PAD-ENM-0085/V4

C-746-S&T Landfills
Fourth Quarter Calendar Year 2013
(October-December)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky

This document is approved for public release per review by:

Robert Tonn DMC, PGDP 2-18-14

LATA Kentucky Classification Support Date

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C-746-S&T Landfills
Fourth Quarter Calendar Year 2013
(October-December)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky

Date Issued—February 2014

Prepared for the
U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Prepared by
LATA ENVIRONMENTAL SERVICES OF KENTUCKY, LLC
managing the
Environmental Remediation Activities at the
Paducah Gaseous Diffusion Plant
under contract DE-AC30-10CC40020

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FIGURE

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ACRONYMS

CFR	*Code of Federal Regulations*
COD	chemical oxygen demand
EPA	U.S. Environmental Protection Agency
KAR	*Kentucky Administrative Regulations*
KDWM	Kentucky Division of Waste Management
LATA Kentucky	LATA Environmental Services of Kentucky, LLC
LEL	lower explosive limit
LRGA	Lower Regional Gravel Aquifer
MCL	maximum contaminant level
MW	monitoring well
PGDP	Paducah Gaseous Diffusion Plant
QC	quality control
RGA	Regional Gravel Aquifer
UCRS	Upper Continental Recharge System
URGA	Upper Regional Gravel Aquifer

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1. INTRODUCTION

This report, *C-746-S&T Landfills Fourth Quarter Calendar Year 2013 (October-December) Compliance Monitoring Report, Paducah Gaseous Diffusion Plant, Paducah, Kentucky,* is being submitted in accordance with Solid Waste Landfill Permit Number 073-00014 for the C-746-S Residential Landfill and Permit Number 073-00015 for the C-746-T Inert Landfill.

The groundwater, surface water, leachate, and methane monitoring sample data reporting form is provided in Appendix A. The facility information sheet is provided in Appendix B. Groundwater analytical results are recorded on the Kentucky Division of Waste Management (KDWM) groundwater reporting forms, which are presented in Appendix C. The total metals results reported in Appendix C are measured in an unfiltered sample, as required by Permit Condition GSTR0003, Standard Requirement 4. The statistical analyses and qualification statement are provided in Appendix D. The groundwater flow rate and direction determination are provided in Appendix E. Appendix F contains the notifications for parameters that exceed the maximum contaminant level (MCL) and for all parameters that had statistically significant increased concentrations relative to background concentrations, including those parameters listed in 40 *CFR* § 302.4, Appendix A. Appendix G provides a chart of MCL exceedances and statistically significant increases that have occurred, beginning in the fourth quarter calendar year 2002. Methane monitoring results are documented on the approved C-746-S&T Landfill Methane Monitoring Report form provided in Appendix H. The form includes pertinent remarks/observations as required by 401 *KAR* 48:090 § 4.

1.1 BACKGROUND

The C-746-S&T Landfills are closed solid waste landfills located north of the Paducah Gaseous Diffusion Plant (PGDP) and south of the C-746-U Landfill. Construction and operation of the C-746-S Residential Landfill were permitted in April 1981 under Solid Waste Landfill Permit Number 073-00014. The permitted C-746-S Landfill area covers about 16 acres and contains a clay liner with a cover of compacted soil. The C-746-S Landfill was a sanitary landfill for PGDP. The C-746-S Landfill is closed and has been inactive since July 1995.

Construction and operation of the C-746-T Inert Landfill were permitted in February 1985 under Solid Waste Landfill Permit Number 073-00015. The permitted C-746-T Landfill area covers about 20 acres and contains a clay liner with a cover of compacted soil. The C-746-T Landfill was used to dispose of construction debris (e.g., concrete, wood, and rock) and steam plant fly ash from PGDP. The C-746-T Landfill is closed and has been inactive since June 1992.

1.2 MONITORING PERIOD ACTIVITIES

1.2.1 Groundwater Monitoring

Groundwater sampling was conducted within the fourth quarter 2013 during October and December using LATA Environmental Services of Kentucky, LLC, (LATA Kentucky) procedure PAD-ENM-2101, *Groundwater Sampling*. Appropriate sample containers and preservatives were utilized. The laboratories that performed analysis used U.S. Environmental Protection Agency (EPA)-approved methods, as applicable. A resample for 1,2-Dibromo-3-chloropropane was taken from MW387 in December due to a laboratory quality control (QC) error for the initial sample in October.

Three zones are monitored at the site: the Upper Continental Recharge System (UCRS), Upper Regional Gravel Aquifer (URGA), and the Lower Regional Gravel Aquifer (LRGA). There are 23 monitoring wells (MWs) under permit for the C-746-S&T Landfills: 5 UCRS wells, 11 URGA wells, and 7 LRGA wells. A map of the monitoring well locations is presented in Figure 1. All MWs were sampled this quarter except MW389 (screened in the UCRS), which had an insufficient amount of water to obtain samples; therefore, there are no analytical results for this location. The parameters specified in Permit Condition GSTR0003, Special Condition 3, were analyzed for all locations sampled.

The groundwater flow rate and direction determination are provided in Appendix E. Depth-to-water measurements were collected on October 23, 2013, in MWs of the C-746-S&T Landfills (see Table E.1), in MWs of the C-746-U Landfill, and in MWs of the surrounding region (shown on Figure E.3). Water level measurements in 38 vicinity wells define the potentiometric surface for the Regional Gravel Aquifer (RGA).[1] As in previous quarters, a groundwater mound under the C-746-S&T Landfills resulted in radial flow away from the landfill area. Normal regional flow in the RGA is northeastward, toward the Ohio River. The hydraulic gradient for the RGA in the vicinity of the C-746-S&T Landfills in October was 5.03×10^{-4} ft/ft, while the gradient beneath the C-746-S&T Landfills was 7.27×10^{-4} ft/ft. Calculated groundwater flow rates (average linear velocities) for the RGA at the C-746-S&T Landfills range from 1.24 to 2.11 ft/day (see Table E.3). The mound is an area of high hydraulic potential in the RGA that approximately mirrors the land topography in the area of the landfill.

1.2.2 Methane Monitoring

Landfill operations staff monitored for the occurrence of methane on December 18, 2013, in 1 on-site building location, 4 locations along the landfill boundary, and 27 gas-passive vents located in Cells 1, 2, and 3 of the C-746-S Landfill. See Appendix H for a map of the monitoring locations. Monitoring identified 0% of the lower explosive limit (LEL) of methane at all locations, which is compliant with the regulatory requirement of < 100% LEL at boundary locations and < 25% LEL at all other locations. The results are documented on the approved C-746-S&T Landfill Methane Monitoring Report form provided in Appendix H.

1.2.3 Surface Water Monitoring

There was no surface water sampling conducted in the fourth quarter 2013 due to insufficient rainfall during normal landfill operating hours.

1.3 KEY RESULTS

The following parameters had concentrations that either exceeded the MCL (Table 1) or were shown to have statistically significant increases (Table 2) in concentrations[2] relative to background concentrations during the fourth quarter 2013.

[1] Although depth-to-water is measured in the UCRS wells, the UCRS has a strong vertical hydraulic gradient that varies locally. The UCRS wells are screened over different elevations; therefore, the UCRS well measurements are not sufficient for mapping the potentiometric surface.

[2] The term "concentration" may refer to a field measurement result, such as pH, oxidation-reduction potential, or an analytical parameter such as trichloroethene or polychlorinated biphenyls.

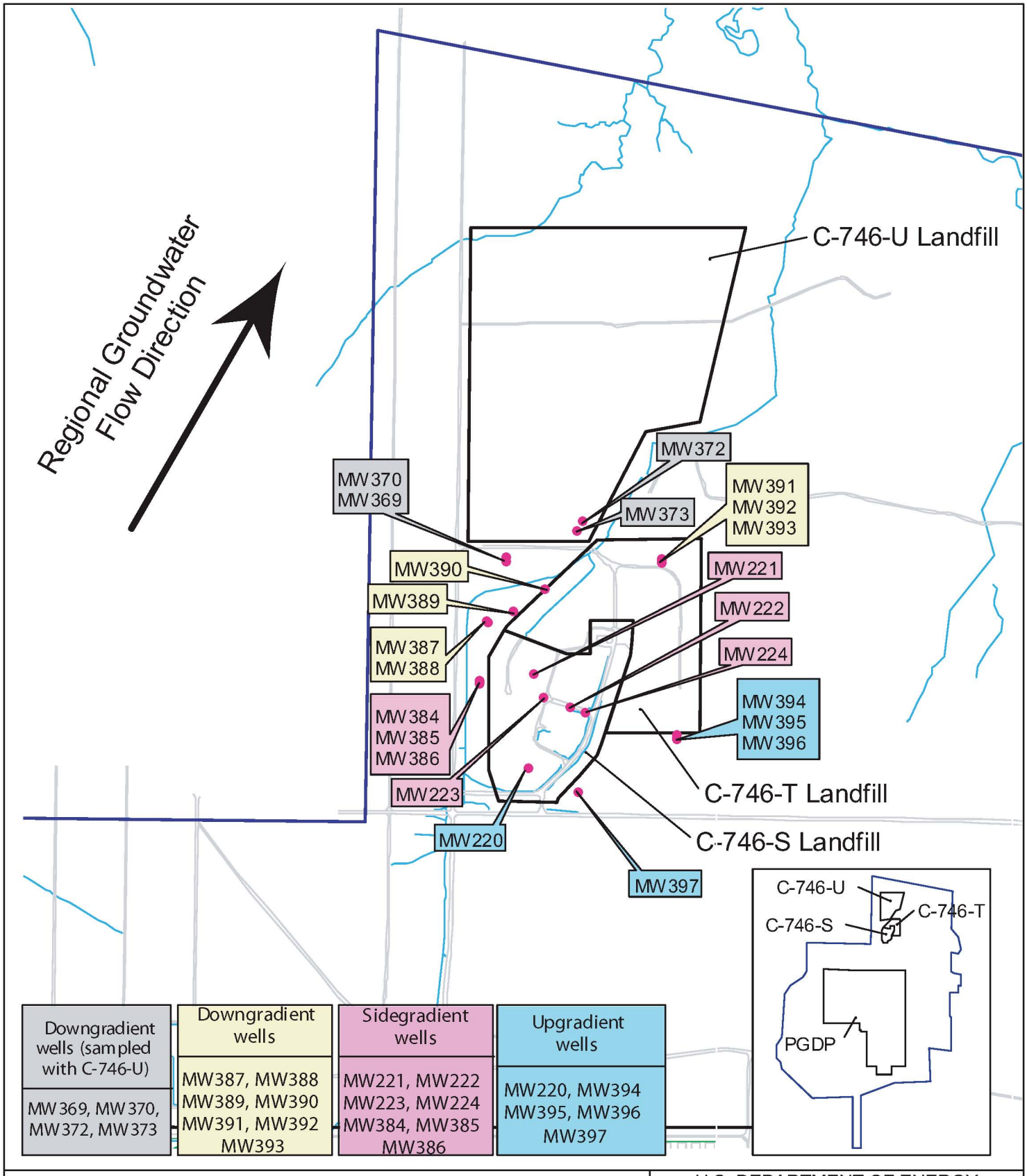

Figure 1. Groundwater Monitoring Well Network for the C-746-S&T Landfills

Table 1. Summary of MCL Exceedances

UCRS	URGA	LRGA
None	MW372: beta activity, trichloroethene	MW373: trichloroethene
	MW384: beta activity	MW385: beta activity
	MW387: beta activity	MW388: beta activity
	MW391: trichloroethene	MW392: trichloroethene
	MW394: trichloroethene	

Table 2. Summary of Statistically Significant Increases

UCRS	URGA	LRGA
MW390: chloride, oxidation-reduction potential, technetium-99	MW221: oxidation-reduction potential	MW370: oxidation-reduction potential, sulfate
	MW222: oxidation-reduction potential	MW373: calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, technetium-99
MW393: oxidation-reduction potential	MW223: oxidation-reduction potential	
	MW224: oxidation-reduction potential	
	MW369: oxidation-reduction potential	
	MW372: calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, technetium-99	MW385: oxidation-reduction potential, sulfate, technetium-99
	MW384: oxidation-reduction potential, sulfate, technetium-99	MW388: oxidation-reduction potential, sulfate, technetium-99
	MW387: oxidation-reduction potential, sulfate, technetium-99	MW392: oxidation-reduction potential
	MW391: oxidation-reduction potential	

Sidegradient wells: MW221, MW222, MW223, MW224, MW384, MW385, MW386
Downgradient wells: MW369, MW370, MW372, MW373, MW387, MW388, MW389, MW390, MW391, MW392, MW393
Upgradient wells: MW220, MW394, MW395, MW396, MW397

There were no new MCL exceedances for this quarter. MCL exceedances for beta activity in MW372, MW384, MW385, MW387, and MW388 are related to sources of contamination that are upgradient of the C-746-S&T Landfills. The trichloroethene detected in MW372, MW373, MW391, MW392, and MW394 is derived from an alternate source in the vicinity of the C-746-S&T Landfills. The notification of parameters that exceeded the MCL has been submitted electronically to KDWM in accordance with 401 *KAR* 48:300 § 7 prior to the submittal of this report.

There was one new statistically significant increase during this quarter for oxidation-reduction potential in MW372. The other 40 statistically significant increases have occurred previously at least once since fourth quarter calendar year 2002.

This report serves as the notification of parameters that had statistically significant increased concentrations relative to background concentrations, as required by Permit Numbers 073-00014 and 073-00015, Condition GSTR0003, Standard Requirement 8, and 401 *KAR* 48:300 § 7.

In accordance with Permit Condition GSTR0003, Variance 2, of the Solid Waste Permit (Permit), the groundwater assessment and corrective action requirements of 401 *KAR* 48:300 § 8 shall not apply to the C-746-S Residential Landfill and the C-746-T Inert Landfill. This variance in the Permit provides that groundwater assessment and corrective actions for these landfills will be conducted in accordance with the corrective action requirements of 401 *KAR* 34:060 § 12.

2. DATA EVALUATION/STATISTICAL SYNOPSIS

The statistical analyses conducted on the fourth quarter 2013 groundwater data collected from the C-746-S&T Residential/Inert Landfills MWs were performed in accordance with Permit Condition GSTR0003, Standard Requirement 3, using EPA guidance (EPA 1989), with the exception of pH. The method for conducting the statistical analysis of pH was selected by the statistician. The statistical analyses for this report utilize data from the first eight quarters that were sampled for each parameter, beginning with the first two baseline sampling events in 2002, when available. The sampling dates associated with background data are listed next to the result in the statistical analysis sheets in Appendix D (D-23–D-80).

For chemicals with an established MCL, no statistical analysis was performed. Parameters that have an MCL can be found in 401 *KAR* 47:030 § 6. For parameters with no established MCL, the data are divided into censored (nondetects) and uncensored (detected) observations. The one-sided tolerance interval statistical test is conducted only on parameters that have at least one uncensored observation. Results of the one-sided tolerance interval statistical test are used to determine whether the data show a statistically significant increase in concentration with respect to upgradient (background) well data. For the statistical analysis of pH, a two-sided tolerance interval statistical test was conducted. The test well results were compared to both an upper and lower tolerance limit to determine if statistically significant deviations exist in concentrations with respect to upgradient (background) well data. The statistical analysis was conducted separately for each parameter in each well. The MWs included historically in the statistical analyses are listed in Table 3.

Table 3. Monitoring Wells Included Historically in Statistical Analysis*

UCRS	URGA	LRGA
MW386	MW220 (upgradient)**	MW370
MW389 (dry)	MW221	MW373
MW390	MW222	MW385
MW393	MW223	MW388
MW396 (upgradient)**	MW224	MW392
	MW369	MW395 (upgradient)**
	MW372	MW397 (upgradient)**
	MW384	
	MW387	
	MW391	
	MW394 (upgradient)**	

*A map showing the monitoring well locations is shown in Figure 1.
**Included as background only.

STATISTICAL ANALYSIS OF GROUNDWATER DATA

Parameters requiring statistical analysis are summarized in Appendix D for each hydrological unit. A stepwise list for determining statistically significant increases is provided in Appendix D under Statistical Analysis Process. Appendix G summarizes the occurrences (by well and by quarter) of statistically significant increases and MCL exceedances.

Upper Continental Recharge System

In this quarter, statistical analysis was performed on 18 parameters in the UCRS. The statistical analysis was conducted separately for each parameter in each well. During the fourth quarter, chloride, oxidation-reduction potential, and technetium-99 displayed elevated concentrations that were determined to qualify as statistically significant increases.

Upper Regional Gravel Aquifer

In this quarter, statistical analysis was performed on 23 parameters in the URGA. The statistical analysis was conducted separately for each parameter in each well. During the fourth quarter, calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99 displayed elevated concentrations that were determined to qualify as statistically significant increases.

Lower Regional Gravel Aquifer

In this quarter, statistical analysis was performed on 17 parameters in the LRGA. The statistical analysis was conducted separately for each parameter in each well. During the fourth quarter, calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99 displayed elevated concentrations that were determined to qualify as statistically significant increases.

3. DATA VALIDATION

Data validation was performed on the organic, inorganic, and radiochemical analytical data by an independent third-party validator. Validation qualifiers are not requested on the groundwater reporting forms.

Field QC samples are collected quarterly during each sampling event. Equipment blanks, field blanks, and trip blanks are obtained to ensure QC and are reported in the Groundwater Sample Analysis forms in Appendix C. Laboratory QC samples such as matrix spikes, matrix spike duplicates, and method blanks are performed by the laboratory. Both field and laboratory QC sample results are reviewed as part of the data validation process.

The result for the 1,2-Dibromo-3-chloropropane sample collected in October at MW387 was rejected during validation due to a laboratory QC error. A resample was collected from MW387 for 1,2-Dibromo-3-chloropropane, and the result from the resample was acceptable. No rejected data were used. Data validation results for this data set indicated that all other data were considered acceptable.

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4. PROFESSIONAL GEOLOGIST AUTHORIZATION

DOCUMENT IDENTIFICATION: *C-746-S&T Landfills*
Fourth Quarter Calendar Year 2013 (October-December)
Compliance Monitoring Report,
Paducah Gaseous Diffusion Plant,
Paducah, Kentucky (PAD-ENM-0085/V4)

Stamped and signed pursuant to my authority as a duly registered geologist under the provisions of *KRS* Chapter 322A.

Kenneth R. Davis — PG1194 — 2/19/14

Kenneth R. Davis | PG1194 | Date

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5. REFERENCE

EPA (U.S. Environmental Protection Agency) 1989. *EPA Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities*, Interim Final Guidance, Office of Resource Conservation and Recovery, U.S. Environmental Protection Agency, Washington, DC.

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APPENDIX A

GROUNDWATER, SURFACE WATER, LEACHATE, AND METHANE MONITORING SAMPLE DATA REPORTING FORM

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GROUNDWATER, SURFACE WATER, LEACHATE, AND METHANE MONITORING SAMPLE DATA REPORTING FORM

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
SOLID WASTE BRANCH
14 REILLY ROAD
FRANKFORT, KY 40601

Facility Name: U.S. DOE – Paducah Gaseous Diffusion Plant (As officially shown on DWM Permit Face) Activity: C-746-S&T Landfills

Permit No: 073-00014 & 073-00015 Finds/Unit No: _____ Quarter & Year 4th Qtr. CY 2013

Please check the following as applicable:

_____ Characterization X Quarterly _____ Semiannual _____ Annual _____ Assessment

Please check applicable submittal(s): X Groundwater _____ Surface Water

_____ Leachate X Methane Monitoring

This form is to be utilized by those sites required by regulation (Kentucky Waste Management Regulations-401 *KAR* 48:300 and 45:160) or by statute (Kentucky Revised Statues Chapter 224) to conduct groundwater and surface water monitoring under the jurisdiction of the Division of Waste Management. **You must report any indication of contamination within forty-eight (48) hours of making the determination using statistical analyses, direct comparison, or other similar techniques. Submitting the lab report is NOT considered notification.** Instructions for completing the form are attached. Do not submit the instruction pages.

I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations.

Mark J. Duff, Paducah Project Manager
LATA Environmental Services of Kentucky, LLC

Date

Rachel H. Blumenfeld, Acting Paducah Site Lead
U.S. Department of Energy

Date

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APPENDIX B

FACILITY INFORMATION SHEET

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FACILITY INFORMATION SHEET

Sampling Date: Groundwater: October and December 2013 County: McCracken Permit Nos. 073-00014 & 073-00015

Facility Name: U.S. DOE, Paducah Gaseous Diffusion Plant
(As officially shown on DWM Permit Face)

Site Address: 5600 Hobbs Road (Street) Kevil, Kentucky (City/State) 42053 (Zip)

Phone No: (270) 441-6800 Latitude: N 37° 07' 37.70" Longitude: W 88° 47' 55.41"

OWNER INFORMATION

Facility Owner: U.S. DOE, W. E. Murphie, Manager Phone No: (859) 219-4001

Contact Person: Mark J. Duff Phone No: (270) 441-5030

Contact Person Title: Project Manager, LATA Environmental Services of Kentucky, LLC

Mailing Address: 761 Veterans Avenue (Street) Kevil, Kentucky (City/State) 42053 (Zip)

SAMPLING PERSONNEL
(IF OTHER THAN LANDFILL OR LABORATORY)

Company: LATA Environmental Services of Kentucky, LLC

Contact Person: Jeff Boulton Phone No: (270) 441-5444

Mailing Address: 761 Veterans Avenue (Street) Kevil, Kentucky (City/State) 42053 (Zip)

LABORATORY RECORD #1

Laboratory: USEC Analytical Laboratories, Paducah Lab ID No: KY00906 (EPA ID Number)

Contact Person: John Price Phone No: (270) 441-5867

Mailing Address: P.O. Box 1410 (Street) Paducah, Kentucky (City/State) 42002-1410 (Zip)

LABORATORY RECORD #2

Laboratory: TestAmerica Laboratories, Inc. Lab ID No: MO00054 (EPA ID Number)

Contact Person: Elaine Wild Phone No: (314) 298-8566

Mailing Address: 13715 Rider Trail North (Street) Earth City, MO (City/State) 63045 (Zip)

LABORATORY RECORD #3

Laboratory: Lab ID No:

Contact Person: Phone No:

Mailing Address: (Street) (City/State) (Zip)

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APPENDIX C

GROUNDWATER SAMPLE ANALYSES AND WRITTEN COMMENTS

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Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number	8000-5201	8000-5202	8000-5242	8000-5243
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)	220	221	222	223
Sample Sequence #	1	1	1	1
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment	NA	NA	NA	NA
Sample Date and Time (Month/Day/Year hour: minutes)	10/1/2013 08:55	10/1/2013 12:54	10/2/2013 08:00	10/1/2013 14:15
Duplicate ("Y" or "N")[2]	N	N	N	N
Split ("Y" or "N")[3]	N	N	N	N
Facility Sample ID Number (if applicable)	MW220SG1-14	MW221SG1-14	MW222SG1-14	MW223SG1-14
Laboratory Sample ID Number (if applicable)	C13274016001	C13274026001	C13275035001	C13274026002
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis	10/3/2013	10/3/2013	10/3/2013	10/3/2013
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)	UP	SIDE	SIDE	SIDE

CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056	<2		<2		<2		<2	
16887-00-6		Chloride(s)	T	mg/L	9056	24		37		35		34	
16984-48-8		Fluoride	T	mg/L	9214	0.19		0.18		0.26		0.22	
S0595- -		Nitrate & Nitrite	T	mg/L	9056	1.3		1.2		1.3	*	<1	
14808-79-8		Sulfate	T	mg/L	9056	14		13		11		14	
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field	30.06		30.06		30.06		30.06	
S0145- -		Specific Conductance	T	μMH0/cm	Field	353		384		371		384	

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5201		8000-5202		8000-5242		8000-5243	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						220		221		222		223	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field	324.74		324.57		324.56		324.59	
N238		Dissolved Oxygen	T	mg/L	Field	5.37		4.13		2.73		1.89	
S0266- -		Total Dissolved Solids	T	mg/L	160.1	200		212		211		227	
S0296- -		pH	T	Units	Field	6.15		6.09		6.19		6.11	
NS215		Eh	T	mV	Field	777		788		768		574	
S0907 - -		Temperature	T	°C	Field	17.56		19.61		18.06		18.61	
7429-90-5		Aluminum	T	mg/L	6020	<0.2		<0.2		0.283		<0.2	
7440-36-0		Antimony	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-38-2		Arsenic	T	mg/L	7060	<0.001		<0.001		<0.001		<0.001	
7440-39-3		Barium	T	mg/L	6020	0.187		0.21		0.279		0.254	
7440-41-7		Beryllium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-42-8		Boron	T	mg/L	6010	<0.2		<0.2		<0.2		<0.2	
7440-43-9		Cadmium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-70-2		Calcium	T	mg/L	6010	19.7		19.8		16.9		20.6	
7440-47-3		Chromium	T	mg/L	6020	<0.01		0.0199		<0.01		<0.01	
7440-48-4		Cobalt	T	mg/L	6020	<0.001		0.0017		0.00149		<0.001	
7440-50-8		Copper	T	mg/L	6020	<0.02	*	<0.02	*	<0.02	*	<0.02	*
7439-89-6		Iron	T	mg/L	6010	<0.1		<0.1		0.39		<0.1	
7439-92-1		Lead	T	mg/L	6020	<0.0013	B	<0.0013	B	<0.0013	B	<0.0013	B
7439-95-4		Magnesium	T	mg/L	6010	7.7		8.66		7.36		8.14	
7439-96-5		Manganese	T	mg/L	6020	<0.005		<0.005		0.0144		<0.005	
7439-97-6		Mercury	T	mg/L	7470	<0.0002		<0.0002		<0.0002		<0.0002	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5201		8000-5202		8000-5242		8000-5243	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						220		221		222		223	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020	0.00125	B	0.0031		<0.001	B	0.00417	
7440-02-0		Nickel	T	mg/L	6020	0.0605	*	0.142	*	0.0778	*	0.284	*
7440-09-7		Potassium	T	mg/L	6010	4.78		1.18		0.462		1.84	
7440-16-6		Rhodium	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7782-49-2		Selenium	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-22-4		Silver	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-23-5		Sodium	T	mg/L	6010	34.6		41.2		42.4		42.1	
7440-25-7		Tantalum	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-28-0		Thallium	T	mg/L	6020	<0.002		<0.002		<0.002		<0.002	
7440-61-1		Uranium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-62-2		Vanadium	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
7440-66-6		Zinc	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
67-64-1		Acetone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
107-02-8		Acrolein	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015		<0.015		<0.015	
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5201		8000-5202		8000-5242		8000-5243	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						220		221		222		223	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002		<0.002		<0.002		<0.002	
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-01-6		Ethene, Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5201		8000-5202		8000-5242		8000-5243	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						220		221		222		223	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
74-88-4		Iodomethane	T	mg/L	8260	<0.01	J	<0.01	J	<0.01	J	<0.01	J
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.0002		<0.0002		<0.0002		<0.0002	
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1336-36-3		PCB,Total	T	ug/L	8082	<0.18		<0.18		<0.18		<0.18	
12674-11-2		PCB-1016	T	ug/L	8082	<0.17		<0.17		<0.17		<0.17	
11104-28-2		PCB-1221	T	ug/L	8082	<0.18		<0.18		<0.18		<0.18	
11141-16-5		PCB-1232	T	ug/L	8082	<0.14		<0.14		<0.14		<0.14	
53469-21-9		PCB-1242	T	ug/L	8082	<0.1		<0.1		<0.1		<0.1	
12672-29-6		PCB-1248	T	ug/L	8082	<0.12		<0.12		<0.12		<0.12	

RESIDENTIAL/CONTAINED-QUARTERLY
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Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5201		8000-5202		8000-5242		8000-5243	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						220		221		222		223	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082	<0.07		<0.07		<0.07		<0.07	
11096-82-5		PCB-1260	T	ug/L	8082	<0.05		<0.05		<0.05		<0.05	
11100-14-4		PCB-1268	T	ug/L	8082	<0.09		<0.09		<0.09		<0.09	
12587-46-1		Gross Alpha	T	pCi/L	9310	2.38	*	3.1	*	-0.897	*	0.353	*
12587-47-2		Gross Beta	T	pCi/L	9310	23.4	*	8.32	*	5.36	*	6.87	*
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		*
13982-63-3		Radium-226	T	pCi/L	RL-7129	0.199	*	0.0303	*	-0.0307	*	0.0333	*
10098-97-2		Strontium-90	T	pCi/L	RL-7140	0.944	*B	0.38	*B	0.221	*B	0.342	*B
14133-76-7		Technetium-99	T	pCi/L	RL-7100	20.7	*	7.21	*	5.72	*	8.37	*
14269-63-7		Thorium-230	T	pCi/L	RL-7128	0.0576	*	0.113	*	0.0183	*	0.000331	*
10028-17-8		Tritium	T	pCi/L	704R6	-260	*	-236	*	57.4	*	-519	*
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4	<36		<36		<36		<36	
57-12-5		Cyanide	T	mg/L	9010	<0.04		<0.04		<0.04		<0.04	
20461-54-5		Iodide	T	mg/L	345.1	<2		<2		<2		<2	
S0268- -		Total Organic Carbon	T	mg/L	9060	<1		<1		<1		<1	
S0586- -		Total Organic Halides	T	mg/L	9020	0.011		0.011		0.011		0.011	

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number	8000-5244	8004-4820	8004-4818	8004-4808
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)	224	369	370	372
Sample Sequence #	1	1	1	1
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment	NA	NA	NA	NA
Sample Date and Time (Month/Day/Year hour: minutes)	10/2/2013 09:18	10/8/2013 08:32	10/8/2013 12:27	10/9/2013 08:51
Duplicate ("Y" or "N")[2]	N	N	N	N
Split ("Y" or "N")[3]	N	N	N	N
Facility Sample ID Number (if applicable)	MW224SG1-14	MW369UG1-14	MW370UG1-14	MW372UG1-14
Laboratory Sample ID Number (if applicable)	C13275035002	C13281029001	C13281069001	C13282016001
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis	10/3/2013	10/9/2013	10/9/2013	10/9/2013
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)	SIDE	DOWN	DOWN	DOWN

CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056	<2		<2		<2		<2	
16887-00-6		Chloride(s)	T	mg/L	9056	32		36		42		47	
16984-48-8		Fluoride	T	mg/L	9214	0.26		0.19		0.16		0.17	
S0595- -		Nitrate & Nitrite	T	mg/L	9056	<1	*	<1		1.2		<1	
14808-79-8		Sulfate	T	mg/L	9056	15		13		19		150	
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field	30.06		30.17		30.17		30.13	
S0145- -		Specific Conductance	T	µMH0/cm	Field	461		376		430		791	

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5244		8004-4820		8004-4818		8004-4808	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						224		369		370		372	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field	324.55		323.66		323.64		323.68	
N238		Dissolved Oxygen	T	mg/L	Field	2.81		0.99		4.59		0.83	
S0266- -		Total Dissolved Solids	T	mg/L	160.1	264		228		240		481	
S0296- -		pH	T	Units	Field	6.11		6.14		6.09		6.07	
NS215		Eh	T	mV	Field	564		750		811		519	
S0907 - -		Temperature	T	°C	Field	18.44		15.83		18.28		16	
7429-90-5		Aluminum	T	mg/L	6020	<0.2		<0.2		<0.2		<0.2	
7440-36-0		Antimony	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-38-2		Arsenic	T	mg/L	7060	<0.001		<0.001		0.00138		0.00309	
7440-39-3		Barium	T	mg/L	6020	0.239		0.385		0.204		0.0649	
7440-41-7		Beryllium	T	mg/L	6020	<0.001		<0.001	B	<0.001	B	<0.001	B
7440-42-8		Boron	T	mg/L	6010	<0.2		<0.2		<0.2		1.14	
7440-43-9		Cadmium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-70-2		Calcium	T	mg/L	6010	22.6		16.2		27.6		60.2	
7440-47-3		Chromium	T	mg/L	6020	<0.01		<0.01		<0.01		<0.01	
7440-48-4		Cobalt	T	mg/L	6020	<0.001		0.0145	*	<0.001	*	<0.001	*
7440-50-8		Copper	T	mg/L	6020	<0.02	*	<0.02		<0.02		<0.02	
7439-89-6		Iron	T	mg/L	6010	<0.1		0.303		<0.1		0.438	
7439-92-1		Lead	T	mg/L	6020	<0.0013	B	<0.0013		<0.0013		<0.0013	
7439-95-4		Magnesium	T	mg/L	6010	9.24		6.5		11.1		22.8	
7439-96-5		Manganese	T	mg/L	6020	0.00591		0.159	*	<0.005	*	0.0161	*
7439-97-6		Mercury	T	mg/L	7470	<0.0002		<0.0002		<0.0002		<0.0002	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5244		8004-4820		8004-4818		8004-4808	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						224		369		370		372	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020	<0.001	B	<0.001	B	<0.001	B	<0.001	B
7440-02-0		Nickel	T	mg/L	6020	0.00812	*	0.00871	*	<0.005	*	<0.005	*
7440-09-7		Potassium	T	mg/L	6010	0.834		0.519		2.41		2.19	
7440-16-6		Rhodium	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7782-49-2		Selenium	T	mg/L	6020	<0.005		<0.005		0.00536		0.00746	
7440-22-4		Silver	T	mg/L	6020	<0.001		<0.001	B	<0.001	B	<0.001	B
7440-23-5		Sodium	T	mg/L	6010	53.3		52.6		37.8		61.5	
7440-25-7		Tantalum	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-28-0		Thallium	T	mg/L	6020	<0.002		<0.002		<0.002		<0.002	
7440-61-1		Uranium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-62-2		Vanadium	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
7440-66-6		Zinc	T	mg/L	6020	0.0215		<0.02		<0.02		<0.02	
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
67-64-1		Acetone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
107-02-8		Acrolein	T	mg/L	8260	<0.01		<0.01	J	<0.01	J	<0.01	J
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.01		<0.005		<0.01	
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015		<0.015		<0.015	
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5244		8004-4820		8004-4818		8004-4808	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						224		369		370		372	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002		<0.002		<0.002		<0.002	
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-01-6		Ethene, Trichloro-	T	mg/L	8260	<0.001		0.0018		0.0018		0.0065	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5244		8004-4820		8004-4818		8004-4808	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						224		369		370		372	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
74-88-4		Iodomethane	T	mg/L	8260	<0.01	J	<0.01		<0.01		<0.01	
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.005		<0.001		<0.005	
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.0002		<0.0002		<0.0002		<0.0002	
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1336-36-3		PCB,Total	T	ug/L	8082	<0.18		<0.18		<0.18		<0.18	
12674-11-2		PCB-1016	T	ug/L	8082	<0.17		<0.17		<0.17		<0.17	
11104-28-2		PCB-1221	T	ug/L	8082	<0.18		<0.18		<0.18		<0.18	
11141-16-5		PCB-1232	T	ug/L	8082	<0.14		<0.14		<0.14		<0.14	
53469-21-9		PCB-1242	T	ug/L	8082	<0.1		<0.1		<0.1		<0.1	
12672-29-6		PCB-1248	T	ug/L	8082	<0.12		<0.12		<0.12		<0.12	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8000-5244		8004-4820		8004-4818		8004-4808	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						224		369		370		372	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082	<0.07		<0.07		<0.07		<0.07	
11096-82-5		PCB-1260	T	ug/L	8082	<0.05		<0.05		<0.05		<0.05	
11100-14-4		PCB-1268	T	ug/L	8082	<0.09		<0.09		<0.09		<0.09	
12587-46-1		Gross Alpha	T	pCi/L	9310	2.49	*	2.55	*	1.57	*	7.29	*
12587-47-2		Gross Beta	T	pCi/L	9310	6.06	*	17.3	*	15.1	*	131	*
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		*
13982-63-3		Radium-226	T	pCi/L	RL-7129	0.158	*	0.0651	*	0.191	*	0.202	*
10098-97-2		Strontium-90	T	pCi/L	RL-7140	0.587	*B	0.986	*B	0.174	*B	0.832	*B
14133-76-7		Technetium-99	T	pCi/L	RL-7100	5.83	*	29.7	*	27.9	*	176	*
14269-63-7		Thorium-230	T	pCi/L	RL-7128	0.0388	*	0.0511	*	0.0218	*	-0.02	*
10028-17-8		Tritium	T	pCi/L	704R6	-530	*	109	*	99.7	*	351	*
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4	<36		<36		<36		<36	
57-12-5		Cyanide	T	mg/L	9010	<0.04		<0.04		<0.04		<0.04	
20461-54-5		Iodide	T	mg/L	345.1	<2		<2		<2		<2	
S0268- -		Total Organic Carbon	T	mg/L	9060	<1		1.3		<1		1.1	
S0586- -		Total Organic Halides	T	mg/L	9020	0.014		0.04		0.013		0.02	

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number	8004-4792	8004-4809	8004-4810	8004-4804
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)	373	384	385	386
Sample Sequence #	1	1	1	1
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment	NA	NA	NA	NA
Sample Date and Time (Month/Day/Year hour: minutes)	10/9/2013 13:48	10/2/2013 13:00	10/2/2013 14:04	10/2/2013 13:55
Duplicate ("Y" or "N")[2]	N	N	N	N
Split ("Y" or "N")[3]	N	N	N	N
Facility Sample ID Number (if applicable)	MW373UG1-14	MW384SG1-14	MW385SG1-14	MW386SG1-14
Laboratory Sample ID Number (if applicable)	C13282041001	C13275043001	C13275043002	C13275042001
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis	10/11/2013	10/3/2013	10/3/2013	10/3/2013
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)	DOWN	SIDE	SIDE	SIDE

CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056	<2		<2		<2		<2	
16887-00-6		Chloride(s)	T	mg/L	9056	44		42		29		19	
16984-48-8		Fluoride	T	mg/L	9214	0.17		0.18		0.19		0.63	
S0595- -		Nitrate & Nitrite	T	mg/L	9056	<1		1.2	*	<1	*	<1	*
14808-79-8		Sulfate	T	mg/L	9056	210		23		19		44	
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field	30.13		30.06		30.06		30.06	
S0145- -		Specific Conductance	T	µMH0/cm	Field	958		446		470		667	

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4792		8004-4809		8004-4810		8004-4804	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						373		384		385		386	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field	323.71		324.23		324.18		343.85	
N238		Dissolved Oxygen	T	mg/L	Field	1.15		4.38		0.6		0.72	
S0266- -		Total Dissolved Solids	T	mg/L	160.1	590		249		199		412	
S0296- -		pH	T	Units	Field	6.08		6.22		6.6		6.58	
NS215		Eh	T	mV	Field	627		400		444		85	
S0907 - -		Temperature	T	°C	Field	18.78		19.28		19.06		18.94	
7429-90-5		Aluminum	T	mg/L	6020	<0.2		<0.2		<0.2		<0.2	
7440-36-0		Antimony	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-38-2		Arsenic	T	mg/L	7060	0.00132		<0.001		<0.001		<0.001	
7440-39-3		Barium	T	mg/L	6020	0.0286		0.182		0.211		0.201	
7440-41-7		Beryllium	T	mg/L	6020	<0.001	B	<0.001		<0.001		<0.001	
7440-42-8		Boron	T	mg/L	6010	1.77		<0.2		<0.2		<0.2	
7440-43-9		Cadmium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-70-2		Calcium	T	mg/L	6010	76.4		24.8		26.9		22.9	
7440-47-3		Chromium	T	mg/L	6020	<0.01		<0.01		<0.01		<0.01	
7440-48-4		Cobalt	T	mg/L	6020	<0.001	*	<0.001		<0.001		0.00416	
7440-50-8		Copper	T	mg/L	6020	<0.02		<0.02	*	<0.02	*	<0.02	*
7439-89-6		Iron	T	mg/L	6010	<0.1		0.282		<0.1		1.51	
7439-92-1		Lead	T	mg/L	6020	<0.0013		<0.0013	B	<0.0013	B	<0.0013	B
7439-95-4		Magnesium	T	mg/L	6010	28.1		9.82		9.65		9.68	
7439-96-5		Manganese	T	mg/L	6020	0.0619	*	0.00921		<0.005		0.714	
7439-97-6		Mercury	T	mg/L	7470	<0.0002		<0.0002		<0.0002		<0.0002	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4792		8004-4809		8004-4810		8004-4804	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						373		384		385		386	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020	<0.001	B	<0.001	B	<0.001	B	<0.001	B
7440-02-0		Nickel	T	mg/L	6020	<0.005	*	<0.005	*	<0.005	*	<0.005	*
7440-09-7		Potassium	T	mg/L	6010	2.84		1.33		1.67		0.317	
7440-16-6		Rhodium	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7782-49-2		Selenium	T	mg/L	6020	0.00663		<0.005		<0.005		<0.005	
7440-22-4		Silver	T	mg/L	6020	<0.001	B	<0.001		<0.001		<0.001	
7440-23-5		Sodium	T	mg/L	6010	66		47.5		35.9		101	
7440-25-7		Tantalum	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-28-0		Thallium	T	mg/L	6020	<0.002		<0.002		<0.002		<0.002	
7440-61-1		Uranium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-62-2		Vanadium	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
7440-66-6		Zinc	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
67-64-1		Acetone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
107-02-8		Acrolein	T	mg/L	8260	<0.01	J	<0.01		<0.01		<0.01	
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015		<0.015		<0.015	
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4792		8004-4809		8004-4810		8004-4804	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						373		384		385		386	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002	*	<0.002		<0.002		<0.002	
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-01-6		Ethene, Trichloro-	T	mg/L	8260	0.0068		<0.001		<0.001		<0.001	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4792		8004-4809		8004-4810		8004-4804	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						373		384		385		386	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
74-88-4		Iodomethane	T	mg/L	8260	<0.01		<0.01	J	<0.01	J	<0.01	J
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.0002		<0.0002		<0.0002		<0.0002	
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1336-36-3		PCB,Total	T	ug/L	8082	<0.18		<0.18		<0.18		<0.18	
12674-11-2		PCB-1016	T	ug/L	8082	<0.17		<0.17		<0.17		<0.17	
11104-28-2		PCB-1221	T	ug/L	8082	<0.18		<0.18		<0.18		<0.18	
11141-16-5		PCB-1232	T	ug/L	8082	<0.14		<0.14		<0.14		<0.14	
53469-21-9		PCB-1242	T	ug/L	8082	<0.1		<0.1		<0.1		<0.1	
12672-29-6		PCB-1248	T	ug/L	8082	<0.12		<0.12		<0.12		<0.12	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4792		8004-4809		8004-4810		8004-4804	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						373		384		385		386	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082	<0.07		<0.07		<0.07		<0.07	
11096-82-5		PCB-1260	T	ug/L	8082	<0.05		<0.05		<0.05		<0.05	
11100-14-4		PCB-1268	T	ug/L	8082	<0.09		<0.09		<0.09		<0.09	
12587-46-1		Gross Alpha	T	pCi/L	9310	-0.91	*	5.36	*	5.08	*	1.01	*
12587-47-2		Gross Beta	T	pCi/L	9310	42.4	D	194	*	135	*	2.56	*
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		*
13982-63-3		Radium-226	T	pCi/L	RL-7129	-0.372	*	0.466	*	0.309	*	-0.0211	*
10098-97-2		Strontium-90	T	pCi/L	RL-7140	0.439	*B	0.0685	*B	1.62	*B	1.56	*B
14133-76-7		Technetium-99	T	pCi/L	RL-7100	59.9	*	205	*	157	*	5.67	*
14269-63-7		Thorium-230	T	pCi/L	RL-7128	-0.0478	*	0.0215	*	0.0263	*	0.0817	*
10028-17-8		Tritium	T	pCi/L	704R6	184	*	-245	*	-620	*	-446	*
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4	<36		<36		<36		<36	
57-12-5		Cyanide	T	mg/L	9010	<0.04	*	<0.04	*J	<0.04	*J	<0.04	*J
20461-54-5		Iodide	T	mg/L	345.1	<2		<2		<2		<2	
S0268- -		Total Organic Carbon	T	mg/L	9060	1.1		<1		<1		11.9	D
S0586- -		Total Organic Halides	T	mg/L	9020	0.018		0.019		0.014		0.29	

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number	8004-4815	8004-4816	8004-4812	8004-4811
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)	387	388	389	390
Sample Sequence #	1	1	1	1
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment	NA	NA	NA	NA
Sample Date and Time (Month/Day/Year hour: minutes)	10/2/2013 11:36	10/2/2013 10:05	NA	10/2/2013 09:05
Duplicate ("Y" or "N")[2]	N	N	N	N
Split ("Y" or "N")[3]	N	N	N	N
Facility Sample ID Number (if applicable)	MW387SG1-14	MW388SG1-14	NA	MW390SG1-14
Laboratory Sample ID Number (if applicable)	C13275039001	C13275039003	NA	C13275035003
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis	10/3/2013	10/3/2013	NA	10/3/2013
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)	DOWN	DOWN	SIDE	DOWN

CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056	<2		<2			*	<2	
16887-00-6		Chloride(s)	T	mg/L	9056	40		33			*	130	
16984-48-8		Fluoride	T	mg/L	9214	0.71		0.21			*	0.29	
S0595- -		Nitrate & Nitrite	T	mg/L	9056	1	*	1.1	*		*	3.5	*
14808-79-8		Sulfate	T	mg/L	9056	29		20			*	27	
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field	30.06		30.06			*	30.06	
S0145- -		Specific Conductance	T	μMH0/cm	Field	528		426			*	815	

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4815		8004-4816		8004-4812		8004-4811	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						387		388		389		390	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field	324.3		324.1			*	324.23	
N238		Dissolved Oxygen	T	mg/L	Field	3.37		4.59			*	4.68	
S0266- -		Total Dissolved Solids	T	mg/L	160.1	299		238			*	462	
S0296- -		pH	T	Units	Field	6.25		6.25			*	6.69	
NS215		Eh	T	mV	Field	493		502			*	489	
S0907 - -		Temperature	T	°C	Field	19.61		18			*	19.56	
7429-90-5		Aluminum	T	mg/L	6020	<0.2		<0.2			*	0.415	
7440-36-0		Antimony	T	mg/L	6020	<0.005		<0.005			*	<0.005	
7440-38-2		Arsenic	T	mg/L	7060	0.00232		<0.001			*	0.00168	
7440-39-3		Barium	T	mg/L	6020	0.131		0.19			*	0.308	
7440-41-7		Beryllium	T	mg/L	6020	<0.001		<0.001			*	<0.001	
7440-42-8		Boron	T	mg/L	6010	<0.2		<0.2			*	<0.2	
7440-43-9		Cadmium	T	mg/L	6020	<0.001		<0.001			*	<0.001	
7440-70-2		Calcium	T	mg/L	6010	34.6		25.6			*	38.3	
7440-47-3		Chromium	T	mg/L	6020	<0.01		<0.01			*	<0.01	
7440-48-4		Cobalt	T	mg/L	6020	<0.001		<0.001			*	<0.001	
7440-50-8		Copper	T	mg/L	6020	<0.02	*	<0.02	*		*	<0.02	*
7439-89-6		Iron	T	mg/L	6010	<0.1		<0.1			*	0.265	
7439-92-1		Lead	T	mg/L	6020	<0.0013	B	<0.0013	B		*	<0.0013	B
7439-95-4		Magnesium	T	mg/L	6010	13.7		11			*	15.4	
7439-96-5		Manganese	T	mg/L	6020	<0.005		<0.005			*	<0.005	
7439-97-6		Mercury	T	mg/L	7470	<0.0002		<0.0002			*	<0.0002	

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4815		8004-4816		8004-4812		8004-4811	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						387		388		389		390	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020	<0.001	B	<0.001	B		*	<0.001	B
7440-02-0		Nickel	T	mg/L	6020	<0.005	*	<0.005	*		*	<0.005	*
7440-09-7		Potassium	T	mg/L	6010	1.8		1.96			*	0.443	
7440-16-6		Rhodium	T	mg/L	6020	<0.005		<0.005			*	<0.005	
7782-49-2		Selenium	T	mg/L	6020	<0.005		<0.005			*	0.0075	
7440-22-4		Silver	T	mg/L	6020	<0.001		<0.001			*	<0.001	
7440-23-5		Sodium	T	mg/L	6010	49.1		42.1			*	94.5	
7440-25-7		Tantalum	T	mg/L	6020	<0.005		<0.005			*	<0.005	
7440-28-0		Thallium	T	mg/L	6020	<0.002		<0.002			*	<0.002	
7440-61-1		Uranium	T	mg/L	6020	<0.001		<0.001			*	<0.001	
7440-62-2		Vanadium	T	mg/L	6020	<0.02		<0.02			*	<0.02	
7440-66-6		Zinc	T	mg/L	6020	<0.02		<0.02			*	<0.02	
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01			*	<0.01	
67-64-1		Acetone	T	mg/L	8260	<0.01		<0.01			*	<0.01	
107-02-8		Acrolein	T	mg/L	8260	<0.01		<0.01			*	<0.01	
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.01			*	<0.01	
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015			*	<0.015	
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005			*	<0.005	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4815		8004-4816		8004-4812		8004-4811	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						387		388		389		390	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005			*	<0.005	
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005			*	<0.005	
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005			*	<0.005	
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01			*	<0.01	
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005			*	<0.005	
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005			*	<0.005	
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001			*	<0.001	
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005			*	<0.005	
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001			*	<0.001	
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005			*	<0.005	
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001			*	<0.001	
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001			*	<0.001	
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001			*	<0.001	
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005			*	<0.005	
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005			*	<0.005	
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001			*	<0.001	
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001			*	<0.001	
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005			*	<0.005	
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002		<0.002			*	<0.002	
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001			*	<0.001	
79-01-6		Ethene, Trichloro-	T	mg/L	8260	<0.001		<0.001			*	<0.001	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
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GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4815		8004-4816		8004-4812		8004-4811	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						387		388		389		390	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01			*	<0.01	
74-88-4		Iodomethane	T	mg/L	8260	<0.01	J	<0.01	J		*	<0.01	J
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005			*	<0.005	
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.005			*	<0.005	
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005			*	<0.005	
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01			*	<0.01	
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011		*	<0.0002			*	<0.0002	
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005			*	<0.005	
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005			*	<0.005	
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001			*	<0.001	
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005			*	<0.005	
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005			*	<0.005	
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005			*	<0.005	
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005			*	<0.005	
1336-36-3		PCB,Total	T	ug/L	8082	<0.18		<0.18			*	<0.17	
12674-11-2		PCB-1016	T	ug/L	8082	<0.17		<0.17			*	<0.16	
11104-28-2		PCB-1221	T	ug/L	8082	<0.18		<0.18			*	<0.17	
11141-16-5		PCB-1232	T	ug/L	8082	<0.14		<0.14			*	<0.14	
53469-21-9		PCB-1242	T	ug/L	8082	<0.1		<0.1			*	<0.1	
12672-29-6		PCB-1248	T	ug/L	8082	<0.12		<0.12			*	<0.12	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4815		8004-4816		8004-4812		8004-4811	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						387		388		389		390	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082	<0.07		<0.07			*	<0.07	
11096-82-5		PCB-1260	T	ug/L	8082	<0.05		<0.05			*	<0.05	
11100-14-4		PCB-1268	T	ug/L	8082	<0.09		<0.09			*	<0.09	
12587-46-1		Gross Alpha	T	pCi/L	9310	3.18	*	1.44	*		*	0.538	*
12587-47-2		Gross Beta	T	pCi/L	9310	134	*	75	*		*	34.9	*
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		*
13982-63-3		Radium-226	T	pCi/L	RL-7129	-0.0149	*	0.502	*		*	0.331	*
10098-97-2		Strontium-90	T	pCi/L	RL-7140	1.09	*B	0.541	*B		*	1.19	*B
14133-76-7		Technetium-99	T	pCi/L	RL-7100	172	*	74.7	*		*	62	*
14269-63-7		Thorium-230	T	pCi/L	RL-7128	-0.029	*	-0.00984	*		*	0.0592	*
10028-17-8		Tritium	T	pCi/L	704R6	-176	*	-200	*		*	-148	*
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4	<36		<36			*	<36	
57-12-5		Cyanide	T	mg/L	9010	<0.04		<0.04			*	<0.04	
20461-54-5		Iodide	T	mg/L	345.1	<2		<2			*	<2	
S0268- -		Total Organic Carbon	T	mg/L	9060	<1		<1			*	1.9	
S0586- -		Total Organic Halides	T	mg/L	9020	0.021		0.017			*	0.027	

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number	8004-4805	8004-4806	8004-4807	8004-4802
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)	391	392	393	394
Sample Sequence #	1	1	1	1
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment	NA	NA	NA	NA
Sample Date and Time (Month/Day/Year hour: minutes)	10/7/2013 12:37	10/7/2013 12:54	10/7/2013 13:56	10/3/2013 09:02
Duplicate ("Y" or "N")[2]	N	N	N	N
Split ("Y" or "N")[3]	N	N	N	N
Facility Sample ID Number (if applicable)	MW391SG1-14	MW392SG1-14	MW393SG1-14	MW394SG1-14
Laboratory Sample ID Number (if applicable)	C13280040001	C13280040002	C13280043001	C13276024001
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis	10/9/2013	10/9/2013	10/9/2013	10/3/2013
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)	DOWN	DOWN	DOWN	UP

CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056	<2		<2		<2		<2	
16887-00-6		Chloride(s)	T	mg/L	9056	49		50		17		52	
16984-48-8		Fluoride	T	mg/L	9214	0.15		0.21		0.17		0.14	
S0595- -		Nitrate & Nitrite	T	mg/L	9056	1.1		<1		<1		1.3	
14808-79-8		Sulfate	T	mg/L	9056	13		6.5		11		10	
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field	29.98		29.98		29.98		30.03	
S0145- -		Specific Conductance	T	μMH0/cm	Field	390		405		399		386	

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4805		8004-4806		8004-4807		8004-4802	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						391		392		393		394	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field	324.05		323.9		338.67		324.34	
N238		Dissolved Oxygen	T	mg/L	Field	3.96		0.76		0.63		4.24	
S0266- -		Total Dissolved Solids	T	mg/L	160.1	220		222		253		226	
S0296- -		pH	T	Units	Field	6.48		6.25		6.14		6.07	
NS215		Eh	T	mV	Field	537		473		222		803	
S0907 - -		Temperature	T	°C	Field	18.61		17.06		17.78		18	
7429-90-5		Aluminum	T	mg/L	6020	<0.2		<0.2		<0.2		<0.2	
7440-36-0		Antimony	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-38-2		Arsenic	T	mg/L	7060	<0.001		<0.001		0.00333		<0.001	
7440-39-3		Barium	T	mg/L	6020	0.247		0.207		0.112		0.235	
7440-41-7		Beryllium	T	mg/L	6020	<0.001		<0.001		<0.001	B	<0.001	
7440-42-8		Boron	T	mg/L	6010	<0.2		<0.2		<0.2		<0.2	
7440-43-9		Cadmium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-70-2		Calcium	T	mg/L	6010	25.8		26.2		10.1		25.7	
7440-47-3		Chromium	T	mg/L	6020	<0.01		<0.01		<0.01		<0.01	
7440-48-4		Cobalt	T	mg/L	6020	<0.001		<0.001		<0.001	*	<0.001	
7440-50-8		Copper	T	mg/L	6020	<0.02	*	<0.02	*	<0.02		<0.02	*
7439-89-6		Iron	T	mg/L	6010	<0.1		0.49		2.88		<0.1	
7439-92-1		Lead	T	mg/L	6020	<0.0013	B	<0.0013	B	<0.0013		<0.0013	B
7439-95-4		Magnesium	T	mg/L	6010	10.1		9.4		2.86		10.7	
7439-96-5		Manganese	T	mg/L	6020	<0.005		0.185		0.0406	*	<0.005	
7439-97-6		Mercury	T	mg/L	7470	<0.0002		<0.0002		<0.0002		<0.0002	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4805		8004-4806		8004-4807		8004-4802	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						391		392		393		394	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020	<0.001	B	<0.001	B	<0.001	B	<0.001	B
7440-02-0		Nickel	T	mg/L	6020	<0.005	*	<0.005	*	<0.005	*	<0.005	*
7440-09-7		Potassium	T	mg/L	6010	1.54		1.7		0.364		1.11	
7440-16-6		Rhodium	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7782-49-2		Selenium	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-22-4		Silver	T	mg/L	6020	<0.001		<0.001		<0.001	B	<0.001	
7440-23-5		Sodium	T	mg/L	6010	31.6		34.9		70.6		28.8	
7440-25-7		Tantalum	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-28-0		Thallium	T	mg/L	6020	<0.002		<0.002		<0.002		<0.002	
7440-61-1		Uranium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-62-2		Vanadium	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
7440-66-6		Zinc	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
67-64-1		Acetone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
107-02-8		Acrolein	T	mg/L	8260	<0.01	J	<0.01	J	<0.01	J	<0.01	
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.01		<0.01		<0.005	
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015		<0.015		<0.015	
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4805		8004-4806		8004-4807		8004-4802	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						391		392		393		394	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002		<0.002		<0.002		<0.002	
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-01-6		Ethene, Trichloro-	T	mg/L	8260	0.013		0.014		<0.001		0.0062	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4805		8004-4806		8004-4807		8004-4802	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						391		392		393		394	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
74-88-4		Iodomethane	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	J
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.001	
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.0002		<0.0002		<0.0002		<0.0002	
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1336-36-3		PCB,Total	T	ug/L	8082	<0.17		<0.18		<0.18		<0.18	
12674-11-2		PCB-1016	T	ug/L	8082	<0.16		<0.17		<0.17		<0.17	
11104-28-2		PCB-1221	T	ug/L	8082	<0.17		<0.18		<0.18		<0.18	
11141-16-5		PCB-1232	T	ug/L	8082	<0.14		<0.14		<0.14		<0.14	
53469-21-9		PCB-1242	T	ug/L	8082	<0.1		<0.1		<0.1		<0.1	
12672-29-6		PCB-1248	T	ug/L	8082	<0.12		<0.12		<0.12		<0.12	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4805		8004-4806		8004-4807		8004-4802	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						391		392		393		394	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082	<0.07		<0.07		<0.07		<0.07	
11096-82-5		PCB-1260	T	ug/L	8082	<0.05	J	<0.05	J	<0.05		<0.05	
11100-14-4		PCB-1268	T	ug/L	8082	<0.09		<0.09		<0.09		<0.09	
12587-46-1		Gross Alpha	T	pCi/L	9310	2.43	*	-0.686	*	0.528	*	-0.583	*
12587-47-2		Gross Beta	T	pCi/L	9310	7.31	*	2.61	*	1.48	*	7.39	*
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		*
13982-63-3		Radium-226	T	pCi/L	RL-7129	0.144	*	0.278	*	0.326	*	-0.051	*
10098-97-2		Strontium-90	T	pCi/L	RL-7140	0.769	*B	0.189	*B	0.481	*B	-0.0377	*B
14133-76-7		Technetium-99	T	pCi/L	RL-7100	12	*	10.4	*	12.6	*	9.68	*
14269-63-7		Thorium-230	T	pCi/L	RL-7128	-0.0282	*	0.16	*	0.0189	*	0.0834	*
10028-17-8		Tritium	T	pCi/L	704R6	-323	*	16.5	*	592	*	-400	*
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4	<36		<36		<36		<36	
57-12-5		Cyanide	T	mg/L	9010	<0.04	*J	<0.04	*J	<0.04	*J	<0.04	*J
20461-54-5		Iodide	T	mg/L	345.1	<2		<2		<2		<2	
S0268- -		Total Organic Carbon	T	mg/L	9060	<1		1.3		2.7		<1	
S0586- -		Total Organic Halides	T	mg/L	9020	0.023		0.061		0.032		0.015	

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number					8004-4801		8004-4803		8004-4817		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)					395		396		397		E. BLANK	
Sample Sequence #					1		1		1		1	
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment					NA		NA		NA		E	
Sample Date and Time (Month/Day/Year hour: minutes)					10/3/2013 13:42		10/3/2013 12:34		10/2/2013 12:44		10/3/2013 07:10	
Duplicate ("Y" or "N")[2]					N		N		N		N	
Split ("Y" or "N")[3]					N		N		N		N	
Facility Sample ID Number (if applicable)					MW395SG1-14		MW396SG1-14		MW397SG1-14		RI1SG1-14	
Laboratory Sample ID Number (if applicable)					C13276034001		C13276034002		C13275039004		C13276020001	
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis					10/7/2013		10/7/2013		10/3/2013		10/3/2013	
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)					UP		UP		UP		NA	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056	<2		<2		<2			*
16887-00-6		Chloride(s)	T	mg/L	9056	51		80		41			*
16984-48-8		Fluoride	T	mg/L	9214	0.12		0.55		0.17			*
S0595- -		Nitrate & Nitrite	T	mg/L	9056	1.7		<1		1.3	*		*
14808-79-8		Sulfate	T	mg/L	9056	20		27		22			*
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field	30.03		30.03		30.06			*
S0145- -		Specific Conductance	T	μMH0/cm	Field	376		779		353			*

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4801		8004-4803		8004-4817		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						395		396		397		E. BLANK	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field	324.79		365.99		324.3			*
N238		Dissolved Oxygen	T	mg/L	Field	4.26		0.58		5.24			*
S0266- -		Total Dissolved Solids	T	mg/L	160.1	225		460		169			*
S0296- -		pH	T	Units	Field	6.02		6.46		6.01			*
NS215		Eh	T	mV	Field	542		323		679			*
S0907 - -		Temperature	T	°C	Field	18.39		19.56		19.33			*
7429-90-5		Aluminum	T	mg/L	6020	<0.2		<0.2		<0.2		<0.2	
7440-36-0		Antimony	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-38-2		Arsenic	T	mg/L	7060	<0.001		0.00131		<0.001		<0.001	
7440-39-3		Barium	T	mg/L	6020	0.253		0.395		0.136		<0.005	
7440-41-7		Beryllium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-42-8		Boron	T	mg/L	6010	<0.2		<0.2		<0.2		<0.2	
7440-43-9		Cadmium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-70-2		Calcium	T	mg/L	6010	26.7		36.9		18.6		<1	
7440-47-3		Chromium	T	mg/L	6020	<0.01		<0.01		<0.01		<0.01	
7440-48-4		Cobalt	T	mg/L	6020	<0.001		0.00226		<0.001		<0.001	
7440-50-8		Copper	T	mg/L	6020	<0.02	*	<0.02	*	<0.02	*	<0.02	*
7439-89-6		Iron	T	mg/L	6010	<0.1		1.68		<0.1		<0.1	
7439-92-1		Lead	T	mg/L	6020	<0.0013	B	<0.0013	B	<0.0013	B	<0.0013	B
7439-95-4		Magnesium	T	mg/L	6010	10.4		15.6		7.32		<0.025	
7439-96-5		Manganese	T	mg/L	6020	<0.005		0.418		<0.005		<0.005	
7439-97-6		Mercury	T	mg/L	7470	<0.0002		<0.0002		<0.0002		<0.0002	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4801		8004-4803		8004-4817		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						395		396		397		E. BLANK	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020	<0.001	B	<0.001	B	<0.001	B	<0.001	B
7440-02-0		Nickel	T	mg/L	6020	<0.005	*	<0.005	*	<0.005	*	<0.005	*
7440-09-7		Potassium	T	mg/L	6010	1.51		0.84		1.69		<0.2	
7440-16-6		Rhodium	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7782-49-2		Selenium	T	mg/L	6020	0.00504		0.00582		<0.005		<0.005	
7440-22-4		Silver	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-23-5		Sodium	T	mg/L	6010	26.5		103		31.7		<1	
7440-25-7		Tantalum	T	mg/L	6020	<0.005		<0.005		<0.005		<0.005	
7440-28-0		Thallium	T	mg/L	6020	<0.002		<0.002		<0.002		<0.002	
7440-61-1		Uranium	T	mg/L	6020	<0.001		<0.001		<0.001		<0.001	
7440-62-2		Vanadium	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
7440-66-6		Zinc	T	mg/L	6020	<0.02		<0.02		<0.02		<0.02	
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
67-64-1		Acetone	T	mg/L	8260	<0.01	J	<0.01	J	<0.01		<0.01	
107-02-8		Acrolein	T	mg/L	8260	<0.01	J	<0.01	J	<0.01		<0.01	
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.005		<0.01		<0.01	
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015		<0.015		<0.015	
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4801		8004-4803		8004-4817		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						395		396		397		E. BLANK	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002		<0.002		<0.002		<0.002	
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-01-6		Ethene, Trichloro-	T	mg/L	8260	0.0041		<0.001		<0.001		<0.001	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4801		8004-4803		8004-4817		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						395		396		397		E. BLANK	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
74-88-4		Iodomethane	T	mg/L	8260	<0.01		<0.01		<0.01	J	<0.01	J
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.001		<0.005		<0.005	
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.0002		<0.0002		<0.0002		<0.0002	
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1336-36-3		PCB,Total	T	ug/L	8082	<0.17		<0.18		<0.18		<0.18	
12674-11-2		PCB-1016	T	ug/L	8082	<0.16		<0.17		<0.17		<0.17	
11104-28-2		PCB-1221	T	ug/L	8082	<0.17		<0.18		<0.18		<0.18	
11141-16-5		PCB-1232	T	ug/L	8082	<0.14		<0.14		<0.14		<0.14	
53469-21-9		PCB-1242	T	ug/L	8082	<0.1		<0.1		<0.1		<0.1	
12672-29-6		PCB-1248	T	ug/L	8082	<0.12		<0.12		<0.12		<0.12	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4801		8004-4803		8004-4817		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						395		396		397		E. BLANK	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082	<0.07		<0.07		<0.07		<0.07	
11096-82-5		PCB-1260	T	ug/L	8082	<0.05		<0.05		<0.05		<0.05	
11100-14-4		PCB-1268	T	ug/L	8082	<0.09		<0.09		<0.09		<0.09	
12587-46-1		Gross Alpha	T	pCi/L	9310	1.92	*	0.384	*	2.61	*	-0.787	*
12587-47-2		Gross Beta	T	pCi/L	9310	10.3	*	2.28	*	17.6	*	1.4	*
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		*
13982-63-3		Radium-226	T	pCi/L	RL-7129	-0.081	*	0.404	*	-0.0866	*	-0.0889	*
10098-97-2		Strontium-90	T	pCi/L	RL-7140	0.366	*B	-0.0383	*B	0.216	*B	0.213	*B
14133-76-7		Technetium-99	T	pCi/L	RL-7100	10.6	*	2.12	*	19.1	*	1.52	*
14269-63-7		Thorium-230	T	pCi/L	RL-7128	0.0452	*	0.0212	*	0.114	*	0.029	*
10028-17-8		Tritium	T	pCi/L	704R6	-60.3	*	-391	*	-405	*	-355	*
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4	<36		<36		<36			*
57-12-5		Cyanide	T	mg/L	9010	<0.04	*J	<0.04	*J	<0.04			*
20461-54-5		Iodide	T	mg/L	345.1	<2		<2		<2		<2	
S0268- -		Total Organic Carbon	T	mg/L	9060	<1		5.9		<1			*
S0586- -		Total Organic Halides	T	mg/L	9020	0.013		0.16		0.011			*

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number					0000-0000		0000-0000		0000-0000		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)					F. BLANK		T. BLANK 1		T. BLANK 2		T. BLANK 3	
Sample Sequence #					1		1		1		1	
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment					F		T		T		T	
Sample Date and Time (Month/Day/Year hour: minutes)					10/3/2013 08:55		10/1/2013 07:40		10/2/2013 06:47		10/2/2013 06:35	
Duplicate ("Y" or "N")[2]					N		N		N		N	
Split ("Y" or "N")[3]					N		N		N		N	
Facility Sample ID Number (if applicable)					FB1SG1-14		TB1SG1-14		TB2SG1-14		TB3SG1-14	
Laboratory Sample ID Number (if applicable)					C13276020002		C13274028001		C13275041001		C13275044001	
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis					10/3/2013		10/3/2013		10/3/2013		10/3/2013	
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)					NA		NA		NA		NA	
CAS RN[4]		**CONSTITUENT**	**TD[5]**	**Unit OF MEASURE**	**METHOD**	**DETECTED VALUE OR PQL[6]**	**FLAGS[7]**	**DETECTED VALUE OR PQL[6]**	**FLAGS**	**DETECTED VALUE OR PQL[6]**	**FLAGS**	**DETECTED VALUE OR PQL[6]**	**FLAGS**
24959-67-9		**Bromide**	**T**	**mg/L**	**9056**		*		*		*		*
16887-00-6		**Chloride(s)**	**T**	**mg/L**	**9056**		*		*		*		*
16984-48-8		**Fluoride**	**T**	**mg/L**	**9214**		*		*		*		*
S0595- -		**Nitrate & Nitrite**	**T**	**mg/L**	**9056**		*		*		*		*
14808-79-8		**Sulfate**	**T**	**mg/L**	**9056**		*		*		*		*
NS1894		**Barometric Pressure Reading**	**T**	**Inches/Hg**	**Field**		*		*		*		*
S0145- -		**Specific Conductance**	**T**	**μMH0/cm**	**Field**		*		*		*		*

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		0000-0000		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						F. BLANK		T. BLANK 1		T. BLANK 2		T. BLANK 3	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field		*		*		*		*
N238		Dissolved Oxygen	T	mg/L	Field		*		*		*		*
S0266- -		Total Dissolved Solids	T	mg/L	160.1		*		*		*		*
S0296- -		pH	T	Units	Field		*		*		*		*
NS215		Eh	T	mV	Field		*		*		*		*
S0907 - -		Temperature	T	°C	Field		*		*		*		*
7429-90-5		Aluminum	T	mg/L	6020	<0.2			*		*		*
7440-36-0		Antimony	T	mg/L	6020	<0.005			*		*		*
7440-38-2		Arsenic	T	mg/L	7060	<0.001			*		*		*
7440-39-3		Barium	T	mg/L	6020	<0.005			*		*		*
7440-41-7		Beryllium	T	mg/L	6020	<0.001			*		*		*
7440-42-8		Boron	T	mg/L	6010	<0.2			*		*		*
7440-43-9		Cadmium	T	mg/L	6020	<0.001			*		*		*
7440-70-2		Calcium	T	mg/L	6010	<1			*		*		*
7440-47-3		Chromium	T	mg/L	6020	<0.01			*		*		*
7440-48-4		Cobalt	T	mg/L	6020	<0.001			*		*		*
7440-50-8		Copper	T	mg/L	6020	<0.02	*		*		*		*
7439-89-6		Iron	T	mg/L	6010	<0.1			*		*		*
7439-92-1		Lead	T	mg/L	6020	<0.0013	B		*		*		*
7439-95-4		Magnesium	T	mg/L	6010	<0.025			*		*		*
7439-96-5		Manganese	T	mg/L	6020	<0.005			*		*		*
7439-97-6		Mercury	T	mg/L	7470	<0.0002			*		*		*

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		0000-0000		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						F. BLANK		T. BLANK 1		T. BLANK 2		T. BLANK 3	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020	<0.001	B		*		*		*
7440-02-0		Nickel	T	mg/L	6020	<0.005	*		*		*		*
7440-09-7		Potassium	T	mg/L	6010	<0.2			*		*		*
7440-16-6		Rhodium	T	mg/L	6020	<0.005			*		*		*
7782-49-2		Selenium	T	mg/L	6020	<0.005			*		*		*
7440-22-4		Silver	T	mg/L	6020	<0.001			*		*		*
7440-23-5		Sodium	T	mg/L	6010	<1			*		*		*
7440-25-7		Tantalum	T	mg/L	6020	<0.005			*		*		*
7440-28-0		Thallium	T	mg/L	6020	<0.002			*		*		*
7440-61-1		Uranium	T	mg/L	6020	<0.001			*		*		*
7440-62-2		Vanadium	T	mg/L	6020	<0.02			*		*		*
7440-66-6		Zinc	T	mg/L	6020	<0.02			*		*		*
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
67-64-1		Acetone	T	mg/L	8260	0.011		<0.01		<0.01		<0.01	
107-02-8		Acrolein	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015		<0.015		<0.015	
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		0000-0000		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						F. BLANK		T. BLANK 1		T. BLANK 2		T. BLANK 3	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002		<0.002		<0.002		<0.002	
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
79-01-6		Ethene, Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		0000-0000		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						F. BLANK		T. BLANK 1		T. BLANK 2		T. BLANK 3	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
74-88-4		Iodomethane	T	mg/L	8260	<0.01	J	<0.01	J	<0.01	J	<0.01	J
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01		<0.01	
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.0002		<0.0002		<0.0002		<0.0002	
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001		<0.001	
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005		<0.005	
1336-36-3		PCB,Total	T	ug/L	8082	<0.18			*		*		*
12674-11-2		PCB-1016	T	ug/L	8082	<0.17			*		*		*
11104-28-2		PCB-1221	T	ug/L	8082	<0.18			*		*		*
11141-16-5		PCB-1232	T	ug/L	8082	<0.14			*		*		*
53469-21-9		PCB-1242	T	ug/L	8082	<0.1			*		*		*
12672-29-6		PCB-1248	T	ug/L	8082	<0.12			*		*		*

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		0000-0000		0000-0000	
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						F. BLANK		T. BLANK 1		T. BLANK 2		T. BLANK 3	
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082	<0.07			*		*		*
11096-82-5		PCB-1260	T	ug/L	8082	<0.05			*		*		*
11100-14-4		PCB-1268	T	ug/L	8082	<0.09			*		*		*
12587-46-1		Gross Alpha	T	pCi/L	9310	-0.247	*		*		*		*
12587-47-2		Gross Beta	T	pCi/L	9310	-0.206	*		*		*		*
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		*
13982-63-3		Radium-226	T	pCi/L	RL-7129	-0.0556	*		*		*		*
10098-97-2		Strontium-90	T	pCi/L	RL-7140	0.245	*B		*		*		*
14133-76-7		Technetium-99	T	pCi/L	RL-7100	6.85	*		*		*		*
14269-63-7		Thorium-230	T	pCi/L	RL-7128	-0.0174	*		*		*		*
10028-17-8		Tritium	T	pCi/L	704R6	-61.3	*		*		*		*
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4		*		*		*		*
57-12-5		Cyanide	T	mg/L	9010		*		*		*		*
20461-54-5		Iodide	T	mg/L	345.1	<2			*		*		*
S0268- -		Total Organic Carbon	T	mg/L	9060		*		*		*		*
S0586- -		Total Organic Halides	T	mg/L	9020		*		*		*		*

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number					0000-0000		0000-0000		8004-4815				
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)					T. BLANK 4		T. BLANK 5		387				
Sample Sequence #					1		1		2				
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment					T		T		NA				
Sample Date and Time (Month/Day/Year hour: minutes)					10/3/2013 07:06		10/7/2013 11:55		10/2/2013 11:36				
Duplicate ("Y" or "N")[2]					N		N		Y				
Split ("Y" or "N")[3]					N		N		N				
Facility Sample ID Number (if applicable)					TB4SG1-14		TB5SG1-14		MW387DSG1-14				
Laboratory Sample ID Number (if applicable)					C13276035001		C13280042001		C13275039002				
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis					10/7/2013		10/9/2013		10/3/2013				
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)					NA		NA		DOWN				
CAS RN[4]		**CONSTITUENT**	**TD[5]**	**Unit OF MEASURE**	**METHOD**	**DETECTED VALUE OR PQL[6]**	**FLAGS[7]**	**DETECTED VALUE OR PQL[6]**	**FLAGS**	**DETECTED VALUE OR PQL[6]**	**FLAGS**	**DETECTED VALUE OR PQL[6]**	**FLAGS**
24959-67-9		**Bromide**	**T**	**mg/L**	**9056**		*		*	<2			
16887-00-6		**Chloride(s)**	**T**	**mg/L**	**9056**		*		*	40			
16984-48-8		**Fluoride**	**T**	**mg/L**	**9214**		*		*	0.72			
S0595- -		**Nitrate & Nitrite**	**T**	**mg/L**	**9056**		*		*	1	*		
14808-79-8		**Sulfate**	**T**	**mg/L**	**9056**		*		*	30			
NS1894		**Barometric Pressure Reading**	**T**	**Inches/Hg**	**Field**		*		*	30.06			
S0145- -		**Specific Conductance**	**T**	**μMH0/cm**	**Field**		*		*	528			

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		8004-4815			
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						T. BLANK 4		T. BLANK 5		387			
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field		*		*	324.3			
N238		Dissolved Oxygen	T	mg/L	Field		*		*	3.37			
S0266- -		Total Dissolved Solids	T	mg/L	160.1		*		*	299			
S0296- -		pH	T	Units	Field		*		*	6.25			
NS215		Eh	T	mV	Field		*		*	493			
S0907 - -		Temperature	T	°C	Field		*		*	19.61			
7429-90-5		Aluminum	T	mg/L	6020		*		*	<0.2			
7440-36-0		Antimony	T	mg/L	6020		*		*	<0.005			
7440-38-2		Arsenic	T	mg/L	7060		*		*	0.00221			
7440-39-3		Barium	T	mg/L	6020		*		*	0.132			
7440-41-7		Beryllium	T	mg/L	6020		*		*	<0.001			
7440-42-8		Boron	T	mg/L	6010		*		*	<0.2			
7440-43-9		Cadmium	T	mg/L	6020		*		*	<0.001			
7440-70-2		Calcium	T	mg/L	6010		*		*	35.2			
7440-47-3		Chromium	T	mg/L	6020		*		*	<0.01			
7440-48-4		Cobalt	T	mg/L	6020		*		*	<0.001			
7440-50-8		Copper	T	mg/L	6020		*		*	<0.02	*		
7439-89-6		Iron	T	mg/L	6010		*		*	<0.1			
7439-92-1		Lead	T	mg/L	6020		*		*	<0.0013	B		
7439-95-4		Magnesium	T	mg/L	6010		*		*	14			
7439-96-5		Manganese	T	mg/L	6020		*		*	<0.005			
7439-97-6		Mercury	T	mg/L	7470		*		*	<0.0002			

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		8004-4815			
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						T. BLANK 4		T. BLANK 5		387			
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
7439-98-7		Molybdenum	T	mg/L	6020		*		*	<0.001	B		
7440-02-0		Nickel	T	mg/L	6020		*		*	<0.005	*		
7440-09-7		Potassium	T	mg/L	6010		*		*	1.83			
7440-16-6		Rhodium	T	mg/L	6020		*		*	<0.005			
7782-49-2		Selenium	T	mg/L	6020		*		*	<0.005			
7440-22-4		Silver	T	mg/L	6020		*		*	<0.001			
7440-23-5		Sodium	T	mg/L	6010		*		*	50.1			
7440-25-7		Tantalum	T	mg/L	6020		*		*	<0.005			
7440-28-0		Thallium	T	mg/L	6020		*		*	<0.002			
7440-61-1		Uranium	T	mg/L	6020		*		*	<0.001			
7440-62-2		Vanadium	T	mg/L	6020		*		*	<0.02			
7440-66-6		Zinc	T	mg/L	6020		*		*	<0.02			
108-05-4		Vinyl acetate	T	mg/L	8260	<0.01		<0.01		<0.01			
67-64-1		Acetone	T	mg/L	8260	<0.01	J	<0.01		<0.01			
107-02-8		Acrolein	T	mg/L	8260	<0.01	J	<0.01	J	<0.01			
107-13-1		Acrylonitrile	T	mg/L	8260	<0.01		<0.01		<0.01			
71-43-2		Benzene	T	mg/L	8260	<0.005		<0.005		<0.005			
108-90-7		Chlorobenzene	T	mg/L	8260	<0.005		<0.005		<0.005			
1330-20-7		Xylenes	T	mg/L	8260	<0.015		<0.015		<0.015			
100-42-5		Styrene	T	mg/L	8260	<0.005		<0.005		<0.005			
108-88-3		Toluene	T	mg/L	8260	<0.005		<0.005		<0.005			
74-97-5		Chlorobromomethane	T	mg/L	8260	<0.005		<0.005		<0.005			

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		8004-4815			
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						T. BLANK 4		T. BLANK 5		387			
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
75-27-4		Bromodichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005			
75-25-2		Tribromomethane	T	mg/L	8260	<0.005		<0.005		<0.005			
74-83-9		Methyl bromide	T	mg/L	8260	<0.005		<0.005		<0.005			
78-93-3		Methyl ethyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01			
110-57-6		trans-1,4-Dichloro-2-butene	T	mg/L	8260	<0.005		<0.005		<0.005			
75-15-0		Carbon disulfide	T	mg/L	8260	<0.005		<0.005		<0.005			
75-00-3		Chloroethane	T	mg/L	8260	<0.005		<0.005		<0.005			
67-66-3		Chloroform	T	mg/L	8260	<0.001		<0.001		<0.001			
74-87-3		Methyl chloride	T	mg/L	8260	<0.005		<0.005		<0.005			
156-59-2		cis-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001			
74-95-3		Methylene bromide	T	mg/L	8260	<0.005		<0.005		<0.005			
75-34-3		1,1-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001			
107-06-2		1,2-Dichloroethane	T	mg/L	8260	<0.001		<0.001		<0.001			
75-35-4		1,1-Dichloroethylene	T	mg/L	8260	<0.001		<0.001		<0.001			
106-93-4		Ethane, 1,2-dibromo	T	mg/L	8260	<0.005		<0.005		<0.005			
79-34-5		Ethane, 1,1,2,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005			
71-55-6		Ethane, 1,1,1-Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001			
79-00-5		Ethane, 1,1,2-Trichloro	T	mg/L	8260	<0.001		<0.001		<0.001			
630-20-6		Ethane, 1,1,1,2-Tetrachloro	T	mg/L	8260	<0.005		<0.005		<0.005			
75-01-4		Vinyl chloride	T	mg/L	8260	<0.002		<0.002		<0.002			
127-18-4		Ethene, Tetrachloro-	T	mg/L	8260	<0.001		<0.001		<0.001			
79-01-6		Ethene, Trichloro-	T	mg/L	8260	<0.001		<0.001		<0.001			

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		8004-4815			
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						T. BLANK 4		T. BLANK 5		387			
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260	<0.005		<0.005		<0.005			
591-78-6		2-Hexanone	T	mg/L	8260	<0.01		<0.01		<0.01			
74-88-4		Iodomethane	T	mg/L	8260	<0.01		<0.01		<0.01	J		
124-48-1		Methane, Dibromochloro-	T	mg/L	8260	<0.005		<0.005		<0.005			
56-23-5		Carbon Tetrachloride	T	mg/L	8260	<0.005		<0.005		<0.005			
75-09-2		Dichloromethane	T	mg/L	8260	<0.005		<0.005		<0.005			
108-10-1		Methyl isobutyl ketone	T	mg/L	8260	<0.01		<0.01		<0.01			
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.0002		<0.0002		<0.0002			
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005			
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005			
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260	<0.005		<0.005		<0.005			
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260	<0.001		<0.001		<0.001			
75-69-4		Trichlorofluoromethane	T	mg/L	8260	<0.005		<0.005		<0.005			
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260	<0.005		<0.005		<0.005			
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005			
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260	<0.005		<0.005		<0.005			
1336-36-3		PCB,Total	T	ug/L	8082		*		*	<0.18			
12674-11-2		PCB-1016	T	ug/L	8082		*		*	<0.17			
11104-28-2		PCB-1221	T	ug/L	8082		*		*	<0.18			
11141-16-5		PCB-1232	T	ug/L	8082		*		*	<0.14			
53469-21-9		PCB-1242	T	ug/L	8082		*		*	<0.1			
12672-29-6		PCB-1248	T	ug/L	8082		*		*	<0.12			

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant FINDS/UNIT: KY8-890-008-982 / 1
Permit Number: 073-00014 & 073-00015 LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000		0000-0000		8004-4815			
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						T. BLANK 4		T. BLANK 5		387			
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
11097-69-1		PCB-1254	T	ug/L	8082		*		*	<0.07			
11096-82-5		PCB-1260	T	ug/L	8082		*		*	<0.05			
11100-14-4		PCB-1268	T	ug/L	8082		*		*	<0.09			
12587-46-1		Gross Alpha	T	pCi/L	9310		*		*	2.89	*		
12587-47-2		Gross Beta	T	pCi/L	9310		*		*	138	*		
10043-66-0		Iodine-131	T	pCi/L	RL-7124		*		*		*		
13982-63-3		Radium-226	T	pCi/L	RL-7129		*		*	0.12	*		
10098-97-2		Strontium-90	T	pCi/L	RL-7140		*		*	0.605	*B		
14133-76-7		Technetium-99	T	pCi/L	RL-7100		*		*	172	*		
14269-63-7		Thorium-230	T	pCi/L	RL-7128		*		*	0.0345	*		
10028-17-8		Tritium	T	pCi/L	704R6		*		*	88.5	*		
S0130- -		Chemical Oxygen Demand	T	mg/L	410.4		*		*	<36			
57-12-5		Cyanide	T	mg/L	9010		*		*	<0.04			
20461-54-5		Iodide	T	mg/L	345.1		*		*	<2			
S0268- -		Total Organic Carbon	T	mg/L	9060		*		*	<1			
S0586- -		Total Organic Halides	T	mg/L	9020		*		*	0.012			

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8000-5201 MW220	MW220SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.55. Rad error is 1.38.
		Gross beta		TPU is 4.22. Rad error is 3.09.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.293. Rad error is 0.248.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.315. Rad error is 0.182.
		Technetium-99		TPU is 10.8. Rad error is 10.8.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.118. Rad error is 0.0649.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 627. Rad error is 626.
8000-5202 MW221	MW221SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 2.08. Rad error is 1.87.
		Gross beta		TPU is 1.83. Rad error is 1.53.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.25. Rad error is 0.0606.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.13. Rad error is 0.0789.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.3. Rad error is 10.3.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.14. Rad error is 0.0967.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 626. Rad error is 625.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8000-5242 MW222	MW222SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.3. Rad error is 1.27.
		Gross beta		TPU is 1.27. Rad error is 1.08.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.197. Rad error is 0.0613.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0763. Rad error is 0.0469.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.2. Rad error is 10.2.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.109. Rad error is 0.0463.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 644. Rad error is 644.
8000-5243 MW223	MW223SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.333. Rad error is 0.316.
		Gross beta		TPU is 1.56. Rad error is 1.32.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.24. Rad error is 0.0665.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.117. Rad error is 0.0712.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.4. Rad error is 10.4.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.112. Rad error is 0.054.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 620. Rad error is 617.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8000-5244 MW224	MW224SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.82. Rad error is 1.66.
		Gross beta		TPU is 1.41. Rad error is 1.2.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.279. Rad error is 0.232.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.199. Rad error is 0.118.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.2. Rad error is 10.2.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.12. Rad error is 0.0691.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 616. Rad error is 613.
8004-4820 MW369	MW369UG1-14	Cobalt	X	Other specific flags and footnotes may be required to properly define the results.
		Manganese	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	X	Other specific flags and footnotes may be required to properly define the results.
		Gross alpha	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.19. Rad error is 1.06.
		Gross beta		TPU is 2.94. Rad error is 2.27.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	TU	Indicates analyte/nuclide was analyzed for, but not detected. Tracer recovery is < or equal to 30% or > or equal to 105%. TPU is 0.267. Rad error is 0.13.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.33. Rad error is 0.192.
		Technetium-99		TPU is 12.5. Rad error is 12.5.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.14. Rad error is 0.0823.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 605. Rad error is 605.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4818 MW370	MW370UG1-14	Cobalt	X	Other specific flags and footnotes may be required to properly define the results.
		Manganese	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	X	Other specific flags and footnotes may be required to properly define the results.
		Gross alpha	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.776. Rad error is 0.704.
		Gross beta		TPU is 2.62. Rad error is 2.05.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.334. Rad error is 0.293.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0603. Rad error is 0.0372.
		Technetium-99		TPU is 12.4. Rad error is 12.4.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.131. Rad error is 0.0678.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 606. Rad error is 606.
8004-4808 MW372	MW372UG1-14	Cobalt	X	Other specific flags and footnotes may be required to properly define the results.
		Manganese	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	X	Other specific flags and footnotes may be required to properly define the results.
		Gross alpha	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 2.49. Rad error is 1.98.
		Gross beta		TPU is 16.3. Rad error is 8.18.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.232. Rad error is 0.168.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.278. Rad error is 0.162.
		Technetium-99		TPU is 17.2. Rad error is 16.6.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.123. Rad error is 0.0405.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 619. Rad error is 618.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4792 MW373	MW373UG1-14	Cobalt	X	Other specific flags and footnotes may be required to properly define the results.
		Manganese	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	X	Other specific flags and footnotes may be required to properly define the results.
		Vinyl chloride	Y	MS,MSD recovery and/or RPD failed acceptance criteria.
		Gross alpha	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.539. Rad error is 0.47.
		Gross beta		TPU is 5.09. Rad error is 4.25.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	TU	Indicates analyte/nuclide was analyzed for, but not detected. Tracer recovery is < or equal to 30% or > or equal to 105%. TPU is 0.515. Rad error is 0.49.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.149. Rad error is 0.0895.
		Technetium-99		TPU is 13.5. Rad error is 13.4.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.127. Rad error is 0.0152.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 607. Rad error is 606.
		Cyanide	*	Duplicate analysis not within control limits.
8004-4809 MW384	MW384SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	L	Expected and measured value for LCS is statistically different at 95% level of confidence. TPU is 2.27. Rad error is 1.62.
		Gross beta		TPU is 25.9. Rad error is 10.2.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.32. Rad error is 0.275.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0238. Rad error is 0.0149.
		Technetium-99		TPU is 17. Rad error is 16.2.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.134. Rad error is 0.0918.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 624. Rad error is 624.
		Cyanide	N	Sample spike recovery not within control limits.

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Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4810 MW385	MW385SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	L	Expected and measured value for LCS is statistically different at 95% level of confidence. TPU is 2.28. Rad error is 1.72.
		Gross beta		TPU is 18.5. Rad error is 8.39.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.385. Rad error is 0.351.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.524. Rad error is 0.285.
		Technetium-99		TPU is 15.5. Rad error is 15.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.128. Rad error is 0.0825.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 618. Rad error is 614.
		Cyanide	N	Sample spike recovery not within control limits.
8004-4804 MW386	MW386SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.954. Rad error is 0.906.
		Gross beta	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.667. Rad error is 0.588.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.327. Rad error is 0.0422.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.506. Rad error is 0.276.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.2. Rad error is 10.2.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.126. Rad error is 0.0773.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 622. Rad error is 620.
		Cyanide	N	Sample spike recovery not within control limits.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4815 MW387	MW387SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		1,2-Dibromo-3-chloropropane		Collected during a re-sampling event.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.51. Rad error is 1.18.
		Gross beta		TPU is 18.5. Rad error is 8.52.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.217. Rad error is 0.0297.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.36. Rad error is 0.206.
		Technetium-99		TPU is 16. Rad error is 15.4.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.138. Rad error is 0.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 623. Rad error is 623.
8004-4816 MW388	MW388SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.8. Rad error is 0.678.
		Gross beta		TPU is 11. Rad error is 6.12.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.378. Rad error is 0.339.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.183. Rad error is 0.109.
		Technetium-99		TPU is 12.8. Rad error is 12.6.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.117. Rad error is 0.0383.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 628. Rad error is 627.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4812 MW389		Bromide		During sampling, the well was dry; therefore, no sample was collected.
		Chloride		During sampling, the well was dry; therefore, no sample was collected.
		Fluoride		During sampling, the well was dry; therefore, no sample was collected.
		Nitrate & Nitrite		During sampling, the well was dry; therefore, no sample was collected.
		Sulfate		During sampling, the well was dry; therefore, no sample was collected.
		Barometric Pressure Reading		During sampling, the well was dry; therefore, no sample was collected.
		Specific Conductance		During sampling, the well was dry; therefore, no sample was collected.
		Static Water Level Elevation		During sampling, the well was dry; therefore, no sample was collected.
		Dissolved Oxygen		During sampling, the well was dry; therefore, no sample was collected.
		Total Dissolved Solids		During sampling, the well was dry; therefore, no sample was collected.
		pH		During sampling, the well was dry; therefore, no sample was collected.
		Eh		During sampling, the well was dry; therefore, no sample was collected.
		Temperature		During sampling, the well was dry; therefore, no sample was collected.
		Aluminum		During sampling, the well was dry; therefore, no sample was collected.
		Antimony		During sampling, the well was dry; therefore, no sample was collected.
		Arsenic		During sampling, the well was dry; therefore, no sample was collected.
		Barium		During sampling, the well was dry; therefore, no sample was collected.
		Beryllium		During sampling, the well was dry; therefore, no sample was collected.
		Boron		During sampling, the well was dry; therefore, no sample was collected.
		Cadmium		During sampling, the well was dry; therefore, no sample was collected.
		Calcium		During sampling, the well was dry; therefore, no sample was collected.
		Chromium		During sampling, the well was dry; therefore, no sample was collected.
		Cobalt		During sampling, the well was dry; therefore, no sample was collected.
		Copper		During sampling, the well was dry; therefore, no sample was collected.
		Iron		During sampling, the well was dry; therefore, no sample was collected.
		Lead		During sampling, the well was dry; therefore, no sample was collected.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4812 MW389		Magnesium		During sampling, the well was dry; therefore, no sample was collected.
		Manganese		During sampling, the well was dry; therefore, no sample was collected.
		Mercury		During sampling, the well was dry; therefore, no sample was collected.
		Molybdenum		During sampling, the well was dry; therefore, no sample was collected.
		Nickel		During sampling, the well was dry; therefore, no sample was collected.
		Potassium		During sampling, the well was dry; therefore, no sample was collected.
		Rhodium		During sampling, the well was dry; therefore, no sample was collected.
		Selenium		During sampling, the well was dry; therefore, no sample was collected.
		Silver		During sampling, the well was dry; therefore, no sample was collected.
		Sodium		During sampling, the well was dry; therefore, no sample was collected.
		Tantalum		During sampling, the well was dry; therefore, no sample was collected.
		Thallium		During sampling, the well was dry; therefore, no sample was collected.
		Uranium		During sampling, the well was dry; therefore, no sample was collected.
		Vanadium		During sampling, the well was dry; therefore, no sample was collected.
		Zinc		During sampling, the well was dry; therefore, no sample was collected.
		Vinyl acetate		During sampling, the well was dry; therefore, no sample was collected.
		Acetone		During sampling, the well was dry; therefore, no sample was collected.
		Acrolein		During sampling, the well was dry; therefore, no sample was collected.
		Acrylonitrile		During sampling, the well was dry; therefore, no sample was collected.
		Benzene		During sampling, the well was dry; therefore, no sample was collected.
		Chlorobenzene		During sampling, the well was dry; therefore, no sample was collected.
		Xylenes		During sampling, the well was dry; therefore, no sample was collected.
		Styrene		During sampling, the well was dry; therefore, no sample was collected.
		Toluene		During sampling, the well was dry; therefore, no sample was collected.
		Chlorobromomethane		During sampling, the well was dry; therefore, no sample was collected.
		Bromodichloromethane		During sampling, the well was dry; therefore, no sample was collected.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4812 MW389		Tribromomethane		During sampling, the well was dry; therefore, no sample was collected.
		Methyl bromide		During sampling, the well was dry; therefore, no sample was collected.
		Methyl Ethyl Ketone		During sampling, the well was dry; therefore, no sample was collected.
		trans-1,4-Dichloro-2-butene		During sampling, the well was dry; therefore, no sample was collected.
		Carbon disulfide		During sampling, the well was dry; therefore, no sample was collected.
		Chloroethane		During sampling, the well was dry; therefore, no sample was collected.
		Chloroform		During sampling, the well was dry; therefore, no sample was collected.
		Methyl chloride		During sampling, the well was dry; therefore, no sample was collected.
		cis-1,2-Dichloroethene		During sampling, the well was dry; therefore, no sample was collected.
		Methylene bromide		During sampling, the well was dry; therefore, no sample was collected.
		1,1-Dichloroethane		During sampling, the well was dry; therefore, no sample was collected.
		1,2-Dichloroethane		During sampling, the well was dry; therefore, no sample was collected.
		1,1-Dichloroethylene		During sampling, the well was dry; therefore, no sample was collected.
		1,2-Dibromoethane		During sampling, the well was dry; therefore, no sample was collected.
		1,1,2,2-Tetrachloroethane		During sampling, the well was dry; therefore, no sample was collected.
		1,1,1-Trichloroethane		During sampling, the well was dry; therefore, no sample was collected.
		1,1,2-Trichloroethane		During sampling, the well was dry; therefore, no sample was collected.
		1,1,1,2-Tetrachloroethane		During sampling, the well was dry; therefore, no sample was collected.
		Vinyl chloride		During sampling, the well was dry; therefore, no sample was collected.
		Tetrachloroethene		During sampling, the well was dry; therefore, no sample was collected.
		Trichloroethene		During sampling, the well was dry; therefore, no sample was collected.
		Ethylbenzene		During sampling, the well was dry; therefore, no sample was collected.
		2-Hexanone		During sampling, the well was dry; therefore, no sample was collected.
		Iodomethane		During sampling, the well was dry; therefore, no sample was collected.
		Dibromochloromethane		During sampling, the well was dry; therefore, no sample was collected.
		Carbon tetrachloride		During sampling, the well was dry; therefore, no sample was collected.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4812 MW389		Dichloromethane		During sampling, the well was dry; therefore, no sample was collected.
		Methyl Isobutyl Ketone		During sampling, the well was dry; therefore, no sample was collected.
		1,2-Dibromo-3-chloropropane		During sampling, the well was dry; therefore, no sample was collected.
		1,2-Dichloropropane		During sampling, the well was dry; therefore, no sample was collected.
		trans-1,3-Dichloropropene		During sampling, the well was dry; therefore, no sample was collected.
		cis-1,3-Dichloropropene		During sampling, the well was dry; therefore, no sample was collected.
		trans-1,2-Dichloroethene		During sampling, the well was dry; therefore, no sample was collected.
		Trichlorofluoromethane		During sampling, the well was dry; therefore, no sample was collected.
		1,2,3-Trichloropropane		During sampling, the well was dry; therefore, no sample was collected.
		1,2-Dichlorobenzene		During sampling, the well was dry; therefore, no sample was collected.
		1,4-Dichlorobenzene		During sampling, the well was dry; therefore, no sample was collected.
		PCB, Total		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1016		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1221		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1232		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1242		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1248		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1254		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1260		During sampling, the well was dry; therefore, no sample was collected.
		PCB-1268		During sampling, the well was dry; therefore, no sample was collected.
		Gross alpha		During sampling, the well was dry; therefore, no sample was collected.
		Gross beta		During sampling, the well was dry; therefore, no sample was collected.
		Iodine-131		During sampling, the well was dry; therefore, no sample was collected.
		Radium-226		During sampling, the well was dry; therefore, no sample was collected.
		Strontium-90		During sampling, the well was dry; therefore, no sample was collected.
		Technetium-99		During sampling, the well was dry; therefore, no sample was collected.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4812 MW389		Thorium-230		During sampling, the well was dry; therefore, no sample was collected.
		Tritium		During sampling, the well was dry; therefore, no sample was collected.
		Chemical Oxygen Demand		During sampling, the well was dry; therefore, no sample was collected.
		Cyanide		During sampling, the well was dry; therefore, no sample was collected.
		Iodide		During sampling, the well was dry; therefore, no sample was collected.
		Total Organic Carbon		During sampling, the well was dry; therefore, no sample was collected.
		Total Organic Halides		During sampling, the well was dry; therefore, no sample was collected.
8004-4811 MW390	MW390SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.393. Rad error is 0.359.
		Gross beta		TPU is 5.91. Rad error is 4.08.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.289. Rad error is 0.242.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.391. Rad error is 0.22.
		Technetium-99		TPU is 12.3. Rad error is 12.2.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.128. Rad error is 0.0804.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 639. Rad error is 638.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4805 MW391	MW391SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.7. Rad error is 1.54.
		Gross beta		TPU is 1.64. Rad error is 1.38.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.247. Rad error is 0.193.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.257. Rad error is 0.149.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.2. Rad error is 10.2.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.106. Rad error is 0.00167.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 623. Rad error is 622.
		Cyanide	N	Sample spike recovery not within control limits.
8004-4806 MW392	MW392SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.992. Rad error is 0.97.
		Gross beta	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.673. Rad error is 0.592.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.263. Rad error is 0.21.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.065. Rad error is 0.04.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.1. Rad error is 10.1.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.124. Rad error is 0.0706.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 640. Rad error is 640.
		Cyanide	N	Sample spike recovery not within control limits.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4807 MW393	MW393SG1-14	Cobalt	X	Other specific flags and footnotes may be required to properly define the results.
		Manganese	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	X	Other specific flags and footnotes may be required to properly define the results.
		Gross alpha	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.313. Rad error is 0.293.
		Gross beta	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.328. Rad error is 0.287.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.258. Rad error is 0.209.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.163. Rad error is 0.0971.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.2. Rad error is 10.2.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.112. Rad error is 0.0546.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 624. Rad error is 621.
		Cyanide	N	Sample spike recovery not within control limits.
8004-4802 MW394	MW394SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.695. Rad error is 0.674.
		Gross beta		TPU is 1.66. Rad error is 1.39.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.217. Rad error is 0.102.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0132. Rad error is 0.00833.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.1. Rad error is 10.1.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.127. Rad error is 0.0785.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 621. Rad error is 619.
		Cyanide	N	Sample spike recovery not within control limits.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4801 MW395	MW395SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.4. Rad error is 1.28.
		Gross beta		TPU is 2.18. Rad error is 1.78.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.174. Rad error is 0.081.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.125. Rad error is 0.0754.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 10.1. Rad error is 10.1.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.136. Rad error is 0.0942.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 644. Rad error is 644.
		Cyanide	N	Sample spike recovery not within control limits.
8004-4803 MW396	MW396SG1-14	Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.4. Rad error is 0.384.
		Gross beta	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.6. Rad error is 0.531.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.26. Rad error is 0.204.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0134. Rad error is 0.00847.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 9.76. Rad error is 9.76.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.115. Rad error is 0.0593.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 622. Rad error is 620.
		Cyanide	N	Sample spike recovery not within control limits.

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Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

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GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4817 MW397	MW397SG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.69. Rad error is 1.51.
		Gross beta		TPU is 3.35. Rad error is 2.56.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.244. Rad error is 0.173.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0744. Rad error is 0.0458.
		Technetium-99		TPU is 10.7. Rad error is 10.7.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.127. Rad error is 0.0775.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 621. Rad error is 620.

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Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

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WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	RI1SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.233. Rad error is 0.
		Gross beta	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.374. Rad error is 0.333.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.233. Rad error is 0.175.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0734. Rad error is 0.0451.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 9.85. Rad error is 9.85.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.117. Rad error is 0.0634.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 623. Rad error is 622.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

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WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	FB1SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.357. Rad error is 0.349.
		Gross beta	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0601. Rad error is 0.0545.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.277. Rad error is 0.111.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.0844. Rad error is 0.0517.
		Technetium-99	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 9.94. Rad error is 9.94.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.107. Rad error is 0.0232.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 654. Rad error is 654.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

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WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB1SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Aluminum		Analysis of constituent not required and not performed.
		Antimony		Analysis of constituent not required and not performed.
		Arsenic		Analysis of constituent not required and not performed.
		Barium		Analysis of constituent not required and not performed.
		Beryllium		Analysis of constituent not required and not performed.
		Boron		Analysis of constituent not required and not performed.
		Cadmium		Analysis of constituent not required and not performed.
		Calcium		Analysis of constituent not required and not performed.
		Chromium		Analysis of constituent not required and not performed.
		Cobalt		Analysis of constituent not required and not performed.
		Copper		Analysis of constituent not required and not performed.
		Iron		Analysis of constituent not required and not performed.
		Lead		Analysis of constituent not required and not performed.
		Magnesium		Analysis of constituent not required and not performed.
		Manganese		Analysis of constituent not required and not performed.
		Mercury		Analysis of constituent not required and not performed.
		Molybdenum		Analysis of constituent not required and not performed.
		Nickel		Analysis of constituent not required and not performed.
		Potassium		Analysis of constituent not required and not performed.
		Rhodium		Analysis of constituent not required and not performed.
		Selenium		Analysis of constituent not required and not performed.
		Silver		Analysis of constituent not required and not performed.
		Sodium		Analysis of constituent not required and not performed.
		Tantalum		Analysis of constituent not required and not performed.
		Thallium		Analysis of constituent not required and not performed.
		Uranium		Analysis of constituent not required and not performed.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB1SG1-14	Vanadium		Analysis of constituent not required and not performed.
		Zinc		Analysis of constituent not required and not performed.
		PCB, Total		Analysis of constituent not required and not performed.
		PCB-1016		Analysis of constituent not required and not performed.
		PCB-1221		Analysis of constituent not required and not performed.
		PCB-1232		Analysis of constituent not required and not performed.
		PCB-1242		Analysis of constituent not required and not performed.
		PCB-1248		Analysis of constituent not required and not performed.
		PCB-1254		Analysis of constituent not required and not performed.
		PCB-1260		Analysis of constituent not required and not performed.
		PCB-1268		Analysis of constituent not required and not performed.
		Gross alpha		Analysis of constituent not required and not performed.
		Gross beta		Analysis of constituent not required and not performed.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226		Analysis of constituent not required and not performed.
		Strontium-90		Analysis of constituent not required and not performed.
		Technetium-99		Analysis of constituent not required and not performed.
		Thorium-230		Analysis of constituent not required and not performed.
		Tritium		Analysis of constituent not required and not performed.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Iodide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB2SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Aluminum		Analysis of constituent not required and not performed.
		Antimony		Analysis of constituent not required and not performed.
		Arsenic		Analysis of constituent not required and not performed.
		Barium		Analysis of constituent not required and not performed.
		Beryllium		Analysis of constituent not required and not performed.
		Boron		Analysis of constituent not required and not performed.
		Cadmium		Analysis of constituent not required and not performed.
		Calcium		Analysis of constituent not required and not performed.
		Chromium		Analysis of constituent not required and not performed.
		Cobalt		Analysis of constituent not required and not performed.
		Copper		Analysis of constituent not required and not performed.
		Iron		Analysis of constituent not required and not performed.
		Lead		Analysis of constituent not required and not performed.
		Magnesium		Analysis of constituent not required and not performed.
		Manganese		Analysis of constituent not required and not performed.
		Mercury		Analysis of constituent not required and not performed.
		Molybdenum		Analysis of constituent not required and not performed.
		Nickel		Analysis of constituent not required and not performed.
		Potassium		Analysis of constituent not required and not performed.
		Rhodium		Analysis of constituent not required and not performed.
		Selenium		Analysis of constituent not required and not performed.
		Silver		Analysis of constituent not required and not performed.
		Sodium		Analysis of constituent not required and not performed.
		Tantalum		Analysis of constituent not required and not performed.
		Thallium		Analysis of constituent not required and not performed.
		Uranium		Analysis of constituent not required and not performed.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB2SG1-14	Vanadium		Analysis of constituent not required and not performed.
		Zinc		Analysis of constituent not required and not performed.
		PCB, Total		Analysis of constituent not required and not performed.
		PCB-1016		Analysis of constituent not required and not performed.
		PCB-1221		Analysis of constituent not required and not performed.
		PCB-1232		Analysis of constituent not required and not performed.
		PCB-1242		Analysis of constituent not required and not performed.
		PCB-1248		Analysis of constituent not required and not performed.
		PCB-1254		Analysis of constituent not required and not performed.
		PCB-1260		Analysis of constituent not required and not performed.
		PCB-1268		Analysis of constituent not required and not performed.
		Gross alpha		Analysis of constituent not required and not performed.
		Gross beta		Analysis of constituent not required and not performed.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226		Analysis of constituent not required and not performed.
		Strontium-90		Analysis of constituent not required and not performed.
		Technetium-99		Analysis of constituent not required and not performed.
		Thorium-230		Analysis of constituent not required and not performed.
		Tritium		Analysis of constituent not required and not performed.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Iodide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB3SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Aluminum		Analysis of constituent not required and not performed.
		Antimony		Analysis of constituent not required and not performed.
		Arsenic		Analysis of constituent not required and not performed.
		Barium		Analysis of constituent not required and not performed.
		Beryllium		Analysis of constituent not required and not performed.
		Boron		Analysis of constituent not required and not performed.
		Cadmium		Analysis of constituent not required and not performed.
		Calcium		Analysis of constituent not required and not performed.
		Chromium		Analysis of constituent not required and not performed.
		Cobalt		Analysis of constituent not required and not performed.
		Copper		Analysis of constituent not required and not performed.
		Iron		Analysis of constituent not required and not performed.
		Lead		Analysis of constituent not required and not performed.
		Magnesium		Analysis of constituent not required and not performed.
		Manganese		Analysis of constituent not required and not performed.
		Mercury		Analysis of constituent not required and not performed.
		Molybdenum		Analysis of constituent not required and not performed.
		Nickel		Analysis of constituent not required and not performed.
		Potassium		Analysis of constituent not required and not performed.
		Rhodium		Analysis of constituent not required and not performed.
		Selenium		Analysis of constituent not required and not performed.
		Silver		Analysis of constituent not required and not performed.
		Sodium		Analysis of constituent not required and not performed.
		Tantalum		Analysis of constituent not required and not performed.
		Thallium		Analysis of constituent not required and not performed.
		Uranium		Analysis of constituent not required and not performed.

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WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB3SG1-14	Vanadium		Analysis of constituent not required and not performed.
		Zinc		Analysis of constituent not required and not performed.
		PCB, Total		Analysis of constituent not required and not performed.
		PCB-1016		Analysis of constituent not required and not performed.
		PCB-1221		Analysis of constituent not required and not performed.
		PCB-1232		Analysis of constituent not required and not performed.
		PCB-1242		Analysis of constituent not required and not performed.
		PCB-1248		Analysis of constituent not required and not performed.
		PCB-1254		Analysis of constituent not required and not performed.
		PCB-1260		Analysis of constituent not required and not performed.
		PCB-1268		Analysis of constituent not required and not performed.
		Gross alpha		Analysis of constituent not required and not performed.
		Gross beta		Analysis of constituent not required and not performed.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226		Analysis of constituent not required and not performed.
		Strontium-90		Analysis of constituent not required and not performed.
		Technetium-99		Analysis of constituent not required and not performed.
		Thorium-230		Analysis of constituent not required and not performed.
		Tritium		Analysis of constituent not required and not performed.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Iodide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

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Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB4SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Aluminum		Analysis of constituent not required and not performed.
		Antimony		Analysis of constituent not required and not performed.
		Arsenic		Analysis of constituent not required and not performed.
		Barium		Analysis of constituent not required and not performed.
		Beryllium		Analysis of constituent not required and not performed.
		Boron		Analysis of constituent not required and not performed.
		Cadmium		Analysis of constituent not required and not performed.
		Calcium		Analysis of constituent not required and not performed.
		Chromium		Analysis of constituent not required and not performed.
		Cobalt		Analysis of constituent not required and not performed.
		Copper		Analysis of constituent not required and not performed.
		Iron		Analysis of constituent not required and not performed.
		Lead		Analysis of constituent not required and not performed.
		Magnesium		Analysis of constituent not required and not performed.
		Manganese		Analysis of constituent not required and not performed.
		Mercury		Analysis of constituent not required and not performed.
		Molybdenum		Analysis of constituent not required and not performed.
		Nickel		Analysis of constituent not required and not performed.
		Potassium		Analysis of constituent not required and not performed.
		Rhodium		Analysis of constituent not required and not performed.
		Selenium		Analysis of constituent not required and not performed.
		Silver		Analysis of constituent not required and not performed.
		Sodium		Analysis of constituent not required and not performed.
		Tantalum		Analysis of constituent not required and not performed.
		Thallium		Analysis of constituent not required and not performed.
		Uranium		Analysis of constituent not required and not performed.

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WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB4SG1-14	Vanadium		Analysis of constituent not required and not performed.
		Zinc		Analysis of constituent not required and not performed.
		PCB, Total		Analysis of constituent not required and not performed.
		PCB-1016		Analysis of constituent not required and not performed.
		PCB-1221		Analysis of constituent not required and not performed.
		PCB-1232		Analysis of constituent not required and not performed.
		PCB-1242		Analysis of constituent not required and not performed.
		PCB-1248		Analysis of constituent not required and not performed.
		PCB-1254		Analysis of constituent not required and not performed.
		PCB-1260		Analysis of constituent not required and not performed.
		PCB-1268		Analysis of constituent not required and not performed.
		Gross alpha		Analysis of constituent not required and not performed.
		Gross beta		Analysis of constituent not required and not performed.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226		Analysis of constituent not required and not performed.
		Strontium-90		Analysis of constituent not required and not performed.
		Technetium-99		Analysis of constituent not required and not performed.
		Thorium-230		Analysis of constituent not required and not performed.
		Tritium		Analysis of constituent not required and not performed.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Iodide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

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WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB5SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Aluminum		Analysis of constituent not required and not performed.
		Antimony		Analysis of constituent not required and not performed.
		Arsenic		Analysis of constituent not required and not performed.
		Barium		Analysis of constituent not required and not performed.
		Beryllium		Analysis of constituent not required and not performed.
		Boron		Analysis of constituent not required and not performed.
		Cadmium		Analysis of constituent not required and not performed.
		Calcium		Analysis of constituent not required and not performed.
		Chromium		Analysis of constituent not required and not performed.
		Cobalt		Analysis of constituent not required and not performed.
		Copper		Analysis of constituent not required and not performed.
		Iron		Analysis of constituent not required and not performed.
		Lead		Analysis of constituent not required and not performed.
		Magnesium		Analysis of constituent not required and not performed.
		Manganese		Analysis of constituent not required and not performed.
		Mercury		Analysis of constituent not required and not performed.
		Molybdenum		Analysis of constituent not required and not performed.
		Nickel		Analysis of constituent not required and not performed.
		Potassium		Analysis of constituent not required and not performed.
		Rhodium		Analysis of constituent not required and not performed.
		Selenium		Analysis of constituent not required and not performed.
		Silver		Analysis of constituent not required and not performed.
		Sodium		Analysis of constituent not required and not performed.
		Tantalum		Analysis of constituent not required and not performed.
		Thallium		Analysis of constituent not required and not performed.
		Uranium		Analysis of constituent not required and not performed.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB5SG1-14	Vanadium		Analysis of constituent not required and not performed.
		Zinc		Analysis of constituent not required and not performed.
		PCB, Total		Analysis of constituent not required and not performed.
		PCB-1016		Analysis of constituent not required and not performed.
		PCB-1221		Analysis of constituent not required and not performed.
		PCB-1232		Analysis of constituent not required and not performed.
		PCB-1242		Analysis of constituent not required and not performed.
		PCB-1248		Analysis of constituent not required and not performed.
		PCB-1254		Analysis of constituent not required and not performed.
		PCB-1260		Analysis of constituent not required and not performed.
		PCB-1268		Analysis of constituent not required and not performed.
		Gross alpha		Analysis of constituent not required and not performed.
		Gross beta		Analysis of constituent not required and not performed.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226		Analysis of constituent not required and not performed.
		Strontium-90		Analysis of constituent not required and not performed.
		Technetium-99		Analysis of constituent not required and not performed.
		Thorium-230		Analysis of constituent not required and not performed.
		Tritium		Analysis of constituent not required and not performed.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Iodide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.
8004-4815 MW387	MW387DSG1-14	Nitrate & Nitrite	*	Duplicate analysis not within control limits.
		Copper	X	Other specific flags and footnotes may be required to properly define the results.
		Nickel	N	Sample spike recovery not within control limits.
		Gross alpha	LU	Expected and measured value for LCS is statistically different at 95% level of confidence. Indicates analyte/nuclide was analyzed for, but not detected. TPU is 1.36. Rad error is 1.05.
		Gross beta		TPU is 18.9. Rad error is 8.56.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.232. Rad error is 0.174.
		Strontium-90	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.204. Rad error is 0.121.
		Technetium-99		TPU is 16. Rad error is 15.4.
		Thorium-230	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 0.117. Rad error is 0.0633.
		Tritium	U	Indicates analyte/nuclide was analyzed for, but not detected. TPU is 638. Rad error is 638.

Division of Waste Management
Solid Waste Branch
14 Reilly Road
Frankfort, KY 40601 (502)564-6716

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number	8004-4815			
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)	387			
Sample Sequence #	2			
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment	NA			
Sample Date and Time (Month/Day/Year hour: minutes)	12/16/2013			
Duplicate ("Y" or "N")[2]	N			
Split ("Y" or "N")[3]	N			
Facility Sample ID Number (if applicable)	MW387SG1-14R			
Laboratory Sample ID Number (if applicable)	C13350014002			
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis	12/17/2013			
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)	DOWN			

CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056		*		*		*		*
16887-00-6		Chloride(s)	T	mg/L	9056		*		*		*		*
16984-48-8		Fluoride	T	mg/L	9214		*		*		*		*
S0595- -		Nitrate & Nitrite	T	mg/L	9056		*		*		*		*
14808-79-8		Sulfate	T	mg/L	9056		*		*		*		*
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field	30.09			*		*		*
S0145- -		Specific Conductance	T	µMH0/cm	Field	579			*		*		*

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4815							
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, BLANK-F, etc.)						387							
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
S0906 - -		Static Water Level Elevation	T	Ft. MSL	Field	324.48			*		*		*
N238		Dissolved Oxygen	T	mg/L	Field	3.76			*		*		*
S0266- -		Total Dissolved Solids	T	mg/L	160.1		*		*		*		*
S0296- -		pH	T	Units	Field	6.33			*		*		*
NS215		Eh	T	mV	Field	895			*		*		*
S0907 - -		Temperature	T	°C	Field	12.89			*		*		*
7429-90-5		Aluminum	T	mg/L	6020		*		*		*		*
7440-36-0		Antimony	T	mg/L	6020		*		*		*		*
7440-38-2		Arsenic	T	mg/L	7060		*		*		*		*
7440-39-3		Barium	T	mg/L	6020		*		*		*		*
7440-41-7		Beryllium	T	mg/L	6020		*		*		*		*
7440-42-8		Boron	T	mg/L	6010		*		*		*		*
7440-43-9		Cadmium	T	mg/L	6020		*		*		*		*
7440-70-2		Calcium	T	mg/L	6010		*		*		*		*
7440-47-3		Chromium	T	mg/L	6020		*		*		*		*
7440-48-4		Cobalt	T	mg/L	6020		*		*		*		*
7440-50-8		Copper	T	mg/L	6020		*		*		*		*
7439-89-6		Iron	T	mg/L	6010		*		*		*		*
7439-92-1		Lead	T	mg/L	6020		*		*		*		*
7439-95-4		Magnesium	T	mg/L	6010		*		*		*		*
7439-96-5		Manganese	T	mg/L	6020		*		*		*		*
7439-97-6		Mercury	T	mg/L	7470		*		*		*		*

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						8004-4815							
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						387							
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260		*		*		*		*
591-78-6		2-Hexanone	T	mg/L	8260		*		*		*		*
74-88-4		Iodomethane	T	mg/L	8260		*		*		*		*
124-48-1		Methane, Dibromochloro-	T	mg/L	8260		*		*		*		*
56-23-5		Carbon Tetrachloride	T	mg/L	8260		*		*		*		*
75-09-2		Dichloromethane	T	mg/L	8260		*		*		*		*
108-10-1		Methyl isobutyl ketone	T	mg/L	8260		*		*		*		*
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.2	*		*		*		*
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260		*		*		*		*
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260		*		*		*		*
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260		*		*		*		*
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260		*		*		*		*
75-69-4		Trichlorofluoromethane	T	mg/L	8260		*		*		*		*
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260		*		*		*		*
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260		*		*		*		*
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260		*		*		*		*
1336-36-3		PCB,Total	T	ug/L	8082		*		*		*		*
12674-11-2		PCB-1016	T	ug/L	8082		*		*		*		*
11104-28-2		PCB-1221	T	ug/L	8082		*		*		*		*
11141-16-5		PCB-1232	T	ug/L	8082		*		*		*		*
53469-21-9		PCB-1242	T	ug/L	8082		*		*		*		*
12672-29-6		PCB-1248	T	ug/L	8082		*		*		*		*

Division of Waste Management
Solid Waste Branch
14 Reilly Road
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RESIDENTIAL/INERT-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS(S)

AKGWA NUMBER[1], Facility Well/Spring Number	0000-0000			
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)	T. BLANK 6			
Sample Sequence #	1			
If sample is a Blank, specify Type: (F)ield, (T)rip, (M)ethod, or (E)quipment	T			
Sample Date and Time (Month/Day/Year hour: minutes)	12/16/2013 09:00			
Duplicate ("Y" or "N")[2]	N			
Split ("Y" or "N")[3]	N			
Facility Sample ID Number (if applicable)	TB11SG1-14			
Laboratory Sample ID Number (if applicable)	C13350014001			
Date of Analysis (Month/Day/Year) For Volatile Organics Analysis	12/17/2013			
Gradient with respect to Monitored Unit (UP, DOWN, SIDE, UNKNOWN)	NA			

CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS[7]	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
24959-67-9		Bromide	T	mg/L	9056		*		*		*		
16887-00-6		Chloride(s)	T	mg/L	9056		*		*		*		
16984-48-8		Fluoride	T	mg/L	9214		*		*		*		
S0595- -		Nitrate & Nitrite	T	mg/L	9056		*		*		*		
14808-79-8		Sulfate	T	mg/L	9056		*		*		*		
NS1894		Barometric Pressure Reading	T	Inches/Hg	Field		*		*		*		
S0145- -		Specific Conductance	T	µMH0/cm	Field		*		*		*		

[1]AKGWA # is 0000-0000 for any type of blank.
[2]Respond "Y" if the sample was a duplicate of another sample in this report.
[3]Respond "Y" if the sample was split and analyzed by separate laboratories.
[4]Chemical Abstracts Service Registry Number or unique identifier number assigned by agency.
[5]"T" = Total; "D" = Dissolved
[6]"<" indicates a non-detect; do not use "ND" or "BDL". Value shown is Practical Quantification Limit.
[7]Flags are as designated, do not use any other type. Use "*," then describe on "Written Comments Page."

STANDARD FLAGS:
* = See Comments
J = Estimated Value
B = Analyte found in blank
A = Average value
N = Presumptive ID
D = Concentration from analysis of a secondary dilution

RESIDENTIAL/CONTAINED-QUARTERLY
Facility: US DOE - Paducah Gaseous Diffusion Plant
Permit Number: 073-00014 & 073-00015

FINDS/UNIT: KY8-890-008-982 / 1
LAB ID: None
For Official Use Only

GROUNDWATER SAMPLE ANALYSIS - (Cont.)

AKGWA NUMBER[1], Facility Well/Spring Number						0000-0000							
Facility's Local Well or Spring Number (e.g., MW-1, MW-2, etc.)						T. BLANK 6							
CAS RN[4]		CONSTITUENT	TD[5]	Unit OF MEASURE	METHOD	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS	DETECTED VALUE OR PQL[6]	FLAGS
100-41-4		Ethylbenzene	T	mg/L	8260		*		*		*		
591-78-6		2-Hexanone	T	mg/L	8260		*		*		*		
74-88-4		Iodomethane	T	mg/L	8260		*		*		*		
124-48-1		Methane, Dibromochloro-	T	mg/L	8260		*		*		*		
56-23-5		Carbon Tetrachloride	T	mg/L	8260		*		*		*		
75-09-2		Dichloromethane	T	mg/L	8260		*		*		*		
108-10-1		Methyl isobutyl ketone	T	mg/L	8260		*		*		*		
96-12-8		Propane, 1,2-Dibromo-3-chloro	T	mg/L	8011	<0.2	*		*		*		
78-87-5		Propane, 1,2-Dichloro-	T	mg/L	8260		*		*		*		
10061-02-6		trans-1,3-Dichloro-1-propene	T	mg/L	8260		*		*		*		
10061-01-5		cis-1,3-Dichloro-1-propene	T	mg/L	8260		*		*		*		
156-60-5		trans-1,2-Dichloroethene	T	mg/L	8260		*		*		*		
75-69-4		Trichlorofluoromethane	T	mg/L	8260		*		*		*		
96-18-4		1,2,3-Trichloropropane	T	mg/L	8260		*		*		*		
95-50-1		Benzene, 1,2-Dichloro-	T	mg/L	8260		*		*		*		
106-46-7		Benzene, 1,4-Dichloro-	T	mg/L	8260		*		*		*		
1336-36-3		PCB,Total	T	ug/L	8082		*		*		*		
12674-11-2		PCB-1016	T	ug/L	8082		*		*		*		
11104-28-2		PCB-1221	T	ug/L	8082		*		*		*		
11141-16-5		PCB-1232	T	ug/L	8082		*		*		*		
53469-21-9		PCB-1242	T	ug/L	8082		*		*		*		
12672-29-6		PCB-1248	T	ug/L	8082		*		*		*		

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4815 MW387	MW387SG1-14R	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		Aluminum		Analysis of constituent not required and not performed.
		Antimony		Analysis of constituent not required and not performed.
		Arsenic		Analysis of constituent not required and not performed.
		Barium		Analysis of constituent not required and not performed.
		Beryllium		Analysis of constituent not required and not performed.
		Boron		Analysis of constituent not required and not performed.
		Cadmium		Analysis of constituent not required and not performed.
		Calcium		Analysis of constituent not required and not performed.
		Chromium		Analysis of constituent not required and not performed.
		Cobalt		Analysis of constituent not required and not performed.
		Copper		Analysis of constituent not required and not performed.
		Iron		Analysis of constituent not required and not performed.
		Lead		Analysis of constituent not required and not performed.
		Magnesium		Analysis of constituent not required and not performed.
		Manganese		Analysis of constituent not required and not performed.
		Mercury		Analysis of constituent not required and not performed.
		Molybdenum		Analysis of constituent not required and not performed.
		Nickel		Analysis of constituent not required and not performed.
		Potassium		Analysis of constituent not required and not performed.
		Rhodium		Analysis of constituent not required and not performed.
		Selenium		Analysis of constituent not required and not performed.
		Silver		Analysis of constituent not required and not performed.
		Sodium		Analysis of constituent not required and not performed.
		Tantalum		Analysis of constituent not required and not performed.
		Thallium		Analysis of constituent not required and not performed.
		Uranium		Analysis of constituent not required and not performed.
		Vanadium		Analysis of constituent not required and not performed.
		Zinc		Analysis of constituent not required and not performed.
		Vinyl acetate		Analysis of constituent not required and not performed.
		Acetone		Analysis of constituent not required and not performed.
		Acrolein		Analysis of constituent not required and not performed.
		Acrylonitrile		Analysis of constituent not required and not performed.
		Benzene		Analysis of constituent not required and not performed.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4815 MW387	MW387SG1-14R	Chlorobenzene		Analysis of constituent not required and not performed.
		Xylenes		Analysis of constituent not required and not performed.
		Styrene		Analysis of constituent not required and not performed.
		Toluene		Analysis of constituent not required and not performed.
		Chlorobromomethane		Analysis of constituent not required and not performed.
		Bromodichloromethane		Analysis of constituent not required and not performed.
		Tribromomethane		Analysis of constituent not required and not performed.
		Methyl bromide		Analysis of constituent not required and not performed.
		Methyl Ethyl Ketone		Analysis of constituent not required and not performed.
		trans-1,4-Dichloro-2-butene		Analysis of constituent not required and not performed.
		Carbon disulfide		Analysis of constituent not required and not performed.
		Chloroethane		Analysis of constituent not required and not performed.
		Chloroform		Analysis of constituent not required and not performed.
		Methyl chloride		Analysis of constituent not required and not performed.
		cis-1,2-Dichloroethene		Analysis of constituent not required and not performed.
		Methylene bromide		Analysis of constituent not required and not performed.
		1,1-Dichloroethane		Analysis of constituent not required and not performed.
		1,2-Dichloroethane		Analysis of constituent not required and not performed.
		1,1-Dichloroethylene		Analysis of constituent not required and not performed.
		1,2-Dibromoethane		Analysis of constituent not required and not performed.
		1,1,2,2-Tetrachloroethane		Analysis of constituent not required and not performed.
		1,1,1-Trichloroethane		Analysis of constituent not required and not performed.
		1,1,2-Trichloroethane		Analysis of constituent not required and not performed.
		1,1,1,2-Tetrachloroethane		Analysis of constituent not required and not performed.
		Vinyl chloride		Analysis of constituent not required and not performed.
		Tetrachloroethene		Analysis of constituent not required and not performed.
		Trichloroethene		Analysis of constituent not required and not performed.
		Ethylbenzene		Analysis of constituent not required and not performed.
		2-Hexanone		Analysis of constituent not required and not performed.
		Iodomethane		Analysis of constituent not required and not performed.
		Dibromochloromethane		Analysis of constituent not required and not performed.
		Carbon tetrachloride		Analysis of constituent not required and not performed.
		Dichloromethane		Analysis of constituent not required and not performed.
		Methyl Isobutyl Ketone		Analysis of constituent not required and not performed.
		1,2-Dibromo-3-chloropropane	X	Other specific flags and footnotes may be required to properly define the results.
		1,2-Dichloropropane		Analysis of constituent not required and not performed.
		trans-1,3-Dichloropropene		Analysis of constituent not required and not performed.
		cis-1,3-Dichloropropene		Analysis of constituent not required and not performed.
		trans-1,2-Dichloroethene		Analysis of constituent not required and not performed.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
8004-4815 MW387	MW387SG1-14R	Trichlorofluoromethane		Analysis of constituent not required and not performed.
		1,2,3-Trichloropropane		Analysis of constituent not required and not performed.
		1,2-Dichlorobenzene		Analysis of constituent not required and not performed.
		1,4-Dichlorobenzene		Analysis of constituent not required and not performed.
		PCB, Total		Analysis of constituent not required and not performed.
		PCB-1016		Analysis of constituent not required and not performed.
		PCB-1221		Analysis of constituent not required and not performed.
		PCB-1232		Analysis of constituent not required and not performed.
		PCB-1242		Analysis of constituent not required and not performed.
		PCB-1248		Analysis of constituent not required and not performed.
		PCB-1254		Analysis of constituent not required and not performed.
		PCB-1260		Analysis of constituent not required and not performed.
		PCB-1268		Analysis of constituent not required and not performed.
		Gross alpha		Analysis of constituent not required and not performed.
		Gross beta		Analysis of constituent not required and not performed.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226		Analysis of constituent not required and not performed.
		Strontium-90		Analysis of constituent not required and not performed.
		Technetium-99		Analysis of constituent not required and not performed.
		Thorium-230		Analysis of constituent not required and not performed.
		Tritium		Analysis of constituent not required and not performed.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Iodide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB11SG1-14	Bromide		Analysis of constituent not required and not performed.
		Chloride		Analysis of constituent not required and not performed.
		Fluoride		Analysis of constituent not required and not performed.
		Nitrate & Nitrite		Analysis of constituent not required and not performed.
		Sulfate		Analysis of constituent not required and not performed.
		Barometric Pressure Reading		Analysis of constituent not required and not performed.
		Specific Conductance		Analysis of constituent not required and not performed.
		Static Water Level Elevation		Analysis of constituent not required and not performed.
		Dissolved Oxygen		Analysis of constituent not required and not performed.
		Total Dissolved Solids		Analysis of constituent not required and not performed.
		pH		Analysis of constituent not required and not performed.
		Eh		Analysis of constituent not required and not performed.
		Temperature		Analysis of constituent not required and not performed.
		Aluminum		Analysis of constituent not required and not performed.
		Antimony		Analysis of constituent not required and not performed.
		Arsenic		Analysis of constituent not required and not performed.
		Barium		Analysis of constituent not required and not performed.
		Beryllium		Analysis of constituent not required and not performed.
		Boron		Analysis of constituent not required and not performed.
		Cadmium		Analysis of constituent not required and not performed.
		Calcium		Analysis of constituent not required and not performed.
		Chromium		Analysis of constituent not required and not performed.
		Cobalt		Analysis of constituent not required and not performed.
		Copper		Analysis of constituent not required and not performed.
		Iron		Analysis of constituent not required and not performed.
		Lead		Analysis of constituent not required and not performed.
		Magnesium		Analysis of constituent not required and not performed.
		Manganese		Analysis of constituent not required and not performed.
		Mercury		Analysis of constituent not required and not performed.
		Molybdenum		Analysis of constituent not required and not performed.
		Nickel		Analysis of constituent not required and not performed.
		Potassium		Analysis of constituent not required and not performed.
		Rhodium		Analysis of constituent not required and not performed.
		Selenium		Analysis of constituent not required and not performed.
		Silver		Analysis of constituent not required and not performed.
		Sodium		Analysis of constituent not required and not performed.
		Tantalum		Analysis of constituent not required and not performed.
		Thallium		Analysis of constituent not required and not performed.
		Uranium		Analysis of constituent not required and not performed.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB11SG1-14	Vanadium		Analysis of constituent not required and not performed.
		Zinc		Analysis of constituent not required and not performed.
		Vinyl acetate		Analysis of constituent not required and not performed.
		Acetone		Analysis of constituent not required and not performed.
		Acrolein		Analysis of constituent not required and not performed.
		Acrylonitrile		Analysis of constituent not required and not performed.
		Benzene		Analysis of constituent not required and not performed.
		Chlorobenzene		Analysis of constituent not required and not performed.
		Xylenes		Analysis of constituent not required and not performed.
		Styrene		Analysis of constituent not required and not performed.
		Toluene		Analysis of constituent not required and not performed.
		Chlorobromomethane		Analysis of constituent not required and not performed.
		Bromodichloromethane		Analysis of constituent not required and not performed.
		Tribromomethane		Analysis of constituent not required and not performed.
		Methyl bromide		Analysis of constituent not required and not performed.
		Methyl Ethyl Ketone		Analysis of constituent not required and not performed.
		trans-1,4-Dichloro-2-butene		Analysis of constituent not required and not performed.
		Carbon disulfide		Analysis of constituent not required and not performed.
		Chloroethane		Analysis of constituent not required and not performed.
		Chloroform		Analysis of constituent not required and not performed.
		Methyl chloride		Analysis of constituent not required and not performed.
		cis-1,2-Dichloroethene		Analysis of constituent not required and not performed.
		Methylene bromide		Analysis of constituent not required and not performed.
		1,1-Dichloroethane		Analysis of constituent not required and not performed.
		1,2-Dichloroethane		Analysis of constituent not required and not performed.
		1,1-Dichloroethylene		Analysis of constituent not required and not performed.
		1,2-Dibromoethane		Analysis of constituent not required and not performed.
		1,1,2,2-Tetrachloroethane		Analysis of constituent not required and not performed.
		1,1,1-Trichloroethane		Analysis of constituent not required and not performed.
		1,1,2-Trichloroethane		Analysis of constituent not required and not performed.
		1,1,1,2-Tetrachloroethane		Analysis of constituent not required and not performed.
		Vinyl chloride		Analysis of constituent not required and not performed.
		Tetrachloroethene		Analysis of constituent not required and not performed.
		Trichloroethene		Analysis of constituent not required and not performed.
		Ethylbenzene		Analysis of constituent not required and not performed.
		2-Hexanone		Analysis of constituent not required and not performed.
		Iodomethane		Analysis of constituent not required and not performed.
		Dibromochloromethane		Analysis of constituent not required and not performed.
		Carbon tetrachloride		Analysis of constituent not required and not performed.

RESIDENTIAL/INERT – QUARTERLY Finds/Unit: KY8-890-008-982 / 1

Facility: US DOE - Paducah Gaseous Diffusion Plant LAB ID:None

Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER
WRITTEN COMMENTS

Monitoring Point	Facility Sample ID	Constituent	Flag	Description
0000-0000 QC	TB11SG1-14	Dichloromethane		Analysis of constituent not required and not performed.
		Methyl Isobutyl Ketone		Analysis of constituent not required and not performed.
		1,2-Dibromo-3-chloropropane	X	Other specific flags and footnotes may be required to properly define the results.
		1,2-Dichloropropane		Analysis of constituent not required and not performed.
		trans-1,3-Dichloropropene		Analysis of constituent not required and not performed.
		cis-1,3-Dichloropropene		Analysis of constituent not required and not performed.
		trans-1,2-Dichloroethene		Analysis of constituent not required and not performed.
		Trichlorofluoromethane		Analysis of constituent not required and not performed.
		1,2,3-Trichloropropane		Analysis of constituent not required and not performed.
		1,2-Dichlorobenzene		Analysis of constituent not required and not performed.
		1,4-Dichlorobenzene		Analysis of constituent not required and not performed.
		PCB, Total		Analysis of constituent not required and not performed.
		PCB-1016		Analysis of constituent not required and not performed.
		PCB-1221		Analysis of constituent not required and not performed.
		PCB-1232		Analysis of constituent not required and not performed.
		PCB-1242		Analysis of constituent not required and not performed.
		PCB-1248		Analysis of constituent not required and not performed.
		PCB-1254		Analysis of constituent not required and not performed.
		PCB-1260		Analysis of constituent not required and not performed.
		PCB-1268		Analysis of constituent not required and not performed.
		Gross alpha		Analysis of constituent not required and not performed.
		Gross beta		Analysis of constituent not required and not performed.
		Iodine-131		Analysis of constituent not required and not performed.
		Radium-226		Analysis of constituent not required and not performed.
		Strontium-90		Analysis of constituent not required and not performed.
		Technetium-99		Analysis of constituent not required and not performed.
		Thorium-230		Analysis of constituent not required and not performed.
		Tritium		Analysis of constituent not required and not performed.
		Chemical Oxygen Demand		Analysis of constituent not required and not performed.
		Cyanide		Analysis of constituent not required and not performed.
		Iodide		Analysis of constituent not required and not performed.
		Total Organic Carbon		Analysis of constituent not required and not performed.
		Total Organic Halides		Analysis of constituent not required and not performed.

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APPENDIX D

STATISTICAL ANALYSES AND QUALIFICATION STATEMENT

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RESIDENTIAL/INERT – QUARTERLY, 4th Quarter 2013 Finds/Unit: _____
Facility: U.S. DOE – Paducah Gaseous Diffusion Plant Lab ID: None
Permit Numbers: 073-00014 and 073-00015 For Official Use Only

GROUNDWATER STATISTICAL COMMENTS

Introduction

The statistical analyses conducted on the fourth quarter 2013 groundwater data collected from the C-746-S&T Landfills monitoring wells (MWs) were performed in accordance with Permit Condition GSTR0003, Standard Requirement 3, using the U.S. Environmental Protection Agency (EPA) guidance document, *EPA Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance* (1989), with the exception of pH. The method for conducting the statistical analysis of pH was selected by the statistician.

The statistical evaluation was conducted separately for the three groundwater systems: the Upper Continental Recharge System (UCRS), the Upper Regional Gravel Aquifer (URGA), and the Lower Regional Gravel Aquifer (LRGA). For each groundwater system, data included a minimum of one background well for comparison with at least three test wells (Exhibit 1). The fourth quarter 2013 data used to conduct the statistical analyses were sampled in October and December 2013. The statistical analyses for this report utilize data from the first eight quarters that were sampled for each parameter, beginning with the first two baseline sampling events in 2002, when available. The sampling dates associated with background data are listed next to the result in the statistical analysis sheets of this appendix.

Statistical Analysis Process

For chemicals with established maximum contaminant levels (MCLs), no statistical analysis was performed. Parameters that have MCLs can be found in 401 *KAR* 47:030 § 6. For parameters with no established MCL, the data are divided into censored and uncensored observations. The one-sided tolerance interval statistical test is conducted only on parameters that have at least one uncensored (detected) observation. Results of the one-sided tolerance interval statistical test conclude whether the data show a statistically significant increase of concentrations with respect to upgradient (background) well data. For the statistical analysis of pH, a two-sided tolerance interval statistical test was conducted. The test well results were compared to both an upper and lower tolerance limit to determine if statistically significant deviations in concentrations exist with respect to upgradient (background) well data. The tolerance interval statistical analysis was conducted separately for each parameter in each well (no pooling of downgradient data).

Statistical analyses are performed on historical background data, not on data from the current quarter. Once a statistical result is obtained using the background data, the data from the current quarter is compared to that value. If the value is exceeded, the well has a statistically significant increase in concentration compared to the background concentration.

A stepwise list of the one-sided tolerance interval statistical procedure applied to the data is summarized below:[1]

1. The tolerance limit (TL) was calculated for the background data.

    - For each parameter, the first eight sampling events results were used to establish a baseline. On this data set, the mean (X) and the standard deviation (S) were computed.

    - The data set was checked for normality using coefficient of variation (CV). If CV ≤ 1.0, then the data are assumed to be potentially normally distributed. Data sets with CV > 1.0 are assumed to be log-normally distributed; the data are log-transformed and analyzed.

    - The factor (K) for one-sided upper tolerance limit with 95% minimum coverage was determined (Table 5, Appendix B; *EPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance*, 1989) based on the number of background data points.

    - The one-sided upper tolerance limit was calculated using the following equation:
      $TL = X + (K \times S)$

2. Each observation from downgradient wells was compared to the calculated one-sided upper tolerance limit in Step 1. If an observation value exceeds the tolerance limit, then there is statistically significant evidence that the well has increased concentration with respect to background data.

Type of Data Used

Exhibit 1 presents the upgradient or background wells (identified as "BG"), the downgradient or test wells (identified as "TW"), and the sidegradient wells (identified as "SG") for the C-746-S&T Residential/Inert Landfills. Exhibit 2 presents the parameters from the available data set and the statistical test performed using the one-sided tolerance interval.

Excluding parameters which have an MCL, Exhibits 3, 4, and 5 list the number of analyses (observations), nondetects (censored observations), detects (uncensored observations), and missing observations by parameter in the UCRS, the URGA, and the LRGA, respectively. Those parameters displayed with bold-face type indicate the one-sided tolerance interval statistical test was performed. The data presented in Exhibits 3, 4, and 5 were collected during the current quarter, fourth quarter 2013. The observations that are listed are not background data. Background data are presented on pages D-23 through D-80. The sampling dates associated with background data are listed next to the result on pages D-23 through D-80. When field duplicate data are available, the higher of the two readings is retained for further evaluation.

[1] For pH, two-sided TLs (upper and lower) were calculated with an adjusted K factor using the following equations:
upper $TL = X + (K \times S)$
lower $TL = X - (K \times S)$

Exhibit 1. Station Identification for Monitoring Wells Analyzed

Station	Type	Aquifer
MW220	BG	URGA
MW221	SG	URGA
MW222	SG	URGA
MW223	SG	URGA
MW224	SG	URGA
MW369	TW	URGA
MW370	TW	LRGA
MW372	TW	URGA
MW373	TW	LRGA
MW384	SG	URGA
MW385	SG	LRGA
MW386	SG	UCRS
MW387	TW	URGA
MW388	TW	LRGA
MW389*	TW	UCRS
MW390	TW	UCRS
MW391	TW	URGA
MW392	TW	LRGA
MW393	TW	UCRS
MW394	BG	URGA
MW395	BG	LRGA
MW396	BG	UCRS
MW397	BG	LRGA

BG: upgradient or background wells
TW: downgradient or test wells
SG: sidegradient wells
*Well was dry this quarter.

Exhibit 2. List of Parameters Tested Using the Tolerance Level Test

Analysis
Aluminum
Boron
Calcium
Chloride
Cobalt
Conductivity
Dissolved Oxygen
Dissolved Solids
Iron
Magnesium
Manganese
Molybdenum
Nickel
Oxidation-Reduction Potential
pH*
Potassium
Sodium
Sulfate
Technetium-99
Total Organic Carbon (TOC)
Total Organic Halides (TOX)

*****For pH, the test well results were compared to both an upper and lower TL to determine if statistically significant deviations exist in concentrations with respect to upgradient well data.

Exhibit 3. Summary of Missing, Censored, and Uncensored Data–UCRS

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	4	0	4	0	No
1,1,2,2-Tetrachloroethane	4	0	4	0	No
1,1,2-Trichloroethane	4	0	4	0	No
1,1-Dichloroethane	4	0	4	0	No
1,2,3-Trichloropropane	4	0	4	0	No
1,2-Dibromo-3-chloropropane	4	0	4	0	No
1,2-Dibromoethane	4	0	4	0	No
1,2-Dichlorobenzene	4	0	4	0	No
1,2-Dichloropropane	4	0	4	0	No
2-Butanone	4	0	4	0	No
2-Hexanone	4	0	4	0	No
4-Methyl-2-pentanone	4	0	4	0	No
Acetone	4	0	4	0	No
Acrolein	4	0	4	0	No
Acrylonitrile	4	0	4	0	No
Aluminum	**4**	**0**	**3**	**1**	**YES**
Antimony	4	0	4	0	No
Beryllium	4	0	4	0	No
Boron	4	0	4	0	No
Bromide	4	0	4	0	No
Bromochloromethane	4	0	4	0	No
Bromodichloromethane	4	0	4	0	No
Bromoform	4	0	4	0	No
Bromomethane	4	0	4	0	No
Calcium	**4**	**0**	**0**	**4**	**YES**
Carbon disulfide	4	0	4	0	No
Chemical Oxygen Demand (COD)	4	0	4	0	No
Chloride	**4**	**0**	**0**	**4**	**YES**
Chlorobenzene	4	0	4	0	No
Chloroethane	4	0	4	0	No
Chloroform	4	0	4	0	No
Chloromethane	4	0	4	0	No
cis-1,2-Dichloroethene	4	0	4	0	No
cis-1,3-Dichloropropene	4	0	4	0	No
Cobalt	**4**	**0**	**3**	**1**	**YES**
Conductivity	**4**	**0**	**0**	**4**	**YES**
Copper	4	0	4	0	No
Cyanide	4	0	4	0	No

Exhibit 3. Summary of Missing, Censored, and Uncensored Data–UCRS (Continued)

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
Dibromochloromethane	4	0	4	0	No
Dibromomethane	4	0	4	0	No
Dimethylbenzene, Total	4	0	4	0	No
Dissolved Oxygen	**4**	**0**	**0**	**4**	**YES**
Dissolved Solids	**4**	**0**	**0**	**4**	**YES**
Ethylbenzene	4	0	4	0	No
Iodide	4	0	4	0	No
Iodomethane	4	0	4	0	No
Iron	**4**	**0**	**0**	**4**	**YES**
Magnesium	**4**	**0**	**0**	**4**	**YES**
Manganese	**4**	**0**	**0**	**4**	**YES**
Methylene chloride	4	0	4	0	No
Molybdenum	4	0	4	0	No
Nickel	4	0	4	0	No
Oxidation-Reduction Potential	**4**	**0**	**0**	**4**	**YES**
PCB, Total	4	4	0	0	No
PCB-1016	4	4	0	0	No
PCB-1221	4	4	0	0	No
PCB-1232	4	4	0	0	No
PCB-1242	4	4	0	0	No
PCB-1248	4	4	0	0	No
PCB-1254	4	4	0	0	No
PCB-1260	4	4	0	0	No
PCB-1268	4	4	0	0	No
pH	**4**	**0**	**0**	**4**	**YES**
Potassium	**4**	**0**	**0**	**4**	**YES**
Radium-226	4	0	4	0	No
Rhodium	4	0	4	0	No
Sodium	**4**	**0**	**0**	**4**	**YES**
Styrene	4	0	4	0	No
Sulfate	**4**	**0**	**0**	**4**	**YES**
Tantalum	4	0	4	0	No
Technetium-99	**4**	**0**	**3**	**1**	**YES**
Tetrachloroethene	4	0	4	0	No
Thallium	4	0	4	0	No
Thorium-230	4	0	4	0	No
Toluene	4	0	4	0	No
Total Organic Carbon (TOC)	**4**	**0**	**0**	**4**	**YES**
Total Organic Halides (TOX)	**4**	**0**	**0**	**4**	**YES**
trans-1,2-Dichloroethene	4	0	4	0	No
trans-1,3-Dichloropropene	4	0	4	0	No

Exhibit 3. Summary of Missing, Censored, and Uncensored Data–UCRS (Continued)

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
trans-1,4-Dichloro-2-butene	4	0	4	0	No
Trichlorofluoromethane	4	0	4	0	No
Uranium	4	0	4	0	No
Vanadium	4	0	4	0	No
Vinyl acetate	4	0	4	0	No
Zinc	4	0	4	0	No

Bold denotes parameters with at least one uncensored observation.

Exhibit 4. Summary of Missing, Censored, and Uncensored Data–URGA

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	11	0	11	0	No
1,1,2,2-Tetrachloroethane	11	0	11	0	No
1,1,2-Trichloroethane	11	0	11	0	No
1,1-Dichloroethane	11	0	11	0	No
1,2,3-Trichloropropane	11	0	11	0	No
1,2-Dibromo-3-chloropropane	11	0	11	0	No
1,2-Dibromoethane	11	0	11	0	No
1,2-Dichlorobenzene	11	0	11	0	No
1,2-Dichloropropane	11	0	11	0	No
2-Butanone	11	0	11	0	No
2-Hexanone	11	0	11	0	No
4-Methyl-2-pentanone	11	0	11	0	No
Acetone	11	0	11	0	No
Acrolein	11	0	11	0	No
Acrylonitrile	11	0	11	0	No
Aluminum	**11**	**0**	**10**	**1**	**YES**
Antimony	11	0	11	0	No
Beryllium	11	0	11	0	No
Boron	**11**	**0**	**10**	**1**	**YES**
Bromide	11	0	11	0	No
Bromochloromethane	11	0	11	0	No
Bromodichloromethane	11	0	11	0	No
Bromoform	11	0	11	0	No
Bromomethane	11	0	11	0	No
Calcium	**11**	**0**	**0**	**11**	**YES**
Carbon disulfide	11	0	11	0	No
Chemical Oxygen Demand (COD)	11	0	11	0	No
Chloride	**11**	**0**	**0**	**11**	**YES**
Chlorobenzene	11	0	11	0	No
Chloroethane	11	0	11	0	No
Chloroform	11	0	11	0	No
Chloromethane	11	0	11	0	No
cis-1,2-Dichloroethene	11	0	11	0	No
cis-1,3-Dichloropropene	11	0	11	0	No
Cobalt	**11**	**0**	**8**	**3**	**YES**
Conductivity	**11**	**0**	**0**	**11**	**YES**
Copper	11	0	11	0	No
Cyanide	11	0	11	0	No

Exhibit 4. Summary of Missing, Censored, and Uncensored Data–URGA (Continued)

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
Dibromochloromethane	11	0	11	0	No
Dibromomethane	11	0	11	0	No
Dimethylbenzene, Total	11	0	11	0	No
Dissolved Oxygen	**11**	**0**	**0**	**11**	**YES**
Dissolved Solids	**11**	**0**	**0**	**11**	**YES**
Ethylbenzene	11	0	11	0	No
Iodide	11	0	11	0	No
Iodomethane	11	0	11	0	No
Iron	**11**	**0**	**6**	**5**	**YES**
Magnesium	**11**	**0**	**0**	**11**	**YES**
Manganese	**11**	**0**	**4**	**7**	**YES**
Methylene chloride	11	0	11	0	No
Molybdenum	**11**	**0**	**8**	**3**	**YES**
Nickel	**11**	**0**	**5**	**6**	**YES**
Oxidation-Reduction Potential	**11**	**0**	**0**	**11**	**YES**
PCB, Total	11	0	11	0	No
PCB-1016	11	0	11	0	No
PCB-1221	11	0	11	0	No
PCB-1232	11	0	11	0	No
PCB-1242	11	0	11	0	No
PCB-1248	11	0	11	0	No
PCB-1254	11	0	11	0	No
PCB-1260	11	0	11	0	No
PCB-1268	11	0	11	0	No
pH	**11**	**0**	**0**	**11**	**YES**
Potassium	**11**	**0**	**0**	**11**	**YES**
Radium-226	11	0	11	0	No
Rhodium	11	0	11	0	No
Sodium	**11**	**0**	**0**	**11**	**YES**
Styrene	11	0	11	0	No
Sulfate	**11**	**0**	**0**	**11**	**YES**
Tantalum	11	0	11	0	No
Technetium-99	**11**	**0**	**6**	**5**	**YES**
Tetrachloroethene	11	0	11	0	No
Thallium	11	0	11	0	No
Thorium-230	11	0	11	0	No
Toluene	11	0	11	0	No
Total Organic Carbon (TOC)	**11**	**0**	**10**	**1**	**YES**
Total Organic Halides (TOX)	**11**	**0**	**0**	**11**	**YES**
trans-1,2-Dichloroethene	11	0	11	0	No
trans-1,3-Dichloropropene	11	0	11	0	No

Exhibit 4. Summary of Missing, Censored, and Uncensored Data–URGA (Continued)

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
trans-1,4-Dichloro-2-butene	11	0	11	0	No
Trichlorofluoromethane	11	0	11	0	No
Uranium	11	0	11	0	No
Vanadium	11	0	11	0	No
Vinyl acetate	11	0	11	0	No
Zinc	**11**	**0**	**10**	**1**	**YES**

Bold denotes parameters with at least one uncensored observation.

Exhibit 5. Summary of Missing, Censored, and Uncensored Data–LRGA

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
1,1,1,2-Tetrachloroethane	7	0	7	0	No
1,1,2,2-Tetrachloroethane	7	0	7	0	No
1,1,2-Trichloroethane	7	0	7	0	No
1,1-Dichloroethane	7	0	7	0	No
1,2,3-Trichloropropane	7	0	7	0	No
1,2-Dibromo-3-chloropropane	7	0	7	0	No
1,2-Dibromoethane	7	0	7	0	No
1,2-Dichlorobenzene	7	0	7	0	No
1,2-Dichloropropane	7	0	7	0	No
2-Butanone	7	0	7	0	No
2-Hexanone	7	0	7	0	No
4-Methyl-2-pentanone	7	0	7	0	No
Acetone	7	0	7	0	No
Acrolein	7	0	7	0	No
Acrylonitrile	7	0	7	0	No
Aluminum	7	0	7	0	No
Antimony	7	0	7	0	No
Beryllium	7	0	7	0	No
Boron	**7**	**0**	**6**	**1**	**YES**
Bromide	7	0	7	0	No
Bromochloromethane	7	0	7	0	No
Bromodichloromethane	7	0	7	0	No
Bromoform	7	0	7	0	No
Bromomethane	7	0	7	0	No
Calcium	**7**	**0**	**0**	**7**	**YES**
Carbon disulfide	7	0	7	0	No
Chemical Oxygen Demand (COD)	7	0	7	0	No
Chloride	**7**	**0**	**0**	**7**	**YES**
Chlorobenzene	7	0	7	0	No
Chloroethane	7	0	7	0	No
Chloroform	7	0	7	0	No
Chloromethane	7	0	7	0	No
cis-1,2-Dichloroethene	7	0	7	0	No
cis-1,3-Dichloropropene	7	0	7	0	No
Cobalt	7	0	7	0	No
Conductivity	**7**	**0**	**0**	**7**	**YES**
Copper	7	0	7	0	No
Cyanide	7	0	7	0	No

Exhibit 5. Summary of Missing, Censored, and Uncensored Data–LRGA (Continued)

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
Dibromochloromethane	7	0	7	0	No
Dibromomethane	7	0	7	0	No
Dimethylbenzene, Total	7	0	7	0	No
Dissolved Oxygen	**7**	**0**	**0**	**7**	**YES**
Dissolved Solids	**7**	**0**	**0**	**7**	**YES**
Ethylbenzene	7	0	7	0	No
Iodide	7	0	7	0	No
Iodomethane	7	0	7	0	No
Iron	**7**	**0**	**6**	**1**	**YES**
Magnesium	**7**	**0**	**0**	**7**	**YES**
Manganese	**7**	**0**	**5**	**2**	**YES**
Methylene chloride	7	0	7	0	No
Molybdenum	7	0	7	0	No
Nickel	7	0	7	0	No
Oxidation-Reduction Potential	**7**	**0**	**0**	**7**	**YES**
PCB, Total	7	5	2	0	No
PCB-1016	7	5	2	0	No
PCB-1221	7	5	2	0	No
PCB-1232	7	5	2	0	No
PCB-1242	7	5	2	0	No
PCB-1248	7	5	2	0	No
PCB-1254	7	5	2	0	No
PCB-1260	7	5	2	0	No
PCB-1268	7	5	2	0	No
pH	**7**	**0**	**0**	**7**	**YES**
Potassium	**7**	**0**	**0**	**7**	**YES**
Radium-226	7	0	7	0	No
Rhodium	7	0	7	0	No
Sodium	**7**	**0**	**0**	**7**	**YES**
Styrene	7	0	7	0	No
Sulfate	**7**	**0**	**0**	**7**	**YES**
Tantalum	7	0	7	0	No
Technetium-99	**7**	**0**	**3**	**4**	**YES**
Tetrachloroethene	7	0	7	0	No
Thallium	7	0	7	0	No
Thorium-230	7	0	7	0	No
Toluene	7	0	7	0	No
Total Organic Carbon (TOC)	**7**	**0**	**6**	**1**	**YES**
Total Organic Halides (TOX)	**7**	**0**	**0**	**7**	**YES**
trans-1,2-Dichloroethene	7	0	7	0	No

Exhibit 5. Summary of Missing, Censored, and Uncensored Data–LRGA (Continued)

Parameters	Observations	Missing Observation	Censored Observation	Uncensored Observation	Statistical Analysis?
trans-1,3-Dichloropropene	7	0	7	0	No
trans-1,4-Dichloro-2-butene	7	0	7	0	No
Trichlorofluoromethane	7	0	7	0	No
Uranium	7	0	7	0	No
Vanadium	7	0	7	0	No
Vinyl acetate	7	0	7	0	No
Zinc	7	0	7	0	No

Bold denotes parameters with at least one uncensored observation

Discussion of Results

For the UCRS, URGA, and LRGA, the results of the tolerance interval tests are presented on pages D-23 through D-80 and the statistician qualification statement is presented on page D-81. For the UCRS, URGA, and LRGA, the test was applied to 18, 23, and 17 parameters, respectively, listed in Exhibits 3, 4, and 5. A summary of statistical exceedances by well number is shown in Exhibit 6.

UCRS

In this quarter, statistical test results indicated there were statistically significant increases for chloride, oxidation-reduction potential, and technetium-99.

URGA

In this quarter, statistical test results indicated there were statistically significant increases for calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99.

LRGA

In this quarter, statistical test results indicated there were statistically significant increases for calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, and technetium-99.

Conclusion

Summaries of the statistical tests conducted on data obtained from wells in the UCRS, the URGA, and the LRGA are presented in Exhibit 7, Exhibit 8, and Exhibit 9, respectively.

Exhibit 6. Summary of Statistically Significant Increases

UCRS	URGA	LRGA
MW390: chloride, oxidation-reduction potential, technetium-99	MW221: oxidation-reduction potential	MW370: oxidation-reduction potential, sulfate
MW393: oxidation-reduction potential	MW222: oxidation-reduction potential	MW373: calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, technetium-99
	MW223: oxidation-reduction potential	MW385: oxidation-reduction potential, sulfate, technetium-99
	MW224: oxidation-reduction potential	MW388: oxidation-reduction potential, sulfate, technetium-99
	MW369: oxidation-reduction potential	MW392: oxidation-reduction potential
	MW372: calcium, conductivity, dissolved solids, magnesium, oxidation-reduction potential, sodium, sulfate, technetium-99	
	MW384: oxidation-reduction potential, sulfate, technetium-99	
	MW387: oxidation-reduction potential, sulfate, technetium-99	
	MW391: oxidation-reduction potential	

Exhibit 7. Summary of Parameters Identified for Statistical Analysis and the Test Results—UCRS

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Aluminum	Tolerance Interval	0.57	No statistically significant increases relative to background data
Calcium	Tolerance Interval	0.20	No statistically significant increases relative to background data
Chloride	Tolerance Interval	0.05	Statistically significant increase relative to background data in MW390
Cobalt	Tolerance Interval	1.34	No statistically significant increases relative to background data
Conductivity	Tolerance Interval	0.12	No statistically significant increases relative to background data
Dissolved Oxygen	Tolerance Interval	1.20	No statistically significant increases relative to background data
Dissolved Solids	Tolerance Interval	0.19	No statistically significant increases relative to background data
Iron	Tolerance Interval	0.48	No statistically significant increases relative to background data
Magnesium	Tolerance Interval	0.20	No statistically significant increases relative to background data
Manganese	Tolerance Interval	0.46	No statistically significant increases relative to background data
Oxidation-Reduction Potential	Tolerance Interval	4.77	Statistically significant increases relative to background data in MW390 and MW393
pH	Tolerance Interval	0.05	No statistically significant deviations relative to background data
Potassium	Tolerance Interval	0.28	No statistically significant increases relative to background data
Sodium	Tolerance Interval	0.30	No statistically significant increases relative to background data
Sulfate	Tolerance Interval	0.40	No statistically significant increases relative to background data
Technetium-99	Tolerance Interval	0.86	Statistically significant increase relative to background data in MW390

Exhibit 7. Summary of Parameters Identified for Statistical Analysis and the Test Results—UCRS (Continued)

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Total Organic Carbon	Tolerance Interval	0.47	No statistically significant increases relative to background data
Total Organic Halides	Tolerance Interval	0.38	No statistically significant increases relative to background data

CV: coefficient of variation

Exhibit 8. Summary of Parameters Identified for Statistical Analysis and the Test Results—URGA

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Aluminum	Tolerance Interval	0.28	No statistically significant increases relative to background data
Boron	Tolerance Interval	1.45	No statistically significant increases relative to background data
Calcium	Tolerance Interval	0.17	Statistically significant increase relative to background data in MW372
Chloride	Tolerance Interval	0.23	No statistically significant increases relative to background data
Cobalt	Tolerance Interval	2.44	No statistically significant increases relative to background data
Conductivity	Tolerance Interval	0.28	Statistically significant increase relative to background data in MW372
Dissolved Oxygen	Tolerance Interval	0.50	No statistically significant increases relative to background data
Dissolved Solids	Tolerance Interval	0.12	Statistically significant increase relative to background data in MW372
Iron	Tolerance Interval	1.17	No statistically significant increases relative to background data
Magnesium	Tolerance Interval	0.16	Statistically significant increase relative to background data in MW372
Manganese	Tolerance Interval	2.16	No statistically significant increases relative to background data
Molybdenum	Tolerance Interval	1.26	No statistically significant increases relative to background data
Nickel	Tolerance Interval	1.79	No statistically significant increases relative to background data
Oxidation-Reduction Potential	Tolerance Interval	0.48	Statistically significant increases relative to background data in MW221, MW222, MW223, MW224, MW369, MW372, MW384, MW387, and MW391
pH	Tolerance Interval	0.05	No statistically significant deviations relative to background data
Potassium	Tolerance Interval	1.40	No statistically significant increases relative to background data
Sodium	Tolerance Interval	0.24	Statistically significant increase relative to background data in MW372

Exhibit 8. Summary of Parameters Identified for Statistical Analysis and the Test Results—URGA (Continued)

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Sulfate	Tolerance Interval	0.25	Statistically significant increases relative to background data in MW372, MW384, and MW387
Technetium-99	Tolerance Interval	0.99	Statistically significant increases relative to background data in MW372, MW384, and MW387
Total Organic Carbon	Tolerance Interval	0.49	No statistically significant increases relative to background data
Total Organic Halides	Tolerance Interval	2.57	No statistically significant increases relative to background data
Zinc	Tolerance Interval	1.30	No statistically significant increases relative to background data

CV: coefficient of variation

Exhibit 9. Summary of Parameters Identified for Statistical Analysis and the Test Results—LRGA

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Boron	Tolerance Interval	1.24	No statistically significant increases relative to background data
Calcium	Tolerance Interval	0.50	Statistically significant increase relative to background data in MW373
Chloride	Tolerance Interval	0.23	No statistically significant increases relative to background data
Conductivity	Tolerance Interval	0.14	Statistically significant increase relative to background data in MW373
Dissolved Oxygen	Tolerance Interval	0.52	No statistically significant increases relative to background data
Dissolved Solids	Tolerance Interval	0.16	Statistically significant increase relative to background data in MW373
Iron	Tolerance Interval	1.29	No statistically significant increases relative to background data
Magnesium	Tolerance Interval	0.52	Statistically significant increase relative to background data in MW373
Manganese	Tolerance Interval	1.49	No statistically significant increases relative to background data
Oxidation-Reduction Potential	Tolerance Interval	0.33	Statistically significant increase relative to background data in MW370, MW373, MW385, MW388, and MW392
pH	Tolerance Interval	0.04	No statistically significant deviations relative to background data
Potassium	Tolerance Interval	0.40	No statistically significant increases relative to background data
Sodium	Tolerance Interval	0.47	Statistically significant increase relative to background data in MW373
Sulfate	Tolerance Interval	0.20	Statistically significant increases relative to background data in MW370, MW373, MW385, and MW388
Technetium-99	Tolerance Interval	0.81	Statistically significant increases relative to background data in MW373, MW385, and MW388
Total Organic Carbon	Tolerance Interval	0.55	No statistically significant increases relative to background data

Exhibit 9. Summary of Parameters Identified for Statistical Analysis and the Test Results—LRGA (Continued)

Parameter	Performed Test	CV Normality Test	Results of Tolerance Interval Test Conducted
Total Organic Halides	Tolerance Interval	0.59	No statistically significant increases relative to background data

CV: coefficient of variation

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Aluminum UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	0.393
9/16/2002	0.200
10/16/2002	0.200
1/13/2003	0.501
4/8/2003	0.200
7/16/2003	0.200
10/14/2003	0.200
1/14/2004	0.668

Statistics on Background Data

X= 0.320
S= 0.182
CV= 0.567
K factor = 3.188**
TL= 0.900

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	0.200	Sidegradient	NO
MW390	0.415	Downgradient	NO
MW393	0.200	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Calcium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	38.400
9/16/2002	42.900
10/16/2002	40.200
1/13/2003	46.700
4/8/2003	49.800
7/16/2003	43.300
10/14/2003	49.700
1/14/2004	23.600

Statistics on Background Data

X= 41.825
S= 8.445
CV= 0.202
K factor = 3.188**
TL= 68.748

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	22.900	Sidegradient	NO
MW390	38.300	Downgradient	NO
MW393	10.100	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Chloride UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	91.600
9/16/2002	98.300
10/16/2002	101.400
1/13/2003	108.300
4/8/2003	100.500
7/16/2003	102.500
10/14/2003	106.800
1/14/2004	104.400

Statistics on Background Data

X= 101.725
S= 5.245
CV= 0.052
K factor = 3.188**
TL= 118.447

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	19.000	Sidegradient	NO
MW390	130.00	Downgradient	**YES**
MW393	17.000	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW390

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Cobalt UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	Result
8/13/2002	0.025
9/16/2002	0.025
10/16/2002	0.001
1/13/2003	0.003
4/8/2003	0.004
7/16/2003	0.003
10/14/2003	0.001
1/14/2004	0.001

Statistics on Background Data

X= 0.008
S= 0.011
CV= 1.340
K factor = 3.188**
TL= 0.042

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -5.645
S= 1.339
CV= -0.237
K factor = 3.188**
TL= -1.377

Transformed Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	LN(Result)
8/13/2002	-3.689
9/16/2002	-3.689
10/16/2002	-6.908
1/13/2003	-5.732
4/8/2003	-5.435
7/16/2003	-5.893
10/14/2003	-6.908
1/14/2004	-6.908

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	0.004	Sidegradient	N/A
MW390	0.001	Downgradient	N/A
MW393	0.001	Downgradient	N/A

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW386	-5.482	NO
MW390	-6.908	NO
MW393	-6.908	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Conductivity UNITS: umho/cm

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	784.000
9/30/2002	871.000
10/16/2002	868.000
1/13/2003	912.000
4/8/2003	942.000
7/16/2003	910.000
10/14/2003	935.000
1/14/2004	1158.00

Statistics on Background Data

X= 922.500
S= 107.616
CV= 0.117
K factor = 3.188**
TL= 1265.579

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	667.00	Sidegradient	NO
MW390	815.00	Downgradient	NO
MW393	399.00	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Dissolved Oxygen UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	Result
8/13/2002	5.450
9/16/2002	0.400
10/16/2002	0.540
1/13/2003	0.720
4/8/2003	0.690
7/16/2003	1.100
10/14/2003	0.710
1/14/2004	1.550

Statistics on Background Data

X= 1.395
S= 1.677
CV= 1.202
K factor = 3.188**
TL= 6.743

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -0.043
S= 0.814
CV= -18.867
K factor = 3.188**
TL= 2.553

Transformed Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	LN(Result)
8/13/2002	1.696
9/16/2002	-0.916
10/16/2002	-0.616
1/13/2003	-0.329
4/8/2003	-0.371
7/16/2003	0.095
10/14/2003	-0.342
1/14/2004	0.438

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	0.720	Sidegradient	N/A
MW390	4.680	Downgradient	N/A
MW393	0.630	Downgradient	N/A

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW386	-0.329	NO
MW390	1.543	NO
MW393	-0.462	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Dissolved Solids UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	502.000
9/16/2002	506.000
10/16/2002	543.000
1/13/2003	521.000
4/8/2003	504.000
7/16/2003	532.000
10/14/2003	490.000
1/14/2004	805.000

Statistics on Background Data

X= 550.375
S= 104.330
CV= 0.190
K factor = 3.188**
TL= 882.980

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	412.00	Sidegradient	NO
MW390	462.00	Downgradient	NO
MW393	253.00	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Iron UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	1.800
9/16/2002	9.530
10/16/2002	7.430
1/13/2003	9.930
4/8/2003	10.200
7/16/2003	9.160
10/14/2003	11.900
1/14/2004	2.420

Statistics on Background Data

X= 7.796
S= 3.723
CV= 0.478
K factor = 3.188**
TL= 19.666

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	1.510	Sidegradient	NO
MW390	0.265	Downgradient	NO
MW393	2.880	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Magnesium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	15.500
9/16/2002	17.300
10/16/2002	17.800
1/13/2003	19.200
4/8/2003	17.800
7/16/2003	17.800
10/14/2003	20.200
1/14/2004	9.410

Statistics on Background Data

X= 16.876
S= 3.313
CV= 0.196
K factor = 3.188**
TL= 27.438

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	9.680	Sidegradient	NO
MW390	15.400	Downgradient	NO
MW393	2.860	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Manganese UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	0.570
9/16/2002	0.647
10/16/2002	0.880
1/13/2003	1.132
4/8/2003	0.965
7/16/2003	0.983
10/14/2003	0.984
1/14/2004	0.031

Statistics on Background Data

X= 0.774
S= 0.353
CV= 0.456
K factor = 3.188**
TL= 1.900

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	0.714	Sidegradient	NO
MW390	0.005	Downgradient	NO
MW393	0.041	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Oxidation-Reduction Potential UNITS: mV

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	Result
8/13/2002	60.000
4/8/2003	71.000
7/16/2003	-56.000
10/14/2003	-54.000
1/14/2004	-22.000
4/12/2004	-6.000
7/20/2004	-3.000
10/12/2004	114.000

Statistics on Background Data

X= 13.000
S= 61.952
CV= 4.766
K factor = 3.188**
TL= 210.502

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X = error
S = error
CV = error
K factor = 3.188**
TL# = 4.736

Because the natural log was not possible for all background values, the TL was considered equal to the maximum background value.

Transformed Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	LN(Result)
8/13/2002	4.094
4/8/2003	4.263
7/16/2003	#Func!
10/14/2003	#Func!
1/14/2004	#Func!
4/12/2004	#Func!
7/20/2004	#Func!
10/12/2004	4.736

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	85.000	Sidegradient	N/A
MW390	489.000	Downgradient	N/A
MW393	222.000	Downgradient	N/A

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Transformed Foruth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result >TL?
MW386	4.443	NO
MW390	6.192	**YES**
MW393	5.403	**YES**

Conclusion of Statistical Analysis on Transformed Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW390

MW393

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
pH UNITS: Std Unit

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL and LL. If the test well result exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	Result
8/13/2002	6.170
9/16/2002	6.400
10/16/2002	5.900
1/13/2003	6.400
4/8/2003	6.650
7/16/2003	6.400
10/14/2003	6.710
1/14/2004	7.050

Statistics on Background Data

X= 6.460
S= 0.350
CV= 0.054
K factor = 3.736**
TL= 7.766
LL= 5.154

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result <LL?
MW386	6.580	Sidegradient	NO
MW390	6.690	Downgradient	NO
MW393	6.140	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit or were less than the Lower Tolerance Limit, which is statistically significant evidence that these wells have no deviated concentrations with respect to background data.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)
X Mean, X = (sum of background results)/(count of background results)
** The K-factor was adjusted for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K- factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/, 2009.

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Potassium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	2.000
9/16/2002	2.000
10/16/2002	0.978
1/13/2003	1.080
4/8/2003	1.120
7/16/2003	1.380
10/14/2003	1.240
1/14/2004	1.490

Statistics on Background Data

X= 1.411
S= 0.399
CV= 0.282
K factor = 3.188**
TL= 2.682

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	0.317	Sidegradient	NO
MW390	0.443	Downgradient	NO
MW393	0.364	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Sodium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	115.000
9/16/2002	116.000
10/16/2002	117.000
1/13/2003	122.000
4/8/2003	106.000
7/16/2003	117.000
10/14/2003	132.000
1/14/2004	29.600

Statistics on Background Data

X= 106.825
S= 32.041
CV= 0.300
K factor = 3.188**
TL= 208.973

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	101.00	Sidegradient	NO
MW390	94.500	Downgradient	NO
MW393	70.600	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Sulfate UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	41.900
9/16/2002	26.300
10/16/2002	20.600
1/13/2003	16.600
4/8/2003	23.900
7/16/2003	18.800
10/14/2003	12.900
1/14/2004	18.700

Statistics on Background Data

X= 22.463
S= 8.876
CV= 0.395
K factor = 3.188**
TL= 50.759

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	44.000	Sidegradient	NO
MW390	27.000	Downgradient	NO
MW393	11.000	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Technetium-99 UNITS: pCi/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW396
Date Collected	Result
8/13/2002	16.700
9/16/2002	6.390
10/16/2002	4.550
1/13/2003	16.500
4/8/2003	3.040
7/16/2003	0.354
10/14/2003	11.900
1/14/2004	1.560

Statistics on Background Data

X= 7.624
S= 6.558
CV= 0.860
K factor = 3.188**
TL= 28.531

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	5.670	Sidegradient	NO
MW390	62.000	Downgradient	**YES**
MW393	12.600	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW390

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Total Organic Carbon (TOC) UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	19.000
9/16/2002	14.600
10/16/2002	10.400
1/13/2003	4.400
4/8/2003	7.000
7/16/2003	7.300
10/14/2003	9.100
1/14/2004	8.100

Statistics on Background Data

X= 9.988
S= 4.696
CV= 0.470
K factor = 3.188**
TL= 24.959

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	11.900	Sidegradient	NO
MW390	1.900	Downgradient	NO
MW393	2.700	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis UCRS
Total Organic Halides (TOX) UNITS: ug/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number: MW396

Date Collected	Result
8/13/2002	193.000
9/16/2002	190.000
10/16/2002	221.000
1/13/2003	106.000
4/8/2003	77.800
7/16/2003	122.000
10/14/2003	86.400
1/14/2004	145.000

Statistics on Background Data

X= 142.650
S= 53.533
CV= 0.375
K factor = 3.188**
TL= 313.314

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW386	290.00	Sidegradient	NO
MW390	27.000	Downgradient	NO
MW393	32.000	Downgradient	NO

Fourth Quarter 2013 Dry/Partially Dry Wells

Well No.	Gradient
MW389	Downgradient

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Aluminum UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.200
1/15/2003	0.200
4/10/2003	0.200
7/14/2003	0.200
10/13/2003	0.427
1/13/2004	0.309
4/13/2004	0.200
7/21/2004	0.202
Well Number:	MW394
Date Collected	Result
8/13/2002	0.200
9/16/2002	0.200
10/16/2002	0.200
1/13/2003	0.200
4/10/2003	0.200
7/16/2003	0.200
10/14/2003	0.200
1/13/2004	0.200

Statistics on Background Data

X= 0.221
S= 0.061
CV= 0.277
K factor = 2.523**
TL= 0.376

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.200	Sidegradient	NO
MW222	0.283	Sidegradient	NO
MW223	0.200	Sidegradient	NO
MW224	0.200	Sidegradient	NO
MW369	0.200	Downgradient	NO
MW372	0.200	Downgradient	NO
MW384	0.200	Sidegradient	NO
MW387	0.200	Downgradient	NO
MW391	0.200	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Boron UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.200
1/15/2003	0.200
4/10/2003	0.200
7/14/2003	0.200
10/13/2003	0.200
1/13/2004	0.200
4/13/2004	0.200
7/21/2004	0.200
Well Number:	MW394
Date Collected	Result
8/13/2002	2.000
9/16/2002	2.000
10/16/2002	0.200
1/13/2003	0.200
4/10/2003	0.200
7/16/2003	0.200
10/14/2003	0.200
1/13/2004	0.200

Statistics on Background Data

X= 0.425
S= 0.615
CV= 1.447
K factor = 2.523**
TL= 1.976

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -1.322
S= 0.786
CV= -0.595
K factor = 2.523**
TL= 0.663

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	-1.609
1/15/2003	-1.609
4/10/2003	-1.609
7/14/2003	-1.609
10/13/2003	-1.609
1/13/2004	-1.609
4/13/2004	-1.609
7/21/2004	-1.609
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	0.693
9/16/2002	0.693
10/16/2002	-1.609
1/13/2003	-1.609
4/10/2003	-1.609
7/16/2003	-1.609
10/14/2003	-1.609
1/13/2004	-1.609

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.200	Sidegradient	N/A
MW222	0.200	Sidegradient	N/A
MW223	0.200	Sidegradient	N/A
MW224	0.200	Sidegradient	N/A
MW369	0.200	Downgradient	N/A
MW372	1.140	Downgradient	N/A
MW384	0.200	Sidegradient	N/A
MW387	0.200	Downgradient	N/A
MW391	0.200	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	-1.609	NO
MW222	-1.609	NO
MW223	-1.609	NO
MW224	-1.609	NO
MW369	-1.609	NO
MW372	0.131	NO
MW384	-1.609	NO
MW387	-1.609	NO
MW391	-1.609	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Calcium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	23.600
1/15/2003	25.900
4/10/2003	30.400
7/14/2003	33.900
10/13/2003	21.300
1/13/2004	20.300
4/13/2004	23.800
7/21/2004	19.000
Well Number:	MW394
Date Collected	Result
8/13/2002	29.500
9/16/2002	29.900
10/16/2002	31.200
1/13/2003	30.700
4/10/2003	34.400
7/16/2003	29.600
10/14/2003	30.300
1/13/2004	28.400

Statistics on Background Data

X= 27.638
S= 4.743
CV= 0.172
K factor = 2.523**
TL= 39.604

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	19.800	Sidegradient	NO
MW222	16.900	Sidegradient	NO
MW223	20.600	Sidegradient	NO
MW224	22.600	Sidegradient	NO
MW369	16.200	Downgradient	NO
MW372	60.200	Downgradient	**YES**
MW384	24.800	Sidegradient	NO
MW387	35.200	Downgradient	NO
MW391	25.800	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW372

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Chloride UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	44.600
1/15/2003	43.200
4/10/2003	31.500
7/14/2003	30.800
10/13/2003	40.900
1/13/2004	40.800
4/13/2004	37.500
7/21/2004	40.800
Well Number:	MW394
Date Collected	Result
8/13/2002	60.400
9/16/2002	60.300
10/16/2002	58.000
1/13/2003	60.700
4/10/2003	62.900
7/16/2003	58.100
10/14/2003	58.200
1/13/2004	56.000

Statistics on Background Data

X= 49.044
S= 11.278
CV= 0.230
K factor = 2.523**
TL= 77.499

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	37.000	Sidegradient	NO
MW222	35.000	Sidegradient	NO
MW223	34.000	Sidegradient	NO
MW224	32.000	Sidegradient	NO
MW369	36.000	Downgradient	NO
MW372	47.000	Downgradient	NO
MW384	42.000	Sidegradient	NO
MW387	40.000	Downgradient	NO
MW391	49.000	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Cobalt UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.004
1/15/2003	0.005
4/10/2003	0.003
7/14/2003	0.161
10/13/2003	0.023
1/13/2004	0.005
4/13/2004	0.001
7/21/2004	0.003
Well Number:	MW394
Date Collected	Result
8/13/2002	0.025
9/16/2002	0.025
10/16/2002	0.001
1/13/2003	0.001
4/10/2003	0.001
7/16/2003	0.001
10/14/2003	0.001
1/13/2004	0.001

Statistics on Background Data

X= 0.016
S= 0.040
CV= 2.440
K factor = 2.523**
TL= 0.116

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -5.582
S= 1.573
CV= -0.282
K factor = 2.523**
TL= -1.613

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	-5.497
1/15/2003	-5.306
4/10/2003	-5.846
7/14/2003	-1.826
10/13/2003	-3.790
1/13/2004	-5.373
4/13/2004	-6.908
7/21/2004	-5.937
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	-3.689
9/16/2002	-3.689
10/16/2002	-6.908
1/13/2003	-6.908
4/10/2003	-6.908
7/16/2003	-6.908
10/14/2003	-6.908
1/13/2004	-6.908

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.002	Sidegradient	N/A
MW222	0.001	Sidegradient	N/A
MW223	0.001	Sidegradient	N/A
MW224	0.001	Sidegradient	N/A
MW369	0.015	Downgradient	N/A
MW372	0.001	Downgradient	N/A
MW384	0.001	Sidegradient	N/A
MW387	0.001	Downgradient	N/A
MW391	0.001	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	-6.377	NO
MW222	-6.509	NO
MW223	-6.908	NO
MW224	-6.908	NO
MW369	-4.234	NO
MW372	-6.908	NO
MW384	-6.908	NO
MW387	-6.908	NO
MW391	-6.908	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Conductivity UNITS: umho/cm

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	368.000
1/15/2003	433.200
4/10/2003	489.000
7/14/2003	430.000
10/13/2003	346.000
1/13/2004	365.000
4/13/2004	416.000
7/21/2004	353.000
Well Number:	MW394
Date Collected	Result
8/13/2002	406.000
9/16/2002	418.000
10/16/2002	411.000
1/13/2003	422.000
4/10/2003	420.000
7/16/2003	438.000
10/14/2003	3.910
1/13/2004	395.000

Statistics on Background Data

X= 382.132
S= 107.134
CV= 0.280
K factor = 2.523**
TL= 652.432

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	384.00	Sidegradient	NO
MW222	371.00	Sidegradient	NO
MW223	384.00	Sidegradient	NO
MW224	461.00	Sidegradient	NO
MW369	376.00	Downgradient	NO
MW372	791.00	Downgradient	**YES**
MW384	446.00	Sidegradient	NO
MW387	528.00	Downgradient	NO
MW391	390.00	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW372

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Dissolved Oxygen UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	6.790
1/15/2003	7.250
4/10/2003	3.600
7/14/2003	0.940
10/13/2003	1.650
1/13/2004	3.480
4/13/2004	1.050
7/21/2004	4.460
Well Number:	MW394
Date Collected	Result
8/13/2002	6.090
9/16/2002	3.850
10/16/2002	5.110
1/13/2003	3.830
4/10/2003	4.150
7/16/2003	1.830
10/14/2003	3.330
1/13/2004	3.140

Statistics on Background Data

X= 3.784
S= 1.887
CV= 0.499
K factor = 2.523**
TL= 8.545

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	4.130	Sidegradient	NO
MW222	2.730	Sidegradient	NO
MW223	1.890	Sidegradient	NO
MW224	2.810	Sidegradient	NO
MW369	0.990	Downgradient	NO
MW372	0.830	Downgradient	NO
MW384	4.380	Sidegradient	NO
MW387	3.370	Downgradient	NO
MW391	3.960	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Dissolved Solids UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	208.000
1/15/2003	257.000
4/10/2003	288.000
7/14/2003	262.000
10/13/2003	197.000
1/13/2004	198.000
4/13/2004	245.000
7/21/2004	204.000

Well Number:	MW394
Date Collected	Result
8/13/2002	247.000
9/16/2002	259.000
10/16/2002	201.000
1/13/2003	228.000
4/10/2003	249.000
7/16/2003	240.000
10/14/2003	230.000
1/13/2004	210.000

Statistics on Background Data

X= 232.688
S= 27.490
CV= 0.118
K factor = 2.523**
TL= 302.045

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	212.00	Sidegradient	NO
MW222	211.00	Sidegradient	NO
MW223	227.00	Sidegradient	NO
MW224	264.00	Sidegradient	NO
MW369	228.00	Downgradient	NO
MW372	481.00	Downgradient	**YES**
MW384	249.00	Sidegradient	NO
MW387	299.00	Downgradient	NO
MW391	220.00	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW372

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Iron UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.200
1/15/2003	0.200
4/10/2003	0.429
7/14/2003	4.330
10/13/2003	1.810
1/13/2004	0.793
4/13/2004	0.130
7/21/2004	0.382
Well Number:	MW394
Date Collected	Result
8/13/2002	1.340
9/16/2002	0.328
10/16/2002	1.380
1/13/2003	1.300
4/10/2003	0.494
7/16/2003	0.620
10/14/2003	0.370
1/13/2004	0.251

Statistics on Background Data

X= 0.897
S= 1.050
CV= 1.170
K factor = 2.523**
TL= 3.545

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -0.565
S= 0.951
CV= -1.683
K factor = 2.523**
TL= 1.834

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	-1.609
1/15/2003	-1.609
4/10/2003	-0.846
7/14/2003	1.466
10/13/2003	0.593
1/13/2004	-0.232
4/13/2004	-2.040
7/21/2004	-0.962
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	0.293
9/16/2002	-1.115
10/16/2002	0.322
1/13/2003	0.262
4/10/2003	-0.705
7/16/2003	-0.478
10/14/2003	-0.994
1/13/2004	-1.382

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.100	Sidegradient	N/A
MW222	0.390	Sidegradient	N/A
MW223	0.100	Sidegradient	N/A
MW224	0.100	Sidegradient	N/A
MW369	0.303	Downgradient	N/A
MW372	0.438	Downgradient	N/A
MW384	0.282	Sidegradient	N/A
MW387	0.100	Downgradient	N/A
MW391	0.100	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	-2.303	NO
MW222	-0.942	NO
MW223	-2.303	NO
MW224	-2.303	NO
MW369	-1.194	NO
MW372	-0.826	NO
MW384	-1.266	NO
MW387	-2.303	NO
MW391	-2.303	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Magnesium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	9.160
1/15/2003	10.000
4/10/2003	10.800
7/14/2003	14.700
10/13/2003	9.030
1/13/2004	8.490
4/13/2004	9.700
7/21/2004	8.060
Well Number:	MW394
Date Collected	Result
8/13/2002	11.800
9/16/2002	12.100
10/16/2002	11.300
1/13/2003	10.300
4/10/2003	11.700
7/16/2003	12.000
10/14/2003	12.200
1/13/2004	11.400

Statistics on Background Data

X= 10.796
S= 1.703
CV= 0.158
K factor = 2.523**
TL= 15.092

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	8.660	Sidegradient	NO
MW222	7.360	Sidegradient	NO
MW223	8.140	Sidegradient	NO
MW224	9.240	Sidegradient	NO
MW369	6.500	Downgradient	NO
MW372	22.800	Downgradient	**YES**
MW384	9.820	Sidegradient	NO
MW387	14.000	Downgradient	NO
MW391	10.100	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW372

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Manganese UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.031
1/15/2003	0.029
4/10/2003	0.014
7/14/2003	2.540
10/13/2003	0.378
1/13/2004	0.159
4/13/2004	0.007
7/21/2004	0.084
Well Number:	MW394
Date Collected	Result
8/13/2002	0.542
9/16/2002	0.155
10/16/2002	0.103
1/13/2003	0.128
4/10/2003	0.005
7/16/2003	0.272
10/14/2003	0.080
1/13/2004	0.066

Statistics on Background Data

X= 0.287
S= 0.619
CV= 2.156
K factor = 2.523**
TL= 1.848

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -2.455
S= 1.619
CV= -0.659
K factor = 2.523**
TL= 1.630

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	-3.487
1/15/2003	-3.537
4/10/2003	-4.290
7/14/2003	0.932
10/13/2003	-0.973
1/13/2004	-1.839
4/13/2004	-4.952
7/21/2004	-2.476
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	-0.612
9/16/2002	-1.864
10/16/2002	-2.273
1/13/2003	-2.056
4/10/2003	-5.298
7/16/2003	-1.302
10/14/2003	-2.532
1/13/2004	-2.721

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.005	Sidegradient	N/A
MW222	0.014	Sidegradient	N/A
MW223	0.005	Sidegradient	N/A
MW224	0.006	Sidegradient	N/A
MW369	0.159	Downgradient	N/A
MW372	0.016	Downgradient	N/A
MW384	0.009	Sidegradient	N/A
MW387	0.005	Downgradient	N/A
MW391	0.005	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	-5.298	NO
MW222	-4.241	NO
MW223	-5.298	NO
MW224	-5.131	NO
MW369	-1.839	NO
MW372	-4.129	NO
MW384	-4.687	NO
MW387	-5.298	NO
MW391	-5.298	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Molybdenum UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.006
1/15/2003	0.010
4/10/2003	0.011
7/14/2003	0.002
10/13/2003	0.006
1/13/2004	0.006
4/13/2004	0.001
7/21/2004	0.004
Well Number:	MW394
Date Collected	Result
8/13/2002	0.025
9/16/2002	0.025
10/16/2002	0.001
1/13/2003	0.001
4/10/2003	0.001
7/16/2003	0.001
10/14/2003	0.001
1/13/2004	0.001

Statistics on Background Data

X= 0.006
S= 0.008
CV= 1.261
K factor = 2.523**
TL= 0.026

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -5.747
S= 1.205
CV= -0.210
K factor = 2.523**
TL= -2.708

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	-5.189
1/15/2003	-4.622
4/10/2003	-4.519
7/14/2003	-6.012
10/13/2003	-5.174
1/13/2004	-5.164
4/13/2004	-6.908
7/21/2004	-5.542
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	-3.689
9/16/2002	-3.689
10/16/2002	-6.908
1/13/2003	-6.908
4/10/2003	-6.908
7/16/2003	-6.908
10/14/2003	-6.908
1/13/2004	-6.908

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.003	Sidegradient	N/A
MW222	0.001	Sidegradient	N/A
MW223	0.004	Sidegradient	N/A
MW224	0.001	Sidegradient	N/A
MW369	0.001	Downgradient	N/A
MW372	0.001	Downgradient	N/A
MW384	0.001	Sidegradient	N/A
MW387	0.001	Downgradient	N/A
MW391	0.001	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	-5.776	NO
MW222	-6.908	NO
MW223	-5.480	NO
MW224	-6.908	NO
MW369	-6.908	NO
MW372	-6.908	NO
MW384	-6.908	NO
MW387	-6.908	NO
MW391	-6.908	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Nickel UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.418
1/15/2003	0.738
4/10/2003	0.544
7/14/2003	0.106
10/13/2003	0.053
1/13/2004	0.021
4/13/2004	0.005
7/21/2004	0.019
Well Number:	MW394
Date Collected	Result
8/13/2002	0.050
9/16/2002	0.050
10/16/2002	0.005
1/13/2003	0.005
4/10/2003	0.005
7/16/2003	0.005
10/14/2003	0.005
1/13/2004	0.005

Statistics on Background Data

X= 0.127
S= 0.228
CV= 1.790
K factor = 2.523**
TL= 0.701

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -3.617
S= 1.837
CV= -0.508
K factor = 2.523**
TL= 1.019

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	-0.872
1/15/2003	-0.304
4/10/2003	-0.609
7/14/2003	-2.244
10/13/2003	-2.939
1/13/2004	-3.868
4/13/2004	-5.298
7/21/2004	-3.953
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	-2.996
9/16/2002	-2.996
10/16/2002	-5.298
1/13/2003	-5.298
4/10/2003	-5.298
7/16/2003	-5.298
10/14/2003	-5.298
1/13/2004	-5.298

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.142	Sidegradient	N/A
MW222	0.078	Sidegradient	N/A
MW223	0.284	Sidegradient	N/A
MW224	0.008	Sidegradient	N/A
MW369	0.009	Downgradient	N/A
MW372	0.005	Downgradient	N/A
MW384	0.005	Sidegradient	N/A
MW387	0.005	Downgradient	N/A
MW391	0.005	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	-1.952	NO
MW222	-2.554	NO
MW223	-1.259	NO
MW224	-4.813	NO
MW369	-4.743	NO
MW372	-5.298	NO
MW384	-5.298	NO
MW387	-5.298	NO
MW391	-5.298	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Oxidation-Reduction Potential UNITS: mV

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	205.000
1/15/2003	1.950
4/10/2003	203.000
7/14/2003	30.000
10/13/2003	107.000
1/13/2004	295.000
4/13/2004	190.000
7/21/2004	319.000
Well Number:	MW394
Date Collected	Result
8/13/2002	90.000
9/16/2002	240.000
10/16/2002	185.000
1/13/2003	220.000
4/10/2003	196.000
7/16/2003	172.000
10/14/2003	175.000
1/13/2004	249.000

Statistics on Background Data

X= 179.872
S= 86.318
CV= 0.480
K factor = 2.523**
TL= 397.652

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	788.00	Sidegradient	**YES**
MW222	768.00	Sidegradient	**YES**
MW223	574.00	Sidegradient	**YES**
MW224	564.00	Sidegradient	**YES**
MW369	750.00	Downgradient	**YES**
MW372	519.00	Downgradient	**YES**
MW384	400.00	Sidegradient	**YES**
MW387	895.00	Downgradient	**YES**
MW391	537.00	Downgradient	**YES**

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW221

MW222

MW223

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S)

X Mean, X = (sum of background results)/(count of background results)

** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis	URGA
Oxidation-Reduction Potential	UNITS: mV

MW224
MW369
MW372
MW384
MW387
MW391

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S)

X Mean, X = (sum of background results)/(count of background results)

** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
pH UNITS: Std Unit

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL and LL. If the test well result exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	6.040
1/15/2003	6.310
4/10/2003	6.500
7/14/2003	6.300
10/13/2003	6.340
1/13/2004	6.330
4/13/2004	6.300
7/21/2004	5.900
Well Number:	MW394
Date Collected	Result
8/13/2002	5.800
9/30/2002	5.930
10/16/2002	5.420
1/13/2003	6.000
4/10/2003	6.040
7/16/2003	6.200
10/14/2003	6.400
1/13/2004	6.390

Statistics on Background Data

X= 6.138
S= 0.282
CV= 0.046
K factor = 2.904**
TL= 6.957
LL= 5.318

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result <LL?
MW221	6.090	Sidegradient	NO
MW222	6.190	Sidegradient	NO
MW223	6.110	Sidegradient	NO
MW224	6.110	Sidegradient	NO
MW369	6.140	Downgradient	NO
MW372	6.070	Downgradient	NO
MW384	6.220	Sidegradient	NO
MW387	6.250	Downgradient	NO
MW391	6.480	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit or were less than the Lower Tolerance Limit, which is statistically significant evidence that these wells have no deviated concentrations with respect to background data.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)
X Mean, X = (sum of background results)/(count of background results)

** The K-factor was adjusted for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K- factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/, 2009.

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Potassium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	6.700
1/15/2003	29.700
4/10/2003	24.900
7/14/2003	1.130
10/13/2003	3.430
1/13/2004	6.710
4/13/2004	19.300
7/21/2004	3.970
Well Number:	MW394
Date Collected	Result
8/13/2002	2.000
9/16/2002	2.000
10/16/2002	1.030
1/13/2003	1.100
4/10/2003	1.240
7/16/2003	1.140
10/14/2003	1.050
1/13/2004	1.070

Statistics on Background Data

X= 6.654
S= 9.310
CV= 1.399
K factor = 2.523**
TL= 30.144

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= 1.130
S= 1.208
CV= 1.069
K factor = 2.523**
TL= 4.178

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	1.902
1/15/2003	3.391
4/10/2003	3.215
7/14/2003	0.122
10/13/2003	1.233
1/13/2004	1.904
4/13/2004	2.960
7/21/2004	1.379
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	0.693
9/16/2002	0.693
10/16/2002	0.030
1/13/2003	0.095
4/10/2003	0.215
7/16/2003	0.131
10/14/2003	0.049
1/13/2004	0.068

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	1.180	Sidegradient	N/A
MW222	0.462	Sidegradient	N/A
MW223	1.840	Sidegradient	N/A
MW224	0.834	Sidegradient	N/A
MW369	0.519	Downgradient	N/A
MW372	2.190	Downgradient	N/A
MW384	1.330	Sidegradient	N/A
MW387	1.830	Downgradient	N/A
MW391	1.540	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	0.166	NO
MW222	-0.772	NO
MW223	0.610	NO
MW224	-0.182	NO
MW369	-0.656	NO
MW372	0.784	NO
MW384	0.285	NO
MW387	0.604	NO
MW391	0.432	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Sodium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	35.400
1/15/2003	40.600
4/10/2003	51.000
7/14/2003	58.200
10/13/2003	38.100
1/13/2004	37.000
4/13/2004	43.200
7/21/2004	33.800
Well Number:	MW394
Date Collected	Result
8/13/2002	32.900
9/16/2002	29.900
10/16/2002	29.000
1/13/2003	27.100
4/10/2003	24.800
7/16/2003	35.600
10/14/2003	33.900
1/13/2004	31.300

Statistics on Background Data

X= 36.363
S= 8.666
CV= 0.238
K factor = 2.523**
TL= 58.227

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	41.200	Sidegradient	NO
MW222	42.400	Sidegradient	NO
MW223	42.100	Sidegradient	NO
MW224	53.300	Sidegradient	NO
MW369	52.600	Downgradient	NO
MW372	61.500	Downgradient	**YES**
MW384	47.500	Sidegradient	NO
MW387	50.100	Downgradient	NO
MW391	31.600	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW372

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Sulfate UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	10.400
1/15/2003	9.800
4/10/2003	15.400
7/14/2003	14.900
10/13/2003	13.500
1/13/2004	10.300
4/13/2004	14.300
7/21/2004	10.500
Well Number:	MW394
Date Collected	Result
8/13/2002	11.200
9/16/2002	8.300
10/16/2002	8.000
1/13/2003	8.500
4/10/2003	7.900
7/16/2003	8.400
10/14/2003	8.200
1/13/2004	8.100

Statistics on Background Data

X= 10.481
S= 2.648
CV= 0.253
K factor = 2.523**
TL= 17.161

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	13.000	Sidegradient	NO
MW222	11.000	Sidegradient	NO
MW223	14.000	Sidegradient	NO
MW224	15.000	Sidegradient	NO
MW369	13.000	Downgradient	NO
MW372	150.00	Downgradient	**YES**
MW384	23.000	Sidegradient	**YES**
MW387	30.000	Downgradient	**YES**
MW391	13.000	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW372

MW384

MW387

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S)

X Mean, X = (sum of background results)/(count of background results)

** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Technetium-99 UNITS: pCi/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	19.700
1/15/2003	26.100
4/10/2003	3.560
7/14/2003	0.000
10/13/2003	21.000
1/13/2004	6.320
4/13/2004	3.000
7/21/2004	14.600
Well Number:	MW394
Date Collected	Result
8/13/2002	14.000
9/16/2002	5.450
10/16/2002	2.490
1/13/2003	18.300
4/10/2003	-1.450
7/16/2003	-1.710
10/14/2003	18.300
1/13/2004	0.000

Statistics on Background Data

X= 9.354
S= 9.280
CV= 0.992
K factor = 2.523**
TL= 32.768

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	7.210	Sidegradient	NO
MW222	5.720	Sidegradient	NO
MW223	8.370	Sidegradient	NO
MW224	5.830	Sidegradient	NO
MW369	29.700	Downgradient	NO
MW372	176.00	Downgradient	**YES**
MW384	205.00	Sidegradient	**YES**
MW387	172.00	Downgradient	**YES**
MW391	12.000	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW372

MW384

MW387

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.

S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5

TL Upper Tolerance Limit, TL = X + (K * S)

X Mean, X = (sum of background results)/(count of background results)

** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Total Organic Carbon (TOC) UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	1.000
1/15/2003	1.100
4/10/2003	1.000
7/14/2003	3.300
10/13/2003	1.800
1/13/2004	1.000
4/13/2004	2.000
7/21/2004	3.100
Well Number:	MW394
Date Collected	Result
8/13/2002	1.300
9/16/2002	1.000
10/16/2002	1.000
1/13/2003	1.600
4/10/2003	1.000
7/16/2003	1.400
10/14/2003	1.300
1/13/2004	1.000

Statistics on Background Data

X= 1.494
S= 0.737
CV= 0.493
K factor = 2.523**
TL= 3.353

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	1.000	Sidegradient	NO
MW222	1.000	Sidegradient	NO
MW223	1.000	Sidegradient	NO
MW224	1.000	Sidegradient	NO
MW369	1.300	Downgradient	NO
MW372	1.100	Downgradient	NO
MW384	1.000	Sidegradient	NO
MW387	1.000	Downgradient	NO
MW391	1.000	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Total Organic Halides (TOX) UNITS: ug/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	50.000
1/15/2003	10.000
4/10/2003	10.000
7/14/2003	10.000
10/13/2003	10.000
1/13/2004	10.000
4/13/2004	10.000
7/21/2004	10.000
Well Number:	MW394
Date Collected	Result
8/13/2002	50.000
9/16/2002	672.000
10/16/2002	50.000
1/13/2003	36.100
4/10/2003	10.000
7/16/2003	42.700
10/14/2003	22.000
1/13/2004	12.800

Statistics on Background Data

X= 63.475
S= 163.135
CV= 2.570
K factor = 2.523**
TL= 475.063

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= 3.103
S= 1.145
CV= 0.369
K factor = 2.523**
TL= 5.992

Transformed Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	LN(Result)
10/14/2002	3.912
1/15/2003	2.303
4/10/2003	2.303
7/14/2003	2.303
10/13/2003	2.303
1/13/2004	2.303
4/13/2004	2.303
7/21/2004	2.303
Well Number:	MW394
Date Collected	LN(Result)
8/13/2002	3.912
9/16/2002	6.510
10/16/2002	3.912
1/13/2003	3.586
4/10/2003	2.303
7/16/2003	3.754
10/14/2003	3.091
1/13/2004	2.549

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	11.000	Sidegradient	N/A
MW222	11.000	Sidegradient	N/A
MW223	11.000	Sidegradient	N/A
MW224	14.000	Sidegradient	N/A
MW369	40.000	Downgradient	N/A
MW372	20.000	Downgradient	N/A
MW384	19.000	Sidegradient	N/A
MW387	21.000	Downgradient	N/A
MW391	23.000	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW221	2.398	NO
MW222	2.398	NO
MW223	2.398	NO
MW224	2.639	NO
MW369	3.689	NO
MW372	2.996	NO
MW384	2.944	NO
MW387	3.045	NO
MW391	3.135	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis URGA
Zinc UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW220
Date Collected	Result
10/14/2002	0.025
1/15/2003	0.035
4/10/2003	0.035
7/14/2003	0.039
10/13/2003	0.026
1/13/2004	0.020
4/13/2004	0.020
7/21/2004	0.020
Well Number:	MW394
Date Collected	Result
8/13/2002	0.100
9/16/2002	0.100
10/16/2002	0.025
1/13/2003	0.035
4/10/2003	0.035
7/16/2003	0.020
10/14/2003	0.020
1/13/2004	0.020

Statistics on Background Data

X= 0.036
S= 0.026
CV= 0.722
K factor = 2.523**
TL= 0.101

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW221	0.020	Sidegradient	NO
MW222	0.020	Sidegradient	NO
MW223	0.020	Sidegradient	NO
MW224	0.022	Sidegradient	NO
MW369	0.020	Downgradient	NO
MW372	0.020	Downgradient	NO
MW384	0.020	Sidegradient	NO
MW387	0.020	Downgradient	NO
MW391	0.020	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Boron UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	2.000
9/16/2002	2.000
10/16/2002	0.200
1/13/2003	0.200
4/10/2003	0.200
7/16/2003	0.200
10/14/2003	0.200
1/13/2004	0.200
Well Number:	MW397
Date Collected	Result
8/13/2002	2.000
9/16/2002	2.000
10/17/2002	0.200
1/13/2003	0.200
4/8/2003	0.200
7/16/2003	0.200
10/14/2003	0.200
1/13/2004	0.200

Statistics on Background Data

X= 0.650
S= 0.805
CV= 1.238
K factor = 2.523**
TL= 2.681

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -1.034
S= 1.030
CV= -0.996
K factor = 2.523**
TL= 1.564

Transformed Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	LN(Result)
8/13/2002	0.693
9/16/2002	0.693
10/16/2002	-1.609
1/13/2003	-1.609
4/10/2003	-1.609
7/16/2003	-1.609
10/14/2003	-1.609
1/13/2004	-1.609
Well Number:	MW397
Date Collected	LN(Result)
8/13/2002	0.693
9/16/2002	0.693
10/17/2002	-1.609
1/13/2003	-1.609
4/8/2003	-1.609
7/16/2003	-1.609
10/14/2003	-1.609
1/13/2004	-1.609

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	0.200	Downgradient	N/A
MW373	1.770	Downgradient	N/A
MW385	0.200	Sidegradient	N/A
MW388	0.200	Downgradient	N/A
MW392	0.200	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW370	-1.609	NO
MW373	0.571	NO
MW385	-1.609	NO
MW388	-1.609	NO
MW392	-1.609	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Calcium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	32.200
9/16/2002	33.000
10/16/2002	0.030
1/13/2003	32.100
4/10/2003	40.200
7/16/2003	32.400
10/14/2003	33.900
1/13/2004	31.200
Well Number:	MW397
Date Collected	Result
8/13/2002	19.400
9/16/2002	19.000
10/17/2002	0.018
1/13/2003	17.800
4/8/2003	20.300
7/16/2003	19.400
10/14/2003	19.900
1/13/2004	18.800

Statistics on Background Data

X= 23.103
S= 11.538
CV= 0.499
K factor = 2.523**
TL= 52.213

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	27.600	Downgradient	NO
MW373	76.400	Downgradient	**YES**
MW385	26.900	Sidegradient	NO
MW388	25.600	Downgradient	NO
MW392	26.200	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW373

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Chloride UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	62.200
9/16/2002	64.700
10/16/2002	62.200
1/13/2003	63.500
4/10/2003	64.100
7/16/2003	64.000
10/14/2003	63.200
1/13/2004	60.600

Well Number:	MW397
Date Collected	Result
8/13/2002	38.900
9/16/2002	39.800
10/17/2002	39.300
1/13/2003	40.500
4/8/2003	42.100
7/16/2003	42.000
10/14/2003	40.800
1/13/2004	41.600

Statistics on Background Data

X= 51.844
S= 11.652
CV= 0.225
K factor = 2.523**
TL= 81.242

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	42.000	Downgradient	NO
MW373	44.000	Downgradient	NO
MW385	29.000	Sidegradient	NO
MW388	33.000	Downgradient	NO
MW392	50.000	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Conductivity UNITS: umho/cm

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	405.000
9/16/2002	401.000
10/16/2002	392.000
1/13/2003	404.000
4/10/2003	488.000
7/16/2003	450.000
10/14/2003	410.000
1/13/2004	413.000

Well Number:	MW397
Date Collected	Result
8/13/2002	322.000
9/16/2002	315.000
10/17/2002	317.000
1/13/2003	320.000
4/8/2003	390.000
7/16/2003	354.000
10/14/2003	331.000
1/13/2004	334.000

Statistics on Background Data

X= 377.875
S= 52.101
CV= 0.138
K factor = 2.523**
TL= 509.326

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	430.00	Downgradient	NO
MW373	958.00	Downgradient	**YES**
MW385	470.00	Sidegradient	NO
MW388	426.00	Downgradient	NO
MW392	405.00	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW373

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Dissolved Oxygen UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	7.290
9/30/2002	4.030
10/16/2002	3.850
1/13/2003	2.360
4/10/2003	1.140
7/16/2003	1.760
10/14/2003	4.050
1/13/2004	4.260
Well Number:	MW397
Date Collected	Result
8/13/2002	11.560
9/16/2002	5.860
10/17/2002	5.940
1/13/2003	4.660
4/8/2003	3.770
7/16/2003	3.470
10/14/2003	5.340
1/13/2004	5.510

Statistics on Background Data

X= 4.678
S= 2.431
CV= 0.520
K factor = 2.523**
TL= 10.812

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	4.590	Downgradient	NO
MW373	1.150	Downgradient	NO
MW385	0.600	Sidegradient	NO
MW388	4.590	Downgradient	NO
MW392	0.760	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Dissolved Solids UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	249.000
9/16/2002	272.000
10/16/2002	255.000
1/13/2003	211.000
4/10/2003	289.000
7/16/2003	236.000
10/14/2003	224.000
1/13/2004	235.000

Well Number:	MW397
Date Collected	Result
8/13/2002	187.000
9/16/2002	197.000
10/17/2002	183.000
1/13/2003	182.000
4/8/2003	217.000
7/16/2003	196.000
10/14/2003	198.000
1/13/2004	177.000

Statistics on Background Data

X= 219.250
S= 34.107
CV= 0.156
K factor = 2.523**
TL= 305.301

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	240.00	Downgradient	NO
MW373	590.00	Downgradient	**YES**
MW385	199.00	Sidegradient	NO
MW388	238.00	Downgradient	NO
MW392	222.00	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW373

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Iron UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	0.294
9/16/2002	0.200
10/16/2002	0.000
1/13/2003	1.330
4/10/2003	1.310
7/16/2003	0.200
10/14/2003	0.100
1/13/2004	0.100
Well Number:	MW397
Date Collected	Result
8/13/2002	1.580
9/16/2002	0.232
10/17/2002	0.000
1/13/2003	0.453
4/8/2003	0.200
7/16/2003	0.200
10/14/2003	0.100
1/13/2004	0.100

Statistics on Background Data

X= 0.400
S= 0.514
CV= 1.286
K factor = 2.523**
TL= 1.698

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -2.197
S= 2.634
CV= -1.199
K factor = 2.523**
TL= 4.449

Transformed Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	LN(Result)
8/13/2002	-1.224
9/16/2002	-1.609
10/16/2002	-8.517
1/13/2003	0.285
4/10/2003	0.270
7/16/2003	-1.609
10/14/2003	-2.303
1/13/2004	-2.303
Well Number:	MW397
Date Collected	LN(Result)
8/13/2002	0.457
9/16/2002	-1.461
10/17/2002	-8.517
1/13/2003	-0.792
4/8/2003	-1.609
7/16/2003	-1.609
10/14/2003	-2.303
1/13/2004	-2.303

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	0.100	Downgradient	N/A
MW373	0.100	Downgradient	N/A
MW385	0.100	Sidegradient	N/A
MW388	0.100	Downgradient	N/A
MW392	0.490	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW370	-2.303	NO
MW373	-2.303	NO
MW385	-2.303	NO
MW388	-2.303	NO
MW392	-0.713	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Magnesium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	12.500
9/16/2002	13.000
10/16/2002	0.013
1/13/2003	11.200
4/10/2003	17.500
7/16/2003	12.900
10/14/2003	13.400
1/13/2004	12.400

Well Number:	MW397
Date Collected	Result
8/13/2002	7.830
9/16/2002	7.640
10/17/2002	0.007
1/13/2003	6.690
4/8/2003	7.280
7/16/2003	7.820
10/14/2003	7.940
1/13/2004	7.510

Statistics on Background Data

X= 9.102
S= 4.685
CV= 0.515
K factor = 2.523**
TL= 20.922

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	11.100	Downgradient	NO
MW373	28.100	Downgradient	**YES**
MW385	9.650	Sidegradient	NO
MW388	11.000	Downgradient	NO
MW392	9.400	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW373

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Manganese UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	0.361
9/16/2002	0.028
10/16/2002	0.026
1/13/2003	0.071
4/10/2003	0.629
7/16/2003	0.297
10/14/2003	0.020
1/13/2004	0.013
Well Number:	MW397
Date Collected	Result
8/13/2002	0.466
9/16/2002	0.077
10/17/2002	0.028
1/13/2003	0.016
4/8/2003	0.041
7/16/2003	0.017
10/14/2003	0.006
1/13/2004	0.005

Statistics on Background Data

X= 0.131
S= 0.195
CV= 1.487
K factor = 2.523**
TL= 0.624

Because CV greater than 1, the natural logarithm of background and test well results were calculated.

Statistics on Transformed Background Data

X= -3.104
S= 1.529
CV= -0.493
K factor = 2.523**
TL= 0.755

Transformed Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	LN(Result)
8/13/2002	-1.019
9/16/2002	-3.576
10/16/2002	-3.650
1/13/2003	-2.641
4/10/2003	-0.464
7/16/2003	-1.214
10/14/2003	-3.922
1/13/2004	-4.374
Well Number:	MW397
Date Collected	LN(Result)
8/13/2002	-0.764
9/16/2002	-2.564
10/17/2002	-3.576
1/13/2003	-4.110
4/8/2003	-3.202
7/16/2003	-4.092
10/14/2003	-5.194
1/13/2004	-5.298

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	0.005	Downgradient	N/A
MW373	0.062	Downgradient	N/A
MW385	0.005	Sidegradient	N/A
MW388	0.005	Downgradient	N/A
MW392	0.185	Downgradient	N/A

Transformed Fourth Quarter 2013 Data Collected in October 2013

Well Number	LN(Result)	Result > TL?
MW370	-5.298	NO
MW373	-2.782	NO
MW385	-5.298	NO
MW388	-5.298	NO
MW392	-1.687	NO

Conclusion of Statistical Analysis on Transformed Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Oxidation-Reduction Potential UNITS: mV

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	80.000
9/16/2002	145.000
10/16/2002	125.000
1/13/2003	85.000
4/10/2003	159.000
7/16/2003	98.000
10/14/2003	138.000
1/13/2004	233.000

Well Number:	MW397
Date Collected	Result
8/13/2002	115.000
9/30/2002	140.000
10/17/2002	185.000
1/13/2003	230.000
4/8/2003	155.000
7/16/2003	188.000
10/14/2003	187.000
1/13/2004	253.000

Statistics on Background Data

X= 157.250
S= 52.376
CV= 0.333
K factor = 2.523**
TL= 289.395

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	811.00	Downgradient	**YES**
MW373	627.00	Downgradient	**YES**
MW385	444.00	Sidegradient	**YES**
MW388	502.00	Downgradient	**YES**
MW392	473.00	Downgradient	**YES**

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW370

MW373

MW385

MW388

MW392

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
pH UNITS: Std Unit

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL and LL. If the test well result exceeds the TL or is less than the LL, that is statistically significant evidence of elevated or lowered concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	5.800
9/16/2002	6.000
10/16/2002	5.470
1/13/2003	6.000
4/10/2003	6.180
7/16/2003	6.000
10/14/2003	6.310
1/13/2004	6.240
Well Number:	MW397
Date Collected	Result
8/13/2002	5.840
9/30/2002	6.000
10/17/2002	5.750
1/13/2003	6.000
4/8/2003	6.300
7/16/2003	6.200
10/14/2003	6.360
1/13/2004	6.320

Statistics on Background Data

X= 6.048
S= 0.248
CV= 0.041
K factor = 2.904**
TL= 6.767
LL= 5.329

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result <LL?
MW370	6.090	Downgradient	NO
MW373	6.080	Downgradient	NO
MW385	6.600	Sidegradient	NO
MW388	6.250	Downgradient	NO
MW392	6.250	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit or were less than the Lower Tolerance Limit, which is statistically significant evidence that these wells have no deviated concentrations with respect to background data.

CV Coefficient-of-Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S), LL Lower Tolerance Limit, LL = X - (K * S)
X Mean, X = (sum of background results)/(count of background results)
** The K-factor was adjusted for pH to account for a two-sided tolerance interval instead of a one-sided tolerance limit. The K- factor for pH was computed using a formula from NIST/SEMATECH e-Handbook of Statistical Methods, http://www.itl.nist.gov/div898/handbook/, 2009.

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Potassium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	2.000
9/16/2002	2.000
10/16/2002	0.001
1/13/2003	1.510
4/10/2003	1.670
7/16/2003	1.730
10/14/2003	1.700
1/13/2004	1.580

Well Number:	MW397
Date Collected	Result
8/13/2002	2.030
9/16/2002	2.000
10/17/2002	0.001
1/13/2003	1.690
4/8/2003	1.730
7/16/2003	2.000
10/14/2003	1.920
1/13/2004	1.870

Statistics on Background Data

X= 1.590
S= 0.642
CV= 0.404
K factor = 2.523**
TL= 3.208

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	2.410	Downgradient	NO
MW373	2.840	Downgradient	NO
MW385	1.670	Sidegradient	NO
MW388	1.960	Downgradient	NO
MW392	1.700	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Sodium UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	27.000
9/16/2002	27.200
10/16/2002	0.025
1/13/2003	22.600
4/10/2003	53.900
7/16/2003	30.000
10/14/2003	29.100
1/13/2004	26.400
Well Number:	MW397
Date Collected	Result
8/13/2002	35.200
9/16/2002	34.300
10/17/2002	0.034
1/13/2003	31.300
4/8/2003	46.100
7/16/2003	38.400
10/14/2003	37.100
1/13/2004	34.300

Statistics on Background Data

X= 29.560
S= 13.894
CV= 0.470
K factor = 2.523**
TL= 64.616

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	37.800	Downgradient	NO
MW373	66.000	Downgradient	**YES**
MW385	35.900	Sidegradient	NO
MW388	42.100	Downgradient	NO
MW392	34.900	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW373

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Sulfate UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	10.300
9/16/2002	9.100
10/16/2002	8.800
1/13/2003	9.000
4/10/2003	8.300
7/16/2003	8.200
10/14/2003	8.300
1/13/2004	8.200
Well Number:	MW397
Date Collected	Result
8/13/2002	14.000
9/16/2002	12.800
10/17/2002	12.300
1/13/2003	12.700
4/8/2003	12.800
7/16/2003	13.100
10/14/2003	12.100
1/13/2004	12.100

Statistics on Background Data

X= 10.756
S= 2.147
CV= 0.200
K factor = 2.523**
TL= 16.173

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	19.000	Downgradient	**YES**
MW373	210.00	Downgradient	**YES**
MW385	19.000	Sidegradient	**YES**
MW388	20.000	Downgradient	**YES**
MW392	6.500	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW370

MW373

MW385

MW388

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Technetium-99 UNITS: pCi/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	20.800
9/16/2002	16.200
10/16/2002	8.280
1/13/2003	13.000
4/10/2003	-9.370
7/16/2003	0.826
10/14/2003	14.100
1/13/2004	0.000
Well Number:	MW397
Date Collected	Result
8/13/2002	6.060
9/16/2002	17.300
10/17/2002	25.700
1/13/2003	20.900
4/8/2003	20.100
7/16/2003	9.200
10/14/2003	10.100
1/13/2004	8.540

Statistics on Background Data

X= 11.359
S= 9.138
CV= 0.805
K factor = 2.523**
TL= 34.414

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	27.900	Downgradient	NO
MW373	59.900	Downgradient	**YES**
MW385	157.00	Sidegradient	**YES**
MW388	74.700	Downgradient	**YES**
MW392	10.400	Downgradient	NO

Conclusion of Statistical Analysis on Data

The following test well(s) exceeded the Upper Tolerance Limit, which is statistically significant evidence of elevated concentration with respect to background data.

MW373

MW385

MW388

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Total Organic Carbon (TOC) UNITS: mg/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	1.600
9/16/2002	1.100
10/16/2002	1.000
1/13/2003	2.000
4/10/2003	3.400
7/16/2003	2.000
10/14/2003	1.000
1/13/2004	1.000

Well Number:	MW397
Date Collected	Result
8/13/2002	1.000
9/16/2002	1.000
10/17/2002	1.000
1/13/2003	3.600
4/8/2003	1.900
7/16/2003	1.100
10/14/2003	1.000
1/13/2004	1.000

Statistics on Background Data

X= 1.544
S= 0.856
CV= 0.554
K factor = 2.523**
TL= 3.702

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	1.000	Downgradient	NO
MW373	1.100	Downgradient	NO
MW385	1.000	Sidegradient	NO
MW388	1.000	Downgradient	NO
MW392	1.300	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

C-746-S and C-746-T Fourth Quarter 2013 Statistical Analysis LRGA
Total Organic Halides (TOX) UNITS: ug/L

The CV is calculated to determine if background data are normally distributed. If so, the current test well results are compared to the TL. If not, a transformation is performed on the background and test well results, then each transformed test well result is compared to the transformed TL. If the test well result exceeds the TL, that is statistically significant evidence of elevated concentration in that well.

Background Data from Upgradient Wells

Well Number:	MW395
Date Collected	Result
8/13/2002	50.000
9/16/2002	50.000
10/16/2002	50.000
1/13/2003	18.300
4/10/2003	51.200
7/16/2003	42.600
10/14/2003	12.300
1/13/2004	10.000
Well Number:	MW397
Date Collected	Result
8/13/2002	50.000
9/16/2002	50.000
10/17/2002	50.000
1/13/2003	12.000
4/8/2003	19.900
7/16/2003	17.900
10/14/2003	10.000
1/13/2004	10.000

Statistics on Background Data

X= 31.513
S= 18.609
CV= 0.591
K factor = 2.523**
TL= 78.462

Because CV is less than or equal to 1, assume normal distribution and continue with statistical anaylsis.

Fourth Quarter 2013 Data Collected in October 2013

Well No.	Result	Gradient	Result > TL?
MW370	13.000	Downgradient	NO
MW373	18.000	Downgradient	NO
MW385	14.000	Sidegradient	NO
MW388	17.000	Downgradient	NO
MW392	61.000	Downgradient	NO

Conclusion of Statistical Analysis on Data

None of the test wells exceeded the Upper Tolerance Limit, which is statistically significant evidence that these wells have no elevated concentrations with respect to background data.

CV Coefficient of Variation, CV = S/X If CV is less than or equal to 1 assume normal distribution.
S Standard Deviation, S = [Sum ([(background result-X)^2]/[count of background results -1])]^0.5
TL Upper Tolerance Limit, TL = X + (K * S)
X Mean, X = (sum of background results)/(count of background results)
** Read from Table 5, Appendix B of *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities,* Interim Guidance, EPA, 1989, based on total number of background results

756 Park Meadow Road
Westerville, Ohio 43081

January 29, 2014

Mr. Craig Jones
LATA Environmental Services of Kentucky, LLC
761 Veterans Avenue
Kevil, Kentucky 42053

Dear Mr. Jones:

This statement is submitted in response to your request that it be included with the completed statistical analysis that I have performed on the groundwater data for the C-746-S&T and C-746-U Landfills at the Paducah Gaseous Diffusion Plant.

As a Chemist, with a Bachelor of Science degree in chemistry and a minor in mathematics, I have over two years of experience in reviewing and assessing laboratory analytical results associated with environmental sampling and investigation activities. For the generation of these statistical analyses, my work was observed and reviewed by both a senior chemist with LATA as well as C. Travis Debnam, the project geologist responsible for the previous generation of these statistics.

For this project, the statistical analyses conducted on the fourth quarter 2013 monitoring well data collected from the C-746-S&T and C-746-U Landfills were performed in accordance with guidance provided in the U.S. Environmental Protection Agency guidance document, *EPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance* (1989). For pH, an additional lower tolerance interval was established. For pH only, the test well data was compared to both the upper and lower tolerance intervals to determine if statistically significant deviations in concentration with respect to upgradient well exist.

Sincerely,

Cory Tackett
LATA Project Chemist

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APPENDIX E

GROUNDWATER FLOW RATE AND DIRECTION

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GROUNDWATER FLOW RATE AND DIRECTION

Whenever monitoring wells (MWs) are sampled, 401 *KAR* 48:300 § 11 requires determination of groundwater flow rate and direction of flow in the uppermost aquifer. The uppermost aquifer below the C-746-S&T Landfills is the Regional Gravel Aquifer (RGA). Water level measurements currently are recorded in several wells at the landfill on a quarterly basis. These measurements were used to plot the potentiometric surface of the RGA for the fourth quarter 2013 and to determine the groundwater flow rate and direction.

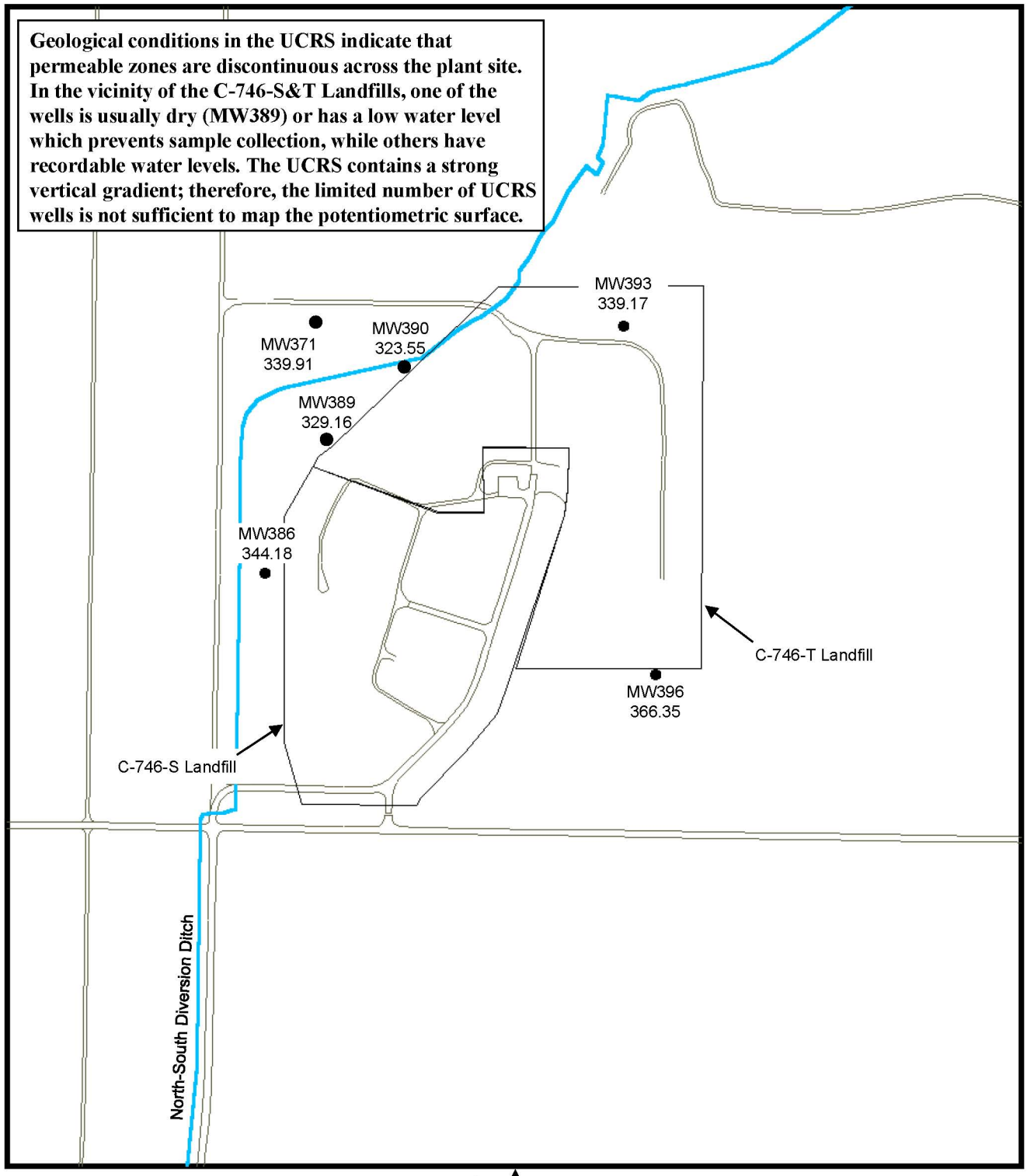
Water levels during this reporting period were measured on October 23, 2013. As shown on Figure E.1, MW389, screened in the Upper Continental Recharge System (UCRS), usually is dry, while other UCRS wells have recordable water levels. During this reporting period, MW389 had sufficient water for a measurement of the water level but insufficient water for sampling.

The UCRS has a strong vertical hydraulic gradient; therefore, the limited number of available UCRS wells, screened over different elevations, is not sufficient for mapping the potentiometric surface. Figure E.1 shows the location of UCRS MWs. The Upper Regional Gravel Aquifer (URGA) and Lower Regional Gravel Aquifer (LRGA) data were corrected for barometric pressure, if necessary, and converted to elevations to plot the potentiometric surface of the RGA, as a whole, as shown on Table E.1. Figure E.2 is a composite or average map of the URGA and LRGA elevations where well clusters exist. The contour lines are placed based on the average water level elevations of the clusters.[1] Based on the site potentiometric map (Figure E.2), the hydraulic gradient beneath the landfill is 7.27×10^{-4} ft/ft. Additional water level measurements in October (Figure E.3) document the vicinity groundwater hydraulic gradient for the RGA to be 5.03×10^{-4} ft/ft. The hydraulic gradients are shown in Table E.2.

The average linear groundwater flow velocity (v) is determined by multiplying the hydraulic gradient (i) by the hydraulic conductivity (K) [resulting in the specific discharge (q)] and dividing by the effective porosity (n_e). The RGA hydraulic conductivity values used are reported in the Administrative Application for the Solid Waste Landfill Permit No. 073-00045 and range from 425 to 725 ft/day (0.150 to 0.256 cm/s). RGA effective porosity is assumed to be 25%. Vicinity and site flow velocities were calculated using the low and high values for hydraulic conductivity, as shown in Table E.3.

Regional groundwater flow near the C-746-S&T Landfills typically trends northeastward toward the Ohio River. As demonstrated on the potentiometric map for October 2013, the groundwater flow direction in the immediate area of the landfill commonly varies slightly from regional trends; however, as groundwater flows away from the landfill, it eventually conforms to the regional flow direction.

[1] Additional water level measurements, in wells at the C-746-U Landfill and in wells of the surrounding region (MW98, MW100, MW125, MW139, MW173, MW193, MW197, and MW200), were used to contour the RGA potentiometric surface.



U.S. DEPARTMENT OF ENERGY
DOE PORTSMOUTH-PADUCAH PROJECT OFFICE
PADUCAH GASEOUS DIFFUSION PLANT

Figure E.1. Potentiometric Surface of the Upper Continental Recharge System at the C-746 S&T Landfills
Permit Numbers 073-00014 & 073-00015
October 23, 2013

LATA Environmental Services of Kentucky, LLC

Table E.1. C-746-S&T Landfills Fourth Quarter 2013 (October) Water Levels

C-746-S&T Landfills (October 2013) Water Levels										
							Raw Data		*Corrected Data	
Date	Time	Well	Formation	Datum Elev (ft amsl)	BP (in Hg)	Delta BP (ft H20)	DTW (ft)	Elev (ft amsl)	DTW (ft)	Elev (ft amsl)
10/23/2013	14:49	MW220	URGA	381.65	30.09	0.00	57.52	324.13	57.52	324.13
10/23/2013	9:16	MW221	URGA	391.14	30.10	-0.01	67.20	323.94	67.19	323.95
10/23/2013	9:12	MW222	URGA	395.20	30.10	-0.01	71.21	323.99	71.20	324.00
10/23/2013	9:14	MW223	URGA	394.34	30.10	-0.01	70.37	323.97	70.36	323.98
10/23/2013	9:10	MW224	URGA	395.70	30.10	-0.01	71.71	323.99	71.70	324.00
10/23/2013	9:07	MW225	URGA	385.86	30.10	-0.01	61.76	324.1	61.75	324.11
10/23/2013	9:22	MW353	LRGA	374.97	30.10	-0.01	50.66	324.31	50.65	324.32
10/23/2013	8:32	MW369	URGA	364.28	30.09	0.00	40.88	323.40	40.88	323.40
10/23/2013	8:34	MW370	LRGA	365.15	30.09	0.00	41.75	323.40	41.75	323.40
10/23/2013	8:33	MW371	UCRS	364.71	30.09	0.00	24.80	339.91	24.80	339.91
10/23/2013	8:28	MW372	URGA	359.49	30.09	0.00	36.07	323.42	36.07	323.42
10/23/2013	8:30	MW373	LRGA	359.79	30.09	0.00	36.40	323.39	36.40	323.39
10/23/2013	14:43	MW384	URGA	365.00	30.09	0.00	41.44	323.56	41.44	323.56
10/23/2013	9:03	MW385	LRGA	365.42	30.10	-0.01	41.91	323.51	41.90	323.52
10/23/2013	9:02	MW386	UCRS	365.17	30.10	-0.01	21.00	344.17	20.99	344.18
10/23/2013	8:57	MW387	URGA	363.21	30.10	-0.01	39.65	323.56	39.64	323.57
10/23/2013	8:58	MW388	LRGA	363.18	30.10	-0.01	39.63	323.55	39.62	323.56
10/23/2013	8:55	MW389	UCRS	363.81	30.10	-0.01	34.66	329.15	34.65	329.16
10/23/2013	8:53	MW390	UCRS	360.31	30.10	-0.01	36.77	323.54	36.76	323.55
10/23/2013	8:37	MW391	URGA	366.51	30.09	0.00	42.98	323.53	42.98	323.53
10/23/2013	8:39	MW392	LRGA	365.63	30.09	0.00	42.11	323.52	42.11	323.52
10/23/2013	9:38	MW393	UCRS	366.64	30.09	0.00	27.47	339.17	27.47	339.17
10/23/2013	8:45	MW394	URGA	378.23	30.09	0.00	54.47	323.76	54.47	323.76
10/23/2013	8:43	MW395	LRGA	378.87	30.09	0.00	55.13	323.74	55.13	323.74
10/23/2013	8:44	MW396	UCRS	378.62	30.09	0.00	12.27	366.35	12.27	366.35
10/23/2013	8:49	MW397	LRGA	386.84	30.09	0.00	63.06	323.78	63.06	323.78
10/23/2013	9:28	MW418	URGA	366.68	30.10	-0.01	43.16	323.52	43.15	323.53
10/23/2013	9:27	MW419	LRGA	366.59	30.10	-0.01	43.10	323.49	43.09	323.50

Initial Barometric Pressure **30.09**

Elev = elevation

amsl = above mean sea level

BP = barometric pressure

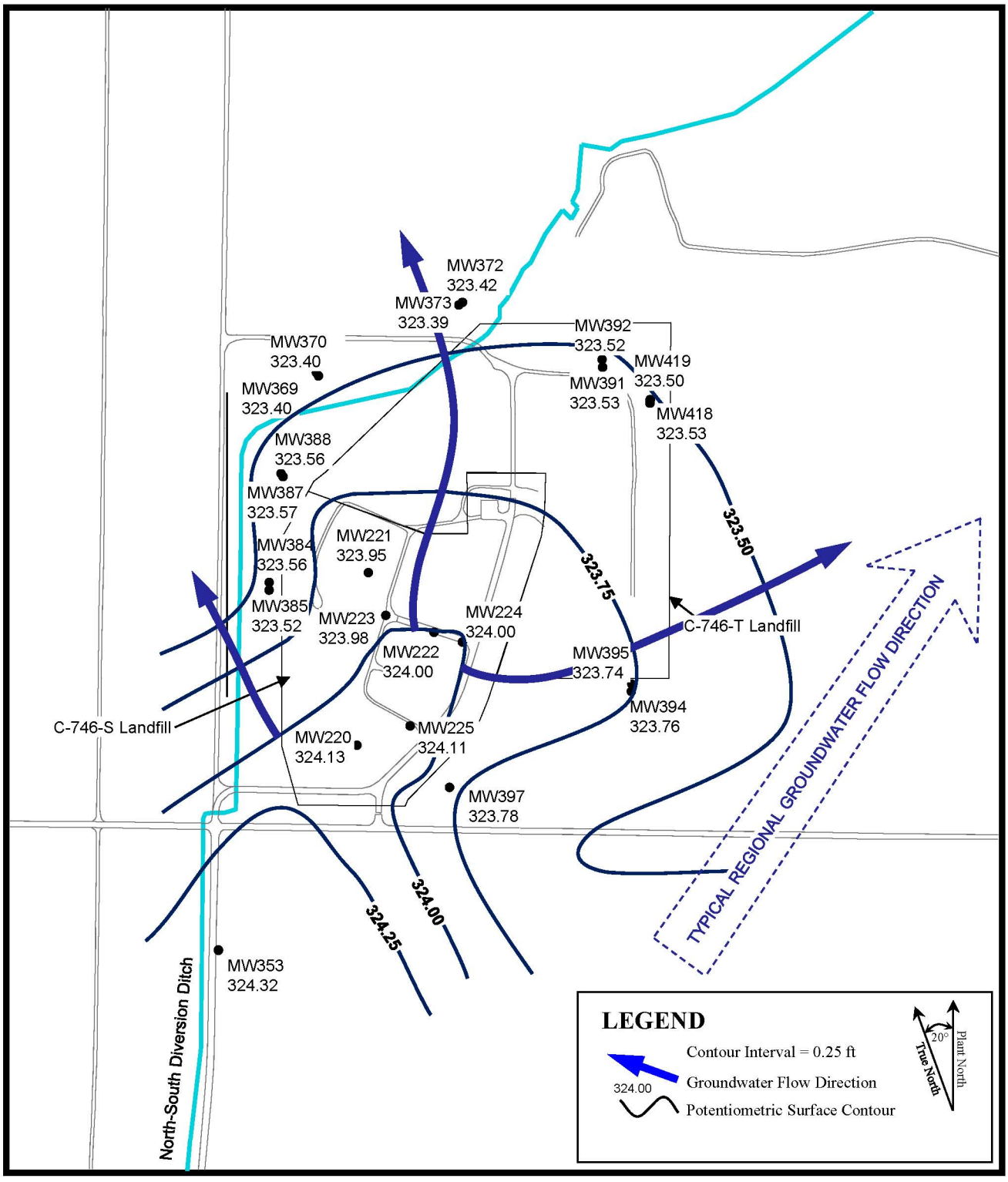
DTW = depth to water in feet below datum

URGA = Upper Regional Gravel Aquifer

LRGA = Lower Regional Gravel Aquifer

UCRS = Upper Continental Recharge System

*Assumes a barometric efficiency of 1.0



U.S. DEPARTMENT OF ENERGY
DOE PORTSMOUTH-PADUCAH PROJECT OFFICE
PADUCAH GASEOUS DIFFUSION PLANT

Figure E.2. Composite Potentiometric Surface of the Regional Gravel Aquifer at the C-746-S&T Landfills Permit Numbers 073-00014 & 073-00015 October 23, 2013

LATA Environmental Services of Kentucky, LLC

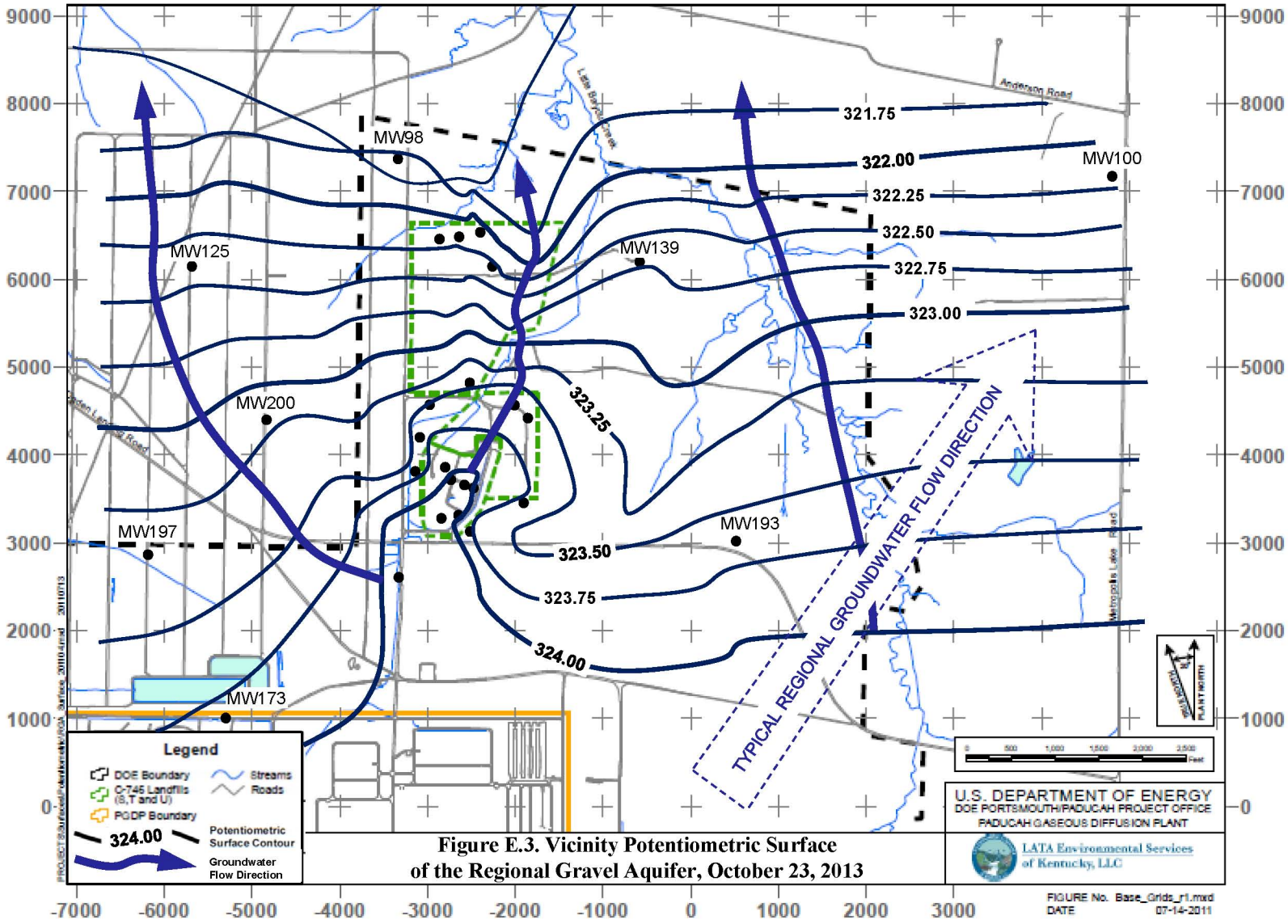


Figure E.3. Vicinity Potentiometric Surface of the Regional Gravel Aquifer, October 23, 2013

Table E.2. C-746-S&T Landfills Hydraulic Gradients

	ft/ft
Beneath Landfill Mound	7.27×10^{-4}
Vicinity	5.03×10^{-4}

Table E.3. C-746-S&T Landfills Groundwater Flow Rate

Hydraulic Conductivity (K)		Specific Discharge (q)		Average Linear Velocity (v)	
ft/day	cm/s	ft/day	cm/s	ft/day	cm/s
Beneath Landfill Mound					
725	0.256	0.53	1.86×10^{-4}	2.11	7.45×10^{-4}
425	0.150	0.31	1.09×10^{-4}	1.24	4.36×10^{-4}
Vicinity					
725	0.256	0.36	1.29×10^{-4}	1.46	5.15×10^{-4}
425	0.150	0.21	7.55×10^{-5}	0.86	3.02×10^{-4}

APPENDIX F

NOTIFICATIONS

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NOTIFICATIONS

In accordance with 401 *KAR* 48:300 § 7, the notification for parameters that exceed the maximum contaminant level (MCL) has been submitted to the Kentucky Division of Waste Management. The notification for parameters that had statistically significant increased concentrations relative to background concentrations is provided below.

STATISTICAL ANALYSIS OF PARAMETERS NOTIFICATION

The statistical analyses conducted on the fourth quarter 2013 groundwater data collected from the C-746-S&T Landfills monitoring wells (MWs) were performed in accordance with Permit Condition, GSTR0003, Standard Requirement 3, using the U.S. Environmental Protection Agency guidance document, *EPA Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance* (1989), with the exception of pH. The method for conducting the statistical analysis of pH was selected by the statistician.

The following are the parameters in 40 *CFR* § 302.4, Appendix A, which had statistically significant increased concentrations relative to background concentrations.

Parameter	Monitoring Well
Upper Continental Recharge System	
Technetium-99	MW390
Upper Regional Gravel Aquifer	
Technetium-99	MW372, MW384, MW387
Lower Regional Gravel Aquifer	
Technetium-99	MW373, MW385, MW388

NOTE: Although technetium-99 is not cited in 40 *CFR* § 302.4, Appendix A, these radionuclides are being reported along with the parameters of this regulation.

MCL NOTIFICATION

A notification was submitted for parameters that exceeded the MCL. The parameters submitted are listed on the following page.

11/18/2013

LATA Environmental Services of Kentucky
PROJECT ENVIRONMENTAL MEASUREMENTS SYSTEM
C-746-S and -T LANDFILLS
PERMIT NUMBERS 073-00014 and 073-00015
MAXIMUM CONTAMINANT LIMIT (MCL) EXCEEDANCE REPORT
Quarterly Groundwater Sampling

AKGWA	Station	Analysis	Method	Results	Units	MCL
8004-4808	MW372	Beta activity	9310/RL7111	131	pCi/L	50
		Trichloroethene	8260B/OA7302E	6.5	ug/L	5
8004-4792	MW373	Trichloroethene	8260B/OA7302E	6.8	ug/L	5
8004-4809	MW384	Beta activity	9310/RL7111	194	pCi/L	50
8004-4810	MW385	Beta activity	9310/RL7111	135	pCi/L	50
8004-4815	MW387	Beta activity	9310/RL7111	138	pCi/L	50
		Beta activity	9310/RL7111	134	pCi/L	50
8004-4816	MW388	Beta activity	9310/RL7111	75	pCi/L	50
8004-4805	MW391	Trichloroethene	8260B/OA7302E	13	ug/L	5
8004-4806	MW392	Trichloroethene	8260B/OA7302E	14	ug/L	5
8004-4802	MW394	Trichloroethene	8260B/OA7302E	6.2	ug/L	5

NOTE 1: These limits are defined in 401 KAR 47:030.

NOTE 2: MW370, MW372, and MW373 are down-gradient wells for the C-746-S and C-746-T Landfills and upgradient for the the C-746-U Landfill. These wells are sampled with the C-746-U Landfill monitoring well network. These wells are reported on the exceedance reports for C-746-S, C-746-T, and C-746-U.

APPENDIX G

CHART OF MCL EXCEEDANCES AND STATISTICALLY SIGNIFICANT INCREASES

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Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
1,2,3-TRICHLOROPROPANE																							
Quarter 2, 2009			✱																				
ACETONE																							
Quarter 3, 2003							✱					✱											
Quarter 4, 2003											✱								✱				
Quarter 1, 2005									✱														
ALPHA ACTIVITY																							
Quarter 4, 2002				■	■								■										
Quarter 4, 2008										■													
Quarter 4, 2010										■													
ALUMINUM																							
Quarter 1, 2003			✱				✱					✱	✱	✱									
Quarter 2, 2003			✱				✱						✱	✱									
Quarter 3, 2003			✱				✱	✱					✱	✱									
Quarter 4, 2003							✱	✱			✱			✱									
Quarter 1, 2004			✱				✱	✱			✱												
Quarter 2, 2004							✱							✱									
Quarter 3, 2004							✱							✱									
Quarter 4, 2004			✱																				
Quarter 1, 2005			✱																				
Quarter 2, 2005			✱				✱																
Quarter 3, 2005			✱				✱			✱											✱		
Quarter 4, 2005			✱				✱				✱												
Quarter 1, 2006							✱						✱										
Quarter 2, 2006			✱				✱																
Quarter 3, 2006							✱																
Quarter 4, 2006			✱				✱																
Quarter 1, 2007							✱										✱						
Quarter 2, 2007							✱										✱						
Quarter 3, 2007							✱																
Quarter 4, 2007							✱																
Quarter 1, 2008							✱							✱									
Quarter 2, 2008											✱												
Quarter 4, 2008							✱																
Quarter 1, 2009			✱				✱				✱												
Quarter 1, 2010			✱				✱				✱												
Quarter 2, 2010			✱								✱												
Quarter 3, 2010			✱								✱			✱			✱			✱			
Quarter 1, 2011							✱				✱												
Quarter 2, 2011			✱								✱												
Quarter 2, 2012			✱																				

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 3, 2012							✱																
Quarter 1, 2013							✱				✱												
Quarter 3, 2013			✱																				
BARIUM																							
Quarter 3, 2003							■	■															
Quarter 4, 2003							■	■															
BETA ACTIVITY																							
Quarter 4, 2002													■										
Quarter 1, 2003													■				■						
Quarter 2, 2003			■	■													■			■			
Quarter 3, 2003			■										■				■						
Quarter 4, 2003			■							■			■										
Quarter 1, 2004			■										■				■						
Quarter 2, 2004			■									■	■				■		■	■			
Quarter 3, 2004			■									■	■				■						
Quarter 4, 2004			■									■	■				■						
Quarter 1, 2005			■							■			■				■						
Quarter 2, 2005			■										■				■			■			
Quarter 3, 2005										■			■										
Quarter 4, 2005										■		■	■				■						
Quarter 1, 2006										■		■	■				■		■	■			
Quarter 2, 2006			■							■			■				■		■	■			
Quarter 3, 2006										■		■	■				■		■	■			
Quarter 4, 2006	■		■							■		■	■						■	■			
Quarter 1, 2007			■							■		■	■				■		■	■			
Quarter 2, 2007			■							■		■	■				■		■	■			
Quarter 3, 2007										■		■	■				■			■			
Quarter 4, 2007			■							■		■	■				■		■	■			
Quarter 1, 2008			■							■		■	■				■			■			
Quarter 2, 2008			■							■	■		■				■			■			
Quarter 3, 2008										■		■	■				■			■			
Quarter 4, 2008										■		■	■				■						
Quarter 1, 2009			■							■		■	■				■						
Quarter 2, 2009										■		■	■				■						
Quarter 3, 2009										■		■	■				■			■			
Quarter 4, 2009										■		■	■				■						
Quarter 1, 2010												■	■										
Quarter 2, 2010			■							■			■				■						
Quarter 3, 2010										■			■				■						
Quarter 4, 2010										■		■	■				■						
Quarter 1, 2011										■			■				■						

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 2, 2011			■							■			■				■						
Quarter 3, 2011										■			■				■			■			
Quarter 4, 2011										■		■	■				■						
Quarter 1, 2012			■							■			■				■			■			
Quarter 2, 2012			■							■			■				■			■			
Quarter 3, 2012										■		■	■				■						
Quarter 4, 2012										■		■	■				■		■	■			
Quarter 1, 2013										■		■	■						■	■			
Quarter 2, 2013										■			■				■			■			
Quarter 3, 2013										■		■	■				■		■	■			
Quarter 4, 2013										■		■	■				■			■			
BROMIDE																							
Quarter 1, 2003			✱																				
Quarter 4, 2003			✱																				
Quarter 1, 2004			✱																				
Quarter 2, 2004			✱																				
Quarter 3, 2004			✱																				
Quarter 4, 2004			✱																				
Quarter 1, 2005			✱																				
Quarter 3, 2006			✱																				
CALCIUM																							
Quarter 1, 2003			✱																				
Quarter 2, 2003			✱									✱											
Quarter 3, 2003			✱																				
Quarter 4, 2003			✱									✱							✱				
Quarter 1, 2004			✱									✱		✱					✱				
Quarter 2, 2004			✱									✱							✱				
Quarter 3, 2004			✱									✱							✱				
Quarter 4, 2004			✱									✱							✱				
Quarter 1, 2005												✱							✱				
Quarter 2, 2005												✱							✱				
Quarter 3, 2005												✱							✱				
Quarter 4, 2005												✱							✱				
Quarter 1, 2006												✱							✱				
Quarter 2, 2006												✱							✱				
Quarter 3, 2006												✱							✱				
Quarter 4, 2006												✱							✱				
Quarter 1, 2007												✱							✱				
Quarter 2, 2007												✱							✱				
Quarter 3, 2007												✱							✱				
Quarter 4, 2007												✱							✱				

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 1, 2008												*							*				
Quarter 2, 2008												*							*				
Quarter 3, 2008												*							*				
Quarter 4, 2008												*							*				
Quarter 1, 2009												*							*				
Quarter 2, 2009												*							*				
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Quarter 4, 2009												*							*				
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Quarter 2, 2011												*	*						*				
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CARBON DISULFIDE																							
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CHEMICAL OXYGEN DEMAND																							
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Quarter 2, 2003				*																			
Quarter 3, 2003				*			*			*													
Quarter 4, 2003				*																			
Quarter 1, 2004	*			*																			
Quarter 4, 2004	*																						
Quarter 1, 2005	*																						
Quarter 2, 2005	*																						
Quarter 3, 2005	*									*		*									*		
Quarter 4, 2005	*									*													
Quarter 1, 2006	*																						

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 2, 2006	*																						
Quarter 3, 2006	*																						
Quarter 4, 2006																	*						
Quarter 1, 2007	*									*													
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Quarter 4, 2011	*																						
Quarter 1, 2012	*																						
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CHLORIDE																							
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Quarter 3, 2005			*																				
Quarter 4, 2005			*																				
Quarter 1, 2006																		*					

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 2, 2006			*																				
Quarter 3, 2006			*																				
Quarter 4, 2006			*																				
Quarter 1, 2007			*																				
Quarter 2, 2007			*																				
Quarter 3, 2007			*																				
Quarter 4, 2007			*																				
Quarter 1, 2008			*																				
Quarter 2, 2008			*																				
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Quarter 2, 2009			*																				
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Quarter 2, 2010			*																				
Quarter 3, 2010			*																				
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Quarter 3, 2011			*																				
Quarter 4, 2011			*																				
Quarter 3, 2012			*																				
Quarter 3, 2013			*																				
Quarter 4, 2013			*																				
CHROMIUM																							
Quarter 4, 2002								■															
Quarter 1, 2003								■														■	
Quarter 2, 2003							■	■															
Quarter 3, 2009						■																	
COBALT																							
Quarter 3, 2003							*																
CONDUCTIVITY																							
Quarter 4, 2002										*									*				
Quarter 1, 2003			*							*									*				
Quarter 2, 2003			*							*									*				
Quarter 3, 2003			*					*		*									*				
Quarter 4, 2003			*							*									*				
Quarter 1, 2004																			*				
Quarter 2, 2004										*									*				

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 3, 2004										*									*				
Quarter 4, 2004			*							*									*				
Quarter 1, 2005										*		*							*				
Quarter 2, 2005												*							*				
Quarter 3, 2005																			*				
Quarter 4, 2005										*		*							*				
Quarter 1, 2006												*							*				
Quarter 2, 2006												*							*				
Quarter 3, 2006												*							*				
Quarter 4, 2006																	*		*				
Quarter 1, 2007												*							*				
Quarter 2, 2007																	*		*				
Quarter 3, 2007																	*		*				
Quarter 4, 2007												*					*		*				
Quarter 1, 2008												*							*				
Quarter 2, 2008												*							*				
Quarter 3, 2008												*					*		*				
Quarter 4, 2008												*							*				
Quarter 1, 2009												*							*				
Quarter 2, 2009												*							*				
Quarter 3, 2009												*							*				
Quarter 4, 2009												*					*		*				
Quarter 1, 2010												*							*				
Quarter 2, 2010												*							*				
Quarter 3, 2010												*							*				
Quarter 4, 2010												*							*				
Quarter 1, 2011										*		*							*				
Quarter 2, 2011												*							*				
Quarter 3, 2011												*							*				
Quarter 4, 2011												*							*				
Quarter 1, 2012											*	*							*				
Quarter 2, 2012												*							*				
Quarter 3, 2012												*							*				
Quarter 4, 2012												*							*				
Quarter 1, 2013												*							*				
Quarter 2, 2013												*							*				
Quarter 3, 2013												*							*				
Quarter 4, 2013												*							*				
DISSOLVED OXYGEN																							
Quarter 3, 2006			*					*															
DISSOLVED SOLIDS																							
Quarter 4, 2002										*									*				
Quarter 1, 2003			*							*									*				
Quarter 2, 2003			*							*									*				

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 3, 2003			*				*	*		*		*							*				
Quarter 4, 2003			*				*		*	*		*							*				
Quarter 1, 2004			*									*							*				
Quarter 2, 2004										*		*							*				
Quarter 3, 2004										*		*							*				
Quarter 4, 2004										*		*							*				
Quarter 1, 2005												*							*				
Quarter 2, 2005																			*				
Quarter 3, 2005																	*	*	*	*	*		
Quarter 4, 2005																	*	*	*	*	*		
Quarter 1, 2006																	*	*	*	*	*		
Quarter 2, 2006																	*	*	*	*	*		
Quarter 3, 2006																	*	*	*	*	*		
Quarter 4, 2006										*		*					*		*				
Quarter 1, 2007																			*				
Quarter 2, 2007										*		*							*				
Quarter 3, 2007										*		*							*				
Quarter 4, 2007												*							*				
Quarter 1, 2008												*							*				
Quarter 2, 2008												*							*				
Quarter 3, 2008												*							*				
Quarter 4, 2008										*		*							*				
Quarter 1, 2009												*							*				
Quarter 2, 2009												*	*						*				
Quarter 3, 2009												*	*						*				
Quarter 4, 2009												*	*						*				
Quarter 1, 2010												*	*						*				
Quarter 2, 2010										*		*	*						*				
Quarter 3, 2010										*		*							*				
Quarter 4, 2010										*		*							*				
Quarter 1, 2011										*		*							*				
Quarter 2, 2011												*	*						*				
Quarter 3, 2011												*							*				
Quarter 4, 2011												*							*				
Quarter 1, 2012											*	*	*						*				
Quarter 2, 2012												*							*				
Quarter 3, 2012										*		*	*						*				
Quarter 4, 2012												*	*						*				
Quarter 1, 2013										*		*							*				

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 2, 2013												*							*				
Quarter 3, 2013												*							*				
Quarter 4, 2013												*							*				
IODIDE																							
Quarter 4, 2002																					*		
Quarter 2, 2003						*																	
Quarter 3, 2003													*										
Quarter 1, 2004				*																			
Quarter 3, 2010																					*		
Quarter 2, 2013										*													
IRON																							
Quarter 1, 2003							*			*	*			*									
Quarter 2, 2003										*	*	*	*										
Quarter 3, 2003							*	*	*	*	*	*											
Quarter 4, 2003											*												
Quarter 1, 2004											*												
Quarter 2, 2004										*	*												
Quarter 3, 2004										*													
Quarter 4, 2004										*													
Quarter 1, 2005												*											
Quarter 2, 2005											*	*											
Quarter 1, 2006							*																
Quarter 2, 2006												*											
Quarter 3, 2006											*												
Quarter 1, 2007											*	*											
Quarter 2, 2007											*												
Quarter 2, 2008												*											
Quarter 3, 2008												*											
MAGNESIUM																							
Quarter 1, 2003			*																				
Quarter 2, 2003			*									*							*				
Quarter 3, 2003			*				*					*											
Quarter 4, 2003			*									*							*				
Quarter 1, 2004			*									*		*					*				
Quarter 2, 2004			*									*							*				
Quarter 3, 2004			*									*							*				
Quarter 4, 2004			*									*							*				
Quarter 1, 2005												*							*				
Quarter 2, 2005												*							*				

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 3, 2005												*							*				
Quarter 4, 2005												*							*				
Quarter 1, 2006												*							*				
Quarter 2, 2006												*							*				
Quarter 3, 2006												*							*				
Quarter 4, 2006												*							*				
Quarter 1, 2007												*							*				
Quarter 2, 2007												*							*				
Quarter 3, 2007												*							*				
Quarter 4, 2007												*							*				
Quarter 1, 2008												*							*				
Quarter 2, 2008												*							*				
Quarter 3, 2008												*							*				
Quarter 4, 2008												*							*				
Quarter 1, 2009												*							*				
Quarter 2, 2009												*							*				
Quarter 3, 2009												*	*						*				
Quarter 4, 2009												*							*				
Quarter 1, 2010												*							*				
Quarter 2, 2010												*	*						*				
Quarter 3, 2010												*							*				
Quarter 4, 2010												*							*				
Quarter 1, 2011												*							*				
Quarter 2, 2011												*	*						*				
Quarter 3, 2011												*							*				
Quarter 4, 2011												*							*				
Quarter 1, 2012												*							*				
Quarter 2, 2012												*							*				
Quarter 3, 2012												*	*						*				
Quarter 4, 2012												*	*						*				
Quarter 1, 2013												*							*				
Quarter 2, 2013												*							*				
Quarter 3, 2013												*							*				
Quarter 4, 2013												*							*				
MANGANESE																							
Quarter 4, 2002																					*		
Quarter 3, 2003							*	*															
Quarter 4, 2003							*	*															

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 1, 2004							*																
Quarter 2, 2004							*																
Quarter 4, 2004							*	*															
Quarter 1, 2005							*																
Quarter 3, 2005																					*		
Quarter 3, 2009	*																						
OXIDATION-REDUCTION POTENTIAL																							
Quarter 4, 2003			*																				
Quarter 2, 2004			*																				
Quarter 3, 2004			*															*					
Quarter 4, 2004			*			*																	
Quarter 1, 2005			*															*					
Quarter 2, 2005	*		*																				
Quarter 3, 2005	*		*																				
Quarter 4, 2005			*																				
Quarter 2, 2006			*																				
Quarter 3, 2006			*															*					
Quarter 4, 2006			*																				
Quarter 1, 2007			*																				
Quarter 2, 2007			*				*																
Quarter 3, 2007			*				*																
Quarter 4, 2007			*																				
Quarter 1, 2008			*			*			*														
Quarter 2, 2008	*		*	*		*							*				*		*	*			
Quarter 3, 2008			*	*		*							*				*		*	*			
Quarter 4, 2008			*	*		*	*	*	*				*				*	*		*			
Quarter 1, 2009			*				*	*	*				*	*				*		*			
Quarter 3, 2009			*	*		*											*	*	*	*			
Quarter 4, 2009			*			*			*									*		*			
Quarter 1, 2010	*		*																	*			
Quarter 2, 2010	*		*	*					*				*				*	*		*			
Quarter 3, 2010	*		*	*		*											*	*	*	*			
Quarter 4, 2010			*					*			*			*			*	*	*	*			
Quarter 1, 2011	*			*		*	*	*	*		*		*	*			*	*		*	*		
Quarter 2, 2011	*		*	*			*	*	*	*	*		*	*			*	*	*	*	*		
Quarter 3, 2011	*		*	*			*		*		*		*				*	*	*	*			
Quarter 4, 2011	*		*	*			*				*						*	*		*			
Quarter 1, 2012	*		*	*		*	*	*	*	*			*	*			*	*	*	*	*		

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 2, 2012	*		*				*		*		*		*	*			*	*	*	*	*		
Quarter 3, 2012	*		*			*	*	*	*	*			*	*			*	*	*	*	*		
Quarter 4, 2012				*		*		*	*	*	*		*	*			*	*	*	*	*		
Quarter 1, 2013				*		*		*	*		*		*	*				*		*	*		
Quarter 2, 2013	*			*			*		*		*		*				*	*	*	*	*		
Quarter 3, 2013	*		*	*		*	*	*	*	*			*				*	*	*	*			
Quarter 4, 2013			*	*		*	*	*	*	*	*	*	*	*			*	*	*	*	*		
PCB, 1016																							
Quarter 4, 2003							*	*	*		*							*					
Quarter 3, 2004											*												
Quarter 3, 2005							*				*												
Quarter 1, 2006											*												
Quarter 2, 2006											*												
Quarter 4, 2006											*												
Quarter 1, 2007											*	*											
Quarter 2, 2007												*											
Quarter 3, 2007											*												
Quarter 2, 2008											*	*											
Quarter 3, 2008											*												
Quarter 4, 2008											*												
Quarter 1, 2009											*												
Quarter 2, 2009											*												
Quarter 3, 2009											*												
Quarter 4, 2009											*												
Quarter 1, 2010											*												
Quarter 2, 2010											*												
Quarter 3, 2010											*												
Quarter 4, 2010											*												
PCB-1232																							
Quarter 1, 2011											*												
PCB-1248																							
Quarter 2, 2008												*											
PCB-1260																							
Quarter 2, 2006																		*					
pH																							
Quarter 4, 2002																	*						
Quarter 2, 2003																	*						

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 3, 2003																	*						
Quarter 4, 2003							*										*						
Quarter 1, 2004							*										*						
Quarter 2, 2004																	*						
Quarter 3, 2004																	*						
Quarter 4, 2004																	*						
Quarter 3, 2005										*							*				*		
Quarter 4, 2005										*							*						
Quarter 1, 2006																	*						
Quarter 2, 2006																	*						
Quarter 3, 2006																	*						
Quarter 3, 2007																	*						
Quarter 4, 2007																	*						
Quarter 4, 2008																	*						
Quarter 1, 2009																	*						
Quarter 1, 2011																	*						
Quarter 2, 2011											*												
Quarter 3, 2011											*												
Quarter 1, 2012														*									
Quarter 1, 2013										*			*				*						
POTASSIUM																							
Quarter 4, 2002																		*	*				
Quarter 3, 2004																			*				
Quarter 2, 2005																			*				
Quarter 3, 2005																			*				
Quarter 4, 2005																			*				
Quarter 2, 2006																			*				
Quarter 3, 2006																			*				
Quarter 4, 2006																			*				
Quarter 4, 2008																			*				
Quarter 3, 2012																			*				
Quarter 1, 2013																			*				
Quarter 2, 2013																			*				
Quarter 3, 2013																			*				
RADIUM-226																							
Quarter 4, 2002			*										*	*							*		
Quarter 2, 2004																			*				
Quarter 2, 2005									*														

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 1, 2009											✱												
RADIUM-228																							
Quarter 2, 2005							■				■												
Quarter 3, 2005			■																				
Quarter 4, 2005							■		■														
Quarter 1, 2006					■																		
SELENIUM																							
Quarter 4, 2002			■		■																		
Quarter 1, 2003					■																	■	
Quarter 2, 2003			■																				
Quarter 3, 2003			■		■																		
Quarter 4, 2003			■																				
SODIUM																							
Quarter 4, 2002																			✱		✱		
Quarter 1, 2003				✱					✱	✱	✱												
Quarter 2, 2003				✱						✱	✱		✱										
Quarter 3, 2003							✱	✱		✱													
Quarter 4, 2003							✱		✱	✱													
Quarter 1, 2004									✱	✱				✱									
Quarter 2, 2004										✱													
Quarter 3, 2004										✱													
Quarter 4, 2004									✱	✱													
Quarter 1, 2005										✱									✱				
Quarter 2, 2005										✱									✱				
Quarter 3, 2005									✱	✱									✱				
Quarter 4, 2005									✱	✱													
Quarter 1, 2006									✱	✱													
Quarter 2, 2006									✱														
Quarter 3, 2006									✱	✱		✱							✱				
Quarter 4, 2006									✱	✱							✱						
Quarter 1, 2007									✱			✱											
Quarter 2, 2007									✱	✱													
Quarter 3, 2007									✱														
Quarter 4, 2007									✱														
Quarter 1, 2008									✱														
Quarter 3, 2008												✱											
Quarter 4, 2008									✱	✱													
Quarter 1, 2009									✱			✱							✱				

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 3, 2009												✱											
Quarter 4, 2009									✱			✱											
Quarter 1, 2010												✱											
Quarter 2, 2010										✱		✱											
Quarter 3, 2010										✱													
Quarter 4, 2010									✱	✱													
Quarter 1, 2011										✱													
Quarter 2, 2011									✱														
Quarter 4, 2011																			✱				
Quarter 1, 2012											✱												
Quarter 3, 2012												✱							✱				
Quarter 4, 2012												✱											
Quarter 1, 2013										✱		✱							✱				
Quarter 2, 2013												✱											
Quarter 3, 2013												✱							✱				
Quarter 4, 2013												✱							✱				
STRONTIUM-90																							
Quarter 2, 2003										■													
Quarter 1, 2004										■													
SULFATE																							
Quarter 4, 2002																			✱				
Quarter 1, 2003												✱	✱				✱		✱				
Quarter 2, 2003										✱		✱	✱					✱	✱				
Quarter 3, 2003										✱		✱	✱						✱				
Quarter 4, 2003										✱		✱	✱						✱				
Quarter 1, 2004										✱		✱	✱					✱	✱				
Quarter 2, 2004										✱		✱	✱				✱	✱	✱	✱			
Quarter 3, 2004									✱	✱		✱	✱					✱	✱				
Quarter 4, 2004										✱		✱	✱					✱	✱				
Quarter 1, 2005										✱		✱	✱				✱	✱	✱				
Quarter 2, 2005										✱		✱	✱					✱	✱				
Quarter 3, 2005										✱		✱	✱				✱	✱	✱				
Quarter 4, 2005										✱		✱	✱					✱	✱	✱			
Quarter 1, 2006										✱		✱	✱				✱	✱	✱	✱			
Quarter 2, 2006									✱	✱		✱	✱				✱	✱	✱	✱			
Quarter 3, 2006									✱	✱		✱	✱				✱		✱	✱			
Quarter 4, 2006									✱	✱		✱	✱				✱		✱				
Quarter 1, 2007									✱	✱		✱	✱				✱		✱	✱			
Quarter 2, 2007									✱	✱		✱	✱				✱		✱	✱			
Quarter 3, 2007									✱	✱		✱	✱				✱		✱	✱			

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 4, 2007										*		*	*				*	*	*	*			
Quarter 1, 2008										*		*	*				*	*	*	*			
Quarter 2, 2008								*		*	*	*	*	*			*	*	*	*			
Quarter 3, 2008										*		*	*				*	*	*	*			
Quarter 4, 2008										*		*	*				*		*				
Quarter 1, 2009										*		*	*				*	*	*				
Quarter 2, 2009									*	*		*	*				*	*	*	*			
Quarter 3, 2009									*	*		*	*				*	*	*	*			
Quarter 4, 2009	*									*		*	*				*	*	*				
Quarter 1, 2010	*								*	*		*	*				*		*				
Quarter 2, 2010									*	*		*	*				*	*	*	*			
Quarter 3, 2010										*		*	*				*	*	*	*			
Quarter 4, 2010	*									*		*	*				*	*	*				
Quarter 1, 2011	*									*		*	*				*	*	*				
Quarter 2, 2011	*									*		*	*	*			*	*	*	*			
Quarter 3, 2011	*									*		*	*	*			*	*	*	*			
Quarter 4, 2011	*									*		*	*				*	*	*	*			
Quarter 1, 2012	*									*		*	*				*	*	*	*			
Quarter 2, 2012	*									*		*	*				*	*	*	*			
Quarter 3, 2012	*									*		*	*				*	*	*	*			
Quarter 4, 2012										*		*	*				*	*	*	*			
Quarter 1, 2013										*		*	*				*	*	*	*			
Quarter 2, 2013										*		*	*	*			*	*	*	*			
Quarter 3, 2013										*		*	*	*			*	*	*	*			
Quarter 4, 2013										*		*	*				*	*	*	*			
TECHNETIUM-99																							
Quarter 4, 2002																			*				
Quarter 1, 2003													*				*		*				
Quarter 2, 2003	*		*							*			*				*						
Quarter 3, 2003			*										*				*			*			
Quarter 4, 2003			*							*		*	*				*		*	*			
Quarter 1, 2004			*									*	*				*		*				
Quarter 2, 2004			*									*	*				*		*	*			
Quarter 3, 2004			*									*					*		*				
Quarter 4, 2004			*							*		*	*				*	*	*				
Quarter 1, 2005			*							*		*	*				*			*			
Quarter 2, 2005			*							*			*				*	*	*	*			
Quarter 3, 2005			*							*			*				*	*	*	*			
Quarter 4, 2005			*							*		*	*				*		*	*			
Quarter 1, 2006										*		*	*						*	*			
Quarter 2, 2006			*							*			*				*	*	*	*			
Quarter 3, 2006			*							*			*				*	*	*	*			

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 4, 2006	*									*		*	*						*	*			
Quarter 1, 2007			*							*			*				*		*	*			
Quarter 2, 2007			*							*		*	*				*	*		*			
Quarter 3, 2007			*							*	*	*	*				*		*	*			
Quarter 4, 2007			*							*		*	*				*		*	*			
Quarter 1, 2008			*							*		*	*				*	*	*	*			
Quarter 2, 2008			*							*	*		*				*		*	*			
Quarter 3, 2008										*		*	*				*			*			
Quarter 4, 2008			*							*		*	*				*	*	*	*			
Quarter 1, 2009			*							*		*	*				*						
Quarter 2, 2009			*							*		*	*				*	*		*			
Quarter 3, 2009			*							*	*	*	*				*			*			
Quarter 4, 2009			*							*		*	*				*						
Quarter 1, 2010			*							*		*	*				*						
Quarter 2, 2010			*							*			*				*	*		*			
Quarter 3, 2010			*							*	*	*	*				*						
Quarter 4, 2010			*							*		*	*				*						
Quarter 1, 2011										*			*				*						
Quarter 2, 2011			*							*			*				*			*			
Quarter 3, 2011			*							*			*				*			*			
Quarter 4, 2011			*							*	*	*	*				*						
Quarter 1, 2012			*							*			*				*			*			
Quarter 2, 2012			*							*			*				*		*	*			
Quarter 3, 2012			*							*		*	*				*						
Quarter 4, 2012										*		*	*				*		*	*			
Quarter 1, 2013										*			*				*		*	*			
Quarter 2, 2013										*		*	*				*		*	*			
Quarter 3, 2013			*							*		*	*				*		*	*			
Quarter 4, 2013			*							*		*	*				*		*	*			
THORIUM-230																							
Quarter 1, 2012	*								*					*									
THORIUM-234																							
Quarter 2, 2003						*			*					*									
Quarter 4, 2007									*														
TOTAL ORGANIC CARBON																							
Quarter 4, 2002																					*		
Quarter 1, 2003				*						*	*							*	*		*		
Quarter 2, 2003										*	*		*								*		
Quarter 3, 2003							*	*	*	*	*	*											

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 4, 2003							*		*	*													
Quarter 1, 2004										*													
Quarter 2, 2004										*	*												
Quarter 3, 2004										*													
Quarter 4, 2004										*													
Quarter 1, 2005										*													
Quarter 2, 2005										*											*		
Quarter 3, 2005										*		*									*		
Quarter 4, 2005										*											*		
Quarter 1, 2006										*													
Quarter 2, 2006										*		*											
Quarter 4, 2006																	*						
Quarter 1, 2007	*									*													
Quarter 3, 2007	*					*	*	*	*	*			*	*			*						
Quarter 2, 2011											*												
Quarter 3, 2012	*																						
TOTAL ORGANIC HALIDES																							
Quarter 4, 2002																		*	*		*		
Quarter 1, 2003				*														*			*		
Quarter 3, 2003				*																	*		
Quarter 2, 2004																					*		
Quarter 3, 2004	*																						
Quarter 1, 2005	*																						
Quarter 2, 2005	*																						
Quarter 3, 2005	*																						
Quarter 4, 2005	*																						
Quarter 1, 2006	*																						
Quarter 2, 2006	*																						
Quarter 3, 2006	*																						
Quarter 4, 2006																	*						
Quarter 1, 2007	*																						
Quarter 2, 2007	*																						
Quarter 3, 2007	*																						
Quarter 4, 2007	*																				*		
Quarter 1, 2008	*																						
Quarter 1, 2008	*																						
Quarter 3, 2008	*																						
Quarter 4, 2008	*																						
Quarter 1, 2009	*																						
Quarter 2, 2009	*																				*		
Quarter 3, 2009	*																						

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 4, 2009	✱																						
Quarter 1, 2010	✱																						
Quarter 2, 2010	✱																						
Quarter 3, 2010	✱																						
Quarter 4, 2010	✱																						
Quarter 1, 2011	✱																						
Quarter 3, 2013																					✱		
TRICHLOROETHENE																							
Quarter 4, 2002														■		■					■	■	
Quarter 1, 2003														■		■					■	■	
Quarter 2, 2003														■		■					■	■	
Quarter 3, 2003														■		■					■	■	
Quarter 4, 2003														■		■					■	■	
Quarter 1, 2004														■		■					■	■	
Quarter 2, 2004												■		■		■		■	■		■	■	
Quarter 3, 2004												■		■		■		■	■		■	■	
Quarter 4, 2004												■		■		■		■	■		■	■	
Quarter 1, 2005												■		■		■		■	■		■	■	
Quarter 2, 2005												■		■		■		■	■		■	■	
Quarter 3, 2005												■		■		■		■	■		■	■	
Quarter 4, 2005												■		■		■		■	■		■	■	
Quarter 1, 2006												■		■		■		■	■		■	■	
Quarter 2, 2006												■		■		■		■	■		■	■	
Quarter 2, 2007												■		■		■			■		■	■	
Quarter 3, 2007												■		■		■			■		■	■	
Quarter 4, 2007												■		■		■			■		■	■	
Quarter 1, 2008												■		■		■			■		■		
Quarter 2, 2008												■		■		■			■		■		
Quarter 3, 2008												■		■		■			■		■		
Quarter 4, 2008												■		■		■			■		■		
Quarter 1, 2009												■		■		■			■		■		
Quarter 2, 2009												■		■		■			■		■		
Quarter 3, 2009												■		■		■			■		■		
Quarter 4, 2009											■	■		■		■			■		■		
Quarter 1, 2010												■		■		■			■		■		
Quarter 2, 2010												■		■		■			■		■		
Quarter 3, 2010												■		■		■			■		■	■	
Quarter 4, 2010												■		■		■			■		■	■	
Quarter 1, 2011												■		■		■			■		■	■	
Quarter 2, 2011												■		■		■			■		■		
Quarter 3, 2011												■		■		■			■		■		
Quarter 4, 2011												■		■		■			■		■	■	

Chart of MCL Exceedances and Statistical Increases for C-746-S&T Landfills

Groundwater Flow System	UCRS					URGA											LRGA						
Gradient	S	D	D	D	U	S	S	S	S	S	D	D	D	D	U	U	S	D	D	D	D	U	U
Monitoring Well	386	389	390	393	396	221	222	223	224	384	369	372	387	391	220	394	385	370	373	388	392	395	397
Quarter 1, 2012												■		■		■			■		■	■	
Quarter 2, 2012												■		■					■		■		
Quarter 3, 2012												■		■					■		■		
Quarter 4, 2012											■	■		■		■			■		■		
Quarter 1, 2013												■		■		■			■		■		
Quarter 2, 2013												■		■					■		■		
Quarter 3, 2013												■		■					■		■		
Quarter 4, 2013												■		■		■			■		■		
TURBIDITY																							
Quarter 4, 2002																					✱		
Quarter 1, 2003							✱					✱		✱									
URANIUM																							
Quarter 4, 2002																		✱	✱				
Quarter 1, 2003																			✱				
Quarter 4, 2003							✱																
Quarter 1, 2004							✱	✱	✱					✱			✱						
Quarter 4, 2004																	✱						
Quarter 4, 2006																			✱		✱		
ZINC																							
Quarter 3, 2003												✱											
Quarter 4, 2003							✱		✱			✱											
Quarter 4, 2004							✱																
Quarter 4, 2007							✱	✱	✱														

✱	Statistical test results indicate an elevated concentration (i.e., a statistically significant increase)
■	MCL Exceedance
UCRS	Upper Continental Recharge System
URGA	Upper Regional Gravel Aquifer
LRGA	Lower Regional Gravel Aquifer
S	Sidegradient; D Downgradient; U Upgradient

APPENDIX H

METHANE MONITORING DATA

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C-746-S & T LANDFILL METHANE MONITORING REPORT

Date:	12/18/2013	Time:	13:40	Monitor:	Tammy Smith

Weather Conditions:
Sunny and cool at 55 degrees

Monitoring Equipment:
MSA Sirius A37746

Monitoring Location		Reading (% LEL)
Ogden Landing Road Entrance	Checked at ground level	0
North Landfill Gate	Checked at ground level	0
West Side of Landfill: North 37° 07.652' West 88° 48.029'	Checked at ground level	0
East Side of Landfill: North 37° 07.628' West 88° 47.798'	Checked at ground level	0
Cell 1 Gas Vent (17)	10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170	0
Cell 2 Gas Vent (3)	10 20 30	0
Cell 3 Gas Vent (7)	10 20 30 40 50 60 70	0
Landfill Office	Check at floor level	0
Suspect or Problem Areas	No areas noted	JB 12-18-13

Remarks:

ALL VENTS CHECKED 1' FROM THE MOUTH OF VENT

Performed by:

Tammy Smith — 12-18-13

Signature — Date

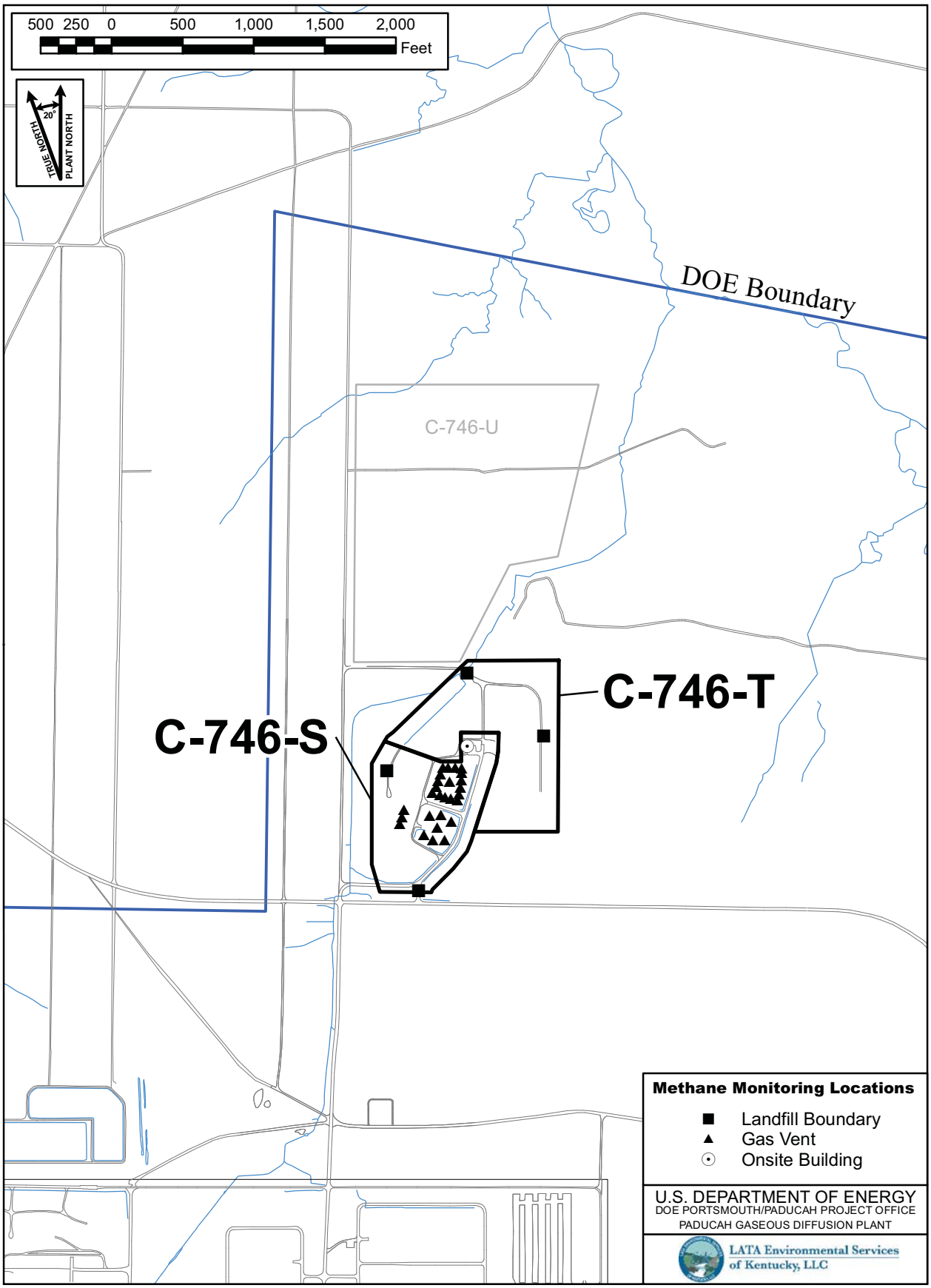

Figure H.1. C-746-S&T Methane Monitoring Locations