SANTEK
WasteServices

650 25th Street, N.W., Suite 100
Cleveland, Tennessee 37311
(423) 303-7101

Email: mail@santekenviro.com
Internet: www.santekenviro.com

January 27, 2017

Mr. Patrick Mulligan
Tennessee Department of Environment and Conservation
Division of Solid Waste Management
3711 Middlebrook Pike
Knoxville, TN 37921-5602

RE: Groundwater Monitoring Report – 2nd Semi-Annual Event
Matlock Bend Landfill
SNL #53-103-0203

Dear Mr. Mulligan:

Please find enclosed a copy of the groundwater monitoring report generated from the second semi-annual groundwater event of 2016 at the Matlock Bend Landfill. This package includes data pertaining to site information, geologic summary, groundwater sampling, analytical laboratory reports, statistical analysis, and groundwater elevations and flow.

If you have any questions and/or comments, please feel free to call at (423) 303-7101.

Sincerely,

Robert Hudson

Robert Hudson
Environmental Compliance Coordinator

Enclosure

cc: Steve Field, Loudon County Solid Waste Department Chairman
Matt Dillard, Executive V.P. of Operations, Santek
Ron E. Vail, P.E., Executive V.P. of Engineering, Santek
Raymond Givens, Landfill Manager, Santek

MATLOCK BEND LANDFILL – PHASE I & PHASE II/IV UPGRADE
GROUNDWATER MONITORING REPORT
2nd SEMI-ANNUAL EVENT - 2016

SANTEK PROJECT NO. 200-1610.6

SANTEK
WasteServices

PREPARED BY:
SANTEK WASTE SERVICES
650 25TH STREET NW, SUITE 100
CLEVELAND, TN 37311

JANUARY 2017

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1.0 INTRODUCTION

In accordance with the Tennessee Department of Environment and Conservation's Solid Waste Processing and Disposal Rule 0400-11-01-.04(7), Santek Waste Services, Inc. (Santek) is submitting the groundwater monitoring report for the second semi-annual event for 2016 at the Matlock Bend Landfill. The sampling and analytical were performed in accordance with the Tennessee Department of Environment and Conservation's Solid Waste Processing and Disposal Rules as well as the site's approved groundwater monitoring plan dated December 1996. The groundwater monitoring plan is incorporated in the landfill's Operations Plan. The site's groundwater monitoring network consists of six monitoring wells, three downgradient wells for Phase I, two downgradient wells for Phase II/IV, with one upgradient well for both phases. MW-4R is the upgradient well for Phase I and Phase II/IV. MW-01, MW-1A, and MW-02 are the downgradient wells for Phase I; MW-03 and MW-05 are the downgradient wells for Phase II/IV. In accordance with the TDEC groundwater report review dated September 30, 2016, Santek is now monitoring the facility as one unit with one upgradient monitoring location (MW-4R). However, once Phase I ends the post-closure care period on January 21, 2028, the downgradient monitoring wells associated with Phase I will no longer continue to be monitored. Santek contracted with Environmental Monitoring Services, LLC (EMS) to perform the sampling. Statistical analyses were performed by Santek. Santek contracted with Analytical Environmental Services, Inc. (AES) to perform all analytical testing.

1.1 SITE INFORMATION

The Matlock Bend Landfill is located approximately five miles west of Loudon, TN, at latitude N 35° 44' 48" and longitude W 84° 24' 43". The site consists of 35.3 constructed acres of ridge-top and sloped hillside topography bordering Tennessee Highway 72 for approximately 250 feet extending northward 4,800 feet.

2.0 SAMPLING AND ANALYTICAL

The groundwater sampling event was performed by EMS on November 29 & 30, 2016. All samples were analyzed for Appendix I constituents, as well as the required additional 14 parameters at the Phase I wells (MW-01, MW-1A, MW-02, and MW-03). All samples were submitted to AES for analysis. A duplicate was obtained from MW-1A. Field sampling logs are provided in Appendix A. Analytical results are provided in Appendix B.

3.0 STATISTICAL ANALYSIS

3.1 Statistical Analysis Method

Santek is submitting a control chart approach to satisfy the statistical analysis requirement. Well #4R is the upgradient (background) well. Wells #01, #1A, #02, #03 and #05 are the downgradient (compliance) wells. The Appendix I analytical results for this sampling event are used to compare the compliance wells to the background well concentrations for each constituent elevated above detection limit. Parameters not detected above the reporting limits are not included in the control chart comparison. Parameters detected above the reporting limits are compared to the average background concentration. The mean (average) for each well is determined by using the actual analytical value if it exceeds the detection limit, or by using the method detection limit (MDL) if the result was a nondetect. If the average background concentration is greater than the results for the compliance well, then no significant increase is indicated. If the average

background concentration is less than the results of the compliance well, then the Tennessee (TN) Regulatory Limits of the Tennessee Solid Waste regulations are used for additional comparison to indicate potentially elevated concentrations. If there is no published TN Regulatory Limit, the EPA Region 4 Screening Level is used. Control charts are provided in Appendix C.

3.2 Statistical Analysis Summary

MW-01
There were no inorganic or organic constituents detected above the report limits during this event.

MW-1A
The control chart for MW-1A indicates zinc* is above the report limit. However, the result of this constituent does not exceed the background well's average which establishes the groundwater protection standards at this well.

MW-02
The control chart for MW-02 indicates zinc* is above the report limit and the background well's average. However, the result of this constituent does not exceed the EPA Region 4 screening level which establishes the groundwater protection standards at this well.

MW-03
There were no inorganic or organic constituents detected above the report limits during the event.

MW-4R
MW-4R is the upgradient (background) well.

MW-05
There were no inorganic or organic constituents detected above the report limits during the event.

4.0 FLOW DIRECTION AND RATES

Phase I Geological Summary:

Geologic information of Phase I is based on a Hydrogeologic Evaluation dated January 18, 1984, by G.N. Pruitt (TNDSWM). Phase I is located on a discontinuous, highly dissected upland with elevations ranging from approximately 865 feet (MSL) to 1,020 feet (MSL). The evaluation indicates a thick cover of silty-clayey soil which covers the majority of the site, the absence of shallow groundwater, and the absence of perennial springs and streams. No bedrock outcrops were viewed on site; however, an exposed dolomite limestone ledge resides east of the southeast property boundary. This rock exposure appears to originate from either the uppermost part of the Longview dolomite formation or the lower portion of the Newalla dolomite formation, both belonging to the Knox Group. Phase I is located in the Valley and Ridge physiographic region consisting of northeast/southwest trending valleys and ridges.

**Indicates TN Regulatory Limit is not available*

Phase II/IV Geological Summary:

Geologic information for Phase II/IV is based on a Hydrogeologic Investigation Report prepared by Theta Engineering, Inc. dated January 11, 1996. Phase II/IV is located in the Valley and Ridge physiographic region consisting commonly of northeast/southwest trending valleys and ridges. This area consists of discontinuous, highly dissected upland with elevations ranging from approximately 865 feet to 1,020 feet. Bedrock formations include the Copper Ridge Dolomite Formation and the Longview Dolomite Formation, both of which belong to the Knox Group. The area is dominantly covered by silty-clayey soil originating from the Fullerton, Clarksville, and Nolichucky Series.

Groundwater Flow:

The overall groundwater flow of Phase I is towards the southwest and will eventually flow to the Tennessee River. The groundwater flow rate ranges from 1.17×10^{-3} ft/day at MW-01 to 2.97×10^{-3} ft/day at MW-03. Groundwater flow direction of Phase II/IV locally flows towards the northwest and will ultimately flow to the Tennessee River. The groundwater flow rate ranges from 2.97×10^{-3} ft/day at MW-03 to 8.03×10^{-3} ft/day at MW-05. Groundwater flow rate and direction have been determined for each well and are included in Appendix D. A groundwater potentiometric contour map along with the Phase I and Phase II/IV limits is included in Appendix E.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The groundwater monitoring network at this site is adequately monitoring the uppermost aquifer and no changes are recommended at this time.

APPENDIX A

EMServices

Environmental Monitoring Services, LLC
Phone (770) 516-2081 *Fax (678) 445-3276*

December 1, 2016

Robert Hudson
Santek Waste Services
650 25th Street NW, Suite 100
Cleveland, TN 37311

RE: Groundwater monitoring at Loudon County Phase I Landfill

Robert,

On November 29th – 30th, we completed the semi-annual groundwater monitoring at the referenced site. The sampling activities were performed in accordance with the site's operating permit and EPA Region IV SESD SOP's.

After collecting the water level, we calculated the purge volume to three well-volumes using a standard formula. At each well, purging continued until at least three well-volumes were removed and the field parameters were stable, or until the well was dry. The purge water was captured in 5 gallon buckets to quantify the purge volumes.

We employed a submersible pump for the purging of wells MW-01, 1A, and 02, and a disposable poly bailer for purging MW-03. The pump used was attached to Teflon-lined tubing. The tubing and pump were rinsed after sampling each well. The bailers and new nylon string were discarded upon completion of the sampling event.

The wells were sampled using the same pump used to purge the well. The VOC and fluoride samples were collected immediately. If turbidity was at an unacceptable level when purging was complete (all other parameters stable), the well was allowed to settle overnight, but less than 24 hours. The wells that were initially purged and sampled with a submersible pump but had high turbidities later had metals samples collected using a new disposable poly bailer attached to new nylon string.

During the purging process, pH, conductivity, temperature and turbidity readings were collected and recorded in the logbook. Turbidity readings were again recorded at the time of metals sample collection if the well was allowed to settle. Field readings were recorded from the initial water pulled (0 gallons), well-volume 1, well-volume 2, well-volume 2.5 and well-volume 3. Stability was based on volume, rather than time (though the time between measurements fell within range of accepted guidance). The stability criteria used based on accepted guidance was at least 3 sets of readings within the following ranges: pH (± 0.1 SU), SC (± 10%), Temperature (± 1°C), and Turbidity (<10 NTU). If the measurements weren't stable as defined by the above criteria at the completion of purging 3 well-volumes, purging continued and readings recorded generally every 0.5-well volume up to 5 well-volumes. These readings were recorded from YSI 556MPS which was calibrated each morning. Turbidity readings were collected using a Hach DR-820, which is

zeroed periodically throughout the day. The Hach DR-820 contains a factory calibration which is checked in-house using formazine standards.

The samples were collected in containers provided by the laboratory. These containers were of types, sizes and preserved in a manner consistent with SW-846 and other guidance. Upon filling, the containers were placed on ice. The samples were delivered via lab courier under chain of custody to Analytical Environmental Services, (AES), located in Atlanta, Georgia.

We appreciate the opportunity to work with you on this project, and look forward to any feedback you have.

Respectfully,

Jeff Johnson

Attachments: Groundwater Field Data

FIELD SAMPLING LOG	WELL NO: MW-01
Location: Loudon County Landfill	Site: Matlock Bend Phase I
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 11-28-16 (Time) 1503	Purge End: (Date) 11-29-16 (Time) 1546
Purged by: CWord	
Depth Measurement Ref. Point* 830.87 ft	Well Casing. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Slope pH YSI Cond. YSI T° YSI .

Measure Well TD: 45.00 (-)Orig. DTW: 17.11 (=) Wtr. Col. Thick: 27.89

2"=0.163 Gals./ft. (=) 0.163 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 13.64 Total Purge Gals.

GW elev. Ref. 830.87 ft.(-) DTW: 17.11 ft. = 813.76 ft.

Purge/Sample Method: Disposable Poly Bailer or ~~SS Electric Submersible Pump~~
Decon. Method: Field Appendix B
Purge Water Containerized? (No)

Average Purge Rate: 0.20 (gallons per minute)
Weather: Sunny (65 °F)

Actual Time	Vol. Purged (Gallons)	pH	SC (uS/cm)	Temp (°C)	Turbidity (NTU)		Comments
1530	5.00	5.75	407	15.7	57	Cloudy No odor	
1546	7.50	6.14	420	15.3	23	Clear No odor	
	~~10.00~~						
	~~12.50~~						
	~~15.00~~						
	~~17.50~~						

Turbidity at metals sample collection: 15 NTU's

Comments: Purged dry @ 1.5 UV. Metals @ 0915 on 11-30-16
Allowed to settle.

*All Depths in Feet below Ref. Point on Wellhead, Generally Top of Casing (TOC) DTW= Depth to Water

~~20.00~~
~~22.50~~
~~25.00~~

FIELD SAMPLING LOG	WELL NO: MW-1A
Location: Loudon County Landfill	Site: Matlock Bend Phase I
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 11-29-16 (Time) 1453	Purge End: (Date) 11-29.16 (Time) 1512
Purged by: A. Howard	
Depth Measurement Ref. Point* 805.13 ft	Well Casing. ID: 2"

Equipment Used to Measure (Make, Model, etc) YSI-556 06H2623AP, DA820-D708206516G4

DTW Slope pH YSI Cond. YSI T° YSI .

Measure Well TD: 38.00 (-)Orig. DTW: 17.23 (=) Wtr. Col. Thick: 20.77

2"=0.163 Gals./ft. (=) 3.39 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 10.16 Total Purge Gals.

GW elev. Ref. 805.13 ft.(-) DTW: 17.23 ft. = 787.90 ft.

Purge/Sample Method: Disposable Poly Bailer or SS Electric Submersible Pump
Decon. Method: Field Appendix B
Purge Water Containerized? (No)

Average Purge Rate: 0.70 (gallons per minute)
Weather: Sunny (62 °F)

Actual Time	Vol. Purged (Gallons)	pH	SC (uS/cm)	Temp (°C)	Turbidity (NTU)		Comments
1453	0	7.30	639	21.1	153		cloudy/no odor
1458	3.50	7.40	789	18.9	47		clear
1502	5.50	6.67	814	17.8	30		clear/no odor
1505	7.75	6.45	812	17.8	22		
1508	9.00	6.46	813	17.8	19		
1512	10.25	6.48	819	17.8	26		

Turbidity at metals sample collection: 0 NTU's 11-30-16 0834

Comments: dup pulled here 1700

*All Depths in Feet below Ref. Point on Wellhead, Generally Top of Casing (TOC) DTW= Depth to Water

FIELD SAMPLING LOG	WELL NO: MW-02
Location: Loudon County Landfill	Site: Matlock Bend Phase I
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 11-29-16 (Time) 1322	Purge End: (Date) 11-29-16 (Time) 1345
Purged by: GDSC	
Depth Measurement Ref. Point* 825.20 ft	Well Casing, ID: 4"

Equipment Used to Measure (Make, Model, etc)

DTW Slope pH YSI Cond. YSI T° YSI .

Measure Well TD: 43.10 (-)Orig. DTW: 26.37 (=) Wtr. Col. Thick: 16.73 .

2"=0.653 Gals./ft. (=) 2.73 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 8.19 Total Purge Gals.

GW elev. Ref. 825.20 ft.(-) DTW: 26.37 ft. = 798.83 ft.

Purge/Sample Method: Disposable Poly Bailer or ~~SS Electric Submersible Pump~~
Decon. Method: Field Appendix B
Purge Water Containerized? (No)

Average Purge Rate: 0.50 (gallons per minute)
Weather: Cloudy (60 °F)

Actual Time	Vol. Purged (Gallons)	pH	SC (uS/cm)	Temp (°C)	Turbidity (NTU)		Comments
1329	2.75	4.85	49	15.6	72	Cloudy No odor	
1333	4.25	4.76	47	15.2	30	Clear No odor	
1336	5.75	4.76	49	15.1	27	Clear No odor.	
1345	7.25	4.79	51	16.3	≥1100	Brown No odor	
	~~8.75~~						
	~~10.25~~						

Turbidity at metals sample collection: 0 NTU's

Comments: Purged dry @ 2 gal. Metals @ 0932 on 11-30-16
Allowed to settle.

*All Depths in Feet below Ref. Point on Wellhead, Generally Top of Casing (TOC) DTW= Depth to Water

~~11.75~~
~~13.25~~
~~14.75~~

FIELD SAMPLING LOG	WELL NO: MW-03
Location: Loudon County Landfill	Site: Matlock Bend Phases I / II / IV
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 11-29-16 (Time) 1225	Purge End: (Date) 11-29-16 (Time) 1230
Purged by: CWD	
Depth Measurement Ref. Point* 867.86 ft	Well Casing. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Slope pH YSI Cond. YSI T° YSI

Measure Well TD: 41.60 (-)Orig. DTW: 29.25 (=) Wtr. Col. Thick: 12.35

2"=0.163 Gals./ft. (=) 2.01 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 6.04 Total Purge Gals.

GW elev. Ref. 867.86 ft.(-) DTW: 29.25 ft. = 838.61 ft.

Purge/Sample Method: ~~Disposable Poly Bailer~~ or SS Electric Submersible Pump
Decon. Method: Field Appendix B
Purge Water Containerized? (No)

Average Purge Rate: — (gallons per minute)
Weather: Cloudy (60 °F)

Actual Time	Vol. Purged (Gallons)	pH	SC (uS/cm)	Temp (°C)	Turbidity (NTU)		Comments
1230	2.25 ~~2.50~~	5.27	79	15.5	79	Cloudy Odor	
	~~3.50~~ ~~4.00~~						
	~~4.50~~ ~~5.00~~						
	~~5.50~~ 6.00						
	6.50 7.00						
	~~7.50~~						
	~~8.00~~						

Turbidity at metals sample collection: 9 NTU's

Comments: ~~Duplicate here~~ @ ~~1600~~ NTU = 9 after recharge.
Purged dry @ 1 Gal.

*All Depths in Feet below Ref. Point on Wellhead, Generally Top of Casing (TOC) DTW= Depth to Water

~~8.50~~
9.00
~~9.50~~
~~10.00~~
~~10.50~~
~~11.00~~

EMServices

Environmental Monitoring Services, LLC
Phone (770) 516-2081 *Fax (678) 445-3276*

December 1, 2016

Robert Hudson
Santek Waste Services
650 25th Street NW, Suite 100
Cleveland, TN 37311

RE: Groundwater monitoring at Loudon County Phase II/IV Landfill

Robert,

On November 29th and 30th, we completed the semi-annual groundwater monitoring at the referenced site. The sampling activities were performed in accordance with the site's operating permit and EPA Region IV SESD SOP's.

After collecting the water level, we calculated the purge volume to three well-volumes using a standard formula. At each well, purging continued until at least three well-volumes were removed and the field parameters were stable, or until the well was dry. The purge water was captured in 5 gallon buckets to quantify the purge volumes.

We employed a submersible pump for the purging of well MW-05 and a disposable poly bailer for the purging of well MW-03. The pump used was attached to Teflon-lined tubing. The tubing and pump were rinsed after sampling the well. The disposable bailer and nylon string were discarded upon completion of the sampling event. Well MW-04 had insufficient water for sampling purposes this event.

The wells were sampled using the same pump or bailer used to purge the well. The VOC and fluoride samples were collected immediately. If turbidity was at an unacceptable level when purging was complete (all other parameters stable), the well was allowed to settle overnight, but less than 24 hours. The wells that were initially purged and sampled with a submersible pump but had high turbidities later had metals samples collected using a new disposable poly bailer attached to new nylon string.

During the purging process, pH, conductivity, temperature and turbidity readings were collected and recorded in the logbook. Turbidity readings were again recorded at the time of metals sample collection if the well was allowed to settle. Field readings were recorded from the initial water pulled (0 gallons), well-volume 1, well-volume 2, well-volume 2.5 and well-volume 3. Stability was based on volume, rather than time (though the time between measurements fell within range of accepted guidance). The stability criteria used based on accepted guidance was at least 3 sets of readings within the following ranges: pH (± 0.1 SU), SC (± 10%), Temperature (± 1°C), and Turbidity (<10 NTU). If the measurements weren't stable as defined by the above criteria at the completion of purging 3 well-volumes, purging continued and readings recorded generally every 0.5 well-volume up to 5 well-volumes. These readings were recorded from YSI 556MPS which was calibrated each morning. Turbidity readings were collected using a Hach DR-820, which is

zeroed periodically throughout the day. The Hach DR-820 contains a factory calibration which is checked in-house using formazine standards.

The samples were collected in containers provided by the laboratory. These containers were of types, sizes and preserved in a manner consistent with SW-846 and other guidance. Upon filling, the containers were placed on ice. The samples were delivered via lab courier under chain of custody to Analytical Environmental Services, (AES), located in Atlanta, Georgia.

We appreciate the opportunity to work with you on this project, and look forward to any feedback you have.

Respectfully,

Jeff Johnson

Attachments: Groundwater Field Data

FIELD SAMPLING LOG	WELL NO: MW-4R
Location: Loudon County Landfill	Site: Matlock Bend Phases II/IV
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 11-29-16 (Time)	Purge End: (Date) 11-29-16 (Time)
Purged by: A. Hower &	
Depth Measurement Ref. Point* 992.32 ft	Well Casing. ID: 2"

Equipment Used to Measure (Make, Model, etc)

DTW Slope pH YSI Cond. YSI T° YSI

Measure Well TD: 106.50 (-)Orig. DTW: 105.54 (=) Wtr. Col. Thick: 0.96

2"=0.163 Gals./ft. (=) 0.16 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 0.47 Total Purge Gals.

GW elev. Ref. 992.32 ft.(-) DTW: 105.54 ft. = 886.78 ft.

Purge/Sample Method: Disposable Poly Bailer or SS Electric Submersible Pump
Decon. Method: Field Appendix B
Purge Water Containerized? (No)

Average Purge Rate: ~ (gallons per minute)
Weather: Sunny (62 °F)

Actual Time	Vol. Purged (Gallons)	pH	SC (uS/cm)	Temp (°C)	Turbidity (NTU)		Comments

Turbidity at metals sample collection: _____ NTU's

Comments: Insufficient water for sampling purposes

*All Depths in Feet below Ref. Point on Wellhead, Generally Top of Casing (TOC) DTW= Depth to Water

FIELD SAMPLING LOG	WELL NO: MW-05
Location: Loudon County Landfill	Site: Matlock Bend Phases II/IV
Client/Operator: Santek Waste Services, Inc.	Project No:
Purge Start: (Date) 11-28-16 (Time) 1147	Purge End: (Date) 11-29-16 (Time) 1217
Purged by: A. Howard	
Depth Measurement Ref. Point* 936.84 ft	Well Casing. ID: 2"

Equipment Used to Measure (Make, Model, etc) YSI-556 06112823AP, DR820-07 08206516G4

DTW Slope pH YSI Cond. YSI T° YSI .

Measure Well TD: 172.71 (-)Orig. DTW: 110.72 (=) Wtr. Col. Thick: 61.99

(x) 2"=0.163 Gals./ft. (=) 10.11 Gals./Csg. Vol. (x) 3 Csg. Vol. (=) 30.32 Total Purge Gals.

GW elev. Ref. 936.84 ft.(-) DTW: 110.72 ft. = 826.12 ft.

Purge/Sample Method: Disposable Poly Bailer or SS Electric Submersible Pump
Decon. Method: Field Appendix B
Purge Water Containerized? (No)

Average Purge Rate: 1.00 (gallons per minute)
Weather: cloudy (57 °F)

Actual Time	Vol. Purged (Gallons)	pH	SC (uS/cm)	Temp (°C)	Turbidity (NTU)		Comments
1147	0	6.78	271	18.0	19		clear/no odor
1157	10.25	6.96	278	17.7	74		cloudy / no odor
1202	15.50	6.94	268	17.4	86		
1207	20.50	7.11	269	17.4	97		
1212	25.50	7.14	268	17.4	99		
1217	30.50	7.16	269	17.4	101		

Turbidity at metals sample collection: 14 NTU's 11-30-16 0920

Comments: _____

*All Depths in Feet below Ref. Point on Wellhead, Generally Top of Casing (TOC) DTW= Depth to Water

APPENDIX B

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 15, 2016

Robert Hudson
Santek Environmental Inc.
650 25th Street NW, Suite 100
Cleveland TN 37311

TEL: (423) 476-9160
FAX: (423) 479-1952

RE: Loudon County (Matlock Bend) Landfill Phase I

Dear Robert Hudson: Order No: 1611Q38

Analytical Environmental Services, Inc. received 10 samples on November 30, 2016 2:47 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/16-06/30/17.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/16-06/30/17.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Chris Pafford
Project Manager

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1611038

Date: 11-30-16 Page 1 of 1

COMPANY:	ADDRESS:
Shaftek Environmental Inc	650 25th St. NW, Ste 100 Cleveland, TN 37311
PHONE:	FAX:
SAMPLED BY: A. Howard, E. Ward	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	TN Appl Vol (8260)	TN Appl Vol (8011)	TN Appl Metals (Ca, Fe, Mg, Mn, Na)	Diss. Mn	COD	TDS	F, Cl, NO3, SO4	CN	TOC, NH3						REMARKS	No # of Containers
							PRESERVATION (See codes)															
							H+I	I	N	F	S+I	I	I	2SO4 I	S+I							
1	MW-01	11-29-16	1546	X		GW	2	2			1	1	1	1	1							9
2	↳	11-30-16	0915	X		GW			1	1												2
3	MW-1A	11-29-16	1512	X		GW	2	2			1	1	1	1	1							9
4	↳	11-30-16	0934	X		GW			1	1												2
5	MW-02	11-29-16	1375	X		GW	2	2			1	1	1	1	1							9
6	↳	11-30-16	0932	X		GW			1	1												2
7	MW-03	11-29-16	1230	X		GW	2	2	1	1	1	1	1	1	1						Shared w/ Phase II/IV	11
8	Duplicate	11-29-16	1700	X		GW	2	2	1	1	1	1	1	1	1							11
9	Equipment Blank	11-29-16	0857	X		GW	2	2	1	1	1	1	1	1	1						Shared w/ Phase II/IV	11
10	Trip Blank	11-29-16	1057	X		GW	2	2	1	1	1	1	1	1	1						Shared w/ Phase II/IV	11
11																						
12																						
13																						
14																						

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1:	11/30/16/1520	1: Nov-30-16	1:47
2: Nov-30-16	1:47	2:	2:47 pm
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD:

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

PROJECT INFORMATION

PROJECT NAME: Loudon County (Matlock Bend) Landfill Phase I

PROJECT #:

SITE ADDRESS: 21712 Hwy 72N, Loudon, TN 37774

SEND REPORT TO: Robert Hudson

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 77

Turnaround Time Request

- [X] Standard 5 Business Days
- [ ] 2 Business Day Rush
- [ ] Next Business Day Rush
- [ ] Same Day Rush (auth req.)
- [ ] Other

STATE PROGRAM (if any): TN

E-mail? Y Fax? N

DATA PACKAGE: I ○ II ⊗ III ○ IV ○

SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY. IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.

SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: Santek Environmental Inc.
Project: Loudon County (Matlock Bend) Landfill Phase I
Lab ID: 1611Q38

Case Narrative

Ion Chromotography Analysis by Method 300.0:

Due to sample matrix, sample(s) 1611Q38-003Band -008B required dilution during preparation and/or analysis resulting in elevated reporting limits.

Micro-extractable VOC Analysis by Method 8011:

Matrix spike duplicate analyses were not performed with Batch 233987, 233988 due to insufficient sample volume.

TOC Analysis by Method SM5310B:

Due to sample matrix, sample(s) 1611Q38-001G, -003G, -008H, and -009H required dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Santek Environmental Work Order Number 1611Q38

Checklist completed by _____ 11/30/16
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 2.1 Cooler #2 2.2 Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\f\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: Santek Environmental Inc.
Project Name: Loudon County (Matlock Bend) Landfill Phase I
Lab Order: 1611Q38

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1611Q38-001A	MW-01	11/29/2016 3:46:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/2/2016 9:05:00AM	12/03/2016
1611Q38-001B	MW-01	11/29/2016 3:46:00PM	Groundwater	Inorganic Anions by IC			11/30/2016
1611Q38-001C	MW-01	11/29/2016 3:46:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q38-001D	MW-01	11/29/2016 3:46:00PM	Groundwater	Chemical Oxygen Demand (COD)			12/06/2016
1611Q38-001E	MW-01	11/29/2016 3:46:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q38-001F	MW-01	11/29/2016 3:46:00PM	Groundwater	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q38-001G	MW-01	11/29/2016 3:46:00PM	Groundwater	Nitrogen, Ammonia (as N)		12/5/2016 12:00:00PM	12/05/2016
1611Q38-001G	MW-01	11/29/2016 3:46:00PM	Groundwater	Total Organic Carbon by SM5310B			12/07/2016
1611Q38-002A	MW-01	11/30/2016 9:15:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-002A	MW-01	11/30/2016 9:15:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-002A	MW-01	11/30/2016 9:15:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-002A	MW-01	11/30/2016 9:15:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-002A	MW-01	11/30/2016 9:15:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/13/2016
1611Q38-002A	MW-01	11/30/2016 9:15:00AM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/06/2016
1611Q38-002B	MW-01	11/30/2016 9:15:00AM	Groundwater	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q38-003A	MW-1A	11/29/2016 3:12:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/2/2016 9:05:00AM	12/03/2016
1611Q38-003B	MW-1A	11/29/2016 3:12:00PM	Groundwater	Inorganic Anions by IC			12/01/2016
1611Q38-003C	MW-1A	11/29/2016 3:12:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q38-003D	MW-1A	11/29/2016 3:12:00PM	Groundwater	Chemical Oxygen Demand (COD)			12/06/2016
1611Q38-003E	MW-1A	11/29/2016 3:12:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q38-003F	MW-1A	11/29/2016 3:12:00PM	Groundwater	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q38-003G	MW-1A	11/29/2016 3:12:00PM	Groundwater	Nitrogen, Ammonia (as N)		12/5/2016 12:00:00PM	12/05/2016
1611Q38-003G	MW-1A	11/29/2016 3:12:00PM	Groundwater	Total Organic Carbon by SM5310B			12/07/2016
1611Q38-004A	MW-1A	11/30/2016 9:34:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-004A	MW-1A	11/30/2016 9:34:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-004A	MW-1A	11/30/2016 9:34:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-004A	MW-1A	11/30/2016 9:34:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-004A	MW-1A	11/30/2016 9:34:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/14/2016
1611Q38-004A	MW-1A	11/30/2016 9:34:00AM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/06/2016

Client: Santek Environmental Inc.
Project Name: Loudon County (Matlock Bend) Landfill Phase I
Lab Order: 1611Q38

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1611Q38-004B	MW-1A	11/30/2016 9:34:00AM	Groundwater	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q38-005A	MW-02	11/29/2016 1:45:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/06/2016
1611Q38-005B	MW-02	11/29/2016 1:45:00PM	Groundwater	Inorganic Anions by IC			11/30/2016
1611Q38-005C	MW-02	11/29/2016 1:45:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q38-005D	MW-02	11/29/2016 1:45:00PM	Groundwater	Chemical Oxygen Demand (COD)			12/06/2016
1611Q38-005E	MW-02	11/29/2016 1:45:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q38-005F	MW-02	11/29/2016 1:45:00PM	Groundwater	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q38-005G	MW-02	11/29/2016 1:45:00PM	Groundwater	Nitrogen, Ammonia (as N)		12/5/2016 12:00:00PM	12/05/2016
1611Q38-005G	MW-02	11/29/2016 1:45:00PM	Groundwater	Total Organic Carbon by SM5310B			12/06/2016
1611Q38-006A	MW-02	11/30/2016 9:32:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-006A	MW-02	11/30/2016 9:32:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-006A	MW-02	11/30/2016 9:32:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-006A	MW-02	11/30/2016 9:32:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-006A	MW-02	11/30/2016 9:32:00AM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/14/2016
1611Q38-006A	MW-02	11/30/2016 9:32:00AM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/06/2016
1611Q38-006B	MW-02	11/30/2016 9:32:00AM	Groundwater	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q38-007A	MW-03	11/29/2016 12:30:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/06/2016
1611Q38-007B	MW-03	11/29/2016 12:30:00PM	Groundwater	Inorganic Anions by IC			11/30/2016
1611Q38-007C	MW-03	11/29/2016 12:30:00PM	Groundwater	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q38-007D	MW-03	11/29/2016 12:30:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q38-007E	MW-03	11/29/2016 12:30:00PM	Groundwater	Chemical Oxygen Demand (COD)			12/06/2016
1611Q38-007F	MW-03	11/29/2016 12:30:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q38-007G	MW-03	11/29/2016 12:30:00PM	Groundwater	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q38-007H	MW-03	11/29/2016 12:30:00PM	Groundwater	Nitrogen, Ammonia (as N)		12/5/2016 12:00:00PM	12/05/2016
1611Q38-007H	MW-03	11/29/2016 12:30:00PM	Groundwater	Total Organic Carbon by SM5310B			12/06/2016
1611Q38-007I	MW-03	11/29/2016 12:30:00PM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-007I	MW-03	11/29/2016 12:30:00PM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-007I	MW-03	11/29/2016 12:30:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-007I	MW-03	11/29/2016 12:30:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016

Client: Santek Environmental Inc.
Project Name: Loudon County (Matlock Bend) Landfill Phase I
Lab Order: 1611Q38

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1611Q38-007I	MW-03	11/29/2016 12:30:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/14/2016
1611Q38-007I	MW-03	11/29/2016 12:30:00PM	Groundwater	TOTAL MERCURY		12/6/2016 3:00:00PM	12/07/2016
1611Q38-008A	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/06/2016
1611Q38-008B	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Inorganic Anions by IC			12/01/2016
1611Q38-008C	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q38-008D	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q38-008E	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Chemical Oxygen Demand (COD)			12/06/2016
1611Q38-008F	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q38-008G	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q38-008H	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Nitrogen, Ammonia (as N)		12/5/2016 12:00:00PM	12/05/2016
1611Q38-008H	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Total Organic Carbon by SM5310B			12/07/2016
1611Q38-008I	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-008I	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-008I	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-008I	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-008I	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/14/2016
1611Q38-008I	DUPLICATE	11/29/2016 5:00:00PM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/06/2016
1611Q38-009A	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/05/2016
1611Q38-009B	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Inorganic Anions by IC			12/01/2016
1611Q38-009C	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q38-009D	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q38-009E	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Chemical Oxygen Demand (COD)			12/06/2016
1611Q38-009F	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q38-009G	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q38-009H	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Nitrogen, Ammonia (as N)		12/5/2016 12:00:00PM	12/05/2016
1611Q38-009H	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Total Organic Carbon by SM5310B			12/07/2016
1611Q38-009I	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-009I	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-009I	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016

Client: Santek Environmental Inc.
Project Name: Loudon County (Matlock Bend) Landfill Phase I
Lab Order: 1611Q38

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1611Q38-009I	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-009I	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Aqueous	TOTAL MERCURY		12/6/2016 3:00:00PM	12/07/2016
1611Q38-010A	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/05/2016
1611Q38-010B	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Inorganic Anions by IC			12/01/2016
1611Q38-010C	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q38-010D	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q38-010E	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Chemical Oxygen Demand (COD)			12/06/2016
1611Q38-010F	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q38-010G	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q38-010H	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Nitrogen, Ammonia (as N)		12/5/2016 12:00:00PM	12/05/2016
1611Q38-010H	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Total Organic Carbon by SM5310B			12/06/2016
1611Q38-010I	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-010I	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-010I	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016
1611Q38-010I	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016
1611Q38-010I	TRIP BLANK	11/30/2016 12:00:00AM	Aqueous	TOTAL MERCURY		12/6/2016 3:00:00PM	12/07/2016

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 15, 2016

Robert Hudson
Santek Environmental Inc.
650 25th Street NW. Suite 100
Cleveland TN 37311

TEL: (423) 476-9160
FAX: (423) 479-1952

RE: Matlock Bend GW-PHASE II/IV

Dear Robert Hudson: Order No: 1611Q39

Analytical Environmental Services, Inc. received 5 samples on November 30, 2016 2:47 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/16-06/30/17.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/16-06/30/17.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Chris Pafford
Project Manager

3080 Presidential Drive • Atlanta, Georgia 30340 • Tel: 770.457.8177 • Fax: 770.457.8188 • Toll Free: 800.972.4889
www.aesatlanta.com

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1611039

Date: 11-30-16 Page 1 of 1

COMPANY:	ADDRESS:
Santek Environmental Inc	650 25th St NW. Ste 100 Cleveland, TN 37311
PHONE:	FAX:
SAMPLED BY: A. Howard, F. Ward	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	TN Appl vol (624)	TN Appl vol (604)	TN Appl Metals + Hg	TN Appl Metals + Hg (Ca, Fe, Mg, K, Na)	Diss Mn	COD	TOS	F, Cl, NO_3, SO_4	CN	TOC, NH_3	Fluoride			PRESERVATION (See codes)	REMARKS	No # of Containers
1	MW-03	11-29-16	1230	X		GW	2	2		1	1	1	1	1	1	1				H+I N I S+I I I N+I S+I I	Shared w/ Phase I	11
2	MW-05	11-29-16	1217	X		GW	2	2								1						5
3	↳	11-30-16	0920	X		GW			1													1
4	Equipment blank	11-29-16	1057	X		W	2	2	1							1					Shared w/ Phase I	6
5	Trip Blank	11-29-16	1057	X		W	2	2	1							1					Shared w/ Phase I	6
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	11/30/16 1326	1: Nov-30-16	1547
2: Nov-30-16	2147	2:	11/30/16 2:47 pm
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: Loudon Co. (Madlock Road) Landfill Phase II/IV
PROJECT #:
SITE ADDRESS: 2171a Hwy 72N, Loudon TN 37774
SEND REPORT TO: Robert Hudson
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 29

Turnaround Time Request
- ⊗ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other

STATE PROGRAM (if any): TN
E-mail? Y (N); Fax? Y (N)
DATA PACKAGE: I (II) III IV

SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.
SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client:	Santek Environmental Inc.
Project:	Matlock Bend GW-PHASE II/IV
Lab ID:	1611Q39

Case Narrative

Micro-extractable VOC Analysis by Method 8011:

Matrix spike duplicate analyses were not performed with Batch 233988 due to insufficient sample volume.

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Santek Environmental Work Order Number 1611039

Checklist completed by _____ 11/30/16
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 2.1 Cooler #2 2.2 Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\l\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: Santek Environmental Inc.
Project Name: Matlock Bend GW-PHASE II/IV
Lab Order: 1611Q39

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1611Q39-001A	MW-03	11/29/2016 12:30:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/06/2016
1611Q39-001B	MW-03	11/29/2016 12:30:00PM	Groundwater	Inorganic Anions by IC			12/01/2016
1611Q39-001C	MW-03	11/29/2016 12:30:00PM	Groundwater	DISSOLVED METALS BY ICP		12/6/2016 12:47:00PM	12/06/2016
1611Q39-001D	MW-03	11/29/2016 12:30:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q39-001E	MW-03	11/29/2016 12:30:00PM	Groundwater	Chemical Oxygen Demand (COD)			12/06/2016
1611Q39-001F	MW-03	11/29/2016 12:30:00PM	Groundwater	Residue, Dissolved (TDS) by SM2540C		12/5/2016 12:00:00PM	12/05/2016
1611Q39-001G	MW-03	11/29/2016 12:30:00PM	Groundwater	Cyanide		12/6/2016 9:00:00AM	12/06/2016
1611Q39-001H	MW-03	11/29/2016 12:30:00PM	Groundwater	Nitrogen, Ammonia (as N)			12/05/2016
1611Q39-001H	MW-03	11/29/2016 12:30:00PM	Groundwater	Total Organic Carbon by SM5310B			12/06/2016
1611Q39-001I	MW-03	11/29/2016 12:30:00PM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q39-001I	MW-03	11/29/2016 12:30:00PM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q39-001I	MW-03	11/29/2016 12:30:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/08/2016
1611Q39-001I	MW-03	11/29/2016 12:30:00PM	Groundwater	Total Metals by ICP/MS		12/6/2016 2:06:00PM	12/10/2016
1611Q39-001I	MW-03	11/29/2016 12:30:00PM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/07/2016
1611Q39-002A	MW-05	11/29/2016 12:17:00PM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/2/2016 9:05:00AM	12/03/2016
1611Q39-002B	MW-05	11/29/2016 12:17:00PM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q39-002C	MW-05	11/29/2016 12:17:00PM	Groundwater	Inorganic Anions by IC			12/05/2016
1611Q39-003A	MW-05	11/30/2016 9:20:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q39-003A	MW-05	11/30/2016 9:20:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q39-003A	MW-05	11/30/2016 9:20:00AM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/06/2016
1611Q39-004A	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/05/2016
1611Q39-004B	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q39-004C	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Groundwater	Inorganic Anions by IC			12/05/2016
1611Q39-004D	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q39-004D	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q39-004D	EQUIPMENT BLANK	11/29/2016 10:57:00AM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/07/2016
1611Q39-005A	TRIP BLANK	11/29/2016 10:57:00AM	Groundwater	APPENDIX I VOLATILE ORGANICS		12/5/2016 12:17:00PM	12/05/2016
1611Q39-005B	TRIP BLANK	11/29/2016 10:57:00AM	Groundwater	MICRO-EXTRACTABLE VOCs		12/5/2016 11:00:00AM	12/06/2016
1611Q39-005C	TRIP BLANK	11/29/2016 10:57:00AM	Groundwater	Inorganic Anions by IC			12/05/2016

Client: Santek Environmental Inc.
Project Name: Matlock Bend GW-PHASE II/IV
Lab Order: 1611Q39

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1611Q39-005D	TRIP BLANK	11/29/2016 10:57:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/08/2016
1611Q39-005D	TRIP BLANK	11/29/2016 10:57:00AM	Groundwater	APPENDIX I METALS		12/6/2016 2:06:00PM	12/10/2016
1611Q39-005D	TRIP BLANK	11/29/2016 10:57:00AM	Groundwater	TOTAL MERCURY		12/6/2016 10:31:00AM	12/07/2016

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B					(SW5030B)			
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
1,1,1-Trichloroethane	BRL	200		ug/L	234136	1	12/03/2016 03:26	MD
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
1,1,2-Trichloroethane	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
1,1-Dichloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
1,1-Dichloroethene	BRL	7.0		ug/L	234136	1	12/03/2016 03:26	MD
1,2,3-Trichloropropane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
1,2-Dichlorobenzene	BRL	600		ug/L	234136	1	12/03/2016 03:26	MD
1,2-Dichloroethane	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
1,2-Dichloropropane	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
1,4-Dichlorobenzene	BRL	75		ug/L	234136	1	12/03/2016 03:26	MD
2-Butanone	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
2-Hexanone	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
4-Methyl-2-pentanone	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Acetone	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Acrylonitrile	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Benzene	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
Bromochloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Bromodichloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Bromoform	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Bromomethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Carbon disulfide	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Carbon tetrachloride	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
Chlorobenzene	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Chloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Chloroform	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Chloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
cis-1,2-Dichloroethene	BRL	70		ug/L	234136	1	12/03/2016 03:26	MD
cis-1,3-Dichloropropene	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Dibromochloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Dibromomethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Ethylbenzene	BRL	700		ug/L	234136	1	12/03/2016 03:26	MD
Iodomethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Methylene chloride	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
Styrene	BRL	100		ug/L	234136	1	12/03/2016 03:26	MD
Tetrachloroethene	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
Toluene	BRL	1000		ug/L	234136	1	12/03/2016 03:26	MD
trans-1,2-Dichloroethene	BRL	100		ug/L	234136	1	12/03/2016 03:26	MD
trans-1,3-Dichloropropene	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- NArr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
Trichloroethene	BRL	5.0		ug/L	234136	1	12/03/2016 03:26	MD
Trichlorofluoromethane	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Vinyl acetate	BRL	10		ug/L	234136	1	12/03/2016 03:26	MD
Vinyl chloride	BRL	2.0		ug/L	234136	1	12/03/2016 03:26	MD
Xylenes, Total	BRL	10000		ug/L	234136	1	12/03/2016 03:26	MD
Surr: 4-Bromofluorobenzene	96.1	66.1-129		%REC	234136	1	12/03/2016 03:26	MD
Surr: Dibromofluoromethane	92	83.6-123		%REC	234136	1	12/03/2016 03:26	MD
Surr: Toluene-d8	99.1	81.8-118		%REC	234136	1	12/03/2016 03:26	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Chloride	20.2	1.00		mg/L	R331391	1	11/30/2016 22:40	JW
Fluoride	BRL	0.200		mg/L	R331391	1	11/30/2016 22:40	JW
Nitrogen, Nitrate (As N)	1.56	0.250		mg/L	R331391	1	11/30/2016 22:40	JW
Sulfate	2.12	1.00		mg/L	R331391	1	11/30/2016 22:40	JW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001C	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.199		ug/L	233987	1	12/06/2016 01:24	AW
1,2-Dibromoethane	BRL	0.050		ug/L	233987	1	12/06/2016 01:24	AW
Surr: 4-Bromofluorobenzene	99.2	69.4-134		%REC	233987	1	12/06/2016 01:24	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001D	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R331462	1	12/06/2016 15:00	AW

Qualifiers:	* Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL Below reporting limit	S	Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr	See case narrative
	N Analyte not NELAC certified	NC	Not confirmed
	B Analyte detected in the associated method blank	<	Less than Result value
	> Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001E	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	288	1		mg/L	234264	1	12/05/2016 12:00	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001F	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	234255	1	12/06/2016 09:00	BD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:46:00 PM
Lab ID:	1611Q38-001G	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	5.00		mg/L	R331502	5	12/07/2016 10:01	JW
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	234151	1	12/05/2016 12:46	FS

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016 9:15:00 AM
Lab ID:	1611Q38-002A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020B				(SW3005A)				
Calcium	49500	5000		ug/L	234162	50	12/10/2016 19:14	JR
Iron	305	100		ug/L	234162	1	12/08/2016 04:57	JS
Magnesium	28300	5000		ug/L	234162	50	12/10/2016 19:14	JR
Potassium	3900	250		ug/L	234162	50	12/10/2016 19:14	JR
Sodium	11200	500		ug/L	234162	50	12/13/2016 23:39	JR
Mercury, Total SW7470A				(SW7470A)				
Mercury	BRL	0.00200		mg/L	234133	1	12/06/2016 17:20	JR
APPENDIX I METALS SW6020B				(SW3005A)				
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 04:57	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 04:57	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 04:57	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 04:57	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 04:57	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 04:57	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 01:48	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 04:57	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 04:57	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 04:57	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 04:57	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 04:57	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 04:57	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 04:57	JS
Zinc	BRL	0.0200		mg/L	234162	1	12/08/2016 04:57	JS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-01
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016 9:15:00 AM
Lab ID:	1611Q38-002B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010D				(SAMP FILT)				
Manganese	BRL	0.0150		mg/L	234222	1	12/06/2016 19:51	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
1,1,1-Trichloroethane	BRL	200		ug/L	234136	1	12/03/2016 03:50	MD
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
1,1,2-Trichloroethane	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
1,1-Dichloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
1,1-Dichloroethene	BRL	7.0		ug/L	234136	1	12/03/2016 03:50	MD
1,2,3-Trichloropropane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
1,2-Dichlorobenzene	BRL	600		ug/L	234136	1	12/03/2016 03:50	MD
1,2-Dichloroethane	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
1,2-Dichloropropane	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
1,4-Dichlorobenzene	BRL	75		ug/L	234136	1	12/03/2016 03:50	MD
2-Butanone	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
2-Hexanone	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
4-Methyl-2-pentanone	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Acetone	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Acrylonitrile	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Benzene	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
Bromochloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Bromodichloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Bromoform	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Bromomethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Carbon disulfide	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Carbon tetrachloride	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
Chlorobenzene	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Chloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Chloroform	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Chloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
cis-1,2-Dichloroethene	BRL	70		ug/L	234136	1	12/03/2016 03:50	MD
cis-1,3-Dichloropropene	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Dihromochloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Dibromomethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Ethylbenzene	BRL	700		ug/L	234136	1	12/03/2016 03:50	MD
Iodomethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Methylene chloride	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
Styrene	BRL	100		ug/L	234136	1	12/03/2016 03:50	MD
Tetrachloroethene	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
Toluene	BRL	1000		ug/L	234136	1	12/03/2016 03:50	MD
trans-1,2-Dichloroethene	BRL	100		ug/L	234136	1	12/03/2016 03:50	MD
trans-1,3-Dichloropropene	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	234136	1	12/03/2016 03:50	MD
Trichlorofluoromethane	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Vinyl acetate	BRL	10		ug/L	234136	1	12/03/2016 03:50	MD
Vinyl chloride	BRL	2.0		ug/L	234136	1	12/03/2016 03:50	MD
Xylenes, Total	BRL	10000		ug/L	234136	1	12/03/2016 03:50	MD
Surr: 4-Bromofluorobenzene	104	66.1-129		%REC	234136	1	12/03/2016 03:50	MD
Surr: Dibromofluoromethane	100	83.6-123		%REC	234136	1	12/03/2016 03:50	MD
Surr: Toluene-d8	100	81.8-118		%REC	234136	1	12/03/2016 03:50	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Chloride	64.1	2.00		mg/L	R331391	2	12/01/2016 09:47	JW
Fluoride	BRL	8.00		mg/L	R331391	2	12/01/2016 09:47	JW
Nitrogen, Nitrate (As N)	BRL	20.0		mg/L	R331391	2	12/01/2016 09:47	JW
Sulfate	23.8	2.00		mg/L	R331391	2	12/01/2016 09:47	JW

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003C	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.201		ug/L	233987	1	12/06/2016 01:52	AW
1,2-Dibromoethane	BRL	0.050		ug/L	233987	1	12/06/2016 01:52	AW
Surr: 4-Bromofluorobenzene	105	69.4-134		%REC	233987	1	12/06/2016 01:52	AW

Qualifiers:	* Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL Below reporting limit	S	Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr	See case narrative
	N Analyte not NELAC certified	NC	Not confirmed
	B Analyte detected in the associated method blank	<	Less than Result value
	> Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003D	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	29.4	10.0		mg/L	R331462	1	12/06/2016 15:00	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003E	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	495	1		mg/L	234264	1	12/05/2016 12:00	CG

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003F	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	234255	1	12/06/2016 09:00	BD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 3:12:00 PM
Lab ID:	1611Q38-003G	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	5.00		mg/L	R331502	5	12/07/2016 10:13	JW
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	234151	1	12/05/2016 12:48	FS

Qualifiers:	* Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL Below reporting limit	S	Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr	See case narrative
	N Analyte not NELAC certified	NC	Not confirmed
	B Analyte detected in the associated method blank	<	Less than Result value
	> Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Pbase I	**Collection Date:**	11/30/2016 9:34:00 AM
Lab ID:	1611Q38-004A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020B					(SW3005A)			
Calcium	66500	5000		ug/L	234162	50	12/10/2016 19:58	JR
Iron	106	100		ug/L	234162	1	12/08/2016 05:28	JS
Magnesium	28400	5000		ug/L	234162	50	12/10/2016 19:58	JR
Potassium	9670	500		ug/L	234162	50	12/10/2016 19:58	JR
Sodium	28700	25000		ug/L	234162	50	12/14/2016 00:11	JR
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	234133	1	12/06/2016 17:22	JR
APPENDIX I METALS SW6020B					(SW3005A)			
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 05:28	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 05:28	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 05:28	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 05:28	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 05:28	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 05:28	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 02:12	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 05:28	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 05:28	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 05:28	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 05:28	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 05:28	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 05:28	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 05:28	JS
Zinc	0.0401	0.0200		mg/L	234162	1	12/08/2016 05:28	JS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-1A
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016 9:34:00 AM
Lab ID:	1611Q38-004B	**Matrix:**	Groundwater

Analyses	Resnlt	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010D					(SAMP FILT)			
Manganese	BRL	0.0150		mg/L	234222	1	12/06/2016 19:55	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B					**(SW5030B)**			
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
1,1,1-Trichloroethane	BRL	200		ug/L	234231	1	12/06/2016 18:31	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
1,1-Dichloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
1,1-Dichloroethene	BRL	7.0		ug/L	234231	1	12/06/2016 18:31	AR
1,2,3-Trichloropropane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
1,2-Dichlorobenzene	BRL	600		ug/L	234231	1	12/06/2016 18:31	AR
1,2-Dichloroethane	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
1,2-Dichloropropane	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
1,4-Dichlorobenzene	BRL	75		ug/L	234231	1	12/06/2016 18:31	AR
2-Butanone	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
2-Hexanone	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
4-Methyl-2-pentanone	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Acetone	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Acrylonitrile	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Benzene	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
Bromochloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Bromodichloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Bromoform	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Bromomethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Carbon disulfide	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Carbon tetrachloride	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
Chlorobenzene	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Chloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Chloroform	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Chloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	234231	1	12/06/2016 18:31	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Dibromochloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Dibromomethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Ethylbenzene	BRL	700		ug/L	234231	1	12/06/2016 18:31	AR
Iodomethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Methylene chloride	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
Styrene	BRL	100		ug/L	234231	1	12/06/2016 18:31	AR
Tetrachloroethene	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
Toluene	BRL	1000		ug/L	234231	1	12/06/2016 18:31	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	234231	1	12/06/2016 18:31	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	234231	1	12/06/2016 18:31	AR
Trichlorofluoromethane	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Vinyl acetate	BRL	10		ug/L	234231	1	12/06/2016 18:31	AR
Vinyl chloride	BRL	2.0		ug/L	234231	1	12/06/2016 18:31	AR
Xylenes, Total	BRL	10000		ug/L	234231	1	12/06/2016 18:31	AR
Surr: 4-Bromofluorobenzene	107	66.1-129		%REC	234231	1	12/06/2016 18:31	AR
Surr: Dibromofluoromethane	106	83.6-123		%REC	234231	1	12/06/2016 18:31	AR
Surr: Toluene-d8	99.9	81.8-118		%REC	234231	1	12/06/2016 18:31	AR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Chloride	59.3	2.00		mg/L	R331391	2	12/01/2016 10:02	JW
Fluoride	BRL	8.00		mg/L	R331391	2	12/01/2016 10:02	JW
Nitrogen, Nitrate (As N)	BRL	20.0		mg/L	R331391	2	12/01/2016 10:02	JW
Sulfate	21.7	2.00		mg/L	R331391	2	12/01/2016 10:02	JW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008C	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010D				(SAMP FILT)				
Manganese	BRL	0.0150		mg/L	234222	1	12/06/2016 20:04	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008D	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.197		ug/L	233987	1	12/06/2016 03:46	AW
1,2-Dibromoethane	BRL	0.049		ug/L	233987	1	12/06/2016 03:46	AW
Surr: 4-Bromofluorobenzene	78	69.4-134		%REC	233987	1	12/06/2016 03:46	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008E	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	22.8	10.0		mg/L	R331462	1	12/06/2016 15:00	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008F	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	527	1		mg/L	234264	1	12/05/2016 12:00	CG

Qualifiers:	* Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL Below reporting limit	S	Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr	See case narrative
	N Analyte not NELAC certified	NC	Not confirmed
	B Analyte detected in the associated method blank	<	Less than Result value
	> Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008G	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.200		mg/L	234255	1	12/06/2016 09:00	BD

Qualifiers:	* Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL Below reporting limit	S	Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr	See case narrative
	N Analyte not NELAC certified	NC	Not confirmed
	B Analyte detected in the associated method blank	<	Less than Result value
	> Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008H	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	5.00		mg/L	R331502	5	12/07/2016 10:27	JW
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	234151	1	12/05/2016 12:57	FS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	DUPLICATE
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 5:00:00 PM
Lab ID:	1611Q38-008I	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020B					(SW3005A)			
Calcium	66700	5000		ug/L	234162	50	12/10/2016 20:18	JR
Iron	BRL	100		ug/L	234162	1	12/08/2016 06:05	JS
Magnesium	27100	5000		ug/L	234162	50	12/10/2016 20:18	JR
Potassium	9900	500		ug/L	234162	50	12/10/2016 20:18	JR
Sodium	30700	25000		ug/L	234162	50	12/14/2016 00:43	JR
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	234133	1	12/06/2016 17:26	JR
APPENDIX I METALS SW6020B					(SW3005A)			
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 06:05	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 06:05	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 06:05	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 06:05	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 06:05	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 06:05	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 02:22	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 06:05	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 06:05	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 06:05	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:05	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 06:05	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 06:05	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:05	JS
Zinc	BRL	0.0200		mg/L	234162	1	12/08/2016 06:05	JS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
1,1,1-Trichloroethane	BRL	200		ug/L	234231	1	12/06/2016 17:43	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
1,1-Dichloroethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
1,1-Dichloroethene	BRL	7.0		ug/L	234231	1	12/06/2016 17:43	AR
1,2,3-Trichloropropane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
1,2-Dichlorobenzene	BRL	600		ug/L	234231	1	12/06/2016 17:43	AR
1,2-Dichloroethane	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
1,2-Dichloropropane	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
1,4-Dichlorobenzene	BRL	75		ug/L	234231	1	12/06/2016 17:43	AR
2-Butanone	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
2-Hexanone	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
4-Methyl-2-pentanone	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Acetone	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Acrylonitrile	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Benzene	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
Bromochloromethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Bromodichloromethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Bromoform	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Bromomethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Carbon disulfide	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Carbon tetrachloride	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
Chlorobenzene	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Chloroethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Chloroform	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Chloromethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
cis-1,2-Dichloroethene	BRL	70		ug/L	234231	1	12/06/2016 17:43	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Dibromochloromethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Dibromomethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Ethylbenzene	BRL	700		ug/L	234231	1	12/06/2016 17:43	AR
Iodomethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Methylene chloride	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
Styrene	BRL	100		ug/L	234231	1	12/06/2016 17:43	AR
Tetrachloroethene	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
Toluene	BRL	1000		ug/L	234231	1	12/06/2016 17:43	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	234231	1	12/06/2016 17:43	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	234231	1	12/06/2016 17:43	AR
Trichlorofluoromethane	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Vinyl acetate	BRL	10		ug/L	234231	1	12/06/2016 17:43	AR
Vinyl chloride	BRL	2.0		ug/L	234231	1	12/06/2016 17:43	AR
Xylenes, Total	BRL	10000		ug/L	234231	1	12/06/2016 17:43	AR
Surr: 4-Bromofluorobenzene	96.5	66.1-129		%REC	234231	1	12/06/2016 17:43	AR
Surr: Dibromofluoromethane	91.5	83.6-123		%REC	234231	1	12/06/2016 17:43	AR
Surr: Toluene-d8	99.9	81.8-118		%REC	234231	1	12/06/2016 17:43	AR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Chloride	2.83	1.00		mg/L	R331391	1	11/30/2016 23:39	JW
Fluoride	BRL	4.00		mg/L	R331391	1	11/30/2016 23:39	JW
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R331391	1	11/30/2016 23:39	JW
Sulfate	BRL	1.00		mg/L	R331391	1	11/30/2016 23:39	JW

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005C	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.194		ug/L	233987	1	12/06/2016 02:49	AW
1,2-Dibromoethane	BRL	0.048		ug/L	233987	1	12/06/2016 02:49	AW
Surr: 4-Bromofluorobenzene	76.7	69.4-134		%REC	233987	1	12/06/2016 02:49	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005D	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R331462	1	12/06/2016 15:00	AW

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- NAR See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005E	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	103	1		mg/L	234264	1	12/05/2016 12:00	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005F	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	234255	1	12/06/2016 09:00	BD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	NAT	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 1:45:00 PM
Lab ID:	1611Q38-005G	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	1.00		mg/L	R331502	1	12/06/2016 19:18	JW
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	234151	1	12/05/2016 12:50	FS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016 9:32:00 AM
Lab ID:	1611Q38-006A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020B				(SW3005A)				
Calcium	1940	100		ug/L	234162	1	12/08/2016 05:34	JS
Iron	BRL	100		ug/L	234162	1	12/08/2016 05:34	JS
Magnesium	1350	100		ug/L	234162	1	12/08/2016 05:34	JS
Potassium	2870	500		ug/L	234162	10	12/10/2016 20:05	JR
Sodium	1860	500		ug/L	234162	10	12/14/2016 00:18	JR
Mercury, Total SW7470A				(SW7470A)				
Mercury	BRL	0.00200		mg/L	234133	1	12/06/2016 17:24	JR
APPENDIX I METALS SW6020B				(SW3005A)				
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 05:34	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 05:34	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 05:34	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 05:34	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 05:34	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 05:34	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 02:15	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 05:34	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 05:34	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 05:34	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 05:34	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 05:34	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 05:34	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 05:34	JS
Zinc	0.265	0.0200		mg/L	234162	1	12/08/2016 05:34	JS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-02
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016 9:32:00 AM
Lab ID:	1611Q38-006B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010D					**(SAMP FILT)**			
Manganese	0.113	0.0150		mg/L	234222	1	12/06/2016 19:58	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
1,1,1-Trichloroethane	BRL	200		ug/L	234231	1	12/06/2016 18:07	AR
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
1,1,2-Trichloroethane	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
1,1-Dichloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
1,1-Dichloroethene	BRL	7.0		ug/L	234231	1	12/06/2016 18:07	AR
1,2,3-Trichloropropane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
1,2-Dichlorobenzene	BRL	600		ug/L	234231	1	12/06/2016 18:07	AR
1,2-Dichloroethane	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
1,2-Dichloropropane	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
1,4-Dichlorobenzene	BRL	75		ug/L	234231	1	12/06/2016 18:07	AR
2-Butanone	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
2-Hexanone	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
4-Methyl-2-pentanone	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Acetone	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Acrylonitrile	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Benzene	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
Bromochloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Bromodichloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Bromoform	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Bromomethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Carbon disulfide	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Carbon tetrachloride	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
Chlorobenzene	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Chloroethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Chloroform	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Chloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
cis-1,2-Dicbloroethene	BRL	70		ug/L	234231	1	12/06/2016 18:07	AR
cis-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Dibromochloromethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Dibromomethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Ethylbenzene	BRL	700		ug/L	234231	1	12/06/2016 18:07	AR
Iodomethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Methylene chloride	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
Styrene	BRL	100		ug/L	234231	1	12/06/2016 18:07	AR
Tetrachloroethene	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
Toluene	BRL	1000		ug/L	234231	1	12/06/2016 18:07	AR
trans-1,2-Dichloroethene	BRL	100		ug/L	234231	1	12/06/2016 18:07	AR
trans-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	234231	1	12/06/2016 18:07	AR
Trichlorofluoromethane	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Vinyl acetate	BRL	10		ug/L	234231	1	12/06/2016 18:07	AR
Vinyl chloride	BRL	2.0		ug/L	234231	1	12/06/2016 18:07	AR
Xylenes, Total	BRL	10000		ug/L	234231	1	12/06/2016 18:07	AR
Surr: 4-Bromofluorobenzene	103	66.1-129		%REC	234231	1	12/06/2016 18:07	AR
Surr: Dibromofluoromethane	102	83.6-123		%REC	234231	1	12/06/2016 18:07	AR
Surr: Toluene-d8	97.1	81.8-118		%REC	234231	1	12/06/2016 18:07	AR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Chloride	15.5	1.00		mg/L	R331391	1	11/30/2016 23:53	JW
Fluoride	BRL	4.00		mg/L	R331391	1	11/30/2016 23:53	JW
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R331391	1	11/30/2016 23:53	JW
Sulfate	2.78	1.00		mg/L	R331391	1	11/30/2016 23:53	JW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007C	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010D					**(SAMP FILT)**			
Manganese	0.211	0.0150		mg/L	234222	1	12/06/2016 20:01	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007D	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.197		ug/L	233987	1	12/06/2016 03:18	AW
1,2-Dibromoethane	BRL	0.049		ug/L	233987	1	12/06/2016 03:18	AW
Surr: 4-Bromofluorobenzene	66.6	69.4-134	S	%REC	233987	1	12/06/2016 03:18	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007E	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	27.2	10.0		mg/L	R331462	1	12/06/2016 15:00	AW

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007F	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	52	1		mg/L	234264	1	12/05/2016 12:00	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007G	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	234255	1	12/06/2016 09:00	BD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007H	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	1.75	1.00		mg/L	R331502	1	12/06/2016 19:33	JW
Nitrogen, Ammonia (as N) E350.1					**(E350.1)**			
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	234151	1	12/05/2016 12:55	FS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-03
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 12:30:00 PM
Lab ID:	1611Q38-007I	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020B					(SW3005A)			
Calcium	1430	100		ug/L	234162	1	12/08/2016 05:40	JS
Iron	214	100		ug/L	234162	1	12/08/2016 05:40	JS
Magnesium	703	100		ug/L	234162	1	12/08/2016 05:40	JS
Potassium	1000	500		ug/L	234162	10	12/10/2016 20:11	JR
Sodium	13000	5000		ug/L	234162	10	12/14/2016 00:24	JR
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	234205	1	12/07/2016 12:01	JR
APPENDIX I METALS SW6020B					(SW3005A)			
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 05:40	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 05:40	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 05:40	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 05:40	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 05:40	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 05:40	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 02:19	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 05:40	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 05:40	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 05:40	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 05:40	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 05:40	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 05:40	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 05:40	JS
Zinc	BRL	0.0200		mg/L	234162	1	12/08/2016 05:40	JS

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Lab Order	1611Q39	**Tag Number:**	
Project Name:	Matlock Bend GW-PHASE II/IV	**Collection Date:**	11/29/2016 12:17:00 PM
Lab ID:	1611Q39-002A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
1,1,1-Trichloroethane	BRL	200		ug/L	234136	1	12/03/2016 03:02	MD
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
1,1,2-Tricbloroethane	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
1,1-Dichloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
1,1-Dichloroethene	BRL	7.0		ug/L	234136	1	12/03/2016 03:02	MD
1,2,3-Trichloropropane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
1,2-Dichlorobenzene	BRL	600		ug/L	234136	1	12/03/2016 03:02	MD
1,2-Dichloroethane	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
1,2-Dichloropropane	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
1,4-Dichlorobenzene	BRL	75		ug/L	234136	1	12/03/2016 03:02	MD
2-Butanone	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
2-Hexanone	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
4-Methyl-2-pentanone	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Acetone	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Acrylonitrile	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Benzene	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
Bromochloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Bromodichloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Bromoform	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Bromomethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Carbon disulfide	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Carbon tetrachloride	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
Chlorobenzene	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Chloroethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Chloroform	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Chloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
cis-1,2-Dichloroethene	BRL	70		ug/L	234136	1	12/03/2016 03:02	MD
cis-1,3-Dichloropropene	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Dibromochloromethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Dibromomethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Ethylbenzene	BRL	700		ug/L	234136	1	12/03/2016 03:02	MD
Iodomethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Methylene chloride	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
Styrene	BRL	100		ug/L	234136	1	12/03/2016 03:02	MD
Tetrachloroethene	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
Toluene	BRL	1000		ug/L	234136	1	12/03/2016 03:02	MD
trans-1,2-Dichloroethene	BRL	100		ug/L	234136	1	12/03/2016 03:02	MD
trans-1,3-Dichloropropene	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Lab Order	1611Q39	**Tag Number:**	
Project Name:	Matlock Bend GW-PHASE II/IV	**Collection Date:**	11/29/2016 12:17:00 PM
Lab ID:	1611Q39-002A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	234136	1	12/03/2016 03:02	MD
Trichlorofluoromethane	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Vinyl acetate	BRL	10		ug/L	234136	1	12/03/2016 03:02	MD
Vinyl chloride	BRL	2.0		ug/L	234136	1	12/03/2016 03:02	MD
Xylenes, Total	BRL	10000		ug/L	234136	1	12/03/2016 03:02	MD
Surr: 4-Bromofluorobenzene	102	66.1-129		%REC	234136	1	12/03/2016 03:02	MD
Surr: Dibromofluoromethane	100	83.6-123		%REC	234136	1	12/03/2016 03:02	MD
Surr: Toluene-d8	99.6	81.8-118		%REC	234136	1	12/03/2016 03:02	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Lab Order	1611Q39	**Tag Number:**	
Project Name:	Matlock Bend GW-PHASE II/IV	**Collection Date:**	11/29/2016 12:17:00 PM
Lab ID:	1611Q39-002B	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.199		ug/L	233988	1	12/06/2016 08:31	AW
1,2-Dibromoethane	BRL	0.050		ug/L	233988	1	12/06/2016 08:31	AW
Surr: 4-Bromofluorobenzene	93.1	69.4-134		%REC	233988	1	12/06/2016 08:31	AW

Qualifiers:	* Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL Below reporting limit	S	Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr	See case narrative
	N Analyte not NELAC certified	NC	Not confirmed
	B Analyte detected in the associated method blank	<	Less than Result value
	> Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Lab Order	1611Q39	**Tag Number:**	
Project Name:	Matlock Bend GW-PHASE II/IV	**Collection Date:**	11/29/2016 12:17:00 PM
Lab ID:	1611Q39-002C	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Fluoride	BRL	4.00		mg/L	R331395	1	12/05/2016 15:30	JW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	MW-05
Lab Order	1611Q39	**Tag Number:**	
Project Name:	Matlock Bend GW-PHASE II/IV	**Collection Date:**	11/30/2016 9:20:00 AM
Lab ID:	1611Q39-003A	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	234133	1	12/06/2016 17:28	JR
APPENDIX I METALS SW6020B					(SW3005A)			
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 06:24	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 06:24	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 06:24	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 06:24	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 06:24	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 06:24	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 02:33	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 06:24	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 06:24	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 06:24	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:24	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 06:24	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 06:24	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:24	JS
Zinc	BRL	0.0200		mg/L	234162	1	12/08/2016 06:24	JS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009A	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
1,1,1-Trichloroethane	BRL	200		ug/L	234231	1	12/05/2016 14:34	BN
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
1,1,2-Trichloroethane	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
1,1-Dichloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
1,1-Dichloroethene	BRL	7.0		ug/L	234231	1	12/05/2016 14:34	BN
1,2,3-Trichloropropane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
1,2-Dichlorobenzene	BRL	600		ug/L	234231	1	12/05/2016 14:34	BN
1,2-Dichloroethane	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
1,2-Dichloropropane	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
1,4-Dichlorobenzene	BRL	75		ug/L	234231	1	12/05/2016 14:34	BN
2-Butanone	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
2-Hexanone	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
4-Methyl-2-pentanone	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Acetone	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Acrylonitrile	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Benzene	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
Bromochloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Bromodichloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Bromoform	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Bromomethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Carbon disulfide	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Carbon tetrachloride	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
Chlorobenzene	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Chloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Chloroform	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Chloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
cis-1,2-Dichloroethene	BRL	70		ug/L	234231	1	12/05/2016 14:34	BN
cis-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Dibromochloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Dibromomethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Ethylbenzene	BRL	700		ug/L	234231	1	12/05/2016 14:34	BN
Iodomethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Methylene chloride	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
Styrene	BRL	100		ug/L	234231	1	12/05/2016 14:34	BN
Tetrachloroethene	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
Toluene	BRL	1000		ug/L	234231	1	12/05/2016 14:34	BN
trans-1,2-Dichloroethene	BRL	100		ug/L	234231	1	12/05/2016 14:34	BN
trans-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- NARR See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009A	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Trichloroethene	BRL	5.0		ug/L	234231	1	12/05/2016 14:34	BN
Trichlorofluoromethane	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Vinyl acetate	BRL	10		ug/L	234231	1	12/05/2016 14:34	BN
Vinyl chloride	BRL	2.0		ug/L	234231	1	12/05/2016 14:34	BN
Xylenes, Total	BRL	10000		ug/L	234231	1	12/05/2016 14:34	BN
Surr: 4-Bromofluorobenzene	108	66.1-129		%REC	234231	1	12/05/2016 14:34	BN
Surr: Dibromofluoromethane	104	83.6-123		%REC	234231	1	12/05/2016 14:34	BN
Surr: Toluene-d8	92.1	81.8-118		%REC	234231	1	12/05/2016 14:34	BN

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009B	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Chloride	BRL	1.00		mg/L	R331391	1	12/01/2016 00:23	JW
Fluoride	BRL	4.00		mg/L	R331391	1	12/01/2016 00:23	JW
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R331391	1	12/01/2016 00:23	JW
Sulfate	BRL	1.00		mg/L	R331391	1	12/01/2016 00:23	JW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009C	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010D				(SAMP FILT)				
Manganese	BRL	0.0150		mg/L	234222	1	12/06/2016 20:08	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009D	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.200		ug/L	233987	1	12/06/2016 04:14	AW
1,2-Dibromoethane	BRL	0.050		ug/L	233987	1	12/06/2016 04:14	AW
Surr: 4-Bromofluorobenzene	75.2	69.4-134		%REC	233987	1	12/06/2016 04:14	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009E	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R331464	1	12/06/2016 15:00	AW

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009F	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	7	1		mg/L	234264	1	12/05/2016 12:00	CG

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009G	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	234255	1	12/06/2016 09.00	BD

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009H	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	1.00		mg/L	R331502	1	12/07/2016 10:39	JW
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	234151	1	12/05/2016 12:59	FS

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	EQUIPMENT BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/29/2016 10:57:00 AM
Lab ID:	1611Q38-009I	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020B				(SW3005A)				
Calcium	228	100		ug/L	234162	1	12/08/2016 06:12	JS
Iron	BRL	100		ug/L	234162	1	12/08/2016 06:12	JS
Magnesium	BRL	100		ug/L	234162	1	12/08/2016 06:12	JS
Potassium	BRL	500		ug/L	234162	1	12/10/2016 20:24	JR
Sodium	BRL	500		ug/L	234162	1	12/08/2016 06:12	JS
Mercury, Total SW7470A				(SW7470A)				
Mercury	BRL	0.00200		mg/L	234205	1	12/07/2016 11:58	JR
APPENDIX I METALS SW6020B				(SW3005A)				
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 06:12	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 06:12	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 06:12	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 06:12	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 06:12	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 06:12	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 02:26	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 06:12	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 06:12	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 06:12	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:12	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 06:12	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 06:12	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:12	JS
Zinc	BRL	0.0200		mg/L	234162	1	12/08/2016 06:12	JS

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
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- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	Client Sample ID:	TRIP BLANK
Lab Order	1611Q38	Tag Number:	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	Collection Date:	11/30/2016
Lab ID:	1611Q38-010A	Matrix:	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
1,1,1-Trichloroethane	BRL	200		ug/L	234231	1	12/05/2016 14:05	BN
1,1,2,2-Tetrachloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
1,1,2-Trichloroethane	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
1,1-Dichloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
1,1-Dichloroethene	BRL	7.0		ug/L	234231	1	12/05/2016 14:05	BN
1,2,3-Trichloropropane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
1,2-Dichlorobenzene	BRL	600		ug/L	234231	1	12/05/2016 14:05	BN
1,2-Dichloroethane	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
1,2-Dichloropropane	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
1,4-Dichlorobenzene	BRL	75		ug/L	234231	1	12/05/2016 14:05	BN
2-Butanone	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
2-Hexanone	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
4-Methyl-2-pentanone	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Acetone	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Acrylonitrile	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Benzene	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
Bromochloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Bromodichloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Bromoform	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Bromomethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Carbon disulfide	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Carbon tetrachloride	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
Chlorobenzene	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Chloroethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Chloroform	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Chloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
cis-1,2-Dichloroethene	BRL	70		ug/L	234231	1	12/05/2016 14:05	BN
cis-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Dibromochloromethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Dibromomethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Ethylbenzene	BRL	700		ug/L	234231	1	12/05/2016 14:05	BN
Iodomethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Methylene chloride	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
Styrene	BRL	100		ug/L	234231	1	12/05/2016 14:05	BN
Tetrachloroethene	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
Toluene	BRL	1000		ug/L	234231	1	12/05/2016 14:05	BN
trans-1,2-Dichloroethene	BRL	100		ug/L	234231	1	12/05/2016 14:05	BN
trans-1,3-Dichloropropene	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
trans-1,4-Dichloro-2-butene	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN

Qualifiers:

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- BRL Below reporting limit
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- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010A	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
APPENDIX I VOLATILE ORGANICS SW8260B					**(SW5030B)**			
Trichloroethene	BRL	5.0		ug/L	234231	1	12/05/2016 14:05	BN
Trichlorofluoromethane	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Vinyl acetate	BRL	10		ug/L	234231	1	12/05/2016 14:05	BN
Vinyl chloride	BRL	2.0		ug/L	234231	1	12/05/2016 14:05	BN
Xylenes, Total	BRL	10000		ug/L	234231	1	12/05/2016 14:05	BN
Surr: 4-Bromofluorobenzene	108	66.1-129		%REC	234231	1	12/05/2016 14:05	BN
Surr: Dibromofluoromethane	111	83.6-123		%REC	234231	1	12/05/2016 14:05	BN
Surr: Toluene-d8	96.4	81.8-118		%REC	234231	1	12/05/2016 14:05	BN

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010B	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Inorganic Anions by IC E300.0								
Chloride	BRL	1.00		mg/L	R331391	1	12/01/2016 00:38	JW
Fluoride	BRL	4.00		mg/L	R331391	1	12/01/2016 00:38	JW
Nitrogen, Nitrate (As N)	BRL	10.0		mg/L	R331391	1	12/01/2016 00:38	JW
Sulfate	BRL	1.00		mg/L	R331391	1	12/01/2016 00:38	JW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010C	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, DISSOLVED SW6010D				(SAMP FILT)				
Manganese	BRL	0.0150		mg/L	234222	1	12/06/2016 20:41	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010D	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
MICRO-EXTRACTABLE VOLATILE ORGANICS SW8011				**(SW8011)**				
1,2-Dibromo-3-chloropropane	BRL	0.199		ug/L	233988	1	12/06/2016 08:03	AW
1,2-Dibromoethane	BRL	0.050		ug/L	233988	1	12/06/2016 08:03	AW
Surr: 4-Bromofluorobenzene	92	69.4-134		%REC	233988	1	12/06/2016 08:03	AW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010E	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	BRL	10.0		mg/L	R331464	1	12/06/2016 15:00	AW

Qualifiers:

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- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010F	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue, Dissolved (TDS) by SM2540C								
Residue, Dissolved (TDS)	BRL	1		mg/L	234264	1	12/05/2016 12:00	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010G	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Cyanide SW9014					(SW9010C)			
Cyanide, Total	BRL	0.200		mg/L	234255	1	12/06/2016 09:00	BD

Qualifiers:

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- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010H	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Organic Carbon (TOC) by SM5310B								
Organic Carbon, Total	BRL	1.00		mg/L	R331502	1	12/06/2016 20:21	JW
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	BRL	0.200		mg/L	234151	1	12/05/2016 13:01	FS

Qualifiers:	* Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
	BRL Below reporting limit	S	Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr	See case narrative
	N Analyte not NELAC certified	NC	Not confirmed
	B Analyte detected in the associated method blank	<	Less than Result value
	> Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc Date: 15-Dec-16

Client:	Santek Environmental Inc.	**Client Sample ID:**	TRIP BLANK
Lab Order	1611Q38	**Tag Number:**	
Project Name:	Loudon County (Matlock Bend) Landfill Phase I	**Collection Date:**	11/30/2016
Lab ID:	1611Q38-010I	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Total Metals by ICP/MS SW6020B					(SW3005A)			
Calcium	318	100		ug/L	234162	1	12/08/2016 06:18	JS
Iron	BRL	100		ug/L	234162	1	12/08/2016 06:18	JS
Magnesium	BRL	100		ug/L	234162	1	12/08/2016 06:18	JS
Potassium	BRL	500		ug/L	234162	1	12/10/2016 20:30	JR
Sodium	BRL	500		ug/L	234162	1	12/08/2016 06:18	JS
Mercury, Total SW7470A					(SW7470A)			
Mercury	BRL	0.00200		mg/L	234205	1	12/07/2016 12:00	JR
APPENDIX I METALS SW6020B					(SW3005A)			
Antimony	BRL	0.00600		mg/L	234162	1	12/08/2016 06:18	JS
Arsenic	BRL	0.0100		mg/L	234162	1	12/08/2016 06:18	JS
Barium	BRL	2.00		mg/L	234162	1	12/08/2016 06:18	JS
Beryllium	BRL	0.00400		mg/L	234162	1	12/08/2016 06:18	JS
Cadmium	BRL	0.00500		mg/L	234162	1	12/08/2016 06:18	JS
Chromium	BRL	0.100		mg/L	234162	1	12/08/2016 06:18	JS
Cobalt	BRL	0.0100		mg/L	234162	1	12/10/2016 02:29	JR
Copper	BRL	0.0100		mg/L	234162	1	12/08/2016 06:18	JS
Lead	BRL	0.0150		mg/L	234162	1	12/08/2016 06:18	JS
Nickel	BRL	0.100		mg/L	234162	1	12/08/2016 06:18	JS
Selenium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:18	JS
Silver	BRL	0.0500		mg/L	234162	1	12/08/2016 06:18	JS
Thallium	BRL	0.00200		mg/L	234162	1	12/08/2016 06:18	JS
Vanadium	BRL	0.0100		mg/L	234162	1	12/08/2016 06:18	JS
Zinc	BRL	0.0200		mg/L	234162	1	12/08/2016 06:18	JS

Qualifiers:

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APPENDIX C

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #01

INORGANIC	TN REGULATORY LIMITS	3-23-94	5-2-94	**7-13-94	10-18-94	12-1-94	3-2-95	10-30-95	4-12-96	11-2-96	3-21-97	9-20-97	05-19-98	10-29-98	3-15-99	9-15-99	03-23-00	09-06-00
Antimony	6	1	1	1	1	5.4	1	1	3	5	5	5	5	5	5	5	6	6
Arsenic	10	2	2	9.4	8.9	7.9	4	2	20	20	20	20	20	20	20	20	5	50
Barium	2000	23	15	250	110	68	33	60	41	50	60	30	33	50	55	139	2000	2000
Beryllium	4	3	3	15	8.5	3	3	4	3	4	4	4	4	4	4	7	11	4
Cadmium	5	5	5	19	2.5	5	5	5	5	5	5	5	5	5	5	5	5	5
Chromium	100	8.5	10	90	43	21	10	11	10	10	10	10	10	10	10	10	100	100
Cobalt	NA	10	10	78	30	10	10	10	10	10	10	10	10	10	10	10	25	10
Copper	NA	8.1	10	140	59	24	10	17	10	10	10	10	10	10	10	12	39	19.2
Fluoride***	4	0.05	0.43	0.05	0.05	0.05	0.05	0.05	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	4	4
Lead	†15	1	1	44	59	32	8	21	12	20	10	10	10	30	10	27	64	50
Mercury	2	0.3	*	2.4	0.63	0.44	0.2	0.5	0.2	1	1	1	1	1	1	2	2	2
Nickel	100	8.1	10	130	73	35	20	22	10	20	20	10	10	40	12.7	40	100	100
Selenium	50	2	2	25	2	2	2	2	20	20	20	20	20	20	20	20	10	10
Silver	‡100	8	8	ND	8	8	8	8	6	5	5	5	5	5	5	5	50	50
Thallium	2	1	1	2.6	1	1	1	1	2	4	2	2	2	2	2	2.35	2	2
Vanadium	NA	8.4	10	200	74	40	13	31	10	30	10	10	10	30	10	10	75	27.8
Zinc	NA	110	42	1700	620	270	78	818	69	160	190	40	110	230	47.4	287	611	179

INORGANIC	4-25-01	9-18-01	4-17-02	9-30-02	4-21-03	9-30-03	4-28-04	9-22-04	4-11-05	9-29-05	3-28-06	9-10-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08
Antimony	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Arsenic	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Barium	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Beryllium	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Cadmium	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Chromium	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Cobalt	10	10	10	10	10	10	10	10	10	10.5	10.0	10.0	10	10	10	10	10
Copper	10	10	13.5	10.2	10.0	10.0	10.0	10.0	10.0	11.6	10.0	10.0	10	10	10	10	10
Fluoride***	4	4	4	4	0.2	4.0	4.0	4.0	4.0	4.0	4.0	*	4.0	4.0	4.0	4.0	4.0
Lead	50	50	50	50	50	50	50	50	50	50	50	50	50	50	15	15	15
Mercury	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Nickel	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Selenium	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Silver	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Thallium	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Vanadium	10	10	20.5	23.2	10	10	10	10	10	23.8	10.0	10.0	10	10	10	10	10
Zinc	35.1	34.4	133	205	69.8	47.1	20	56.2	78.6	218.0	20.0	267.00	33.90	30.90	42.50	28.50	20

INORGANIC	4-2-09	10-2-09	4-7-10	10-6-10	4-5-11	10-5-11	3-15-12	10-3-12	3-23-13	9-25-13	3-25-14	9-24-14	4-1-15	10-7-15	5-25-16	11-30-16	MW-01 AVG	MW-4R AVG.
Antimony	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5.19	5.98
Arsenic	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	10	37.18	45.00
Barium	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1421.70	1566.45
Beryllium	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.43	7.02
Cadmium	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.23	5.07
Chromium	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	75.47	86.67
Cobalt	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	12.09	15.60
Copper	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	14.56	17.87
Fluoride***	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0.2	2.67	3.05
Lead	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	28.47	38.63
Mercury	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.63	1.77
Nickel	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	80.42	100.25
Selenium	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.49	12.22
Silver	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	37.53	40.02
Thallium	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.94	3.09
Vanadium	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	19.33	21.78
Zinc	20	20.9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	145.25	199.93

† = TREATMENT TECHNIQUE ACTION LEVEL
‡ = NATIONAL SECONDARY DRINKING WATER STANDARD
* PARAMETER NOT TESTED FOR
**RESAMPLE DATE
***ALL DATA IN UG/L EXCEPT FLUORIDE (MG/L)

ORGANIC	3-23-94	5-07-94	**7-13-94	10-18-94	12-1-94	3-02-95	10-30-95	4-12-96	11-2-96	3-21-97	9-20-97	05-19-98	10-29-98	3-15-99	9-15-99	03-23-00	9-6-00	4-25-01	9-18-01	4-17-02	9-30-02	4-21-03	9-30-03	4-28-04	9-22-04
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform; Tribromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform; Trichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane; Chlorodibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene; 1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dichlorobenzene; 1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane; Ethylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane; Propylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl bromide; Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl chloride; Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene bromide; Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride; Dichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane; Methylchloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene; Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane; CFC-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ORGANIC	4-11-05	9-29-05	3-28-06	8-10-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-1-09	4-5-10	10-5-10	1-4-11	10-4-11	3-14-12	10-2-12	3-27-13	9-24-13	3-24-14	9-23-14	3-31-15	10-7-15	5-24-16	11-29-16
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform; Tribromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform; Trichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane; Chlorodibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene; 1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dichlorobenzene; 1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane; Ethylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane; Propylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl bromide; Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl chloride; Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene bromide; Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride; Dichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane; Methylchloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene; Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane; CFC-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #1A

INORGANIC	TN REGULATORY LIMITS	1-17-07	3-22-07	5-15-07	6-14-07	11-1-07	3-27-08	10-13-08	4-2-09	10-2-09	4-7-10	10-6-10	1-5-11	10-5-11	3-15-12	10-3-12	3-28-13	9-25-13	3-25-14	9-24-14	4-1-15	10-7-15	5-24-16	11-30-16	MW-1A AVG	MW-4R AVG.
Antimony	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6.00	5.96
Arsenic	10	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	10	48.26	48.00
Barium	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000.00	1566.46
Beryllium	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.00	7.02
Cadmium	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.00	5.07
Chromium	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.00	86.67
Cobalt	NA	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.00	15.60
Copper	NA	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.00	17.87
Fluoride***	4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.00	3.05
Lead	†15	50.0	50.0	50.0	50.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	21.09	38.83
Mercury	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.00	1.77
Nickel	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.00	100.25
Selenium	50	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.00	12.22
Silver	‡100	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50.00	40.02
Thallium	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.00	3.09
Vanadium	NA	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.00	21.78
Zinc	NA	39.0	20.0	22.9	20.0	23.2	20.0	31.4	20.0	20.0	35.2	20.0	20.0	20.0	30.5	20.0	20.0	20.0	20.0	20.0	27.3	20.0	20.0	40.1	23.90	199.93

† = TREATMENT TECHNIQUE ACTION LEVEL
‡ = NATIONAL SECONDARY DRINKING WATER STANDARD
* PARAMETER NOT TESTED FOR
**RESAMPLE DATE
***ALL DATA IN UG/L EXCEPT FLUORIDE (MG/L)

ORGANIC	01-17-07	3-22-07	5-15-07	6-14-07	11-1-07	3-27-08	10-13-08	4-1-09	10-1-09	4-7-10	10-5-10	1-4-11	10-4-11	3-15-12	10-2-12	3-27-13	9-24-13	3-24-14	9-23-14	3-31-15	10-6-15	5-24-16	11-29-16
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform; Tribromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform; Trichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane; Chlorodibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene; 1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dichlorobenzene; 1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane; Ethylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane; Propylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl bromide; Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl chloride; Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene bromide; Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride; Dichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane; Methylchloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene; Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane; CFC-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #2

INORGANIC	IN REGULATORY LIMITS	3-23-84	8-2-84	**7-10-84	10-18-84	12-1-84	3-2-85	10-30-85	4-10-86	11-2-86	1-21-87	8-20-87	05-12-88	10-26-88	3-16-89	9-15-89	03-23-90	9-6-90	4-25-91	9-18-91	4-17-92	9-30-92	4-21-93	9-30-93	4-28-94	8-22-94	4-11-95	8-29-95	3-26-96	8-19-96	10-04-96	3-22-97	11-1-97	3-27-98	10-13-98	4-2-99	10-12-99	4-7-10	10-5-10	4-5-11	10-5-11	3-15-12	10-3-12	3-28-13	8-25-13	3-25-14	8-26-14	3-31-15	12-6-15	5-26-16	11-30-16	MW-02 AVG	MW-02 AVG.
Antimony	6	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5.26	5.26
Arsenic	10	2	2	4.4	7.8	4.8	23	2	20	20	20	20	50	20	20	20	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	29.11	43.00
Barium	2000	54	67	433	350	290	99	79	38	50	20	50	100	50	387	34	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1438.15	1568.45
Beryllium	4	3	3	39	29	25	5	8	3	4	4	4	14	4	4	4	4	4	4	4	5.22	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3.84	7.02
Cadmium	5	3.1	1.2	33	22	15	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4.01	5.07
Chromium	100	38	28	132	110	110	25	12	13	10	10	10	43	10	10	10	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	81.18	88.67
Cobalt	NA	10	10	60	64	46	13	10	10	10	10	10	33	10	10	10	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13.15	15.60
Copper	NA	143	10	200	150	120	20	17	10	10	10	10	60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	23.25	17.87
Fluoride***	4	0.65	0.28	0.65	0.65	0.65	0.65	0.65	0.23	0.23	0.23	0.23	0.23	0.23	0.20	0.20	0.20	4	4	4	4	4	4	4	4	0.2	4.0	4.0	4.0	4.0	4.0	4.0	-	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.74	3.65
Lead	115	22	8.4	423	290	200	45	32	10	20	10	20	60	20	13	13	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15.61	38.83
Mercury	2	0.2	*	1.6	2.6	0.2	0.2	0.2	0.2	0.2	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.68	1.77
Nickel	100	130	20	340	260	180	60	43	20	33	10	33	120	33	23.6	18	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99.29	130.25
Selenium	50	2	2	2	2	2	2	2	2	20	20	20	20	20	23	23	23	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13.45	12.22
Silver	1100	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	34.99	43.02
Thallium	2	1	1	2.7	2.6	3.2	1	3	2	2	2	3	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.35	3.09
Vanadium	NA	14	14	250	200	150	46	24	10	20	10	10	70	10	10	10	11.5	24.2	10	10	11.5	24.2	10	10	11.5	24.2	10	10	11.5	24.2	10	10	11.5	24.2	10	10	11.5	24.2	10	10	11.5	24.2	10	10	11.5	24.2	10	10	11.5	24.2	24.61	21.78
Zinc	NA	563	143	8200	12200	9600	1760	1133	251	650	113	979	2450	240	372	235	458	197	148	181	572	669	224	256	140	284	208	583	221	237	254	263	290	208	223	202	202	251	68.2	240.0	250.0	208.0	243.0	237.0	231.0	269.0	271.0	273.0	318.0	224.0	259.0	971.24	109.83

1 = TREATMENT TECHNIQUE ACTION LEVEL
3 = NATIONAL SECONDARY DRINKING WATER STANDARD
* PARAMETER NOT TESTED FOR
**RESAMPLE DATE
***ALL DATA IN UG/L EXCEPT FLUORIDE (MG/L)

ORGANIC	3-23-84	8-02-84	**7-10-84	10-18-84	12-1-84	3-02-85	10-30-85	4-10-86	11-2-86	1-21-87	8-20-87	05-12-88	10-26-88	3-16-89	9-15-89	03-23-90	9-6-90	4-25-91	9-18-91	4-17-92	9-30-92	4-21-93	9-30-93	4-28-94	8-22-94	4-11-95	8-29-95	3-26-96	8-19-96	10-04-96	3-22-97	11-1-97	3-27-98	10-13-98	4-2-99	10-12-99	4-7-10	10-5-10	4-5-11	10-4-11	3-15-12	10-3-12	3-28-13	8-25-13	3-25-14	8-26-14	3-31-15	12-6-15	5-26-16	11-30-16
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform, Tribromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform; Trichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane; Chlorodibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene; 1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dichlorobenzene; 1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane; Ethylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane; Propylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl bromide; Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl chloride; Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene bromide; Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride; Dichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane; Methylchloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene; Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane; CFC-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #03

INORGANIC	TN REGULATORY LIMITS	3-22-94	6-2-94	**7-13-94	10-18-94	12-1-94	3-2-95	10-30-95	4-17-96	11-2-96	3-31-97	8-27-97	05-13-98	10-20-98	3-15-99	9-15-99	03-23-00	9-6-00	2-12-01	8-25-01	8-15-01	4-17-02	8-13-02	4-21-03	8-13-03	4-28-04	8-23-04	4-11-05	8-29-05	3-27-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-2-09	4-7-11	10-6-10	1-5-11	10-5-11	3-15-12	10-3-12	3-28-13	8-26-13	3-25-14	8-26-14	4-1-15	10-7-15	5-24-16	11-29-16	MW-03 AVG	MW-4R AVG
Antimony	6	1	1	1	1	1	1	1	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5.17	5.91
Arsenic	10	3.2	2	8.6	7.8	3.2	13	2	22	20	22	20	20	20	22	20	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	38.14	43.60
Barium	2000	143	12	300	130	50	42	57	63	42	50	30	60	50	33.1	30	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1421.35	1566.45
Beryllium	4	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3.84	7.67
Cadmium	5	4.4	5	8.8	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.02	5.07
Chromium	100	27	10	42	32	10	10	10	10	10	10	10	10	13	13	10	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	74.42	69.67
Cobalt	NA	24	10	69	39	10	10	10	13	10	10	10	10	13	12	10	15	15	10	13	13	13	13	50.5	10.8	25.0	13.0	45.4	13.0	13.0	10.0	13.0	13.0	10	10	13	13	13	13	13	13	10	13	13	13	10	13	13	10	14.60	15.63
Copper	NA	43	13	150	150	25	10	19	25	10	10	10	10	20	10	10	10	22.4	10	10	10	13.6	13.0	12.9	23.4	10.0	23.6	13.0	43.6	50.0	50.0	10.0	19.0	13.0	10	13	10	12	13	13	10	13	10	10	13	10	13	13	10	13	20.22	17.87
Fluoride***	4	0.05	0.22	0.05	0.05	0.05	0.05	0.05	0.23	0.23	0.22	0.23	0.23	0.23	0.23	0.23	4	4	4	4	4	4	4	0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.77	3.05
Lead	115	45	8.7	350	87	32	25	17	34	20	13	10	10	43	10	10	50	50	50	50	50	50	50	50	135	50	56.4	50.0	111.0	50.0	50.0	50.0	15.0	15.0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	39.90	33.83
Mercury	2	0.2	*	0.68	0.2	0.2	0.4	0.2	0.2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.81	1.77
Nickel	100	33	10	100	57	23	20	12	22	12	13	13	20	50	50	11	100	100	100	100	100	100	100	100	120	100	120	100	120	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	78.72	100.25
Selenium	50	2	2	2	2	2	2	2	23	20	23	20	20	27	20	20	10	13	13	13	13	13	13	13	10	13	13	13	10	13	13	13	10	10	10	13	13	13	13	13	13	13	13	13	13	13	13	13	10.49	12.22
Silver	3100	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	34.92	43.62
Thallium	2	1	1	2.4	1	1	1	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.06	3.69
Vanadium	NA	26	10	72	42	15	13	10	19	10	13	10	20	23	15	13	10	13.3	13	10	13	13	14.6	12.0	15.6	10.0	16.3	13.0	24.1	10.0	13.0	12.0	12.0	12.0	13	13	13	13	13	13	13	13	10	13	13	13	13	13	13	10	13.58	21.78
Zinc	NA	172	33	493	249	65	50	154	116	70	50	50	100	150	24.4	54	39	99.1	33	33	37.1	47.6	63.6	131	49	69.0	26.6	71.3	33.8	155.0	38.8	25.5	47.0	42.9	23.0	29.1	22.0	23.0	25.8	23.0	21.2	23.0	30.0	33.0	23.0	23.0	23.9	20.0	20.0	23.0	24.4	20.0	65.60	109.53

1 = TREATMENT TECHNIQUE ACTION LEVEL
3 = NATIONAL SECONDARY DRINKING WATER STANDARD
*PARAMETER NOT TESTED FOR
**RESAMPLE DATE
***ALL DATA IN UGL EXCEPT FLUORIDE (MG/L)

ORGANIC	3-23-94	6-02-94	**7-13-94	12-18-94	12-1-94	3-02-95	10-30-95	4-12-96	11-2-96	3-31-97	8-27-97	05-12-98	10-20-98	3-15-99	9-15-99	03-23-00	9-6-00	2-12-01	8-25-01	8-15-01	4-17-02	8-13-02	4-21-03	8-13-03	4-28-04	8-23-04	4-11-05	8-29-05	3-27-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-1-09	4-6-10	10-5-10	1-4-11	10-4-11	3-14-12	10-3-12	3-28-13	8-25-13	3-25-14	8-26-14	4-1-15	10-7-15	5-24-16	11-29-16
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform; Tribromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform; Trichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane; Chlorodibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene; 1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dichlorobenzene; 1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane; Ethylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene; 1,1 Dichloroethene; Vinylidene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane; Propylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl bromide; Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl chloride; Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene bromide; Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride; Dichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane; Methylchloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene; Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane; CFC-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LOUDON COUNTY
BACKGROUND WELL
MONITORING WELL #4R

INORGANIC	IN REGULATORY LIMITS	11-2-95	12-13-95	12-19-95	12-30-95	3-21-97	10-10-97	01-19-98	11-4-98	3-16-99	8-16-99	03-23-00	2-19-01	4-24-01	9-18-01	4-17-02	8-30-02	4-21-03	8-30-03	4-28-04	8-27-04	4-11-05	8-29-05	3-27-06	10-04-06	1-3-07	3-27-07	11-1-07	3-27-08	8-25-08	8-28-08	10-2-08	10-13-08	4-2-09	10-2-09	4-7-10	10-6-10	1-4-11	10-4-11	3-16-12	10-3-12	3-27-13	9-25-13	3-31-14	9-24-14	4-1-15	10-7-15	4-25-16	11-29-16	4W-4R AVG.
Antimony	6	5	13	5	5	5	5	5	5	5	5	6	5	5	6	6	6	6	6	5	6	6	5	DRY	6	5	DRY	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	DRY	5.55
Arsenic	10	130	40	60	50	20	20	20	30	20	20	50	50	50	50	50	50	50	50	50	50	50	50	DRY	50	50	DRY	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	DRY	43.00
Barium	2000	120	50	90	60	40	20	20	50	20.5	20	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	DRY	2000	2000	DRY	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	DRY	1556.48
Beryllium	4	54	16	49	25	14	4	4	11	4	4	4	4	4	4	4	4	4	4	4	4	4	4	DRY	4	4	DRY	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	DRY	7.02
Cadmium	5	6	5	5	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	DRY	5	5	DRY	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	DRY	5.07
Chromium	100	130	50	60	40	30	10	10	33	10	10	100	100	100	100	100	100	100	100	100	100	100	100	DRY	100	100	DRY	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	DRY	66.67
Cobalt	NA	70	30	50	30	20	10	10	20	10	10	10	10	10	10	10	10	10	10	10	10	10	20.6	DRY	10	10	DRY	50.6	10	10	10	10	30.1	10.0	10.0	10.0	14.0	10.0	10.0	10.0	10.3	10.0	10.0	10.0	10.0	10.0	26.6	10.0	10.0	DRY	15.60
Copper	NA	140	50	90	60	30	20	10	33	10	10	10	10	10	10	10	10	10	10	10	10	10	10	DRY	10	10	DRY	14	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	DRY	17.87
Fluoride*	4	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	4	4	4	DRY	4	4	0.2	4.0	4.0	4.0	4.0	4.0	DRY	4	4	DRY	4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	DRY	3.05
Lead	115	200	70	140	63	69	20	10	63	17.9	10	50	69.8	50	50	50	50	50	50	50	50	50	60.6	50.0	DRY	50	50	DRY	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	DRY	33.83
Mercury	2	1	1	1	1	1	1	1	1	1	0.5	2	2	2	2	2	2	2	2	2	2	2	2	DRY	2	2	DRY	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	DRY	1.77
Nickel	100	310	110	210	120	90	30	20	93	21.3	10	100	100	100	100	100	100	100	100	100	100	100	100	DRY	100	100	DRY	100	103	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	DRY	100.25
Selenium	50	20	20	20	20	20	20	20	20	20	20	10	10	10	10	10	10	10	10	10	10	10	10	DRY	10	10	DRY	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	DRY	12.22
Silver	1100	5	6	5	5	5	5	5	5	5	5	50	50	50	50	50	50	50	50	50	50	50	50	DRY	50	50	DRY	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	DRY	49.62
Thallium	2	18	9	17	9	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	DRY	2	2	DRY	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	DRY	3.09
Vanadium	NA	200	70	130	63	50	10	10	60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	DRY	10	10	DRY	10	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	DRY	21.78
Zinc	NA	1950	700	1370	740	620	330	240	530	55	69	129	128	79.4	230.0	143.0	506.0	57.4	61.0	37.3	20.0	56.7	144.0	76.2 *	DRY	63.7	61.1	DRY	43.9	32.1	54.3	20.0	66.0	53.9	100.0	26.4	20.0	74.8	41.3	20.0	32.0	62.4	20.0	24.1	26.4	63.3	21.6	31.0	DRY	199.93

*ALL DATA IN UG/L EXCEPT FLUORIDE (MG/L)
† = TREATMENT TECHNIQUE ACTION LEVEL
‡ = NATIONAL SECONDARY DRINKING WATER STANDARD
Note: Results from 11-2-95 to 3-27-08 were taken from MW-04. MW-04 was replaced by MW-4R.

ORGANIC	11-2-95	12-13-95	12-19-95	12-30-95	3-21-97	10-10-97	01-19-98	11-4-98	3-16-99	8-16-99	03-23-00	2-19-01	4-24-01	9-18-01	4-17-02	8-30-02	4-21-03	8-30-03	4-28-04	8-27-04	4-11-05	8-29-05	3-27-06	10-04-06	1-3-07	3-27-07	11-1-07	3-27-08	8-25-08	8-28-08	8-28-08	4-1-09	10-1-09	4-6-10	10-6-10	1-4-11	10-4-11	3-16-12	10-3-12	3-27-13	9-25-13	3-31-14	9-24-14	4-1-15	10-7-15	4-25-16	11-29-16
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Bromoform; Tribromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	56	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Chloroform; Trichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Dibromochloromethane; Chlorodibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,2-Dibromo-3-chloropropane; DBCP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
o-Dichlorobenzene; 1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
p-Dichlorobenzene; 1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,2-Dichloroethane; Ethylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,2-Dichloropropane; Propylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Methyl bromide; Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Methyl chloride; Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Methylene bromide; Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Methylene chloride; Dichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,1,1-Trichloroethane; Methylchloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Trichloroethylene; Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Trichlorofluoromethane; CFC-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	DRY

LOUDON COUNTY
COMPLIANCE WELL
MONITORING WELL #05

INORGANC	TN REGULATORY LIMITS	2-10-01	4-25-01	6-13-01	9-18-01	4-17-02	9-30-02	4-21-03	9-30-03	4-28-04	9-22-04	4-11-05	9-23-05	3-27-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-2-09	4-7-10	10-6-10	10-5-10	1-5-11	10-5-11	3-15-12	10-3-12	3-28-13	9-25-13	3-25-14	9-24-14	4-1-15	10-7-15	5-25-16	11-30-16	MW-05 AVG.	MW-4R AVG.
Antimony	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6.00	5.96
Arsenic	10	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	10	48.66	48.00
Barium	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000.00	1566.45
Beryllium	4	4	8.62	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.13	7.02
Cadmium	5	5	6.35	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.01	5.07
Chromium	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.00	66.67
Cobalt	NA	10	25.1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.43	15.60
Copper	NA	10	11.5	10	10	21.4	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.49	17.87
Fluoride*	4	4	4	4	4	4	4	0.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.89	3.05
Lead	115	50	77.4	50	50	50	50	50	50	50	50	50	50	50	50	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	30.78	38.83
Thallium	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.00	1.77
Nickel	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.00	100.25
Selenium	50	10	10	50	50	50	50	50	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	14.57	12.22
Silver	‡100	50	50	10	10	10	10	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	45.43	40.02
Thallium	2	2	3.65	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.05	3.99
Vanadium	NA	10	10	10	10	27.1	17.7	10	10	10	11.9	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.76	21.78
Zinc	NA	258	693	361	260	369	283	231	20	20	155	91.4	109.0	115.0	61.2	64.7	138.0	39.9	91.0	83.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	109.46	192.93

*ALL DATA IN UG/L EXCEPT FLUORIDE (MG/L)
† = TREATMENT TECHNIQUE ACTION LEVEL
‡ = NATIONAL SECONDARY DRINKING WATER STANDARD

ORGANC	2-10-01	4-25-01	6-13-01	9-18-01	4-17-02	9-30-02	4-21-03	9-30-03	4-28-04	9-22-04	4-11-05	9-23-05	3-27-06	10-04-06	3-22-07	11-1-07	3-27-08	10-13-08	4-1-09	10-1-09	4-8-10	10-5-10	10-5-10	1-4-11	10-4-11	3-14-12	10-2-12	3-27-13	9-24-13	3-26-14	9-23-14	3-31-15	10-6-15	5-24-16	11-29-16
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform; Tribromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	18	ND	27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane; Ethyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform; Trichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane; Chlorodibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane; DBCP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Dichlorobenzene; 1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dichlorobenzene; 1,4-dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane; Ethylidene chloride; Ethylidene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane; Ethylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane; Propylene dichloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone; Methyl butyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl bromide; Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl chloride; Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene bromide; Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride; Dichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone; MEK; 2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl iodide; Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone; Methyl isobutyl ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane; Methylchloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene; Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane; CFC-11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

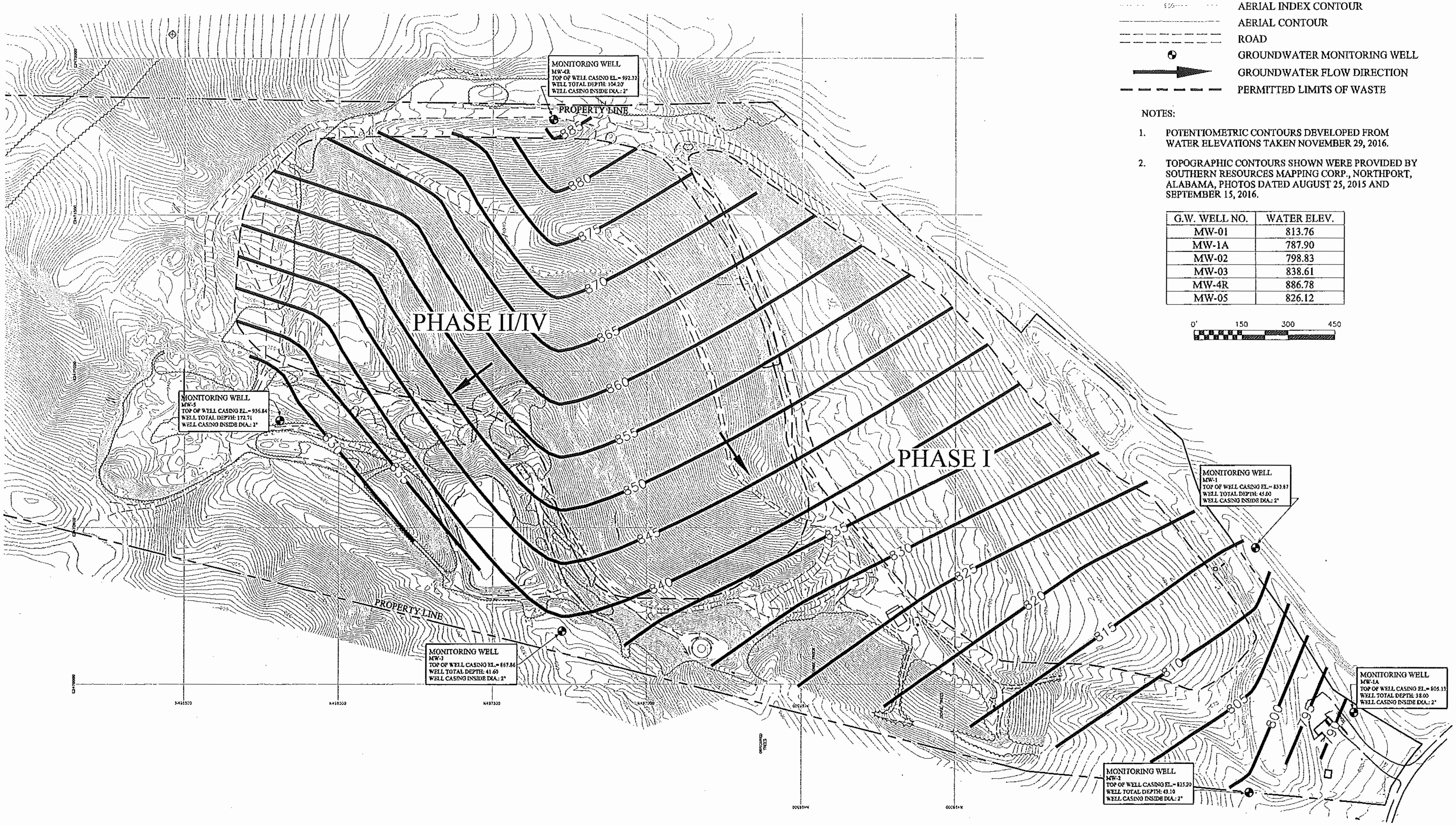
APPENDIX D

GROUNDWATER DATA
Matlock Bend Landfill
November 29, 2016

Well No.	Elev. Of TOC	Depth to GW (ft below TOC)	Water Elevation	Contour Elevation	Distance	Hydraulic Conductivity	Effective Porosity (n)	Hydraulic Gradient	Average Linear Velocity		Directions
									ft/min	ft/day	
MW-01	830.87	17.11	813.76	815	40	4.70E-06	0.18	3.10E-02	8.09E-07	1.17E-03	SW
MW-1A*	805.13	17.23	787.90	790	35	3.93E-06	0.18	6.00E-02	1.31E-06	1.89E-03	SW
MW-02	825.20	26.37	798.83	800	40	5.90E-06	0.18	2.92E-02	9.59E-07	1.38E-03	SW
MW-03	867.86	29.25	838.61	840	45	1.20E-05	0.18	3.09E-02	2.06E-06	2.97E-03	SW
MW-4R**	992.32	105.54	886.78	885	55	1.90E-05	0.18	3.24E-02	3.42E-06	4.92E-03	NW
MW-05	936.84	110.72	826.12	830	85	2.20E-05	0.18	4.56E-02	5.58E-06	8.03E-03	NW

*-The hydraulic conductivity for MW-1A is an average from monitoring wells MW-01, MW-02 and MW-03.
**-The hydraulic conductivity for MW-4R is from MW-04.

APPENDIX E


MONITORING WELL
MW-4R
TOP OF WELL CASING EL.= 992.32
WELL TOTAL DEPTH: 104.20'
WELL CASING INSIDE DIA.: 2"
PROPERTY LINE
885
880
875
870
865
860
855
850
845
840
835
830
825
820
815
810
805
800
795
790
PHASE II/IV
PHASE I
MONITORING WELL
MW-5
TOP OF WELL CASING EL.= 936.84
WELL TOTAL DEPTH: 172.71
WELL CASING INSIDE DIA.: 2"
MONITORING WELL
MW-3
TOP OF WELL CASING EL.= 867.86
WELL TOTAL DEPTH: 41.60
WELL CASING INSIDE DIA.: 2"
MONITORING WELL
MW-1
TOP OF WELL CASING EL.= 833.87
WELL TOTAL DEPTH: 45.00
WELL CASING INSIDE DIA.: 2"
MONITORING WELL
MW-1A
TOP OF WELL CASING EL.= 805.13
WELL TOTAL DEPTH: 38.00
WELL CASING INSIDE DIA.: 2"
MONITORING WELL
MW-2
TOP OF WELL CASING EL.= 825.20
WELL TOTAL DEPTH: 43.10
WELL CASING INSIDE DIA.: 2"
0' 150 300 450

LEGEND:

- PROPERTY BOUNDARY
- 880 WATER TABLE CONTOURS (INFERRED)
- AERIAL INDEX CONTOUR
- AERIAL CONTOUR
- ROAD
- GROUNDWATER MONITORING WELL
- GROUNDWATER FLOW DIRECTION
- PERMITTED LIMITS OF WASTE

NOTES:

1. POTENTIOMETRIC CONTOURS DEVELOPED FROM WATER ELEVATIONS TAKEN NOVEMBER 29, 2016.
2. TOPOGRAPHIC CONTOURS SHOWN WERE PROVIDED BY SOUTHERN RESOURCES MAPPING CORP., NORTHPORT, ALABAMA, PHOTOS DATED AUGUST 25, 2015 AND SEPTEMBER 15, 2016.

G.W. WELL NO.	WATER ELEV.
MW-01	813.76
MW-1A	787.90
MW-02	798.83
MW-03	838.61
MW-4R	886.78
MW-05	826.12

DATE	DRWN	CHKD	REVISION

PHASE I/II/IV POTENTIOMETRIC CONTOUR MAP

MATLOCK BEND LANDFILL
LOUDON COUNTY, TENNESSEE

SANTEK ENVIRONMENTAL
650 25TH STREET NW
SUITE 100
CLEVELAND, TENNESSEE

SCALE: 1"=300'
DATE: 1/27/17
DRAWN BY: RH
CHECKED BY: RH
APPROVED BY: RV
FILE: 1610-P1
JOB NO: 200-1610

1
sheet number