**Department of Energy**
**Office of Legacy Management**

APR 26 2005

Mr. Dwight Shearer
Pennsylvania Department of Environmental Quality
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Subject: November 2004 Data Validation Package for the Canonsburg, Pennsylvania, Disposal Site

Dear Mr. Shearer:

Enclosed is a copy of the data validation for the ground water and surface water sampling conducted at the Canonsburg, Pennsylvania, Disposal Site in November 2004.

Six ground water samples and three surface water samples were collected at the Canonsburg, Pennsylvania, Disposal Site to demonstrate compliance with standards as set forth in the *Ground Water Compliance Action Plan for the Canonsburg, Pennsylvania, UMTRA Project Site.* Water levels were measured at each sampled well. Sampling and analysis was conducted as specified in *Sampling and Analysis Plan for GJO Projects, December 2002.* One duplicate sample was collected from location 0412. An equipment blank also was collected during this sampling event.

The Department of Energy monitors ground water and surface water at the Canonsburg site to demonstrate that uranium concentrations do not exceed U.S. Nuclear Regulatory Commission-approved alternate concentration limits (ACL) of 1.0 mg/L in ground water and 0.01 mg/L at the point of exposure (POE) in Chartiers Creek. The ACL for uranium was not exceeded in the point-of-compliance (POC) wells 0412 and 0413. These data are consistent with historical results as illustrated in the time-concentration graphs included with the analytical data. The uranium concentration at POE location 0602 in Chartiers Creek did not exceed the ACL. Comparisons of the analytical results from Chartiers Creek downstream locations 0602 and 0603 to the results from the upstream location 0601 indicate negligible site-related impacts to water quality in Chartiers Creek.

If you have any questions or comments, please call me at (304) 285-4991.

Sincerely,

Ronald K. Staubly
Site Manager

Enclosures

cc w/enclosures:
S. Harper, Pennsylvania Department of Environmental Projection
J. Caverly, NRC

cc w/o enclosures:
M. Widdop, Stoller
Project File CAN 410.02 (D. Roberts)

staubly/DVP-CAN.doc

DOE–LM/GJ815–2005

# Data Validation Package

## November 2004 Ground Water and Surface Water Sampling at the Canonsburg, Pennsylvania, Disposal Site

February 2005

U.S. Department of Energy
Office of Legacy Management

*Work Performed by the S.M. Stoller Corporation under DOE Contract No. DE–AC01–02GJ79491 for the U.S. Department of Energy Office of Legacy Management.*

# Contents

# Sampling Event Summary

**Site:** Canonsburg, Pennsylvania

**Sampling Period:** November 9, 2004

Six ground water samples and three surface water samples were collected at the Canonsburg, Pennsylvania, Disposal Site to demonstrate compliance with standards as set forth in the *Ground Water Compliance Action Plan for the Canonsburg, Pennsylvania, UMTRA Project Site.* Water levels were measured at each sampled well. Sampling and analysis was conducted as specified in *Sampling and Analysis Plan for GJO Projects, December 2002.* One duplicate sample was collected from location 0412. An equipment blank also was collected during this sampling event.

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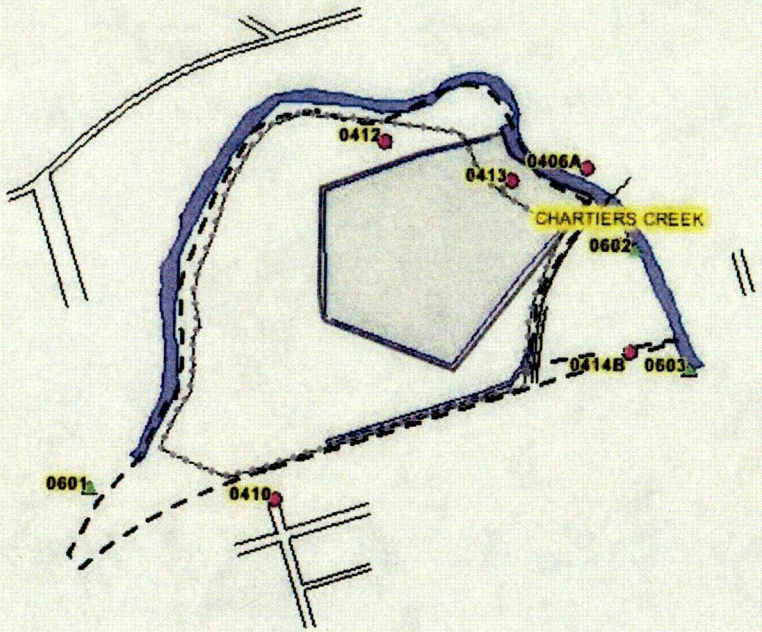
Lee Widdop — 3/1/2005

Michael Widdop
Site Lead, SM Stoller

Date




Legend
- Existing Well
- Fence
- Road
- Site Boundary
- Stream/Ditch
- Disposal Cell
- Water Body
- River/Pond

*Sample Location Map*



C01

# Data Assessment Summary

# Water Sampling Field Activities Verification Checklist

| | | | |
|---|---|---|---|
| **Project** | Canonsburg, Pennsylvania | **Date(s) of Water Sampling** | November 9, 2004 |
| **Date(s) of Verification** | February 15, 2005 | **Name of Verifier** | Steve Donie |

| | Response (Yes, No, NA) | Comments |
|---|---|---|
| 1. Is the SAP the primary document directing field procedures? | Yes | |
| List other documents, SOP's, instructions. | | Work order dated 10/18/2004 |
| 2. Were the sampling locations specified in the planning documents sampled? | Yes | |
| 3. Was a pre-trip calibration conducted as specified in the above named documents? | Yes | |
| 4. Was an operational check of the field equipment conducted twice daily? | No | One check made. |
| Did the operational checks meet criteria? | Yes | |
| 5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified? | Yes | |
| 6. Was the Category of the well documented? | Yes | |
| 7. Were the following conditions met when purging a Category I well: | | |
| Was one pump/tubing volume purged prior to sampling? | Yes | |
| Did the water level stabilize prior to sampling? | Yes | |
| Did pH, specific conductance, and turbidity measurements stabilize prior to sampling? | Yes | |
| Was the flow rate less than 500 mL/min? | Yes | |
| If a portable pump was used, was there a 4 hour delay between pump installation and sampling? | NA | |

# Water Sampling Field Activities Verification Checklist (continued)

| | Response (Yes, No, NA) | Comments |
|---|---|---|
| 8. Were the follcwing conditions met when purging a Category II well: | | |
| Was the flow rate less than 500 mL/min? | Yes | |
| Was one pump/tubing volume removed prior to sampling? | Yes | |
| 9. Were duplicates taken at a frequency of one per 20 samples? | Yes | |
| 10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment? | Yes | |
| 11. Were trip blanks prepared and included with each shipment of VOC samples? | NA | |
| 12. Were QC samples assigned a fictitious site identification number? | Yes | |
| Was the true identity of the samples recorded on the Quality Assurance Sample Log? | Yes | |
| 13. Were samples collected in the containers specified? | Yes | |
| 14. Were samples filtered and preserved as specified? | Yes | |
| 15. Were the number and types of samples collected as specified? | Yes | |
| 16. Were chain of custody records completed and was sample custody maintained? | Yes | |
| 17. Are field data sheets signed and dated by both team members? | No | One signature at locations 0414B, 0410, 0601, 0412 |
| 18. Was all other pertinent information documented on the field data sheets? | Yes | |
| 19. Was the presence or absence of ice in the cooler documented at every sample location? | Yes | |
| 20. Were water levels measured at the locations specified in the planning documents? | Yes | |

## Laboratory Performance Assessment

General Information

| | |
|---|---|
| Report Number (RIN): | 04100131 |
| Sample Event: | November 9, 2004 |
| Site(s): | Canonsburg, Pennsylvania |
| Laboratory: | Paragon Analytics |
| Work Order No.: | 0411124 |
| Analysis: | Metals, Inorganics, Radiochemistry |
| Validator: | Steve Donivan |
| Review Date: | January 11, 2005 |

This validation was performed according to *Standard Practice for Validation of Laboratory Data*, GT-9(P) (2004). All analyses were successfully completed. The samples were prepared and analyzed using accepted procedures based on methods specified by line item code, which are listed in Table 2.

*Table 2. Analytes and Methods*

| Analyte | Line Item Code | Prep Method | Analytical Method |
|---|---|---|---|
| Uranium, U | GJO-01 | SW-846 3005A | SW-846 6020 |
| Molybdenum, Mo | GJO-15 | SW-846 3005A | SW-846 6020 |
| Manganese, Mn | GJO-17 | SW-846 3005A | SW-846 6010B |
| Calcium, Potassium, Magnesium, Sodium | MET-A-020 | SW-846 3005A | SW-846 6010B |
| Gross Alpha/Beta | GPC-A-001 | SOP702R16 | SOP724R8 |
| Chloride, Cl | MIS-A-039 | SW-856 9056 | SW-856 9056 |
| Sulfate, SO4 | MIS-A-044 | SW-856 9056 | SW-856 9056 |

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received eleven water samples on November 11, 2004 accompanied by a Chain of Custody (COC) form. The COC form was checked to confirm that all of the samples were listed on the form and that signatures and dates were present indicating sample relinquishment and receipt. The sample submittal documents including the COC form, the Sample Submittal Form, and the sample tickets had no errors or omissions.

Preservation and Holding Times

The sample shipment was received cool and intact with temperature within the cooler of 3.6 degrees centigrade (°C), which complies with requirements. All samples had been preserved correctly for the requested analyses and all samples were analyzed within the applicable holding times.

## Data Qualifier Summary

Sample results were qualified with a "J" flag (estimated quantity) or a "U" flag (not detected) as shown in Table 3.

*Table 3. Data Qualifier Summary*

| Sample Number | Location | Analyte | Flag | Reason |
|---|---|---|---|---|
| 0411124-1 | 0406A | gross alpha | J | Less than 3 times the MDC |
| 0411124-1 | 0406A | gross beta | J | Less than 3 times the MDC |
| 0411124-4 | 0424 | Mo | U | Less than 5 times the blank |
| 0411124-4 | 0424 | U | U | Less than 5 times the blank |
| 0411124-4 | 0424 | gross beta | J | Less than 3 times the MDC |
| 0411124-5 | 0414B | Mo | U | Less than 5 times the blank |
| 0411124-5 | 0414B | gross beta | J | Less than 3 times the MDC |
| 0411124-6 | 0410 | U | U | Less than 5 times the blank |
| 0411124-6 | 0410 | gross alpha | J | Less than 3 times the MDC |
| 0411124-6 | 0410 | gross beta | J | Less than 3 times the MDC |
| 0411124-7 | 2650 | Ca | U | Less than 5 times the blank |
| 0411124-7 | 2650 | Mg | U | Less than 5 times the blank |
| 0411124-7 | 2650 | Mn | U | Less than 5 times the blank |
| 0411124-7 | 2650 | K | U | Less than 5 times the blank |
| 0411124-8 | 0601 | U | U | Less than 5 times the blank |
| 0411124-7 | 2650 | U | U | Less than 5 times the blank |
| 0411124-9 | 0412 | Mo | U | Less than 5 times the blank |
| 0411124-10 | 2649 | Mo | U | Less than 5 times the blank |

## Laboratory Instrument Calibration

All laboratory instrument calibrations were performed correctly in accordance with the cited methods.

Calibrations for calcium, magnesium, manganese, potassium, and sodium were performed on November 24, 2004. The initial calibration was performed using three calibration standards resulting in a correlation coefficient ($r^2$) value greater than 0.995. The absolute value of the intercept was less than 3 times the method detection limit (MDL). Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification (CCV) checks were made at the required frequency resulting in eight CCVs. All calibration checks met the acceptance criteria. A reporting limit verification check (CRI) was made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit. The CRI result was within the acceptance criteria.

Calibrations for molybdenum and uranium were performed on November 17, 2004. An additional calibration for uranium was performed on November 18, 2004. The initial calibration was performed using four calibration standards resulting in a correlation coefficient ($r^2$) value greater than 0.995. The absolute value of the intereept was less than 3 times the MDL. Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification (CCV) checks were made at the required frequency resulting

in seven CCVs for molybdenum and 9 CCVs for uranium. All calibration checks met the acceptance criteria. A reporting limit verification check (CRI) was made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit. The CRI result was within the acceptance criteria. The mass calibration and resolution was checked at the beginning of each analytical run in accordance with the procedure. Internal standard recoveries were stable and within acceptance ranges.

Initial calibrations were performed for chloride and sulfate using 5 calibration standards on November 19, 2004. The calibration curve correlation coefficient ($r^2$) values were greater than 0.995 with intercepts less than 3 times the MDL. Initial calibration and calibration check standards were prepared from independent sources. Continuing calibration checks (CCVs) were made at the correct frequency resulting in three CCVs and all initial and continuing calibration verifications were within the acceptance criteria.

Plateau calibrations were performed on January 28, 2004. Alpha attenuation, beta attenuation, and alpha/beta crosstalk calibrations were performed on February 4, 2004, covering a range of 0 to 145 mg. All standards were counted to a minimum of 10,000 counts. All daily calibration and background checks met acceptance criteria. Sample results that are greater than the minimum detectable concentration (MDC) but less than three times the MDC are qualified with a "J" flag (estimated quantity).

Method and Calibration Blanks

All initial and continuing calibration blanks were below the practical quantitation limits for all method 6010B and 6020 analytes. In cases where blank concentration exceeded the instrument detection limit the associated sample results are qualified with a "U" flag (not detected) when the sample result is greater than the instrument detection limit (IDL) but less than 5 times the blank concentration. The chloride and sulfate method blanks and initial and continuing calibration blanks were below the method detection limits. The gross alpha/beta method blank results were below the minimum detectable concentration.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis

ICP interference check samples were analyzed at the required frequency and all results meet the acceptance criteria.

Matrix Spike Analysis

The matrix spike and matrix spike duplicate recoveries met the acceptance criteria for all analytes.

Laboratory Replicate Analysis

The relative percent difference (RPD) values for the matrix spike duplicate sample results for all analytes were less than 20 percent.

Laboratory Control Sample

Laboratory control samples were analyzed at the correct frequency with acceptable results for all analysis categories.

Metals Serial Dilution

Serial dilutions were prepared and analyzed for all method 6010B and 6020 analytes to monitor chemical or physical interferences in the sample matrix. The acceptance criteria were met for all analytes with the exception of manganese and uranium. The data for these analytes were not evaluated because the concentrations in the unspiked samples were less than fifty times the practical quantitation limits.

Detection Limits/Dilutions

Samples were diluted in a consistent and acceptable manner when required. The required detection limits were achieved for all analytes with the exception of the gross alpha/beta results for locations 0412 and 2649. The required detection limit was not achieved for these samples because of the elevated total dissolved solids present in the samples.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers.

Chromatography Peak Integration

The integration of analyte peaks was reviewed for all chloride and sulfate data. There were no manual integrations performed and all peak integrations were satisfactory.

Electronic Data Deliverable (EDD) File

An EDD file arrived on December 7, 2004. The EDD validation application identified no problems with the EDD file.

## Sampling Quality Control Assessment

The following information summarizes and assesses quality control for this sampling event.

Sampling Protocol

All ground water sample results were qualified with an "F" flag in the database indicating the wells were purged and sampled using the low-flow sampling method. Additionally, the sample results from locations 0406A, 0410, and 0413 were qualified with a "Q" flag indicating qualitative data. These wells were designated category II because the static water level failed to stabilize prior to sample collection

Equipment Blank Assessment

The results for the equipment blank that was collected during this sampling event were all below the method detection limits with the following exceptions. The chloride and sodium results were slightly above the method detection limits, but are acceptable because they are below the required detection limits.

Field Duplicate Assessment

Duplicate samples were collected from well 0412. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, EPA guidance for *laboratory* duplicates (which is conservative for field duplicates) was used to assess the precision of the field duplicates. The duplicate sample results for metals and anions met the criteria of less than twenty percent relative difference. The duplicate sample results for gross alpha and gross beta were evaluated using the relative error ratio of the paired results and met the acceptance criteria with ratios less than three.

## Certification

All laboratory analytical quality control criteria were met except as qualified in this report. The data qualifiers listed on the SEEPro database reports are defined on the last page of each report. All data in this package are considered validated and available for use.

Laboratory Coordinator: Steve Donivan — Date: 2-24-05

Data Validation Lead: Steve Donivan — Date: 2-24-05

# Attachment 1
# Assessment of Anomalous Data

# Minimums and Maximums Report

**Minimums and Maximums Report**

The Minimums and Maximums Report is generated by a data validation application (DataVal) used to query the SEEPro database. The data validation application compares the new data set with historical data and lists all new data that fall outside the historical data range. Values listed in the report are further screened using the following criteria. Results are considered valid if (1) identified low concentrations are the result of low detection limits; (2) the concentration detected is within 50 percent of historical minimum or maximum values; (3) there were fewer than five historical samples for comparison.

The potassium result from location 0412 is not within 50 percent of the historical maximum value for that location. This result will be compared to data from the next sampling event.

The manganese and sodium results from location 0413 are not within 50 percent of the historical minimum for that location. These data were qualified as qualitative because the static water level did not stabilize prior to sampling and do not require further review.

At this time, all data from this sampling event may be considered validated used as qualified.

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION: 04100131
HISTORY BEGIN DATE: 11/01/1994
REPORT DATE: 02/16/05 01:43:53: PM

| SITE CODE | LOCATION CODE | SAMPLE DATE | ANALYTE | CURRENT RESULT | CURRENT QUALIFIERS LAB | CURRENT QUALIFIERS DATA | HISTORICAL MAXIMUM RESULT | HISTORICAL MAXIMUM QUALIFIERS LAB | HISTORICAL MAXIMUM QUALIFIERS DATA | HISTORICAL MINIMUM RESULT | HISTORICAL MINIMUM QUALIFIERS LAB | HISTORICAL MINIMUM QUALIFIERS DATA | COUNT N | COUNT N BELOW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAN01 | 0410 | 11/09/2004 | Magnesium | 12 | | FQ | 20.4 | L | | 12.5 | | FQ | 9 | 0 |
| CAN01 | 0410 | 11/09/2004 | Manganese | 1.3 | | FQ | 3.16 | L | | 1.38 | | FQ | 9 | 0 |
| CAN01 | 0410 | 11/09/2004 | Potassium | 1.9 | | FQ | 1.35 | F | | 0.994 | | FQ | 9 | 0 |
| CAN01 | 0412 | 11/09/2004 | Calcium | 530 | | F | 473 | F | | 356 | | L | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Calcium | 540 | | F | 473 | F | | 356 | | L | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Chloride | 22 | | F | 60.3 | | | 23.4 | | F | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Chloride | 21 | | F | 60.3 | | | 23.4 | | F | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Magnesium | 67 | | F | 84 | | | 67.2 | | F | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Potassium | 5.3 | | F | 2.99 | | | 2.33 | E | JL | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Potassium | 5.1 | | F | 2.99 | | | 2.33 | E | JL | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Sodium | 37 | | F | 93.8 | | | 50.1 | | F | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Sodium | 36 | | F | 93.8 | | | 50.1 | | F | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Sulfate | 740 | | F | 1030 | L | | 864 | | L | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Sulfate | 760 | | F | 1030 | L | | 864 | | L | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Uranium | 0.22 | | F | 0.213 | | | 0.0536 | | L | 12 | 0 |
| CAN01 | 0412 | 11/09/2004 | Uranium | 0.23 | | F | 0.213 | | | 0.0536 | | L | 12 | 0 |
| CAN01 | 0413 | 11/09/2004 | Chloride | 3.7 | | FQ | 24.6 | F | | 6.85 | | F | 9 | 0 |
| CAN01 | 0413 | 11/09/2004 | Magnesium | 14 | | FQ | 19.8 | F | | 14.9 | | L | 9 | 0 |
| CAN01 | 0413 | 11/09/2004 | Manganese | 0.044 | | FQ | 2.91 | F | | 0.912 | | F | 9 | 0 |
| CAN01 | 0413 | 11/09/2004 | Potassium | 6.1 | | FQ | 4.67 | F | | 3.46 | | L | 9 | 0 |
| CAN01 | 0413 | 11/09/2004 | Sodium | 8.9 | | FQ | 52 | F | | 19 | | F | 9 | 0 |

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION: 04100131
HISTORY BEGIN DATE: 11/01/1994
REPORT DATE: 02/16/05 01:43:55: PM

| SITE CODE | LOCATION | SAMPLE DATE | ANALYTE | CURRENT RESULT | CURRENT QUALIFIERS LAB | CURRENT QUALIFIERS DATA | HISTORICAL MAXIMUM RESULT | HISTORICAL MAXIMUM QUALIFIERS LAB DATA | HISTORICAL MINIMUM RESULT | HISTORICAL MINIMUM QUALIFIERS LAB DATA | COUNT N | COUNT N BELOW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAN01 | 0424 | 11/09/2004 | Molybdenum | 0.00066 | B | UF | 0.01 | U | 0.001 | B | 13 | 9 |
| CAN01 | 0424 | 11/09/2004 | Potassium | 4.9 | | F | 3.36 | | 2.67 | F | 13 | 0 |
| CAN01 | 0424 | 11/09/2004 | Sodium | 120 | | F | 157 | | 123 | L | 13 | 0 |
| CAN01 | 0424 | 11/09/2004 | Sulfate | 130 | | F | 206 | | 150 | L | 13 | 0 |
| CAN01 | 0601 | 11/09/2004 | Sodium | 37 | | | 180 | | 37.1 | | 10 | 0 |
| CAN01 | 0602 | 11/09/2004 | Sodium | 35 | | | 182 | | 36.9 | | 14 | 0 |
| CAN01 | 0603 | 11/09/2004 | Sodium | 35 | | | 185 | | 37.8 | | 14 | 0 |

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- C Pesticide result confirmed by GC-MS.
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- D Analyte determined in diluted sample.
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- > Result above upper detection limit.
- J Estimated

DATA QUALIFIERS:

- J Estimated value.
- L Less than 3 bore volumes purged prior to sampling.
- U Parameter analyzed for but was not detected.
- F Low flow sampling method used.
- R Unusable result.
- Q Qualitative result due to sampling technique
- G Possible grout contamination, pH > 9.
- X Location is undefined.

# Anomalous Data Review Checksheet

# Anomalous Data Review Checksheet

**Site:** Canonsburg, Pennsylvania **Sampling Data:** Ground Water

Reviewer: Steve Donivan (Name (print)) Steve Donivan (Signature) 2-24-05 (Date)

Site Hydrologist: Michael Widdop (Name (print)) (Signature) 2/28/2005 (Date)

Date of Review: February 16,2005

| Loc. No. | Analyte | Type of Anomaly | Disposition |
|---|---|---|---|
| 0412 | Potassium | High | Compare to future results |

# Attachment 2
# Data Presentation

# Ground Water Quality Data

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0406A <well> Replacement well for 0406.
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 670 | | FQ | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 220.000 | | FQ | # | 0.0026 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 72 | | FQ | # | 4 | - |
| Gross Alpha | pCi/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 2.03 | | FQJ | # | 1.19 | ± 0.89 |
| Gross Beta | pCi/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 5.83 | | FQJ | # | 2.23 | ± 1.71 |
| Magnesium | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 46.000 | | FQ | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 2.500 | | FQ | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 0.0014 | | FQ | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | 5.00 - 15.00 | -125.4 | | FQ | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | 5.00 - 15.00 | 6.85 | | FQ | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 5.300 | | FQ | # | 0.064 | - |
| Sodium | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 39.000 | | FQ | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | 5.00 - 15.00 | 1516 | | FQ | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 49 | | FQ | # | 1 | - |
| Temperature | C | 11/09/2004 | N001 | 5.00 - 15.00 | 14.68 | | FQ | # | - | - |

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0406A <well> Replacement well for 0406.
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Turbidity | NTU | 11/09/2004 | N001 | 5.00 - 15.00 | 12.9 | | FQ | # | - | - |
| Uranium | mg/L | 11/09/2004 | 0001 | 5.00 - 15.00 | 0.00029 | | FQ | # | 0.000008 | - |

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:
- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- C Pesticide result confirmed by GC-MS.
- D Analyte determined in diluted sample.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- J Estimated
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:
- F Low flow sampling method used.
- G Possible grout contamination, pH > 9.
- J Estimated value.
- L Less than 3 bore volumes purged prior to sampling.
- Q Qualitative result due to sampling technique
- R Unusable result.
- U Parameter analyzed for but was not detected.
- X Location is undefined.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0410 <well>
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 50 | | FQ | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 25.000 | | FQ | # | 0.0026 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 81 | | FQ | # | 1 | - |
| Gross Alpha | pCi/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 0.756 | | FQJ | # | 0.567 | ± 0.40 |
| Gross Beta | pCi/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 1.86 | | FQJ | # | 1.08 | ± 0.74 |
| Magnesium | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 12.000 | | FQ | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 1.300 | | FQ | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 0.00017 | U | FQ | | #0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | 11.48 - 16.08 | 204.7 | | FQ | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | 11.48 - 16.08 | 5.20 | | FQ | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 1.900 | | FQ | # | 0.064 | - |
| Sodium | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 43.000 | | FQ | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | 11.48 - 16.08 | 529 | | FQ | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 83 | | FQ | # | 2.5 | - |

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0410 <well>
REPORT DATE: 2/17/2005 8:54 am

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 11/09/2004 | N001 | 11.48 - 16.08 | 15.04 | | FQ | # | - | - | |
| Turbidity | NTU | 11/09/2004 | N001 | 11.48 - 16.08 | 6.49 | | FQ | # | - | - | |
| Uranium | mg/L | 11/09/2004 | 0001 | 11.48 - 16.08 | 0.00003 | B | UFQ | # | 0.000008 | - | |

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |

DATA QUALIFIERS:

| | | | | | |
|---|---|---|---|---|---|
| F | Low flow sampling method used. | G | Possible grout contamination, pH > 9. | J | Estimated value. |
| L | Less than 3 bore volumes purged prior to sampling. | Q | Qualitative result due to sampling technique | R | Unusable result. |
| U | Parameter analyzed for but was not detected. | X | Location is undefined. | | |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0412 <well>
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 961 | | F | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 540.000 | | F | # | 0.013 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 530.000 | | F | # | 0.013 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 21 | | F | # | 4 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 22 | | F | # | 4 | - |
| Gross Alpha | pCi/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 212 | | F | # | 3.89 | ± 35.0 |
| | pCi/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 172 | | F | # | 3.28 | ± 28.4 |
| Gross Beta | pCi/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 73.1 | | F | # | 9.1 | ± 13.3 |
| | pCi/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 54.8 | | F | # | 6.74 | ± 9.95 |
| Magnesium | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 67.000 | | F | # | 0.0042 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 69.000 | | F | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 25.000 | | F | # | 0.00033 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 25.000 | | F | # | 0.00033 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 0.001 | | UF | # | 0.00017 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 0.00083 | B | UF | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | 13.21 - 18.21 | -26.6 | | F | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | 13.21 - 18.21 | 6.56 | | F | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 5.100 | | F | # | 0.064 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 5.300 | | F | # | 0.064 | - |

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0412 <well>
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Sodium | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 36.000 | F | | # | 0.0046 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 37.000 | F | | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | 13.21 - 18.21 | 3115 | F | | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 740 | F | | # | 10 | - |
| Sulfate | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 760 | F | | # | 10 | - |
| Temperature | C | 11/09/2004 | N001 | 13.21 - 18.21 | 11.65 | F | | # | - | - |
| Turbidity | NTU | 11/09/2004 | N001 | 13.21 - 18.21 | 8.96 | F | | # | - | - |
| Uranium | mg/L | 11/09/2004 | 0001 | 13.21 - 18.21 | 0.220 | F | | # | 0.000083 | - |
| | mg/L | 11/09/2004 | 0002 | 13.21 - 18.21 | 0.230 | F | | # | 0.000083 | - |

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0412 <well>
REPORT DATE: 2/17/2005 8:54 am

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SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |

DATA QUALIFIERS:

| | | | | | |
|---|---|---|---|---|---|
| F | Low flow sampling method used. | G | Possible grout contamination, pH > 9. | J | Estimated value. |
| L | Less than 3 bore volumes purged prior to sampling. | Q | Qualitative result due to sampling technique | R | Unusable result. |
| U | Parameter analyzed for but was not detected. | X | Location is undefined. | | |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0413 <well>
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 252 | | FQ | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 110.000 | | FQ | # | 0.0026 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 3.7 | | FQ | # | 1 | - |
| Gross Alpha | pCi/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 70.4 | | FQ | # | 0.595 | ± 11.4 |
| Gross Beta | pCi/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 31.4 | | FQ | # | 1.44 | ± 5.15 |
| Magnesium | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 14.000 | | FQ | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 0.044 | | FQ | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 0.0049 | | FQ | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | 6.05 - 11.05 | 99.0 | | FQ | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | 6.05 - 11.05 | 6.66 | | FQ | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 6.100 | | FQ | # | 0.064 | - |
| Sodium | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 8.900 | | FQ | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | 6.05 - 11.05 | 675 | | FQ | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 64 | | FQ | # | 2.5 | - |

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0413 <well>
REPORT DATE: 2/17/2005 8:54 am

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 11/09/2004 | N001 | 6.05 - 11.05 | 12.61 | FQ | # | - | - |
| Turbidity | NTU | 11/09/2004 | N001 | 6.05 - 11.05 | 8.90 | FQ | # | - | - |
| Uranium | mg/L | 11/09/2004 | 0001 | 6.05 - 11.05 | 0.170 | FQ | # | 0.000083 | - |

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |

DATA QUALIFIERS:

| | | | | | |
|---|---|---|---|---|---|
| F | Low flow sampling method used. | G | Possible grout contamination, pH > 9. | J | Estimated value. |
| L | Less than 3 bore volumes purged prior to sampling. | Q | Qualitative result due to sampling technique | R | Unusable result. |
| U | Parameter analyzed for but was not detected. | X | Location is undefined. | | |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0414B <well> Replacement well for 0414A.
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | | 204 | | F | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | | 100.000 | | F | # | 0.0026 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | | 6.5 | | F | # | 1 | - |
| Gross Alpha | pCi/L | 11/09/2004 | 0001 | | 0.724 | U | F | # | 0.724 | ± 0.43 |
| Gross Beta | pCi/L | 11/09/2004 | 0001 | | 3.1 | | FJ | # | 1.12 | ± 0.88 |
| Magnesium | mg/L | 11/09/2004 | 0001 | | 18.000 | | F | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | | 8.000 | | F | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | | 0.00056 | B | UF | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | | 42.9 | | F | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | | 6.42 | | F | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | | 3.000 | | F | # | 0.064 | - |
| Sodium | mg/L | 11/09/2004 | 0001 | | 8.300 | | F | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | | 673 | | F | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | | 120 | | F | # | 2.5 | - |

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0414B <well> Replacement well for 0414A.
REPORT DATE: 2/17/2005 8:54 am

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | C | 11/09/2004 | N001 | 11.71 | F | # | - | | - | |
| Turbidity | NTU | 11/09/2004 | N001 | 9.47 | F | # | - | - | | |
| Uranium | mg/L | 11/09/2004 | 0001 | 0.00078 | F | # | 0.000008 | - | | |

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |

DATA QUALIFIERS:

| | | | | | |
|---|---|---|---|---|---|
| F | Low flow sampling method used. | G | Possible grout contamination, pH > 9. | J | Estimated value. |
| L | Less than 3 bore volumes purged prior to sampling. | Q | Qualitative result due to sampling technique | R | Unusable result. |
| U | Parameter analyzed for but was not detected. | X | Location is undefined. | | |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0424 <well>
REPORT DATE: 2/17/2005 8:54 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | DEPTH RANGE (FT BLS) | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 399 | | F | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 100.000 | | F | # | 0.0026 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 98 | | F | # | 4 | - |
| Gross Alpha | pCi/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 1.31 | U | F | # | 1.31 | ± 0.79 |
| Gross Beta | pCi/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 3.41 | | FJ | # | 2.52 | ± 1.66 |
| Magnesium | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 25.000 | | F | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 5.400 | | F | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 0.00066 | B | UF | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | 7.58 - 12.58 | -37.3 | | F | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | 7.58 - 12.58 | 6.57 | | F | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 4.900 | | F | # | 0.064 | - |
| Sodium | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 120.000 | | F | # | 0.023 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | 7.58 - 12.58 | 1347 | | F | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 130 | | F | # | 10 | - |
| Temperature | C | 11/09/2004 | N001 | 7.58 - 12.58 | 13.79 | | F | # | - | - |

GROUND WATER QUALITY DATA BY LOCATION (USEE100) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0424 <well>
REPORT DATE: 2/17/2005 8:54 am

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Turbidity | NTU | 11/09/2004 | N001 | 7.58 - 12.58 | 3.87 | | F | # | - | - |
| Uranium | mg/L | 11/09/2004 | 0001 | 7.58 - 12.58 | 0.00004 | B | UF | # | 0.000008 | - |

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative.. |

DATA QUALIFIERS:

| | | | | | |
|---|---|---|---|---|---|
| F | Low flow sampling method used. | G | Possible grout contamination, pH > 9. | J | Estimated value. |
| L | Less than 3 bore volumes purged prior to sampling. | Q | Qualitative result due to sampling technique | R | Unusable result. |
| U | Parameter analyzed for but was not detected. | X | Location is undefined. | | |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

# Surface Water Quality Data

SURFACE WATER QUALITY DATA BY LOCATION (USEE102) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0601 RESERVED MCILBERT, WQD, 4/24/89
REPORT DATE: 2/17/2005 9:44 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/200 | 0001 | 158 | | | # | - | - |
| Calcium | mg/L | 11/09/200 | 0001 | 84.000 | | | # | 0.0026 | - |
| Chloride | mg/L | 11/09/200 | 0001 | 58 | | | # | 1 | - |
| Magnesium | mg/L | 11/09/200 | 0001 | 19.000 | | | # | 0.0042 | - |
| Manganese | mg/L | 11/09/200 | 0001 | 0.066 | | | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/200 | 0001 | 0.025 | | | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/200 | N001 | 94.7 | | | # | - | - |
| pH | s.u. | 11/09/200 | N001 | 7.66 | | | # | - | - |
| Potassium | mg/L | 11/09/200 | 0001 | 5.600 | | | # | 0.064 | - |
| Sodium | mg/L | 11/09/200 | 0001 | 37.000 | | | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/200 | N001 | 742 | | | # | - | - |
| Sulfate | mg/L | 11/09/200 | 0001 | 92 | | | # | 2.5 | - |
| Temperature | C | 11/09/200 | N001 | 8.47 | | | # | - | - |
| Uranium | mg/L | 11/09/200 | 0001 | 0.00024 | | U | # | 0.000008 | - |

SURFACE WATER QUALITY DATA BY LOCATION (USEE102) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0601 RESERVED MGILBERT, WQD, 4/24/89
REPORT DATE: 2/17/2005 9:44 am

---

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |

DATA QUALIFIERS:

| | |
|---|---|
| F | Low flow sampling method used. |
| J | Estimated value. |
| Q | Qualitative result due to sampling technique |
| U | Parameter analyzed for but was not detected. |
| G | Possible grout contamination, pH > 9. |
| L | Less than 3 bore volumes purged prior to sampling. |
| R | Unusable result. |
| X | Location is undefined. |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

SURFACE WATER QUALITY DATA BY LOCATION (USEE102) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0602 RESERVED MGILBERT, WQD, 4/24/89
REPORT DATE: 2/17/2005 9:44 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | 194 | | | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | 86.000 | | | # | 0.0026 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | 56 | | | # | 2 | - |
| Magnesium | mg/L | 11/09/2004 | 0001 | 19.000 | | | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | 0.071 | | | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | 0.030 | | | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | 132.8 | | | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | 7.68 | | | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | 5.400 | | | # | 0.064 | - |
| Sodium | mg/L | 11/09/2004 | 0001 | 35.000 | | | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | 736 | | | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | 92 | | | # | 5 | - |
| Temperature | C | 11/09/2004 | N001 | 6.65 | | | # | - | - |
| Turbidity | NTU | 11/09/2004 | N001 | 3.56 | | | # | - | - |
| Uranium | mg/L | 11/09/2004 | 0001 | 0.00031 | | | # | 0.000008 | - |

SURFACE WATER QUALITY DATA BY LOCATION (USEE102) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0602 RESERVED MGILBERT, WQD, 4/24/89
REPORT DATE: 2/17/2005 9:44 am

---

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |

DATA QUALIFIERS:

| | |
|---|---|
| F | Low flow sampling method used. |
| J | Estimated value. |
| Q | Qualitative result due to sampling technique |
| U | Parameter analyzed for but was not detected. |
| G | Possible grout contamination; pH > 9. |
| L | Less than 3 bore volumes purged prior to sampling. |
| R | Unusable result. |
| X | Location is undefined. |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

SURFACE WATER QUALITY DATA BY LOCATION (USEE102) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0603 WS CHARTIERS CREEK UDR CONRAIL OVPS
REPORT DATE: 2/17/2005 9:44 am

| PARAMETER | UNITS | SAMPLE: DATE | ID | RESULT | QUALIFIERS: LAB | DATA | QA | DETECTION LIMIT | UN-CERTAINTY |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity, Total (As $CaCO_3$) | mg/L | 11/09/2004 | 0001 | 163 | | | # | - | - |
| Calcium | mg/L | 11/09/2004 | 0001 | 86.000 | | | # | 0.0026 | - |
| Chloride | mg/L | 11/09/2004 | 0001 | 57 | | | # | 2 | - |
| Magnesium | mg/L | 11/09/2004 | 0001 | 19.000 | | | # | 0.0042 | - |
| Manganese | mg/L | 11/09/2004 | 0001 | 0.063 | | | # | 0.000066 | - |
| Molybdenum | mg/L | 11/09/2004 | 0001 | 0.026 | | | # | 0.00017 | - |
| Oxidation Reduction | mV | 11/09/2004 | N001 | 188.4 | | | # | - | - |
| pH | s.u. | 11/09/2004 | N001 | 7.32 | | | # | - | - |
| Potassium | mg/L | 11/09/2004 | 0001 | 5.400 | | | # | 0.064 | - |
| Sodium | mg/L | 11/09/2004 | 0001 | 35.000 | | | # | 0.0046 | - |
| Specific Conductance | umhos/c | 11/09/2004 | N001 | 792 | | | # | - | - |
| Sulfate | mg/L | 11/09/2004 | 0001 | 93 | | | # | 5 | - |
| Temperature | C | 11/09/2004 | N001 | 6.19 | | | # | - | - |
| Turbidity | NTU | 11/09/2004 | N001 | 2.77 | | | # | - | - |
| Uranium | mg/L | 11/09/2004 | 0001 | 0.00025 | | | # | 0.000008 | - |

SURFACE WATER QUALITY DATA BY LOCATION (USEE102) FOR SITE CAN01, Canonsburg Disposal Site
LOCATION: 0603 WS CHARTIERS CREEK UDR CONRAIL OVPS
REPORT DATE: 2/17/2005 9:44 am

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SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| > | Result above upper detection limit. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| C | Pesticide result confirmed by GC-MS. |
| D | Analyte determined in diluted sample. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| J | Estimated |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |

DATA QUALIFIERS:

| | |
|---|---|
| F | Low flow sampling method used. |
| J | Estimated value. |
| Q | Qualitative result due to sampling technique |
| U | Parameter analyzed for but was not detected. |
| G | Possible grout contamination, pH > 9. |
| L | Less than 3 bore volumes purged prior to sampling. |
| R | Unusable result. |
| X | Location is undefined. |

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

# Equipment Blank Data

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION: 04100131
REPORT DATE: 02/16/05 12:33:24: PM

| PARAMETER | SITE CODE | LOCATION ID | SAMPLE DATE | SAMPLE ID | UNITS | RESULT | QUALIFIERS LAB | QUALIFIERS DATA | DETECTION LIMIT | UNCERTAINTY | SAMPLE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Calcium | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.32 | B | UF | 0.0026 | | E |
| Chloride | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.3 | | F | 0.2 | | E |
| Gross Alpha | CAN01 | 0999 | 11/09/2004 | 0001 | pCi/L | 0.54 | U | F | 0.54 | 0.35 | E |
| Gross Beta | CAN01 | 0999 | 11/09/2004 | 0001 | pCi/L | 1.18 | U | F | 1.18 | 0.70 | E |
| Magnesium | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.0053 | B | UF | 0.0042 | | E |
| Manganese | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.00059 | B | UF | 0.000066 | | E |
| Molybdenum | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.00017 | U | F | 0.00017 | | E |
| Potassium | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.54 | B | UF | 0.064 | | E |
| Sodium | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.36 | B | F | 0.0046 | | E |
| Sulfate | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.5 | U | F | 0.5 | | E |
| Uranium | CAN01 | 0999 | 11/09/2004 | 0001 | mg/L | 0.000022 | B | UF | 0.0000083 | | E |

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION: 04100131
REPORT DATE: 02/16/05 12:33:24: PM

---

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

| | |
|---|---|
| * | Replicate analysis not within control limits. |
| + | Correlation coefficient for MSA < 0.995. |
| A | TIC is a suspected aldol-condensation product. |
| B | Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank. |
| E | Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS. |
| Z | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| H | Holding time expired, value suspect. |
| I | Increased detection limit due to required dilution. |
| C | Pesticide result confirmed by GC-MS. |
| M | GFAA duplicate injection precision not met. |
| N | Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC). |
| S | Result determined by method of standard addition (MSA). |
| U | Analytical result below detection limit. |
| W | Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance. |
| D | Analyte determined in diluted sample. |
| P | > 25% difference in detected pesticide or Arochlor concentrations between 2 columns. |
| X | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| Y | Laboratory defined (USEPA CLP organic) qualifier, see case narrative. |
| > | Result above upper detection limit. |
| J | Estimated |

DATA QUALIFIERS:

| | | | | | |
|---|---|---|---|---|---|
| J | Estimated value. | F | Low flow sampling method used. | G | Possible grout contamination, pH > 9. |
| L | Less than 3 bore volumes purged prior to sampling. | R | Unusable result. | X | Location is undefined. |
| U | Parameter analyzed for but was not detected. | Q | Qualitative result due to sampling technique | | |

SAMPLE TYPES:

| | |
|---|---|
| E | EQUIPMENT BLANK |

# Static Water Level Data

STATIC WATER LEVELS (USEE700) FOR SITE CAN01, Canonsburg Disposal Site
REPORT DATE: 2/17/2005

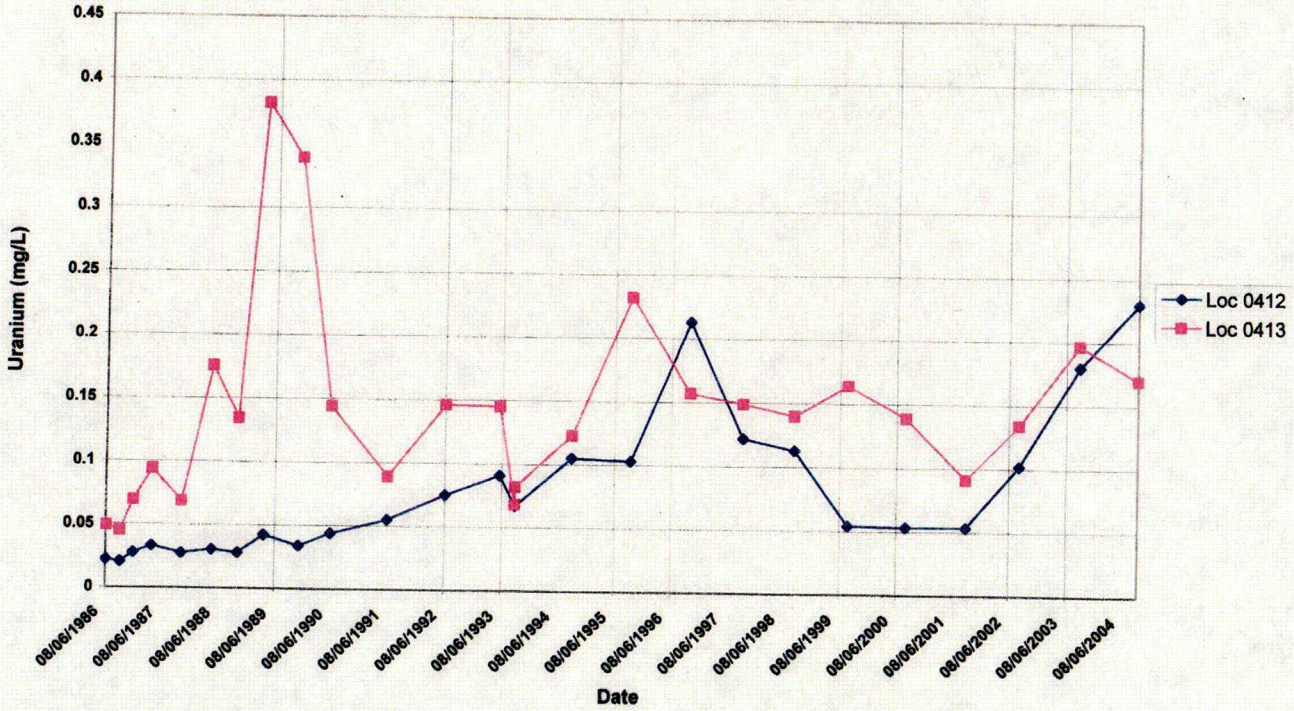
| LOCATION CODE | FLOW CODE | TOP OF CASING ELEVATION (FT) | MEASUREMENT DATE | TIME | DEPTH FROM TOP OF CASING (FT) | WATER ELEVATION (FT) | WATER LEVEL FLAG |
|---|---|---|---|---|---|---|---|
| 0406A | | 941.26 | 11/9/2004 | 18:40 | 9.34 | 931.92 | |
| 0410 | U | 969.16 | 11/9/2004 | 14:24 | 10.92 | 958.24 | |
| 0412 | O | 949.7 | 11/9/2004 | 16:30 | 12.62 | 937.08 | |
| 0413 | O | 940.36 | 11/9/2004 | 17:40 | 6.95 | 933.41 | |
| 0414B | | 943.65 | 11/9/2004 | 11:24 | 7.44 | 936.21 | |
| 0424 | C | 942.25 | 11/9/2004 | 10:25 | 13.75 | 928.50 | |

FLOW CODES: C CROSS GRADIENT D DOWN GRADIENT U UPGRADIENT
WATER LEVEL FLAGS:

# Time Versus Concentration Graphs

## Canonsburg Disposal Site (CAN01)

### Uranium Concentration
ACL = 1.0 mg/L

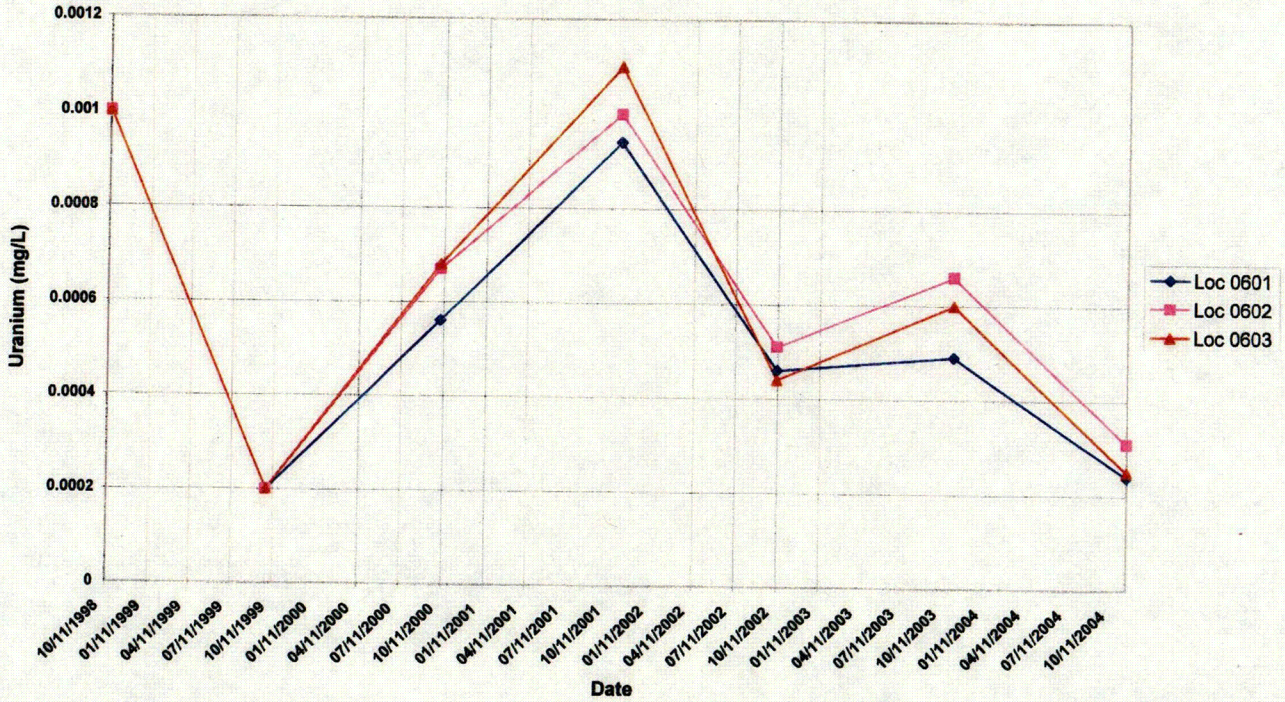



2/17/2005 10:22 AM

C02

## Canonsburg Disposal Site (CAN01)

### Uranium Concentration
ACL = 0.01 mg/L




2/17/2005 10:26 AM

C03

# Attachment 3
# Sampling and Analysis Work Order

Stoller

*established 1959*

Task Order ST05-101
Control Number 1000-T05-0074

October 18, 2004

Ron Staubly
Program Manager
U.S. Department of Energy
Office of Legacy Management
3610 Collins Ferry Road
Morgantown, WV 26507-0880

SUBJECT: Contract No. DE-AC01-02GJ79491, Stoller
November 2004 Environmental Sampling at Canonsburg, Pennsylvania

Reference: FY 2005 LM Task Order No. ST05-101-07-103

Dear Mr. Staubly:

The purpose of this letter is to inform you of the upcoming sampling at Canonsburg, Pennsylvania. Enclosed are the map and tables specifying sample locations and analytes for routine monitoring at Canonsburg. Water quality data will be collected from monitor wells and surface locations at this site as part of the routine environmental sampling currently scheduled to begin the week of November 8, 2004.

The following lists show the monitor wells (with zone of completion) and surface locations scheduled to be sampled during this event.

**Monitor Wells (filtered)***

| | | | | | |
|---|---|---|---|---|---|
| 406A Um | 410 Um | 412 Um | 413 Um | 414B (new) | 424 Um |

*NOTE: Um = Unconsolidated materials

**Surface Locations (filtered)***

| | | |
|---|---|---|
| 601 | 602 | 603 |

QA/QC samples will be collected as directed in the *Sampling and Analysis Plan for GJO Projects*. Access agreements are being reviewed and are expected to be complete by the beginning of fieldwork.

If you have any questions, please call me at (970) 248-6588 or Mike Widdop at (970) 248-6793.

Sincerely,

*Signature on Original*

Clay Carpenter
Project Manager

CC/lcg/lac
Enclosures (3)

cc: C. I. Bahrke, Stoller
S. E. Donivan, Stoller (e)
K. E. Miller, Stoller
D. G. Traub, Stoller (e)
M. R. Widdop, Stoller (e)
Working File CAN

cc w/o enclosures:
Correspondence Control File (Thru V. Creagar)

M:\SMO\04100131\RIN04100131_DVP.doc

# Attachment 4
# Trip Report

Stoller

*established 1959*

# *Memorandum*

DATE: December 14, 2004

TO: Mike Widdop

FROM: Dan Sellers

SUBJECT: Trip Report

**Site:** Canonsburg Ground Water and Surface Water Sampling

**Date of Sampling Event:** November 9, 2004.

**Team Members:** Dan Sellers and Steve Hall.

**Number of Locations Sampled:** Samples were collected at 6 monitor well locations and 3 surface locations. One duplicate and one equipment blank sample were collected.

**Locations Not Sampled/Reason:** None.

**Field Variance:** None.

**Quality Control Sample Cross Reference:** The following table (Table 1) lists the false identification that was assigned to the quality control samples.

**Table 1. Quality Control Samples**

| False ID | True ID | Sample Type | Associated Matrix | Ticket Number |
|---|---|---|---|---|
| 2649 | 0412 | Duplicate | Ground water | NDY 209 |
| 2650 | After 0410 | Equipment Blank | De-ionized water | NDY 206 |

**RIN Number Assigned:** All samples were assigned to RIN 04100131.

**Sample Shipment:** Samples with ticket numbers NDY 201 through NDY 211 were shipped overnight FedEx to Paragon Analytics, Inc. from Canonsburg on November 10, 2004.

**Water Level Measurements:** Water level data were collected at each sampled well.

**Well Inspection Summary:** Well inspections were conducted at all sampled wells. All wells were in good condition.

**Equipment:** Peristaltic pumps were used at each well and surface location.
**Regulatory:** None.

**Site Issues:** Signs were placed at required locations on the boundary fence and wells were marked with black markers.

**Location Specific Information :** Table 2 provides specific information relevant to each location.

**Table 2. Location Specific Information**

| TICKET NUMBER | SAMPLE DATE | LOCATION | DESCRIPTION |
|---|---|---|---|
| NDY 211 | 11/9/2004 | 0406A | Category II Well. Water level would not stabilize. Purge <100ml/min. Could not reach turbidity. |
| NDY 205 | 11/9/2004 | 0410 | Category II Well. Water Level would not stabilize. |
| NDY 208 | 11/9/2004 | 0412 | Category I Well. |
| NDY 210 | 11/9/2004 | 0413 | Category II Well. Water level would not stabilize. Purge <100ml/min. |
| NDY 204 | 11/9/2004 | 0414B | New well. Cat I Well. Very slow pump rate (@100 ml/min); Dedicated tubing installed. Well was surveyed. Total depth of well is 17.70 ft TOC (measuring point). The well construction information obtained from the driller indicates well casing of 15.0 ft BGS. Therefore, the stick up height is 2.70 ft. Elevation is 1.40 ft above the elevation of well 0424. |
| NDY 203 | 11/9/2004 | 0424 | Category I Well. |
| NDY 207 | 11/9/2004 | 0601 | Surface Sample. |
| NDY 202 | 11/9/2004 | 0602 | Surface Location. |
| NDY 201 | 11/9/2004 | 0603 | Surface Location. |
| NDY 209 | 11/9/2004 | 2649 | Equipment Blank (see Table 1). |
| NDY 206 | 11/9/2004 | 2650 | Duplicate Sample (see Table 1). |

**Corrective Action Required/Taken:** Wells need to be permanently marked on the outside of protective casing. Wells need to be re-developed during next sampling event. Well location 0414B needs a new lock.

(DLS/lcg)

cc: R. K. Staubly, LM-50 (e)
S. E. Donivan, Stoller (e)
K. E. Miller, Stoller
Working file CAN

M:\SMO\04100131\RIN04100131_DVP.doc

U.S. Department of Energy, Office of Land Management
Grand Junction, Colorado, Office

# Site Status Report

This form is intended to capture gross site status observations by visitors on the site for purposes other than the annual site inspection. Please record observations for those features you encounter—there is no need to visit features that are not in your work area unless specifically requested to do so by the Site Lead Inspector.

| | | | |
|---|---|---|---|
| Site: | Canonsburg, PA | On-site staff: | Dan Sellers |
| Date of visit: | 11/09/2004 | | Steve Hall |
| Purpose of visit: | GW/SW Compliance Sampling | | |

## Security/Access Controls

Are access controls intact? Yes.
Are signs legible and in acceptable condition? Yes.
Do access controls appear effective? Yes. Describe signs of intrusion (human, livestock, wildlife): None (other than recent monitor well 0414B replacement and routine grounds maintenance – mowing).

## Vegetation

Does site vegetation appear healthy? Yes.
Is there encroachment on riprap-covered areas? Minor amounts in rip-rap armored perimeter ditch on the south and east sides of the disposal cell.
Did you encounter noxious weeds? No (did not specifically look for any).
Describe possible vegetation concerns; indicate location and species:

## Containment or Site Integrity

Describe any observations indicating concerns about site integrity (evidence of slope stability, impaired drainage structures, erosion, etc.): Erosion from recent hurricane flooding (Aug. 2004) is evident along Chartiers Creek.

## Maintenance

Describe observed maintenance needs: Lock needs to be placed on new monitor well (0414B).

## Health and Safety

Describe observed site health and safety concerns and recommend corrective action: None.

## Stakeholders

Describe contacts with stakeholders, including landowners, regulators, or local officials and list any concerns: None (other than notice given to Ron Staubly with DOE regarding our visit).

| | | | |
|---|---|---|---|
| Form completed by: | Steve Hall | *Signature on Original* | 11/17/2004 |
| | Printed name | Signature | Date |