Ln Minimum:	1.946
Maximum:	7.000 ppb	Ln Maximum:	1.946
Mean:	7.000 ppb	Ln Mean:	1.946
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	30.000 ppb	3.401

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	30.000 ppb	Ln Minimum:	3.401
Maximum:	30.000 ppb	Ln Maximum:	3.401
Mean:	30.000 ppb	Ln Mean:	3.401
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	94.000 ppb	4.543

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	94.000 ppb	Ln Minimum:	4.543
Maximum:	94.000 ppb	Ln Maximum:	4.543
Mean:	94.000 ppb	Ln Mean:	4.543
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	8.000 ppb	2.079

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	8.000 ppb	Ln Minimum:	2.079
Maximum:	8.000 ppb	Ln Maximum:	2.079
Mean:	8.000 ppb	Ln Mean:	2.079
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	75.000 ppb	4.317

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	75.000 ppb	Ln Minimum:	4.317
Maximum:	75.000 ppb	Ln Maximum:	4.317
Mean:	75.000 ppb	Ln Mean:	4.317

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	10.000 ppb	2.303

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	10.000 ppb	Ln Minimum:	2.303
Maximum:	10.000 ppb	Ln Maximum:	2.303
Mean:	10.000 ppb	Ln Mean:	2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	13.000 ppb	2.565

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	13.000 ppb	Ln Minimum:	2.565
Maximum:	13.000 ppb	Ln Maximum:	2.565
Mean:	13.000 ppb	Ln Mean:	2.565
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	10.000 ppb	2.303

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	10.000 ppb	Ln Minimum:	2.303
Maximum:	10.000 ppb	Ln Maximum:	2.303
Mean:	10.000 ppb	Ln Mean:	2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-25-2001 18:01

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Zn Zinc, total

CAS Number: 7440-66-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:5W8B Position:Upgradient Observations:20

Scale	Minimum	Maximum	Mean	Std Dev
Original:	2.500	75.000	17.225	22.177
Log:	0.916	4.317	2.072	1.268

Pooled Statistics
Observations: 20

Statistic	Original Scale	Log Scale
Mean:	17.225	2.072
Std Dev:	22.177	1.268
Skewness:	1.445*	0.524
Kurtosis:	0.785	-1.260
Minimum:	2.500	0.916
Maximum:	75.000	4.317
CV:	1.287	0.612

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.7198*	0.9050	0.8680

Log:	0.8225*	0.9050	0.8680

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Zinc, total(CAS Number:7440-66-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 75.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	7.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	30.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	8.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	94.000 ppb *

Well:5W9A

Sample Date	Observation
12/31/99	8.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	75.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<5.000 ppb

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Zinc, total(CAS Number:7440-66-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 75.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	10.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	13.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	10.000 ppb

Data Set Summary

Report Printed: 02-25-2001 16:44

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:2,4-DNT 2,4-Dinitrotoluene

CAS Number: 121-14-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.080 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.040 ppb	-3.219	(* Nondetect *)
Jun 30 1996	0.180 ppb	-1.715	
Sep 30 1996	0.040 ppb	-3.219	(* Nondetect *)
Dec 31 1996	0.040 ppb	-3.219	(* Nondetect *)
Mar 31 1997	0.040 ppb	-3.219	(* Nondetect *)
Jun 30 1997	0.040 ppb	-3.219	(* Nondetect *)
Sep 30 1997	0.040 ppb	-3.219	(* Nondetect *)
Dec 31 1997	0.040 ppb	-3.219	(* Nondetect *)
Feb 11 1998	0.040 ppb	-3.219	(* Nondetect *)
Apr 23 1998	0.040 ppb	-3.219	(* Nondetect *)
Jul 21 1998	0.040 ppb	-3.219	(* Nondetect *)
Oct 26 1998	0.040 ppb	-3.219	(* Nondetect *)
Mar 11 1999	0.040 ppb	-3.219	(* Nondetect *)
May 26 1999	0.040 ppb	-3.219	(* Nondetect *)
Jul 20 1999	0.040 ppb	-3.219	(* Nondetect *)
Nov 04 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 28 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 29 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 30 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 31 1999	0.040 ppb	-3.219	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 95

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.180 ppb	Ln Maximum:	-1.715
Mean:	0.047 ppb	Ln Mean:	-3.144
Std. Dev.:	0.031 ppb	Ln Std. Dev.:	0.336

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.370 ppb	-0.994

W ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	0.370 ppb	Ln Minimum:	-0.994
Maximum:	0.370 ppb	Ln Maximum:	-0.994
Mean:	0.370 ppb	Ln Mean:	-0.994
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	5.930 ppb	1.780

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	5.930 ppb	Ln Minimum:	1.780
Maximum:	5.930 ppb	Ln Maximum:	1.780
Mean:	5.930 ppb	Ln Mean:	1.780
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	11.800 ppb	2.468

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	11.800 ppb	Ln Minimum:	2.468
Maximum:	11.800 ppb	Ln Maximum:	2.468
Mean:	11.800 ppb	Ln Mean:	2.468

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	3.860 ppb	1.351

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.860 ppb	Ln Minimum:	1.351
Maximum:	3.860 ppb	Ln Maximum:	1.351
Mean:	3.860 ppb	Ln Mean:	1.351
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	4.480 ppb	1.500

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	4.480 ppb	Ln Minimum:	1.500
Maximum:	4.480 ppb	Ln Maximum:	1.500
Mean:	4.480 ppb	Ln Mean:	1.500
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:2,4-Dinitrotoluene(CAS Number:121-14-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.180 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<0.080 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<0.080 ppb

Well:5W5B

Sample Date	Observation
12/31/99	0.370 ppb *

Well:5W7B

Sample Date	Observation
12/31/99	5.930 ppb *

Well:5W9A

Sample Date	Observation
12/31/99	ND<0.080 ppb

Well:5WC21

Sample Date	Observation
12/31/99	11.800 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	3.860 ppb *

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:2,4-Dinitrotoluene(CAS Number:121-14-2)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.180 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	4.480 ppb *

Well:S5W5

Sample Date	Observation
12/31/99	ND<0.080 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<0.080 ppb

Data Set Summary

Report Printed: 02-25-2001 16:46

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Acetone Acetone

CAS Number: 67-64-1
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 10.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	5.000 ppb	1.609	(* Nondetect *)
Jun 30 1996	5.000 ppb	1.609	(* Nondetect *)
Sep 30 1996	5.000 ppb	1.609	(* Nondetect *)
Dec 31 1996	5.000 ppb	1.609	(* Nondetect *)
Mar 31 1997	5.000 ppb	1.609	(* Nondetect *)
Jun 30 1997	5.000 ppb	1.609	(* Nondetect *)
Sep 30 1997	5.000 ppb	1.609	(* Nondetect *)
Dec 31 1997	5.000 ppb	1.609	(* Nondetect *)
Feb 11 1998	5.000 ppb	1.609	(* Nondetect *)
Apr 23 1998	5.000 ppb	1.609	(* Nondetect *)
Jul 21 1998	5.000 ppb	1.609	(* Nondetect *)
Oct 26 1998	5.000 ppb	1.609	(* Nondetect *)
Mar 11 1999	89.000 ppb	4.489	
May 26 1999	5.000 ppb	1.609	(* Nondetect *)
Jul 20 1999	5.000 ppb	1.609	(* Nondetect *)
Nov 04 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 28 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 29 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 30 1999	5.000 ppb	1.609	(* Nondetect *)
Dec 31 1999	5.000 ppb	1.609	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 95

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	89.000 ppb	Ln Maximum:	4.489
Mean:	9.200 ppb	Ln Mean:	1.753
Std. Dev.:	18.783 ppb	Ln Std. Dev.:	0.644

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

W ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Acetone(CAS Number:67-64-1)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 89.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<10.000 ppb

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Acetone(CAS Number:67-64-1)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 89.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<10.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<10.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:38

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Chlorofm Chloroform

CAS Number: 67-66-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.300 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.150 ppb	-1.897	(* Nondetect *)
Jun 30 1996	0.150 ppb	-1.897	(* Nondetect *)
Sep 30 1996	0.150 ppb	-1.897	(* Nondetect *)
Dec 31 1996	0.200 ppb	-1.609	
Mar 31 1997	0.200 ppb	-1.609	
Jun 30 1997	0.150 ppb	-1.897	(* Nondetect *)
Sep 30 1997	0.150 ppb	-1.897	(* Nondetect *)
Dec 31 1997	0.150 ppb	-1.897	(* Nondetect *)
Feb 11 1998	0.500 ppb	-0.693	
Apr 23 1998	0.150 ppb	-1.897	(* Nondetect *)
Jul 21 1998	0.150 ppb	-1.897	(* Nondetect *)
Oct 26 1998	0.150 ppb	-1.897	(* Nondetect *)
Mar 11 1999	0.150 ppb	-1.897	(* Nondetect *)
May 26 1999	0.150 ppb	-1.897	(* Nondetect *)
Jul 20 1999	0.150 ppb	-1.897	(* Nondetect *)
Nov 04 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 28 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 29 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 30 1999	0.150 ppb	-1.897	(* Nondetect *)
Dec 31 1999	0.150 ppb	-1.897	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 85

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.500 ppb	Ln Maximum:	-0.693
Mean:	0.173 ppb	Ln Mean:	-1.808
Std. Dev.:	0.079 ppb	Ln Std. Dev.:	0.277

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W(ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

We_1 ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

I ility:Haz. Waste Unit 5 - RAAP
Parameter:Chloroform(CAS Number:67-66-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.500 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<0.300 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<0.300 ppb

W l:5W5B

Sample Date	Observation
12/31/99	ND<0.300 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<0.300 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<0.300 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<0.300 ppb

W l:5WC22

Sample Date	Observation
12/31/99	ND<0.300 ppb

l ility:Haz. Waste Unit 5 - RAAP
Parameter:Chloroform(CAS Number:67-66-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.500 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<0.300 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<0.300 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<0.300 ppb

Data Set Summary

Report Printed: 02-25-2001 16:45

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:2Butanon 2-Butanone (Methyl ethyl ketone)

CAS Number: 78-93-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.550 ppb	-0.598	(* Nondetect *)
Jun 30 1996	0.550 ppb	-0.598	(* Nondetect *)
Sep 30 1996	0.550 ppb	-0.598	(* Nondetect *)
Dec 31 1996	0.550 ppb	-0.598	(* Nondetect *)
Mar 31 1997	0.550 ppb	-0.598	(* Nondetect *)
Jun 30 1997	0.550 ppb	-0.598	(* Nondetect *)
Sep 30 1997	0.550 ppb	-0.598	(* Nondetect *)
Dec 31 1997	0.550 ppb	-0.598	(* Nondetect *)
Feb 11 1998	0.550 ppb	-0.598	(* Nondetect *)
Apr 23 1998	0.550 ppb	-0.598	(* Nondetect *)
Jul 21 1998	0.550 ppb	-0.598	(* Nondetect *)
Oct 26 1998	0.550 ppb	-0.598	(* Nondetect *)
Mar 11 1999	21.300 ppb	3.059	
May 26 1999	0.550 ppb	-0.598	(* Nondetect *)
Jul 20 1999	0.550 ppb	-0.598	(* Nondetect *)
Nov 04 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 28 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 29 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 30 1999	0.550 ppb	-0.598	(* Nondetect *)
Dec 31 1999	0.550 ppb	-0.598	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 95

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	21.300 ppb	Ln Maximum:	3.059
Mean:	1.588 ppb	Ln Mean:	-0.415
Std. Dev.:	4.640 ppb	Ln Std. Dev.:	0.818

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

We ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

We ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.550 ppb	-0.598 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.550 ppb	Ln Minimum:	-0.598
Maximum:	0.550 ppb	Ln Maximum:	-0.598
Mean:	0.550 ppb	Ln Mean:	-0.598
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:2-Butanone (Methyl ethyl ketone)(CAS Number:78-93-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 21.300 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<1.100 ppb

Facility:Haz. Waste Unit 5 - RAAP
Parameter:2-Butanone (Methyl ethyl ketone)(CAS Number:78-93-3)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 21.300 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<1.100 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<1.100 ppb

Data Set Summary

Report Printed: 02-25-2001 17:52

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:TCE Trichloroethene (-ethylene)

CAS Number: 79-01-6
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Mar 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.300 ppb	-1.204	
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.800 ppb	-0.223	
Feb 11 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 23 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 26 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 11 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 20 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 04 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 90

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.800 ppb	Ln Maximum:	-0.223
Mean:	0.100 ppb	Ln Mean:	-2.768
Std. Dev.:	0.174 ppb	Ln Std. Dev.:	0.720

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	14.900 ppb	2.701

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	14.900 ppb	Ln Minimum:	2.701
Maximum:	14.900 ppb	Ln Maximum:	2.701
Mean:	14.900 ppb	Ln Mean:	2.701
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	6.550 ppb	1.879

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	6.550 ppb	Ln Minimum:	1.879
Maximum:	6.550 ppb	Ln Maximum:	1.879
Mean:	6.550 ppb	Ln Mean:	1.879

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	5.330 ppb	1.673

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	5.330 ppb	Ln Minimum:	1.673
Maximum:	5.330 ppb	Ln Maximum:	1.673
Mean:	5.330 ppb	Ln Mean:	1.673
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	5.410 ppb	1.688

We ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	5.410 ppb	Ln Minimum:	1.688
Maximum:	5.410 ppb	Ln Maximum:	1.688
Mean:	5.410 ppb	Ln Mean:	1.688
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Trichloroethene (-ethylene)(CAS Number:79-01-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.800 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5W5B

Sample Date	Observation
12/31/99	14.900 ppb *

Well:5W7B

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:5WC21

Sample Date	Observation
12/31/99	6.550 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	5.330 ppb *

Report Produced by GRITS/STAT 5.01

ility:Haz. Waste Unit 5 - RAAP
Parameter:Trichloroethene (-ethylene)(CAS Number:79-01-6)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 0.800 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	5.410 ppb *

Well:S5W5

Sample Date	Observation
12/31/99	ND<0.100 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<0.100 ppb

Data Set Summary

Report Printed: 02-25-2001 17:53

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:TOC Total Organic Carbon

CAS Number: - -
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 1000.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	500.000 ppb	6.215	(* Nondetect *)
Jun 30 1996	2000.000 ppb	7.601	
Sep 30 1996	500.000 ppb	6.215	(* Nondetect *)
Dec 31 1996	500.000 ppb	6.215	(* Nondetect *)
Mar 31 1997	500.000 ppb	6.215	(* Nondetect *)
Jun 30 1997	500.000 ppb	6.215	(* Nondetect *)
Sep 30 1997	500.000 ppb	6.215	(* Nondetect *)
Dec 31 1997	500.000 ppb	6.215	(* Nondetect *)
Feb 11 1998	1100.000 ppb	7.003	
Apr 23 1998	1125.000 ppb	7.026	
Jul 21 1998	500.000 ppb	6.215	(* Nondetect *)
Oct 26 1998	500.000 ppb	6.215	(* Nondetect *)
Mar 11 1999	253000.000 ppb	12.441	
May 26 1999	500.000 ppb	6.215	(* Nondetect *)
Jul 20 1999	500.000 ppb	6.215	(* Nondetect *)
Nov 04 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 28 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 29 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 30 1999	500.000 ppb	6.215	(* Nondetect *)
Dec 31 1999	500.000 ppb	6.215	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 80

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	253000.000 ppb	Ln Maximum:	12.441
Mean:	13261.250 ppb	Ln Mean:	6.675
Std. Dev.:	56429.867 ppb	Ln Std. Dev.:	1.409

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	500.000 ppb	6.215 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	500.000 ppb	Ln Minimum:	6.215
Maximum:	500.000 ppb	Ln Maximum:	6.215
Mean:	500.000 ppb	Ln Mean:	6.215
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 26,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Total Organic Carbon(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 253000.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:5WC22

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Total Organic Carbon(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 253000.000 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	ND<1000.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:54

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:TOX Total Organic Halogens, Halides

CAS Number: - -
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	2.500 ppb	0.916	(* Nondetect *)
Jun 30 1996	2.500 ppb	0.916	(* Nondetect *)
Sep 30 1996	12.500 ppb	2.526	
Dec 31 1996	2.500 ppb	0.916	(* Nondetect *)
Mar 31 1997	5.125 ppb	1.634	
Jun 30 1997	5.000 ppb	1.609	
Sep 30 1997	9.500 ppb	2.251	
Dec 31 1997	12.250 ppb	2.506	
Feb 11 1998	13.400 ppb	2.595	
Apr 23 1998	7.000 ppb	1.946	
Jul 21 1998	2.500 ppb	0.916	(* Nondetect *)
Oct 26 1998	2.500 ppb	0.916	(* Nondetect *)
Mar 11 1999	2.500 ppb	0.916	(* Nondetect *)
May 26 1999	8.000 ppb	2.079	
Jul 20 1999	2.500 ppb	0.916	(* Nondetect *)
Nov 04 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 28 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 29 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 30 1999	2.500 ppb	0.916	(* Nondetect *)
Dec 31 1999	2.500 ppb	0.916	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND): 60

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	13.400 ppb	Ln Maximum:	2.595
Mean:	5.139 ppb	Ln Mean:	1.407
Std. Dev.:	3.888 ppb	Ln Std. Dev.:	0.661

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

W ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	15.000 ppb	2.708

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	15.000 ppb	Ln Minimum:	2.708
Maximum:	15.000 ppb	Ln Maximum:	2.708
Mean:	15.000 ppb	Ln Mean:	2.708

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	22.000 ppb	3.091

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	22.000 ppb	Ln Minimum:	3.091
Maximum:	22.000 ppb	Ln Maximum:	3.091
Mean:	22.000 ppb	Ln Mean:	3.091
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	10.000 ppb	2.303

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	10.000 ppb	Ln Minimum:	2.303
Maximum:	10.000 ppb	Ln Maximum:	2.303
Mean:	10.000 ppb	Ln Mean:	2.303
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	7.000 ppb	1.946

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	7.000 ppb	Ln Minimum:	1.946
Maximum:	7.000 ppb	Ln Maximum:	1.946
Mean:	7.000 ppb	Ln Mean:	1.946
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Total Organic Halogens, Halides(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 13.400 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:5W11A

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:5W5B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:5W7B

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:5W9A

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:5WC21

Sample Date	Observation
12/31/99	15.000 ppb *

Well:5WC22

Sample Date	Observation
12/31/99	22.000 ppb *

Report Produced by GRITS/STAT 5.01

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Total Organic Halogens, Halides(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 20
Conf. Level (1-α): 95.240%

UL: 13.400 ppb
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	10.000 ppb

Well:S5W5

Sample Date	Observation
12/31/99	ND<5.000 ppb

Well:S5W7

Sample Date	Observation
12/31/99	7.000 ppb

Data Set Summary

Report Printed: 02-25-2001 17:41

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Cond F Specific Conductivity, Field

CAS Number: - -
MCL: 0.000 umhos/cm
ACL: 0.000 umhos/cm
Detect Limit: 1.000 umhos/cm

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation		Ln
Jun 30 1997	70.000	umhos/cm	4.248
Sep 30 1997	67.500	umhos/cm	4.212
Dec 31 1997	75.000	umhos/cm	4.317
Feb 11 1998	78.000	umhos/cm	4.357
Apr 23 1998	78.000	umhos/cm	4.357
Jul 21 1998	78.000	umhos/cm	4.357
Oct 26 1998	450.000	umhos/cm	6.109
Mar 11 1999	240.000	umhos/cm	5.481
May 26 1999	580.000	umhos/cm	6.363
Jul 20 1999	76.000	umhos/cm	4.331
Nov 04 1999	73.000	umhos/cm	4.290
Dec 28 1999	55.750	umhos/cm	4.021
Dec 29 1999	56.000	umhos/cm	4.025
Dec 30 1999	50.500	umhos/cm	3.922
Dec 31 1999	51.250	umhos/cm	3.937

Well ID:5W8B Summary Statistics

Observations (N): 15
Nondetects (%ND): 0

Minimum:	50.500 umhos/cm	Ln Minimum:	3.922
Maximum:	580.000 umhos/cm	Ln Maximum:	6.363

Mean:	138.600 umhos/cm	Ln Mean:	4.555
Std. Dev.:	161.292 umhos/cm	Ln Std. Dev.:	0.774

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	289.500 umhos/cm	5.668

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	289.500 umhos/cm	Ln Minimum:	5.668
Maximum:	289.500 umhos/cm	Ln Maximum:	5.668
Mean:	289.500 umhos/cm	Ln Mean:	5.668
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	671.500 umhos/cm	6.510

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	671.500 umhos/cm	Ln Minimum:	6.510
Maximum:	671.500 umhos/cm	Ln Maximum:	6.510
Mean:	671.500 umhos/cm	Ln Mean:	6.510
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	473.500 umhos/cm	6.160

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	473.500 umhos/cm	Ln Minimum:	6.160
Maximum:	473.500 umhos/cm	Ln Maximum:	6.160
Mean:	473.500 umhos/cm	Ln Mean:	6.160
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	663.750 umhos/cm	6.498

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	663.750 umhos/cm	Ln Minimum:	6.498
Maximum:	663.750 umhos/cm	Ln Maximum:	6.498
Mean:	663.750 umhos/cm	Ln Mean:	6.498
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	654.250 umhos/cm	6.483

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	654.250 umhos/cm	Ln Minimum:	6.483
Maximum:	654.250 umhos/cm	Ln Maximum:	6.483
Mean:	654.250 umhos/cm	Ln Mean:	6.483
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	951.000 umhos/cm	6.858

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	951.000 umhos/cm	Ln Minimum:	6.858
Maximum:	951.000 umhos/cm	Ln Maximum:	6.858
Mean:	951.000 umhos/cm	Ln Mean:	6.858
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	961.000 umhos/cm	6.868

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	961.000 umhos/cm	Ln Minimum:	6.868
Maximum:	961.000 umhos/cm	Ln Maximum:	6.868
Mean:	961.000 umhos/cm	Ln Mean:	6.868
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	973.250 umhos/cm	6.881

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	973.250 umhos/cm	Ln Minimum:	6.881
Maximum:	973.250 umhos/cm	Ln Maximum:	6.881
Mean:	973.250 umhos/cm	Ln Mean:	6.881
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	367.500 umhos/cm	5.907

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	367.500 umhos/cm	Ln Minimum:	5.907
Maximum:	367.500 umhos/cm	Ln Maximum:	5.907
Mean:	367.500 umhos/cm	Ln Mean:	5.907
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln

Dec 31 1999 385.750 umhos/cm 5.955

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	385.750 umhos/cm	Ln Minimum:	5.955
Maximum:	385.750 umhos/cm	Ln Maximum:	5.955
Mean:	385.750 umhos/cm	Ln Mean:	5.955
Std. Dev.:	0.000 umhos/cm	Ln Std. Dev.:	0.000

Normality Tests

Report Printed: 02-25-2001 17:41

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Cond F Specific Conductivity, Field

CAS Number: - -
MCL: 0.000 umhos/cm
ACL: 0.000 umhos/cm
Detect Limit: 1.000 umhos/cm

Start Date:Mar 31 1996
End Date:Dec 31 1999

Normality Test on Observations for wells listed below:

Well:5W8B Position:Upgradient Observations:15

Scale	Minimum	Maximum	Mean	Std Dev
Original:	50.500	580.000	138.600	161.292
Log:	3.922	6.363	4.555	0.774

Pooled Statistics
Observations: 15

Statistic	Original Scale	Log Scale
Mean:	138.600	4.555
Std Dev:	161.292	0.774
Skewness:	1.984*	1.517*
Kurtosis:	2.407	0.778
Minimum:	50.500	3.922
Maximum:	580.000	6.363
CV:	1.164	0.170

Shapiro-Wilk Statistics

Scale	Test Statistic	5% Critical Value	1% Critical Value
Original:	0.5731*	0.8810	0.8350

Log:	0.7048*	0.8810	0.8350

* Indicates statistically significant evidence of non-normality.
GRIT/STAT Version 5.0

Nonparametric Prediction Interval
Report Printed February 25,2001

Facility:Haz. Waste Unit 5 - RAAP
Parameter:Specific Conductivity, Field(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 15
Conf. Level (1-α): 93.750%

UL: 580.000 umhos/cm
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5W10A

Sample Date	Observation
12/31/99	289.500 umhos/cm

Well:5W11A

Sample Date	Observation
12/31/99	671.500 umhos/cm *

Well:5W5B

Sample Date	Observation
12/31/99	473.500 umhos/cm

Well:5W7B

Sample Date	Observation
12/31/99	663.750 umhos/cm *

Well:5W9A

Sample Date	Observation
12/31/99	654.250 umhos/cm *

Well:5WC21

Sample Date	Observation
12/31/99	951.000 umhos/cm *

Well:5WC22

Sample Date	Observation
12/31/99	961.000 umhos/cm *

ility:Haz. Waste Unit 5 - RAAP
Parameter:Specific Conductivity, Field(CAS Number:- -)

ONE-TAILED UPPER PARAMETRIC PREDICTION INTERVAL

Observations (n): 15
Conf. Level (1-α): 93.750%

UL: 580.000 umhos/cm
LL: 0.000

BACKGROUND TO COMPLIANCE WELL COMPARISON

Well:5WC23

Sample Date	Observation
12/31/99	973.250 umhos/cm *

Well:S5W5

Sample Date	Observation
12/31/99	367.500 umhos/cm

Well:S5W7

Sample Date	Observation
12/31/99	385.750 umhos/cm

Report Produced by GRITS/STAT 5.01

Data Set Summary

Report Printed: 02-25-2001 17:50

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Sb Antimony, total

CAS Number: 7440-36-0
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 3.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln
Mar 31 1996	1.500 ppb	0.405 (* Nondetect *)
Jun 30 1996	1.500 ppb	0.405 (* Nondetect *)
Sep 30 1996	1.500 ppb	0.405 (* Nondetect *)
Dec 31 1996	1.500 ppb	0.405 (* Nondetect *)
Mar 31 1997	1.500 ppb	0.405 (* Nondetect *)
Jun 30 1997	1.500 ppb	0.405 (* Nondetect *)
Sep 30 1997	1.500 ppb	0.405 (* Nondetect *)
Dec 31 1997	1.500 ppb	0.405 (* Nondetect *)
Feb 11 1998	1.500 ppb	0.405 (* Nondetect *)
Apr 23 1998	1.500 ppb	0.405 (* Nondetect *)
Jul 21 1998	1.500 ppb	0.405 (* Nondetect *)
Oct 26 1998	1.500 ppb	0.405 (* Nondetect *)
Mar 11 1999	1.500 ppb	0.405 (* Nondetect *)
May 26 1999	1.500 ppb	0.405 (* Nondetect *)
Jul 20 1999	1.500 ppb	0.405 (* Nondetect *)
Nov 04 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 28 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 29 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 30 1999	1.500 ppb	0.405 (* Nondetect *)
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	1.500 ppb	0.405 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	1.500 ppb	Ln Minimum:	0.405
Maximum:	1.500 ppb	Ln Maximum:	0.405
Mean:	1.500 ppb	Ln Mean:	0.405
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-25-2001 16:45

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:2,6-DNT 2,6-Dinitrotoluene

CAS Number: 606-20-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.080 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.040 ppb	-3.219	(* Nondetect *)
Jun 30 1996	0.040 ppb	-3.219	(* Nondetect *)
Sep 30 1996	0.040 ppb	-3.219	(* Nondetect *)
Dec 31 1996	0.040 ppb	-3.219	(* Nondetect *)
Mar 31 1997	0.040 ppb	-3.219	(* Nondetect *)
Jun 30 1997	0.040 ppb	-3.219	(* Nondetect *)
Sep 30 1997	0.040 ppb	-3.219	(* Nondetect *)
Dec 31 1997	0.040 ppb	-3.219	(* Nondetect *)
Feb 11 1998	0.040 ppb	-3.219	(* Nondetect *)
Apr 23 1998	0.040 ppb	-3.219	(* Nondetect *)
Jul 21 1998	0.040 ppb	-3.219	(* Nondetect *)
Oct 26 1998	0.040 ppb	-3.219	(* Nondetect *)
Mar 11 1999	0.040 ppb	-3.219	(* Nondetect *)
May 26 1999	0.040 ppb	-3.219	(* Nondetect *)
Jul 20 1999	0.040 ppb	-3.219	(* Nondetect *)
Nov 04 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 28 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 29 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 30 1999	0.040 ppb	-3.219	(* Nondetect *)
Dec 31 1999	0.040 ppb	-3.219	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	9.090 ppb	2.207

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	9.090 ppb	Ln Minimum:	2.207
Maximum:	9.090 ppb	Ln Maximum:	2.207
Mean:	9.090 ppb	Ln Mean:	2.207
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	3.360 ppb	1.212

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND): 0

Minimum:	3.360 ppb	Ln Minimum:	1.212
Maximum:	3.360 ppb	Ln Maximum:	1.212
Mean:	3.360 ppb	Ln Mean:	1.212

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

W ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

W ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.040 ppb	-3.219 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.040 ppb	Ln Minimum:	-3.219
Maximum:	0.040 ppb	Ln Maximum:	-3.219
Mean:	0.040 ppb	Ln Mean:	-3.219
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-25-2001 17:35

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Benzene Benzene

CAS Number: 71-43-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Mar 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Feb 11 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 23 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 26 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 11 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 20 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 04 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-25-2001 17:35

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:BiEHPhth bis (2-Ethylhexyl) Phthalate

CAS Number: 117-81-7
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 10.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln
Mar 31 1996	5.000 ppb	1.609 (* Nondetect *)
Jun 30 1996	5.000 ppb	1.609 (* Nondetect *)
Sep 30 1996	5.000 ppb	1.609 (* Nondetect *)
Dec 31 1996	5.000 ppb	1.609 (* Nondetect *)
Mar 31 1997	5.000 ppb	1.609 (* Nondetect *)
Jun 30 1997	5.000 ppb	1.609 (* Nondetect *)
Sep 30 1997	5.000 ppb	1.609 (* Nondetect *)
Dec 31 1997	5.000 ppb	1.609 (* Nondetect *)
Feb 11 1998	5.000 ppb	1.609 (* Nondetect *)
Apr 23 1998	5.000 ppb	1.609 (* Nondetect *)
Jul 21 1998	5.000 ppb	1.609 (* Nondetect *)
Oct 26 1998	5.000 ppb	1.609 (* Nondetect *)
Mar 11 1999	5.000 ppb	1.609 (* Nondetect *)
May 26 1999	5.000 ppb	1.609 (* Nondetect *)
Jul 20 1999	5.000 ppb	1.609 (* Nondetect *)
Nov 04 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 28 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 29 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 30 1999	5.000 ppb	1.609 (* Nondetect *)
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

We ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	5.000 ppb	1.609 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	5.000 ppb	Ln Minimum:	1.609
Maximum:	5.000 ppb	Ln Maximum:	1.609
Mean:	5.000 ppb	Ln Mean:	1.609
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-25-2001 17:38

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:ChlMeth Chloromethane

CAS Number: 74-87-3
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.300 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln
Mar 31 1996	0.150 ppb	-1.897 (* Nondetect *)
Jun 30 1996	0.150 ppb	-1.897 (* Nondetect *)
Sep 30 1996	0.150 ppb	-1.897 (* Nondetect *)
Dec 31 1996	0.150 ppb	-1.897 (* Nondetect *)
Mar 31 1997	0.150 ppb	-1.897 (* Nondetect *)
Jun 30 1997	0.150 ppb	-1.897 (* Nondetect *)
Sep 30 1997	0.150 ppb	-1.897 (* Nondetect *)
Dec 31 1997	0.150 ppb	-1.897 (* Nondetect *)
Feb 11 1998	0.150 ppb	-1.897 (* Nondetect *)
Apr 23 1998	0.150 ppb	-1.897 (* Nondetect *)
Jul 21 1998	0.150 ppb	-1.897 (* Nondetect *)
Oct 26 1998	0.150 ppb	-1.897 (* Nondetect *)
Mar 11 1999	0.150 ppb	-1.897 (* Nondetect *)
May 26 1999	0.150 ppb	-1.897 (* Nondetect *)
Jul 20 1999	0.150 ppb	-1.897 (* Nondetect *)
Nov 04 1999	0.150 ppb	-1.897 (* Nondetect *)
Dec 28 1999	0.150 ppb	-1.897 (* Nondetect *)
Dec 29 1999	0.150 ppb	-1.897 (* Nondetect *)
Dec 30 1999	0.150 ppb	-1.897 (* Nondetect *)
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.150 ppb	-1.897 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.150 ppb	Ln Minimum:	-1.897
Maximum:	0.150 ppb	Ln Maximum:	-1.897
Mean:	0.150 ppb	Ln Mean:	-1.897
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-25-2001 17:43

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:Di-N-Bu Di-n-Butylphthalate

CAS Number: 84-74-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 5.000 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln
Mar 31 1997	2.500 ppb	0.916 (* Nondetect *)
Jun 30 1997	2.500 ppb	0.916 (* Nondetect *)
Sep 30 1997	2.500 ppb	0.916 (* Nondetect *)
Dec 31 1997	2.500 ppb	0.916 (* Nondetect *)
Feb 11 1998	2.500 ppb	0.916 (* Nondetect *)
Apr 23 1998	2.500 ppb	0.916 (* Nondetect *)
Jul 21 1998	2.500 ppb	0.916 (* Nondetect *)
Oct 26 1998	2.500 ppb	0.916 (* Nondetect *)
Mar 11 1999	2.500 ppb	0.916 (* Nondetect *)
May 26 1999	2.500 ppb	0.916 (* Nondetect *)
Jul 20 1999	2.500 ppb	0.916 (* Nondetect *)
Nov 04 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 28 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 29 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 30 1999	2.500 ppb	0.916 (* Nondetect *)
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 16
Nondetects (%ND):100

Minimum: 2.500 ppb Ln Minimum: 0.916

Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	2.500 ppb	0.916 (* Nondetect *)

We ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	2.500 ppb	Ln Minimum:	0.916
Maximum:	2.500 ppb	Ln Maximum:	0.916
Mean:	2.500 ppb	Ln Mean:	0.916
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-25-2001 16:42

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:1,2DCE 1,2-Dichloroethane

CAS Number: 107-06-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Mar 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Feb 11 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 23 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 26 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 11 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 20 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 04 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

We ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-25-2001 17:58

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:TranDCEE trans-1,2-Dichloroethene

CAS Number: 156-60-5
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.100 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln	
Mar 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1996	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1996	0.050 ppb	-2.996	(* Nondetect *)
Mar 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Jun 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Sep 30 1997	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1997	0.050 ppb	-2.996	(* Nondetect *)
Feb 11 1998	0.050 ppb	-2.996	(* Nondetect *)
Apr 23 1998	0.050 ppb	-2.996	(* Nondetect *)
Jul 21 1998	0.050 ppb	-2.996	(* Nondetect *)
Oct 26 1998	0.050 ppb	-2.996	(* Nondetect *)
Mar 11 1999	0.050 ppb	-2.996	(* Nondetect *)
May 26 1999	0.050 ppb	-2.996	(* Nondetect *)
Jul 20 1999	0.050 ppb	-2.996	(* Nondetect *)
Nov 04 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 28 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 29 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 30 1999	0.050 ppb	-2.996	(* Nondetect *)
Dec 31 1999	0.050 ppb	-2.996	(* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996

Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

We ID:5WC22

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:5WC22 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC23

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

We ID:5WC23 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W5

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W5 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:S5W7

Sample Date	Observation	Ln
Dec 31 1999	0.050 ppb	-2.996 (* Nondetect *)

Well ID:S5W7 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.050 ppb	Ln Minimum:	-2.996
Maximum:	0.050 ppb	Ln Maximum:	-2.996
Mean:	0.050 ppb	Ln Mean:	-2.996
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Data Set Summary

Report Printed: 02-26-2001 18:54

Facility:RAAPHWMU5 Haz. Waste Unit 5 - RAAP

Address:

City:Radford ST:VA Zip:
County:MONTGOMERY

Contact:
Phone:( ) -

Permit Type:Background

Constituent:MeCl Dichloromethane (Methylene chloride)

CAS Number: 75-09-2
MCL: 0.000 ppb
ACL: 0.000 ppb
Detect Limit: 0.700 ppb

Start Date:Mar 31 1996
End Date:Dec 31 1999

Well ID:5W8B

Sample Date	Observation	Ln
Mar 31 1996	0.350 ppb	-1.050 (* Nondetect *)
Jun 30 1996	0.350 ppb	-1.050 (* Nondetect *)
Sep 30 1996	0.350 ppb	-1.050 (* Nondetect *)
Dec 31 1996	0.350 ppb	-1.050 (* Nondetect *)
Mar 31 1997	0.350 ppb	-1.050 (* Nondetect *)
Jun 30 1997	0.350 ppb	-1.050 (* Nondetect *)
Sep 30 1997	0.350 ppb	-1.050 (* Nondetect *)
Dec 31 1997	0.350 ppb	-1.050 (* Nondetect *)
Feb 11 1998	0.350 ppb	-1.050 (* Nondetect *)
Apr 23 1998	0.350 ppb	-1.050 (* Nondetect *)
Jul 21 1998	0.350 ppb	-1.050 (* Nondetect *)
Oct 26 1998	0.350 ppb	-1.050 (* Nondetect *)
Mar 11 1999	0.350 ppb	-1.050 (* Nondetect *)
May 26 1999	0.350 ppb	-1.050 (* Nondetect *)
Jul 20 1999	0.350 ppb	-1.050 (* Nondetect *)
Nov 04 1999	0.350 ppb	-1.050 (* Nondetect *)
Dec 28 1999	0.350 ppb	-1.050 (* Nondetect *)
Dec 29 1999	0.350 ppb	-1.050 (* Nondetect *)
Dec 30 1999	0.350 ppb	-1.050 (* Nondetect *)
Dec 31 1999	0.350 ppb	-1.050 (* Nondetect *)

Well ID:5W8B Summary Statistics

Observations (N): 20
Nondetects (%ND):100

Minimum:	0.350 ppb	Ln Minimum:	-1.050
Maximum:	0.350 ppb	Ln Maximum:	-1.050
Mean:	0.350 ppb	Ln Mean:	-1.050
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W10A

Sample Date	Observation	Ln
Dec 31 1999	0.350 ppb	-1.050 (* Nondetect *)

Well ID:5W10A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.350 ppb	Ln Minimum:	-1.050
Maximum:	0.350 ppb	Ln Maximum:	-1.050
Mean:	0.350 ppb	Ln Mean:	-1.050
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W11A

Sample Date	Observation	Ln
Dec 31 1999	0.350 ppb	-1.050 (* Nondetect *)

Well ID:5W11A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.350 ppb	Ln Minimum:	-1.050
Maximum:	0.350 ppb	Ln Maximum:	-1.050
Mean:	0.350 ppb	Ln Mean:	-1.050
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W5B

Sample Date	Observation	Ln
Dec 31 1999	0.350 ppb	-1.050 (* Nondetect *)

Well ID:5W5B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.350 ppb	Ln Minimum:	-1.050
Maximum:	0.350 ppb	Ln Maximum:	-1.050
Mean:	0.350 ppb	Ln Mean:	-1.050
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W7B

Sample Date	Observation	Ln
Dec 31 1999	0.350 ppb	-1.050 (* Nondetect *)

Well ID:5W7B Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.350 ppb	Ln Minimum:	-1.050
Maximum:	0.350 ppb	Ln Maximum:	-1.050
Mean:	0.350 ppb	Ln Mean:	-1.050
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5W9A

Sample Date	Observation	Ln
Dec 31 1999	0.350 ppb	-1.050 (* Nondetect *)

Well ID:5W9A Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.350 ppb	Ln Minimum:	-1.050
Maximum:	0.350 ppb	Ln Maximum:	-1.050
Mean:	0.350 ppb	Ln Mean:	-1.050
Std. Dev.:	0.000 ppb	Ln Std. Dev.:	0.000

Well ID:5WC21

Sample Date	Observation	Ln
Dec 31 1999	0.350 ppb	-1.050 (* Nondetect *)

Well ID:5WC21 Summary Statistics

Observations (N): 1
Nondetects (%ND):100

Minimum:	0.350 ppb	Ln Minimum:	-1.050
Maximum:	0.350 ppb	Ln Maximum:	-1.050
Mean:	0.350 ppb	Ln Mean:	-1.050